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Essays In Accounting And Finance

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ESSAYS IN ACCOUNTING AND FINANCE

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Sayan Sarkar

2016

Dedication

Dedicated to my father, mother, and brother

ESSAYS IN ACCOUNTING AND FINANCE

by

SAYAN SARKAR, MBA

DISSERTATION

Presented to the Faculty of the Graduate School of

The University of Texas at El Paso

in Partial Fulfillment

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for the Degree of

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Abstract

In my first essay, I investigate changes in a number of firm characteristics surrounding the change in debt policy (i.e., becoming unlevered). I do so to investigate why firms may lower their debt levels, and add insights to the zero-leverage puzzle. My main findings are that tax based explanations and market timing explanations do not explain the observed behavior of firms that become totally unlevered. My findings are most consistent with the pecking order theory (Myers and Majluf, 1984) and with Jensen's (1986) theory of free cash flows. I also investigate whether financial constraint is somehow related to the decision to become debt free. But, I do not find any evidence that is consistent with this idea. Finally, I find that the sample firms are not screened out of the debt markets as I find that a large amount of the sample firms keep lines of credit open, but simply do not use them.

In my second essay I focus on the use of external monitoring by private companies, domestic or international. I use World Bank data to explore the factors that are associated with the probability of using external monitoring by private firms in emerging and developing countries. In this research, the service of external auditors is considered as a proxy for external monitoring. I tested the model both on the full sample (114 countries) as well as on 5 different income clusters based on World Bank economic development categorization. From the results, I conclude that there is not a single set of universal factors associated with firms' decision to engage external auditors. I observe that factors associated with external auditors, a proxy for monitoring, differ across the various categories of economic development. As a policy implication, there is need for a voluntary adoption of a uniform set of standards for external monitoring and auditing in this area.

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Chapter 1: Introduction- Essays in Accounting and Finance

1.1 Introduction

This dissertation contains two separate essays. In the first essay, I investigate zero debt firms. Specifically, I investigate firms that appear to make a deliberate choice to become a zero-debt firm. To do so, I investigate firms that after a period of at least three years of having debt in their balance sheet move to a zero debt (i.e., no long or short term debt) status and maintain that status for at least two years. In spirit, this approach is closest to the one employed by Devos et al. (2012) who study firms that move away from zero-debt status after a prolonged period of having no-debt. Like them, I believe that investigating zero-debt firms is useful as zero debt is clearly the lowest level of debt possible, eliminating the need for a model to estimate whether leverage is high or low. And, perhaps more importantly, using the change to zero-debt (instead of from zero-debt, in their paper) is beneficial as it represent a sharp and deliberate change in debt policy. This paper adds to the existing literature on zero-debt firm behavior by specifically looking at a firm's decision to become a zero-debt firm (i.e., changes in debt-levels), rather than moves in the opposite direction (i.e., Devos et al., (2012)) or investigations of firm characteristics of zero-debt firms in terms of levels (i.e., Strebulaev and Yang, 2013 and Byoun and Xu, 2013). I believe that my approach is not only complementary to these papers but very specifically investigates the choice of firms to become a zero-debt firm which may yield important insights in the reasons associated with becoming a zero-debt firm.

So, using a sample of 638 firms that become zero debt firms and a set of control firms (matched on size, industry, and profitability), during the 1997-2013 period, I investigate changes in a number of firm characteristics surrounding the change in debt policy (i.e., becoming

unlevered). The main findings show that, relative to their control firms, firms that become debt free are not different in terms of changes in net operating loss carryforwards (NOLs) and marginal tax rates, although I find some evidence suggesting that performance (measured as Return on Assets or, RoA) improves.

Overall, the paper contributes to a number of literatures. First, it adds to a long stream of literature that investigates determinants of capital structure. However, most of these papers focus on large pooled samples of firms, over time (e.g., Baker and Wurgler, 2002; Garvey and Hanka, 1999). Although that is instructive, it is sometimes difficult to analyze debt ratios for such samples as it is not always clear whether firms are over or under-levered and whether changes in debt-ratios are the result of changes in the numerator or the denominator. Second, this paper adds to the burgeoning literatures that investigate the low-leverage and zero-leverage puzzles. Finally, the paper adds more insight into the use of Lines of Credit. Devos et al., (2012) and Bessler et al., (2013) both find that zero debt firms are financially constrained. Using the Kaplan Zingales index I find the opposite. Zero debt firms in the sample do not appear to be constrained and most of the firms maintain this by keeping their line of credit active.

In the second essay, I look at external monitoring of private firms using external audit as a proxy. Audit business is considered a steady business since the revenues are primarily based on public firms, which are engaged on periodic bases. A report from big4.com shows that the proportion of revenues generated from the audit service line is approximately 45% of the total revenue has been steadily declining (The 2012 Big Four Firm Performance Analysis, 2013). Hence, understanding the factors associated with external audit use by private firms is important for the global business strategy of the audit service providers.

The analysis of 38,785 observations from 114 countries reveals that there is not a single set of “universal” factors associated with firms’ decision to engage external auditors. I observe that firms with higher levels of international business activities tend to use external auditors more frequently to audit their financial statements. In this paper I explore the factors that would compel private firms to voluntarily have their financial statements audited by external auditors. I look at several important factors including external financing, private foreign ownership, international scope, managerial experience and ownership concentration which influence audit decisions. To my knowledge, this is the first paper which looks at a comprehensive list of countries in order to access choice of being audited in privately held firms. Audit business is considered a steady business since the revenues are primarily based on public firms, which are engaged on periodic bases. A report from big4.com shows that the proportion of revenues generated from the audit service line is approximately 45% of the total revenue has been steadily declining (The 2012 Big Four Firm Performance Analysis, 2013). Hence, understanding the factors associated with external audit use by private firms is important for the global business strategy of the audit service providers.

Chapter 2: De-leveraging to the Extreme: Using Firms that Become Debt Free to Test Capital Structure Theory

2.1 Introduction

Despite the significant advantages associated with debt, a surprisingly large amount of U.S. firms have no debt in their capital structure. Strebulaev and Yang (2013) find that between 1962 and 2009, on average about 10% of firms have no debt in their capital structure. They refer to this finding as the zero leverage puzzle. Importantly, and contrary to what one may expect, these firms are not limited to small firms or high-tech firms. For example, Bessler, Drobetz, Haller, and Meier (2013) note that the group of firms with zero-debt include firms like Apple and Yahoo, but also Bed Bath & Beyond and Urban Outfitters. Much related to the zero leverage puzzle is the well documented finding that firms tend to exhibit leverage ratios that are substantial lower than their optimal ratios (e.g., Graham (2006)). Moreover, because zero leverage firms are the most extreme segment of the under-levered firm spectrum, they have been the subject of a number of papers that are attempting to answer Graham's (2006) call for more research into the question of why firms are under-levered. In addition to the aforementioned study by Strebulaev and Yang (2013), examples of studies that investigate zero debt firms are Devos, Dhillion, Jagannathan, and Krishnamurthy (2012) and Byoun and Xu (2013) which study U.S. firms, and Bessler et al. (2013) who investigate the zero-debt phenomenon in an international context.¹

This paper follows this line of research, by investigating firms that appear to make a deliberate choice to become a zero-debt firm. Specifically, I investigate firms that after a period of

¹ Related to these studies are papers that investigate firms that have very low leverage ratios (e.g., Minton and Wruck (2001), D'Mello and Gruskin (2014), Marchica and Mura (2010)).

at least three years of having debt in their balance sheet move to a zero debt (i.e., no long or short term debt) status and maintain that status for at least two years. In spirit, this approach is closest to the one employed by Devos et al. (2012) who study firms that move away from zero-debt status after a prolonged period of having no-debt. Like them, I believe that investigating zero-debt firms is useful as zero debt is clearly the lowest level of debt possible, eliminating the need for a model to estimate whether leverage is high or low. And, perhaps more importantly, using the change to zero-debt (instead of from zero-debt, in their paper) is beneficial as it represents a sharp and deliberate change in debt policy. This paper adds to the existing literature on zero-debt firm behavior by specifically looking at a firm's decision to become a zero-debt firm (i.e., changes in debt-levels), rather than moves in the opposite direction (i.e., Devos et al., (2012)) or investigations of firm characteristics of zero-debt firms in terms of levels (i.e., Strebulaev and Yang, 2013 and Byoun and Xu, 2013). I believe that my approach is not only complementary to these papers but very specifically investigates the choice of firms to become a zero-debt firm which may yield important insights in the reasons associated with becoming a zero-debt firm.

So, using a sample of 638 firms that become zero debt firms and a set of control firms (matched on size, industry, and profitability), during the 1997-2013 period, I investigate changes in a number of firm characteristics surrounding the change in debt policy (i.e., becoming unlevered). The main findings show that, relative to their control firms, firms that become debt free are not different in terms of changes in net operating loss carryforwards (NOLs) and marginal tax rates, although I find some evidence suggesting that performance (measured as Return on Assets or, RoA) improves. These findings are inconsistent with tax based explanations (Miller, 1977; Graham, 2000). If there was a tax reason for unlevering, I would expect the marginal tax rates to go down, NOLs to go up, and/or RoA to decrease. Inconsistent with market timing theories

(e.g., Baker and Wurgler, 2002) I also do not find that the sample firms increase the amount equity issued. As a matter of fact, I find a decline in equity issues, despite an increase in Tobin's Q. Hence, it appears that sample firms not only eschew debt, but equity also. Perhaps, not surprising given the dearth of funds obtained from the equity and debt markets, sample firms become relatively smaller in size, although I do not find that investments decrease significantly. Interestingly, the lack of new external funding should not truly be a problem in financing new investment and growth because sample firms do have very high ratios of cash to total assets and, relative to their control firms, they do not seem to use it as much, as their cash ratios do not go down as much. So, combined these latter findings are most consistent with the pecking order theory (Myers and Majluf, 1984), in which firms prefer to use internally generated funds (cash at hand), especially when there is substantial information asymmetry. That there is an increase in information asymmetry can be inferred from the increase in Tobins' Q. However, these findings are also consistent with at least one other strand of literature. I find that the sample firms start paying out dividends, as well. Given the relatively high cash ratios of our sample firms, this would be consistent with Jensen's (1986) theory of free cash flows, where managers use either debt (i.e., the interest associated with the debt) and/or dividends to pay out excess cash. I also investigate whether financial constraint is somehow related to the decision to become debt free. But, I do not find any evidence that is consistent with this notion. First, I do not find that there are differences that zero debt firms are different than match firms in terms financial constraint. Second, and also new to the literature, I find that the sample firms are not screened out of the debt markets as I report that a large amount of the sample firms keep lines of credit open, but simply do not use them. In the year before zero debt initiation (year (-1)) 362 firms have a line of credit (of the 606 firms, for which I am able to find filing to determine the availability of lines of credit), while in the year of

zero debt initiation (year (0)) 311 firms retain their line of credit. So, even after becoming debt I find that a considerable number of firms maintain their line of credit.

Overall, the paper contributes to a number of literatures. First, it adds to a long stream of literature that investigates determinants of capital structure. However, most of these papers focus on large pooled samples of firms, over time (e.g., Baker and Wurgler, 2002; Garvey and Hanka, 1999). Although that is instructive, it is sometimes difficult to analyze debt ratios for such samples as it is not always clear whether firms are over or under-levered and whether changes in debt-ratios are the result of changes in the numerator or the denominator. Second, this paper adds to the burgeoning literatures that investigate the low-leverage and zero-leverage puzzles. By examining changing firm characteristics surrounding the decision to become debt free this paper add to this literature and complete the existing studies that exist, so far. Specifically, the extant zero-leverage literature has focused on levels (Strebulaev and Yang, 2013; Byoun and Xu, 2013; and Devos et al., 2012) and changes away from zero debt (Devos et al (2012)). This study investigates the change in the opposite direction (i.e., from debt to zero debt) and, thus, completes the picture. Finally, the paper adds more insight into the use of Lines of Credit. Devos et al., (2012) and Bessler et al., (2013) both find that zero debt firms are financially constrained. Using the Kaplan Zingales index I find the opposite. Zero debt firms in the sample do not appear to be constrained and most of the firms maintain this by keeping their line of credit active.

The plan of the paper is as follows. In Section 2.2 I briefly describe some of the related literature. In Section 2.3 I describe the main model and define the variables of interest. Section 2.4 describes the data, whereas section 2.5 contains the results. Finally, Section 2.6 summarizes and concludes the paper.

2.2 Related Literature

2.2.1 Capital Structure

The finance literature has traditionally proposed two possible reasons which may explain the appropriate leverage ratios for a firm. First, tradeoff models (e.g., Miller, 1977) suggest that firms simply balance the costs and benefits of debt, and strive to maintain an optimum leverage ratio. One of the important benefits of debt is that there are tax benefits associated with debt (e.g., Miller, 1977; Graham, 2000), whereas the most important cost associated with debt is possible bankruptcy costs (e.g., Myers, 1977; Altman 1984; Gruber and Warner, 1977). Second, the pecking order explanation (e.g., Myers and Majluf, 1984) argues that in the presence of information asymmetry, firms will maintain financial slack and rely on internally generated funds to finance their expenditures. If they do decide to raise external capital, they prefer to issue debt, and use equity only as a last resort. The empirical results are mixed, and there is continuing debate on the relevance of these two theories in explaining observed leverage choices. One of most important sources of contention between the trade off and pecking order is related to profitability. The tradeoff theory predicts that profitable firms have more leverage, while the pecking order theory predicts these firms to have less leverage. Empirically, Fama and French (2002) find profitable firms have less leverage, which supports pecking order. On the other hand, Frank and Goyal (2003) find support for trade off theory by empirically showing the existence of target debt ratio.

