# Firm Characteristics and the Choice between Straight Debt and Convertible Debt among Malaysian Listed Companies

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## Abstract

The study investigates the relationship between firm specific characteristics and choices between straight debt and convertible debt issuances by Malaysian listed companies. The unique irredeemable feature of most convertible debts issued in Malaysia and the fast growth of the Malaysian bond market following the Asian economic crisis render this study to be conducted. Seven firm characteristics variables were selected based on previous literature namely tax consideration, debt ratio, tangibility, firm size, growth opportunities, profitability, and net operating cash flow. The result concludes that relatively smaller companies with lower debt tax shield, higher debt ratio, lower profitability and lower growth opportunity are more likely to issue convertible debt. The findings are consistent with the trade-offs theory where tax consideration and bankruptcy are given due attention in financing decision but does not provide support for the 'risk shifting hypothesis' and 'backdoor listing hypothesis'.

**Keywords:** Convertible debts, Security choice, Malaysian capital market, Capital structure, ICULS

## 1. Introduction

Many theories are posted to explain how capital structure and financing choices effect firm values in the context of imperfect capital market, among the widely cited theories are the static trade-off theory (De Angelo & Masulis, 1980), pecking order hypothesis (Myer, 1984) and free cash flow hypothesis (Jensen, 1986). The same theories can be referred to in explaining how firms related factors may influence the financing choice between debt and equity by assuming that firms make the decisions with the aim to maximise shareholders wealth. Based on this literature, main factors that are theorised to have some influence over firms' debt-equity decisions are tax consideration, bankruptcy/financial distress costs, level of information asymmetric and agency costs.

Many empirical works has been and are still being conducted in both developed countries and emerging market countries to test the validity and applicability of these theories by examining the relationship between several firm's characteristics, acting as proxies for the above market imperfections, and debt-equity mix, and capital structure (e.g. Campello, 2005; Ross et al., 2005).

The abundant works on determinants of capital structure however have failed to differentiate convertible debt from straight debt. There is a tendency to treat convertible debt as debt instruments with equity features, hence applying traditional capital structure theories in understanding their implications on values and their determinants. Hence, according to Ross et al. (2005) "probably there is no other area of corporate finance where real-world practitioners get as confused as they do on the reasons for issuing convertible debt" (p. 686).

Green (1984), among a few who addresses the effect of convertible debt issuances on values, demonstrates that the substitution of convertible debt for straight debt reduces the agency costs that are caused by bondholder or stockholder conflict of interest. This theory, known as the "risk shifting" hypothesis, argues that when a firm issues straight debt, it creates an incentive for creditors to force the firm into low-risk activities because of restrictive debt covenants. In contrast, holders of common stock have incentive to adopt high-risk projects thus transferring wealth from bondholders to stockholders. If these conflicts cannot be resolved, the firm may be forced to pass up profitable investment opportunities. Nonetheless, because convertible debt has an equity

component, less expropriation of wealth can occur when convertible debt is issued and moreover convertible debt has less restrictive debt covenants than do straight debt (Ross et al., 2005).

The next major development in explaining the financing preference for convertible debt over straight debt came when Stein (1992) proposed the so called "backdoor equity hypothesis". Stein suggests that companies with limited capital and abundant growth opportunities often find themselves in financing bind. However, the owners are reluctant to issue significant amount of straight debt due to high expected costs of financial distress. On the other hand, the management of some growth firms may be unwilling to issue equity if current stock prices do not reflect the firms' growth opportunities since this would cause excessive dilution on existing stockholders' claims. Therefore, convertible debt is preferred in both cases.

Mayers (1998) offers a rationale for Stein's model and extends the "backdoor equity hypothesis". Mayers claims that convertible debt is also a useful security choice when issuers face sequential financing problems; i.e. how to fund not only today's activities, but also tomorrow's opportunities.

The popular arguments among practitioners on the motivation for issuing convertible debt are that convertibles provide issuers with "cheap" debt in the sense that they carry lower coupon rates than straight debts and they allow issuers to sell stock "at a premium" over the current share prices in which the conversion price is higher than the stock price at the issuance date of the convertibles (Mayers, 2000). Moreover, numerous survey studies that are conducted in various developed market (e.g., Billingsley & Smith, 1996; Bancel & Mittoo, 2004) shows that 'debt sweetener' and 'delayed equity' are two attractive features of convertible debt that motivate its issuances.

