PPBRI PAN-PACIFIC JOURNAL OF BUSINESS RESEARCH

Volume 2, No. 1 Spring, 2011

Table of Contents

Pan-Pacific Journal of Business Research

1. Topics: All areas of business, economics, and information systems

2. Manuscript Guidelines/Comments:

Pan-Pacific Journal of Business Research (PPJBR) is a double blind peer reviewed Journal focusing on integrating all areas of business, economics, finance, and Information Systems. PPJBR pursues high quality researches significantly contributing to the theories and practices of all areas of business, economics, and Information Systems. PPJBR is an academic journal listed on Cabell Directory. PPJBR consider for publication the following topics in all areas of business and economics including Accounting, Economics, Finance, Marketing, Management, Operation Management, and Information Systems:

- New theories, paradigmatic design and applications.
- New regulations and policies.
- Application of Accounting, Economics, Finance, Marketing, Management, Operation Management, and Information Systems in industrial or international settings.
- Case studies exploring current issues.

3. Submission:

Authors are required to submit their article or manuscript electronically at info@ppbri.org.
Before submission, the article or manuscript should not be published in any other journal. The article or manuscript should be in MS Office Word format. It should be written in a single space with a maximum number of 15 pages and 12 font size. Title, the name(s), affiliation(s), address (es), phone number(s), and email(s) of authors should be on the cover page. Contact author should be indicated. Only an abstract of the article or manuscript in 250 words, title, and 4 key words should be shown on the second page.

PPJBR generally follows the American Psychological Association (APA) guidelines. Reference should be presented in a separate sheet at the end of the article or manuscript. Tables, figures, footnotes, and their numbering should appear on the appropriate page. The usage of footnotes should be minimized. The decision of acceptance usually takes three months. After acceptance, PPBRI has a copy right for the accepted article and manuscript.

The article or manuscript should be submitted to: Dr. John Jin, Editor, 5500 University Parkway, JB 278B, San Bernardino, CA 92407. Phone: 909-537-5721. Email: info@ppbri.org

Determinants of and Market Responses to Preferred Stock Classifications:

A Case of Redeemable Preferred Stocks and Trust Preferred Stocks

Byunghwan Lee, California State Polytechnic University- Pomona
John J. Jin[1], California State University – San Bernardino
Mookwon Jung, KookMin University, Korea

ABSTRACT

This paper investigates the determinants of differential treatments of preferred stocks and the periodic payments to the shareholders. Our results suggest that Firms with high tax rates are more likely to present preferred stocks as debts and hence claim the periodic payments to the shareholders as tax deductible expenses. This paper also examines the market response to the differential treatment of preferred stocks and the periodic payments to the shareholders. Empirical results show that market investors react more favorably to preferred stocks which are filed as mezzanine or debt than equity. Investors in market react more favorably to preferred stocks whose periodic payments to the shareholders are filed as interest expenses than those as dividends.

JEL: G30, G32, G35

Key Word: Preferred stock, Tax, Dividends, Debts

[1] Contact author. Tel: 909) 537-5721, Fax: 909)537-7514, jjin@csusb.edu

1.0 Introduction and Synopsis

This research examines why preferred stocks are reported differently across firms and how the market reacts to these different presentations of preferred stocks. Preferred stocks have characteristics of both debt and equity. Preferred stockholders typically have dividend priority over common shareholders, but, unlike their common counterparts, have no voting rights, while both common and preferred claims are subordinate to debt claimants in any liquidation. Compared to traditional perpetual preferred stocks, redeemable preferred stocks are relatively close to debts in that issuing company has options to redeem the stocks. However, their diverse attributes such as convertibility, participating, and cumulativeness may make it difficult to develop classification standards for presentations of redeemable preferred stocks in financial statements.

Although the Securities and Exchange Commission (SEC) requires registrants to exclude redeemable preferred stocks from equity, some firms still report some redeemable issues as equity.[2] Further, many firms report redeemable preferred stocks in the "mezzanine" section of the balance sheet, in effect implying that the issue occupies an intermediate position between debt and equity. With respect to the periodic payments to preferred shareholders, those

[2] ASR No. 268, a SEC rule regarding the classification of the securities which has the redemption features requires SEC registrants to report redeemable securities outside of equity. But SEC does not require it to be reported as debt.

payments to investors are reported as interest expenses when the preferred stocks are classified as debts and dividends when the preferred issue is classified as equity. However, when the preferred stock issue is classified in the mezzanine section of balance sheets, the payments can be reported as either interest expenses or dividends.