A more recent theory that attempt to explain the cross section of leverage ratios is the market timing explanation. The market timing explanation (e.g., Baker and Wurgler, 2002) asserts that observed leverage ratios represent the accumulated effects of prior managerial attempts to exploit information asymmetries and issue securities to time capital markets. However, these are

not the only theories that have been developed to explain leverage ratios and capital structure decisions of firms. For example, the agency model of Jensen (1986) suggests that since debt sales bring additional cash into the firm, this could exacerbate agency problems. Alternatively, if firms use the debt issue proceeds to address the gap between investments needs and internal sources of funding, this would not necessarily lead to an increase in excess cash within the firm. The periodic interest payments on debt would then commit managers to pay out excess free cash flow. Hence, debt issues could reduce agency costs, and have positive effects on firm value. Other studies have examined the role of financial constraints on corporate policy.

A paper by Korajczyk and Levy (2003) examines the capital structure choices made by firms under different macroeconomic conditions. They find that leverage for financially unconstrained firms is high (low) when equity markets perform poorly (well). Moreover, unconstrained firms are able to time their issue choice while constrained firms have little latitude in timing. Korajczyk and Levy (2003) document that the deviation from the target leverage ratio is much less for constrained firms, as these firms are not able to time the market, while on the other hand, unconstrained firms deviate more from target leverage ratios as they can time their issues when prices are favorable. Faulkender et al., (2012) also explores how financial constraint affects the speed of capital structure adjustment. Their paper shows that unconstrained firms adjust faster than constrained firms when they are under-levered and slower when they are over-levered. Theoretically, it has been shown that higher debt levels are associated with higher firm value. For example, papers such as Ross (1977), Heinkel (1982) and Noe (1988) suggest that increasing leverage by acquiring debt should have positive implications for firm value and performance. In general, these theories ascribe a signaling or disciplinary role for debt. Since increasing debt would also increase bankruptcy and liquidation costs, only managers who expect better future

performance will choose to issue debt. Graham and Harvey (2001) surveyed CFOs and report that managers are concerned with maintaining financial flexibility and their firm's credit rating when considering debt issues.² It is also possible that entrenchment is related to capital structure. For example, Berger, Ofek and Yermack (1997) suggest that firms with entrenched managers have significantly lower debt in their capital structures.

2.2.2 Zero Debt Firms and their characteristics

Previous studies of firms with zero leverage suggest that zero-debt does not fit into the known models of capital structure. For example Leland (1994), using a static trade off model predicts an average leverage ratio of 60%. On the other hand, studies using dynamic trade off theories (e.g., Ju, Parino, Potoshman, and Weisback, 2005 and Morellec, 2004) reports minimum leverage ratios as low as 10%. And De Angelo and Roll (2015) find low leverage ratios are very infrequent and temporary. Also as suggested by the static trade off theory, firms which are zero debt are not maximizing their firm value. For example, zero debt firms are operating below their optimal debt ratio, and by increasing their leverage up-to their optimal ratio, firm value should increase by 5.5% (Korteweg, 2010; Byoun and Xu, 2013).

There are a number of paper that specifically investigate zero debt (e.g., Strebulaev and Yang, 2013; Devos et al., 2012; Byoun and Xu, 2013; Dang, 2012). One of the earliest papers to explore zero debt firms is Devos et al. (2012). They look at a unique sample, where a firm moves

² Financial flexibility allow firms to finance profitable projects in later periods (DeAngelo and DeAngelo, 2007). Graham and Harvey (2001) find that CFO's have an inclination to remain financially flexible. One way to remain financial flexible is by retaining their debt capacity. Extant studies contradict each other on whether financial flexibility is related with the choice of having no leverage. One stream of research suggests low-levered firms are financially constraint while the other shows that zero debt firms have access to debt market and they explore debt markets in times of profitable investments. One way to achieve financial flexibility is through line of credit. As per Sufi (2009) large portion of firm's debt is comprised of revolving credit agreements. Lins et al. (2009) and Denis (2011) finds lines of credit are a major source of liquidity, globally.

from no debt to debt. As per Harris and Raviv (1990) debt plays disciplining role, as failure to repay debt can lead to bankruptcy. However, Devos et al., (2012) do not find any evidence of entrenchment or weaker corporate governance for firms that have no debt. In contrast, they present evidence suggesting that the zero debt firms in their sample are financially constrained. Using matching analysis, their finding shows zero debt firms are smaller, younger, and yet to develop a reputation in the debt market than their proxies. Due to a lack of reputation in the debt market, the zero debt firms also face stricter covenants for their lines of credit. They conclude, that the zero debt firms in Devos et al. (2012) are under levered because of financial constraints.

Another important study, which exclusively focuses on zero debt firms is Strebulaev and Yang (2013). They report a consistent increase in the number of zero debt firms from 1992 to 2009. Compared to Devos et al (2012), Strebulaev and Yang (2013) look at a longer horizon (1962 to 2006) and they also take into account firms with less than 5% book leverage. However, in contrast with Devos et al. (2012) they do find firms with large CEO ownership, CEO- friendly boards, and family firms are more likely to be under levered, which supports the entrenchment hypothesis. They also find zero debt firms are more profitable, pay more dividend, and have higher cash balances than levered counterparts. Strebulaev and Yang (2013) findings are very similar to Agrawal and Nagarajan (1990). Agrawal and Nagarajan (1990) focuses on all equity firms and their paper shows greater family involvement and large stock holdings by managers, for all equity firms.

Another paper in this stream of literature is Byoun and Xu (2013). Their findings are in line with Devos et al. (2012) as they also point to the financial constrain problem faced by zero debt firms. Additionally, they find evidence of high payouts by zero debt firms (similar to Strebulaev and Yang, 2013). They split all-equity firms by size and find that bigger firms pays out

more, presumably to address the free-cash problem (see Jensen (1986)), while smaller firms pay out dividend to create a reputation of fair treatment of the shareholders.

2.3 Main Model

To investigate how firms change as they move to all-equity status I investigate changes in firms characteristics, surrounding the move to all-equity status. Hence, the variables in the regression model are in changes, rather than levels. Specifically, I look at the change from the year prior to zero debt initiation (year -1) to the year after zero debt initiation (year 1).³

Empirically, I estimate the following model:

$$\begin{aligned} Zero\ Debt = & \alpha_0 + \beta_1 \Delta Cash\ ratio + \beta_2 \Delta Investment\ ratio + \beta_3 \Delta Size + \beta_4 \Delta NOL \\ & + \beta_5 \Delta Net\ Fixed\ Assets + \beta_6 \Delta Tobin'sQ + \beta_7 \Delta RoA + \beta_8 \\ & \Delta Total\ Payout + \beta_9 \Delta Marginal\ tax\ rate + \beta_{10} \Delta Equity\ issuance \\ & + Year\ Dummies + \varepsilon \end{aligned}$$

Where zero debt is a dummy variable that equals to 1 if firm is zero debt and zero, otherwise.

I follow Devos et al. (2012) in specifying the firm characteristics that are independent variables. MacKie-Mason (1990) shows that firms are less likely to use debt when they have higher net operating loss carry forwards. Net operating loss (*NOL*) are defined as net operating loss carryforward (*TLCF*), deflated by total assets (*AT*) as of the end of the fiscal year.

I use net fixed asset as a proxy for collateral (Titman and Wessels, 1998; Devos et al., 2012). Net fixed assets is defined as property, plant, and equipment, (*PPENT*) deflated by total

³ In the robustness section I also investigate changes from year (-1) to the first year of all-equity status (year (0)).

assets (AT) as of the end of the fiscal year. Tobin's Q is measured as book value of total assets (AT), less book value of equity (CEQ) plus fiscal year-end market value of equity, divided by total assets (AT). Cash is the amount of cash and short-term investments (CHE) and investments is the sum of capital expenditures ($CAPX$), R&D (XRD), and acquisitions (AQC), both are standardized by total assets. Size is the log of total assets total assets (AT). Equity issuance is the net equity issuance ($SSTK-PRSTK$), scaled by total assets. While Total payout is the sum of common dividends (DVC) and repurchases ($PRSTKC$), standardized by earnings. Return on Assets (RoA) is operating income before depreciation divided by total assets (AT). In order to explore the entrenchment hypothesis I include G-Index as a proxy for corporate governance. Specifically, in the absence of tax shields there is less incentive for a firm to use debt (DeAngelo and Masulis, 1980). Marginal tax rate is the marginal tax rate before interest. Graham (1996) also lends support to the fact that firms with higher tax rate have more debt in their balance sheet in comparison to firm with lower tax rates.

2.4 Sample and Data

The sample includes all non-financial, non-regulated firms on COMPUSTAT-CRSP merged database, for the period 1997 to 2013. I exclude foreign firms, ADRs, and closed end funds, retaining only domestic firms. The firms included in the sample are those firms which have positive debt (i.e., the sum of long term and short term debt) for three consecutive years (year (-3), (-2), and (-1)) and zero debt for two consecutive years (year (0) and (1)), following the three years of positive debt. I only include one observation per firm. If a firm is appears more than once, I only use the latest occurrence. The reason I use an extended period of debt in the pre-period and

an extended period of two years of zero debt is to ensure that the change in policy is substantial and not temporary.

2.4.1 Sample Construction

Again, following prior literature (i.e., Devos et al. (2012)) I employ a matched sample approach. The control (or matched sample) firms are constructed in the following manner: First, I select all non-sample firms, that have the pre-requisite five years of data available and match these with the sample firms, based on sample firm year (-1). To be remain an eligible match firm, the firm needs to have positive debt defined as sum of short term and long term debt ($DLC + DLTT$) in all 5 years, be in the same industry i.e. 2 digit SIC code, have total assets (my measure of size in the matching algorithm) between 70% and 130% of the sample firm's assets, and return on sales (measure of performance, in the matching algorithm) is between 70% and 130% of the sample firm. Of the 638 sample firms, I am able to find matches for 219 firms.

If I am unable to find a match firm, for a given sample firm, I use the 1 digit SIC code, no industry requirement, or eliminate both the size and industry criteria. Specifically, I match 99 sample firms after moving to the 1 digit SIC code, and 46 sample firms after eliminating the industry requirement. The remaining firms are matched based on combinations of just performance and or size. It is important to note that the algorithm allows for the possibility of multiple matching firms per sample firm, when this happens I select the match firm that is closest in size. It is also possible that the same matching (or control) firm is matched with multiple sample firms. In cases where this is the case, and year (-1) is identical, I eliminate duplicate observations from the

regressions. Using this matching algorithm, I end up with 638 sample firms and 3,190 control firm observations.

2.4.2 Summary Statistics

Table 2.1(A) presents the firm industry classification of the 638 zero debt sample firms, based on 2-digit SIC code. The Table shows only those industries that contain 2 percent of the sample, or more. All other sample industries are aggregated in the category “Others” Business services (SIC code 73) has the highest representation with 130 observations (20.4 percent of the sample), followed by chemical and allied products (SIC code 28) with 92 observations (14.4 percent of the sample) and electronic and other electric equipment industry (SIC code 36) with 89 observations (almost 14 percent of the sample). Other industries that contain at least two percent of the sample are: Oil & Gas Extraction (SIC code 13), Industrial Machinery & Equipment (SIC code 35), Instruments & Related Products (SIC code 38), Apparel & Accessory Stores (SIC code 56), Miscellaneous Retail (SIC code 59), and Engineering & Management Services (SIC code 87). There are 133 observations (about 21 percent of the sample) in industries that each contain less than 2% of the sample. When I look at the industry distribution of the matching firms I find a very similar distribution. This should not be a surprise, as I match most of the sample firms on industry (and other criteria).

In Table 2.1(B) I report the frequency of the sample firms by the year in which they initiated zero debt (i.e., year (0)). About 25 percent of the sample initiated zero-debt in the years 2003 (82 observations, or almost 13 percent) and 2004 (75 observations, or almost 12). The distribution of the sample years is more equal over the other sample years, ranging from 31 observations (4.9 percent) in 2012 to 60 observations (9.4 percent) in 2005.

Table 2.1: Sample Distribution

Panel A displays the distribution by 2 digit SIC industry code of the sample (Zero Debt) firms. The Table only include industries that contain at least 2%, or more of the sample firms. All other industries are contained in the category “Others”. Panel B provides the distribution of the Zero Debt firms by zero debt initiation year (year (0)).

Panel A: Zero Debt Firm Industry Classification Based on 2-digit SIC code		
2 digit SIC Code (classification)	Number of Firms	Percent
13 (Oil & Gas Extraction)	15	2.35
28 (Chemical & Allied Products)	92	14.42
35 (Industrial Machinery & Equipment)	58	9.09
36 (Electronic & Other Electric Equipment)	89	13.95
38 (Instruments & Related Products)	74	11.60
56 (Apparel & Accessory Stores)	19	2.98
59 (Miscellaneous Retail)	14	2.19
73 (Business Services)	130	20.38
87 (Engineering & Management Services)	14	2.19
Others (less than 2% per industry)	133	20.85
Total	638	100.00
Panel B: Distribution by year (0)		
Year		
2000	45	7.05
2001	44	6.90
2002	49	7.68
2003	82	12.85
2004	75	11.76
2005	60	9.40
2006	44	6.90
2007	40	6.27
2008	35	5.49
2009	43	6.74
2010	47	7.37
2011	43	6.74
2012	31	4.86
Total	638	100.00

Table 2.2 presents the debt characteristics (short term, long term, and total debt) for both zero debt and matched firms. In this Table I report the debt in current liabilities (short term debt), long term debt, and total debt as a ratio of total assets. The zero debt firms' mean and median total debt is decreasing every year starting from year (-3). However, as is clear from the progression in the mean values, from 13 percent in year (-3) to 9 percent in year (-1), the amount of debt these firms have, even just prior to becoming an all-equity firm, is not trivial. The median values are considerably lower, but still suggest that most firms have substantial debt, prior to total deleveraging. When I split the debt into short and long term debt, it appears that most of the debt of the sample firms is in the form of short term debt (about 6 percent in year (-1)). Although, there is a nontrivial amount of long term debt, as well (about 3 percent in year (-1)). Interestingly, compared to the match firms, the amount of short term debt is similar. For example, in year (-1) match firms have a mean short term debt ratio of 5 percent. In years (-3) to year (-1) the short term debt ratios do not appear to be much different between the sample and control firms, in an economic sense. Although the significance levels in the tests for differences do suggest that there are statistical differences. The clearest differences, in terms of debt ratios, between the sample and control firms, is that control firms have substantial more long term debt, both economically and statistically. A final observation, is that the control firm do not appear to change their debt levels much in year (0) and year (+1).