However, their claims are refuted by academicians. Ross et al. (2005) state that conversion prices should not be compared to the current stock prices since it only compares convertible to straight debt in one set of circumstances; i.e., when the firm's stock does not rise and there is no conversion. In an inefficient market, the issuing firm is worse off having issued convertible debt if the underlying stock subsequently does well and the firm is better off having issued convertible debt if the underlying stock subsequently does poorly. Moreover, the lower coupon rates on convertible are justified by the fact that a convertible debt holder gets the option to buy stock in the future, and since this option has value, firms should be indifferent between issuing convertible debt and issuing straight debt.

In spite of the above debates, a limited number of studies have given attention to examining the determinants of corporate financing choice between straight debt and convertible debt. Moreover, most of them were conducted in developed markets and produce mix results (e.g., Lee & Gentry, 1995; Lewis et al., 1999), and to the authors' knowledge there is no such study done on Malaysian capital market. The fast growth of the bond market in Malaysia following the recovery of the Asian financial crisis provides a good platform to understand the factors influencing the choice between straight debt and convertible debt issuances in emerging market.

The present study hence attempts to understand the motivations for convertible debt issuances in Malaysia and whether the motivations are consistent with that prescribed by existing capital structure theories by investigating the relationship between set of firm specific factors and choice between convertible debts and straight debts issuances.

The study is also inspired by the unique irredeemable feature of most convertible bonds issued in Malaysia. With the irredeemable feature, the bonds are eventually converted to equity, unlike typical convertible debts, in which the convertible feature provides conversion options to them. This unique irredeemable feature couples with Malaysian immature capital market question the generalization of past findings on debt choice decisions to Malaysian companies.

The rest of the paper is organized as follows. Section 2 discusses previous related empirical literature. Section 3 describes the methodology adopted. Section 4 reports key findings of the study, while Section 5 concludes the paper.

## 2. Past related studies

Baxter and Cragg (1970) pioneer the study on determinants of debt, convertible bond, preferred stock and equity issuancesg among corporations. The data consists of 129 US industrial companies that issued securities during the period from 1950 to 1965 and probit and logit models were used to identify the variables that influence choice of securities. They find that the higher the leverage, higher the P/E ratios and lower the total asset, the higher is the probability that a firm will issue equity or equity like securities. This finding indicates the importance placed on bankruptcy cost in financing decision making.

The next important study involving convertible debt issuances comes from Billingsley et al. (1988). Using data on a total of 189 straight debt issues, 205 equity issues and 139 convertible debt issues in the United Kingdom capital market issuers, they model the relationship between securities choice and deviation from target capital structure variables, target ratio proxies, market timing variables and payout ratio. Their univariate analysis shows that the balance sheet of convertible debt issuers are similar to that of the straight debt issuers but the risk-return complexion of convertible debt issuers are more like that of equity issuers. The Logit analyses however show that size is the only significant variable where smaller firms are more likely to issue either equity or convertible.

Jalan and Barone-Adesi (1995) use the 'co-operative game playing model' to compare convertible bonds to straight bonds and found that convertible bonds offer much less trade-off between interest tax shields and cost of financial distress. In the case of straight bonds, higher interest tax shield is only achievable through higher indebtedness, which increases the probability of financial distress. On the other hand, convertible bonds offer the benefit of interest tax shields but do not increase the probability of financial distress as much.

Lee and Gentry (1995) empirically examine the influence of firm's financial health on the choice of financing among straight debt, convertible bond and common stock for 540 US industrial companies that offered securities over the period from 1977 to 1986. They draw upon the findings by Myer and Majluf (1984) related to Pecking Order Hypothesis that market interprets firms offering debt securities as financial stronger than those offering equity securities to argue that straight debt is issued by financial healthier firms while more junior securities such as convertible debt and equity are issued by financial weaker firms. They also support their argument with the contention that financially healthy firms can issue debt because they can fulfil the obligation associated with a higher debt level. Using various cash flows variables, they find that companies that offered straight debt have higher percentage of cash flows from operation and a higher percentage of cash outflows going to dividend vis-à-vis companies that offered equity. The finding provides additional support that US companies follow financing hierarchy under Pecking Order Hypothesis.

