Investors' Sophistication in Identifying the Earnings Management Using the Valuation Allowance for Deferred Tax Assets*

Do-Jin Jung
Associate Professor, Chung-Ang University, College of Business Administration
(dj1730@cau.ac.kr)

A valuation allowance for deferred tax assets (VA) must be disclosed if managers expect that future taxable income will be insufficient for the realization of deferred tax assets. Prior studies find that VA conveys timely new information relevant to stock prices, but it can be manipulated to manage earnings. Consistent with prior studies, investors quickly response to disclosures of VA. However, value-relevant information in VA for non-earnings management firms significantly links to the market before the disclosures. Therefore, investors do not significantly respond to the VA changes of non-earnings management firms. On the other hand, investors mechanically respond to VA changes of likely earnings management firms. These empirical results suggest that investors are not sophisticated enough to recognize earnings management implications of VA. However, investors are likely to adjust the earnings management implications through VA changes of earnings management firms in recent years. These findings of this study provide accounting setters and regulators with insight into how managers use the flexibility in financial reporting when generating forward-looking information and how investors use such information.

Key words: valuation allowance for deferred tax assets, earnings management, information content

I. Introduction

Deferred tax assets (DTA) represent future tax benefits from deductible temporary differences, tax losses, and tax credits. If a company does not think it will receive the full benefit of a DTA, it should offset the DTA with a valuation allowance (VA). Therefore, VA can be informative if managers use their private information in making VA changes (Kumar and Visvanathan, 2003). On the other hand, VA is an easy way for the manager to manipulate earnings, because it is based on a manager's subjective estimates (Frank and Rego, 2006).

It is interesting to investigate whether market is able to extract value-relevant information after screening out any opportunistic manipulations of VA. Prior studies have

논문접수일: 2010. 11 게재확정일: 2010. 11
* This paper was supported by the Natural Research Foundation of Korea (B00212).

not investigated this possibility. Empirically, this study examines whether the association of stock returns with VA changes for firms managing earnings through VA is different from the association for non-earnings management firms. Also, this study partitions the sample based on early firm-years and late firm-years to investigate whether investors were better able to utilize VA information in the latter period due to a "learning" effect.

For this study, 210 news releases of VA are collected from LEXIS/NEXIS. The empirical results indicate that value-relevant information in VA changes leaks to the market before their disclosures. Therefore, VA changes of non-earnings management firms are not surprising news, and thus investors are not significantly response to VA disclosures. On the other hand, VA changes of likely earnings management firms are unexpected, but the changes are likely to be manipulated for the purpose of earnings management. If investors are sophisticated to recognize the earnings management implications, they should not response to the disclosure, but in practice they do. These results imply that investors appear to respond mechanically to disclosures of VA changes, i.e., they are unable to distinguish between firms that convey value relevant information through VA and those that use this account to manipulate reported earnings.

The remainder of this study is organized as follows. Section II develops hypotheses to test whether investors are sophisticated enough to filter out the value-relevant component in VA. Section III explains the research designs used to test the hypothesis. Section IV provides details on data collection and presents the empirical results. Section V contains concluding remarks.

II. Hypothesis Development

DTA is recognized for all deductible temporary differences as well as operating losses and tax credit carryforwards. However, if future taxable income is not expected to be high enough to utilize DTA, VA must be estimated and recognized to reduce the net DTA to the amount that is "more likely than not" to be realized. Once VA is established, it can be changed in subsequent periods if there are changes in circumstances that alter future taxable income expected to be available to realize a tax benefit. The manager should consider all evidence, both positive and negative, to determine whether VA should be increased or decreased based on the weight of that evidence

If managers use private value-relevant information when forming expectations of future taxable income in order to determine

VA, VA disclosures should be informative to investors. Early studies focus on the value relevance and information contents of VA. They document evidence consistent with the view that investors use information on VA in equity valuation. Even if managers use private value-relevant information about future income in computing VA, the subjectivity of VA gives managers the opportunity to manipulate them for earnings management. Prior results imply that managers are likely to manipulate VA to smooth earnings, avoid losses, avoid earnings-declines, and meet analyst forecasts.