Trust preferred stocks are hybrid securities possessing characteristics of both subordinated debt and preferred stock. They are, in general, very long term, redeemable preferred stocks with periodic payments to the stockholders and maturity at face value. The issuing company forms a trust in a tax favorable state such as Delaware or Connecticut with 100% ownership interest in the trust. The trust then issues preferred stock to investors whose proceeds are lent to the company which, in exchange, issues a junior subordinated debt to the trust with virtually the same terms as the trust's preferred stock. Interest payments to the subordinated debt securities are tax deductible by IRS and hence reduce the cost of capital. If issued by a bank holding company, trust preferred stocks can be treated as equity rather than debts for Federal Reserve Bank reporting purposes, which is very favorable to bank holding companies whose funding abilities are limited to some multiple of their equity. This is why many bank holding companies prefer the trust preferred stocks in spite of high cost of capital due to debt features in the stocks.

Even though both redeemable preferred stocks and trust preferred stocks (called preferred stocks hereafter) have strong debt features, they are not always treated as such in practice. They are not always reported as debts and periodic payments to the stockholders are not always reported as tax deductible interests. The purpose of this paper is to examine why these preferred stocks with strong debt features are treated differently and how the market responses to the differential treatments.

Using signaling theory, we developed the following 4 testable hypotheses:

H1a: Firm leverage is positively associated with the likelihood that the firm will classify preferred stocks as equity and periodic payments to preferred stockholders as dividends.

H1b: Marginal tax rate is negatively associated with the likelihood that the firm will classify preferred stocks as equity and periodic payments to preferred stockholders as dividends.

H2a: Market-adjusted returns will be higher for firms classifying their preferred stocks as debts or mezzanine rather than equity.

H2b: Market-adjusted returns will be higher for firms classifying periodic payments to preferred stockholders as interest expenses rather than dividends.

Our results, in general, support H2a & H2b but do not support H1a & H1b.

The rest of our paper is organized in the following manner. Section 2 states the literature review leading to hypotheses developments. Section 3 describes the sample data and the research methodology followed by the empirical results in section4. Concluding remarks based on the empirical results and their implications are discussed in section 5.

2.0 Prior Research and Hypotheses

Without reporting rules for redeemable preferred stocks and trust preferred stocks, managers may exercise discretion on how these securities appear in the financial statements. All

though SFAS No. 150 issued in 2003 requires that redeemable and trust preferred stocks should be recorded as liabilities and the SEC requires that registrants exclude redeemable preferred stocks from equity since 1979, some firms still report them as equity. Other firms report these securities in the mezzanine section between debt and equity, while others report them as debt or even as unclassified. The mezzanine treatment is not a traditional dichotomous classification; rather, it provides a category that distinguishes hybrid securities from equity or debt. When the issue is classified as debt (equity), the periodic payments to investors are classified as interest (dividends). Interestingly, when mezzanine treatment is elected, firms can choose to treat the periodic payments to preferred stock investors as either deductible interest expenses or as non-deductible dividends. Clearly, whether a firm treats the payments to investors as interest expense or as dividends will have differential effects on earnings.[3] Managers disclose how preferred stocks are to be presented in the balance sheet and how periodic payments to preferred stockholders are to be treated in the income statement in Forms 424B2 and 424B3 that are filed with the SEC upon issuance of the preferred stock.

Prior research has examined the motivations for issuing various redeemable preferred securities, including trust preferred stock. For example, Engel, Erickson, and Maydew (1999) argue that the favorable capital structure effects, associated with issuing trust preferred stocks

[3] Since how redeemable preferred stocks are to be reported on the balance sheet is a topic of significant controversy, numerous normative perspectives have been addressed in an attempt to specify appropriate treatments of preferred stocks (see, e.g., Nair, Rittenberg, and Weygandt 1990; Fooladi, McGraw and Roberts (1991); Thomas and Sellers (1992)).

and retiring debt and traditional preferred stocks, are important to issuing firms. Houston and Houston (2002) show that firms issuing preferred stock have lower marginal tax rates than firms issuing long-term debt. Arzac (2009) reported that mandatory convertible stocks issued by Citigroup in 2007 had yielded higher proceeds than its common stock issuance. From a signaling perspective, managers have superior information regarding the future prospects of the firm and superior information on the optimal capital structure of the firm. This suggests that a desire to communicate this information to the markets will motivate the choice of capital structure through classification decisions. On the other hand, Myers and Majluf (1984) argue that managers use their superior information to benefit existing shareholders at the expense of new shareholders. Therefore, the announcement of an equity offer is regarded less favorably than the announcement of a debt offering. From an agency perspective Jensen and Meckling (1976) suggests that managers may pursue their own interests, therefore sacrificing shareholders' wealth. This adverse selection problem represents one reason for issuing convertible debt in order to obtain indirect financing when an equity issue is unattractive due to the adverse-selection problem (Stein (1992)).

In summary, much of the prior literature has examined why firms will choose one financing alternative over another. However, while the motivation to treat preferred stock dividends as interest for tax purposes is fairly clear, there is little prior research on the motivations for managers to choose among the various classifications on the balance sheet (equity versus mezzanine versus debt).

