

Is Corporate Governance Risk Valued?

Evidence from Directors' and Officers' Insurance^{*}

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Abstract

The role and duty of corporate directors and officers is in constant flux. A corporate director's duty includes a fiduciary duty, a duty of loyalty and a duty of care, the definition of which changes over time. If the company is sued, corporate directors and officers may be held personally liable for having breached their duty toward the firm's stakeholders so that, before accepting to sit on the board of an organisation, directors ask that their personal wealth be protected through a directors' and officers' liability insurance contract, or D&O insurance. Naturally, riskier companies should be charged a higher premium. In this paper, we examine the higher governance risk associated with income trusts and show that income trusts pay higher D&O insurance premium than common equity firms. This result has wide-ranging implications for investors insofar as the information provided by D&O insurance coverage provides them with a signal of the firm's governance risk, thus providing a credible alternative to commercial governance indices since it comes from entities (i.e. the insurers) that have a direct financial incentive to assess correctly the governance risk of a corporation, thereby resolving many critics addressed to governance rating agencies.

JEL Classification: G34, G22, J44, G32.

Keywords: Corporate governance, D&O insurance, Initial public offerings, Income trusts.

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Résumé: Le rôle des administrateurs et dirigeants est en perpétuel changement et va au-delà du simple paradigme de maximisation de la valeur de la firme. Si la firme est poursuivie en justice, les administrateurs et dirigeants peuvent être tenus personnellement responsables pour avoir manqué à leurs obligations envers les parties prenantes de celle-ci. Ainsi, avant même d'accepter de siéger sur un conseil d'administration, les administrateurs exigent dans la plupart des cas que leur richesse personnelle soit protégée. Cette protection achetée par la firme est l'assurance responsabilité civile des administrateurs et dirigeants. Naturellement, les assureurs exigeront des firmes plus risquées des primes plus élevées. Dans cet article, nous examinons le risque de gouvernance excédentaire associé à la structure corporative des fiducies de revenus et montrons que la prime payée par les fiducies de revenus est plus élevée que celle payée par les compagnies par actions traditionnelles. La portée de ce est significative dans la mesure où l'information fournie par ce type d'assurance procure aux investisseurs un signal quant au risque de gouvernance de la firme.

Keywords: Corporate governance, D&O insurance, Initial public offerings, Income trust.

Mots clés : Gouvernance d'entreprise, Assurance de la responsabilité civile des administrateurs et dirigeants, Premier appel public à l'épargne, Fiducie de revenus.

1. Introduction

As representatives of the corporation, directors and officers are responsible for their actions in the corporation as well as the corporation's own actions. As such, a corporate director's duty goes beyond a simple firm value maximizing paradigm to include a fiduciary duty, a duty of loyalty and a duty of care. And if they fail in those duties, the definitions of which are in constant flux, corporate directors and officers become personally liable for damages caused by their actions or absence thereof. According to the different annual surveys conducted by Tillinghast Towers-Perrin¹ (1999 through 2006), around 20% of firms had at least one lawsuit brought against their directors in the previous ten years, and about 50% of claims made against public companies arise from shareholders. This exposure to liability risk prompts directors and officers to request insurance coverage to protect their personal wealth in case a lawsuit is brought against them as representatives of the corporation. This insurance, which is known as directors' and officers' liability insurance (hereinafter D&O insurance), is extremely common in public corporations.²

Corporate governance and its impact on the risk and return of corporations have been increasingly under the scrutiny of investors. Many governance indices have emerged in order to fulfil the need for governance risk assessment, but these indices are themselves criticized by academics and practitioners. As underlined in Rose (2007), Bhagat *et al.* (2007) and Bebchuk and Hamdani (2009) governance indices suffer from many different methodological shortcomings (see Bebchuk *et al.*, 2009, for a recent survey of governance indices). A growing voice in financial markets strongly urges for accountability from entities emitting ratings (mostly in the debt-rating arena) that are widely used by major market players. An alternative to using ad hoc corporate governance indices is to use the revealed preferences of corporations that have themselves indirectly obtained a corporate governance assessment when they purchased liability insurance on behalf of their directors and officers. Indeed, because of their direct financial involvement in paying for claims arising against

¹ The Tillinghast Towers-Perrin surveys report trends in average D&O claims and premiums as well as patterns in insurance purchasing habits for North American firms. Although these surveys are no free from selection biases, there is no other consistent information on D&O insurance data.

² According to different Tillinghast Towers-Perrin surveys, approximately 95% of public corporations in the U.S. and 75% of public corporations in Canada provide such insurance to their directors and officers.

directors and officers, insurers have had to develop appropriate technologies that transform a policyholder's observable characteristics into risk measures which yield an appropriate insurance premium. This is true for any type of coverage, including D&O insurance coverage. As a result, insurance companies that provide liability insurance protection to corporate directors and officers face a strong monetary incentive to correctly measure the risk of litigation. To assess this risk, insurers conduct a thorough investigation of the risk faced by firms seeking an insurance policy for their directors and officers³. The outcome of this analysis is integrated in the insurance contract.

As litigation against a firm's directors and officers is one of the unfortunate consequences of governance risk, and since the insurer underwriting the contract has the appropriate incentives to measure correctly the potential cost of litigation against the insured firm's directors and officers, one can thus imagine that the structure of a D&O insurance contract is an unbiased measure of a firm's governance risk. Indeed, Baker and Griffith (2007) mention that the main risk directors and officers face is associated with shareholder litigation risk and the major liability exposure is securities litigation on the basis of misrepresentation. We therefore expect D&O insurance premiums to be closely linked to the firm's litigation risk, at least inasmuch as the insurer that provides such protection is using the correct technology to transform observable characteristics into an insurance premium. The insurance contract therefore provides information on the firm's financial perspectives, the quality of its management team and its "deep governance" features.

To test the prediction that insurers are able to measure litigation risk against a corporation's directors and officers, we would like to gain access to a large database of firm characteristics and control for all that is observable by the insurer, including litigation risk. Unfortunately, D&O insurance characteristics are not available publicly for U.S. firms. A close proxy to U.S. firms is to use Canadian data as in Core (1997, 2000), and Boyer (2006). The use of Canadian data is motivated by the fact that companies whose shares are traded on the Toronto stock exchange have to disclose the D&O insurance protection it provides to its managers.

But this still leaves open part of the problem associated with whether insurers are able to measure litigation risk. To control for this problem as much as possible, we decided to limit

³ See Knepper and Bailey (1998), Blades (2006) and Baker and Griffith (2007)

our dataset to Canadian companies that went public⁴ through an initial public offering (IPO) before 2006 and to see if the chosen corporate structure had an impact on the price of D&O insurance. Indeed, until 2006 Canadian companies that decided to go public had the possibility of choosing between two corporate structures: Common equity (or stock) or Income trust. Income trusts are similar to the master limited partnerships that were popular in the early eighties in the United States, but that are no longer of much use.⁵

The general understanding in the corporate law literature⁶ is that income trusts are riskier than stock companies because of their higher risk of cash flow misappropriation and the lack of jurisprudence regarding their directors' and officers' duties. As a result, income trusts have an inherently more complex governance structure and legal framework than stock companies, which should make them riskier in the eyes of insurance companies. Studying the impact of an organizational form on the D&O insurance contract at the time of the IPO allows us to assess the extent to which insurers assess the income trusts' litigation risk. If they are indeed riskier, then, *ceteris paribus*, income trust should pay more for the same D&O insurance protection. Of the 272 companies identified in Huson and Pazzaglia (2007) that went public in Canada between 1995 and 2005, 128 organized as common equity corporations, while 144 chose to become income trusts. This controlled lab experiment allows us to test whether D&O insurance premiums vary between common equity and income trust companies.

In line with the corporate risk hypothesis we develop, our results show that corporations incorporated under an income trust structure pay higher D&O insurance premiums than firms incorporated under a common equity structure. Figure 1 highlights our main results: Income trusts pay higher premiums than common equity companies for a given coverage.

[INSERT FIGURE 1 ABOUT HERE]

This higher premium remains significant even after controlling for many firms aspects that have been hypothesized in the literature to have an impact on D&O insurance. As a

⁴ Chalmers *et al.* (2002) also analysed the demand for D&O insurance using proprietary data from 72 American firms that went public through an IPO between 1992 and 1996.

⁵ For more details, see Ciccotello and Muscarella (1997).

⁶ See Halpern (2004), Gillen (2005, 2006), Zetsche (2005), Huson and Pazzaglia (2007) and Boyer *et al.* (2009)

consequence, insurance companies see income trusts as being riskier than common equity companies, which implies that D&O insurance contracts reveal some litigation and governance risk information to the market.

Our main result provides strong support for the suggestion made by Griffith (2006), Baker and Griffith (2007) and Chalmers *et al.* (2002), that D&O insurance contracts provide valuable information to investors inasmuch as insurers are correctly pricing a company's litigation and governance risk. Our result also has the utmost implication that insurers are able to assess governance risk, a risk that is revealed to investors through the premium. And because insurers have a direct financial incentive to use an optimal technology to assess a firm's governance risk, the signal they provide to the market regarding a firm's governance risk is relatively clean.

The remainder of the paper goes as follows. After a short primer on directors and officers insurance and on income trusts in sections 2 and 3, we develop our hypothesis and describe the data in Section 4. We then analyse our results in section 5, present robustness tests in section 6 and conclude with a discussion in section 7.

2. A primer on directors' and officers' insurance

2.1. The D&O insurance market

Directors' and officers' liability insurance contracts cover corporate directors and officers against claims arising from their activities as representatives of the corporation. Divergence in interests mixed with asymmetric information between managers, including both directors and officers, and shareholders is the main source of conflicts. The insurance company will reimburse the corporation and/or its managers for the costs of settling and defending the lawsuit up to the policy limit, provided that the firm's directors and officers have acted *honestly and in good faith*. In theory, should managers and their company have acted in a fraudulent manner the insurance company could choose not to honour the policy. In practice however, the cost to check and prove a bad faith error typically prompts insurers to settle claims before trial. The average settlement was over 33 million dollars for 2007 whereas, according to Baker and Griffith (2007), the average settlement for the 2002-2005

period was \$22.3 million, up from \$13.3 million for the period 1996-2001. The trend is worrisome for corporations that seek to provide liability insurance coverage to their directors and officers, even if settlements are highly skewed because of the presence of a few mega-settlements in every period.

A D&O insurance policy is usually comprised of three distinct types of coverage. Side A coverage is increasingly popular and has become the focus of directors and officers, as it covers them whenever their corporation is unable or unwilling to indemnify them. Typically, no deductible applies to individual managers. Side A coverage is usually purchased by a corporation to attract competent outside directors. It can also be noted that Side A coverage can be used in order to alleviate the underinvestment problem put forth by Jensen (1976).

Side B coverage reimburses the corporation whenever it indemnified its managers following a lawsuit brought upon them as representative of the corporation, whereas Side C pays for claims made against the company itself, typically concerning securities claims. Hence, Side B and Side C cover the corporation rather than its directors and officers thereby epitomizing agency costs, as mentioned by Griffith (2006). Unfortunately, no detail on the different types of coverage purchased is provided. The 2006 Tillinghast Towers-Perrin survey mentions that 38% of public companies purchased a Side A only coverage, and that this figure is on the rise. Directors and officers are increasingly aware of the risks they face when they take on the position.

The D&O insurance market, as any insurance market, is subject to cycles which translate into premium and policy limit fluctuations. A hard market is characterized by reduced capacity and fewer insurers who offer higher premiums and lower limits, with insurance contracts containing more stringent restrictions. It is mainly the competitive pressure within the market that drives the D&O insurance cycles. As a result, one can consider the D&O insurance market as quite competitive, even though Tillinghast Towers Perrin report in their 2006 survey that only two underwriters have almost 60% of market shares.⁷ Marginal pricing is given by the ebb and flow of new competitors in this excess market. Competition allows us to presume that pricing of D&O coverage is efficient.

⁷ AIG covers 37.4% of total premium volume and 16.3% of policy counts, whereas Chubb Insurance Group covers 22% and 21.7% respectively.