Billingsley and Smith (1996) survey managers on the motivations for convertible issuance as well as to examine the relationship between the respective observed market reactions to the use of the convertible debt and the stated motivations for its use. They find that both 'debt sweetener' and 'delayed equity' are selected as the top two choices by a similar number of managers and receive similar rankings. In addition, straight debt is considered as the main alternative to convertibles (35%), followed closely by common stock as the second choice (32%). They conclude that their findings, viewed in the context of the earlier work, confirm a steady trend toward a decreasing reliance on convertibles as delayed equity financing.

Lewis et al. (1999) investigate the influence of pre-offer issue, issuer and microeconomic information on securities choices involving straight debt, convertible debt and equity over the year 1977 and 1984 of US companies in their attempt to test the risk-shifting hypothesis and the backdoor equity financing hypothesis for the "equity-like" convertible debt and "debt-like" convertible debt. Logit model is used. Variables found to be positively related to equity-like security are leverage, growth opportunity, pre announced stock return and share price volatility. On the other hand, tax shield, share price volatility, firm size and issue size are shown to be positively related to debt-like convertible debt. They conclude that firms that issue convertible debt can be categorised into two types, namely those with debt capacity, high investment opportunity and high firm risk that substitute convertible debt for straight debt, and those with high investment opportunity, high financial distress cost and high cost of asymmetric information that substitute convertible debt for equity. Their findings provide empirical support for both of the theories examined.

Given that the issuers do not consider convertible debts and convertible preferred stock as close substitutes, and that the reason behind choosing one of them is unknown, Lee and Figlewicz (1999) examine the issuer characteristics that influence the choice. The sample includes 199 convertible debt and 109 convertible preferred stock issuances announced over the twelve year period from 1977 to 1988 by industrial firms listed on the NYSE/AMEX and the NASDAQ. Logistic regression is used to model the relationship between variables associated with agency, information asymmetry, optimal capital structure, financial distress, and tax benefits hypotheses on the choices between these financing securities. Compared to the issuers of convertible debts, issuers of convertible preferred stocks are found to have weaker financial positions, difficulties in meeting interest payment obligations, inability to take advantage of direct tax benefit through more debt financing due to poorer profit positions, higher debt ratios, more bankruptcy and operating risks, and lower marginal tax rate. The results are concluded to be consistent with the examined hypotheses except the free cash flow hypothesis.

Hovakimian et al. (2001) examines securities choice involving straight debt, convertible debt and preferred stock among US securities issuers during the period 1979 to 1997 using multivariate logit and multinomial logit

regression. The result suggests that when firms raise substantial new capital, their choices move them towards target capital structures as suggested by static trade off theory. However, the tendency to make financing choices that move them towards target debt ratio appeared to be less important when it involves the choice between equity and debt issuance, as compared to when it relates to an equity repurchase or debt retirement choice. Furthermore, the study also shows that stock prices play an important role in determining firms' financing choice. Firms with significant stock price increase are more likely to issue equity and retire debt as opposed to firms with stock price decline. This finding is consistent with the idea that stock prices increases are generally related to improved growth opportunity. The inverse relationship between prior stock return and leverage increasing choices is also consistent with agency models where managers have incentive to increase leverage when stock prices are low. Similarly, the result is consistent with the idea that managers are less likely to issue equity when they view their stock as being underpriced.

Graham and Harvey (2001) examine motivations of convertible issuance in a managerial survey on capital structure policy. In contrast to the findings of Billingsley and Smith (1996) survey, they report that 58% of managers cite 'delayed equity' as the main reason for using convertibles while only 42% cite that it is less expensive than straight debt. One plausible explanation for this difference could be that while Billingsley and Smith (1996) request a response relative to a specific offering among firms that actually issue convertible debt while, Graham and Harvey condition only on whether a firm has seriously considered issuing convertibles.

Bancel and Mittoo (2002) conduct a survey of European managers on their capital structure choices. Their findings are largely consistent with those in Graham and Harvey (2001) but they report significant differences in managerial rankings of determinants of convertible policy across European countries. For example, factors such as the ability to 'call' or the flexibility to force conversion are ranked the lowest in English law countries, and the highest in the Scandinavian law countries while the reverse is true for short-term equity dilution factor. French and German law countries' managers, on the other hand, assign very similar rankings to most factors.