Table 2.2: Debt Characteristics

Table 2.2 presents the debt characteristics and differences of zero debt firms and match firms. I report the mean and median values for short term debt (*DLC*), long term debt (*DLTT*), and total debt (sum of *DLC* and *DLTT*), scaled by total assets (*AT*), for each year. Year (0) is the fiscal year in which the sample firm initiated zero debt, after at three consecutive years of positive total debt. Match firms are selected on industry (2 digit sic code), size (assets), and return on sales in year (-1). The mean differences among firms are based on t-value and median differences are based on Z-value (wilcoxon rank sum test). ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

Debt Characteristics		Year (-3)	Year (-2)	Year (-1)	Year (0)	Year (+1)
Zero Debt Firms (ZD)						
Short term debt	Mean	0.04	0.05	0.06	0.00	0.00
	Median	0.01	0.01	0.00	0.00	0.00
Long term debt	Mean	0.09	0.07	0.03	0.00	0.00
	Median	0.02	0.01	0.00	0.00	0.00
Total Debt	Mean	0.13	0.12	0.09	0.00	0.00
	Median	0.05	0.04	0.02	0.00	0.00
Match Firms (M)						
Short term debt	Mean	0.06	0.06	0.06	0.05	0.06
	Median	0.03	0.02	0.02	0.02	0.02
Long term debt	Mean	0.17	0.18	0.17	0.17	0.17
	Median	0.11	0.11	0.12	0.11	0.12
Total Debt	Mean	0.23	0.24	0.22	0.22	0.23
	Median	0.17	0.18	0.18	0.18	0.18
(ZD-M)						
Short term debt	<i>t-value</i>	-4.11***	-2.55**	-2.17**	-6.49***	-5.99***
	<i>z-value</i>	-8.04***	-7.38***	-7.91***	-21.68***	-21.62***
Long term debt	<i>t-value</i>	-3.16***	-3.80***	-4.57***	-4.92***	-5.85***
	<i>z-value</i>	-8.43***	-12.24***	-16.97***	-21.79***	-21.77***
Total Debt	<i>t-value</i>	-3.38***	-3.98***	-4.35***	-5.21***	-6.12***
	<i>z-value</i>	-8.84***	-11.51***	-14.91***	-21.88***	-21.88***

2.5 Results

In Table 2.3 I present the descriptive statistics of the variables and test whether there are differences between the sample firms and the control firms. The Table includes all years (year (-3) till year (+1)).

Table 2.3: Sample and Control Firm Characteristics

The Table presents the summary statistics and univariate tests for zero debt and match firms for all years (years (-3) till year (+1)). Only U.S., public, non-financial firms during the period 1997–2013 from COMPUSTAT are included in the analysis. Net fixed assets is defined as property, plant, and equipment, (*PPENT*), deflated by total assets (*AT*). Net operating loss (*NOL*) is net operating loss carryforward (*TLCF*), deflated by total assets (*AT*). Tobin's Q is measured as the book value of total assets (*AT*) less book value of equity (*CEQ*) plus fiscal year-end market value of equity, divided by total assets (*AT*). Cash is the amount of cash and short-term investments (*CHE*), deflated by total assets and investments is the sum of capital expenditures (*CAPX*), R&D (*XRD*), and acquisitions (*AQC*), deflated by total assets. Size is the log of total assets total assets (*AT*). Equity issuance is the net equity issuance (*SSTK-PRSTK*), scaled by total assets. Total payout is the sum of common dividends (*DVC*) and repurchases (*PRSTKC*), standardized by earnings. Return on Assets (RoA) is operating income before depreciation divided, by total assets. Marginal tax rate is the marginal tax rate before interest. The G-Index is provided by Andrew Metrick. All variables are winsorized at 2.5% and 97.5%. The last two columns present t-values from the two-sample t-test and the Z-values from the Wilcoxon rank sum test (differences between zero-debt firms and match firms). ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively

All Years	Zero Debt (Z)			Match (M)			Difference	
							Z-M	Z-M
	n	mean	median	n	mean	median	t-value	z-value
Net Fixed Assets	3,190	0.15	0.10	3,187	0.23	0.17	-22.17***	-21.34***
NOL	3,190	0.59	0.00	3,190	0.40	0.00	5.43***	6.10***
Tobin's Q	3,190	2.23	2.06	3,189	1.89	1.82	27.47***	29.79***
Cash ratio	3,190	0.36	0.32	3,190	0.18	0.10	36.54***	32.39***
Investment ratio	3,190	0.17	0.12	3,190	0.14	0.10	5.66***	5.47***
Size	3,190	4.65	4.69	3,190	4.84	4.81	-8.91***	-1.82*
Equity issuance	2,820	0.09	0.02	2,866	0.07	0.01	6.98***	8.50***
Total payout	2,840	0.13	0.00	2,891	0.15	0.00	-3.93***	-1.22
RoA	3,186	-0.09	0.03	3,190	-0.04	0.03	-7.09***	-2.65***
G-Index	390	8.38	8.50	327	8.94	9.00	-2.71***	-2.28**
Marginal tax rate	3,077	0.22	0.33	2,975	0.26	0.30	-15.75***	-13.98***

Zero debt firms have a significant lower mean of net fixed assets, compared to their matched firms. The mean (median) value of net fixed assets for zero debt firms is 0.15 (0.10), whereas it is 0.23 (0.17) for their matched counterparts. The last two columns of the Table, show that both the mean and the median are significantly different when I compare the means and medians of the two sets of firms. This Table also shows that zero-debt firms appear to have more NOLs, higher Tobin's Q, more cash, invest more, are smaller, issue more equity, payout less, perform worse, have a lower G index, and have lower marginal tax rates. However, because this Table pools the prior years (i.e., (-3), (-2), and (-1), with the years of zero debt (years (0), and (+1), it is difficult to observe whether the becoming debt free decision had any effect on any of these variables. Therefore, in Table 2.4, I analyze firm characteristics by relative year.

Table 2.4: Sample and Control Firm Characteristics by Year

The Table presents the summary statistics and univariate tests for zero debt and match firms by year. The last two columns present t-values from the two-sample t-test and the Z-values from the Wilcoxon rank sum test (differences between zero-debt firms and match firms). All variables are defined in Table 2.3. Panel A, B, and C present results for year (-1), year (0), and year (+1). Year (0) is the first year where a sample firm has no debt, after two years of having debt. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Year (-1)

	Zero Debt (Z)			Match (M)			Difference	
	n	mean	median	n	mean	median	Z-M t-value	Z-M z-value
Net Fixed Assets	638	0.15	0.10	637	0.23	0.17	-9.74***	-9.28***
NOL	638	0.59	0.00	638	0.36	0.00	3.86***	2.76***
Tobin's Q	638	2.23	2.05	638	1.89	1.82	12.49***	13.45***
Cash ratio	638	0.36	0.31	638	0.18	0.10	15.29***	13.63***
Investment ratio	638	0.16	0.12	638	0.13	0.10	3.93***	3.29***
Size	638	4.66	4.69	638	4.84	4.77	-4.26***	-0.62
Equity issuance	564	0.09	0.02	582	0.06	0.01	3.40***	3.25***
Total payout	566	0.11	0.00	586	0.16	0.00	-3.42***	-2.27**
RoA	638	-0.08	0.03	638	-0.03	0.03	-4.10***	-1.97**
G-Index	81	8.35	8.50	68	8.89	9.50	-1.58	-1.34
Marginal tax rate	618	0.22	0.26	608	0.26	0.30	-7.61***	-7.00***

Panel B: Year (0)

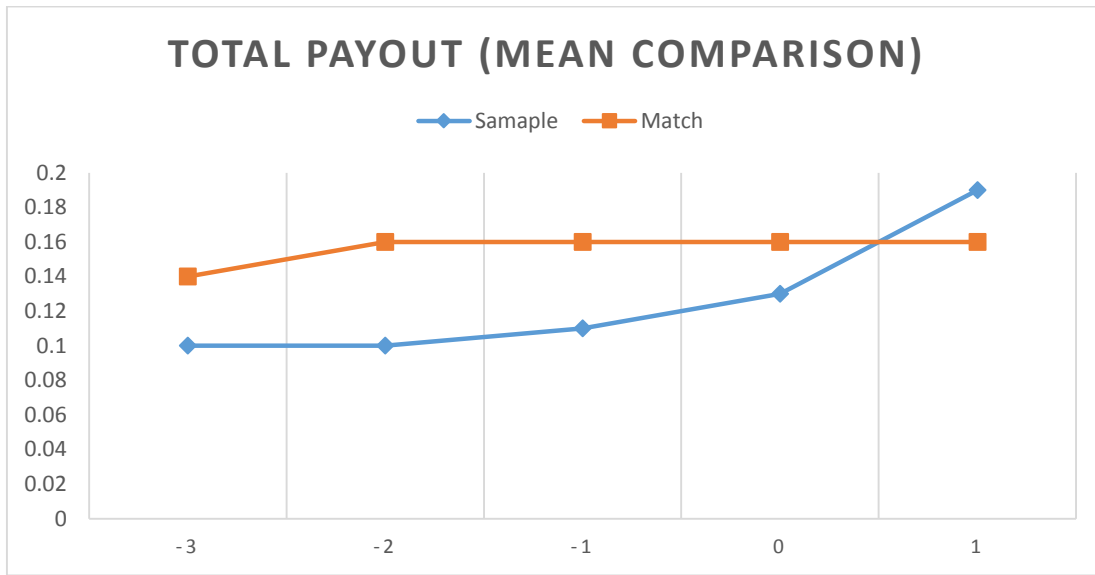
Net Fixed Assets	638	0.13	0.09	637	0.23	0.17	-11.51***	-11.18***
NOL	638	0.63	0.00	638	0.45	0.00	2.68***	1.52
Tobin's Q	638	2.28	2.09	637	1.89	1.83	15.79***	16.56***
Cash ratio	638	0.38	0.34	638	0.17	0.10	18.86***	15.97***
Investment ratio	638	0.16	0.11	638	0.14	0.10	2.50**	2.63***
Size	638	4.70	4.78	638	4.90	4.88	-4.64***	1.20
Equity issuance	567	0.09	0.02	584	0.06	0.01	3.51***	5.07***
Total payout	569	0.13	0.00	589	0.16	0.00	-1.90	0.15
RoA	637	-0.05	0.04	638	-0.04	0.04	-0.66	1.49
G-Index	73	8.57	8.75	64	8.85	9.17	-0.66	-0.29
Marginal tax rate	624	0.22	0.26	622	0.26	0.3	-7.32***	-6.27***

Panel C: Year (+1)

Net Fixed Assets	638	0.13	0.09	637	0.22	0.16	-11.13***	-10.77***
NOL	638	0.66	0.00	638	0.43	0.00	3.56***	1.79*
Tobin's Q	638	2.28	2.08	638	1.87	1.80	16.07***	16.87***
Cash ratio	638	0.40	0.36	638	0.18	0.10	21.34***	17.05***
Investment ratio	638	0.16	0.11	638	0.14	0.10	2.58**	2.13**
Size	638	4.73	4.85	638	4.99	4.98	-5.72***	-3.48***
Equity issuance	580	0.09	0.02	580	0.06	0.01	3.32***	4.76***
Total payout	587	0.19	0.01	585	0.16	0.00	1.68*	3.26***
RoA	637	-0.07	0.04	638	-0.05	0.03	-0.85	1.41
G-Index	74	8.55	8.75	61	9.01	10.00	-0.44	-0.29
Marginal tax rate	602	0.22	0.26	589	0.25	0.31	-5.64***	-4.97***

Panel A, of Table 2.4 presents the results of this analysis for year (-1), whereas Panels B and C do so for the year of becoming zero debt, and the year thereafter. For the majority of the variables of interest the results are similar to those presented in Table 2.3. There are, however, a few important observations to be made. First, Zero Debt firms have substantial cash reserves in year (-1). The mean (median) cash ratio for zero debt firms is 0.36 (0.18), while for match firms cash ratio is 0.18 (0.10). Second, in the year before going to zero debt (i.e., year (-1)) sample firms seem smaller than their match firms, as shown by significant t-values. The mean (median) size of the sample firm is 4.66 (4.69) and for match firms it is 4.84 (4.77). However, in year (+1) the Z-value also becomes significant. This suggests that sample firms may become relatively smaller, when compared to their control firms. Third, there is a total reversal in payouts. Sample firms have significantly smaller payout ratios in year (-1), but by year (+1) they pay out significantly more. In Figure 2.1, I show this change in pay-out graphically. Third, performance in terms of RoA changes over the time period surrounding becoming zero debt. At first, the sample firm first perform significantly worse. In year (+1) sample firm mean (median) RoA is -0.08 (0.03). But, by year (0) performance equals that of the match firms.

Figure 2.1: Comparison of mean payout between Sample and Match firms.



Clearly, this analysis pertained to yearly levels. And, although this is instructive, this analysis may mask what happens to changes, on the firm level. Therefore in Table 2.5, I analyze changes in the firm characteristics from year (-1) to year (+1), and compare these changes of the sample firms with their control firms.