2.2. The pricing of D&O coverage

Baker and Griffith (2007) provide a valuable in-depth view of the methodology traditionally used by underwriters in order to come up with the pricing of coverage. They interviewed 41 D&O insurance professionals, including underwriters, actuaries, brokers, risk managers, lawyers and claim process specialists. With the information they gathered, they provide an insightful picture of the underwriting process. Individual risk is crucial in the eyes of underwriters, who exert great efforts in trying to out-select their clients. Underwriters use three sources of information: The written application form that contains standard questions and requires a full array of documentation, the analysis of public financial and accounting data, and interviews with the prospective insured's senior management team. The information⁸ gathered from these three sources is thoroughly detailed since any claim contradicting the veracity of the statements supplied by the client in the risk assessment phase might trigger the insurance policy to be revoked or the claim denied. This binding mechanism allows us to hypothesize that once the insurance contract is signed, no residual asymmetric information remains between the underwriter and the insured, which corroborates Knepper and Bailey (1998).

Underwriters must assess accurately the litigation risk of each policyholder since they ultimately bear the full cost of their mistakes. Hence, they are bound to exert extreme caution before underwriting a risk. Because of their strong monetary incentives to correctly assess a policyholder's risk, Baker and Griffith (2007) argue that underwriters have specific tools that allow them to succeed in this task since they are provided with private information internal to the firm that is not divulged to other market participants.

A preliminary litigation risk measure is established based on the firm's financial information such as the insured firm's industry perspectives, its market capitalization and volatility. Governance factors are then taken into account. Baker and Griffith (2007) divide the analysis of governance characteristics into two categories: *Culture* and *Character*. *Culture* refers to the stringency of internal controls at work within the corporation and how top management complies with formal and informal norms in addition to the incentive structure in place.

⁸ Questions focus on prior claims concerning the corporation or any director or officer to be insured, planned corporate reorganization, mergers, acquisitions, securities offerings, as well as sales of divisions.

Beyond traditional governance checkpoints, underwriters investigate the way the company is run to get a sense of “how information flows throughout the firm” in order to detect the source of potential D&O litigation. The second category is *Character*. It aims to identify excessive risk-taking attitudes by directors and officers and their propensity to hold themselves above the law. In essence, *Character* boils down to uncovering the managers’ sense of ethics.

2.3. The empirical determinants of D&O insurance premiums

Following the Dey Report, disclosure of basic information regarding D&O insurance (i.e., policy limit, premium and deductible) in the firms’ annual proxy statements has become mandatory in Canada⁹ since 1993. This allowed a handful of academics to analyse the determinants of the purchase of D&O insurance as well as the factors affecting the premiums. The first to test prediction on D&O insurance with Canadian data was Core (1997) using a dataset of 222 firms whose fiscal year ended in 1994. He demonstrates that litigation risk and the cost of financial distress are the main determinants positively affecting the likelihood of D&O insurance purchase as well as the policy limit and deductible and rejects the hypothesis that D&O insurance is part of the compensation package for managers. Later Core (2000) notes that the premium charged is the product of the probability of being sued and the expected cost of settlement and is explained by the governance structure quality as well as the business risk of a firm. The quality of a firm’s governance structure is measured by ownership structure, board independence and management entrenchment variables. He finds that the premium charged by insurers reflects the quality of governance so that weak governance is statistically related to positive excess CEO compensation, which has previously been associated with lower value for shareholders (see Core, Holtausen and Larcker, 1999).

Bhagat, Brickley and Coles (1987) disagree with the view that D&O insurance coverage reduces liability and leads to less disciplined managers. Using an event study with a sample of 112 American firms, they find that the decision to purchase D&O insurance does not reduce shareholder wealth, but might in fact even have a positive impact. In addition, some authors emphasize the monitoring role of D&O insurers, a role that shareholders should value, especially shareholders of large widely-held firms.

⁹ And since 1992 in the United Kingdom following the Cadbury Report.

Holderness (1990) notes that liability insurance can be used by a company to attract outside directors, which in itself is theoretically a good monitoring device according to Fama and Jensen (1983). Moreover, an insurer can also veto opportunistic changes in the governance structure, thereby protecting the shareholders' interests. Holderness also notes that liability insurance promotes internal monitoring as directors will be keen to monitor each other since should one hide or alter information, coverage might be denied for all. As a result, purchasing D&O insurance comes with the service of an external independent investigation of its governance practice. Consequently, companies where ownership and control are clearly separated should particularly value this service and consequently purchase more insurance. O'Sullivan (1997) successfully tested Holderness' (1990) hypothesis using a sample of 366 British public firms. He concludes that D&O insurance acts as a substitute for inside ownership as a governance mechanism.

Using proprietary data on 72 American IPO firms between 1992 and 1996, Chalmers *et al.* (2002) examine the relationship between IPO underpricing and D&O insurance coverage and find that firms with more coverage at the time of the IPO are more likely to be sued for mispricing. They also find that insurers are able to price this opportunism *ex-ante* by charging higher premiums prior to the IPO to companies whose post-IPO performance will be poor. This result suggests that managers purchase D&O to protect themselves when they know the IPO price was high, which is in line with the managerial opportunism hypothesis that sees D&O insurance as detrimental for shareholders. Moreover, it sheds light on the insurers' ability to forecast potential litigation arising from poor post-IPO performance.

Other authors follow a different line of reasoning and assert that D&O insurance protects shareholders rather than managers. For example, Boyer (2005) concludes that minority shareholders welcome D&O insurance protection because it ultimately protects their wealth against managerial incompetence since it is mainly shareholders who sue managers under D&O policies. This conclusion falls in line with Gutiérrez (2003) who, using a theoretical model, reaches the conclusion that D&O insurance allows shareholders to optimize litigation as a monitoring tool for managerial ineptitude.

Our study focuses on the income trust structure to test our hypothesis that insurers translate their assessment of governance risk into the premium to be charged. We therefore present in the following section the specificities of this organizational structure.

3. A primer on income trusts

3.1. The structure of income trusts

Income trusts are investment vehicles structured to maximize the periodic cash distribution to unitholders. Trusts sell units to investors and invest the proceeds to purchase debt and equity of the underlying business. As a result, a unit is a package of debt and equity of the operating entity. Unitholders receive virtually all net earnings from the operating business. Typically, good candidates are firms operating in a mature industry, generating high and stable cash flows from assets necessitating low capital expenditure. And even though income trusts are characterized by high payout ratios, they are under no obligation to distribute cash, much like a traditional public company is not required to issue dividends.

Until 2007 trust earnings were not taxable at the company level in Canada, thus avoiding the double taxation burden. This tax advantage spurred the income trust IPO market in the 2000s and is the reason why these investment vehicles were called “flow-through entities”. The tax advantage lured many Canadian companies into becoming income trusts even though they were not good candidates¹⁰ a priori since they were not in a mature industry, did not have high and stable cash flows and did not necessitate low capital expenditure. With a market capitalization below \$22 billion in 2000, market capitalisation of income trusts reached \$186 billion in 2006. According to King (2003), the growth in the number of income trusts as an asset class was due to the appreciation of unit values as well as IPOs and sales of

¹⁰ Definite examples are perhaps that of Telus and BCE, the two largest Canadian telecommunication firms, that announced (11 September 2006 and 11 October 2006 respectively) their intention to become income trusts. Based on a one-share-for-one-unit exchange, BCE believed it would be able to transform its annual dividend per share of 1.32\$ into an annual payout per unit of 2.55\$ (Canadian Business Online, *Copycat: BCE follows Telus' lead*, 23 October 2006, available at http://www.canadianbusiness.com/markets/income_trusts/article.jsp?content=20061023_81731_81731, last visited on 9 July 2009). For Telus, shareholders who were receiving 1.50 \$ per share annually would instead receive 4.00 \$ per unit, again on the basis of a one-for-one exchange (Canadian Business Online, *Anatomy of a trust conversion: Telus*, 22 September 2006, available at http://www.canadianbusiness.com/markets/stocks/article.jsp?content=20060922_80590_80590, last visited on 9 July 2009).

existing trusts. In 2002 for instance, income trust IPOs represented 86% of the total value of Canadian IPOs. As more and more companies were considering the conversion into an income trust, concerns about the viability of the Canadian tax base arose. To thwart this dangerous trend and protect its tax base, the Canadian government amended the legislation on 31 October 2006 thus eliminating, by 2011, the tax advantage of income trusts over traditional common equity public corporations.

3.2. Income trusts and governance

Even before the Canadian federal government decided to remove the income trusts' tax benefits, many analysts (see Halpern, 2004, and Gillen, 2006) criticized the unfounded overvaluation of income trusts. Expressing his opinion regarding the governance of income trusts, the vice-president of public equities at the Ontario Teachers Pension Plan said: "There are basically no rules, it's like the Wild West"¹¹. Whereas finance theory tells us that free cash flow should be distributed to investors to frustrate spendthrift managers (Jensen, 1986), Zetzsche (2005) doubts that managers will ultimately be entirely constrained. Indeed, they are under no obligation to distribute anything. Moreover, even though Halpern (2004) contends that income trusts reduce the likelihood of financial distress since debt and equity are bundled together into the unit, most income trusts still use third-party debt financing. And since King (2003) observes that third-party debt is usually senior to unit-debt, income trusts are not immune to incurring financial distress costs should financial difficulties arise.

Gillen (2005, 2006) analyses in detail the two structures, scrutinizing corporate governance features. He finds that whereas the declaration of trust relatively closely mirrors corporation statutes, some important facets of the *Canada Business Corporations Act* (CBCA) are not replicated in trust law, to the disadvantage of investors. The most significant of which are the absence of shareholder proposals, appraisal remedy and oppression remedy. This prompted Boyer *et al.* (2009) to conclude that income trust law has not originally been created to suit a running business structure and thus does not emphasize investor protection as much as common equity corporate law does.

¹¹ The Globe and Mail, *Income trust boards: The new "Wild West"*, 25 October 2006. Available at: <http://www.theglobeandmail.com/archives/article850682.ece> (last visited 27 May 2009)

As mentioned in Boyer *et al.* (2009), although unitholders do not have access to derivative actions, they can still be claimants against trustees who breached their fiduciary duties. Indeed, trustees owe their duties to unitholders who are beneficiaries and not to the trust because the latter is not a separate legal entity under Canada's common law. Moreover, unitholders might even be able to bring a derivative action against the operating entity insofar as they can persuade courts that the value of their units is inherently tied to the actions of the operating business. Therefore, since unitholders have *de facto* the possibility to take legal action against trustees, underwriters establishing an insurance contract for an income trust should exert at least as much caution in examining the governance structure of their prospective client as they do for a traditional public corporation.

The value of investment of both types of investors is intrinsically related to the performance of the company. To understand why the control of unitholders is indirect at best, one needs to have in mind the way a trust is run. As King (2003) notes, "the first key difference is the introduction of one or more legal entities between equity investors and the operating company". As a result, unitholders are one step further than common equity holders from the reins of the operating company.

The income trust structure in Figure 2 represents the most basic structure of an income trust. The complexity of the structure can grow rapidly as more legal entities come into play. It is uncertain whether investors fully appreciate this complexity and weigh the pros and cons to integrate it in the valuation process. This problem is particularly acute since the bulk of investors in income trusts are individual.

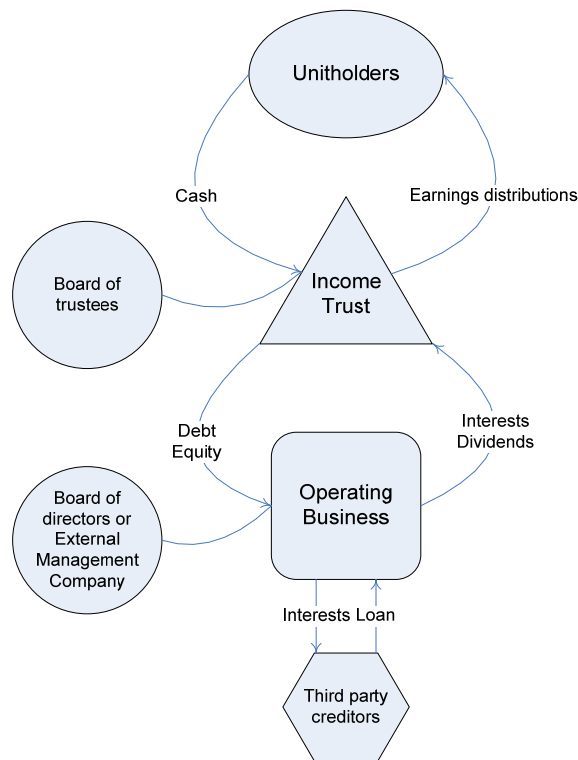


Figure 2. Basic income trust structure. This figure shows that even for the most basic income trust structure, unitholders’ control of the company generating cash flows is indirect.