Under the agency theory, managers will issue debts when they perceive their firms are undervalued in the market. If the stock is undervalued, the price should increase in the future and

the managers want to protect existing shareholders' wealth by issuing fixed-interest debt instead of equity. In addition, firms should be healthy and stable financially when they issue debt in order to receive favorable financing costs. Since preferred stocks have characteristics of both equity and debt, firms may choose to issue preferred stocks to circumvent the diluting effect of an equity issue to the firm value. Thus, it may be reasonable to predict that firm characteristics such as leverage and tax rates influence the decision of how to classify preferred stocks on the financial statements.

With respect to firm leverage, we predict that higher leverage prior to issue will be associated with a greater likelihood that managers will choose to classify the issue as either equity or mezzanine. The implication is that a higher existing debt load will increase the cost of any additional debt issued, thus motivating managers to classify the issue as equity. Irvine and Rosenfeld (2000) found that debt-equity (D/E) ratios of preferred stock issuing firms are significantly higher than their matching firms.

Regarding tax rates, firms with high tax rates would receive more tax benefits by treating the periodic payments to preferred stockholders as interest expenses than firms with low tax rates would (Houston and Houston (2002)).Thus, firms with high tax rates are more likely to classify preferred stocks as debts and hence the periodic payments as interest expenses than firms with low tax rate are. In other words, tax rates may have a positive (negative) association with likelihood that the firm classifies the preferred issue as debts (equity). Carter and Manzon (1995) find that the low-tax firms that cannot make efficient use of tax shields tend to issue mandatory redeemable preferred stocks instead of debt since mandatory redeemable preferred stocks pay periodic payments that may be subject to interest tax shields. Two testable hypotheses here-from are

H1a: Firm leverage is positively associated with the likelihood that the firm will classify preferred stocks as equity and periodic payments to preferred stockholders as dividends.

H1b: Marginal tax rate is negatively associated with the likelihood that the firm will classify preferred stocks as equity and periodic payments to preferred stockholders as dividends.

Regarding market responses to accounting treatments of preferred stocks, there are two possible issues. First, when a firm reports redeemable preferred stocks and trust preferred stocks as debt or mezzanine, we predict that market investors will interpret this action as a signal that the firm is not overvalued or that management does not intend to take advantages of its new stakeholders. On the other hand, previously cited research suggests that issues of equity are negatively received by the market. Therefore, we predict that the market responses to the offers are expected to be more favorable when the issue is classified as debt than when the issue is classified as equity. Guzhva, Beltsova, and Golubev (2010) found that firms in airline industry experienced market under-valuations since they issued convertible preferred securities from 1980 to 1991.

Second, periodic payments to preferred stockholders are reported as interest expenses if the preferred stock is classified as debt or a dividend if it is classified as equity. But when the preferred stock is classified as mezzanine in the balance sheet, the payments can be reported as either interest expense or a dividend. The periodic payments to preferred stockholders would be favorably perceived by investors when they are tax deductible interest expenses due to lower cost

of capital. Since interest expenses are before tax payments while dividends are after tax payments, cost of capital would be lower when the payments are tax deductible than not. 2 more testable hypotheses here-from are

H2a: Market-adjusted returns will be higher for firms classifying their preferred stocks as debts or mezzanine rather than equity.

H2b: Market-adjusted returns will be higher for firms classifying periodic payments to preferred stockholders as interest expenses rather than dividends.

3.0 Sample Data and Methodologies

A sample of redeemable and trust preferred stocks issued from 1993 to 1999 are obtained from Investment Dealers' Digest. Prospectus Filed Pursuant to Rule 424 (424B2, 424B3, 424B4, etc.), a company's annual reports such as 10–K, 405-K or quarterly reports such as 10-Q are used

Table 1
Descriptions of Sample

Panel A: By sources

Source	*Redeemable*	*Trust*	*All*[a]
Issues from Investment Dealers' Digest (IDD) (1993 – 1999)	63	112	175
Issues without 424B (Prospectus Supplement) or 10-K	(5)	(9)	(14)
Issues without financial information on COMPUSTAT	(8)	(4)	(12)
Issues not on CRSP	(18)	(22)	(40)
Issues with inconsistent 10-K and COMPUSTAT financial information	(6)	(27)	(33)
Issues with absolute value of CAR of 3, 5, or 7 day window around offer date> 0.10	(1)	(2)	(3)
Issues used in tests as reported by IDD	25	48	73
Issues classified as Trust PS by IDD with both Redeemable and Trust attributes (out of 48) [b]	28		
Issues classified as Redeemable PS by IDD with both Redeemable and Trust attributes (out of 25) [b]	—	9	—
Total Issues used in tests	53	57	73

Panel B: by *Attributes*

	Number
Issues with Redeemable and Trust attributes (A)	37
Issues with Redeemable attributes only (B)	16
Issues with Trust attributes only (D)	20
Issues with Redeemable or Trust attributes used in tests	73

[a] Either Redeemable or Trust Preferred Stocks.
[b] Classification of the attribute (redeemable or trust) comes from the description of the security information in 424B or other SEC filing. Some observations have both redeemable and trust attributes.

to identify the attributes and classifications of the sample preferred stocks.