Given this, it is doubtful whether investors are sophisticated enough to filter out the value-relevant component in VA changes from the component that arises from earnings management in pricing securities. Specifically, this study partitions firms into those that likely manage earnings through their VA and non-earnings management firms in order to test following hypothesis.

The association of stock returns with VA changes for likely earnings management firms is significantly different from the association for non-earnings management firms.

This study also tests whether investors experienced a "learning" effect that makes them able to use VA information more efficiently after SFAS 109 has in effect for a longer period.

III. Research Design

According to three theoretical links between earnings and share prices developed by Beaver (1998), changes in earnings (E_t-E_{t-1}) are related to the stock returns (CAR_t). Since VA changes (ΔVA_t) shall be included in earnings (E_t), E_t is separated into ΔVA_t and $EBVA_t$ (earnings before VA changes). The following model which includes dummy variables for likely earnings management and early/late firm-years is estimated to test whether the association of the ΔVA_t and CAR_t for earnings management firms is different from the association for non-earnings management firms and whether investors experience a learning effect that makes them able to use VA information more efficiently.

$$CAR_t = \chi_0 + \chi_1(E_t - E_{t-1}) + \varepsilon_t$$
$$= \chi_0 + \chi_1 E_t + \chi_2 E_{t-1} + \varepsilon_t$$
$$= \chi_0 + \chi_1 \Delta VA_t + \chi_2 EBVA_t + \chi_3 E_{t-1} + \varepsilon_t \quad \text{(Equation 1)}$$
$$= \chi_0 + \chi_1 \Delta VA_t + \chi_2 EBVA_t + \chi_3 E_{t-1} + \chi_4 EM_t + \chi_5 EM_t * \Delta VA_t + \chi_6 EA_t + \chi_7 EA_t * \Delta VA_t + \varepsilon_t \quad \text{(Equation 2)}$$

where,
CAR_t : cumulative abnormal returns
ΔVA_t : VA changes from year t-1 to year t
$EBVA_t$: earnings before VA changes in year t
E_{t-1} : income from continuing operations in year t-1
EM_t = 1 for likely earnings management firms,
= 0 otherwise

EA_t = 1 for firm-years between 1994 and 1998,
= 0 otherwise

* Each independent variable (except dummy variables) is scaled by the beginning market value of equity.

Since VA changes for non-earnings management firms significantly links to the market before the disclosures, VA changes of non-earnings management firms are not surprising news. Therefore, investors are not significantly response to VA disclosures for non-earnings management firms. On the other hand, VA changes of likely earnings management firms are unexpected, but the changes are likely to be manipulated for the purpose of earnings management. If investors are not sophisticated to recognize the earnings management implications, they would response to the disclosures.

If investors are sophisticated enough to filter out value-relevant changes in VAs from those that arises from earnings management, X_5 will be significant where CAR(-1,1) is the dependent variable. If investors experience a learning effect that makes them better able to use VA information as time passes, X_7 will be significant in the same regression model.

Ⅳ. Empirical Analysis

4.1 Data Collection and Sample Description

719 news reports about VAs from 1994 to 2002 is drawn from a search of LEXIS/NEXIS using the keywords "valuation allowance" for news releases on PR Newswire. The final data is 210 firm-years after dropping those are unavailable on Compustat, CRSP, or 10-Ks. Table 1 reports the descriptive statistics for the samples. The mean (median) earnings and earnings before VA changes (EBVA) are -$7.2M ($1.1M) and -$7.9M ($2.4M), respectively. The substantial differences between the mean and median suggest that earnings and EBVA are skewed. The mean market value of equity is $698.4M much less than $1,735M of the mean market value for the Compustat population over 1994~2001. These statistics imply that the 210 sample firms of this study are less profitable and smaller than the average market firms. While the median firm reports no changes in its VA, the mean firm reports a decrease, -$1.0M. The mean VA change is as much as 14.8% of the mean earnings and 13.5% of the EBVA.