In addition, conflicts of interest may arise when trustees are directors and managers of the operating company, a situation that happens to be quite common. It is not clear that they will always have the best interest of unitholders in mind when taking decisions. Additional conflicts emerge when trustees delegate their responsibilities to external management teams (Gillen, 2006). These outside managers may lack the necessary incentives, skills and time to perform for the betterment of unitholders. *The Globe and Mail* reports that

“22% of the country’s largest trusts continue to be managed under external contracts, which means they do not have in-house management teams who report directly to the board. A further 7% have a combination of internal management and an external management contract.”¹²

¹² *The Globe and Mail, Ibid.*

Income trusts also have discretion over their governance structure. There is no specified standard structure, which complicates the evaluation process for investors and the risk assessment for underwriters. Investors in an income trust have access to little information regarding the operating entity and have little control over it compared to the information available and the control shareholders enjoy over common equity corporations. Appendix B presents the corporate structure of two such income trusts, *CanWest MediaWorks Income Fund* and *Spinrite Income Fund*, as presented in their final IPO prospectus. Clearly the contrived organisational form increases the difficulty for a unitholder to see from where the cash flows he receives originate from.

An additional issue related to income trusts is the personal liability of investors in case of business failure. Boyer *et al.* (2009) mention that even though the provinces of Alberta, Manitoba and Ontario have taken legal measures to protect unitholders as beneficiaries from personal liability, they do not exclude liabilities of unitholders as principals of the trustees. Even without considering the extreme case of bankruptcy, financial difficulties due to unforeseen capital expenditures or difficulties to raise money from outside sources for example, could force management to lower distribution to unitholders. A dramatic plunge in valuation is to be expected should such a scenario occur since high valuation is mainly dependent on the implied promise of high distribution. This would likely give rise to a claim. Business trusts that adopted the trust structure without fitting the traditional income trust criteria are particularly concerned.

Thus, income trusts are much more complex entities and operate in a more opaque framework than traditional public companies. Unitholders do not enjoy as much protection as investors, although they are able to litigate. Moreover, the governance structure of income trusts is not standardized and various sources of conflicts of interest exist that do not apply for public corporations.

3.3. The IPO of ITs

The decision to become an income trust rather than a common equity firm depends on many factors. Huson and Pazzaglia (2007) show that the choice of going public as an income trust rather than as a common equity corporation depends heavily on the relative market

valuation of each organizational structure. The authors develop two hypotheses as reasons why a company might choose to become an income trust. The first refers to asset-based characteristics, with maturity and profitability dictating the likelihood to become a trust, whereas the second involves external factors, namely the relative valuation of income trusts compared to common equity corporations. They find that after controlling for the asset base, higher market valuations for income trusts significantly increases the probability that a company will choose the trust structure over the traditional one when going public. Furthermore, market timers enjoy lower underwriting fees as well as lower underpricing, even though they ultimately pay the price in the long term through poor stock price performance.

Hence, companies might choose to go public as income trusts on the ground of market timing rather than sound strategic judgment. The poor long term performance of such players might trigger claims. Consequently, we argue that insurers should have paid particularly attention to the pricing of coverage of income trust IPOs in our sample firms.

4. Hypothesis development, data and variables description

4.1. Hypothesis and data

With these fundamental differences between income trusts and common equity companies in mind, we now develop our hypothesis. The end goal of our paper is to determine whether liability insurance companies believe that the managers of the corporations that choose the income trust corporate structure face a higher risk of litigation. Underpinning this question is our assertion that insurers use a plethora of information that is not available to the public and that this information is reflected in the pricing of the D&O insurance contract.

Since income trusts have a more complex governance structure and since Baker and Griffith (2007) find that what matters most to underwriters is the firms' governance structure and culture, income trusts should pay more for coverage, *ceteris paribus*. A necessary condition for this statement to be valid is that insurers are able to efficiently price governance risk. The risk assessment conducted by insurers (see Blades, 2006) with the possible denial of coverage should an information have been omitted or distorted, prompts us to believe that

there is no residual information asymmetry. Hence, our null hypothesis is that the D&O insurance premium is not affected by whether the insured is a stock company or an income trust. The alternative hypothesis is that insurers require a higher premium from income trusts, as they acknowledge that their governance structure is inherently more susceptible to give rise to a claim.

To test our hypothesis, we gathered information from proxy statements. The initial sample of 272 firms comes from the aforementioned Huson and Pazzaglia (2007) study of firms that went public through an initial public offering in Canada between 1995 and 2005. Due to missing data, our final sample consists of 200 companies, including 103 common equity companies and 97 income trusts. We obtained financial data from Compustat and from the firms' annual report directly available on SEDAR. We lost some IPO firms either because their first proxy circular was not available on SEDAR or because their financial information was not available. The variables collected are as of the end of the first complete fiscal year post-IPO under the assumption that the decision concerning D&O insurance was taken at the beginning of the fiscal year. All monetary figures are in Canadian dollars and a conversion rate as of the end of the firm's fiscal year was applied when needed.

4.2. Description of variables

The determinants of premium previously found in the literature encompass variables related to the financial situation of the firm as well as the composition of its board of directors. We describe the variables used in this paper below.

4.2.1. Dependent variables

Purchase is an indicator variable with value one if the firm purchased D&O insurance (as mentioned in the proxy statement) and zero otherwise. As firms are required to divulge whether their directors and officers were covered by a D&O insurance policy, a firm whose management proxy statement makes no mention of D&O insurance was deemed to provide no such coverage to its directors and officers.

We test for the price of coverage using the log of the ratio of premium on coverage (\ln_prem_cov). This ratio gives us the unit price of D&O insurance, which is also known as

the “rate-on-line” in the language of insurance underwriters. Presumably, a firm that pays a higher rate-on-line is perceived by the insurer as being more at risk to be sued since it is paying more per unit of coverage.

4.2.2. *Independent variables*

The main variable of interest in our study is the *ITCE* variable, which is an indicator variable equal to one if the company is an income trust and zero otherwise. The null hypothesis is that this variable is insignificant in explaining the price of coverage. If income trusts are a riskier organisational form in terms of governance, then we should expect the *ITCE* variable to have a positive and significant impact on *ln_prem_cov*.

4.2.2.1. Financial variables

Ln_MVE is the logarithm of the market value of our sample firms. The potential damage should litigation occur is higher for large companies as more equity is at risk, and we could therefore expect larger firms to pay a higher premium. On the other hand, larger firms are more likely to have in house legal staff to defend against litigation brought against a firm’s directors and officers. This means that larger corporations could have a lesser need for D&O insurance. We collected this variable with Compustat and completed the missing data with the market price times the number of shares outstanding as of the end of the firm first fiscal year after its IPO.

Growth accounts for the growth opportunities of companies. Following Core (1997), we compute *Growth* as $\frac{\text{market value of equity} + \text{book value of liabilities}}{\text{book value of assets}}$. All else equal, a firm with a high growth ratio faces more litigation risk and should be charged a higher premium accordingly.

We measure the performance of our sample firms by computing their return on assets (*ROA*). Two confronting views can be put forth to anticipate the sign of the coefficient in our regression. On one hand we could expect better performing firms to face less litigation arising from shareholders who typically sue because of financial loss. On the other hand, a high *ROA* might be due to earnings management for example or might simply imply that

future performance might be lower and possibly trigger claims, in which case we would expect a positive relationship between *ROA* and the price of coverage.

Debt_ratio is equal to $\frac{Total\ Debt}{Total\ Assets}$. The more levered a firm is, the higher its probability of

distress and its need for insurance. The risk is therefore higher in the eye of the underwriter who will demand a higher premium accordingly. In contrast, the monitoring hypothesis put forth by Holderness (1990) implies a negative relationship as external debt holders have incentives to monitor the firm, which lessens the need for the monitoring services provided by the insurance company. Consequently, the expected sign of *Debt_ratio* is ambiguous.

4.2.2.2. Governance variables

We collected several variables related to governance: board independence, CEO and chairman of the board duality, board size and the presence of a blockholder. However, we contend that of those, only board independence is a true indicator of the governance structure of a firm. Consequently, and in order to satisfy the requirements of the selected econometric model, we include all four variables as independent variables in our regressions with *Purchase* as the dependent variable and keep board independence as the only governance measure in our regressions with the log of the rate-on-line as the dependent variable.

Board_Indep is the percentage of unrelated directors on the board of directors as mentioned in the firms' proxy statements. We expect firms with more independent boards to pay a lower premium as a large part of the literature views independent boards as a good governance feature.

Duality is an indicator variable taking on the value one if the chairman of the board is also the chief executive officer of the company and zero otherwise. This particular feature of a board is usually viewed as an entrenchment red flag. The entrenchment hypothesis would therefore dictate that *Duality* be positively correlated with *Purchase*.

Board_size refers to the number of directors on the board. As more directors sit on the board, the likelihood that they will demand D&O insurance increases.

Blockholder is an indicator variable equal to one if a shareholder owns 10% or more of the voting shares, as mentioned in the firms' proxy statements. Again, two lines of reasoning can be confronted. Boyer (2005) hypothesized that blockholders view D&O insurance as a wealth protecting mechanism; we thus expect a positive sign for the relationship between *Blockholder* and *Purchase*. On the other hand, D&O insurance can be considered as a substitute monitoring mechanism as in O'Sullivan (1993), thereby indicating a negative expected sign.

4.2.2.3. Other variables

Float is the ratio of the number of shares issued at the IPO on the total number of shares outstanding after the IPO. As a larger fraction of shares is issued at the time of the IPO, we expect that the probability of litigation and the expected loss should a claim arise both increase.

Pct_US_Sales is the percentage of the firm's sales that were incurred in the United States. The variable was collected by looking at annual reports for the year following the IPO. The United States being a more fertile environment for potential litigation, we expect this variable to be positively correlated with the decision to purchase D&O insurance.

Risky_Industry is an indicator variable equal to one if the firm belongs to one of the risky industries identified in Bajaj *et al.* (2000). The authors test for settlement statistics across industries and identify the ten riskiest industries (using the first two-digit SIC codes) in terms of number of cases settled as well as the average settlement amount. We argue that an insurer will deem a prospective insured firm to pose a greater risk of a lawsuit if it belongs to one of these ten risky industries and will charge a higher premium accordingly.

From Table I, we see that our sample is relatively homogeneously distributed across industries. About one third of our sample firms are categorized as belonging to a risky industry. More specifically, 23% of common equity companies operate in risky industries compared to 13.5% of income trusts.

[INSERT TABLE I ABOUT HERE]

First_yr_XS_return is the one year buy-and-hold return of the firm right after its IPO minus the buy-and-hold return on the S&P/TSX for that period. If insurers are able to charge a higher premium to firms which they anticipate will perform poorly, then the relationship between *First_yr_XS_return* and *ln_prem_cov* will be negative. We collected the issue prices of our sample firms through their prospectus in SEDAR and checked with the FPIInfomart database. Subsequent price information comes from Bloomberg.

First_day_return is the first day return of our sample IPO firms. This variable allows us to control for the underpricing of the IPO in our regressions as suggested by Ritter (1987).

Following previous IPO literature, we use the aftermarket daily return volatility as a measure of risk. We calculated *Volatility* as the standard deviation of annualized daily returns. We expect income trust IPOs to experience less post-IPO volatility since they are typically more mature companies with more stable cash flows.