Table 2.5: Sample and Control Firm Characteristics Changes from year (-1) till year (+1)

The Table presents the summary statistics and univariate tests of changes in firm characteristics for zero debt and match firms, from year (-1) till year (+1). The last two columns present t-values from the two-sample t-test and the Z-values from the Wilcoxon rank sum test (differences between zero-debt firms and match firms). All variables are defined in Table 2.3. Year (0) is the first year where a sample firm has no debt, after two years of having debt. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	Zero Debt			Match			Difference	
	n	mean	median	n	mean	median	Z-M t-value	Z-M z-value
Net Fixed Assets (year (+1) – year (-1))	638	-0.02	-0.01	637	-0.01	0.00	-1.47	-0.85
NOL (year (+1) – year (-1))	638	0.07	0.00	638	0.07	0.00	0.10	-0.06
Tobin's Q (year (+1) – year (-1))	638	0.05	0.03	638	-0.02	0.00	3.23***	4.69***
Cash ratio (year (+1) – year (-1))	638	0.04	0.03	638	0.00	0.00	5.03***	4.52***
Investment ratio (year (+1) – year (-1))	638	0.00	0.00	638	0.01	0.00	-1.49	-1.28
Size (year (+1) – year (-1))	638	0.07	0.08	638	0.15	0.12	-2.78***	-2.16**
Equity issuance (year (+1) – year (-1))	542	0.00	0.00	555	0.01	0.00	-0.39	0.63
Total payout (year (+1) – year (-1))	551	0.09	0	562	0.00	0.00	4.98***	4.97***
RoA (year (+1) – year (-1))	637	0.01	0.01	638	-0.03	-0.01	2.61***	3.25***
G-Index (year (+1) – year (-1))	61	0.34	0.00	52	0.21	0.00	-0.19	-0.46
Marginal tax rate (year (+1) – year (-1))	583	0.00	0.00	571	0.00	0.00	1.74*	1.58

The Table provides some insights that are consistent with those inferred from the previous Tables. First, I find that Tobin's Q increases substantially more for the sample firms, when compared to match firms. The mean (median) increase for the sample firms is 0.05 (0.03), whereas the mean (median) for match firms decreases (stays constant). The t and z values that test whether these differences are different from each other indicate that they are. The t-value is 3.23 and the z-value is 4.69, and both are significant at the 1 percent level. If the market timing theory is correct, I would expect that sample firms would issue more equity, to capitalize on these higher valuations and, thus, have less for debt. However, I do not find that equity issuances increase. Therefore, it appears that market timing may not explain why firms become all-equity firms. However, the fact that firms become all equity firms (i.e., eschew debt) and equity could be consistent with the pecking order theory. In order for that to be the case, I would expect these firms to use high cash ratio, which they could use to finance their investments. Although I do find that sample firms increase debt ratios, which would suggest that they may not use their internal slack, I note that their cash ratios are very high (see the previous Tables) and also find that sample firms decrease in size, relative to match firms. This may suggest that these firms do not invest as much (although there is no significant difference in the change in investments between sample and match firms). Combined, this evidence is consistent with the pecking order theory. The evidence in this Table is also consistent with the free cash flow theory. Sample firms have high cash ratios, decrease their debt levels to zero, but do payout substantially more. I find an average increase in payout ratio of the zero debt firms of 9 percent, versus no change for match firms. I do not find evidence that suggest that changes in marginal tax rates or NOLs are significantly different between sample and match firms. Moreover, firms that become debt free increase their performance, relative to sample firms. Combined, this suggests that tax explanations are not relevant for the decision to become an

all-equity firm. Although, I am not able to find the G-index for many firms (sample and match firms), which may influence the inferences, I do not find any significant differences in governance over time. This may suggest that governance is not relevant for the decision to become debt free, either.

To further investigate the increase in increases in payout ratios, in Table 2.6 I tabulate the number of firms (sample and match firms) paying dividend and repurchasing shares, by year relative to the year of becoming debt free (i.e., year (0)). I find that the number of dividend paying sample firms increased considerably over the five year period, from 70 to 110 (of 638) firms. The number of match firms paying dividend has also increased, from 115 to 141. But, clearly, this percent increase is much smaller. The number of sample firms repurchasing stock has also increased. In Year (-3), 214 firms repurchased stock, for both sample and match firms. While in the debt initiation year, 247 sample firms conducted stock repurchases, in comparison to 218 firms from the matched group. In year (+1) 277 sample firms repurchased their stock, while only 217 matched firms did so. It appears that the increase in payouts of the zero debt firms, as reported in the previous Tables, is driven especially by repurchases.

Table 2.6: Dividends and Repurchases

In this Table I show the number of firms paying dividends and repurchasing stock, by year. Dividends are defined as *DVC* and repurchases is defined as *PRSTKC*, from Compustat.

Year	# of Firm - Dividend		# of Firm - Stock Repurchase	
	ZD	Match	ZD	Match
(-3)	70	115	214	214
(-2)	73	123	223	220
(-1)	76	122	231	227
(0)	92	127	247	218
(+1)	110	141	277	217

2.5.1 Multivariate Analysis

Table 2.7 presents the results of the multivariate analysis in which I use a logistic framework to investigate which characteristic changes are related to the decision to become a zero debt firm. The dependent variable is a simple dummy equal to one if the firm is a zero debt firm and equal to 1 if it is a match firm. As independent variables I include the same variables that I presented in the Table 2.5. All the regression models also include year dummies, although the estimates for these dummies are not reported, for brevity reasons. I also cluster the standard errors at the firm level.

Table 2.7: Multivariate Analysis

This Table presents results from logistic regressions predicting zero-debt (dummy variable = 1 for zero-debt firms and 0 otherwise). All variables are change variable from year (-1) to year (+1). All variables are defined in Table 2.3. All models include an industry dummy (based on 2 digit SIC code). Standard errors are clustered at the firm level. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

group	1	2	3	4
Net Fixed Assets	0.2882	0.282	0.343	0.364
(year (+1) – year (-1))	(0.33)	(0.32)	(0.40)	(0.42)
NOL	0.040	-0.029	0.028	-0.030
(year (+1) – year (-1))	(0.38)	(-0.26)	(0.27)	(-0.27)
Tobin's Q	0.671***	0.480**	.634***	0.471**
(year (+1) – year (-1))	(3.13)	(2.14)	(3.07)	(2.18)
Cash ratio	2.306***	2.322***	2.180***	2.172***
(year (+1) – year (-1))	(4.58)	(4.69)	(4.36)	(4.44)
Investment ratio	0.348		0.378	
(year (+1) – year (-1))	(0.48)		(0.54)	
Size		-0.447**		-0.379**
(year (+1) – year (-1))		(-2.21)		(-1.99)
Equity issuance	-1.595***	-1.590***	-1.020*	-1.02*
(year (+1) – year (-1))	(-2.86)	(-2.94)	(-1.78)	(-1.81)
Total payout	1.468***	1.478***		
(year (+1) – year (-1))	(4.77)	(4.97)		
Dividends			2.048***	2.018**
(year (+1) – year (-1))			(2.65)	(2.49)
Repurchase			0.433	0.435
(year (+1) – year (-1))			(1.54)	(1.52)
RoA	0.516	0.655**	0.544	0.665**
(year (+1) – year (-1))	(1.64)	(2)	(1.79)	(2.09)
Marginal tax rate	0.6441	1.3991	0.792	1.435
(year (+1) – year (-1))	(0.66)	(1.4)	(0.83)	(1.45)
Intercept	0.047	0.761	0.045	0.067
	(0.18)	(0.29)	(0.18)	(0.26)
Pseudo R ² (%)	.056	.060	0.045	0.047
N	982	982	982	982
Year Fixed Effects	Yes	Yes	Yes	Yes
Firm Clustering	Yes	Yes	Yes	Yes

In the model, to avoid multicollinearity, I use size and investment in separate regression specifications. In models (3) and (4), I also split up the payout variable into its components: i.e., dividends and repurchases. The most important takeaway from these regressions is that zero-debt firms are more likely to increase payouts. The coefficient on the change in payout is significant in models (1) and (2). No other coefficient is significant in both these models. This evidence is most consistent with the idea that the free cash flow theory is relevant for the sample firms. However, when I split the payout up into dividends and repurchase, I do find evidence that increase in payout is driven by dividends, although my univariates suggested that it may have been driven by repurchases. The only other variable that is consistently significant is the change in cash ratio variable. Sample firms relatively increase their cash ratios (or decrease cash ratios less) and they seem to invest relatively more. Given that there is no significance on the change in equity issuance variable, this may also be consistent with the pecking order theory. Finally, and consistent with the earlier findings I do not find evidence that is consistent with tax based explanations.

Additional Analysis

As noted by Graham and Harvey (2001), CEOs rate financial flexibility as an important determinant of their capital structure decisions. It could be the case that firms become zero-debt firms to preserve debt capacity. Alternatively, firms may be screened out of the debt markets. In this section I investigate this possibility in more detail. To do so, I explore the use of credit lines of the firms in more detail. If firms are screened out of the debt markets, I would expect that they do no longer have credit lines. Alternatively, it is possible that they are not screened out of the debt market and simply reduce their debt holdings to zero to preserve debt capacity, which could take the form of credit lines. Hence, I investigate line of credit availability in years (-1), (0), and (+1).

I hand collect the line of credit data from 10-k filings, using the central index key (CIK) for both the zero debt firms and the match firms. Specifically, I use the following search terms: line of credit, lines of credit, credit facility, credit agreement, and revolving credit to search for line of credit availability.

Table 2.8: Credit Line Usage

This table displays the number of firms having access to line of credit in year -1, 0, and 1.

Year	# of firms with line of credit access					
	Zero Debt			Match		
	LOC available	Data Available	%	LOC available	Data Available	%
(-1)	362	606	59.73	406	506	80.24
(0)	311	602	51.32	411	505	81.39
(+1)	283	602	46.69	407	511	79.65

Firms with line of credit availability is marked as 1 and 0 otherwise while missing 10-k is marked as missing data. In the sample, 311 and 283 firms have line of credit access in year (0) and year (+1) respectively. While 411 and 407 match firms have access to line of credit access in the same years. As it is evident, that many of the zero debt firms in the sample have access to line of credit, are the zero-debt firms in the sample are also financially constrained. Notes that, for the sample firms I was able to find line of credit data for 60 percent of the firms in year (-1) and around 47% of year (+1). For the match firms, I found line of credit data for around 80% of the firms.

To further investigate whether sample firms (i.e., firms that move to zero debt) are constrained I use KZ-Index (Kaplan-Zingales Index). The index is defined as:

$$KZ = -1.002 CF/AT - 39.368 Div/AT - 1.315 CA/AT + 3.139 Lev + 0.283Q$$

Where CF is the cash flow, scaled by book-value of assets, LEV is the total debt, Q is the ratio of the market-to-book value of the firm's assets. I divide both the sample and match firm years into deciles by KZ index, where a high KZ index means relatively more constraint. I report the findings of this analysis in Table 2.9. The finding shows most of zero debt firm years are located in the low constraint deciles (i.e., 1, 2, 3, 4, and 5) while match firm years are to be found in the higher constraint deciles (i.e., 6, 7, 8, 9, and 10). Moreover, over the sample period from year (-3) till year (+1), the number of match firms in the low constraint deciles increases. Hence, it appears that the zero debt firms in the sample are not financially constrained, and actually appear to become less constrained.

Table 2.9: K-Z Index

This Table displays the number of firm year, in deciles formed using the KZ Index.

Decile		Year (-3)	Year (-2)	Year (-1)	Year (0)	Year (+1)
Decile 1	Zero Debt	75	76	108	142	148
	Match	5	1	1	7	3
Decile 2	Zero Debt	79	95	99	143	146
	Match	1	0	1	2	1
Decile 3	Zero Debt	81	79	92	151	158
	Match	0	0	1	2	2
Decile 4	Zero Debt	83	100	122	135	115
	Match	2	3	3	1	0
Decile 5	Zero Debt	172	163	139	33	36
	Match	3	6	3	3	3
Decile 6	Zero Debt	104	78	37	10	7
	Match	49	48	67	68	96
Decile 7	Zero Debt	2	4	3	1	0
	Match	91	106	127	118	114
Decile 8	Zero Debt	3	2	1	0	0
	Match	68	109	120	125	139
Decile 9	Zero Debt	2	1	0	0	0
	Match	97	95	107	129	133
Decile 10	Zero Debt	13	13	7	1	2
	Match	82	115	91	117	124

2.6. Conclusion

I investigate changes in a number of firm characteristics surrounding the change in debt policy (i.e., becoming unlevered). I use this sample of firms, and a control sample of firms to investigate why firms may lower debt, and add more insight to the zero-leverage puzzle. The main findings are that tax based explanations, market timing explanations do not explain the observed behavior of these firms that become totally unlevered. The findings are most consistent with the pecking order theory (Myers and Majluf, 1984) and with Jensen's (1986) theory of free cash flows, where managers use either debt (i.e., the interest associated with the debt) and/or dividends to pay out excess cash. I also investigate whether financial constraint is somehow related to the decision to become debt free. But, I do not find any evidence that is consistent with this notion. Finally, I find that the sample firms are not screened out of the debt markets as I report that a large amount of the sample firms keep lines of credit open, but simply do not use them.

Chapter 3: External Monitoring of Private Firms: A Cross-Country Empirical Analysis

3.1 Introduction

The separation of ownership and control in the modern corporation necessarily creates agency problems between shareholders and managers. The seminal work of Jensen and Meckling (1976) studies the impact of this classic principal-agent problem. When the managers own less than 100% of the firm, there is an incentive to misdirect corporate resources to activities where the managers enjoy more than their proportionate cost. The concomitant agency costs can be reduced both by monitoring of management and voluntary bonding of management activities. It is the latter that is the focus of this research. In particular, managers who pre-commit to external auditing are reducing ex-ante future economic incentives to misallocate resources. While the role of monitoring of public firms has been studied extensively, the research on the mechanisms to monitor privately held firms is considerably smaller.

As a monitoring tool, the use of external auditing has been considered a control mechanism for firms with an important role in corporate governance especially for public firms (Ashbaugh and Warfield, 2003; Fan and Wong, 2005). Therefore, throughout this research, the usage of external auditing is considered a quantifiable proxy for external monitoring. Within this context, the research on different aspects of external audit has primarily focused on the public firms as well as the major global audit service providers. To a lesser extent, previous research emphasizes that external audit services is relevant for private firms and private firms can leverage external audit services to control its complex business operations (Abdel-Khalik, 1993).

