Stock Returns, Operating Performance, and Tobin's Q Following Seasoned Securities Offerings

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Abstract

We examine the long-run stock returns, operating performance, and Tobin's Q following firms' issuances of straight debt, convertible debt, and common stock from 1990 to 2006. The abnormal stock returns, operating performance, and Tobin's Q show that common stock and convertible debt issuers suffer underperformance during the post-issue periods. However, we cannot find the underperformance problem for straight debt issuers. This is consistent with Myers and Majluf (1984) model. Firms with larger offerings have poorer stock returns, operating performance, and Tobin's Q after issuance. This study also supports Miller and Rock (1985) model.

I. Introduction

Several studies examine long-run stock returns following seasoned securities offerings. Spiess and Affleck-Graves (1995) and Loughran and Ritter (1995) report underperformance during the five years subsequent to seasoned equity offerings. Lee and Loughran (1998) also find that poor stock returns and operating performance in the five years following convertible debt offerings. Spiess and Affleck-Graves (1999) also report that both seasoned equity issuers and straight debt issuers have long-run post-issue underperformance.

Other studies document long-run operating performance subsequent to seasoned securities issuance. Hansen and Crutchely (1990), McLaughlin, Safieddine, and Vasudevan (1996), and Loughran and Ritter (1997) report that seasoned equity issuers have post-issue decreases in operating performance. Ofer and Natarajan (1987), McLaughlin, Safieddine, and Vasudevan (1998b), and Lewis, Rogalski, and Seward (2001) find that convertible bond issuers experience declines in operating performance subsequent to offerings. In another study, McLaughlin, Safieddine, and Vasudevan (1998a) report that both seasoned equity issuers and straight debt issuers have significant decreases in operating performance following issuance.

Patel, Emery, and Lee (1993) examine long-term performance of publicly traded firms that issue straight debt, convertible debt, and seasoned equity. They find that although the performance declines following issuance, issuers still perform better

than industry. More recently, Bae, Jeong, Sun, and Tang (2002) investigate not only long-run stock returns but also operating performance around firms' offerings of seasoned equity, convertible debt, and straight debt. They report that stock returns underperformance and operating performance during the post-issue periods for seasoned equity and convertible debt issuers.

Our research extends the empirical literature by introducing Tobin's Q in this field. No existing empirical studies demonstrate a link between the securities offerings and Tobin's Q. Unlike prior work that has examined the stock returns and/or operating performance (EBITDA, profit margin and return on asset, etc), this paper also examines Tobin's Q as a long-term measure for performance subsequent to the issue. Tobin's Q could be better (more informative) measure than earnings or operating characteristics to examine the impact of security issuances. One argument might be based on Barber and Lyon (1996), who caution that an ROA measure of performance can be misleading in these cases, as the firm's assets immediately increase, but the associated increase in earnings lags. To correct, the present value of the increase (or decrease) in future cash flows signaled by the offering will be impounded into the stock price, and thus Tobin's Q. The purpose of this paper is to examine the post-issue underperformance problem using stock returns, operating performance, and Tobin's Q of equity, convertible bond, and straight bonds issuers.

We document that common stock and convertible debt issuers experience underperformance during the post-issue periods. Firms with larger issuances tend to have poorer stock returns, operating performance, and Tobin's Q subsequent to offerings.

II. Literature Review

1. The signaling hypothesis

In Modigliani and Miller's (1958) (hereafter, MM) perfect market, firms have no preference between debt and equity offerings to finance their projects. MM assume that all market participants have the same information about a firm's future return distribution. If managers have information about the firm's future return distribution that is unknown to investors, the type of security the firm issues might be important. Prior studies examine a firm's choice of financial security type under asymmetric information. Myers and Majluf (1984) and Miller and Rock (1985) develop models of security issuance under asymmetric information.

Myers and Majluf (1984) argue that investors make inferences about firm value based on the firm's choice of new-issue security type. Their inferences are based on the concept of adverse selection, and the sensitivity of the payoff for the new

securities to the firm's future outcomes. When new security payoffs are more dependent on the firm's future performance, investors perceive more negative signals from the issuance of the securities. For example, when the firm issues riskless straight debt, the payoffs are insensitive to the firm's performance (assuming the firm avoids bankruptcy) because the security's return does not depend on the firm's future outcomes. In such a case, the impact of asymmetric information is minimized.