Table 2 presents the correlations of VA changes with other variables. As expected, VA changes are negatively correlated with future income. They are positively correlated with earnings-smoothing incentive and earning

〈Table 1〉 Sample Description

Variable	Mean	Median	Standard Deviation	Minimum	Maximum
E_t	-7,235	1,120	219,872	-2,236,576	903,000
$EBVA_t$	-7,924	2,421	209,660	-2,235,961	902,957
MVE_t	698,465	74,044	1,955,898	1,646	19,039,686
ΔVA_t	-1,072	0	99,916	-1,055,700	662,000
DTA_t	94,829	19,148	223,731	294	2,030,100
VA_t	40,406	7,523	133,533	0	1,646,100
DTL_t	56,530	1,666	247,778	0	3,391,000
CAR1	.0380	-.0217	.39256	-1.45	2.04
CAR2	-.0024	.0017	.11505	-.61	.48
CAR3	.0357	.0408	.35753	-1.08	1.54

Variable Definition (Unit $1,000 except CAR)
E_t : income from continuing operations in year t
$EBVA_t$: earnings before VA changes in year t
MVE_t : market value of equity at year t
ΔVA_t : VA changes from year t-1 to year t
DTA_t : deferred tax assets at year t
DTL_t : deferred tax liabilities at year t
CAR1 : cumulated market-model abnormal returns over the window of (-60, -2)
CAR2 : cumulated market-model abnormal returns over the window of (-1, +1)
CAR3 : cumulated market-model abnormal returns over the window of (+2, +60)

big-baths incentive and negatively correlated with incentives to avoid reporting losses and earnings declines for nonparametric correlations of Kendall's taub and Spearman's rho. VA changes are not significantly correlated with stock returns for pre-announcement period of (-60, -2). However, they are negatively correlated with stock returns around event date of (-1, +1). They are also positively correlated with stock returns for post-announcement period (+2, +60). Finally, non-discretionary factors of VA changes are significantly correlated with VA changes, except earnings in the prior two year.

4.2 Identifying Likely Earnings Management Firms

This study uses earnings thresholds derived from Burgstahler and Dichev (1997) and Degeorge et al. (1999) to investigate whether firms use their VA to smooth earnings, avoid reporting losses or earnings-declines, and take earnings big-baths. Figure 1 shows the

〈Table 2〉 Correlations of Valuation Allowance Changes with other variables

Variable	Expected Sign	ΔVA_t		
		Pearson	Kendall	Spearman
E_{t+3}	-	-.191**	-.152**	-.212**
E_{t+2}	-	-.203**	-.340***	-.465***
E_{t+1}	-	-.353***	-.311***	-.392***
E_{t-1}	?	-.037	-.229***	-.301***
E_{t-2}	?	.251***	-.011	.002
$EBVA_t$	?	.964***	-.297***	-.370***
ES	+	.041	.089**	.108**
AL	-	.005	-.103**	-.126**
AD	-	-.011	-.236***	-.287***
BB	+	-.076	.312***	.379***
CAR1	-	-.015	.005	.013
CAR2	-	-.165***	-.147***	-.209***
CAR3	?	.059	.069*	.097*
ΔDTA_t	+	-.816***	.583***	.695***
ΔDTL_t	-	.543***	-.081**	-.107**
ΔMVE_t	-	-.022	-.213***	-.312***