The review of the extant literature reveals that organizational factors associated with the employment of external auditors by privately held firms have not been studied extensively in an

international context. Apart from the theoretical contribution of this investigation to understand these factors on a global basis, I believe this study has significant practical and policy implications as well.

Audit business is considered a steady business since the revenues are primarily based on public firms, which are engaged on periodic bases. A report from big4.com shows that the proportion of revenues generated from the audit service line is approximately 45% of the total revenue has been steadily declining (The 2012 Big Four Firm Performance Analysis, 2013). Hence, understanding the factors associated with external audit use by private firms is important for the global business strategy of the audit service providers.

The analysis of 38,785 observations from 114 countries reveals that there is not a single set of “universal” factors associated with firms’ decision to engage external auditors. I observe that firms with higher levels of international business activities tend to use external auditors more frequently to audit their financial statements. In this paper I explore the factors that would compel private firms to voluntarily have their financial statements audited by external auditors. I look at several important factors including external financing, private foreign ownership, international scope, managerial experience and ownership concentration which influence audit decisions. To my knowledge, this is the first paper which looks at a comprehensive list of countries in order to access choice of being audited in privately held firms.

In Section 3.2, I review the extant literature and develop testable hypotheses. The sample construction and methodology are discussed in Section 3.4 followed by the analysis of results in Section 3.4. I conclude this study in Section 3.5 along with policy implications.

3.2 Related Literature and Hypotheses

In this investigation, I view external financial audit as one significant aspect of corporate governance of the firm (Christopher, 2010; Ashbaugh and Warfield, 2003; Fan and Wong, 2005). I draw upon the interdisciplinary work of finance, accounting and management literature to establish the factors which influence a firm's decision to engage external auditors to audit their financial reports. Leveraging the multi-theoretic views espoused by Lynall, Golden, and Hillman (2003) and Christopher (2010), I plan to approach this investigation using Agency Theory (Eisenhardt, 1989), Stakeholder Theory (Donaldson and Preston, 1995), Institutional Theory (DiMaggio and Powell, 1983) and Loss-of-Control Theory (Abdel-Khalik, 1993). Dedman, Kausar, and Lennox (2014) examine private companies in the UK, and report private companies are more likely to utilize the service of auditors when they face higher agency costs, raise capital, and are riskier. They further document that private firms allow audits only when these firms benefit from the use of auditing for external monitoring. There is very limited research which specifically examines financial reporting quality for private firms. Chen, Hope, Li, and Wang (2011) explore financial reporting quality and investment efficiency with respect to private firms. Earlier studies found that private firms have lower financial reporting quality due to lower market demand for publicly disclosed information. Chen, Hope, Li, and Wang's (2011) findings show that better financial reporting quality improves investment efficiency in the case of private firms.

Langli and Svanström (2013) have conducted an in-depth study with respect to auditing of private firms. They have discussed a number of benefits that would be associated with the audit of private firms, namely access to easier credit and reduction in the cost of capital. Karjalainen (2011) empirically verifies that higher quality auditors (Big 4 auditors) and the use of multiple auditors will add value in terms of debt capital for private firms in Finland. Dedman and Kauser

(2012) also show that credit rating enhancement is another advantage of private firm audits. Private companies in the UK which retain voluntary audits exhibit higher credit scores. Another advantage of auditing is the assurance value provided by the auditors to the private firms. Research also shows that there is no credible evidence that large auditors seek additional premium to audit private firms (Chaney, Jeter, and Shivakumar (2004)).

The extant literature identifies external auditing as a tool to externally monitor the operations of a firm. Evans and Patton (1987) show that using the services of auditors will reduce the information asymmetry. Menon and Williams (1991) examine the firms which went through the IPO process in 1985 and 1986 and report that investment banks charge "less fee" if they are audited by the Big 8 auditors. Therefore, one may argue that firms and shareholders benefit when audits are performed by reputable auditors. According to the signaling hypothesis, Lennox and Pittman (2011) show that in the case of voluntary audits, firms credit ratings are enhanced as they send a positive signal by allowing their financial statements be reviewed by external auditors. During major corporate events such as seasoned equity offerings and mergers and acquisitions, auditing plays a key role in external monitoring. Firms have the incentive to manage earnings before equity issuance but at the same time they are exposed to the risk of having adverse reports from their auditors, which may in turn impact the firms' reputation (Shivakumar, 2000). Watts and Zimmerman (1981) find that the interests of the auditors have raised questions regarding the incremental contribution (value added) by the external monitoring conducted by auditors. Some argue that auditors' opinions do not provide timely information to the capital markets. The information provided by the auditors is already available to the market and hence there is no stock market reaction. Another possible explanation is auditors tend to reduce their own legal risk without increasing the quality of information provided by financial statements.

The analysis of the literature shows that external financing can be considered a factor associated with firms' decision to use external auditors (Ashbaugh and Warfield, 2003). Stakeholder theory posits that every legitimate entity engages in a firm's business activities with the objective of obtaining benefits. The priority of these entities' interests may not be self-evident and simultaneous attention shall be given to the interests of all legitimate stakeholders (Donaldson and Preston, 1995). Within the context of Total Responsibility Management, suppliers of a firm, which include both material and capital suppliers, are deemed as the firm's primary stakeholders (Waddock, Bodwell, and Graves, 2002). Hence, the interests of these suppliers, which provide external financing to the firm, shall be protected using objective control mechanisms. Ashbaugh and Warfield's (2003) empirical study shows that companies, which are more dependent on debt financing and thus have greater claims by credit stakeholders, are more likely to hire a dominant audit supplier. Hence, I deem external financing as a factor, which is associated with the firms' decision to use external auditors and postulate the following hypothesis:

H1: External financing is positively associated with the probability of a firm engaging external auditors to audit its financial statements.

Private foreign ownership is another factor which has been posited to impact external auditor employment by firms. Lynall, Golden, and Hillman (2003) note that mimetic or coercive isomorphism may influence governance structure of a firm. Institutional Theory (DiMaggio and Powell, 1983) posits that organizations can be forced to conform to certain standards imposed by coercive institutions. Ashbaugh and Warfield, 2003 point out external audit plays the role of corporate governance especially for firms which rely on debt than equity capital. Based on this argument, in case of private firms' which mainly rely on debt from financial institutions, external audit plays an important role in raising capital. For example, several empirical studies show that

there is a reliance on external auditors to control foreign subsidiaries and operations (Choi and Mueller, 1992; Guedhami, Pittman, and Saffar, 2009). Alternatively, there is a tendency among social entities to imitate other social entities (e.g. organizations) which are viewed as successful and legitimate. Judge, Li, and Pinsker (2010) empirical study shows that mimetic isomorphism predicts the adoption of international financial reporting standards by national economies. Based on this empirical evidence, I conclude that accounting related practices such as external auditor use or accounting standard adoption can be diffused across social entities via coercive or mimetic isomorphism. Hence, I posit that private and foreign owners of a firm may influence the utilization of external audits by the firm and postulate the following:

H2: Private Foreign Ownership is positively associated with the probability of a firm engaging external auditors to audit its financial statements.

When firms engage in global commerce, they will be relatively more exposed to the global economy and the norms and practices of successful foreign firms. International trade and investment in an economy can stimulate as well as accelerate the diffusion of accounting standards across domestic firms (Judge, Li, and Pinsker 2010). Within this context, mimetic isomorphism may cause firms engaging with international trade to use external audits. Furthermore, within the context of stakeholder theory, international and domestic customers and suppliers are primary stakeholders (Waddock, Bodwell, and Graves, 2002). In addition, there is empirical evidence documenting that firms contracting with foreign suppliers tend to use more external audits (Ashbaugh and Warfield, 2003). Hence, I conclude that a firm's level of international activity (international scope) is associated with the firm's decision to use external auditors and postulate the following hypothesis:

H3: International scope is positively associated with the probability of a firm engaging external auditors to audit its financial statements.

In today's dynamic, globally connected and highly competitive environment, the need for skilled management to steer the firm in the right direction is of critical importance. Christopher (2010) notes that stakeholder theory is crucial for corporate governance since it facilitates management to understand the various interests of the complete stakeholder base and work to incorporate their interests into the organizational objectives to maximize the stakeholder value. He further emphasizes on shifting the focus from *board capital* to *management capital*, since there is a dependence of CEOs and other top management to achieve the strategic goals of an organization. Within this context, I postulate the following.

H4: Top management experience of a firm is positively associated with firm's probability of engaging external auditors to audit firm's financial statements.

While the grounding for the aforementioned hypothesis is primarily based on the literature from developed countries, I seek to test the universality of this hypothesis to countries across the spectrum of economic development.

The ownership concentration is another factor which I consider to be associated with the firms' probability of engaging external auditors. Within the framework of Agency theory, firms with several owners, i.e. not a single owner-manager, are likely to engage agents to perform managerial and/or operational duties. Not surprisingly, several empirical studies note that as ownership concentration increases closer aligning the interests of insiders and outsiders, the demand for auditing as a monitoring mechanism decreases (Ashbaugh and Warfield, 2003; Guedhami, Pittman, and Saffar, 2014). On the other hand, McConnell and Servaes (1990) argue

that increasing ownership is incentive aligning up to a point but then diminishes with high levels of ownership. As a robustness check, the empirical model incorporates a squared ownership term to control for this possibility. The same phenomenon from a different perspective was observed by Fan and Wong (2005) for firms operating in emerging markets. Fan and Wong (2005) note that external auditors play an important role in corporate governance in emerging markets. The results of their study show that firms where agency problem are present in the ownership structure are more likely to employ external auditors. Hence, I postulate the following hypothesis:

H5: Ownership Concentration is negatively associated with firm's probability of engaging external auditors to audit firm's financial statements.

The primary user of the external audit services in most countries are the publicly traded companies. Abdel-Khalik (1993) notes that while external auditing is required for publicly traded firms, private firms may demand external auditing to compensate for the loss of control. He finds evidence that private firms employ external auditors to assist with the control of the firm's operations. He attributes this to the loss-of-control theory; the private firms' owners and managers' failure to control the firm effectively due to the complexity of the operations. Given this, I postulate that:

H6: Private Domestic Ownership is positively associated with firm's probability of engaging external auditors to audit firm's financial statements.

3.3 Data and Research Method

To test the aforementioned hypotheses, I conduct a cross-sectional analysis at the firm level. I use enterprise survey data from the World Bank (see. Leaven, 2001; Mead and Liedholm, 1998; Valentijn, and Konings, 1998). The sample consists of 38,785 firm-years from 114 countries. The survey covers the entire spectrum of economic development (see Table 3.1, Panel (a)). Publicly traded firms are screened out of the sample since most of the publicly traded firms have mandatory external audit requirements. The binary dependent variable is external audit use in the firm-year. Unfortunately, the individual firms are not identified and it is not possible to isolate firms that potentially change from no external audit to employing external audit. Hence, the primary econometric model employs logistic regression. The dependent variable external audit usage (*ExtAudUse*) is assigned a value of 1 if firm hired an external auditor to audit its financial statements and 0 if not in the current year. Each year the survey potentially covers a different subset of countries.

I will briefly discuss the key causal variables. The first explanatory variable is used to measure the degree of international scope. Following the literature, I use direct export as a percentage of sales as proxy. The second explanatory variable is senior management experience which is measured by the sum of top management years of experience in the sector. Top management in the survey is defined as managers, directors, and officers above direct supervisors of production or sales workers. The third variable is the external financing which is subdivided into the percentage of working capital financed externally and the percentage of fixed asset financed externally. The fourth variable is the concentration of ownership, measured by the percentage of the firm owned by the largest owner. The fifth variable is the private foreign

ownership which is the percentage of foreign ownership in the firm. The last explanatory variable is the private domestic ownership which is quantified by the percentage of the firm owned by the domestic private owner.

In addition, I include several control variables including firm size and organizational form. Organizational form is divided into 5 categories - Private LLC (*Privllc*), Sole Proprietorship (*SoleProp*), Partnership (*Part*), Limited Partnership (*LtdPart*), and Other. Firm size (employee headcount) as per the survey is represented by an ordinal scale where 1 represents firms with less than 20 employees, 2 represents firms with 20 to 99 employees and 3 represents firms with more than 100 employees. In addition to these control variables, I control for the country fixed effects using dummy variables.

I have two generic empirical models. The first model (1) is the base model without fixed effects and the second model (2) incorporates fixed effects:

$$P(ExtAudUse) = \frac{1}{1 + e^{-(\beta_0 + X_i\beta_i + F_i\beta_i + \varepsilon_i)}} \quad (1)$$

$$P(ExtAudUse) = \frac{1}{1 + e^{-(\beta_0 + X_i\beta_i + F_i\beta_i + C_i\beta_i + \varepsilon_i)}} \quad (2)$$

Where:

X is a vector of explanatory variables, F is a vector of Firm-Level variables and C represents the Country-fixed effects. External auditor use (*ExtAudUse*) is a dummy variable assigned value of 1 if the firm uses external auditor in current firm-year or 0 otherwise. Firm size (*Size*) is based on the number of employees, coded as 1 if number of employees less than twenty; 2 if number of employees between 20 and 99; 3 if number of employees greater than 100. Private Domestic

Ownership (*PrivDomOwn*) is percentage of the firm owned by the private owner(s). Private Foreign Ownership (*PrivForOwn*) is percentage of foreign ownership. Concentration of Ownership (*OwnConc*) is percentage of the firm owned by the largest owner(s). Senior Management Experience (*MgrExp*) is top management's years of experience in the sector. International Scope (*IntlScope*) is direct exports (percentage of sales). Working Capital External Financing (*WCapExtFin*) is percentage of Working Capital Financed Externally (from banks, suppliers, etc.). Fixed Asset External Financing (*FAExtFin*) is percentage of Fixed Asset Purchase Financed Externally (from banks, suppliers, etc.).