On the other hand, if a firm issues equity, the payoffs are directly related to the firm's future outcomes, and the signal of security choice is most negative. Risky straight debt and convertible debt lies between these two securities. Riskless debt and risky straight debt have the same payoffs assuming no financial distress. However, convertible debt can be considered as a combination of common stock and an option. Thus, convertible debt can be treated as risky as common stock. Therefore, their pecking order model predicts a difference between straight debt and convertible debt or common stock. It predicts that future performance is significantly worse for firms that offer convertible debt or common stock than for firms that offer straight debt.

Miller and Rock (1985) show that investors also draw inferences about management's expectations of future earnings from managerial financing decisions. They provide an alternative explanation with the identity between cash sources and uses. Since the sources of funds (cash flows from operations plus the securities sale) must identical to the uses of funds (investments plus dividends), security issuances signal that the manager's poor earnings expectations. Thus, an unexpected security offering will be interpreted as a negative signal about the future prospects of the firm. They predict that a larger amount of external financing gives a worse signal, regardless of the type of security issued.

To summarize, both hypotheses predict that the firm's market value will decline after security offerings except the followings. Myers and Majluf (1984) argue that the firm market value will decline with magnitude of increasing order in response to straight debt, convertible debt, and equity offerings. However, Miller and Rock (1985) do not distinguish between the offerings type.

2. Empirical studies

Earlier studies examine stock price reaction to the announcement of various types of security offerings by assuming that the market is at least semi-strong form efficient. Dann and Mikkelson(1984), Mikkelson and Partch(1986), Asquith and Mullins(1986), Masulis and Korwar(1986), and Eckbo(1986) report that two-day average abnormal returns for firms issuing equity are -3.14%, for those issuing convertible debt are -2.07%, and for those issuing straight debt are -0.26% at the announcement [Smith (1986, p.5)]. These results, at least qualitatively, appear to be

consistent with the asymmetric information models of Myers and Majluf (1984) and Miller and Rock (1985).

Recent studies associated with the long-run underperformance for three to five years following the issue date [Spiess & Affleck-Graves (1995 and 1999), Loughran and Ritter (1995), and Lee and Loughran (1998)] cast doubt on the market efficiency. Several other studies document long-run post-issue declines in operating performance [Hansen and Crutchley (1990), Patel et al (1993), McLaughlin et al. (1996, 1998a, and 1998b), Loughran and Ritter (1997), Lewis et al. (2001), and Bae et al. (2002)]. The observed stock results show that market does not fully reflect the informational content of security offerings during the announcement period, but instead underreat. Among the recent studies, Hansen and Crutchley (1990), Patel et al (1993), and Bae et al. (2002) compare long-run behavior of corporate earnings surrounding three types of security offerings: sales of seasoned equity, convertible debt, and straight debt.

Current paper also uses Tobin's Q as a long-term measure for performance. Tobin's Q is the ratio of the firm's market value to the replacement cost of its physical assets. Whereas the market value is determined in financial markets, the replacement cost is determined in product markets. Tobin's Q could be better (more informative) measure than earnings or operating characteristics (profit margin, return on assets, etc.) to examine the impact of security issuances. One argument might be based on Barber and Lyon (1996), who caution that an ROA measure of performance can be misleading in these cases, as the firm's assets immediately increase, but the associated increase in earnings lags. To correct, the present value of the increase (or decrease) in future cash flows signaled by the offering will be impounded into the stock price, and thus Tobin's Q.

Why not, then, just use the stock price reaction to measure performance changes? The answer lies in the changes to the firm's leverage brought about by security issuances. Issuances of additional equity lower in the firm's leverage, reducing the potential for financial distress and lowering the risk of the firm. Investors require lower returns for firms with less risk, and the associated change in expected returns will be reflected in the stock price upon announcement. Conversely, an issuance of debt increases the leverage (and the risk) of the firm. Investors require higher returns for firms with greater risk, and the associated change in expected returns will again be reflected in the stock price upon announcement. Only by considering both the value of debt and the value of equity we can examine the impact of security issuances on firm value. Tobin's Q compares the value of debt and the value of equity to the value of the firm's assets, thus addressing this concern.

This paper presents evidence that supports the signaling hypothesis. This hypothesis postulates that security offerings signal new information to investors in the market. If the offerings are motivated by, and convey, new information about

the firm's future prospect, we should observe an unexpected decline in the firm's performance in the years after issuance. Performance is defined as the post-issue stock returns, operating performance, and Tobin's Q.

