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The Role of Accounting Conservatism in the Security Issue Decision

JIA-XUN JIANG *

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ABSTRACT

In this study, I examine the role of accounting conservatism in mitigating debt- and equity-related agency costs in the context of security issue decision. The security issue decision is formulated as the choice among three external financing alternatives, including common equity, straight bonds and convertible bonds. By collecting a sample consisted of Taiwan listed nonfinancial firms that raising external capital during the period from 2000 to 2007, I find that more conservative financial reporting decreases the likelihood of issuing convertible bonds to substitute for common equity and increases the likelihood of issuing common equity instead of straight bonds. Besides, for those firms with growth options, more conservative financial reporting increases the likelihood of issuing convertible bonds to substitute for straight bonds. I also find that, anticipating the security offering generates incremental demands for accounting conservatism during the period preceding the security offering, particularly for common equity issuers. The evidence in this paper supports the role of accounting conservatism in mitigating information asymmetry in the equity market. The documented association between accounting conservatism and convertible bond financing implies that these two mechanisms constitute substitutes in mitigating over-investment or managerial discretion but serve as complements in ameliorating risk shifting or under-investment for firms with growth options.

Keywords: accounting conservatism, convertible bonds, security issue decision, agency cost.

I. INTRODUCTION

As a well-known accounting convention, accounting conservatism, defined as the differential verifiability required for the recognition of economic gains versus losses (Watts 2003a), has influenced accounting practice for at least five hundred years (Basu 1997)[1]. Watts (2003a, 2003b) argues that accounting conservatism has evolved as an efficient contracting technology that helps in reducing the deadweight losses arising from debt- and equity-related agency problems. Extensive research demonstrates the benefits of accounting conservatism in the debt market. For example, Ahmed et al. (2002) find that more conservative

* Jia-Xun Jiang, Associate Professor, Department of Accounting, Fu Jen Catholic University.

[1] I use the concept of conditional conservatism instead of unconditional conservatism to define accounting conservatism because unconditional conservatism play a little role (if any) in contracting, as suggest in the literature (e.g., Ball and Shivakumar 2005).

borrowers have better credit ratings and lower cost of debt. Zhang (2008) documents that lenders offer lower interest rates to more conservative borrowers. Wittenberg-Moerman (2008) shows that timely loss recognition reduces the bid-ask spread in the secondary loan market. There is more limited evidence on the role of conservatism in the equity market. LaFond and Watts (2008) document that information asymmetries between new equity investors and insiders generate demands for accounting conservatism. Garcia Lara et al. (2011) find a negative association between accounting conservatism and the cost of equity capital. Recently, Kim et al. (2013) find that firms with more conservative financial reporting experience less negative market reaction upon seasoned equity offering (SEO) announcements. Watts and Zuo (2011, 2014) find that during the 2008 global financial crisis, firms with more conservative financial reporting experience less negative crisis period stock returns.

Despite extensive evidence demonstrates the benefits of accounting conservatism in the debt market and equity market, there are continuing debates about the relative role of conservatism in the debt markets versus equity markets. For example, using a country-level research design, Ball et al. (2008) show that the demand for accounting conservatism arises primarily from debt market rather than equity market. Their evidence implies that accounting conservatism may be more useful for lenders than for shareholders in enhancing contracting efficiency. One of the reasons that the standard setters (i.e., IASB and FASB) eliminate conservatism (or prudence) from the joint conceptual framework is based on the assertion that conservatism contradicts with neutrality and engenders information asymmetry in the equity market, reducing the information contents of financial accounting information in equity valuation (FASB 2005). Although there are a growing number of studies demonstrating the benefits of accounting conservatism in the equity market, they do not provide direct evidence on the relative role of conservatism in the debt markets versus equity markets.

Security issue decision, formulated in this paper as the choice among three financing alternatives to raise external capitals, including standard securities like common equity and straight bonds, as well as hybrid securities like convertible bonds (Jung, Kim and Stulz 1996; Lewis, Rogalski and Seward 1999), provides a unique setting in which to examine the differential roles of accounting conservatism in the debt market versus equity market. First, most security issuers

raise external capital to exercise their growth options[2]. By their nature, growth options are unverifiable and thus generate information asymmetry between managers and outside investors (Smith and Watts 1992; LaFond and Watts 2008). By examining the relation between accounting conservatism and security issue decision, it may help to provide new evidence about the information role of conservatism in addressing information asymmetry. Second, in the security issue decision, managers choose among equity, debt and hybrid securities. The final choice reflects their trade-offs between debt- and equity-related agency costs. Therefore, the association between accounting conservatism and security choice may provide evidence on the relative role of conservatism in debt market versus equity market. For example, extant research in finance literature indicates that convertible bonds substitute for equity (so-called equity-like convertible bonds) and straight debt (so-called debt-like convertible bonds) to resolve different agency problems (Lewis, Rogalski and Seward 1999). Convertible bonds substitute for common equity to mitigate the adverse selection costs for highly leveraged firms (Stein 1992). Convertible bonds substitute for straight debt to mitigate the risk shifting problems (Green 1984). By examining how accounting conservatism affects the choice among convertible bonds, common equity and straight bonds, it may reveal the differential role of conservatism in addressing various types of agency conflicts.

In this study, I collect a sample consisting of Taiwan listed non-financial firms that raising external capital by issuing common stocks, straight bonds, or convertible bonds during the period from 2000 to 2007[3]. I employ a multinomial logit model to investigate the determinants of security issue decision and use three empirical proxies of conservatism to construct a composite measure of accounting conservatism, including C score suggested by Khan and Watts (2009), the difference between skewness of earnings and skewness of cash flows, and

[2] The mean and median of equity market-to-book ratio for security issuers in my sample during the period 2000-2007 is 1.82 and 1.50, respectively. But the mean and median of equity market-to-book ratio for all listed (including OTC) firms during the corresponding period is 1.45 and 1.17, respectively. The mean difference of equity market-to-book ratio between issuers and non-issuers is significant at the 0.05 level.

[3] I select a sample period from 2000 to 2007 to avoid the potential confounding effects arising from the 2008 global financial crisis and the change in accounting treatment of convertible bonds with reset clauses which was effective after 2008. That accounting change significantly reduces the frequency of the issuance of convertible bonds.

accumulated non-operating accruals (Givoly and Hayn 2000; Beatty, Weber and Yu 2008; Zhang 2008; Kim et al. 2013). I find that *more* conservative financial reporting *decreases* the likelihood of issuing convertible bonds to substitute for common equity and *increases* the likelihood of issuing common equity instead of straight bonds. I also find that as growth option increases, *more* conservative financial reporting *increases* the likelihood of issuing convertible bonds to substituting for straight bonds. After controlling for other sources of demands for accounting conservatism, I find that the financial reporting of convertible bond issuers is *least* conservative among three types of security issuers in the year preceding the security offerings. Besides, the *change* in accounting conservatism of common equity issuers prior to the security offering is significantly positive and more prominent than that of straight bond issuers and convertible bond issuers. The evidence in this paper supports the information role of accounting conservatism in mitigating information asymmetry in the equity market. The documented relations between accounting conservatism and convertible bonds financing imply that these two mechanisms constitute substitutes in resolving over-investment or managerial discretion problems but constitute complements in resolving risk-shifting or under-investment problems for firms with more growth options.

My study contributes to the literature in several ways. First, by investigating the role of accounting conservatism in the context of security issue decision, I provide new evidence about the information role of conservatism in equity market. Second, by examining the interaction between financing choice and accounting conservatism, I brought new insights for the relative role of accounting conservatism in debt market versus equity market. Third, I examine the potential substitute or complementary relationship between convertible bond financing and accounting conservatism to explore the role of conservatism in addressing various types of agency conflicts. Finally, I extend the financing literature by incorporating the role of accounting conservatism in the security issue decision and provide new evidence about the determinants of external financing choice.

The remainder of this paper is organized as follows: Section two reviews the related literature and develops my research hypotheses. Section three explains the research design and sample selection. The empirical results are shown and discussed in Section four. Finally, Section five summarizes and concludes.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Agency cost and security issue decision

2.1.1 Agency cost and capital structure

Jung et al. (1996) propose that the optimal amount of leverage is the amount at which the marginal agency costs of debt equal the marginal agency costs of managerial discretion. Agency costs of debt come from under-investment (Myers 1977) and risk-shifting problems (Jensen and Meckling 1976). Myers (1977) argues that when the firm has risky debt outstanding, it can encourage shareholders abandon investment projects with a positive NPV whenever the NPV of the investment is less than the amount of debt issued. Jensen and Meckling (1976) posit that given the limited liability of shareholders, they are encouraged to undertake investment projects of greater risk and take advantage of the possibility of increasing their benefits at the expense of increasing the risk passing on to the bondholders. One way to control under-investment and risk-shifting problem is to finance growth options with equity rather than debt. Empirical evidence indicates that high-growth firms use less debt in their capital structure (Smith and Watts 1992). The agency costs of managerial discretion may arise from the free cash flow problem. Jensen (1986) suggests that the existence of free cash flows can lead managers to carry out investment projects with a negative NPV. To mitigate the over-investment problem, firms with more free cash flow choose higher level of debt in their capital structure as a credible pre-commitment to pay out the excess cash. Some empirical studies provide evidence consistent with the free cash flow theory and debt-monitoring hypothesis (Maloney et al. 1993; Gul and Tsui 2001). As a competing theory to trade-off theory, pecking order theory posits that financing behavior is driven by adverse selection costs arising from information asymmetry between new investors and managers who maximize the wealth of existing shareholders (Myers 1984; Myers and Majluf 1984). Since equity value is very sensitive to information asymmetry relative to debt issue, it implies a financing hierarchy in which firms prefer internal to external finance and when outside funds are necessary, they prefer debt to equity. Shyam-Sunder and Myers (1999) find empirical supports for the pecking order model but Frank and Goyal (2003) find evidence contrary to the predictions implied by the pecking order model.