I further divide the sample into income clusters. Based on the World Bank classification scheme, economic development categories establish 5 income clusters that ranges from low income, lower middle income, upper middle income, OECD high income, and Non-OECD high income country. The primary purpose of this categorization is to explore whether factors that are related to the probability of hiring an external auditor by private firms vary across different income clusters. I test the base model for the full sample as well as for each income cluster. I eliminate observations with missing variables and removed two countries with incomplete World Bank income data. The final sample is comprised of 38,785 firm-year observations from 114 countries over 2006 to 2012 time-period. Table 3.1, Panel (a) describes the countries that I have used in the paper and their respective income cluster. Panel (b) presents the external audit usage for each economic development category. Based on the entire sample, 48% of firms use external auditors while 52% of the firms do not. Firms operating in high income non-OECD countries exhibit the lowest percentage of external audit use (32%), while the firms in the upper middle income countries have the highest use of external auditors (57%). In Panel (c), I

show the country, the respective survey year and the number of private firms surveyed from each year. Russia has the highest representation of firms i.e. 3,348 private firms.

In Panel (d) I examine the mean score of the explanatory variables as per economic development category. Across all the economic development categories, private domestic ownership (*PrivDomOwn*) is quite high. In the Non-OECD countries the private domestic ownership is the highest at 94.12%. The range of average private foreign ownership is 4.98% to 11.80% across all economic development categories. The private foreign ownership (*PrivForOwn*) is higher in the low income countries. The average percentage of shares owned by the largest owner (*OwnConc*) is almost the same across all economic development categories. The average top management experience (*MngExper*) is the highest in the high income OECD countries with 21.08 years and the lowest in the low income countries (13.97 years of average top management experience). High income OECD countries have the highest average direct exports as a percentage of sales (*IntlScope*). In other words, high income OECD countries have greater international scope (*IntlScope*) when compared to countries in other categories. High income OECD countries use external sources to finance their working capital (*WCapExtFin*) more than any other economic development categories. While external funds used to purchase fixed assets (*FAExtFin*) is almost same across all categories and ranges from 68.40% to 62.16%.

Table 3.1: Descriptive Statistics

Panel (a): List of Countries per Economic Development Category

This table displays the World Bank economic development category based on income clusters. The countries covered by the World Bank Enterprise Survey are mostly emerging and developing countries. World Bank Enterprise

Economic Development Category	List of Countries
High Income Non OECD	Uruguay, Trinidad and Tobago, Russia, Lithuania, Latvia, Croatia, Barbados, Bahamas, Antigua and Barbuda
High Income OECD	Slovenia, Slovak Republic, Poland, Estonia, Czech Republic, Chile
Upper Middle Income	Venezuela, Turkey, Tonga, Suriname, St. Vincent and Grenadines, St Lucia, South Africa, Serbia, Romania, Peru, Panama, Namibia, Montenegro, Mexico, Mauritius, Kazakhstan, Jamaica, Iraq, Hungary, Grenada, Gabon, Fyr Macedonia, Fiji, Ecuador, Dominican Republic, Dominica, Costa Rica, Colombia, Bulgaria, Brazil, Botswana, Bosnia and Herzegovina, Belize, Belarus, Azerbaijan, Argentina, Angola, Albania
Lower Middle Income	Zambia, Yemen, Vietnam, Vanuatu, Uzbekistan, Ukraine, Timor Leste, Swaziland, Sri Lanka, Senegal, Samoa, Philippines, Paraguay, Pakistan, Nigeria, Nicaragua, Mongolia, Moldova, Mauritania, Lesotho, Lao PDR, Kosovo, Indonesia, Honduras, Guyana, Guatemala , Ghana, Georgia, El Salvador, Cameroon, Bolivia, Bhutan, Armenia
Low Income	Zimbabwe, Uganda, Togo, Tanzania, Tajikistan, Sierra Leone, Rwanda, Niger, Nepal, Mozambique, Mali, Malawi, Madagascar, Liberia, Kyrgyz Republic, Kenya, Guinea Bissau, Guinea, Gambia, Ethiopia, Eritrea, Chad, Central African Republic, Burundi, Burkina Faso, Benin, Bangladesh, Afghanistan

Panel (b): External Audit Usage per Economic Development Category

Panel (b) shows the number of firms under each economic category and percentage of firms using or not using external auditors.

Country Economic Development Category	Sample Size	% of Firms Use External Auditors	% of Firms Do Not Use External Auditors
High Income Non-OECD	5,398	32%	68%
High Income OECD	2,026	51%	49%
Upper Middle Income	13,279	57%	43%
Lower Middle Income	11,330	48%	52%
Low Income	6,752	44%	56%
Total:	38,785	48%	52%

Panel (c): Tabulation of private firms by year of survey and country

Country Surveyed	# of Private Firms Surveyed	Survey Year	Country Surveyed	# of Private Firms Surveyed	Survey Year
Afghanistan	168	2008	Latvia	263	2009
Albania	267	2007	Lesotho	74	2009
Angola	135	2010	Liberia	46	2009
Antigua and Barbuda	77	2010	Lithuania	254	2009
Argentina	866	2010	Madagascar	256	2009
Armenia	323	2009	Malawi	76	2009
Azerbaijan	267	2009	Mali	71	2010
Bahamas	61	2010	Mauritania	237	2006
Bangladesh	1,437	2007	Mauritius	167	2009
Barbados	109	2010	Mexico	946	2010
Belarus	194	2008	Moldova	260	2009
Belize	93	2010	Mongolia	329	2009
Benin	59	2009	Montenegro	93	2009
Bhutan	31	2009	Mozambique	472	2007
Bolivia	187	2010	Namibia	317	2006
Bosnia and Herzegovina	269	2009	Nepal	222	2009
Botswana	183	2010	Nicaragua	103	2010
Brazil	1,011	2009	Niger	57	2009
Bulgaria	247	2009	Nigeria	1,887	2007
Burkina Faso	118	2009	Pakistan	776	2007
Burundi	270	2006	Panama	182	2010
Cameroon	125	2009	Paraguay	303	2010
Central African Republic	58	2011	Peru	758	2010
Chad	58	2009	Philippines	644	2009
Chile	810	2010	Poland	346	2009
Colombia	855	2010	Romania	392	2009
Costa Rica	476	2010	Russia	3,348	2012
Croatia	534	2007	Rwanda	109	2011
Czech Republic	202	2009	Samoa	43	2009
Dominica	74	2010	Senegal	504	2007
Dominican Republic	291	2010	Serbia	291	2009
Ecuador	323	2010	Sierra Leone	57	2009
El Salvador	260	2010	Slovak Republic	231	2009
Eritrea	80	2009	Slovenia	237	2009
Estonia	200	2009	South Africa	927	2007
Ethiopia	123	2011	Sri Lanka	521	2011
Fiji	66	2009	St. Lucia	63	2010
Fyr Macedonia	337	2009	St. Vincent and Grenadines	63	2010
Gabon	57	2009	Suriname	79	2010
Gambia	170	2006	Swaziland	278	2006
Georgia	291	2008	Tajikistan	262	2008
Ghana	491	2007	Tanzania	408	2006
Grenada	67	2010	Timor Leste	17	2009
Guatemala	302	2010	Togo	49	2009
Guinea	220	2006	Tonga	50	2009
Guinea Bissau	156	2006	Trinidad and Tobago	244	2010
Guyana	99	2010	Turkey	1,058	2008
Honduras	173	2010	Uganda	534	2006
Hungary	272	2009	Ukraine	600	2008
Indonesia	435	2009	Uruguay	508	2010
Iraq	731	2011	Uzbekistan	272	2008
Jamaica	157	2010	Vanuatu	6	2009
Kazakhstan	445	2009	Venezuela	210	2010
Kenya	650	2007	Vietnam	686	2009
Kosovo	239	2009	Yemen	130	2010
Kyrgyz Republic	146	2009	Zambia	480	2007
LaoPDR	224	2012	Zimbabwe	420	2011

Panel (d): Descriptive Statistics for Sample Firms by Income Cluster

Panel (d) displays the mean (median) of the explanatory variables as per economic development category. Private Domestic Ownership (*PrivDomOwn*) is percentage of the firm owned by the private owner(s). Private Foreign Ownership (*PrivForOwn*) is percentage of foreign ownership. Concentration of Ownership (*OwnConc*) is percentage of the firm owned by the largest owner(s). Senior Management Experience (*MngExper*) is top management's years of experience in the sector. International Scope (*IntlScope*) is direct exports (percentage of sales). Working Capital External Financing (*WCapExtFin*) is percentage of Working Capital Financed Externally (from banks, suppliers, etc.). Fixed Asset External Financing (*FAExtFin*) is percentage of Fixed Asset Purchase Financed Externally (from banks, suppliers, etc.). ***, **, * denote significance at 1%, 5% and 10%, respectively.

Economic Development	PrivDomOwn	PrivForOwn	OwnConc	MngExper	IntlScope	WCapExtFin	FAExtFin	N
High Income Non-OECD	94.12 (100)	4.98 (0.00)	76.66 (100)	16.22 (14)	5.74 (0.00)	33.32 (10)	68.40 (100)	5,398
High Income OECD	88.17 (100)	9.92 (0.00)	76.23 (90)	21.08 (20)	10.80 (0.00)	79.13 ((100)	62.16 (90)	2,026
Upper Middle Income	88.62 (100)	9.52 (0.00)	72.83 (80)	19.30 (17)	7.32 (0.00)	58.03 (100)	67.68 (100)	13,279
Lower Middle Income	90.39 (100)	8.24 (0.00)	79.82 (100)	15.43 (20)	6.72 (0.00)	45.78 (100)	67.50 (100)	11,330
Low Income	86.78 (100)	11.80 (0.00)	74.48 (50)	13.97 (12)	7.93 (0.00)	32.59 (55)	62.61 (100)	6,752
Total	89.56 (100)	8.93 (0.00)	75.87 (90)	16.91 (15)	7.21 (0.00)	47.68 (40)	66.56 (100)	38,785

Table 3.2 presents the correlation matrix between the binary dependent variable (i.e., external audit use) and all explanatory variables. The correlations among explanatory variables are generally small and significant. I checked the variable inflation factor and it is well below the threshold level. Hence, multicollinearity is not a serious concern in the study. In particular, I note external audit use is negatively related to private domestic ownership, ownership concentration and fixed asset external financing. On the other hand, external audit use is positively correlated with firm size (*Size*), private foreign ownership (*PrivForOwn*), top management experience (*MngExper*), international scope (*IntlScope*) and percentage of working capital financed by external sources (*WCapExtFin*).

Table 3.2: Pearson Correlation Matrix

This table shows the correlation matrix between the independent variable and the external audit use (dependent variable). External Auditor Use (*ExtAudUse*) is a dummy variable, 1 if the firm uses external auditor or 0 otherwise. Firm Size (*Size*) is based on the number of employees, coded as 1 if number of employees less than twenty; 2 if number of employees between 20 and 99; 3 if number of employees greater than 100. Private Domestic Ownership (*PrivDomOwn*) is percentage of the firm owned by the private owner(s). Private Foreign Ownership (*PrivForOwn*) is percentage of foreign ownership. Concentration of Ownership (*OwnConc*) is percentage of the firm owned by the largest owner(s). Senior Management Experience (*MngExper*) is top management's years of experience in the sector. International Scope (*IntlScope*) is direct exports (percentage of sales). Working Capital External Financing (*WCapExtFin*) is percentage of Working Capital Financed Externally (from banks, suppliers, etc.). Fixed Asset External Financing (*FAExtFin*) is percentage of Fixed Asset Purchase Financed Externally (from banks, suppliers, etc.). ***, **, * denote significance at 1%, 5% and 10%, respectively.

	ExtAudUse	Size	PrivDomOwn	PrivForOwn	OwnConc	MngExper	IntlScope	WCapExtFin	FAExtFin
ExtAudUse	1								
Size	0.354***	1							
PrivDomOwn	-0.189***	-0.196***	1						
PrivForOwn	0.185***	0.189***	-0.926***	1					
OwnConc	-0.176***	-0.213***	0.007	-0.006	1				
MngExper	0.104***	0.165***	0.026***	-0.034***	-0.164***	1			
IntlScope	0.139***	0.289***	-0.171***	0.182***	-0.091***	0.047***	1		
WCapExtFin	0.063***	0.121***	0.005	-0.021***	-0.018***	0.074***	0.074***	1	
FAExtFin	-0.062***	-0.125***	0.073***	-0.073***	-0.020***	-0.003	-0.039***	0.097***	1

3.4 Results

Table 3.3 presents the results of hypotheses testing for the full sample of countries. In Model 1, I run the logistic model regression without the country fixed effects and in Model 2 I run the same regression including the country fixed effects. In the first model, the pseudo- R^2 is 12.32%. Model 1 supports first hypothesis that higher international scope (*IntlScope*) is positively associated with the probability of using more external auditor (*ExtAudUse*). In this case the results are significant at 1%. I also observe empirical support for second hypothesis. Top management experience (*MngExper*) is positively associated with the probability of using external auditor (*ExtAudUse*) at a significance level of 1%. With respect to external financing I find mixed results. I observe a positive relationship between the percentage of working capital financed by external funds (*WCapExtFin*) and the probability of using external auditor (*ExtAudUse*). However, contrary to my expectations, I observe a negative relationship between the percentage of fixed assets financed by external funds (*FAExtFin*) and the probability of using external auditor (*ExtAudUse*). With respect to the fourth hypothesis, I find strong support that private foreign ownership (*PrivForOwn*) is positively associated with employing external auditors (*ExtAudUse*) by private firms. I also find support for fifth hypothesis. I report a negative relationship between ownership concentration (*OwnCon*) and external audit (*ExtAudUse*) use by private firms. From the results I not find evidence to support the last hypothesis. The results shows that increase in private domestic ownership is negatively associated with external audit use by private firms.