Age is a variable collected from the offering prospectus to account for the number of years since the start of operations of the company at the time of the IPO announcement. For income trusts, we considered the date of inception of the operating company, or in the case of a Real Estate Investment Trust, the start of operations of the current owner of the initial properties. In some cases, there were multiple owners or several companies which were grouped as part of the IPO transaction. Subjective judgment was therefore inevitable in those particular cases but we were wary to focus on the date when the company generating the cash flows started its business. We expect this variable to have a negative coefficient in our regression of the rate-on-line since insurers should more view experience as a positive signal when they assess the risk of an IPO firm because, for instance, more financial data is available.

Finally, we use indicator variables for the different years in our sample to account for the differences in market characteristics and other macroeconomic factors driving premiums. More specifically, we create an indicator variable *Dummy_hard* for hard insurance market years. We define hard market years based on the information on premium trends in the Tillinghast Towers-Perrin 2006 D&O Liability Survey as well as on various comments and

articles by D&O liability professionals. Years 2002 through 2005 are considered hard market years.

Figure 3 shows the number of common equity and income trust IPO firms across years in our sample. The overvaluation wave of income trusts is apparent. Indeed, 31 firms made an IPO in 2002 in our sample, 28 of which were income trusts. Figure 4 indicates that the increase in the percentage of IT IPOs coincides with the high relative valuation of income trust as well as with the hard market in the D&O insurance market.

[INSERT FIGURE 3 ABOUT HERE]

[INSERT FIGURE 4 ABOUT HERE]

4.3. Econometric model

We first analyse the determinants of the decision to purchase D&O insurance using a probit regression. In our model, this decision depends on business risk factors as well as governance indicators and control variables. A correlation matrix of the variables used is provided in Appendix A.

In order to test whether the pricing of coverage depends on the decision to go public as an income trust or as a common equity corporation, we have to note that the decision to purchase D&O liability insurance is a truncated variable. We therefore proceed in two steps, as put forth by Heckman (1979) in order to avoid potential selection bias. The first step consists of a probit regression to analyse the determinants of the probability that a firm purchases D&O insurance around its IPO date. The dependent variable in this regression is *Purchase*. The second step in the Heckman two-step procedure involves an OLS regression to determine what explain log of the rate-on-line ($\ln \frac{\text{premium}}{\text{coverage}}$). Of course, because of the selection bias associated with the choice of having D&O insurance or not, we include in the second stage regression the inverse Mills ratio that controls for such a selection bias.

5. Analysis of results

5.1. Descriptive statistics

Table II presents descriptive statistics for our independent and dependent variables for both income trusts and common equity companies. We first test for each variable the difference in variances between our two groups and then test for the difference in means accordingly. We compute Fisher's exact test for indicator variables to test for their means difference.

[INSERT TABLE II ABOUT HERE]

Income trusts appear to be more mature companies as they display lower growth. This is consistent with the income trust literature which highlights that the trust structure best fits low growth corporations. Income trusts also show higher performance as measures by their return on assets as well as a higher leverage. In fact, the average common equity firm in our sample is barely profitable at the time of its IPO, and it is twice less leveraged than the average income trust IPO. Although common equity firms appear to have a large market capitalization, the difference is not statistically significant.

Examining governance variables, we find that income trusts do not have as many blockholders as common equity firms, and that their boards are significantly smaller and more independent. This last feature is rather surprising. As noted earlier, the boards of income trusts are often controlled by the operating company. However, the proxy statements of income trusts were usually not as clear as those of common equity firms in displaying the independence of their trust members. It is thus possible that a bias was introduced in constructing the *Board_indep* variable.

The same is true for the *Duality* variable. An income trust does not run any business but merely holds units and acts as a flow-through entity. Therefore, there is no CEO *per se* in an income trust, and the duality variable can thus be ambiguous. Theoretically, it should be equal to one for an income trust if the CEO of the operating company acts as the chairman of the board of trustees. This is the logical counterpart of the duality variable for traditional corporations. It is not clear, however, that income trusts are required to report such a

duality in their proxy statements. This might have led us to infer that the duality variable for some income trusts was zero when the reality should have dictated the opposite.

There are marked differences in the D&O insurance patterns of the two organisational structures. Common equity firms are more likely to carry D&O insurance than income trusts as shown by the *Purchase* variable. Income trusts pay a higher premium, however. The difference is statistically significant at the 5% level, and is economically significant as well. The median premium for an income trust (126,873\$) is over twice as large as that for a common equity firm (62,152\$). Moreover, while the average common equity firm pays 6.15\$ for every 1,000\$ of D&O insurance coverage, an income trust will pay about 8.42\$. This difference is statistically significant at the 5% level.

It is worth mentioning that the two types of firm do not differ in the amount of coverage they purchase. Again, although we have no *a priori* reason to believe that income trusts should purchase more or less insurance coverage than common equity firms, we do have an *a priori* reason to expect income trusts to pay a higher price per unit of coverage for D&O insurance. Figure 1 that we introduced earlier in the paper shows that income trusts pay a higher premium for the same amount of coverage. Moreover, the stickiness feature of D&O insurance previously mentioned is also clearly apparent, particularly in Panel C of Figure 1.

Panel B of Table II also informs us that the average common equity firm in our sample is more likely to operate in a risky industry, which again seems to be in line with the more mature, stable business characteristic of income trusts. Concerning the IPO variables, income trust IPOs represent a larger fraction of the company, but there is no statistical significant difference in the underpricing of income trusts and common equity companies, although income trusts seem to underprice less on average. The one year stock performance statistics show that common equity firms perform better in the year following the IPO, although the difference is not statistically significant. The annualized daily stock price volatility over the same period is much higher for common equity firms, which corroborates the fact that income trusts generate more stable cash flows. Finally, the average number of years since inception is 35 years for income trusts and 19 years for common equity firm IPOs.

Overall, the descriptive statistics presented in Table II are consistent with the general understanding of income trusts: They are mature profitable businesses operating in a less turbulent environment, generating stable cash flows. Nevertheless, we observe that insurers seem to require a higher premium to insure them against shareholder litigation.

5.2. Likelihood of carrying D&O insurance

The main statistical relation we are interested in is provided by our probit model regression of *Purchase*, a dummy variable equal to one if the firm had D&O insurance around its IPO, against *ITCE*, dummy variable equal to one if the firm is an income trust and zero otherwise. We also include financial variables, governance measures as well as control variables to test for the determinants of the decision to purchase D&O insurance. Table III presents the regressions results for different model specifications.

[INSERT TABLE III ABOUT HERE]

Model specification 3 reports that growth firms are more likely to purchase insurance, which is in line with our hypothesis. A marginal change in *Growth* from the average of 2.34 is associated with a 9.72% increase in the likelihood to purchase insurance, when all variables are set at their means. The size of a firm is inversely related to its likelihood to purchase insurance. This result, even though surprising at first, can be explained by the array of alternatives large companies have at hand in protecting their directors and officers. The *Debt_ratio* does not play a significant role in the model, but the profitability measure does. The return on assets has a positive impact on the decision to purchase insurance. The last significant variable in our probit regressions is the size of the board. A marginal increase in the number of board members from the average of 7 is associated with a 5.73% increase in the likelihood to purchase insurance. The presence of blockholders, board independence and whether the CEO is also the chairman do not seem to affect the insurance purchase decision of the companies in our sample. On the other hand, there is significant evidence that the higher the percentage of sales conducted in the United States, the higher the probability of carrying D&O insurance, which illustrates the United States' more litigious environment (see Clarkson and Simunic, 1994). The aftermarket volatility, the riskiness of the industry and the number of years from inception to IPO do not seem to impact the

likelihood to purchase insurance. We use model specification 3 as the first step in the two-step Heckman procedure that follows.

5.3. The pricing of coverage

We now investigate the determinants of the premium charged to firms once they decided to purchase D&O insurance. We are interested in what matters to insurers when the time comes to decide how much to charge for coverage. We report our results from the second stage of the Heckman selection model using the log of the rate-on-line as the dependent variable in Table IV.¹³ The independent variables are the *ITCE* variable, our proxies for the business risk and the governance quality as well as control variables. We exclude three variables which appear in the selection equations from the outcome equations: *Blockholder*, *Board size* and *Duality*.

The main variable of interest for this paper is the *ITCE* indicator variable. We investigate whether insurers are more suspicious of income trusts due to their governance features and require higher premiums accordingly. The empirical results strongly support our hypothesis. In every model specification, the coefficient of the *ITCE* variable remains positive and significant in determining the premium. The results presented in Table IV are robust to various specifications of the selection model.

[INSERT TABLE IV ABOUT HERE]

This result is significant at the 1% level in model specification 6 and shows that the organizational structure plays a meaningful role in the risk assessment conducted by the insurer.

As *ITCE* enters both the selection and outcome equations in the Heckman procedure, we need to compute the adjusted coefficient in order to interpret its economic significance.

$$\frac{\partial E(y|z^* > 0)}{\partial x_k} = \beta_k - [\alpha_k \cdot \rho \cdot \sigma_\varepsilon \cdot \lambda(\lambda \hat{z})]$$

¹³ We assume throughout the paper that no endogeneity problems arise between premium and coverage since coverage is usually chosen first by the prospective insured, and only then does the insurer choose the premium.

β_k is the coefficient in the outcome equation;
 α_k is the corresponding coefficient in the selection equation;
 ρ is the correlation between the errors in the two equations;
 u_{ik} is the error from the outcome equation;
 λ is the inverse Mills ratio computed from the first stage probit regression (model specification 3). $\lambda = \frac{\phi(\hat{z})}{\Phi(\hat{z})}$; with $\phi(\hat{z})$ the probability density function and $\Phi(\hat{z})$ the cumulative distribution function;
 \hat{z} is a vector of fitted values for the probit regression.

The mean adjusted β for the *ITCE* variable is .6125. Because our dependent variable is the natural logarithm of the rate-on-line, the change in the rate-on-line if *ITCE* goes from 0 to 1 is $e^{0.6125} - 1 \approx 85\%$. This means that, everything equal, income trusts pay 85% more for their D&O insurance coverage.

We also ran model specification 3 with the rate-on-line as the dependent variable rather than the log of the rate-on-line (results not shown). The adjusted coefficient for *ITCE* for this econometric specification is 3.27\$. Therefore, everything else being equal, if a firm opts for the income trust structure instead of the common equity structure, the insurer will charge 3.27\$ more for each 1,000\$ of coverage. The average amount of coverage purchased by our sample firms is 24 million dollars, thereby indicating that an income trust should expect to pay 78,000\$ more in D&O insurance premium on average than a comparable common equity firm. Assuming that this extra premium remains constant over time and assuming a constant interest rate of 5%, the value of an income trust is 1.5 million dollars less on average than a common equity firm.

This extra cost of being an income trust, may be associated with the governance characteristics of income trusts that are somewhat ambiguous and opaque, particularly when it comes to the unknown level of protection that unitholders enjoy compared to that of shareholders, even though unitholders are allowed bring a claim against the income trust's managers if they feel they were wronged. Baker and Griffith (2007) document that insurers are interested in the business risk as well as governance risk while assessing the probability and severity of a potential claim. In particular, insurers seek to uncover "deep governance" effects, beyond observable, traditionally checked governance features. Income trusts represent a rare opportunity to test such a hypothesis, and our results suggest that, at

least from the perspective of D&O insurers, the cost associated with the income trusts' byzantine organizational structure and governance risk is significant.

Our study also provides another result in support of Chalmers *et al.* (2002). We find that there is a strong negative relationship between the first year excess return and the log of the rate-on-line. Firms that perform poorly the year following their IPO as measured by their stock price performance are strongly penalized by insurers. This result highlights the fact that a drop in the stock market price is an important indicator of a future potential claim. In Chalmers *et al.* (2002), the firms' long term performance post IPO is significantly negatively correlated with the D&O premium paid, thereby suggesting that insurers have the ability to forecast performance and price coverage accordingly. And even though we did not have access to the D&O insurance information as of the IPO date since we collected the D&O insurance information in the proxy statement following the end of the first fiscal year of the firm as a public company, it is plausible to assume that the insurer did not have had an entire year of stock price data at hand to assess the riskiness of the prospective insured. Our results therefore concur with those of Chalmers *et al.* (2002) and suggest that insurers are able to use the private information they gather through the evaluation process to decide the premium to be paid.