III. Data and Methodology

1. Data

　　Preliminary samples consist of all straight bond, all convertible bond, and all common stock issuances from 1990 to 2006 (the issuance period). We collect stock returns from KIS and financial data from TISS and FnGuide. The sample should be the industrial firms listed on the Korea Stock Exchange with financial information. We delete if the equity offerings are initial public offerings. This procedure reduces the sample size to 5,042 observations. The final samples consist of 2,675 issuances of straight debt, 743 issuances of convertible debt, and 1,624 issuances of common stock. Table 1 shows the distribution of straight debt, convertible debt, and equity by calendar year.

<Table 1>
Distribution of Securities Issues by Type and Year During 1990 to 2006

Year	Straight Debt	Convertible Debt	Common Stock	All Offerings
1990	104	13	128	245
1991	113	25	104	242
1992	125	14	100	239
1993	105	26	126	257
1994	72	112	112	296
1995	68	88	138	294
1996	88	54	125	267
1997	31	81	85	197
1998	307	45	64	416
1999	173	84	178	435
2000	252	46	66	364
2001	272	35	62	369
2002	219	21	81	321
2003	192	17	74	283
2004	187	24	57	268
2005	181	33	60	274
2006	186	25	64	275
Total	2,675	743	1,624	5,042

The table shows that the years from 1998 to 2002 are with relatively large numbers and 1997 is the year with smallest number of offerings. Other than those six years, it appears the sample is evenly spread over the period.

Table 2 reports the descriptive statistics of straight debt, convertible debt, and equity, respectively.

<Table 2>
Descriptive Statistics by Type During 1990 to 2006

	Straight Debt	Convertible Debt	Common Stock
Issue size (in thousand Won)	55,252,364	100,848,482	133,530,540
Firm size (in thousand Won)	1,124,192,977	1,043,424,457	913,426,561
Issue size / total assets	0.0558	0.1136	0.2884

The issue size are 55 billion won, 100 billion won, and 133 billion won, for straight debt, convertible debt, and common stock, respectively. As measured by the market value of equity, the firm size is largest for straight debt offerings and smallest for equity offerings. The standardized issuing size by firm's total assets is smallest for straight debt issuers and largest for common stock issuers.

2. Methodology

(1) Stock Return

We follow the recommendation of Barber and Lyon (1997) to calculate abnormal stock returns. The abnormal stock returns are defined as the issuers' buy-and-hold return less the return of matching firms. Specifically, the matching firm is a nonissuer which must satisfy two conditions in the year before the security offerings: It has market value of equity within ±30% of the issuing firm, and its book-to-market value of equity is closest to the issuing firm. Mclaughlin et al. (1998b, p.385) and Bae et al. (2002, p.341) also use this procedure.

(2) Operating Performance

Prior studies use different measures for operating performance. Specifically, whereas Hansen and Crutchley (1990) use earnings before interest and taxes (EBIT), Healy and Palepu (1990) use net income (NI). Patel et al. (1993) use operating income before depreciation. Barber and Lyon (1996), McLaughlin et al. (1998a, 1998b), and Bae et al. (2002) use pre-tax operating cash flows[1]. Lee and

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1) ① Pre-tax operating cash flows, ② operating income before depreciation, and ③ earnings before interest, taxes, depreciation, and amortization (EBITDA) are essentially same.

Loughran (1998) use profit margin and return on assets. Loughran and Ritter (1997) and Lewis et al. (2001) use several measures including profit margin, return on assets, and operating income before depreciation.

We follow the recommendation of Barber and Lyon (1996), who suggest that the ratio of earnings before interest, taxes, depreciation, and amortization to total assets (EBITDA/TA) measures operating performance appropriately.

Also, we follow the recommendation of Barber and Lyon (1996) to calculate abnormal operating performance. It is defined as each issuing firm's operating performance (EBITDA/TA) for an eleven-year period around the offering year less that of an appropriate benchmark. The benchmark is a portfolio of nonissuing firms which must satisfy two conditions in the year before the issue: It has book value of total assets within ±30% of the issuer's, and its operating performance is within ±10% of the issuer's. McLaughlin et al. (1998a, p.34), Mclaughlin et al. (1998b, p.385) and Bae et al. (2002, p.341) also use this procedure.

(3) Tobin's Q

Tobin's Q is the ratio of market value of equity to book value of equity (MV/BV). Because current study is the first to use Tobin's Q in this field, the preferred procedure is unknown. We just follow the procedure conducted in operating performance to calculate abnormal Tobin's Q.

IV. Results

1. Abnormal Stock Returns

To begin with, we examine the cumulative abnormal stock returns (CAR) for three post-issue periods. Table 3 shows the mean and median abnormal returns for straight debt issuers, convertible debt issuers, and common stock issuers, respectively.