When I include country fixed effects in the model, the pseudo- R^2 increases to 26.33%. Coefficient estimates for these country fixed effect dummies are suppressed for brevity. However, the inclusion of fixed effects into the model changed the results significantly. The results show

that only hypothesis 1 is supported and I find partial support for hypothesis 3; percentage of working capital financed by external funding (*WCapExtFin*) is positively associated with external audit use (*ExtAudUse*) by private firms. The remaining explanatory variables are statistically insignificant. Therefore, I ultimately conclude that the main factor which is significantly and positively associated with external audit use is the firm's extent of international activity.

Table 3.3: Logistic Regression (all countries)

Table 3.3 displays the results of logistic regression for all countries. I use both Model 1 and 2 in the regression to predict the likelihood of using external audit use. The measurements of variables are defined in Table 3.2. Country Codes are used as fixed effects. ***, **, * denote significance at 1%, 5% and 10%, respectively.

t-statistics are in parentheses.

	External Audit Usage (ExtAudUse)	
	1	2
Intercept	-0.4272*** (-3.22)	0.0866 (-0.38)
Size	0.7956*** (48.42)	0.9333*** (48.32)
PrivDomOwn	-0.0054*** (-5.17)	-0.0067*** (-5.84)
PrivForOwn	0.006*** (5.33)	0.0013 (-1.05)
OwnConc	-0.0059*** (-12.54)	-0.0009 (-1.61)
MngExper	0.0069*** (6.85)	0.0018 (-1.51)
IntlScope	0.0023*** (4.13)	0.0027*** (4.37)
WCapExtFin	0.0011*** (3.97)	0.0034*** (7.67)
FAExtFin	-0.0009*** (-3.5)	-0.0013*** (-4.53)
Privllc	-0.1931** (2.49)	0.1058 (-1.21)
SoleProp	-0.6629*** (-8.1)	-0.6813*** (-7.1)
Part	-0.2228*** (-2.62)	-0.4909*** (-4.97)
LtdPart	-0.2145** (-2.48)	-0.0677 (-0.66)
Country Fixed Effects	No	Yes
N	38,785	38,785
Pseudo-R ²	0.1232	0.2633

In Table 3.4, I stratify the sample as per economic development into five groups and repeat the regressions for Model 1 (Table 3.4) and Model 2 (Table 3.5). For lower income countries the most important factors associated with the likelihood of using external auditors (*ExtAudUse*) are top management experience (*MngExper*), private foreign ownership (*PrivForOwn*) and ownership concentration (*OwnCon*) whereas, for the lower middle income group, international scope (*IntlScope*), ownership concentration (*OwnCon*) and working capital external financing (*WCExtFin*) are significantly associated with the use of external auditors (*ExtAudUse*) by privately-held firms. In the upper middle income countries, the only factor that I found significant is working capital external financing (*WCExtFin*). In the high income OECD only countries, private foreign ownership (*PrivForOwn*) is statistically significant. Lastly, in the high income Non-OECD countries I found international scope (*IntlScope*) and working capital external financing (*WCExtFin*) as significant factors. In summary, the analysis shows that the factors associated with external auditor use by private firms vary across countries pertaining to different economic development category.

Table 3.4: Logistic Regression – Country Clusters (without country effects)

Table 3.4 shows the results of logistic regressions using country clusters. I use Model 2 (without country effects) in the regression to predict the likelihood of using external audit use. The measurements of variables are defined in Table 3.2. Country Codes are used as fixed effects. ***, **, * denote significance at 1%, 5% and 10%, respectively. *t*-statistics are in parentheses.

	External Audit Usage (<i>ExtAudUse</i>)				
	Lower Income	Lower Middle Income	Upper Middle Income	High Income OECD	High Income Non-OECD
Intercept	-0.581* (-1.79)	0.1703 (-0.63)	-0.1744 (-0.86)	-2.5192*** (-4.03)	-1.1773** (-2.05)
Size	0.717*** (16.58)	0.7704*** (23.28)	0.6857*** (25.69)	1.1556*** (15.59)	1.0773*** (22.42)
PrivDomOwn	-0.0012 (-0.45)	-0.0096*** (-4.26)	-0.0045*** (-2.83)	0.0016 (-0.37)	-0.0078** (-2.03)
PrivForOwn	0.0052* (1.86)	0.0039 (-1.6)	0.0035** (2.05)	0.0113** (2.35)	0.0071* (1.7)
OwnConc	-0.0043*** (-3.14)	-0.0096*** (-9.99)	-0.0021*** (-2.75)	0.0026 (-1.23)	-0.004*** (-3.13)
MngExper	0.0117*** (4.16)	0.0113*** (5.41)	0.0046*** (2.85)	-0.0214*** (-4.63)	0.0098*** (3.08)
IntlScope	-0.003** (-2.39)	0.0014 (-1.3)	0.0035*** (3.47)	0.0007 (-0.28)	0.0078*** (4.35)
WCapExtFin	-0.0021** (-2.47)	-0.0024*** (-4.37)	-0.0026*** (-5.65)	-0.0001 (-0.08)	0.0087*** (10.14)
FAExtFin	-0.0004 (-0.62)	-0.0006 (-1.22)	-0.0001 (-0.24)	-0.0013 (-1.1)	-0.0033*** (-4.32)
Privllc	0.2155 (-1.09)	0.3589** (2.34)	-0.2882*** (-2.61)	0.7244** (2.01)	-0.8392** (-2)
SoleProp	-1.3406*** (-6.61)	-0.5314*** (-3.37)	-0.296** (-2.42)	-0.2111 (-0.54)	-0.8605* (-1.95)
Part	-0.4734** (-2.3)	-0.3491** (-2.16)	0.1043 (-0.8)	-0.1199 (-0.29)	0.1225 (-0.26)
LtdPart	-0.2229 (-1.09)	-0.8777*** (-5.24)	0.2041 (-1.5)	0.4215 (-1.07)	1.8173*** (3.62)
Country Fixed Effects	No	No	No	No	No
N	6,752	11,330	13,279	2,026	5,398
Pseudo R ²	0.1772	0.1789	0.0695	0.1988	0.2037

Table 3.5: Logistic Regression – Country Clusters (with country effects)

Table 3.5 shows the results of logistic regressions using country clusters. I use Model 2 (without country effects) in the regression to predict the likelihood of using external audit use. The measurements of variables are defined in Table 3.2. Country Codes are used as fixed effects. t-statistics are in parentheses.

	External Audit Usage (ExtAudUse)				
	Lower Income	Lower Middle Income	Upper Middle Income	High Income OECD	High Income Non-OECD
Intercept	-0.3535 (-0.89)	-2.12*** (-5.79)	-1.6518*** (-6.18)	-3.1472*** (-4.68)	-0.3819 (-0.59)
Size	0.8477*** (16.9)	0.9874*** (24.14)	0.8115*** (26.98)	1.2243*** (15.6)	1.077*** (21.21)
PrivDomOwn	-0.001 (-0.36)	-0.0147*** (-5.89)	-0.0058*** (-3.32)	0.0017 (-0.38)	-0.0062 (-1.58)
PrivForOwn	0.006** (2.06)	-0.0058** (-2.17)	0.0008 (-0.44)	0.0113** (2.25)	0.0058 (-1.34)
OwnConc	-0.0032** (-2.01)	-0.0041*** (-3.5)	0.0016* (1.86)	0.0035 (-1.62)	-0.0006 (-0.43)
MngExper	0.0156*** (5.02)	-0.0018 (-0.7)	0.0027 (-1.45)	-0.016*** (-3.33)	3.76 (0.00)
IntlScope	0.002 (-1.47)	0.0037*** (2.98)	0.0014 (-1.27)	0.0018 (-0.75)	0.0042** (2.24)
WCapExtFin	0.0046*** (4.31)	0.003*** (3.31)	0.0022*** (2.95)	-0.0004 (-0.19)	0.0051*** (4.59)
FAExtFin	-0.0007 (-1.03)	-0.0017*** (-2.92)	-0.0008* (-1.66)	-0.0015 (-1.18)	-0.0029*** (-3.58)
Privllc	0.0786 (-0.33)	0.4403** (2.33)	-0.0187 (-0.16)	1.0189** (2.53)	-0.5013 (-1.15)
SoleProp	-1.1157*** (-4.39)	-0.3589* (-1.82)	-0.4516*** (-3.17)	0.158 (-0.38)	-0.7873* (-1.69)
Part	-0.6818*** (-2.69)	-0.4715** (-2.35)	-0.3078** (-2.08)	0.2659 (-0.58)	-0.8235* (-1.66)
LtdPart	0.1015 (-0.38)	-0.2565 (-1.25)	0.0086 (-0.06)	0.344 (-0.85)	0.3907 (-0.73)
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes
N	6,752	11,330	13,279	2,026	5,398
Pseudo R ²	0.2707	0.3347	0.1806	0.2266	0.2602

To test for conditional heteroskedasticity, the Breusch Pagan/Cook Weisberg test is performed. The results provide evidence for the existence of heteroskedasticity in the main logistic regression (chi-square=98). In order to test the robustness of the results, I use the Weighted Least Square technique to estimate a Linear Probability Model as prescribed by Wooldridge (2012). Except for the international scope (IntlScope), the results of the model tend to be in line with the main logistic regressions.

Table 3.6: Robustness Test - Weighted Least Square

Table 3.6 shows the weighted least square estimation as robustness check. The measurements of variables are described in Table 3.2. ***, **, * denote significance at 1%, 5% and 10%, respectively

	Weighted Least Square	
	Coeff.	<i>t</i> -stat
Intercept	0.3857***	13.79
Size	0.1816***	51.85
PrivDomOwn	-0.0012***	-5.59
PrivForOwn	0.0005**	2.15
OwnConc	-0.001***	-10.4
MngExper	0.0018***	8.6
IntlScope	-0.0006***	-6.56
WCapExtFin	0.0002***	3.94
FAExtFin	-0.0003***	-6.14
Privllc	-0.0376**	-2.39
SoleProp	-0.1477***	-8.93
Part	-0.0395**	-2.25
LtdPart	-0.0583***	-3.32

3.5 Conclusions and Policy Implications

The primary purpose of this paper was to perform an empirical inquiry into the external monitoring of privately held firms. To partially answer this question, I examined private firms from 114 countries across a spectrum of economic conditions over the 2006-2012 period. I argue that external audits are a good proxy for external monitoring activities. Based on the analysis, I conclude that there is not a single set of “universal” factors associated with firms’ decision to allow external monitoring, namely, the use of external auditors. I observe that factors associated with such practice differ across the various stages of economic development. The full sample analysis reveals that international scope (direct export as a percentage of sales) is the most important variable in explaining the likelihood of engaging external auditors. However, when I stratify the sample across a spectrum of economic development categories, international scope remains important for only lower middle and high income non-OECD countries. The results further confirm that firms with international exposure tend to use the services rendered by the external auditors either due to coercive or mimetic isomorphism.

This area is ripe for future research. A natural extension could include other important variable that might add more explanatory power to the model. One important variable to consider is local culture, traditions and practice. Stulz and Williamson (2003) explore differences in culture and investor protection. In their study they explicitly point out the various dimensions in which culture can affect finance. For example, charging interest is prohibited in many Islamic countries. Second, culture plays an important role in determining the legal system and investor protection. Third, culture also dictates allocation of resources in an economy. In addition, other factors that may enhance the model are key macroeconomic variables such as gross domestic product, literacy rate, human development index, and inflation rate. There are major policy implications for this

study including the need for promoting uniform standards on external monitoring across the global landscape. The lack of uniformity is somewhat surprising given the gradual convergence of GAAP and IFRS accounting standards. From a capital allocation standpoint, any distortions between accountings standards creates a drag on international investment returns due to additional analysis to foster comparability. Further, a voluntary adoption of such standards should be the first phase of such initiatives. A possible forum for discussing the initial standards could be a globally recognized institution such as the CFA Institute, Global Association of Risk Professionals (GARP) and similar other institutions.

Chapter 4: Summary and conclusion

4.1 Summary and conclusions

In the first essay using a sample of 638 firms that become zero debt firms and a set of control firms (matched on size, industry, and profitability), during the 1997-2013 period. I investigate changes in a number of firm characteristics surrounding the change in debt policy (i.e., becoming unlevered). I use this sample of firms, and a control sample of firms to investigate why firms may lower debt, and add more insight to the zero-leverage puzzle. The main findings are that tax based explanations, market timing explanations do not explain the observed behavior of these firms that become totally unlevered. The findings are most consistent with the pecking order theory (Myers and Majluf, 1984) and with Jensen's (1986) theory of free cash flows, where managers use either debt (i.e., the interest associated with the debt) and/or dividends to pay out excess cash. I also investigate whether financial constraint is somehow related to the decision to become debt free. But, I do not find any evidence that is consistent with this notion. Finally, I find that the sample firms are not screened out of the debt markets as I report that a large amount of the sample firms keep lines of credit open, but simply do not use them.

The primary purpose of the second essay was to perform an empirical inquiry into the external monitoring of privately held firms. To partially answer this question, I examined private firms from 114 countries across a spectrum of economic conditions over the 2006-2012 period. I argue that external audits are a good proxy for external monitoring activities. Based on the analysis, I conclude that there is not a single set of "universal" factors associated with firms' decision to allow external monitoring, namely, the use of external auditors. I observe that factors associated with such practice differ across the various stages of economic development. The full sample analysis reveals that international scope (direct export as a percentage of sales) is the most important

variable in explaining the likelihood of engaging external auditors. However, when I stratify the sample across a spectrum of economic development categories, international scope remains important for only lower middle and high income non-OECD countries. The results further confirm that firms with international exposure tend to use the services rendered by the external auditors either due to coercive or mimetic isomorphism.