Table 1 shows how data are gathered and refined. First, Investment Dealers' Digest shows 63 offers of redeemable preferred stock and 112 offers of trust preferred stock which yields a total of 175 offers. [4] Second, using the name of the companies who offered those securities, we obtained individual filling information from www.freedgar.com. However, out of the 175 offers only 161 showed either the 424B filing and 10-K (10-Q was used if 10-K was not filed or not found). Third, 149 out of 161 sample firms' financial data are available in COMPUSTAT. Fourth, market return data were collected from CRSP, which reduced the sample to 109 offers. 33 offer observations were deleted due to a discrepancy between the amounts such as asset amounts reported on 10-K and those on COMPUSTAT. In order to avoid excessive influence of outliers, another three offers were excluded for various reasons such as negative book to market ratio, extreme CAR, or extremely large volume of trust preferred stock issuance. After these data filtering processes, only 73 observations remain. Because some observations have both redeemable and trust attributes, there are 53 offers of redeemable preferred stock and 57 offers of trust preferred stock. Omission of observations from the sample may induce biased test results.

[4] MIPS (monthly income preferred securities), QUIPS (quarterly income preferred securities) are not included in our sample unless such securities are specifically claimed as redeemable or trust preferred securities.

To examine the market reactions to the financial statement presentation of preferred stocks, the 3-day window (from one day before the event date to one day after the event date) return around the offer of preferred stocks is used since the accounting classification is usually filed right after the offer. Cumulative abnormal returns for the 3-day [t − 1, t + 1] window surrounding the offer date t are estimated from the daily stock returns data provided by the CRSP using the market model of Brown and Warner (1985).

Table2
Descriptive Statistics of Preferred Stocks

Panel A: By Offer years and types

	Redeemable		*Trust*		*All*[a]	
Year	*n*	*Size*[bb]	*N*	*Size*	*n*	*Size*
1993	2	51.0	-	-	2	51.0
		(51.0)				(51.0)
1994	1	62.5	-	-	1	62.5
		(62.5)				(62.5)
1995	13	166.2	8	145.3	13	166.2
		(100.0)		(100.0)		(100.0)
1996	14	189.4	16	207.9	18	193.2
		(100.0)		(175.0)		(125.0)
1997	18	137.3	32	118.2	34	122.7
		(112.5)		(105.0)		(105.0)
1998	3	85.5	-	-	3	85.5
		(80.0)				(80.0)
1999	2	475.0	1	300.0	2	475.0
		(475.0)		(300.0)		(475.0)
Total	53	163.3	57	150.4	73	153.2
		(100.0)		(110.0)		(100.0)

Panel B: By Industries and types

	Redeemable		*Trust*		*All*	
Industry	*n*	*Size*	*n*	*Size*	*n*	*Size*

Energy[c]	13	80.0	12	81.2	14	75.6
		(81.4)		(89.2)		(80.7)
Finance[d]	30	140.4	35	138.5	45	132.6
		(100.0)		(100.0)		(100.0)
Others[e]	10	340.4	10	275.0	14	296.7
		(336.9)		(200.0)		(200.0)
Total	53	163.3	57	150.4	73	153.2
		(100.0)		(110.0)		(100.0)

[a] Either Redeemable or Trust Preferred Stocks.
[b] Mean (median) in $ million.
[c] SIC 49xx
[d] SIC 6xxx
[e] All others except for SIC 49xx, 6xxx

4.0 Empirical Results

In Table 2 the mean (median) issue amount in $1,000,000 and the number of sample redeemable and trust preferred stocks are shown by issue years (Panel A) and industries (Panel B). In Panel A, the majority of samples were issued between 1995 and 1997. The number of the total samples is lower than the sum of 53 redeemable and 57 trust preferred stocks since some issues have both attributes. The mean issue sizes are 163.3 million dollars for redeemable preferred stocks and 150 million dollars for trust preferred stocks. In Panel B, out of 73 issues, 14 issues belong to the energy industry with SIC code 49XX while 45 issues belong to finance industry with SIC code 6XXX. The remaining 14 issues are classified as others.

Table 3 shows the financial statement presentations of redeemable preferred stocks (Panel A), trust preferred stocks (Panel B), and the total preferred stocks (Panel C). Each panel includes the number of observations and the mean and median issue amount. In Panel A, 13 redeemable preferred stocks are classified as equity and 15 offers are classified as mezzanine whereas only 2 issues are reported as debt. There are 28 issues whose periodic payments are reported as

dividends while there are 10 issues whose payments are reported as interest expenses. In Panel B, 8 trust preferred stocks are classified as equity, 19 issues as mezzanine and 8 issues as debt. The payments classified as dividends are 26 issues, while the payments which are reported as interest expenses are 12 issues.