The estimates from Table IV also illustrate a close connection between the aftermarket volatility of the firm's stock price and the price of coverage. Moreover, although common equity firms display significant higher volatility than income trusts, and volatility is strongly penalized by insurers, income trusts still pay more for coverage.

6. Robustness checks

This section reports the results of a series of robustness checks testing for the sensitivity of the empirical results to various model specifications.

6.1. Rate-on-line as the dependent variable

As mentioned in the previous section, we also ran the regressions with the rate-on-line as the dependent variable in the second stage of the Heckman procedure to interpret results in dollar terms. The results are qualitatively unchanged (not shown).

6.2. Deductible

We included the deductible as an independent variable in both the log and level regressions. It is interesting to mention that although its coefficient is never significant, introducing the deductible in the regressions has the effect of making the coefficient estimate of the independence of the board variable very small thereby offsetting its significance (not shown). It might look surprising that the independence of the board of directors is positively correlated with the price of coverage. Indeed, a large body of the finance literature views independence as a sign of good governance. However, because we can assume that more independent boards require less stringent conditions and lower deductibles as part of the insurance contract (which translates into higher premiums), it is reasonable to find a positive coefficient, whose significance goes away when we introduce the deductible into the regression.

6.3. Natural logarithm of coverage as an independent variable

We also ran the regressions with the logarithm of coverage on the right-hand side of the equation. This specification left the qualitative empirical results unchanged (not shown).

6.4. Endogeneity

One can argue that an endogeneity problem likely arises as the residuals of the selection equation might be correlated with the *ITCE* decision. Indeed, some unobservable factors related to managers might concurrently affect these two decisions that managers take around the IPO date: whether to become a common equity firm or an income trust and whether or not to purchase D&O insurance. If managers are strongly risk averse for example, it might prompt them to opt for a particular organisational structure (the main hypothesis developed in this article would infer that they will choose to become a common equity company as they will face a lower litigation risk) as well as influence them in their decision to carry D&O insurance or not.

To control for this potential endogeneity issue, we instrumentalized *ITCE* in the selection regressions. As an instrument for *ITCE* we used three variables: *Age*, *Dummy_hard* and *Float*. The *Age* variable is calculated as the number of years since the start of operations of the

underlying business. Huson and Pazzaglia (2007) show that *Age* is strongly correlated with the organizational form decision as older firms are best suited for the income trust structure. Moreover, *Age* is not strongly correlated with the decision to purchase D&O insurance. We also included *Dummy_hard*, which coincides with the high relative valuation wave of income trusts (see Figure 4), as well as *Float* as both variables are highly correlated with *ITCE* but not with *Purchase* (see correlation matrix in Appendix A).

We therefore ran probit model specification 3 from Table III with *ITCE* instrumentalized by *Age*, *Dummy_hard* and *Float*, generated the inverse Mills' ratio from that regression and included it in OLS regressions with *ln_prem_cov* as the dependent variable. Results are presented in Table V. The empirical results for the specification wherein we control for potential endogeneity between the *ITCE* and *Purchase* decisions still provide strong evidence that income trusts pay more for coverage.

[INSERT TABLE V ABOUT HERE]

7. Conclusion

The primary objective of this paper was to demonstrate that insurers penalize the more opaque governance of income trusts. We have documented a strong relationship between the organizational structure opted for by a firm at its IPO and the premium insurers charge to protect its directors and officers against lawsuits. Our results are statistically and economically significant and robust to various model specifications. Several papers, such as Baker and Griffith (2007), have argued that premiums charged by D&O insurers is based on business and governance risk factors and that deep governance is particularly crucial. Investors unfortunately cannot observe this deep governance; they cannot even observe, in the United States, the evaluation that D&O insurers make of such deep governance issues (see Griffith, 2006).

Corporate governance and its impact on the risk and return of corporations have been increasingly under the scrutiny of investors. Many governance indices have emerged in order to fulfil the need for governance risk assessment, but these indices are themselves criticized by academics and practitioners. As underlined in Rose (2007) and Bhagat *et al.* (2007),

governance indices suffer from many different methodological shortcomings (see Bebchuk *et al.*, 2009, for a recent survey of governance indices). One of these shortcomings, highlighted in Bebchuk and Hamdani (2009), is that governance indices follow a “one size fits all” approach thereby failing to take into account an array of idiosyncratic issues. Moreover, governance indices rely a lot on public information and are often issued by firms that are not always free of conflicts of interest.

One final problem with ad hoc governance indices is that firms under the scrutiny of the rating entity can artificially manipulate these ratings. This should be reminiscent of the credit default swaps debacle. A growing voice in financial markets strongly urges for accountability from entities emitting ratings that are widely used by major market players, which would alleviate the instability emerging from the development of financial products or companies purposively structured so as to barely fit a particular rating. In a recent article, Bebchuk and Hamdani (2009) suggest taking this research one step further by prescribing that one should use different methodologies to measure the quality of corporate governance in firms with and without a controlling shareholder.

An alternative to governance indices that could help investor assess the governance risk of a corporation – or any organisation for that matter – lies in the fact that the vast majority of those corporations are indirectly purchasing themselves a governance assessment when they purchase liability insurance on behalf of their directors and officers. Having D&O liability insurance allows a firm (and in particular its directors and officers) to put the onus of the cost of the liability risk on the shoulders of the insurance company. And because lawsuits against corporate directors for having breached one of their duties toward the firm (fiduciary, care or loyalty) can be very expensive, insurance companies have a monetary incentive to assess correctly the governance risk they seek to insure. As a result, and in opposition to other governance indices, insurers have a very primal incentive to measure and control governance and litigation risk as mentioned by Core (2000) and Baker and Griffith (2007).

Another advantage of using D&O insurance over governance indices to assess corporate governance risk is that the D&O insurance market is competitive so that insurers must use ever more complex and precise measurement tools to profit from selling such a protection

to corporations and their directors. As a result, D&O insurers do not follow a one-size-fits-all approach typical of governance indices. Instead insurers use their expertise to review specific risk factors that may be unavailable to other parties since they have access to unique private information about the firms' directors and officers. This access allows insurers to further their understanding of the specificities of the governance risk of each prospective insured.

This paper contributes to strengthen the viability of such an alternative by using a natural experiment particular to the Canadian economy, that is, the choice that a corporation has at the time of its initial public offering of incorporating itself as an income trust or as a more traditional common equity firm. Because they have an inherently more complex governance structure, income trusts provide researchers with a unique opportunity to test whether insurers price this additional corporate governance risk in the D&O liability insurance protection they provide to organizations and their corporate directors and officers. In accordance with our main hypothesis, we find that insurers do indeed consider income trusts as riskier since the premium income trusts need to pay is significantly greater than the premium that common equity firms need to pay, even after controlling for a multitude of other factors.

Where does that leave us in terms of the use by the market of the D&O insurance information contained in the management proxy and information circular of Canadian firms? The most important message we should take from the research results we present in this paper is that investors should value the simple information we find in the management proxies about D&O insurance purchases of Canadian corporations. This D&O insurance information should be regarded as a credible alternative to commercial governance indices as it is available to all investors at no cost and comes from entities (i.e. the insurers) with a direct financial incentive to assess correctly the governance risk of a corporation, thereby resolving many critics addressed to governance rating agencies.

Our result regarding the value to investors of the D&O insurance coverage information also raises an interesting question when we look at the D&O insurance information that is publicly available in the United States. Given that a company's basic D&O insurance information is currently not available to the public in the United States, the results of our

paper provide a rationale for studying whether such information should be made available. The current argument against making that information public is that if trial lawyers know what the policy limit is for a given D&O insurance contract, then such a limit would act as a natural focal point for any and all class action lawsuit that lawyers may bring upon a corporation and its management team. But even if this is the case, such an argument is not valid if we look at the rate-on-line variable, which provides information to investors about a firm's litigation risk without acting as a beacon for lawsuits. Of course, more work needs to be done on larger datasets and datasets related to operations in the United States before a more definite conclusion can be drawn.

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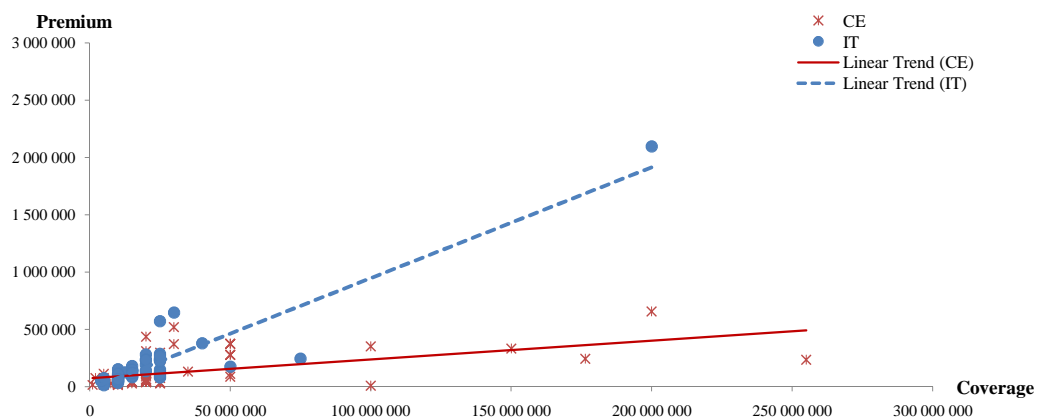
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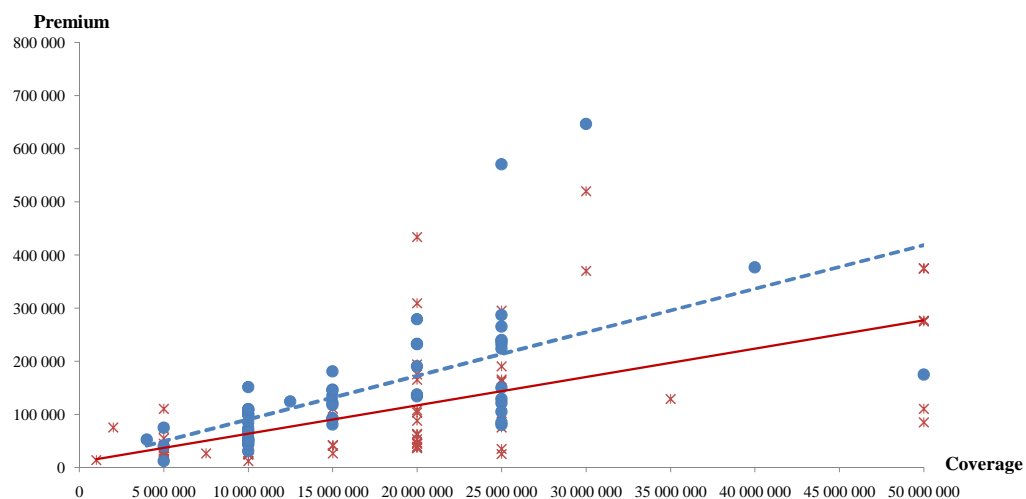
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Panel A: all datapoints



Panel B: close up 1



Panel C: close up 2

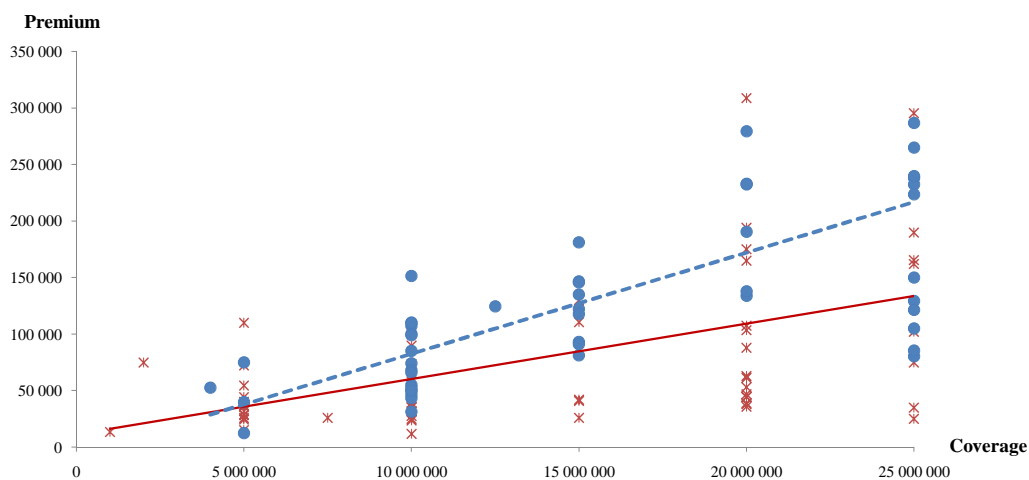


Figure 1. Comparison of premium paid by income trusts and common equity companies. The figure plots the premium paid by firms for the amount of coverage purchased. Panel A shows all datapoints as well as trends for the premium paid by IT and CE as coverage increases. Panel B is a first close up of Panel A. The graph has been dimensioned to show trends in premium paid for coverage for IT and CE. Datapoints for which coverage exceeds 50 million dollars have been omitted to generate the graph. Panel C is a second close up of Panel A. Datapoints for which coverage exceeds 25 million dollars have been omitted to generate the graph.