2.1.2 The role of convertible bonds in mitigating the agency cost of debt

For firms seeking external capital that confront both high debt- and high equity-related agency costs, several theoretical models suggest that convertible bonds may be structured to mitigate the tensions between debt- and equity-related agency conflicts, including risk-shifting problems (Green 1984); risk uncertainty (Brennan and Schwartz 1988); adverse selection problems (Stein 1992); and over-investment problems (Mayers, 1998). Green (1984) demonstrates that by attaching a conversion option to the bonds, firms issuing convertible bonds allow the bondholders to participate in the upside potential and thus reducing the value of limited liability, it thereby mitigates the risk-shifting problem. Brennan and Schwartz (1988) argue that convertible bonds constitute an ideal financing vehicle for firms subject to high information asymmetry, especially about the riskiness of their assets, because convertible bond values are relatively invariant to risk. Stein (1992) argues that firms may use convertible bonds as an indirect way to get equity into their capital structures when adverse selection problems make a conventional stock issue unattractive and high financial distress costs render an offering of straight bonds too costly. Mayers (1998) argues that corporations may use convertible bonds to solve sequential-financing problems, mitigate the overinvestment problem and minimize the issue costs. Several empirical studies provide evidences consistent with the predictions of these theoretical models, such as Lewis et al. (1999, 2003), Chang et al. (2004), and Krishnaswami and Yaman (2008).

2.2 The role of conservatism in mitigating debt- and equity- related agency costs

2.2.1 The role of conservatism in debt contracting

In the debt contracting process, lenders bear downside risk but have no upside potential. Accordingly, lenders favor mechanisms that mitigate their downside risk. Since conservative financial reporting recognizes economic losses more timely than gains, it is more likely to trigger violations of covenants based on financial statement variables. Accelerated covenant violations benefit lenders ex post by taking protective actions and transfers decision rights more quickly from loss-making managers to lenders. Besides, conservatism decreases information

asymmetry regarding the borrower's performance and creditworthiness and thus assists ex ante pricing of debt (Ahmed et al. 2002; Zhang 2008; Wittenberg-Moerman 2008).

2.2.2 The governance role of conservatism

Accounting conservatism mitigates the moral hazard problem resulting from over-investment and managerial discretion. Watts (2003a, 2003b) argues that timely loss recognition enhances the selection of value-added investment opportunities because if managers know ex ante that losses will be recognized during their tenure, then they would be less likely to make negative-NPV investments. Timely loss recognition also increases managers' incentives to act quickly ex post to limit economic losses and exercise the abandonment options. Besides, conservatism reduces managers' abilities and incentives to overstate earnings by requiring higher verification standards for gain recognition and thus prevents overcompensation of managers. Ahmed and Duellman (2007) and LaFond and Watts (2008) provide empirical evidence supporting that governance structure creates demands for conservatism to address the agency conflicts between insiders and outside shareholders. Jiang and Yeh (2007) find that more dispersed ownership and more effective governance structure generate greater demands for conservatism.

2.2.3 The information role of conservatism

LaFond and Watts (2008) posit that growth options are unverifiable and so generate information asymmetry between managers and outside investors. They argue that conservative accounting may reduce information asymmetries through two channels. First, given managers' incentives to overstate unverifiable gains, verifiable gains are likely to be the only "hard" information accounting can supply on gains. Since loss information is on average more reliable, the net result from conservative accounting then could be the provision of more information than would be provided by an accounting regime that applies equally strong verification standards to both gains and losses. Second, verifiable "hard" information reported by financial accounting provide credible evidence on the outcome of previous investments and growth options and can serve as a benchmark for competing, multiple softer information sources. By comparing those different sources' predictions to the hard numbers that are eventually realized, it enables investors to

evaluate the competing sources' reliability and thus discipline these "soft" information sources to generate credible information on unverifiable gains. LaFond and Watts (2008) document that larger information asymmetries between inside and outside investors generate greater demands for accounting conservatism. They also find that information asymmetry changes lead conservatism changes. Several recent studies provide evidence supporting the role of accounting conservatism in mitigating information asymmetry in the equity market. Garcia Lara et al. (2011) find a negative association between accounting conservatism and the cost of equity capital. Recently, Kim et al. (2013) find that firms with more conservative financial reporting experience less negative market reaction upon seasoned equity offering (SEO) announcements. Watts and Zuo (2011, 2014) find that during the 2008 global financial crisis, firms with more conservative financial reporting experience less negative crisis period stock returns.

2.3 The role of accounting conservatism in the security issue decision

I posit that if accounting conservatism influences debt- and equity-related agency costs in different ways, then it may affect the relative attractiveness of issuing straight bonds versus common equity and may affect the attractiveness of using convertible bonds to substituting for straight bonds or common equity.

2.3.1 Straight bonds versus common equity

I posit that more conservative financial reporting increases the likelihood of issuing common equity instead of straight bonds. It is based on the premise that the marginal net benefits of conservatism in reducing debt-related agency costs are generally less than its marginal net benefits in reducing equity-related agency costs in the context of security issue decision. It comes from several observations. First, the information asymmetry in equity market is substantially greater than bond markets in Taiwan capital market. Institutional investors dominate in the bond market but uninformed individual investors play a major role in the equity market. Second, there are other more costly mechanisms to protect bondholders' rights in the bond market. For example, straight bonds are ratified by credit rating agencies and generally secured by guarantees provided by financial intermediaries or secured by asset collaterals. If the marginal benefits of conservatism in reducing information asymmetry are increasing in the degree of information asymmetry,

then the marginal *information* benefits of conservatism would be greater for investors in equity markets than those in bond markets. For the marginal *governance* benefits, more costly bonding mechanism such as guarantees or collaterals may reduce the marginal benefits of conservatism in controlling bondholders' losses due to over-investment. In contrast, such bonding mechanisms are scarce, if not absent, in the equity market. Finally, debt financing increases the financial distress risk which may be relatively costly for firms with growth options.

Based on the above reasoning, I propose my first hypothesis as follows:

H_1: Ceteris paribus, firms with more conservative financial reporting have higher likelihood to issue common equity instead of straight bonds.

2.3.2 Convertible bonds versus common equity

I posit that more conservative financial reporting decreases the likelihood of issuing convertible bonds to substituting for common equity. Theoretical and empirical studies indicate that firms with significant information asymmetry and high financial distress costs may use convertible bonds to substitute for common equity (Stein 1992; Lewis et al. 1999). Besides, Isagawa (2000) suggests that well-designed convertible bond has an important role in controlling managerial opportunistic behavior. To the extent that accounting conservatism mitigates the information asymmetry between new equity investors and insiders and managerial opportunism (e.g., LaFond and Watts 2008; Kim et al. 2013), it reduces the demands for using convertible bonds to address the adverse selection and moral hazard problems associated with equity financing. Besides, it is costly to use convertible bonds to substitute for common equity for highly leveraged firms because of high financial distress costs[4]. Therefore, more conservative financial reporting may reduce the attractiveness of issuing convertible bonds to substituting for common equity based on cost-benefit considerations.

The above reasoning provides the second hypothesis as follows:

H_2: Ceteris paribus, firms with more conservative financial reporting have lower likelihood to issue convertible bonds instead of common equity.

[4] High financial distress cost is a necessary condition in Stein's model (1992) for convertible bond issuers to signal their optimistic prospects for future stock prices.

2.3.3 Convertible bonds versus straight bonds

Green (1984) suggests that convertible bond is a substitute for straight bonds to mitigate the distortionary investment incentives created by risky straight debt. By inclusion of conversion privileges, it imposes a payoff structure on the shareholders' residual claims that alter the incentives to overinvest in risky projects. I argue that accounting conservatism is less likely to serve as a close substitute for convertible bonds to mitigate the risk shifting problems. Although accounting conservatism may mitigate overinvestment problem by prompting loss recognition and covenant violation when firms incur losses ex post, it does not change the asymmetric payoff nature associated with risky straight debts. To the extent that convertible bonds serve a different role from that played by conservatism in mitigating risk-shifting problem, I do not expect more conservative financial reporting reduces the demands for convertible bond financing as a substitute for straight bonds. On the other hand, conservatism may complement convertible bonds in a sequential financing context. By recognizing losses more timely, conservatism triggers the bond redemption by investors and thus mitigates the over-investment problem. Conservatism may also complement the debt-monitoring role of convertible bonds because the conversion feature of convertible bonds increases the managerial discretion.

Since I have no specific predictions about the relation between conservatism and the likelihood of using convertible bonds to substituting for straight bonds, I state my third hypothesis in null form as follows:

H_3: The level of accounting conservatism does not affect the relative likelihood to issue convertible bonds instead of straight bonds.

III. RESEARCH DESIGN

3.1 Sample selection and description

The sample is selected from Taiwan listed non-financial firms that raising external capital by issuing common stocks, straight bonds, or convertible bonds during the period from 2000 to 2007. I select a sample period from 2000 to 2007 to avoid the potential confounding effects arising from the 2008 global financial crisis and because the change in accounting treatment for convertible bonds with reset clauses was effective after 2008. That accounting change significantly

reduces the frequency of the issuance of convertible bonds. I exclude firms that issue multiple types of securities in the same year. After deleting observations with incomplete data, the final sample comprises 871 security offerings, including 293 common equity offering (33.64%), 258 convertible bond offering (29.62%), and 320 straight bond offerings (36.74%). Table 1 reports a distribution of my sample by time profile and industry classification. Panel A of table 1 shows that there is some clustering of common equity offering during the period post 2005 and straight bond offering during the period prior to 2005. To mitigate the confounding effect resulted from time clustering, I introduce a time dependent dummy variable in the empirical model. Panel C of table 1 shows that firms in the electronic industries represent about 61% of the security offerings in the sample. All data are collected from the databases of Taiwan Economic Journal (TEJ).