<Table 3>
Long-Run Abnormal Stock Returns by Type

	Post-Issue Period		
	(+1, +1)	(+1, +2)	(+1, +3)
Straight Debt			
Mean	0.0062	−0.0686**	−0.1034***
Median	−0.0024	−0.0359**	−0.1262***
N	1,307	810	575
Convertible Debt			
Mean	−0.0716	−0.2426***	−0.2312***
Median	−0.0773	−0.2511***	−0.1639***
N	272	188	158
Common Stock			
Mean	−0.1102***	−0.2008***	−0.1424***
Median	−0.0882***	−0.2106***	−0.1144***
N	823	508	471

* : significant at the 10% level
** : significant at the 5% level
*** : significant at the 1% level

The long-run results show that most post-issue abnormal returns are negative and significant for all type of securities issuers. For example, the mean and median abnormal returns for common stock issuers are −11.02% and −8.82% during one-year post-issue period, −20.08% and −21.06% during two-year post-issue period, −14.24% and −11.44% during three-year post-issue period, respectively.

We find that the post-issue underperformance is most severe for convertible debt or common stock issuers which is consistent with Myers and Majluf (1984) model and most empirical studies.

We follow Bae et al's (2002) procedure to examine the differences in the abnormal returns among different types of offerings. Specifically, we estimate a linear model that utilizes issuing-type dummy variables and relative issuing size as a control variable. The model is:

$$CAR_i = \alpha_0 + \alpha_1 SD + \alpha_2 CD + \alpha_3 RSZ_i + \varepsilon_i$$

where CAR_i is the cumulative abnormal return for firm i, SD equals 1 for straight debt and 0 otherwise, CD equals 1 for convertible debt and 0 otherwise, and RSZ_i is the relative issuing size for firm i.

Table 4 shows the empirical results.

<Table 4>

Linear Model Estimations for Long-Run Abnormal Stock Returns

$$CAR_i = \alpha_0 + \alpha_1 SD + \alpha_2 CD + \alpha_3 RSZ_i + \varepsilon_i$$

	α_0	α_1	α_2	α_3	Adj. R^2	N	F
(+1,+1)	0.0216	−0.0005	−0.1161**	−0.1185*	0.006	1,746	4.49
	(0.42)	(−0.01)	(−2.37)	(−1.85)			
(+1,+2)	−0.0555	0.0377	−0.1664**	−0.2390**	0.011	1,075	5.11
	(−0.59)	(0.41)	(−1.96)	(−2.31)			
(+1,+3)	−0.2176**	0.1627	−0.0109	−0.2357**	0.009	742	3.20
	(−2.08)	(1.60)	(−0.11)	(−2.18)			

* : significant at the 10% level
** : significant at the 5% level
*** : significant at the 1% level

The estimate for common stock is negative and significant for three-year post-issue period. The coefficients for convertible debt issuers are negatively significant for one-year and two-year post-issue periods. This means that common stock and convertible debt issuers suffer negative performance in the post-issue periods.

The coefficient estimates for straight debt issuers are not significant during the periods, which means that straight debt issuers' stock returns are higher than those of convertible debt and common stock issuers. The post-issue result is consistent with the Myers and Majluf's (1984) pecking order and most empirical studies.

The coefficients for relative issuing amount are significantly negative during the post-issue periods. This means that firms with larger offerings tend to have abnormally negative stock returns in the years after security offerings. This is consistent with the Miller and Rock (1985) model.

2. Abnormal Operating Performance

As we did in the previous section, we examine the cumulative abnormal operating performance (CAO) for three post-issue periods. Table 5 shows the mean and median abnormal operating performance for straight debt issuers, convertible debt issuers, and common stock issuers, respectively.

<Table 5>

Abnormal Operating Performance by Type

	Post-Issue Period		
	(+ 1, + 1)	(+ 1, + 2)	(+ 1, + 3)
Straight Debt			
Mean	-0.0218***	-0.0398***	-0.0537***
Median	-0.0125***	-0.0319***	-0.0300***
N	1,308	814	578
Convertible Debt			
Mean	-0.0449***	-0.0958***	-0.0784***
Median	-0.0241***	-0.0577***	-0.0486***
N	273	192	170
Common Stock			
Mean	-0.0477***	-0.1030***	-0.0789***
Median	-0.0230***	-0.0484***	-0.0432***
N	842	545	506

* : significant at the 10% level
** : significant at the 5% level
*** : significant at the 1% level

The results show that all the post-issue abnormal performance are negative and significant for all issuers, irrespective of the security types. In general, the abnormal stock returns (CAR) in Table 3 and abnormal operating performance (CAO) shown in Table 5 report similar patterns. Specifically, except that the abnormal stocks returns are insignificant for straight debt and convertible debt issuers for one-year post-issue period, the CAR and CAO are significant and negative during the post-issue periods.