A more updated survey is done among European managers to gain some insights into motivations of convertible issuance by Bancel and Mittoo (2004). The findings reveal that a majority of firms issue convertibles as 'delayed equity' and as 'debt sweetener' and that managers also use convertibles to avoid short-term equity dilution and to signal firm's future growth opportunities. Furthermore, they document a large cross-sectional variation across firms in rationales for issuing convertibles and find mixed support for most theoretical models. The result suggests that the popularity of convertibles is driven primarily by their versatility in adjusting their design to fit the financing needs of individual firms, and by their increased demand among institutional investors

Chen (2004) find evidences inconsistent with the conventional trade-offs model and pecking order hypothesis in the China capital market. The author claims that the capital choice decision of Chinese firms follow a 'new pecking order' – retained earnings, equity and long term debt. This is because the fundamental institutional assumptions underpinning the Western models are not valid in China. These significant institutional differences and financial constraints in the banking sector in China are the factors influencing firms' leverage decision and they are at least as important as the firm-specific factors.

## 3. Research framework

The review of related literature suggests that tax consideration, debt ratio, asset tangibility, size, growth opportunity and profitability are potential firm related factors that may influence choices between straight debts and convertible debts issuances.

### 3.1 Tax considerations

Static trade-off theory emphasises the importance of considering tax saving elements in financing decisions. Chen (2004) and Deesomsak et al. (2004) argue that tax consideration should be measured not only by debt tax shield but also non debt tax shield. Firms can use non-debt tax shield such as depreciation to save corporate tax, thus, a higher non-debt tax shield reduces the importance of debt tax shield. Firms with high non-debt tax shield would therefore have less preference for straight debts. Following Suchard and Singh (2006), non-debt tax shield is defined as the ratio of depreciation to total assets since depreciation is the most significant element among non-debt tax shield, while debt tax shield is defined as the ratio of tax paid over total assets. It is therefore hypothesised that companies with higher tax shield and lower non-debt tax shield are more likely to issue straight debts instead of convertible debts.

### 3.2 Debt Ratio

Debt ratio provides information about the level of protection to creditors from insolvency and the ability of firms to obtain additional financing (Damodaran, 2001). Higher leverage firms are associated with higher probability

of bankruptcy, and are therefore face higher financial distress costs. Consistent with the trade-offs theory, it is hypothesised that firms with lower debt ratio have a higher tendency to issue straight debts instead of convertible debts.

### 3.3 Tangibility

Following the argument in Myers (1984), costs of actual financial distress when financial trouble takes place depend on the tangibility of assets. Firms with more intangible assets face the lack of active secondary market for its intangible assets. Thus, firms with higher amount of intangible portion in its asset composition that issue straight debt are argued to face greater financial distress costs than those that issue convertibles debt. Based on trade-off theory, it is hypothesised that firms with high tangibility are more likely to issue straight debts while firms with lower tangibility are more likely to issue convertible debts.

### 3.4 Firm size

Billingsley et al. (1988) and Deesomsak (2004) use firm size as a proxy for bankruptcy costs since smaller firms are more vulnerable to failure and more risky due to their investment being less diversified. In addition to the impact on financial distress, Frank and Goyal (2003) argues that smaller firms face higher degree of information asymmetry which may increase the cost of debt and/or may result in more restrictive covenants being imposed if straight bonds are issued. Hence, based on the trade-off theory, it is hypothesised that smaller firms are more likely to issue convertible debts while larger firms tend to issue straight debts.

### 3.5 Growth opportunities

Growth opportunities is found by Chen and Zhao (2004) as one of the security issuance choice determinants where their study shows a stronger reliance of firms with higher growth opportunities on debt financing rather than equity financing. They relate this finding to the firms' ability to pay periodic coupon payments and maturity amount due to their stable and predictable stream of cash flows. Based on similar argument, it is thus hypothesised that firms with lower growth opportunities are more likely to issue convertible debts.

On the other hand, Stein's (1992) "backdoor equity financing" model suggested that growth firms may be unwilling to issue equity if current stock prices do not reflect the firms' growth opportunities and at a same time are unable or not willing to secure debt financing due to high expected costs of financial distress. Based on this argument, an opposing hypothesis that high growth firms are more likely to issue convertible debts might be accepted.

### 3.6 Profitability

Profitability influences the amount of firms' internal equity hence based on the pecking order theory, when external financing is sought, profitable firms would be more likely to issue straight debts in order to avoid potential dilution of ownership as argued by Chen and Zhao (2004) and/or to provide favourable signal associated with debt issuances. It is thus hypothesised that lower profitability firms are more likely to issue convertible debts instead of straight debts.