The reason for large occurrences of unclassified issues in both panels is that the energy industry uses specific classification of the industry itself so that its preferred stock cannot be classified as either debt or equity in their balance sheet.[5] In Panel C, out of the 73 total issues, some of which have both redeemable and trust attributes, 14 preferred stocks are classified as

Table 3
Financial Statement Presentations of Preferred Stocks

Panel A: Redeemable Preferred Stock

		Balance Sheet				
Income Statement		*Equity*	*Mezzanine*	*Debt*	*Unclassified*[b]	*Total*
Dividend	n	11	8	-	9	28
	Size[a]	124.5	271.9	-	147.2	173.9
		(100.0)	(287.5)		(115.0)	(100.0)
Int. Expenses	n	-	3	1	6	10
	Size	-	118.8	40.0	79.8	87.6
			(80.0)	(40.0)	(88.5)	(80.0)
Unclassified[b]	n	2	4	1	8	15
	Size	92.4	216.3	20.0	230.0	194.0
		(92.4)	(95.0)	(20.0)	(150.0)	(110.0)
Total	n	13	15	2	23	53
	Size	119.6	226.4	30.0	158.4	163.3
		(100.0)	(100.0)	(30.0)	(110.0)	(100.0)

[5] Frischmann, Kimmel and Warfield (1999) also use this "unclassified" for utility industry.

Panel B: Trust Preferred Stock

		Balance Sheet				
Income Statement		*Equity*	*Mezzanine*	*Debt*	*Unclassified*	*Total*
Dividend	n	6	13	-	7	26
	Size	111.7	280.8	-	112.7	196.5
		(100.0)	(275.0)		(115.0)	(150.0)
Int. expenses	n	-	4	3	5	12
	Size	-	145.0	28.0	91.4	93.4
			(175.0)	(22.0)	(97.0)	(88.5)
Unclassified	n	2	2	5	10	19
	Size	155.0	62.5	19.1	181.0	123.2
		(155.0)	(62.5)	(18.0)	(130.0)	(100.0)
Total	n	8	19	8	22	57
	Size	122.5	229.2	22.4	138.9	150.4
		(105.0)	(200.0)	(21.0)	(105.0)	(110.0)

(Continued on next page)

Table 3 (Continued)

Panel C: Either Trust or Redeemable Preferred Stock (All [c])

		Balance Sheet				
Income Statement		*Equity*	*Mezzanine*	*Debt*	*Unclassified*	*Total*
Dividend	n	11	14	-	10	35
	Size	124.5	267.9	-	152.5	189.9
		(100.0)	(275.0)		(132.5)	(150.0)
Int. expenses	n	-	6	3	6	15
	Size	-	122.8	28.0	79.8	86.6
			(115.0)	(22.0)	(88.5)	(80.0)
Unclassified	n	3	4	5	11	23
	Size	128.3	216.3	19.1	171.8	140.7
		(110.0)	(95.0)	(18.0)	(110.0)	(90.0)
Total	n	14	24	8	27	73
	Size	125.3	223.0	22.4	144.2	153.2
		(100.0)	(200.0)	(21.0)	(100.0)	(100.0)

[a] Mean (median) in $ million.
[b] "Unclassified" is used for the case which cannot be classified as one of the equity, mezzanine, or debt.
[c] Either Redeemable or Trust Preferred Stocks.

equity, 24 issues as mezzanine and 8 issues as debt. The payments reported as dividends are 35 issues while the payments reported as interest expenses are 15 issues. [6]

Houston and Houston (2002) use marginal tax rate (MTR), book-to-market (B/M), long-term debt to equity (D/E) and other vehicles as the explanatory variables in order to find determining factors to issue either debt or preferred stocks in their logit model and probit model.

[6] Frischmann, Kimmel and Warfield (1999) show that, during 1993 to 1996, only 3% of their sample trust preferred stocks are reported as equity, and 7% reported the payout as dividends

They focus on MTR effect, while other variables such as B/M and D/E are control variables. Heinkel and Zeckner (1990) use B/M and show that firms use preferred stock in order to avoid

Table 4
Determinants of Preferred Stock Presentations
& Periodic Payment Presentations

Panel A: Preferred Stocks

Equity=0 versus Debt or Mezzanine=1

Determinant [a]	Coefficient	t-statistics
DE ratio	0.001	0.232
Tax rate	6.497	1.820*
B/M	2.028	0.768
Asset (log)	0.298	1.084
Industry	-0.708	-2.158**
N [b]	14+32	=46
Log-Logit [c]	-14.135	