We examine the difference in the abnormal operating performance among different types of issuances. The model is:

$$CAO_i = \beta_0 + \beta_1 SD + \beta_2 CD + \beta_3 RSZ_i + \varepsilon_i$$

where CAO_i is the cumulative abnormal operating performance for firm i, SD equals 1 for straight debt and 0 otherwise, CD equals 1 for convertible debt and 0 otherwise, and RSZ_i is the relative issuing size for firm i.

Table 6 reports the results.

<Table 6>

Linear Model Estimations for Abnormal Operating Performance

$$CAO_i = \beta_0 + \beta_1 SD + \beta_2 CD + \beta_3 RSZ_i + \eta_i$$

	β_0	β_1	β_2	β_3	Adj. R^2	N	F
(+1,+1)	−0.0601***	0.0328***	0.0083	−0.0722***	0.017	1,737	10.71
	(−4.93)	(2.73)	(0.72)	(−4.54)			
(+1,+2)	−0.0929***	0.0336	−0.0052	−0.1624***	0.030	1,073	11.98
	(−3.58)	(1.33)	(−0.22)	(−5.48)			
(+1,+3)	−0.0741**	0.0052	−0.0064	−0.0801**	0.005	751	2.24
	(−2.42)	(0.17)	(−0.23)	(−2.53)			

∗ : significant at the 10% level
∗∗ : significant at the 5% level
∗∗∗ : significant at the 1% level

The estimate for straight debt is significant and positive during one-year post-issue period. The coefficients for convertible debt are insignificant during the post-issue periods. However, the coefficient estimates for common stock issuers are negatively significant during the periods. The post-issue operating performance for common stock issuers is the worst among the three types of offerings, which is consistent with the Myers and Majluf (1984) argument.

The coefficients for relative issuing amount are significantly negative during the post-issue periods. This implies that firms with larger offerings have poorer operating performance, and is consistent with Miller and Rock (1985).

Generally, the abnormal stock returns (CAR) in Table 4 and abnormal operating performance (CAO) presented in Table 6 show similar results. That is, the abnormal stock returns and abnormal operating performance are significant and negative for common stock issuers after the securities are issued, and firms with larger offerings have abnormally poorer stock returns and operating performance during the post-issue periods.

3. Abnormal Tobin's Q

We investigate the cumulative abnormal Tobin's Q (CAQ) for three post-issue periods. Table 7 reports the mean and median abnormal Tobin's Q for straight debt issuers, convertible debt issuers, and common stock issuers, respectively.

<Table 7>

Abnormal Tobin's Q by Type

	Post-Issue Period		
	(+1, +1)	(+1, +2)	(+1, +3)
Straight Debt			
Mean	−0.8353***	−1.6599***	−1.6844***
Median	−0.7838***	−1.5509***	−1.5968***
N	1,316	823	583
Convertible Debt			
Mean	−0.8926***	−1.7743***	−1.8031***
Median	−0.8522***	−1.7033***	−1.6887***
N	277	193	171
Common Stock			
Mean	−0.9183***	−1.8583***	−1.8277***
Median	−0.8832***	−1.8100***	−1.7824***
N	858	561	517

＊ : significant at the 10% level
＊＊ : significant at the 5% level
＊＊＊ : significant at the 1% level

The results of the post-issue abnormal Tobin's Q are negatively significant across the issuers. The abnormal operating performance (CAO) in Table 5 and the abnormal Tobin's Q (CAQ) shown in Table 7 show essentially same results. That is, the CAO and CAQ for the all issuers are statistically negative during the post-issue periods.

We test the difference in the abnormal Tobin's Q among different types of issuances. The model is:

$$CAQ_i = ɣ_0 + ɣ_1 SD + ɣ_2 CD + ɣ_3 RSZ_i + μ_i$$

where CAQ_i is the cumulative abnormal Tobin's Q for firm i, SD equals 1 for straight debt and 0 otherwise, CD equals 1 for convertible debt and 0 otherwise, and RSZ_i is the relative issuing size for firm i.