### 3.7 Net operating cash flow (NOCF)

Net operating cash flow (NOCF) is used by Lee and Gentry (1995) as the proxy for firms' financial health. Hence, similar to the earlier argument related to profitability, it is hypothesised that firms that have larger fraction of their total cash inflows from operation activities are more likely to offer straight debts. Further support for this hypothesis also derived from the argument that firms with higher NOCF have higher agency costs, hence based on agency cost theory and free cash flow hypothesis, firms with higher NOCF are more likely to issue straight debts.

### 3.8 Interest coverage

Interest coverage explains the ability of a firm to generate enough income to cover interest expenses and hence can also be used as a proxy for financial distress costs. Firms with higher ratio are predicted to have more debt capacity, thus based on static trade-offs theory it is hypothesised that they are more likely to issue straight debts, instead of convertible debts.

## 4. Data collection and analysis

Firms issuing straight debts and convertible debts from 2001 through 2007 were identified from the Security Commission (SC) website. Initially, there were 396 issuances of straight debt and 56 issuances of convertible debt throughout the period of study. However, only issuances that meet the following requirements were included in the sample:

- The issuing firm was listed either on the Main Board or the Second Board of Bursa Malaysia.

- The issuance was not a revised issuance since the original offering was made prior to year 2001.

- The issuing firm did not undertake securitisation prior to the issuance. The originator or transferor (firm doing the securitisation) would receive favourable financial reporting treatment for the transaction as the debt securities never appear on the transferor's balance sheet (Revsine et al., 2005).

- The issuing firm was a non-finance company. The exclusion of finance companies is due to their remarkably different financial statement structure in compared to non-financial companies (Chen, 2004).

- The issuing firm had a complete set of data hence companies that have been delisted from the Board and companies that were listed on the same year of the issuances are excluded.

The final sample consists of 24 convertible debt issuances and 107 straight debt issuances.

The firm specific factors were calculated based on the average data for three years prior to the offering year. This averaging process would reduce the possibility of measurement error and the effect of random fluctuations in the variables (Deesomsak et al., 2004). In addition, financial information during year of offering was excluded to avoid from redundancy in testing procedure (Lee & Gentry, 1995).

Logit model was applied to examine the impacts of explanatory variables on the characteristics of firms that issue convertible debt versus firms that issue straight debt. More specifically, the following model was tested:

$$SC_i = \beta_1 + \beta_2 NDTS_i + \beta_3 DR_i + \beta_4 TG_i + \beta_5 LNFS_i + \beta_6 GO_i + \beta_7 PR_i + \beta_8 NOCF_i + \beta_9 IC_i + \beta_{10} DTS_i + \varepsilon_i$$

where;

$SC_i$ A dummy variable for security choice for firm i (1 for convertible debt offering and 0 for straight debt offering).

$NDTS_i$ Non debt tax shield for firm $i$, a proxy for tax consideration. It was measured by the ratio of depreciation to total assets at balance sheet.

$DTS_i$    Debt tax shield for firm $i$, another proxy for tax consideration. It was measured by the ratio of tax paid over total assets.

$DR_i$    Debt ratio for firm $i$, determined from the ratio of the book value of total debt to total assets.

$TG_i$    Tangibility for firm $i$, defined as the ratio of total fixed assets to total assets.

$LNFS$    Firm size for firm $i$, measured by the natural log of total assets.

$GO_i$    Growth opportunity for firm $i$, represented by market-to-book ratio as in Barclay et al. (2003) and Chen and Zhao (2004). It is measured by dividing the market price per share by the book value per share.

$PR_i$ Profitability for firm $i$ was defined as the ratio of earnings before interest, tax and depreciation to total assets.

$NOCF_i$  Net operating cash flow for firm $i$.

$IC_i$ Interest coverage for firm $i$ was calculated by dividing earnings before interest and tax (EBIT) by interest.

## 5. Findings

Descriptive analysis and mean comparison of variables modelled in the logit analysis are presented in Table 1 and Table 2 respectively. The results of independent t-tests provides an early indication that firm size (p-value = 0.034) and growth opportunities (p-value = 0.065) affect the choice significantly whereby firms that choose convertible debts are smaller and have lower growth opportunities compared to firms that issue straight debts.