3.2 Measures of accounting conservatism

Following Beatty et al. (2008) and Kim et al. (2013), I employ four empirical measures to proxy for accounting conservatism. The first measure, *C_Score*, is estimated based on the model proposed by Khan and Watts (KW) (2009). Based on the Basu (1997) model, KW develop a firm-year conservatism measure by incorporating three firm characteristics that proxy for investment opportunity set and drive conservatism. The *C_Score* is estimated by the following annual cross-sectional regressions:

$$\begin{aligned} Earn_{it} = {} & \beta_1 + \beta_2 DR_{it} + \mu_1 RET_{it} + \mu_2 RET_{it} \times SIZE_{it} + \mu_3 RET_{it} \times MB_{it} \\ & + \mu_4 RET_{it} \times LEV_{it} + \lambda_1 DR_{it} \times RET_{it} + \lambda_2 DR_{it} \times RET_{it} \times SIZE_{it} \\ & + \lambda_3 DR_{it} \times RET_{it} \times MB_{it} + \lambda_4 DR_{it} \times RET_{it} \times LEV_{it} + \varepsilon_{it} \end{aligned} \quad (1)$$

$$C\_Score_{it} = \hat{\lambda}_1 + \hat{\lambda}_2 SIZE_{it} + \hat{\lambda}_3 MB_{it} + \hat{\lambda}_4 LEV_{it} \quad (1a)$$

where $Earn_{it}$ is net income before extraordinary items, deflated by the market value of equity at the end of the prior fiscal year. RET_{it} =the market-adjusted returns from eight months before fiscal year-end t to four months after fiscal year-end t. *DR*=1 if *RET*<0 and equals to zero otherwise. $SIZE_{it}$= the natural log of the market value of equity at the fiscal year-end. MBR_{it} =the

Table 1: Sample Selection and Sample Distribution

Panel A: Sample Selection Process	
Total number of observations of Taiwanese non-financial listed and OTC firms in TEJ database from 2000 to 2007	9552
Less: Number of observations of delisted firms	(38)
Subtotal	9514
Less: Number of observations without issuing any type of securities involving common stocks, convertible bonds or straight bonds	(7552)
Subtotal	1962
Less: Number of observations of firms that simultaneously issued two or more types of securities in the same year	(160)
Subtotal	1802
Less: Number of observations with missing data or extreme values	(931)
Number of observations in the final sample	871
Number of observations involving common equity offerings	293
Number of observations involving convertible bonds (CB) offerings	258
Number of observations involving straight bonds (SB) offerings	320
Total of security offerings included in the final sample	871

Panel B: Sample Distribution by Year

Year	*Equity* Offerings		*CB* Offerings		*SB* Offerings		Total of Offerings	
	Num.	%[a]	Num.	%[a]	Num.	%[a]	Num.	%[b]
2000	34	40.48	8	9.52	42	50.00	84	9.64
2001	12	21.05	9	15.79	36	63.16	57	6.54
2002	24	21.62	29	26.13	58	52.25	111	12.74
2003	22	15.94	39	28.26	77	55.80	138	15.84
2004	23	13.61	78	46.15	68	40.24	169	19.40
2005	50	57.47	16	18.39	21	24.14	87	9.99
2006	78	59.54	38	29.01	15	11.45	131	15.04
2007	50	53.19	41	43.62	3	3.19	94	10.79
Total of years	293	33.64	258	29.62	320	36.74	871	100.0

a. The percentage of the number of particular type of security offerings in the year relative to the total number of the same type of security offerings over all years.

b. The percentage of the number of all security offerings in the particular year relative to the total number of security offerings over all years.

Table 1: Sample Selection and Sample Distribution (Continued)

Panel C: Sample Distribution by Industry

Industry Name	*Equity* Offerings		*CB* Offerings		*SB* Offerings		Total of Offerings	
	Num.	%[a]	Num.	%[a]	Num.	%[a]	Num.	%[b]
Cement	1	0.34	0	0.00	5	1.56	6	0.69
Foods	0	0.00	2	0.78	14	4.38	16	1.84
Plastics	3	1.02	1	0.39	28	8.75	32	3.67
Textiles	14	4.78	2	0.78	15	4.69	31	3.56
Electric Machinery	10	3.41	12	4.65	10	3.13	32	3.67
Electrical and Cable	1	0.34	3	1.16	6	1.88	10	1.15
Glass and Ceramics	1	0.34	0	0.00	1	0.31	2	0.23
Paper and Pulp	0	0.00	0	0.00	3	0.94	3	0.34
Iron and Steel	13	4.44	15	5.81	9	2.81	37	4.25
Rubber	2	0.68	3	1.16	7	2.19	12	1.38
Automobile	0	0.00	2	0.78	0	0.00	2	0.23
Building and Construction	18	6.14	8	3.10	5	1.56	31	3.56
Shipment and Transportation	4	1.37	4	1.55	17	5.31	25	2.87
Tourism	1	0.34	1	0.39	0	0.00	2	0.23
Trading and Consumer	4	1 .37	4	1.55	12	3.75	20	2.30
Others	18	6.14	11	4.26	13	4.06	42	4.82
Chemical	5	1.71	3	1.16	4	1.25	12	1.38
Biotech and Medical	10	3.41	7	2.71	5	1.56	22	2.53
Oil, Gas and Electric	0	0.00	1	0.39	4	1.25	5	0.57
Electronic industries:								
Semiconductor	31	10.58	30	11.63	36	11.25	97	11.14
Computer and Peripheral	30	10.24	18	6.98	42	13.13	90	10.33
Optoelectronic	37	12.63	24	9.30	23	7.19	84	9.64
Communication and Internet	13	4.44	17	6.59	9	2.81	39	4.48
Electronic Parts and Comp.	47	16.04	53	20.54	27	8.44	127	14.58
Electronic Prod. Distribution	14	4.78	18	6.98	9	2.81	41	4.71
Information Service	5	1.71	7	2.71	3	0.94	15	1.72
Other Electronic	11	3.75	12	4.65	13	4.06	36	4.13
Subtotal of Electronic	188	64.16	179	69.38	162	50.63	529	60.73
Total of industries	293	100.00	258	100.00	320	100.00	871	100.00

a. The percentage of the number of particular type of security offerings in the particular industry relative to the total number of the same type of security offerings over all industries.

b. The percentage of the number of all security offerings in the particular industry relative to the total number of security offerings over all industries.

market value of equity at the fiscal year-end., divided by the book value of equity at the fiscal year-end. LEV_{it}=total debt divided by the book value of total assets, at the fiscal year-end. Khan and Watts (2009) argue that larger firms have lower contracting demands for conservatism because they are more mature and have richer information environment, both reduce the overall uncertainty and information asymmetry. Therefore, I expect that $\lambda_2<0$. KW suggest that ending market-to-book ratio is positively associated with conservatism because growth options are positively related to agency costs and agency costs drive demands for conservatism. Accordingly, I expect that $\lambda_3>0$. KW argue that more levered firms have higher demands for conservatism because highly levered firms have more serious agency conflicts between lenders and shareholders. Thus, I predict that $\lambda_4>0$. For each security offering, I estimate C_Score in the year immediately prior to the security offering.

The second measure, *Skewness*, is the difference between the time-series skewness in operating cash flows and earnings (i.e., skewness of operating cash flows– skewness of earnings) (Givoly and Hayn 2000)[5]. Operating cash flows and earnings are both scaled by the average total assets. Following Beatty et al. (2008), the skewness is measured using 20 quarters of data prior to the issue year. Based on Givoly and Hayn (2000), Zhang (2008) demonstrates that if a firm's earnings incorporate bad news immediately but good news gradually, then its earnings are negatively skewed. Accordingly, larger value of *Skewness* represents higher level of conservatism.

The third measure, *Nopaccrual* is the accumulated nonoperating accruals deflated by accumulated total assets over five-year period ending in the year preceding the security offerings, multiplied by (-1). Nonoperating accruals = (net income before extraordinary items – cash flow from operations + depreciation + amortization - Δaccounts receivable - Δinventories - Δother current net operating asset + Δaccounts payable). Givoly and Hayn (2000) suggest the sign and magnitude of accumulated nonoperating accruals as measures of conservatism. They argue that for firms in a steady state with no growth and neutral accounting,

[5] Following the approach used by Beatty et al. (2008), I calculated Skewness by taking the difference between the skewness of cash flows and earnings. I do not employ another approach common in the literature which divides the skewness of earnings by the skewness of cash flows to avoid the distortion resulted from negative skewness of cash flows in the denominator.

earnings converge to cash flows and periodic accruals converge to zero. A consistent predominance of negative accruals across firms over a long period is therefore an indication of conservatism. Accordingly, larger value of *Nopaccrual* represents higher level of conservatism.

The final measure, *Conserv*, is a composite measure calculated as the mean of the percentile ranks of three conservatism measures, *C_Score*, *Skewness*, and *Nopaccrual*[6].

3.3 Model of security choice decision

I adapt the security choice models in the finance literature (Smith and Watts 1992; Jung et al. 1996; Lewis et al. 1999, 2003; Krishnaswami and Yaman 2008) and employ the following multinomial logit model to examine the relation between financial reporting conservatism and security offer choice:

$$\begin{aligned}
&\log\left\{\frac{prob(CB_issue),\ \text{or}\ prob(SB_issue)}{prob(EQ_issue)}\right\}_{it+1} \\
&= \alpha + \beta_1 Conserv_{it} + \beta_2 MBR_{it} + \beta_3 LEV_{it} + \beta_4 Rating_{it} + \beta_5 Deviation_CV_{it} \\
&+ \beta_6 (Deviation_CV_{it})^2 + \beta_7 FCF_{it} + \beta_8 OfferSize_{it} + \beta_9 Volatility_{it} \\
&+ \beta_{10} Size_{it} + \beta_{11} Tax_{it} + \beta_{12} RunUp_STK_{it} + \beta_{13} RunUp_MK_{it} \\
&+ \beta_{14} GNP_growth_{it} + \beta_{15} Time_Dummy_{it} + \varepsilon_{it}
\end{aligned} \tag{2}$$

The dependent variable of the security choice model is a categorical variable to distinguish among three types of security offerings: common equity offering, convertible bond offering and straight bond offering. *Prob* (*CB_issue*), *Prob* (*SB_issue*) and *Prob* (*EQ_issue*) represent the likelihood of issuing convertible bonds, straight bonds, and common equity, respectively.