Equity=0 versus Debt=1

Determinant	Coefficient	t-statistics
DE ratio	0.008	0.685
Tax rate	13.648	1.962**
B/M	1.286	0.320
Asset (log)	-0.482	-1.234
Industry	-0.334	-0.732
N	14+8	=22
Log-Logit	-5.349	

Equity=0 versus Mezzanine=1

Determinant	Coefficient	t-statistics
DE ratio	-0.001	-0.058
Tax rate	3.776	0.894
B/M	1.298	0.454
Asset (log)	0.452	1.450

Industry	-0.781	-2.229**
N	14+24	=38
Log-Logit	-14.065	

(Continued on next page)

Table 4 (Continued)

Mezzanine=0 versus Debt=1

Determinant	Coefficient	t-statistics
DE ratio	-0.002	-0.482
Tax rate	5.971	1.709*
B/M	10.096	1.794*
Asset (log)	-0.802	-2.111**
Industry	-0.611	-1.148
N	24+8	=32
Log-Logit	-10.403	

Panel B: Periodic Payments

Dividend=0 versus Interest Expense=1

Determinant	Coefficient	t-statistics
DE ratio	0.010	1.827*
Tax rate	-0.360	-0.499
B/M	0.353	0.488
Asset(log)	0.034	-0.414
Industry	-0.403	-2.381**
N	35+15	=50
Log-Logit	-22.888	

---

*, **: $p < 0.10$, $p < 0.05$, respectively, two-tailed.

[a] Determinant:
DE ratio: Long-term debt to equity ratio (COMPUSTAT's long-term debt to total capital (ltdcap) item,
Tax rate: Total Taxes divided by Pretax Income,
B/M: Book to market ratio,
Asset (log): Asset total (COMPUSTAT #6)
Industry: 1 if Utility industry (SIC=49XX), 7 if REIT (SIC=6798, Real Estate Investment Trust), 5 if Financial industry except for REIT (SIC=6XXX, except 6798), 3 if others.

[b] Number of observation (Ex. Equity (14) versus Debt (8) = total 22).

[c] Log likelihood Function.

All COMPUSTAT items are the numbers from the issuing firm's fiscal year-end prior to the offer date.

---

underinvestment. Barclay and Smith (1995) find that preferred stock covenants are less restrictive than debt covenants. They examine how D/E and tax rate affect presentations of redeemable or trust preferred stock in either balance sheet or income statement. B/M, log-transformed asset total, and industry are control variables.

Test results on determinants of preferred stock presentations and those of periodic payments to stockholders are presented in Table 4 Panel A and Panel B, respectively. Results in Table 4 Panel A show that, in general, tax rate is a significant determinant in a manager's decision on presentations of preferred stocks in balance sheet. Regression coefficients of tax rate are significantly positive at 10% significance level in three out of four logit models to test the effect of firm characteristics on the balance sheet presentations of preferred stocks. In the following three comparison situations such as 1 Equity versus either debt or mezzanine, 2 Equity versus debt, 3 Mezzanine versus debt, the regression coefficients of tax rate are significantly positive. The regression coefficient of tax rate is insignificant in a comparison between equity and mezzanine, which makes sense because mezzanine presentations of preferred stocks may or may not accompany tax deductible interest expenses. In sum, all these results may indicate that firms with high tax rates are more likely to classify preferred stocks as debts, supporting H1b. With respect to the effect of D/E ratio on preferred stock presentations, the regression coefficients of D/E do not have significant values in any one of the 4 comparison situations, indicating D/E does not have any significant effect on manager's decision on classifications of preferred stocks in the balance sheet, which does not support H1a.

Results presented in Table 4 Panel B suggest the followings. Regarding the effect of D/E ratio on treatments of the periodic payments to the stockholders, the regression coefficient of D/E is significantly positive, while that of tax rate is insignificant. The significantly positive coefficient of D/E may imply that high leverage firms tend to classify the periodic payments as tax deductible expenses more often than low leverage firms do, contradicting to H1a. One possible reason for this counter intuitive result can be an industry effect. REIT cannot get tax-shield benefit from preferred stock issuances by the industry regulation. Therefore, REIT has little or no desire to report preferred stocks as debts and the periodic payments as interest expenses because such treatments would simply increase D/E ratio and hence increase cost of capital without any offsetting tax benefits. Furthermore, REIT's tax rate is relatively low. Correlation analysis shows a significantly negative correlation between tax rate and REIT industry (correlation of –0.74 and p-value < 0.0001). Therefore, most of the REIT's reported preferred stocks as equity and the periodic payments as dividends, which may distort out test results. Benston, Irvine, Rosenfeld and Sinkey Jr. (2003) find that after Federal Reserve's announcement that it would accept trust preferred stock for tier-1 capital on October 21, 1996, the market responded with significant positive abnormal returns to bank holding companies with trust preferred stocks outstanding. Bank holding companies can classify their trust preferred stocks as equity for Federal Reserve reporting purposes, while classifying the periodic payments to the stockholders as tax deductible interest expenses regardless of their tax rates and D/E ratios. Frischmann, Kimmel and Warfield (1999) report that banks may prefer trust preferred stocks for financial reporting purposes to meet a minimum capital requirement. And the fact that odd behaving bank holding companies account for big portion of the sample used in this study may also cause counter intuitive results presented in Table 4 Panel B. Overall, results presented in

panel B of Table 4 do not support hypothesis H1a.