The result of correlation analysis is presented in Table 3. The analysis shows the existence of significant correlation between several independent variables indicating the need to perform multicollinearity check. Multicolinearity check is performed using auxiliary regressions and as result Tangibility (TG) and net operating cash flow (NOCF) were analysed separately from the rest of the variables to overcome the multicollinearity problem. The results of logit regression analysis are presented in Table 4.

The results show that firm size, debt tax shield, profitability and growth opportunity as measured by market to book ratio have negative and significant coefficient. This means that the bigger the firm size, and the higher the debt tax shield, the higher the profitability and the higher the growth opportunity, the less likely for the firm to

issue convertible debts. Debt ratio is shown to have positive and significant coefficient which means the higher the debt ratio the more likely the firm will issue a convertible debt. As for the other hypothesised variables, namely operating cash flow, interest coverage and tangibility, no significant effect is evidenced.

The non-standardized coefficient associated with each significant explanatory variable indicates its marginal effect on the probability of issuing convertible debt. Nager Kerke's pseudo $R^2$ for the four models reported are between 52% and 61%, indicating that the model applies well to the sample data as it explains more than 50% of the probability of issuing convertible debts.

## 6. Conclusion

Prior studies have paid little attention in understanding the corporate choice between straight debts and convertible debts in emerging countries. Henceforth, this study tries to fill this gap by examining the relationship between firm specific variables and the choice between straight debts and convertible debts issuances in the Malaysia capital market. Malaysia provides a good platform for such as a study due to the fast growth of its bond market and the unique irredeemable feature of the convertibles bonds issued in this country, known as ICULS.

The study found that relatively smaller companies with lower debt tax shield, higher debt ratio and lower profitability are more likely to issue convertible debt, instead of straight debt. This finding indicates the important placed by Malaysian companies on reducing bankruptcy costs and tapping the tax benefit of debts as theorised by the static trade-off theory especially given the irredeemable feature of Malaysian convertible debts, whereby the debts are in fact a deferred equity issues by forcing convertible bonds into conversion to equity upon   their expiration.

The study also found a positive relationship between growth opportunity and the probability of issuing straight debt, consistent with Lee and Finglewicz (1999) and Chen and Zhao (2004). However, whether this finding conforms to the trade-off theory or back door listing hypothesis of Stein (1992) depends on whether high growth firms have more expected cost of financial distress or less. While Chen and Zhao argue that higher growth opportunity firms have more stable and predictable cash flows which explains their finding on the strong reliance of firms with high growth opportunity on debt financing rather than equity financing, Myers and Majluf (1984) argue that expected costs of financial distress for high growth opportunity firms are higher than those for low growth opportunity firms. Based on the argument by Chen and Zhou, the finding would support static trade-off theory but reject back door listing hypothesis. Further research is therefore needed to examine the relationship between growth opportunities and expected financial distress costs for Malaysian companies.

The finding related to growth opportunities also seems to support the signalling hypothesis since high growth firms also have been argued to have higher asymmetric information problems (Ross, 1970) and would therefore benefitted more from straight debt issuances which can signal their growth potential.

The insignificance of operating cash flows and tangibility in influencing the choice between straight debt and convertible debt on the other hand is not consistent with the static trade-off theory. However, the result may instead reflects the profit orientation instead of cash flow orientation of Malaysian companies as can be inferred from Deesomsak et al. (2004) and the lack of emphasis on tangibility as a measure of bankruptcy costs. Further studies are suggested to confirm this explanation.

The insignificance of operating cash flows may also indicate that the free cash flow hypothesis and risk shifting hypothesis are not applicable in the Malaysian capital market context. However, further testing utilizing some other agency cost proxies such as ownership related variables and free cash flows is suggested to verify this conclusion.

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Table 1. Sample Descriptive Statistic for Independent Variables

| Variables | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Non-debt tax shield (NDTS) | 0.001 | 5.254 | 0.069 | 0.457 |
| Debt tax shield (DTS) | -0.007 | 10.855 | 0.098 | 0.947 |
| Debt Ratio (DR) | 0.000 | 1.306 | 0.355 | 0.217 |
| Tangibility (TG) | 0.003 | 0.894 | 0.454 | 0.213 |
| Firm Size (FS) | 46.429 | 60134.530 | 3963.188 | 10377.745 |
| Growth Opportunity (GO) | -47.240 | 133.127 | 3.526 | 17.216 |
| Interest Coverage (IC) | -6.512 | 4857.838 | 72.097 | 463.046 |
| Profitability (PR) | -0.118 | 42.956 | 0.429 | 3.746 |
| Net Operating CF (NOCF) | -124.741 | 3750.252 | 279.832 | 790.597 |