The explanatory variables include proxy for financial reporting conservatism, *Conserv*; proxy for growth options, *MBR*; proxies for costs of managerial discretion, including *Deviation_CV*, $(Deviation\_CV)^2$, and *FCF*; proxies for asymmetric information, including *OfferSize*, *RunUp_STK*, *RunUp_MK*, and *GNP_growth*; proxies for financial distress costs, including *LEV*, *Rating*, and *Volatility*; and other control variables, including *Size*, *Tax*, and *Time_Dummy*.

Growth options. I measure growth options using the market-to-book ratio of assets,

[6] Beatty et al. (2008) employ a similar approach to construct a composite measure of conservatism.

measured at the end of the fiscal year prior to the security offering. The market value of the firm is defined as (the book value of total assets – the book value of equity + the market value of equity). Since firm value comprises the value of asset in place (proxied by book value of total asset) and the value of investment opportunities, the higher the market-to-book ratio, the higher the firm value comes from investment opportunities. I expect that as growth option increases, the relative likelihood of equity financing instead of straight bond financing will increase. Beside, since agency costs of underinvestment and risk-shifting are higher for firms with more growth options (Barclay and Smith 1995; Smith and Watts 1992; Krishnaswami and Yaman 2008), I expect that the likelihood of using convertible bonds to substitute for straight bonds will increase as growth options increase.

Managerial discretion. I use two variables to proxy for the degree of managerial discretion. The first variable *Deviation_CV* is the separation between ownership and control of controlling shareholders, measured as the cash rights held by controlling shareholders, divided by the vote rights controlled by controlling shareholders. The second variable *FCF* is the mean free cash flows over the three-year period preceding the security offerings. Free cash flows are measured as (operating income before depreciation and amortization – capital expenditures – changes in operating working capital –income tax expenses + the changes in deferred income assets - the changes in deferred income tax liabilities – interest payments – cash dividends), divided by the average book value of total assets. I add a squared item of *Deviation_CV* to accommodate the potential nonlinearity (Morck, Shleifer and Vishny 1988; McConnell and Servaes 1990). I expect that greater managerial discretion (as manifested by lower *Deviation_CV* and higher *FCF*) increases the relative likelihood of using straight bond financing instead of common equity to reduce the costs of managerial discretion.

Asymmetric information. I use four variables to proxy for information asymmetry. The first variable is the size of the security offer, *OfferSize*, measured as gross proceeds normalized by the market value of the firm's common equity. Krasker (1996) and Lewis et al. (1999) argue that larger security offers increase the costs of adverse selection, so the probability of an equity offer should decrease as security offer size increases. The second variables is the preissue runup in the issuer's stock, *RunUp_STK*, measured as the raw return of stock over 75 days preceding the issue date. The third variables is the preissue runup in the market *RunUp_MK*, measured

as the market return over 75 days preceding the issue date. The fourth variable is a proxy for economic growth, *GNP_Growth*, measured as the annual real GNP growth rate in the year of security offerings. As emphasized by Korajczyk, Lucas, and McDonald (1991), firms should time equity issues for periods when the information asymmetry is smaller. Following Lucas and McDonald (1990), firms are more likely to have good projects and hence raise funds if their returns before the issue are high and leading indicators of economic activities are favorable. I expect that firms will time their common equity offering or convertible bond offering during market upturns and economy expansion.

Costs of financial distress. I use three variables to proxy for debt capacity and costs of financial distress. The first variable is financial leverage *LEV*, as a proxy for financial risk, measured as total debt divided by the book value of total assets, at the fiscal year-end of the year preceding the security offerings. The second variable *Rating*, is credit rating provided by TEJ at the fiscal year-end of the year preceding the security offerings, as a proxy for default risk. Higher value of *Rating* represents higher default risk. The third variable *Volatility*, is a proxy for overall firm risk, measured as the standard deviation of the daily stock returns over the year preceding the security offerings. I expect that highly leveraged and risky firms are more likely to issue common equity instead of straight bonds. I also expect that the likelihood of using convertible bonds to substitute for straight bonds will be higher for firms with growth options and high firm risks due to risk shifting problems.

Other control variables. I include two other firm-specific control variables in my security choice model, firm size and tax payment. Firm size (*Size*), measured as the natural log of the market value of common equity at the fiscal year-end of the year preceding the security offerings. Since information asymmetry and expected financial distress are both higher for smaller firms (Brennan and Schwartz 1988), firm size may serve as an additional proxy for potential adverse selection costs and financial distress costs. I expect that smaller firms are more likely to issue common equity or convertible bonds instead of straight bonds. The other firm-specific variable is tax payment (*Tax*), measured as the income tax expenses plus the changes in deferred income assets and minus the changes in deferred income tax liabilities, divided by the beginning book value of total assets in the year preceding the security offerings. Because of the deductibility of interest payments, the gain from debt financing relative to equity financing increases with the firm's tax rate.

However, non-debt tax shields such as investment tax credits and tax loss carry-forwards may reduce the relative benefits of interest tax shields from debt financing. To the extent non-debt tax shields play an important role in investment decisions in Taiwan, I do not make specific predictions about the effect of tax rates on security choice decision. Finally, I include a time-dependent dummy variable (*Time_Dummy*) to control for the potential clustering effect of security offering, *Time_Dummy*=1 if the observation belongs to the period 2005~2007 and equals 0 otherwise.

IV. EMPIRICAL RESULTS

4.1 Descriptive statistics

Table 2 reports the descriptive statistics for main variables. It shows that the mean (median) market-to-book of ratio of assets is 1.493 (1.259), suggests that on average security issuers in my sample have valuable investment opportunities. The mean (median) gross proceeds of security offering are about 18.1% (13.6%) of the equity market value. The mean (median) credit rating provided by TEJ is 5.48 (5.00) which suggests that the security issuers in my sample have moderate default risks.

Table 3 reports the descriptive statistics for subsets of issuers sorted by offer type. The Kruskal-Wallis test is used to test the hypothesis that the three populations represented by common equity, convertible bond, and straight bond issuers are identical. The Waller-Duncan K-ratio T test also is used to determine whether the mean values across issue groups are different. Each issue group with the same alphabetic letter (a, b, or c) has a mean that is not statistically different. Different letters represent issuer groups that have statistically different means. Groups with “lower” letters have higher means. For example, groups denoted by ‘a’ have a higher mean than groups denoted by ‘b’.

Table 2: Descriptive Statistics

Variables	*N*	*Mean*	*Std.*	*Min.*	Q_1	*Med.*	Q_3	*Max.*
Skewness	871	0.092	1.334	-4.545	-0.746	0.037	0.797	6.713
Nopaccrual	871	-0.004	0.031	-0.177	-0.018	-0.002	0.012	0.208
C_Score	871	0.058	0.374	-0.846	-0.152	0.037	0.268	3.195
MBR	871	1.493	0.731	0.455	1.004	1.259	1.750	5.490
Deviation_CV	871	0.777	0.262	0.057	0.615	0.887	0.989	1.000
InstitutionOwn	871	5.395	7.008	0.000	0.395	2.806	7.960	50.91
LEV	871	0.248	0.158	0.000	0.132	0.242	0.348	0.822
Rating	871	5.486	1.839	1.000	4.000	5.000	7.000	10.00
Volatility	871	2.545	0.684	0.604	2.100	2.520	2.980	5.449
OfferSize	871	0.181	0.172	0.000	0.087	0.136	0.222	2.034
FCF	871	0.008	0.093	-0.363	-0.035	0.008	0.060	0.258
Size	871	15.36	1.628	11.01	14.22	15.16	16.21	21.11
Auditor	871	0.830	0.372	0.000	1.000	1.000	1.000	1.000
Tax	871	0.008	0.012	-0.036	0.000	0.004	0.013	0.127
Int_intensity	871	0.041	0.042	0.000	0.013	0.027	0.056	0.230
InvestCycle	871	0.265	1.262	0.014	0.075	0.127	0.187	18.21
Opercycle	871	4.922	0.686	1.954	4.644	4.924	5.226	7.912
RunUp_STK	871	0.041	0.279	-0.631	-0.127	-0.007	0.169	1.740
RunUp_MK	871	0.048	0.217	-0.439	0.042	0.067	0.195	0.323
GNPgrowth	871	4.704	1.924	-1.630	4.250	5.050	6.210	6.310

Notes: *Skewness*= (the skewness of operating cash flows) – (the skewness of earnings). Cash flows and earnings are both scaled by the average total assets and the skewness is measured using 20 quarters of data prior to the issue year. *Nopaccrual* = - (accumulated nonoperating accruals/accumulated total assets). Nonoperating accruals = net income before extraordinary items – cash flow from operations + depreciation + amortization - Δaccounts receivable - Δinventories - Δother current net operating asset + Δaccounts payable. It is accumulated over five-year period ending in the year preceding the security offerings. *C_Score*=asymmetric timeliness of earnings with respect to bad news estimated by the model of Khan and Watts (KW) (2009). *MBR*=the sum of total assets plus the market value of common stock minus the book value of common equity, divided by the book value of total assets, in the year preceding the security offerings. *Deviation_CV*=cash right held by controlling shareholders/vote right controlled by controlling shareholders, calculated over the past three years up to the year-end preceding the security issue. *InstitutionOwn*=the average percentage of institutional ownership over the past three years up to the year-end preceding the security issue. *FCF*= mean of free cash flows over the three-year period preceding the security issue. Free cash flows=operating income before depreciation and amortization – capital expenditures – changes in operating working capital –income tax expenses + the changes in deferred income assets - the changes in deferred income tax liabilities – interest payments – cash dividends, divided by the average book value of total assets. *Volatility*=the standard deviation of the daily stock returns over the year preceding the security offerings. *OfferSize*=the gross proceeds of security offer scaled by the market capitalization of the issuer at the fiscal year-end of the year preceding the security offerings. *LEV*=total debt divided by the book value of total assets, at the fiscal year-end of the year preceding the security offerings. *Rating*=the credit rating provided by TEJ at the fiscal year-end of the year preceding the security offerings. *Size*=the natural log of the market value of common equity at the fiscal year-end of the year preceding the security offerings. *Auditor*=1 if the auditor belongs to the Big 4 audit firm and 0 otherwise. *Tax*=the income tax expenses plus the changes in deferred income assets and minus the changes in deferred income tax liabilities, divided by the beginning book value of total assets in the year preceding the security offerings. *RunUp_STK*=the issuer's raw return of stock over 75 days preceding the issue date. *RunUp_MK*=the market return over 75 days preceding the issue date. *GNP_Growth*=the annual real GNP growth rate in the year of security offerings. *Int_intensity* =the mean of (R&D expenses + Advertising expenses)/average asset over the five-year period up to the year preceding the security issue. *InvestCycle*=the mean of (total depreciation / average plant assets), over the five-year period up to the year preceding the security issue. *Opercycle*= the natural log of the mean of operating cycle over the five-year period up to the year preceding the security issue. Operating cycle is measured as days to collect accounts receivable plus days to sell inventories.