As expected, industry turns out to be a very significant determinant of preferred stock presentations and the periodic payments presentations as well. The regression coefficients of industry on preferred stock presentations are significantly negative at 5% significance level, indicating that preferred stock presentations vary significantly across industries. The regression

---

Table 5
Differences in Market Responses to Differential Classifications of Preferred Stocks

Panel A: Preferred stock presentations

		Equity	*Mezzanine*	*Debt*	*Unclassified*[a]	*Difference*
Redeemable	CAR (%)[b]	-0.639	-0.631			-0.008
	n	13	15			
	CAR (%)	-0.639		-0.559		-0.080
	n	13		2		
	CAR (%)	-0.639			-0.342	-0.297
	n	13			23	
	CAR (%)		-0.631	-0.559		-0.072
	n		15	2		
	CAR (%)		-0.631		-0.342	-0.289
	n		15		23	
	CAR (%)			-0.559	-0.342	-0.217
	n			2	23	
Trust	CAR (%)	-0.085	0.398			-0.484
	n	8	19			
	CAR (%)	-0.085		0.602		-0.687
	n	8		8		
	CAR (%)	-0.085			-0.330	-0.245
	n	8			22	
	CAR (%)		0.398	0.602		-0.204
	n		19	8		
	CAR (%)		0.398		-0.330	0.728
	n		19		22	
	CAR (%)			0.602	-0.330	0.932

	n			8	22	
All[c]	CAR (%)	-0.695	0.232			-0.927
	n	14	24			
	CAR (%)	-0.695		0.602		-1.297*
	n	14		8		
	CAR (%)	-0.695			-0.668	-0.027
	n	14			27	
	CAR (%)		0.232	0.602		-0.370
	n		24	8		
	CAR (%)		0.232		-0.668	0.900
	n		24		27	
	CAR (%)			0.602	-0.668	1.270*
	n			8	27	

(Continued on next page)

Table 5 (Continued)

Panel B: Periodic payment presentaions

		Dividend	*Interest Expense*	*Unclassified*[a]	*Difference*
Redeemable	CAR (%)	-1.169	0.627		-1.796***
	n	28	10		
	CAR (%)	-1.169		-0.020	-1.149**
	n	28		15	
	CAR (%)		0.627	-0.020	0.647
	n		10	15	
Trust	CAR (%)	-0.138	0.543		-0.681
	n	26	12		
	CAR (%)	-0.138		0.079	-0.217
	n	26		19	
	CAR (%)		0.543	0.079	0.464
	n		12	19	
All	CAR (%)	-0.625	0.534		-1.159**
	n	35	15		
	CAR (%)	-0.625		-0.153	-0.472
	n	35		23	
	CAR (%)		0.534	-0.153	0.687
	n		15	23	

*, **, ***: $p < 0.10$, $p < 0.05$, and $p < 0.01$, respectively, one-tailed.

[a] "Unclassified" is used for the case which cannot be classified as one of the equity, mezzanine, or debt.

[b] Cumulative Abnormal Returns.

[c] Either Redeemable or Trust PS.

coefficients of industry on the periodic payment presentations are significantly negative at 5% significance level, indicating that periodic payment presentations vary significantly across industries, either.

Results from comparisons of the market response to different presentations of preferred

stocks in balance sheets are presented in Table 5 Panel A. CAR of firms classifying preferred stocks as equity in balance sheet (-0.695%) is smaller than CAR of firms classifying preferred stocks as debts (0.602%) by 1.297%, which is statistically significant at 10% significance level. The result may indicate that the market reacts to firms classifying preferred stocks as debts more favorably than to firms classifying them as equity. However, this result does not hold when comparisons are made within redeemable preferred stocks or trust preferred stocks. Comparisons between CAR of equity classifications and CAR of mezzanine classifications or those between CAR of debt classifications and CAR of mezzanine classifications do not produce any significant differences. In sum, test results presented in Table 5 Panel A rather weakly support H2a.

Results from comparisons of the market response to differential classifications of the periodic payments are presented in Table 5 Panel B. For the issuance of redeemable preferred stocks, CAR of interest expense classifications of the periodic payments (0.627%) is greater than CAR of dividend classifications of them (-1.169%) by 1.796%, which is statistically significant at 1% significance level. When the preferred stocks with either redeemable or trust attributes are issued, CAR of interest expense classifications of the periodic payments (0.534%) is, on average, greater than CAR of dividend classifications of them (-0.625%) by 1.159%, which is statistically significant at 5% significance level. Thus, the results in Table 5 Panel B strongly support H2b.