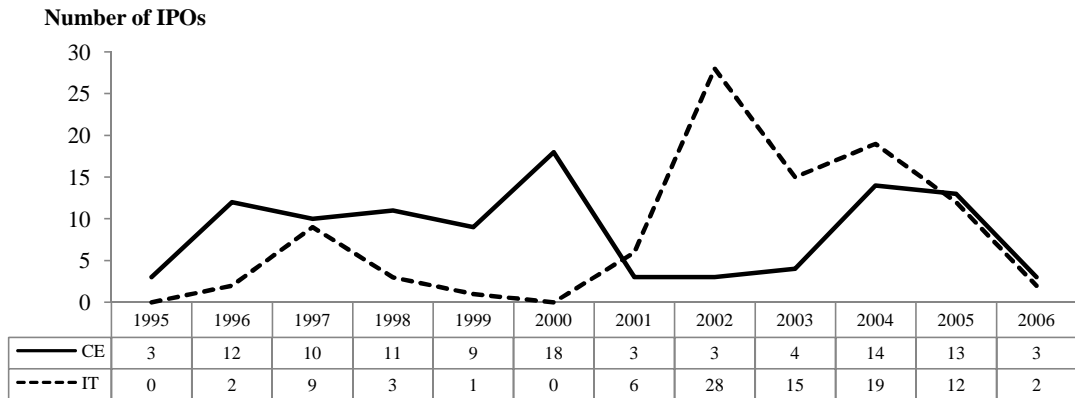


Figure 3. Number of IPOs by year and firm type. This figure reports the number of IPOs by firm type for our sample period 1995-2006. The high relative market valuation period of income trusts coincides with the peak in the number of income trust IPOs.

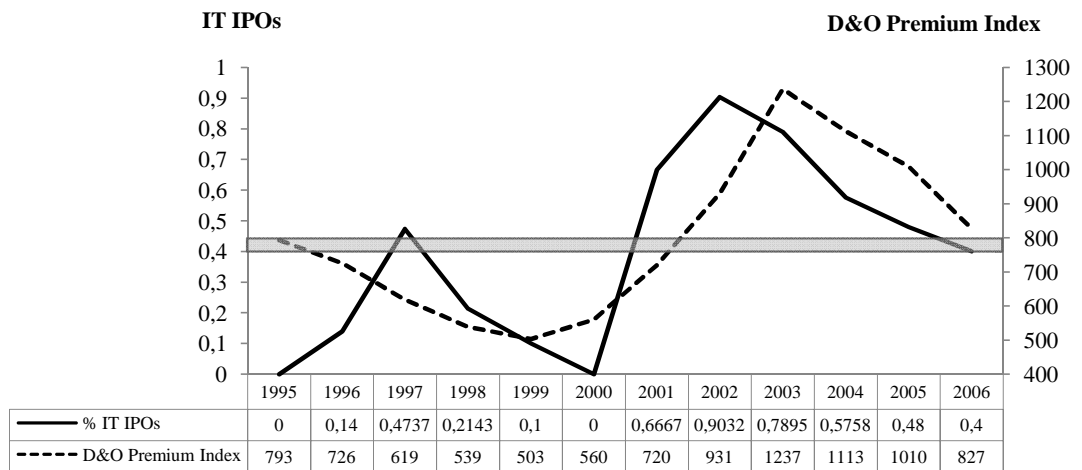


Figure 4. Percentage of income trust IPOs and D&O Premium Index. The solid line reports the percentage of IPO firms that chose the income trust structure over the common equity structure for a given year. The dotted line shows the evolution of the average D&O Premium Index as reported in the Tillinghast Towers-Perrin 2006 D&O Liability Survey. The top of the horizontal rectangle indicates the mean of the D&O Premium Index over our sample period (798), the bottom is the average percentage of IT IPOs over our sample period (40%).

Table I. Industry Breakdown. This table presents the industry breakdown of our sample firms. Panel A reports the number of CE and IT for each of the division structures represented in our sample, based on their SIC codes and identified by the United States Department of Labor, available at http://www.osha.gov/pls/imis/sic_manual.html (last visited June 19th 2009). Panel B reports the number of CE and IT for each of the ten risky industries identified in Bajaj *et al.* (2000)

Panel A: Industry breakdown for CE and IT

Industry	CE	IT	Total
Mining	15	7	22
Construction	1	0	1
Manufacturing	41	28	69
Transportation, Communications, Electric, Gas, And Sanitary Services	7	22	29
Wholesale Trade	1	3	4
Retail Trade	3	13	16
Finance, Insurance, And Real Estate	16	12	28
Services	19	12	31
	103	97	200

Panel B: Risky industries breakdown for CE and IT, based on their two-digit SIC codes as identified in Bajaj *et al.* (2000)

Industry	CE	IT	Total
Manufacturing			
Chemicals and Allied Products	10	2	12
Industrial and Commercial Machinery and Computer Equipment	1	2	3
Electronic and Other Electrical Equipment and Components	14	1	15
Measuring, Analyzing, and Controlling Instruments	2	0	2
Transportation			
Electric, Gas and Sanitary Services	1	12	13
Wholesale Trade			
Wholesale Trade - Durable Goods	1	3	4
Finance, Insurance, And Real Estate			
Depository Institutions	0	1	1
Holding and Other Investment Offices	1	2	3
Services			
Business Services	16	4	20
Health Services	0	0	0
	46	27	73
Percentage of sample	23,00%	13,50%	36,50%
Percentage of firm type	44,66%	27,84%	

Table II. Descriptive Statistics. Panel A reports descriptive statistics for all firms. Panel B provides a breakdown by firm type as well as a test of the means difference for our two firm types for each variable. A test for equality of variances between the two groups has been computed to perform the test of the difference in means with equal or unequal variance. *ROA* is the return on assets. *Debt_ratio* is computed as total debt over total asset. *Ln_MVE* is the natural logarithm of the market value of equity. *Growth* is the market value of equity plus the book value of liability, divided by the book value of assets. *Board_indep* is the percentage of independent directors on the board. *Board_size* is the number of directors on the board. *Blockholder* is an indicator variable for the presence of an investor owning 10% or more of the outstanding shares or units. *Duality* takes on the value one if the CEO of the company is also the chairman of the board. *Purchase* is an indicator variable with value one if the firm purchased D&O insurance at the beginning of its first fiscal year as a public company. *Premium* and *Coverage/1000\$* are respectively the premium paid and the limit in thousands of dollars purchased for D&O insurance as reported in the firm's first proxy statement as a public company. *Prem_cov* is the ratio of premium over coverage, which is also referred to as the rate-on-line, multiplied by 1000. *Ln_premium* *ln_cov/1000\$* and *ln_prem_cov* are the natural logarithm of these variables. *Float* is computed as the ratio of the number of shares issued over the total number of shares outstanding. *Pct_US_Sales* is the percentage of sales carried out in the US. *Risky_Industry* is an indicator variable equal to one if the company operates in one of the industries classified as risky in Bajaj *et al.* (2000). *First_year_XS_Return* is the company's one year buy-and-hold return after its IPO completion, minus the return of the S&P/TSX index for the same period. *First_Day_Return* is our control variable for underpricing and is computed as the first day return on the close of the first trading day. *Volatility* is the annualized daily volatility over the one year period following the IPO. *Age* is the number of years separating inception from the announcement of the IPO. (*) signals an indicator variable. Fisher's exact test is used to find the p-value of the means difference test for indicator variables. Panel B reports p-values in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A

	All companies				
	Mean	Median	Min	Max	St Dev
Financial variables					
ROA	-.0329	.0353	-3.7860	.9372	.3608
Debt_ratio	.1597	.1161	0	.8742	.1723
ln_MVE	5.4799	5.3620	1.4125	9.7573	1.2241
Growth	2.3428	1.2859	.7280	48.8288	4.1110
Governance variables					
Board_indep	.6936	.6667	.1667	1	.1623
Board_size	7.1436	7	3	18	2.2521
Blockholder(*)	.765	1	0	1	.4251
Duality(*)	.3056	0	0	1	.4619
D&O insurance variables					
Purchase(*)	.69	1	0	1	.4637
Premium	148 554	86 500	6 433	2 094 842	220 713
Coverage/1000\$	24 212	20 000	1 000	200 000	31 677
Prem_cov	7.0134	6.0667	.0643	37.5000	5.0516
ln_premium	11.4079	11.3678	8.7692	14.555	.9803
ln_cov/1000\$	9.6873	9.9035	6.9078	12.2061	.8504
ln_prem_cov	1.7004	1.8028	-2.7437	3.6243	.7976
Other Variables					
Float	.5614	.5021	.0476	1.0231	.3344
Pct_US_Sales	.2504	.0140	0	1	.3155
Risky_Industry(*)	.3650	0	0	1	.4827
First_year_XS_Return	.0377	-.0303	-.9265	2.3849	.5296
First_day_return	.0414	.0125	-.1523	.5625	.0970
Volatility	.4167	.3129	.1279	2.6002	.3193
Age	27.0388	15.3717	0.0027	135.1400	30.0372

Panel B

	Common Equity Companies					Income Trusts					Means Difference 95% p-value
	Mean	Median	Min	Max	St Dev	Mean	Median	Min	Max	St Dev	
Financial variables											
ROA	-.0965	.0098	-3.7860	.9372	.4891	.0353	.0415	-.3077	.1361	.0732	(0.0080)***
Debt_ratio	.1146	.0503	0	.5907	.1395	.2125	.1897	0	.8742	.1920	(0.0002)***
ln_MVE	5.6022	5.5538	1.4125	9.7573	1.3930	5.3308	5.3015	3.4704	9.5618	.9672	(0.1239)
Growth	2.8221	1.9686	.7442	18.1810	2.7411	1.7511	1.1293	.7280	48.8288	5.2996	(0.1019)
Governance variables											
Board_indep	.6643	.6667	.1667	.9	.1678	.7252	0.7	.4286	1	.1507	(0.0095)***
Board_size	8	8	5	18	2.2535	6.1848	6	3	12	1.8333	(0.0000)***
Blockholder(*)	.8252	1	0	1	.3816	.7010	1	0	1	.4602	(0.0460)**
Duality(*)	.4286	0	0	1	.4974	.1585	0	0	1	.3675	(0.0000)***
D&O insurance variables											
Purchase(*)	.7864	1	0	1	.4118	.5876	1	0	1	.4948	(0.0030)***
Premium	116 080	62 152	6 433	656 000	126 481	200 218	126 873	12 300	2 094 842	312 888	(0.0954)*
Coverage/1000\$	25 492	20 000	1 000	200 000	34 626	22 395	20 000	4 000	200 000	27 136	(0.5736)
Prem_cov	6.1494	5.1738	.0643	37.5000	5.4723	8.4200	8.1461	2.4600	22.8215	3.9476	(0.0120)**
ln_premium	11.1756	11.0372	8.7692	13.3939	.9898	11.7774	11.7508	9.4174	14.555	.8518	(0.0471)**
ln_cov/1000\$	9.6584	9.9035	6.9078	12.2061	.9512	9.7282	9.9035	8.2940	12.2061	.6882	(0.6180)
ln_prem_cov	1.5011	1.6436	-2.7437	3.6243	.8883	2.0248	2.0975	.9002	3.1277	.4754	(0.0001)***
Other Variables											
Float	.2864	.2373	.0476	1.0231	.1767	.8335	.9770	.3386	1	.2057	(0.0000)***
Pct_US_Sales	.2744	.1240	0	1	.3141	.2247	0	0	1	.3169	(0.2957)
Risky_Industry(*)	.4466	0.0000	0.0000	1.0000	.4996	.2784	0.0000	0	1.0000	.4505	(0.0180)**
First_year_XS_Return	.0831	-.0134	-.9265	2.3849	.6724	-.0097	-.0315	-.7962	1.6127	.3161	(0.2226)
First_day_return	.0526	.0214	-.1523	.5625	.1235	.0308	.0090	-.0470	.3330	.0613	(0.1406)
Volatility	.5936	.4699	.1629	2.6002	.3501	.2360	.2080	.1279	1.0228	.1294	(0.0000)***
Age	19.4211	8.6982	0.0027	135.1400	27.3698	35.4756	26.4422	0.0055	130	30.7391	(0.001)***