Table 3

Pairwise Comparison between Different Types of Security Offerings *

Variables[b]	*Equity* issuers (*N*=293)		*Convertible bond* issuers (*N*=258)		*Straight bond* issuers (*N*=320)		Kruskal Wallis *p*-value
	Mean	Median	Mean	Median	Mean	Median	
Conserv	0.592[a]	0.597	0.481[b]	0.474	0.430[c]	0.420	0.0000
∆*Conserv*	0.056[a]	0.042	-0.0134[b]	-0.006	0.005[b]	0.005	0.0000
Skewness	0.454[a]	0.283	-0.063[b]	-0.066	-0.114[b]	-0.111	0.0000
Nopaccrual	0.004[a]	0.004	-0.005[b]	-0.002	-0.010[c]	-0.006	0.0000
C_Score	0.220[a]	0.160	0.050[b]	0.040	-0.083[c]	-0.077	0.0000
MBR	1.482[a]	1.222	1.586[a]	1.357	1.429[b]	1.212	0.0044
Int_Intensity	0.027[a]	0.016	0.029[a]	0.016	0.019[b]	0.013	0.0027
Size	14.74[b]	14.62	14.90[b]	14.72	16.30[a]	15.98	0.0000
Age	3.737[b]	0.977	3.158[b]	0.988	9.465[a]	5.949	0.0000
InstitutionOwn	3.924[b]	1.547	4.905[b]	2.177	7.133[a]	4.617	0.0000
OfferSize	0.208[a]	0.137	0.184[a]	0.163	0.153[b]	0.120	0.0000
Opercycle	5.078[a]	5.018	4.998[a]	5.003	4.764[b]	4.785	0.0000
InvestCycle	0.166[a]	0.106	0.151[a]	0.111	0.136[a]	0.108	0.7080
LEV	0.283[a]	0.279	0.215[c]	0.211	0.242[b]	0.238	0.0000
Rating	6.355[a]	6.000	5.558[b]	6.000	4.630[c]	5.000	0.0000
Volatility	3.034[a]	3.045	2.848[b]	2.741	2.931[a,b]	2.993	0.0058
Deviation_CV	0.820[a]	0.928	0.833[a]	0.932	0.758[b]	0.903	0.0139
FCF	-0.028[b]	-0.020	-0.016[a,b]	-0.007	-0.003[a]	0.000	0.0009
Tax	9.90[b]	1.42	12.83[a]	12.31	9.80[b]	5.72	0.0001
RunUp_STK	0.034[b]	-0.025	0.081[a]	0.045	0.013[b]	-0.034	0.0000
RunUp_MK	4.552[a,b]	8.724	7.840[a]	6.656	2.680[b]	4.227	0.0703
GNP_Growth	4.702[b]	4.830	5.074[a]	5.050	4.407[c]	5.050	0.0000
Auditor	0.799[a]	1.000	0.841[a]	1.000	0.863[a]	1.000	0.0988
Time_Dummy	0.608[a]	1.000	0.368[b]	0.000	0.122[c]	0.000	0.0000

*The Waller-Duncan K-ratio T test is used to determine whether the mean values across issuer groups are different. Each issuer group with the same alphabetic letter (a, b, or c) has a mean that is not statistically different. Different letters represent issuer groups that have statistically different means. Groups with "lower" letters have higher means.

Table 3 exhibits that security issuers differ from each other in several characteristics. (1) Equity issuers are most conservative and straight bond issuers are least conservative in financial reporting among three types of issuers. Besides, equity issuers increase the level of conservatism in the year preceding the security

issuance to a greater extent than other two types of issuers. (2) Equity and convertible bond issuers have more growth options than straight bond issuers, as manifested by higher market-to-book ratio and intangible intensity. Besides, relative to straight bond issuers, equity and convertible bond issuers are smaller and younger, have lower institutional ownership, larger offer size, and longer operating cycle. All these characteristics suggest that equity and convertible bond issuers face greater information asymmetry than straight bond issuers. To the extent that common equity issuers and convertible bond issuers are not significantly different in the degree of information asymmetry, it suggests that convertible bond issuers may use convertible bond financing to substitute for common equity financing to mitigate the adverse selection costs. (3) Common equity issuers have higher financial distress costs and weak debt capacity, as manifested by higher leverage, default risks and stock return volatilities. (4)The degree of managerial discretion is greater for straight bond issuers relative to common equity and convertible bond issuers, as manifested by greater separation between ownership and control and more free cash flows. It suggests that straight bond financing may serve a monitoring role in bonding managerial discretion. (5) Convertible bond offerings follows stock price run-up and market upturns and lead economy expansions, which suggest that convertible bond issuers time their offering during period with less information asymmetry. Overall, the evidence documented in table 3 is consistent with the predictions suggested by finance literature.

Table 4 presents the correlation matrix of key variables. Some interesting relations are noted here. First, firms with more growth options, less separation between ownership and control, higher institutional ownership, lower firm-specific risk, more free cash flows and lower leverage, receive better credit ratings. Second, more conservative financial reporting are associated with lower institutional ownership, higher firm-specific risk, more free cash flows, higher leverage, higher default risk, smaller firm size, younger firm age and longer operating cycle. The behaviors of three conservatism proxies are generally consistent in table 5.

4.2 Multinomial logit results of the security choice decision model

Table 5 reports the empirical results of the multinomial logit model of security choice decision. The empirical model has good model fitness, as evidenced by high

explanatory power (pseudo R^2=47.86%), significant chi-square statistic ($p<0.01$), and satisfactory rate of concordant responses (on average 66%)[7].

4.2.1 Straight bonds versus common equity

The column titled “SB versus Equity” in table 5 presents the determinants of relative likelihood of issuing straight bonds instead of common equity. In additional to financial

[7] The results of multinomial logit model (2) using separate conservatism proxy, C_Score, Skewness and Nopaccrual are generally consistent with those in table 5. Those tables are available from the author upon request. A concordant responses rate with 66% is satisfactory because there are three categories to be predicted and in comparison with naïve predictions, my model makes substantial improvements.

Table 4
The Correlation Matrix of Key Variables

Variables	*MBR*	*Deviation-CV*	*Institution-Own*	*Volatility*	*FCF*	*LEV*	*Rating*	*Size*	*Age*	*Tax*	*Opercycle*	*Int_ intensity*	*Invest-Cycle*
Deviation_CV	0.139***	1.000											
InstitutionOwn	0.193***	-0.117***	1.000										
Volatility	- 0.017 *	-0.080*	-0.134***	1.000									
FCF	0.189***	0.059*	0.039	0.010	1.000								
LEV	-0.451***	-0.005	-0.141***	0.130***	-0.368***	1.000							
Rating	-0.413***	-0.089***	-0.428***	0.283***	-0.180***	0.513***	1.000						
Size	0.007	-0.084**	0.416***	-0.111***	0.032	0.065*	-0.568***	1.000					
Age	-0.202***	-0.281***	0.204***	-0.077**	0.133***	0.103***	-0.228***	0.539***	1.000				
Tax	0.372***	0.141***	0.084**	-0.221***	0.191***	-0.339***	-0.259***	-0.155***	-0.203***	1.000			
Opercycle	-0.108***	-0.101***	-0.117***	0.179***	-0.071**	0.229***	0.427***	-0.315***	-0.109***	-0.139***	1.000		
Int_intensity	0.107***	0.024	-0.014	0.097***	0.035	0.019	0.053	-0.055	-0.085***	-0.023	0.070**	1.000	
InvestCycle	-0.057*	-0.037	0.016	0.051	-0.042	0.061*	0.023	-0.020	-0.079***	-0.046	-0.119***	0.004	1.000
OfferSize	-0.115***	0.020	-0.106***	0.178***	-0.149***	0.254***	0.418***	-0.371***	-0.167***	-0.106***	0.150***	0.029	0.021
Conserv	-0.194***	-0.011	-0.235***	0.218***	0.016	0.325***	0.532***	-0.424***	-0.175***	-0.117***	0.220***	0.066*	0.077**
Skewness	-0.100***	-0.026	-0.053	0.098***	0.112***	0.175***	0.264***	-0.153***	-0.030	-0.147***	0.168***	-0.046	0.005
Nopaccrual	-0.041	-0.013	-0.131***	0.141***	0.104***	0.075**	0.253***	-0.238***	-0.070**	0.065*	0.092***	0.072**	0.066*
C_Score	-0.270***	0.005	-0.295***	0.220***	-0.121***	0.528***	0.562***	-0.455***	-0.167***	-0.181***	0.269***	0.027	-0.004

a. The number in the cell without parenthesis is the Pearson correlation coefficient. ***, **, * denote significance at the 1, 5, 10 percent level, respectively., two-tailed.

b. The correlation coefficient of the pairs (Conserv, C_Score), (Conserv, Skewness), (Conserv, Nopaccrual), (Skewness, C_Score), (Nopaccrual, C_Score), (Skewness, Nopaccrual) are 0.721, 0.712, 0.693, 0.272, 0.242, and 0.240, respectively. All of these correlation coefficients are significant at the 0.01 level. It is not presented here for space limitations.

c. Please refer to notes of Table 5 for the definition of variables.