This area is ripe for future research. A natural extension could include other important variable that might add more explanatory power to the model. One important variable to consider is local culture, traditions and practice. Stulz and Williamson (2003) explore differences in culture and investor protection. In their study they explicitly point out the various dimensions in which culture can affect finance. For example, charging interest is prohibited in many Islamic countries. Second, culture plays an important role in determining the legal system and investor protection. Third, culture also dictates allocation of resources in an economy. In addition, other factors that may enhance the model are key macroeconomic variables such as gross domestic product, literacy rate, human development index, and inflation rate. There are major policy implications for this study including the need for promoting uniform standards on external monitoring across the global landscape. The lack of uniformity is somewhat surprising given the gradual convergence of GAAP and IFRS accounting standards. From a capital allocation standpoint, any distortions between accountings standards creates a drag on international investment returns due to additional analysis to foster comparability. Further, a voluntary adoption of such standards should be the first phase of such initiatives. A possible forum for discussing the initial standards could be a globally recognized institution such as the CFA Institute, Global Association of Risk Professionals (GARP) and similar other institutions.

References

- Abdel-Khalik, A. R. (1993). Why do private companies demand auditing? A case for organizational loss of control. *Journal of Accounting, Auditing & Finance*, 8(1), 31-52.
- Agrawal, A., & Nagarajan, N. J. (1990). Corporate capital structure, agency costs, and ownership control: The case of all-equity firms. *The Journal of Finance*, 45(4), 1325-1331.
- Altman, E. I. (1984). A further empirical investigation of the bankruptcy cost question. *The Journal of Finance*, 39(4), 1067-1089.
- Ashbaugh, H., and Warfield, T. D. (2003). Audits as a corporate governance mechanism: Evidence from the German market. *Journal of International Accounting Research*, 2(1), 1-21.
- Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *The Journal of Finance*, 57(1), 1-32.
- Berger, P. G., Ofek, E., & Yermack, D. L. (1997). Managerial entrenchment and capital structure decisions. *The Journal of Finance*, 52(4), 1411-1438.
- Bessler, W., Drobetz, W., Haller, R., & Meier, I. (2013). The international zero-leverage phenomenon. *Journal of Corporate Finance*, 23, 196-221.
- Big4.com 2013. The 2012 big four firms performance analysis, January
(<http://www.big4.com/wpcontent/uploads/2013/01/The-2012-Big-Four-Firms-Performance-Analysis.pdf>) Accessed 19 December 2015.

- Bilsen, V., and Konings, J. (1998). Job creation, job destruction, and growth of newly established, privatized, and state-owned enterprises in transition economies: Survey evidence from Bulgaria, Hungary, and Romania. *Journal of Comparative Economics*, 26(3), 429-445.
- Byoun, S., & Xu, Z. (2013). Why do some firms go debt free? *Asia-Pacific Journal of Financial Studies*, 42(1), 1-38.
- Chaney, P. K., Jeter, D. C., and Shivakumar, L. (2004). Self-selection of auditors and audit pricing in private firms. *The Accounting Review*, 79(1), 51-72.
- Chen, F., Hope, O. K., Li, Q., and Wang, X. (2011). Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review*, 86(4), 1255-1288.
- Choi, F D S., and Mueller, G. (1992). 'International Accounting.' Englewood Cliffs, Prentice-Hall, New Jersey, pp.15-79.
- Christopher, J. (2010). Corporate governance—A multi-theoretical approach to recognizing the wider influencing forces impacting on organizations. *Critical Perspectives on Accounting*, 21(8), 683-695.
- Dang, V. A. (2013). An empirical analysis of zero-leverage firms: New evidence from the UK. *International Review of Financial Analysis*, 30, 189-202.
- DeAngelo, H., & DeAngelo, L. (2007). Capital structure, payout policy, and financial flexibility. *Marshall School of Business Working Paper No. FBE*, 02-06.
- DeAngelo, H., & Masulis, R. W. (1980). Leverage and dividend irrelevancy under corporate and personal taxation. *The Journal of Finance*, 35(2), 453-464.

- DeAngelo, H., & Roll, R. (2015). How stable are corporate capital structures? *The Journal of Finance*, 70(1), 373-418.
- Dedman, E., and Kausar, A. (2012). The impact of voluntary audit on credit ratings: evidence from UK private firms. *Accounting and Business Research*, 42(4), 397-418.
- Dedman, E., Kausar, A., and Lennox, C. (2014). The demand for audit in private firms: recent large-sample evidence from the UK. *European Accounting Review*, 23(1), 1-23.
- Denis, D. J. (2011). Financial flexibility and corporate liquidity. *Journal of Corporate Finance*, 17(3), 667-674.
- Devos, E., Dhillon, U., Jagannathan, M., & Krishnamurthy, S. (2012). Why are firms unlevered? *Journal of Corporate Finance*, 18(3), 664-682.
- DiMaggio, P. J., and Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147-160.
- D'Mello, R., & Gruskin, M. (2014). Are the benefits of debt declining? The decreasing propensity of firms to be adequately levered. *Journal of Corporate Finance*, 29, 327-350.
- Donaldson, T., and Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65-91.
- Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, 14(1), 57-74.
- Evans, J. H., and Patton, J. M. (1987). Signaling and monitoring in public-sector accounting. *Journal of Accounting Research*, 130-158.

- Fama, E. F., & French, K. R. (2002). Testing trade-off and pecking order predictions about dividends and debt. *Review of Financial Studies*, 15(1), 1-33.
- Fan, J. P., and Wong, T. J. (2005). Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. *Journal of Accounting Research*, 43(1), 35-72.
- Faulkender, M., Flannery, M. J., Hankins, K. W., & Smith, J. M. (2012). Cash flows and leverage adjustments. *Journal of Financial Economics*, 103(3), 632-646.
- Frank, M. Z., & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, 67(2), 217-248.
- Garvey, G. T., & Hanka, G. (1999). Capital structure and corporate control: The effect of antitakeover statutes on firm leverage. *The Journal of Finance*, 54(2), 519-546.
- Graham, J. R. (1996). Proxies for the corporate marginal tax rate. *Journal of Financial Economics*, 42(2), 187-221.
- Graham, J. R. (2000). How big are the tax benefits of debt? *The Journal of Finance*, 55(5), 1901-1941.
- Graham, J. R. (2006). A review of taxes and corporate finance. *Now Publishers Inc.*
- Graham, J. R., & Harvey, C. R. (2001). The theory and practice of corporate finance: Evidence from the field. *Journal of Financial Economics*, 60(2), 187-243.
- Gruber, M. J., & Warner, J. B. (1977). Bankruptcy costs: Some evidence. *The Journal of Finance*, 32(2), 337-347.

- Guedhami, O., Pittman, J. A., and Saffar, W. (2009). Auditor choice in privatized firms: Empirical evidence on the role of state and foreign owners. *Journal of Accounting and Economics*, 48(2), 151-171.
- Guedhami, O., Pittman, J. A., and Saffar, W. (2014). Auditor choice in politically connected firms. *Journal of Accounting Research*, 52(1), 107-162.
- Harris, M., & Raviv, A. (1990). Capital structure and the informational role of debt. *The Journal of Finance*, 45(2), 321-349.
- Heinkel, R. (1982). A theory of capital structure relevance under imperfect information. *The Journal of Finance*, 37(5), 1141-1150.
- Jensen, M. C. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *Corporate Finance, and Takeovers. American Economic Review*, 76(2).
- Jensen, M. C., and Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Ju, N., R. Parrino, A. M. Potoshman and M. S. Weisbach, (2005). Horse and Rabbits? Optimal Dynamic Capital Structure from Shareholder and Manager Perspective. *Journal of Financial and Quantitative Analysis*, 40, 259-281
- Judge, W., Li, S., and Pinsker, R. (2010). National adoption of international accounting standards: An institutional perspective. *Corporate Governance: An International Review*, 18(3), 161-174.
- Karjalainen, J. (2011). Audit quality and cost of debt capital for private firms: Evidence from Finland. *International Journal of Auditing*, 15(1), 88-108.

- Korajczyk, R. A., & Levy, A. (2003). Capital structure choice: macroeconomic conditions and financial constraints. *Journal of Financial Economics*, 68(1), 75-109.
- Korteweg, A. (2010). The net benefits to leverage. *The Journal of Finance*, 65(6), 2137-2170.
- Laeven, L. (2001). Insider lending and bank ownership: The case of Russia. *Journal of Comparative Economics*, 29(2), 207-229.
- Langli, J.C., and Svanström, T. (2013). Audits of private firms. *Working Paper, Center for Corporate Governance Research, BI Norwegian Business School*.
- Leland, H. E. (1994). Corporate debt value, bond covenants, and optimal capital structure. *The Journal of Finance*, 49(4), 1213-1252.
- Lennox, C. S., and Pittman, J. A. (2011). Voluntary audits versus mandatory audits. *The Accounting Review*, 86(5), 1655-1678.
- Lins, K. V., Servaes, H., & Tufano, P. (2010). What drives corporate liquidity? An international survey of cash holdings and lines of credit. *Journal of Financial Economics*, 98(1), 160-176.
- Lynall, M. D., Golden, B. R., and Hillman, A. J. (2003). Board composition from adolescence to maturity: A multitheoretic view. *Academy of Management Review*, 28(3), 416-431.
- Mackie-Mason, J. K. (1990). Do taxes affect corporate financing decisions? *The Journal of Finance*, 45(5), 1471-1493.
- Marchica, M. T., & Mura, R. (2010). Financial flexibility, investment ability, and firm value: evidence from firms with spare debt capacity. *Financial Management*, 39(4), 1339-1365.
- McConnell, J. J., and Servaes, H. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial Economics*, 27(2), 595-612.

- Mead, D. C., and Liedholm, C. (1998). The dynamics of micro and small enterprises in developing countries. *World development*, 26(1), 61-74.
- Menon, K., and Williams, D. D. (1991). Auditor credibility and initial public offerings. *Accounting Review*, 313-332.
- Miller, M. H. (1977). Debt and taxes. *The Journal of Finance*, 32(2), 261-275.
- Minton, B. A., & Wruck, K. H. (2002). Financial conservatism: Evidence on capital structure from low leverage firms. *Ohio State University, Working Paper (2001)*
- Morellec, E. (2004). Can managerial discretion explain observed leverage ratios? *Review of Financial Studies*, 17(1), 257-294.
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2), 147-175.
- Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(2), 187-221.
- Noe, T. H. (1988). Capital structure and signaling game equilibria. *Review of Financial Studies*, 1(4), 331-355.
- Ross, S. A. (1977). The determination of financial structure: the incentive-signaling approach. *The Bell Journal of Economics*, 23-40.
- Shivakumar, L. (2000). Do firms mislead investors by overstating earnings before seasoned equity offerings?. *Journal of Accounting and Economics*, 29(3), 339-371.
- Strebulaev, I. A., & Yang, B. (2013). The mystery of zero-leverage firms. *Journal of Financial Economics*, 109(1), 1-23.

- Stulz, R. M., and Williamson, R. (2003). Culture, openness, and finance. *Journal of Financial Economics*, 70(3), 313-349.
- Sufi, A. (2009). Bank lines of credit in corporate finance: An empirical analysis. *Review of Financial Studies*, 22(3), 1057-1088.
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *The Journal of Finance*, 43(1), 1-19.
- Waddock, S. A., Bodwell, C., and Graves, S. B. (2002). Responsibility: The new business imperative. *The Academy of Management Executive*, 16(2), 132-148.
- Watts, R., and Zimmerman, J. (1981). The markets for independence and independent auditors. *Unpublished manuscript (University of Rochester, Rochester, NY)*.
- Wooldridge, J. (2012). *Introductory econometrics: A modern approach*. Cengage Learning.

Appendix 1

Variables	Proxies	Variable Type	Functional Form
International Scope (<i>IntlScope</i>)	Direct Exports (% of Sales)	Exogenous	Continuous
Senior Management Experience (<i>MngExper</i>)	Top Management's Years of experience in the sector	Exogenous	Continuous
External Financing (<i>WCapExtFin</i> , <i>FAExtFin</i>)	% of Working Capital Financed Externally (from banks, suppliers, etc.) % of Fixed Asset Purchase Financed Externally (from banks, suppliers, etc.)	Exogenous	Continuous
Private Foreign Ownership (<i>PrivForOwn</i>)	% of Foreign Ownership	Exogenous	Continuous
Concentration of Ownership (<i>OwnCon</i>)	% of the firm owned by the largest owner(s)	Exogenous	Continuous
Private Domestic Ownership (<i>PrivDomOwn</i>)	% of the firm owned by the private owner(s)	Exogenous	Continuous
External Audit Use (<i>ExtAudUse</i>)	1 or 0 (binary)	Endogenous	Binary
Organizational Form (<i>Privllc</i> , <i>SoleProp</i> , <i>Part</i> , <i>LtdPart</i>)	Private LLC, Sole Prop, Partnership, Limited Partnership, Other (Base)	Control Variable	Binary
Firm Size (<i>Size</i>)	1: < 20 employees 2: 20 – 99 employees 3: >= 100 employees	Control Variable	Ordinal
Country Code		Fixed Effects	

Vita

Sayan Sarkar earned his Bachelor of Arts (Economics) from Delhi University (India) in 2006. He received his Master of Arts in Banking and Finance in 2009 from Sheffield Hallam University (UK). He earned his Master of Business Administration in 2012 from the University of Texas at El Paso. In 2012, he joined the Doctoral Program in International Business with a concentration in Finance at The University of Texas at El Paso. He has been the recipient of numerous honors and awards including Cardwell Graduate Fellowship at the University of Texas at El Paso. While pursuing his degree, he worked as a research assistant and assistant instructor for the department of Economics and Finance and also at Accounting and Information Systems. He taught various courses in Economics, Finance, and Accounting in the undergraduate level at the University of Texas at El Paso. He has presented his research at many major finance and accounting conferences (e.g., Financial Management Association, Eastern Finance Association, Midwest Finance Association, and American Accounting Association). Some of his research work is now in the process of publication at renowned journals in finance and accounting. His research and teaching interests include corporate finance, capital markets, and financial accounting.

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