Table III. Marginal impact on the decision to purchase D&O insurance. We evaluate the marginal impact of some variables on the likelihood to carry D&O insurance. The dependent variable is *Purchase*, an indicator variable equal to one if the firm purchased D&O insurance. We report the marginal effects of variables in our probit models for ease of interpretation of the estimated coefficients. *ITCE* is an indicator variable equal to one if the company is an income trust. *Growth* is the market value of equity plus the book value of liability, divided by the book value of assets. *Ln_MVE* is the natural logarithm of the market value of equity. *Debt_ratio* is computed as total debt over total asset. *ROA* is the return on assets. *Duality* takes on the value one if the CEO of the company is also the chairman of the board. *Board_size* is the number of directors on the board. *Blockholder* is an indicator variable for the presence of an investor owning 10% or more of the outstanding shares or units. *Board_indep* is the percentage of independent directors on the board. *Risky_Industry* is an indicator variable equal to one if the company operates in one of the industries classified as risky in Bajaj *et al.* (2000). *Pct_US_Sales* is the percentage of sales carried out in the US. *Volatility* is the annualized daily volatility over the one year period following the IPO. *Age* is the number of years separating inception from the announcement of the IPO. Model (1) presents the impact of some financial variables. Model (2) includes governance variables only while model (3) includes financial and governance variables. Models (4) and (5) add some other variables which we believe might have an impact on the decision to purchase insurance. Coefficients are reported with their p-values in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
ITCE(*)	-.1142 (0.150)	-.1080 (0.188)	.0131 (0.889)	-.0625 (0.542)	-.0865 (0.457)
Growth	.0533 (0.154)		.0972 (0.049)**	.0707 (0.189)	.0745 (0.199)
ln_MVE	-.0315 (0.316)		-.0810 (0.037)**	-.0764 (0.060)*	-.0753 (0.072)*
Debt_ratio	-.0471 (0.819)		-.1520 (0.480)	-.2198 (0.338)	-.1941 (0.408)
ROA	.1796 (0.216)		.5334 (0.022)**	.6116 (0.022)**	.5753 (0.044)**
Duality(*)		-.0322 (0.709)	-.1323 (0.151)	-.1784 (0.072)*	-.1821 (0.070)*
Board_size		.0354 (0.101)	.0573 (0.017)**	.0516 (0.042)**	.0503 (0.053)*
Blockholder(*)		.0211 (0.802)	-.0719 (0.372)	-.0741 (0.369)	-.0660 (0.447)
Board_indep		.0526 (0.835)	-.1781 (0.493)	-.2525 (0.353)	-.2310 (0.404)
Risky_Industry(*)			.0821 (0.493)	.0513 (0.520)	.0670 (0.412)
Pct_US_Sales				.2320 (0.063)*	.2286 (0.069)*
Volatility					-.0432 (0.825)
Age					.0010 (0.502)
Number of obs	171	170	150	137	135
LR chi2	8.94	9.10	20.19	24.27	24.19
Prob > chi2	0.1114	0.1052	0.0275	0.0117	0.0294
Log likelihood	-96.0819	-97.5467	-76.8905	-66.7707	-66.1945
Pseudo R2	0.0445	0.0446	0.1161	0.1538	0.1545

(*) dF/dx is for discrete change of dummy variable from 0 to 1

Table IV. Second stage of the Heckman selection model of the log of the ratio premium/coverage. We evaluate the impact of our variable of interest *ITCE* on the price of coverage and include several variables as controls. The dependent variable is *ln_prem_cov*, the natural logarithm of the ratio of premium over coverage. *ITCE* is an indicator variable equal to one if the company is an income trust. We hypothesize that due to its inherently more complex governance structure, an income trust will be required to pay a higher premium for coverage. *Dummy_hard* is an indicator variable to account for the hard insurance market years. *First_year_XS_Return* is the company's one year buy-and-hold return after its IPO completion, minus of the return of the S&P/TSX index for the same period. *First_Day_Return* is our control variable for underpricing and is computed as the first day return on the close of the first trading day. *Board_indep* is the percentage of independent directors on the board. *Growth* is the market value of equity plus the book value of liability, divided by the book value of assets. *Ln_MVE* is the natural logarithm of the market value of equity. *Debt_ratio* is computed as total debt over total asset. *ROA* is the return on assets. *Age* is the number of years separating inception from the announcement of the IPO. *Volatility* is the annualized daily volatility over the one year period following the IPO. *Float* is computed as the ratio of the number of shares issued over the total number of shares outstanding. *Risky_Industry* is an indicator variable equal to one if the company operated in one of the industries classified as risky in Bajaj *et al.* (2000). *Pct_US_Sales* is the percentage of sales carried out in the US. *IMR* is the Inverse Mills' Ratio from the first stage probit regression. The first stage is the probit model specification 3 from Table III. Coefficients are reported with their p-values in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	1.5353 (0.000)***	1.5740 (0.000)***	1.7123 (0.000)***	1.2325 (0.000)***	1.1245 (0.027)**	.4012 (0.422)	.3674 (0.557)
<i>ITCE</i>	.5074 (0.003)***	.3887 (0.029)**	.5592 (0.004)***	.4321 (0.012)**	.6022 (0.003)***	.6098 (0.004)***	.5240 (0.074)*
<i>Dummy_hard</i>		.1970 (0.186)	.1298 (0.366)	.0913 (0.530)	.0716 (0.620)	.1656 (0.225)	.2402 (0.106)
<i>First_Year_XS_Return</i>		-.3949 (0.001)***	-.3777 (0.003)***	-.3515 (0.003)***	-.3824 (0.003)***	-.2579 (0.036)**	-.2360 (0.071)*
<i>First_Day_Return</i>			.2387 (0.719)	.2329 (0.712)	.0586 (0.930)	.2005 (0.748)	.1606 (0.802)
<i>Board_indep</i>				.8045 (0.054)*	.8771 (0.057)*	.4988 (0.258)	.6446 (0.228)
<i>Growth</i>			-.0035 (0.911)		-.0151 (0.667)	.0172 (0.617)	.0221 (0.621)
<i>ln_MVE</i>			.0307 (0.650)		.0628 (0.396)	.0278 (0.694)	-.0677 (0.503)
<i>ROA</i>			.1238 (0.627)		.1841 (0.507)	.4261 (0.090)*	.8609 (0.106)
<i>Debt_ratio</i>			-.3025 (0.388)		-.2811 (0.458)	.1597 (0.649)	.3785 (0.415)
<i>Age</i>			-.0047 (0.050)**		-.0045 (0.052)*	-.0024 (0.291)	-.0012 (0.601)
<i>Volatility</i>						.7117 (0.016)**	1.0065 (0.002)***
<i>Risky_Industry</i>						.3235 (0.080)*	.4140 (0.072)*
<i>Float</i>							-.0891 (0.790)
<i>Pct_US_Sales</i>							-.1950 (0.324)
<i>IMR</i>	.0751 (0.805)	-.0223 (0.934)	-.2569 (0.477)	-.2820 (0.311)	-.5005 (0.215)	.2316 (0.641)	.6573 (0.331)
Number of obs	150	147	144	144	144	144	137
Censored	61	61	61	61	61	61	61
Uncensored	89	86	83	83	83	83	76
Wald Chi2	8.66	21.17	25.36	23.59	27.74	45.86	43.27
Prob > chi2	0.0033	0.0001	0.0026	0.0003	0.0020	0.0000	0.0001