Table 5
Multinomial Logit Analysis of the Security Choice Decision [a]

Variables[b]	*LR* test (χ^2)	*SB* versus *Equity*				*CB* versus *Equity*				*CB* versus *SB*			
		Coef.	*Wald Stat.*	*Coef.*	*Wald Stat.*	*Coef.*	*Wald Stat.*	*Coef.*	*Wald Stat.*	*Coef.*	*Wald Stat.*	*Coef.*	*Wald Stat*
Intercept	17.79 ***	-2.686	1.29	-1.348	1.29	6.879 ***	9.02	3.502 ***	6.75	9.565 ***	15.62	7.980 ***	13.65
Conserv	8.31 **	-1.229 **	2.85	-1.022 *	2.45	-1.798 ***	8.06	-1.798 ***	8.06	-0.569	0.68	-0.369	0.78
MBR	40.18 ***	-1.188 ***	30.27	-1.068 ***	13.56	-0.072	0.17	-0.072	0.17	1.116 ***	27.64	1.023 ***	12.30
Conserv×*MBR*				-1.760	1.13			-0.301	0.45			2.620 **	4.34
LEV	2.74	-1.382 *	1.73	-1.153 *	2.03	-1.268 *	2.15	-0.568	1.35	0.114	0.01	0.121	0.06
Rating	9.58 ***	-0.268 ***	5.84	-0.301 ***	5.59	-0.292 ***	7.80	-0.187 ***	5.78	-0.024	0.04	-0.102	0.23
Deviation_CV	3.14	-3.896 *	2.53	-4.013 *	2.35	-0.197	0.01	-0.065	0.03	3.699 *	2.23	3.334 *	2.14
(*Deviation_CV*)^2	3.07	3.072 **	2.66	3.068 *	2.21	0.402	0.05	0.514	0.10	-2.670 *	2.02	-2.771 *	2.21
FCF	18.63 ***	5.746 ***	14.90	6.105 ***	17.02	-0.032	0.00	-0.041	0.03	-5.778 ***	15.22	-6.152 ***	13.44
OfferSize	5.20 *	0.238 *	2.19	0.210 *	2.12	0.349 **	4.82	0.365 **	4.97	0.110	0.43	0.104	0.45
Volatility	12.07 ***	-0.586 ***	11.37	-0.572 ***	12.02	-0.337 **	4.74	-0.332 **	4.56	0.249 *	2.25	0.108	1.25
Size	71.25 ***	0.762 ***	37.53	0.781 ***	35.60	-0.192 *	2.67	-0.201 *	2.33	-0.954 ***	55.99	-0.865 ***	48.76
Tax	0.58	-9.011	0.55	-8.503	0.52	-1.776	0.04	-1.578	0.18	7.235	0.40	7.107	0.38
RunUp_STK	2.99	-0.081	0.04	-0.078	0.04	0.511 *	2.14	0.675 *	2.24	0.592 *	2.13	0.688 *	2.23
RunUp_MK	20.70 ***	0.006	0.96	0.010	0.75	0.025 ***	17.37	0.087 ***	16.35	0.019 ***	11.30	0.015 ***	9.80
GNP_growth	17.78 ***	-0.104 *	2.37	-0.112 *	2.25	0.185 ***	5.99	0.201 ***	6.35	0.290 ***	14.72	0.204 ***	14.33
Time_Dummy	143.47 ***	-3.439 ***	108.28	-3.512 ***	115.32	-1.231 ***	25.57	-1.301 ***	22.31	2.208 ***	47.58	1.465 ***	45.92
Pseudo-R^2 (%)	47.86												
χ^2 stat.	553.56 ***												
Concordant responses (%):	Overall: 66.00 ; SB: 78.71; EQ: 63.54; CB: 53.17												
Naïve prediction (%):	SB: 36.70; EQ: 33.60; CB:29.6												

a. The dependent variable of multinomial logit model is the categorical variable *Security_type* which distinguishes among three types of security offerings. It is coded as 0 for equity offering, 1 for convertible bond offering and 2 for straight bond offering. Panel A titled "CB issuers versus Equity issuers" presents the effect of independent variables between equity issuers and convertible bond issuers with the equity issuers as the reference category. Panel B titled "SB issuers versus Equity issuers" presents the effect of independent variables between SB issuers and common equity issuers with the equity issuers as the reference category. Panel C titled "CB issuers versus SB issuers" presents the effect of independent variables between CB issuers and SB issuers with the SB as the reference category.

b. *MBR*=the sum of total assets plus the market value of common stock minus the book value of common equity, divided by the book value of total assets, in the year preceding the security offerings. *LEV*=total debt divided by the book value of total assets, at the fiscal year-end of the year preceding the security offerings. *Rating*=the credit rating provided by TEJ at the fiscal year-end of the year preceding the security offerings. *Deviation_CV*=the deviation between cash rights and vote rights of controlling shareholder=cash rights held by the controlling shareholder divided by the vote rights controlled by the controlling shareholder. *InstitutionOwn*=the average percentage of institutional ownership over the past three years up to the year-end preceding the security issue. *OfferSize*=the gross proceeds of security offer scaled by the market capitalization of the issuer at the fiscal year-end of the year preceding the security offerings. *Volatility* = the standard deviation of the daily stock returns over the year preceding the security offerings. *FCF*= mean of free cash flows over the three-year period preceding the security issue. Free cash flows=operating income before depreciation and amortization – capital expenditures – changes in operating working capital –income tax expenses + the changes in deferred income assets - the changes in deferred income tax liabilities – interest payments – cash dividends, divided by the beginning book value of total assets in the year preceding the security offerings. *Size*=the natural log of the market value of common equity at the fiscal year-end of the year preceding the security offerings. *Tax*=the income tax expenses plus the changes in deferred income assets and minus the changes in deferred income tax liabilities, divided by the beginning book value of total assets in the year preceding the security offerings. *RunUp_STK*=the issuer's raw return of stock over 75 days preceding the issue date. *RunUp_MK*=the market return over 75 days preceding the issue date. *GNP_Growth*=the annual real GNP growth rate in the year of security offerings.

c. ***, **, * denote significance at the 1, 5, 10 percent level, respectively. *p*-values are one-tailed when the expected sign is positive or negative and two-tailed otherwise.

reporting conservatism, there are three groups of variables relevant (in the sense of statistical significance) in the selection between straight bonds and common equity, including growth options (*MBR*), debt capacity or financial distress costs (*LEV*, *Ratings*, *Volatility*), degree of managerial discretion (*Deviation_CV*, *FCF*), and information asymmetry (*OfferSize*, *Size*). First, It is more attractive to finance by straight bonds instead of common equity for firms without valuable growth options and with sufficient debt capacity because the marginal agency costs of debt are lower for these firms. Second, debt monitoring in bonding managerial discretion increases the marginal benefits of debt financing in terms of reduction in agency costs of equity. The significant non-linear relation between *Deviation_CV* and financing decision is consistent with the findings of Morck et al. (1988) and McConnell and Servaes (1990)[8]. Finally, since the value of debt is less sensitive to information asymmetry, financing by straight bonds instead of equity reduces the adverse selection costs associated with equity financing.

With respect to the association between accounting conservatism and security offer choice, the results in table 5 provide strong supports for H_1, that is, more conservative financial reporting decreases the likelihood of raising capital by issuing straight bonds instead of common equity.

4.2.1 Convertible bonds versus common equity

The column titled “CB versus Equity” in table 6 presents the determinants of likelihood of issuing convertible bonds to substitute for common equity. In additional to financial reporting conservatism, there are two groups of variables dominant (in the sense of statistical significance) in the selection between convertible bonds and common equity, including debt capacity or financial distress costs (*LEV*, *Ratings*, *Volatility*) and information asymmetry (*OfferSize*, *Size*, *RunUp_STK*, *RunUp_MK*, *GNP_growth*). However, it is not totally consistent with the backdoor equity hypothesis proposed by Stein (1992). Backdoor equity

[8] As an alternative model specification, I use insider ownership to substitute for *Deviation_CV* and find that the non-linear relationship remains significant. However, the signs of coefficients reverse in such a model specification. Specifically, the coefficient on insider ownership is significantly positive and the coefficient on the squared term of insider ownership is significantly negative. The results may reflect the piecewise linear relations between insider ownership and firm performance as documented by Morck et al. (1988) and McConnell and Servaes (1990). Other results remain unchanged if I use insider ownership instead of *Deviation_CV* in the multinomial model.

hypothesis predicts that firms facing high information asymmetry and financial distress costs use convertible bonds to substitute for equity financing. The evidence in table 5 shows that higher financial distress costs reduce the relative likelihood of convertible bond financing instead of common equity financing. In the Stein's model (1992), high financial distress costs are necessary to make issuers' optimistic prospects credible. However, the backdoor to equity may be closed and excessive leverage may threat the survival of convertible bond issuers if future stock price substantially falls. Are there other less costly mechanisms that may serve as credible signals to mitigate the information asymmetry problems? I propose that accounting conservatism may be one of those candidates. The results in table 5 provide strong supports for H_2, that is, more conservative financial reporting decreases the likelihood of issuing convertible bonds to substitute for common equity.