Table 2. Mean Comparison between Straight Debt and Convertible Debt Offerings

| Characteristics | Straight Debt | Convertible Debt | t-stat | P-value |
|---|---|---|---|---|
| Debt tax shield (DTS) | 0.0049 | 0.1193 | -0.548 | 0.585 |
| Non debt tax shield (NDTS) | 0.0791 | 0.0240 | -0.543 | 0.588 |
| Debt ratio (DR) | 0.3100 | 1.1694 | 1.397 | 0.175 |
| Tangibility (TG) | 0.4509 | 0.4471 | -0.079 | 0.937 |
| Ln Size LNFS)** | 6.8043 | 6.0111 | -2.138 | 0.034 |
| Growth Opportunity (GO) * | 4.8283 | -2.1899 | -1.859 | 0.065 |
| Interest Coverage (IC) | 88.117 | 0.6433 | -0.853 | 0.395 |
| Profitability (PR) | 0.5189 | 0.0233 | -0.596 | 0.552 |
| Net Operating CF (NOCF) | 310.010 | 139.475 | -0.974 | 0.332 |

***Significant at the 1% level
**     Significant at the 5% level
*       Significant at the 10% level

Table 3. Pearson Correlation between Independent Variables

| | NDTS | DTS | DR | TG | SIZE | GO | IC | PR | NOCF |
|---|---|---|---|---|---|---|---|---|---|
| NDTS | 1 | .99(**) | -.032 | -.138 | -.114 | .014 | -.013 | .999(**) | -.017 |
| DTS | .998(**) | 1 | -.029 | -.155 | -.114 | .005 | -.008 | 1.00(**) | -.032 |
| DR | -.032 | -.029 | 1 | -.142 | -.261** | -.018 | -.042 | -.032 | -.021 |
| TG | -.138 | -.155 | -.142 | 1 | .322** | -.17* | -.038 | -.151 | .43** |
| SIZE | -.114 | -.114 | -.3** | .32** | 1 | -.008 | -.066 | -.114 | .68** |
| GO | .014 | .005 | -.018 | -.175* | -.008 | 1 | -.018 | .008 | -.045 |
| IC | -.013 | -.008 | -.042 | -.038 | -.066 | -.018 | 1 | -.009 | -.041 |
| PR | .10** | 1.0** | -.032 | -.151 | -.114 | .008 | -.009 | 1 | -.027 |
| NOCF | -.017 | -.032 | -.021 | .432** | .675** | -.045 | -.041 | -.027 | 1 |

**    Correlation is significant at the 0.01 level (2-tailed).
*     Correlation is significant at the 0.05 level (2-tailed).

Table 4. Logistic Analysis (p-value is given in parentheses)

| Variable | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
|---|---|---|---|---|---|
| Constant | 7.132** (0.024) | 3.873** (0.011) | -2.697 (0.157) | 0.064 (0.967) | 3.341 (0.034) |
| NDTS | -29.750 (0.234) | - | - | - | - |
| DTS | -281.964*** (0.003) | -124.661** (0.043) | -106.020* (0.097) | - | -197.481*** (0.000) |
| DR | 3.400 (0.133) | - | 1.452 (0.379) | 4.012** (0.014) | - |
| LNFS | -1.124** (0.011) | -0.549** (0.013) | -0.489 (0.33) | -0.295 (0.142) | -0.434* (0.067) |
| MTB | -0.382** (0.035) | -0.271* (0.069) | -0.245 (0.101) | -0.281* (0.057) | -0.318 (0.016) |
| IC | - | -0.146 (0.112) | -0.135 (0.147) | - | - |
| PR | - | - | - | -14.290*** (0.002) | - |
| NOCF | - | - | - | - | -0.003 (0.306) |
| TG | - | - | - | -0.524 (0.967) | |
| Nagerkerke $R^2$ | 0.561 | 0.551 | 0.559 | 0.616 | 0.525 |

Note: The dependent variable is security choice which takes a value of 1 for convertible debts issuance and 0 for straight debt issuance.

*** Significant at the 1% level

**   Significant at the 5% level

*    Significant at the 10% level