Table 8 shows the results.

<Table 8>

Linear Model Estimations for Abnormal Tobin's Q

$$CAQ_i = ɣ_0 + ɣ_1SD + ɣ_2CD + ɣ_3RSZ_i + μ_i$$

	$ɣ_0$	$ɣ_1$	$ɣ_2$	$ɣ_3$	Adj. R^2	N	F
(+ 1,+ 1)	−0.8806***	0.0971***	−0.0430*	−0.0342	0.023	1,750	14.71
	(−34.34)	(3.83)	(−1.75)	(−1.03)			
(+ 1,+ 2)	−1.7564***	0.2261***	−0.1132**	−0.1244**	0.059	1,084	23.71
	(−32.66)	(4.31)	(−2.31)	(−2.02)			
(+ 1,+ 3)	−1.7938***	0.3035	−0.0967*	−0.0939	0.090	757	25.82
	(−28.98)	(5.03)	(−1.69)	(−1.46)			

* : significant at the 10% level
** : significant at the 5% level
*** : significant at the 1% level

The estimates for straight debt are significant and positive during one-year and two-year post-issue periods. However, the coefficient estimates for convertible debt and common stock are negatively significant during the post-issue periods. Moreover, the post-issue Tobin's Q for common stock issuers is the worst among the three types of offerings, which is coincident with the Myers and Majluf (1984).

The coefficients for relative issuing amount are negative and significant during two-year post-issue period. This suggests that companies with larger offerings have poorer Tobin's Q, and is consistent with Miller and Rock (1985).

Again, the abnormal operating performance (CAO) in Table 6 and abnormal Tobin's Q (CAQ) presented in Table 8 report essentially the same results. That is, the abnormal operating performance and abnormal Tobin's Q are significant and negative for common stock issuers during the post-issue periods, and firms with larger offerings have abnormally poorer operating performance and Tobin's Q after the issuance.

4. Differences Between Security Types

As we discussed earlier, Myers and Majluf's (1984) pecking order model predicts a difference between straight debt and convertible debt or common stock. To investigate futher, we examine differences in mean between pairs of types during the post-issue periods. Table 9 reports the Z-values of the Wilcoxon rank sum test.

<Table 9>

Wilcoxon Z-values Between Security Type

		Straight Debt vs. Convertible Debt	Straight Debt vs. Common Stock	Convertible Debt vs. Common Stock
(+1, +1)	CAR	1.5910[*]	3.9132[***]	0.9396
	CAO	2.9469[***]	3.4122[***]	0.6760
	CAQ	3.0832[***]	6.4396[***]	1.3745[*]
(+1, +2)	CAR	2.7129[***]	2.8199[***]	0.7163
	CAO	2.7971[***]	3.8402[***]	0.2229
	CAQ	2.5247[***]	6.5202[***]	2.2701[**]
(+1, +3)	CAR	1.0306	0.4988	0.6921
	CAO	1.3723[*]	2.0060[**]	0.0311
	CAQ	2.1965[**]	4.6190[***]	1.1332

* : significant at the 10% level
** : significant at the 5% level
*** : significant at the 1% level

The results show that the abnormal stock returns (CAR), abnormal operating performance (CAO), and abnormal Tobin's Q (CAQ) of straight debt issuers are significantly differ from those of convertible debt issuers or common stock issuers. In contrast, the CAR, CAO, and CAQ of convertible debt issuers are not statistically different from those of common stock issuers except for the CAQ for one-year and two-year post-issue periods. Generally, this finding is consistent with the pecking order model.

V. Conclusion

We investigate the long-run stock returns, operating performance, and Tobin's Q of straight debt, convertible debt, and common stock issuers for the three years after offerings. Myers and Majluf (1984) argue that performance decline is significantly greater for firms that issue convertible debt or common stock than for firms that issue straight debt. Miller and Rock (1985) suggest that a larger amount of external financing gives a worse signal, irrespective to the type of security offerings. Our results are consistent with both models.

Common stock and convertible debt issuers experience negative stock return performance in the post-issue periods. Straight debt issuers, however, do not have return underperformance problem after issuance. Similarly, common stock issuers experience the worst operating performance among the three types of issuances, while straight debt issuers have the best performance during the post-issue

periods. Likewise, Tobin's Q declines during the post-issue periods for common stock issuers. However, we do not find negative Tobin's Q for striaght debt issuers. Finally, we document that firms with larger issuances have abnormally poorer stock returns, operating performance, and Tobin's Q subsequent to the security offerings.

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