4.2.2 Convertible bonds versus straight bonds

The column titled "CB versus SB" in table 5 presents the determinants of likelihood of issuing convertible bonds to substitute for straight bonds. In additional to financial reporting conservatism, there are three groups of variables relevant (in the sense of statistical significance) in the selection between convertible bonds and straight bonds, including growth options (*MBR*), firm-specific risk (*Volatility*), degree of managerial discretion (*Deviation_CV*, *FCF*), and information asymmetry (S*ize, RunUp_MK, GNP_growth*). The evidence suggests that convertible bonds are used to substitute for straight bonds to mitigate underinvestment and risk-shifting problems. First, financing growth options by straight debt may result in underinvestment. Therefore, greater growth options increase the relative likelihood of issuing convertible bonds instead of straight bonds. Second, more growth options associated with high information asymmetry about the riskiness of asset characterizes the risk-shifting problems (Lewis et al. 1999). The significantly positive coefficients of *MBR* and *Volatility*, accompanying by significant effects of information asymmetry proxies, provide supports for the risk shifting hypothesis. Third, to the extent that convertible bonds mitigate underinvestment and risk-shifting problems by incorporating a contingent equity claims, the value of contingent equity may be influenced by the costs of managerial discretion. The significant effects of *Deviation_CV,* and *FCF* suggest that the net

benefits of using convertible bonds to substituting for straight bonds may be enhanced if the rights as shareholders are properly protected. Lee et al. (2009) provide a similar argument in a cross-country setting. In other words, mechanisms that enhance the protection of shareholder rights may complement the role of convertible bonds in resolving underinvestment and risk shifting problems. Corporate governance may serve such a role, so does accounting conservatism.

The results in table 5 do not reject the null hypothesis of H_3, that is, the level of accounting conservatism does not affect the relative likelihood to issue convertible bonds instead of straight bonds. To explore my conjecture that conservatism may complement convertible bonds in mitigating underinvestment and risk shifting problems, I add an interaction term (*MBR*×*Conserv*) into the original model and find that the coefficient on the interaction term is significantly positive ($p<0.10$) in the "CB versus SB" choice but not significantly different from zero in other two cases (i.e., "SB versus Equity" and "CB versus Equity"). This additional evidence suggests that, as growth option increases, convertible bond financing grants a contingent equity claim to bondholders to mitigate the risk-shifting problem. However, to make the mechanism effective, the ex ante option value may be crucial. Convertible bonds will degenerate to straight bonds if the attached option feature is worthless to bondholders. In such case, convertible bonds would fail its role in mitigating underinvestment and risk shifting problems. Besides, as the debt-monitoring role is less effective by convertible bonds relative to straight bonds, complementary governance mechanisms may be used to complement the monitoring strength.

4.3 Additional analysis: the endogeneity of accounting conservatism

I employ the following regression model to investigate whether the anticipation of issuing specific type of security in the near future generates incremental demands for accounting conservatism:

$$\begin{aligned} &Conserv_{it} \\ &= \alpha + \beta_1 Pred\{Prob(SB\ issue)\}_{it} + \beta_2 Pred\{Prob(EQ\ issue)\}_{it} + \beta_3 LEV_{it} + \beta_4 Rating_{it} \\ &+ \beta_5 Deviation\_CV_{it} + \beta_6 (Deviation\_CV_{it})^2 + \beta_7 FCF_{it} + \beta_8 InstitutionOwn_{it} \\ &+ \beta_9 (InstitutionOwn_{it})^2 + \beta_{10} MBR_{it} + \beta_{11} Size_{it} + \beta_{12} Volatility_{it} + \beta_{13} InvestCycle_{it} \\ &+ \beta_{14} Opercycle_{it} + \beta_{15} Int\_intensity_{it} + \beta_{16} Auditor_{it} + \beta_{17} Tax_{it} + \beta_{18} Post\_Procomp_{it} + \varepsilon_{it} \end{aligned} \quad (3)$$

The dependent variable in the above equation is the composite measure of accounting conservatism. *Pred*{*Prob*(*SB* issue)} and *Pred*{*Prob*(*EQ* issue)} is the predicted probability of issuing straight bonds and common equity, respectively. The predicted probabilities are derived from estimating the multinomial logit security choice model (given by equation (2)) by incorporating all exogenous variables in equation (2) and (3). Other explanatory variables in equation (3) are incorporated to control other demands for conservatism. *LEV* and *Rating* are introduced to control the demands for conservatism from debt contracting (Beatty et al. 2008). Higher leverage and default risk increase the agency costs of debt and thus increase the demand for conservatism. Accordingly, I predict that $\beta_3>0$, $\beta_4>0$. Since greater managerial discretion increases the governance demands for conservatism, I predict that β_5 (the coefficient of *Deviation_CV*) <0, β_7 (the coefficient of *FCF*)>0. I would expect that the coefficient of the squared term of *Deviation_CV* have a positive sign if the relationship is non-linear. Growth options (*MBR*), firm size (*Size*) and institutional ownership [9] (*InstitutionOwn*) are introduced to control for information asymmetry. To the extent that more growth options, smaller firms and lower institutional ownership are associated with higher information asymmetry, I predict those firms will be more conservative in financial reporting. Stock return volatility (*Volatility*), length of investment cycle (*InvestCycle*), length of operating cycle (*Opercycle*) and intangible asset intensity (*Int_intensity*) are introduced to control for the inherent uncertainty surrounding the operating environments (Francis et al. 2004; Khan and Watts 2009). The length of investment cycle (*InvestCycle*) is measured as the mean of (total depreciation / average plant assets) over the five-year period up to the year preceding the security issue. Higher value of *InvestCycle* represents shorter investment cycle. Intangible asset intensity (*Int_intensity*) is measured as the mean of (R&D expenses + Advertising expenses)/average total assets over the five-year period up to the year preceding the security issue. *Opercycle* denotes the natural log of the mean of operating cycle over the five-year period up to the year preceding the security issue where operating cycle is measured as days to collect accounts receivable plus days to sell inventories. Khan and Watts (2008) document that the length of investment cycle and stock return volatility are both positively associated with conservatism.

[9] *Deviation_CV* and *InstitutionOwn* are both measured by taking average over the past three years up to the year-end preceding the security issue.

Francis et al. (2004) document that the length of operating cycle and the existence of intangible expenditures are both positively associated with conservatism. The remaining three variables are introduced to control for auditing demands (*Auditor*), tax demands (*Tax*) and litigation demands (*Post_Procomp*). I expect that firms audited by brand name auditors (i.e., so-called "Big four" audit firms) or paying higher taxes are likely to be more conservative. I also expect that there is a general trend toward more conservative financial reporting in Taiwan post the burst of blatant Procomp Informatics fraud because the litigation risk facing auditors and top managers significantly increase during the post-Procomp period. *Post_Procomp*=1 if the observation belongs to the period 2005-2007 and equals to zero otherwise[10].

Table 6 reports the regression results of the accounting conservatism model. By incorporating the predicted probabilities of issuing specific type of security into the regression model, I investigate whether in anticipating the issuance of specific type of security in the near future generates incremental demands for conservatism in the year preceding the security offering. The results in table 6 indicate that the demands for accounting conservatism come from a variety of sources. First, the demands for conservatism come from debt contracting. The significantly positive coefficients associated with leverage (*LEV*), credit risk (*Rating*) and total firm risk (*Volatility*) indicate that more severe agency conflicts between bondholders and shareholders, as manifested by higher leverage (*LEV*), higher credit risk (*Rating*), and higher overall firm risk (*Volatility*), increases the demands for more conservative financial reporting. Second, demands for conservatism come from the governance needs. The significantly positive association between conservatism and free cash flows (*FCF*) suggest that conservatism serves a monitoring role in bonding managerial discretion due to excess free cash flows (Jensen 1986). The significantly positive association between ownership-control alignment and conservatism

[10] The dummy variable *Post_Procomp* is the same as *Time_Dummy* in the security choice model. I use a different name in the financial reporting model to facilitate the interpretation based on litigation demands. *Time_Dummy* is introduced in the security choice model for a different purpose to control for potential clustering effect. It happens that these two time-varying variables overlap.

Table 6
Multivariate Regression Analysis of the Determinants of Financial Reporting Conservatism

$$
\begin{aligned}
&Conserv_{it} \\
&= \alpha + \beta_1 Pred\{Prob(SB\ issue)\}_{it} + \beta_2 Pred\{Prob(EQ\ issue)\}_{it} + \beta_3 LEV_{it} + \beta_4 Rati \\
&+ \beta_5 Deviation\_CV_{it} + \beta_6 (Deviation\_CV_{it})^2 + \beta_7 FCF_{it} + \beta_8 InstitutionOwn_{it} \\
&+ \beta_9 (InstitutionOwn_{it})^2 + \beta_{10} MBR_{it} + \beta_{11} Size_{it} + \beta_{12} Volatility_{it} + \beta_{13} InvestCycle \\
&+ \beta_{14} Opercycle_{it} + \beta_{15} Int\_intensity_{it} + \beta_{16} Auditor_{it} + \beta_{17} Tax_{it} + \beta_{18} Post\_Procon
\end{aligned}
$$

Variable [a]	*Exp. sign*	*Coef.*	*t-stat.* [b]	*Coef.*	*t-stat.* [b]
Intercept	?	0.938 ***	7.66	1.083 ***	8.53
SB issue	+	0.039 ***	2.54		
EQ issue	+	0.055 ***	3.88		
Pred {*Prob*(*SB* issue)}	+			0.194 ***	4.34
Pred {*Prob*(*EQ* issue)}	+			0.314 ***	5.43
LEV	+	0.333 ***	6.89	0.255 ***	4.98
Rating	+	0.012 **	2.04	0.003	0.50
Deviation_CV	?	0.210 **	2.05	0.225 **	2.23
(*Deviation_CV*)^2	?	-0.165 **	-2.02	-0.177 **	-2.18
FCF	+	0.353 ***	5.43	0.338 ***	5.36
InstitutionOwn	-	-0.403 *	-1.35	-0.385 *	-1.31
(*InstitutionOwn*)^2	?	2.595 **	1.74	2.951 **	2.09
MBR	+	0.021 **	1.84	0.021 *	1.58
Size	-	-0.051 ***	-8.65	-0.063 ***	-8.78
Volatility	+	0.029 ***	3.70	0.012 **	2.27
InvestCycle	-	-0.017 ***	-3.73	-0.013 ***	-2.69
Opercycle	+	-0.008	-0.86	-0.003	-0.35
Int_intensity	+	0.417 **	2.09	0.311 *	1.63
Auditor	+	0.022 *	1.36	0.030 **	1.84
Tax	+	-0.676	-1.01	-0.627	-0.90
Post_Procomp	+	0.074 ***	5.57	0.026	1.00
Adj R^2 (%)		42.22		43.58	
F-stat.		33.96 ***		35.80 ***	
Wald coefficient test:					
$H_0 : \beta_1 = \beta_2$ (*F-stat.*)		0.92		3.72 **	

a. t-statistic is calculated based on White heteroskedasticity-consistent standard errors.