Overall, the test results presented in Table 5 support both hypotheses of H2a, H2b. The abnormal returns surrounding the offer of either redeemable or trust preferred stocks that are classified as either debt or mezzanine in the balance sheet are greater than those classified as equity. The abnormal returns surrounding the offer whose periodic payments are classified as interest expenses in the income statement are greater than those classified as dividends.

V. Conclusions

This paper investigates the determinants of differential treatments of preferred stocks and the periodic payments to the shareholders. Our results suggest that tax rate is a significant determinant of accounting treatments. Firms with high tax rates are more likely to present preferred stocks as debts and hence claim the periodic payments to the shareholders as tax deductible expenses. And the market response to firms classifying such was positive.

This paper also examines the market response to the differential treatment of preferred stocks and the periodic payments to the shareholders. Empirical results show that market investors react more favorably to preferred stocks which are filed as mezzanine or debt than equity. Investors in market react more favorably to preferred stocks whose periodic payments to the shareholders are filed as interest expenses than those as dividends. This is consistent with the notion that unlike equity issues, mezzanine issues or debt issues do not convey an unfavorable signal regarding a firm's future prospects and that interest tax shields increase a firm's value.

Potential contributions of this can be twofold. One is to the body of knowledge on accounting choices and market reactions to them. Our findings add some knowledge on how accounting choices are made in treatments of preferred stocks and periodic payments to the shareholders. They also add some knowledge on how the market reacts to differential accounting treatments of those.

The other is to the standard/rule setting bodies or processes. Firms are more counter-active than proactive to standards and rules when those are applied. Firms apply existing rules and standards for the best benefit of themselves. With conflicting rules and standards among different

regulating bodies such as FASB, IRS, and bank regulating authority, firms' opportunistic choices of accounting standards as evidenced in this paper may result in inconsistent accounting treatments across firms or even within a firm. This may deter one major function of accounting information which is promoting optimal allocations of limited resources in any economic entity regardless of whether the entity be either an individual company or the country.

References

Arzac, E., 2009. Back-Door Equity Financing: Citigroup's $7.5 Billion Mandatory Convertible Issue. *Journal of Applied Finance* 19, 136-143.

Barclay, M. and C. Smith, 1995. The Priority Structure of Corporate Liabilities. *The Journal of Finance* 50, 899-916.

Guzhva, V., Beltsova, K., and V. Golubev, 2010. Market Undervaluation of Risky Convertible Offerings: Evidence from the Airline Industry. *Journal of Economics and Finance* 34, 30-45.

Benston, G., Irvine, P., Rosenfeld, J., and J. Sinkey Jr., 2000. Bank Capital Structure, Regulatory Capital, and Securities Innovations. Working paper.

Brown, S. and J. Warner, 1985. Using Daily Stock Returns: The Case of Event Studies. *Journal of Financial Economics* 14, 3-31.

Carter, M. and G. Manzon, 1995 Evidence on the role of taxes on financing choice: Consideration of mandatory redeemable preferred stock. *Journal of Financial Research* XVIII, 103-114.

Engel, E., Erickson, M., and E. Maydew, 1999. Debt-Equity Hybrid Securities. *Journal of Accounting Research* 37, 249-274.

Fooladi, I., McGraw, P., and G. Roberts, 1991. Preferred stock and taxes. *Journal of Business Finance & Accounting 18*, 99-107.

Frischmann, P., Kimmel, P., and T. Warfield, 1999. Innovation in preferred stock: current developments and implications for financial reporting. *Accounting Horizons* 13 (3), 201-218.

Heinkel, R. and Zechner, J., 1990. The Role of Debt and Preferred Stock as a Solution to Adverse Investment Incentives. *Journal of Financial and Quantitative Analysis* 25, 1-24.

Houston and Houston (2002, The Journal of the American taxation association)

Irvine, Paul and Rosenfeld, James, 2000. Raising Capital using Monthly Income Preferred Stock: Market Reaction and Implications for Capital Structure Theory. *Financial Management*, 5-20.

Jensen, M. and W. Meckling, 1976. Theory of the Firm: Managerial Behavior, Agency Costs, and Capital Structure. *Journal of Financial Economics* 3, 305-360.

Myer, S. and N. Majluf, 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13, 187-221.

Nair, R., Rittenberg, L., and J. Weygandt, 1990. Accounting for Redeemable Preferred Stock: Unsolved Issues. *Accounting Horizons*, 33-41.

Stein, J. C., 1992. Convertible bonds as backdoor equity financing. *Journal of Financial Economics* 32, 3-21.

Thomas, D. and K. Sellers, 1992. Dual classification of hybrid securities for tax purposes. *Accounting Horizons* 6, 38-47.