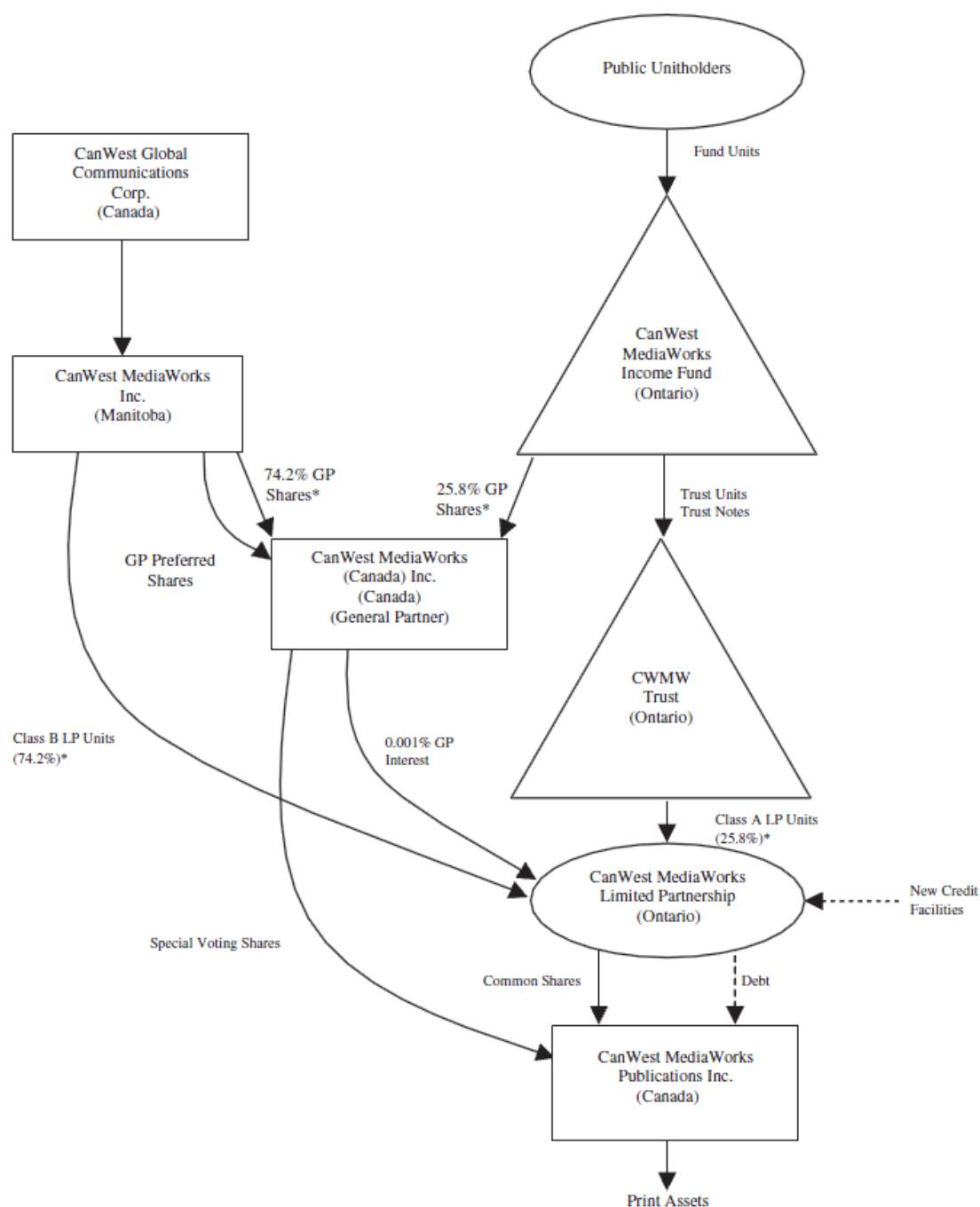
Table V. OLS regression correcting for endogeneity between the ITCE and the Purchase decisions. We evaluate the impact of our variable of interest *ITCE* on the price of coverage and include several variables as controls. The dependent variable is *ln_prem_cov*, the natural logarithm of the ratio of premium over coverage. *ITCE* is an indicator variable equal to one if the company is an income trust. We hypothesize that due to its inherently more complex governance structure, an income trust will be required to pay a higher premium for coverage. *Dummy_hard* is an indicator variable to account for the hard insurance market years. *First_year_XS_Return* is the company's one year buy-and-hold return after its IPO completion, minus of the return of the S&P/TSX index for the same period. *First_Day_Return* is our control variable for underpricing and is computed as the first day return on the close of the first trading day. *Board_indep* is the percentage of independent directors on the board. *Growth* is the market value of equity plus the book value of liability, divided by the book value of assets. *Ln_MVE* is the natural logarithm of the market value of equity. *Debt_ratio* is computed as total debt over total asset. *ROA* is the return on assets. *Age* is the number of years separating inception from the announcement of the IPO. *Volatility* is the annualized daily volatility over the one year period following the IPO. *Float* is computed as the ratio of the number of shares issued over the total number of shares outstanding. *Risky_Industry* is an indicator variable equal to one if the company operated in one of the industries classified as risky in Bajaj *et al.* (2000). *Pct_US_Sales* is the percentage of sales carried out in the US. As an endogeneity problem between the ITCE and the Purchase decisions could arise, we instrumentalized ITCE in the first stage probit regression. *IMR* is the Inverse Mills' Ratio generated using equation (1) from probit regression 3 from Table III with ITCE instrumentalized by *Age*, *Dummy_hard* and *Float*. Coefficients are reported with their p-values in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	1.4267 (0.000)***	1.4668 (0.000)***	1.6281 (0.000)***	1.1465 (0.000)***	1.1877 (0.018)**	.4949 (0.352)	.4792 (0.421)
ITCE	.4462 (0.004)***	.3210 (0.062)*	.4360 (0.017)**	.3375 (0.043)**	.4430 (0.015)**	.5899 (0.002)***	.6178 (0.012)**
Dummy_hard		.2004 (0.191)	.1271 (0.407)	.0885 (0.563)	.0759 (0.627)	.1979 (0.186)	.2753 (0.087)*
First_Year_XS_Return		-.3765 (0.003)***	-.3459 (0.014)**	-.3530 (0.006)***	-.3535 (0.011)**	-.2351 (0.081)*	-.2249 (0.109)
First_Day_Return			.3023 (0.669)	.2895 (0.662)	.1878 (0.790)	.1857 (0.783)	.1309 (0.847)
Board_indep				.7008 (0.107)	.6392 (0.161)	.3303 (0.454)	.5344 (0.255)
Growth			.0178 (0.514)		.0139 (0.612)	.0201 (0.437)	.0097 (0.734)
ln_MVE			-.0071 (0.913)		.0095 (0.885)	.0183 (0.769)	-.0421 (0.558)
ROA			.1463 (0.580)		.1698 (0.519)	.4939 (0.064)*	.9068 (0.051)*
Debt_ratio			-.2943 (0.408)		-.2059 (0.566)	-.0013 (0.997)	.1036 (0.786)
Age			-.0046 (0.082)*		-.0045 (0.086)*	-.0022 (0.373)	-.0011 (0.675)
Volatility						.6798 (0.037)**	.9806 (0.007)***
Risky_Industry						.3640 (0.020)**	.4048 (0.021)**
Float							-.1088 (0.770)
Pct_US_Sales							-.2188 (0.313)
IMR	.4517 (0.162)	.3005 (0.331)	.3080 (0.372)	.0457 (0.885)	.1337 (0.713)	.5585 (0.142)	.7457 (0.065)*
Number of obs	89	86	83	83	83	83	76
Adj. R-squared	0.1467	0.2061	0.1569	0.1769	0.1685	0.2834	0.3313
Prob > F	0.0004	0.0001	0.0115	0.0018	0.0099	0.0003	0.0003

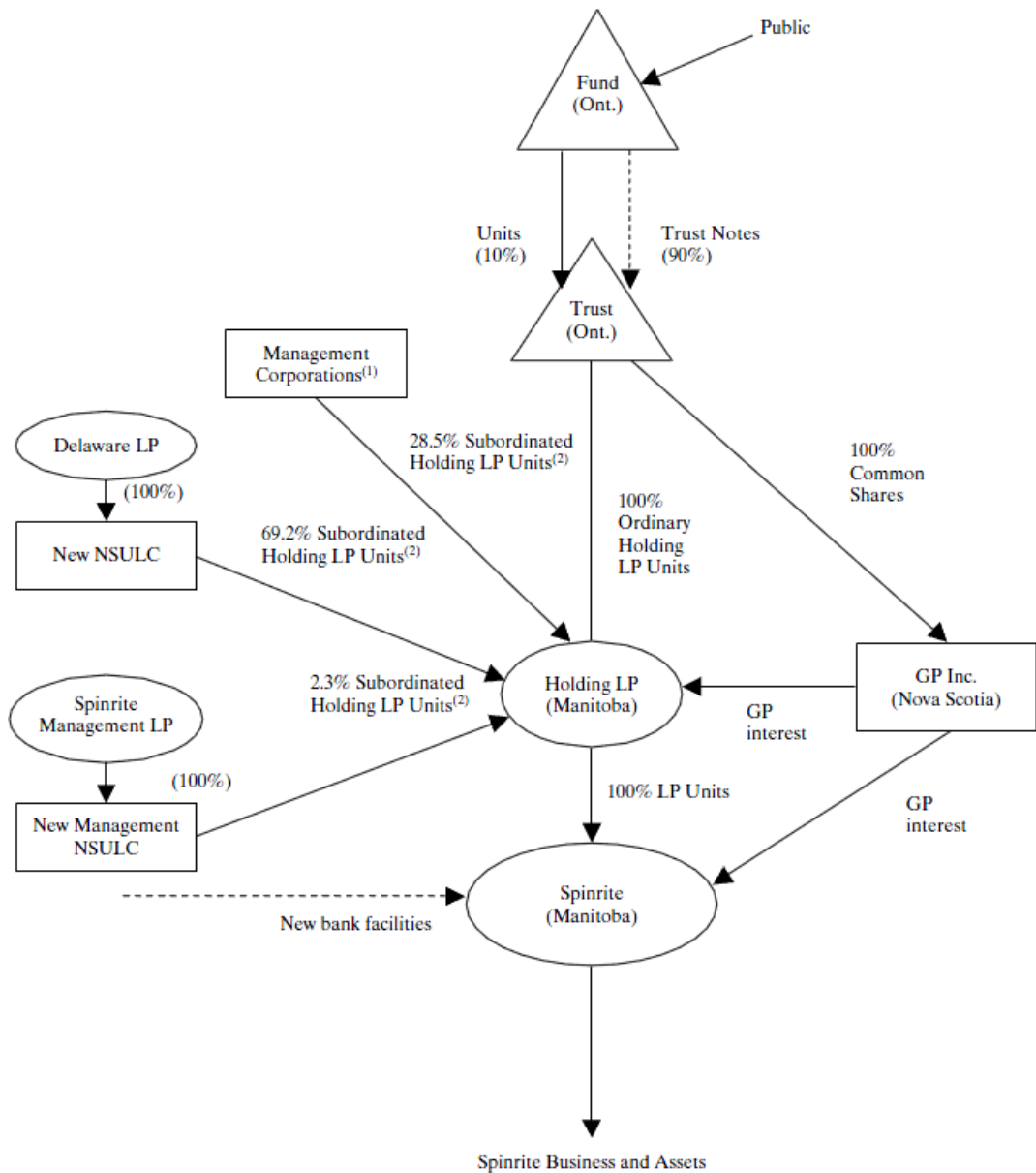
Appendix A. Correlation Matrix. We highlighted the correlations between ITCE and its instruments (high correlations) as well as the correlations between Purchase and the instrument variables for ITCE (low correlations).

	Purchase	ITCE	Dummy_hard	First_Yr_XS_Return	First_day_return	Board_indep	Board_Size	Duality	Blockholder	Growth	Debt_ratio	ROA	ln_MVE	Age	Volatility	riskyindustry	Pct_US_sales	Float
Purchase	1.000																	
ITCE	-0.1794	1.0000																
Dummy_hard	-0.1041	0.5059	1.0000															
First_Yr_XS_Return	0.1185	-0.0816	0.1066	1.0000														
First_day_return	0.0748	-0.1377	0.0270	0.1364	1.0000													
Board_indep	-0.1014	0.1856	0.1684	-0.0861	0.0674	1.0000												
Board_Size	0.1450	-0.4003	-0.0999	0.3168	0.0284	-0.3473	1.0000											
Duality	-0.0525	-0.2280	-0.3462	-0.0260	-0.0354	-0.3841	0.0020	1.0000										
Blockholder	-0.0187	-0.0710	-0.1562	-0.2658	0.0365	-0.0793	-0.0484	0.0714	1.0000									
Growth	0.1336	-0.3558	-0.1696	0.0818	0.1401	-0.0518	0.0466	0.1030	0.1023	1.0000								
Debt_ratio	-0.1085	0.3002	0.1721	0.0706	-0.1027	0.0080	-0.0170	-0.1202	-0.0894	-0.2222	1.0000							
ROA	0.1499	0.1126	0.1951	0.3666	0.0537	-0.0637	-0.0278	0.0193	0.0033	0.1566	0.0171	1.0000						
ln_MVE	0.0064	-0.2522	0.0093	0.4615	0.0966	-0.1839	0.4705	-0.0993	-0.0499	0.1482	0.0598	0.1766	1.0000					
Age	0.0311	0.2722	0.1524	0.1020	-0.0847	-0.0668	0.0447	-0.0433	-0.1304	-0.1740	-0.0066	0.1910	-0.0773	1.0000				
Volatility	0.0387	-0.5532	-0.5090	-0.3463	-0.0356	-0.1034	0.0437	0.2313	0.1871	0.2658	-0.2837	-0.4087	-0.1266	-0.3037	1.0000			
riskyindustry	0.1005	-0.2425	-0.2425	-0.0948	-0.0557	0.0037	0.0423	0.0000	0.1366	0.1428	-0.1987	-0.2373	-0.0353	-0.2652	0.3322	1.0000		
Pct_US_sales	0.1833	0.0032	-0.0172	-0.0989	-0.0934	-0.0055	-0.1183	-0.0345	0.0295	0.0441	0.0813	-0.0734	-0.1170	0.0180	0.1514	0.0955	1.0000	
Float	-0.1084	0.7955	0.3630	-0.0718	-0.1217	0.2182	-0.3633	-0.1429	-0.1640	-0.2578	0.0937	0.1413	-0.3497	0.3876	-0.4773	-0.2328	0.0731	1.0000

Appendix B. Structure of some income trusts as of their IPO. Solid arrows denote stock or unit ownership whereas dotted arrows refer to debt issues. LP stands for Limited Partnership and GP for General Partnership.



CanWest MediaWorks Income Fund structure. Source: Final IPO prospectus, available on SEDAR (last visited May 27, 2009)
<http://www.sedar.com/GetFile.do?lang=EN&docClass=9&issuerNo=00022706&file Name=/csfsprod/data61/filings/00830094/00000020/e%3A\canwest\2005\prelim\am ended\Final\Prosp2.pdf>



Spinrite Income Fund structure. Source: Final IPO prospectus, available on SEDAR (last visited May 27, 2009)

<http://www.sedar.com/GetFile.do?lang=EN&docClass=9&issuerNo=00021529&file Name=/csfsprod/data52/filings/00720873/00000013/SEDAR%3A\englishclean.pdf>