b. ***, **, * denote significance at the 1, 5, 10 percent level, respectively.

suggests that more aligned management creates proper incentives for managers to provide more conservative financial reporting. The significantly non-linear relationship between ownership-control separation and conservatism may be consistent with two alternative explanations. On the one hand, to the extent that agency conflicts resulted from ownership-control separation are substantially mitigated as ownership and control converges, it decreases the demands for conservatism to address the agency conflicts between minority shareholders and controlling shareholders. Alternatively, McConnell and Servaes (1990) regress Tobin's Q against managerial ownership and managerial ownership squared and find the coefficient on managerial ownership to be significantly positive while the coefficient on managerial ownership squared is significantly negative. They suggest that as ownership become concentrated in the hands of managers, entrenchment effect will dominant alignment effect. Thus, the significantly negative coefficient on the squared term of ownership-control separation may suggest that entrenched management supplies less conservative financial reporting[11]. Third, demand for conservatism comes from the needs to address information asymmetry. Results in table 6 indicate that lower institutional ownership, more valuable investment opportunities, smaller firm size and more uncertain operating environment (as manifested longer investment cycle and greater firm risk) are associated with more conservative financial reporting, which are consistent with the role of conservatism in addressing information asymmetry problems. Finally, results in table 6 suggest that brand name auditors demand more conservative financial reports and there is a trend toward more conservative financial reporting post the burst of ProComp fraud. Therefore, demands for conservatism also come from auditing and litigation needs.

In the first column of table 6, security choice variables are considered as exogenous to the accounting conservatism model. It shows that both common

[11] In a related robustness test, I replace the Deviation_CV and its squared by insider ownership and insider ownership squared and find that the coefficient on insider ownership is significantly negative and the coefficient on insider ownership squared is significantly positive. It is consistent with the explanation suggested by Mock et al. (1988) and McConnell and Servaes (1990) in the sense that entrenchment effects dominate in the middle range of insider ownership, in the studies of Mock et al. (1988), the entrenchment effect is in the 5% to 25% range. Alignment effect dominates above the 25% range. The negative coefficient on insider ownership may reflect the entrenchment effect on conservatism. The positive coefficient on insider ownership squared may reflect the alignment effect on conservatism.

equity issuers and straight bond issuers exhibit greater conservatism than convertible bond issuers. However, although the equity issuers have greater conservatism in magnitude, it does not significantly differ from the conservatism level of straight bond issuers. In the second column of table 6, I treat security choice variables as endogenous and use the predicted probabilities estimated by multinomial logit model as instruments. It shows that increases in the likelihood of equity offering or straight bond offering relative to convertible bond offering both increases the demand for accounting conservatism. Besides, the increase in the likelihood of equity offering relative to straight bond offering increase the demands for conservatism, as evidenced by the result of Wald test (i.e., the null hypothesis $\beta_1=\beta_2$ is rejected at the 5% significance level). The results reported in table 6 further support the role of accounting conservatism in the security issue choice.

In addition to model (3), I also employ a change model as follows to investigate whether firms respond to the anticipated security offering by changing their accounting conservatism in the year preceding the security offering:

$$\begin{aligned}&\Delta Conserv_{it}\\&=\alpha+\beta_1 SB\,issue_{it}+\beta_2 EQ\,issue_{it}+\beta_3\Delta LEV_{it}+\beta_4\Delta Rating_{it}+\beta_5\Delta Deviation\_CV_{it}\\&+\beta_6\Delta FCF_{it}+\beta_7\Delta InstitutionOwn_{it}+\beta_8\Delta MBR_{it}+\beta_9\Delta Size_{it}+\beta_{10}\Delta Volatility_{it}\\&+\beta_{11}\Delta InvestCycle_{it}+\beta_{12}\Delta Opercycle_{it}+\beta_{13}\Delta Int\_intensity_{it}+\beta_{14}Auditor\_Switch_{it}\\&+\beta_{15}\Delta Tax_{it}+\beta_{16}Post\_Procomp_{it}+\varepsilon_{it}\end{aligned} \quad (4)$$

SB issue=1 if it is a straight bond offering and equal to 0 otherwise. *EQ_issue*=1 if it is an equity offering and equal to 0 otherwise. I do not use the predicted probability as model (3) because the endogeneity concern may be mitigated by taking the first difference of explanatory variables. All other variables should be self-evident except for *Auditor_Switch*. *Auditor_Switch* equals to 1 if firms switch their auditors from non-Big 4 to Big 4 over the two-year period preceding the security offerings, equals to (-1) if firms switch their auditors from Big 4 to non-Big 4 during the period specified above, and equals to otherwise[12].

Table 7 reports the regression results of model (4). It shows that common equity issuers exhibit greater increases in accounting conservatism in the year preceding the security offerings than straight bond issuers and convertible bond

[12] Because auditor switch is a rare event, I observe the incidence of auditor switch over a two-year period to increase the variations of that variable.

issuers. However, the changes in conservatism of straight bond issuers are not significantly different from that of convertible bond issuers.

V. CONCLUSION

In this study, I examine the role of accounting conservatism in mitigating debt- and equity-related agency costs in the context of security issue decision. I formulate the security issue decision as the choice among three external financing alternatives, including common equity, straight bonds and convertible bonds. By collecting a sample consisted of Taiwan listed firms that raising external capital during the period from 2000 to 2007, I find that more conservative financial reporting decreases the likelihood of issuing convertible bonds to substitute for common equity and increases the relative likelihood of issuing common equity instead of straight bonds. Besides, as growth option increases, more conservative financial reporting increases the likelihood of issuing convertible bonds to substituting for straight bonds. I also find that, anticipating the security offering in the near future generates incremental demands for accounting conservatism in the year preceding the security offering, particularly for common equity issuers.

Table 7
The Association of Changes in Financial Reporting Conservatism and the Security Offering

$$\begin{aligned}&\Delta Conserv_{it}\\&=\alpha+\beta_1 SB\ issue_{it}+\beta_2 EQ\ issue_{it}+\beta_3\Delta LEV_{it}+\beta_4\Delta Rating_{it}+\beta_5\Delta Deviation\_CV_{it}\\&+\beta_6\Delta FCF_{it}+\beta_7\Delta InstitutionOwn_{it}+\beta_8\Delta MBR_{it}+\beta_9\Delta Size_{it}+\beta_{10}\Delta Volatility_{it}\\&+\beta_{11}\Delta InvestCycle_{it}+\beta_{12}\Delta Opercycle_{it}+\beta_{13}\Delta\text{Int\_intensity}_{it}+\beta_{14}Auditor\_Switch_{it}\\&+\beta_{15}\Delta Tax_{it}+\beta_{16}\text{Post\_Procomp}_{it}+\varepsilon_{it}\end{aligned}$$

Variable [a]	*Exp. sign*	*Coef.*		*t-stat.* [b]
Intercept	?	0.010		0.72
SB issue	+	0.008		0.57
EQ issue	+	0.030	**	1.91
Δ*LEV*	+	0.016	**	2.18
Δ*Rating*	+	0.015	**	2.18
Δ*Deviation_CV*	+	0.033		0.66
Δ*FCF*	+	0.027		0.65
Δ *InstitutionOwn*	+	0.002	**	2.37
Δ*MBR*	+	0.046	***	3.98
Δ*SIZE*	-	-0.127	***	-5.86
Δ*Volatility*	+	0.014	**	1.65
Δ*InvestCycle*	-	-0.265	*	-1.31
Δ*Opercycle*	+	0.000	***	2.64
Δ*Int_intensity*	+	0.071		1.13
Auditor_Switch	+	0.023		1.10
Δ*Tax*	+	-0.034		-0.64
Post_Procomp	+	0.049	***	3.59
Adj R^2 (%)		20.43		
F-stat.		10.67	***	
Wald coefficient test:				
$H_0: \beta_1 = \beta_2$ (*F-stat.*)		2.53	*	

a. Δ*Variable* means the change in the level of that variable over the year preceding the security offering. *Auditor_switch*=1 if firms change their auditors from non-Big 4 to Big 4, =(-1) if change auditors from Big 4 to non-Big 4, and equals zero otherwise. Please refer to notes of Table 7 for the definition of other variables.

b. t-statistic is calculated based on White heteroskedasticity-consistent standard errors. ***, **, * denote significance at the 1, 5, 10 percent level, respectively.

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會計穩健性在證券發行決策所扮演的角色

姜家訓 *

摘要

本研究探討在證券發行決策中，會計穩健性對於緩和負債與權益代理成本所扮演的角色。本研究將證券發行決策設定為企業在普通股現金增資、普通公司債以及轉換公司債等三種外部融資工具間之選擇，並以台灣非金融業上市櫃公司於 2000 至 2007 年期間曾發行前三種融資工具之一者為樣本。實證結果發現，若公司之財務報導較穩健，則其發行轉換公司債取代普通股權益融資之可能性較低；普通股現金增資相較於普通公司債融資之可能性較高；此外，對於具成長機會之公司，發行轉換公司債取代普通公司債融資之可能性較高。本研究亦發現，若公司預期將從事外部融資，會增加其對會計穩健性之需求，尤其將進行普通股融資時。本研究之實證結果支持了會計穩健性在緩和權益市場資訊不對稱所扮演的角色。研究發現會計穩健性與轉換公司債融資所呈現之關係，隱含了該兩種機制對於緩和過度投資之代理衝突具有替代關係，對於緩和具成長機會公司之投資不足問題，則存在互補關係。

關鍵詞彙： 會計穩健性，轉換公司債，證券發行決策，代理成本

* 作者簡介：姜家訓，輔仁大學會計學系副教授。