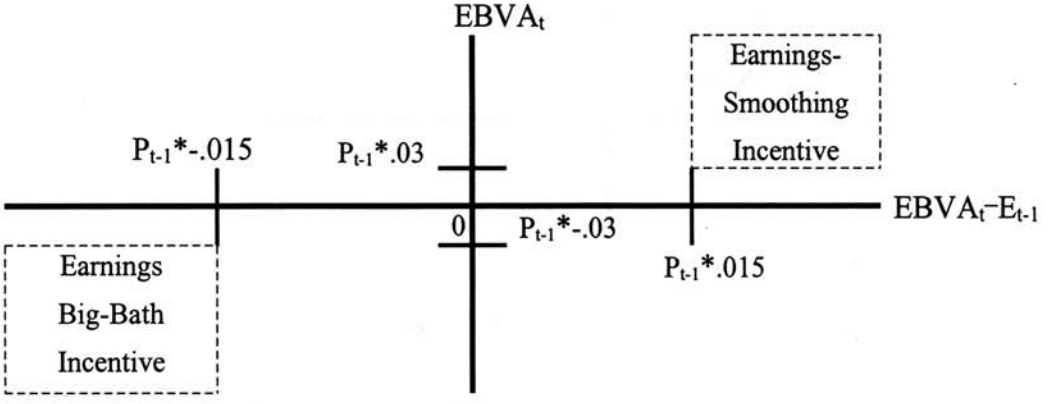
Variable Definition (Unit $1,000 except CAR)
ΔVA_t : VA changes from year t-1 to year t
E_t : income from continuing operations in year t
$EBVA_t$: earnings before VA changes in year t
ES_t = 1 for firms with an earnings smoothing incentive, = 0 otherwise
AL_t = 1 for firms with an incentive to avoid losses, = 0
AD_t = 1 for firms with an incentive to avoid earnings declines, = 0 otherwise
BB_t = 1 for firms with an earnings big bath incentive, = 0 otherwise
CAR1 : cumulated market-model abnormal returns over the window of (-60,-2)
CAR2 : cumulated market-model abnormal returns over the window of (-1, +1)
CAR3 : cumulated market-model abnormal returns over the window of (+2, +60)
ΔDTA_t : changes in deferred tax assets from year t-1 to year t
ΔDTL_t : changes in deferred tax liabilities from year t-1 to year t
ΔMVE_t : changes in market value of equity from year t-1 to year t
***, **, * indicate significance at the .01, .05, and .10 levels, respectively for one-tailed tests.

operational identification of firms with each earnings management incentive.

Using the methodology outlined in Figure 1, I identified 137 firm-years with earnings management incentives and 73 firm-years without earnings management incentives, in a total of 210 observations. This study tests the validity of identifying earnings management

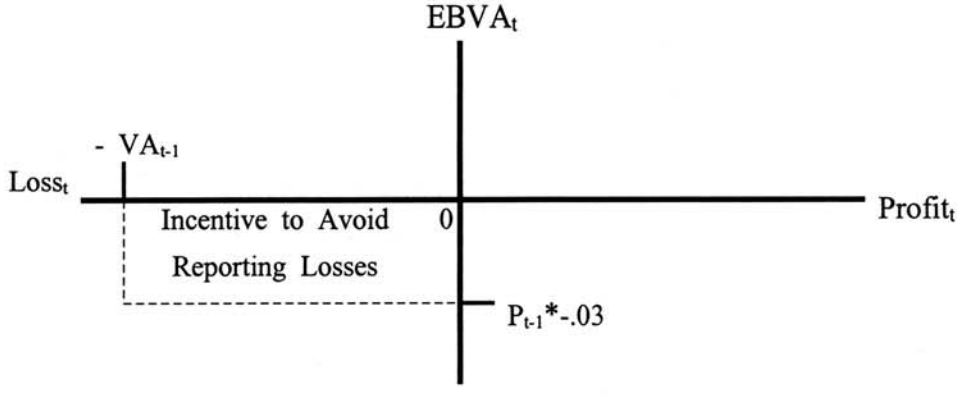
Panel A: Earnings-Smoothing Incentive and Earnings Big-Bath Incentive

Firms with an earnings-smoothing incentive have positive income from continuing operations before VA changes ($EBVA_t$) that is greater than 3% of the beginning market value of equity and greater than prior income from continuing operations (E_{t-1}) by at least 1.5% of the beginning market value of equity (P_{t-1}). Firms with an earnings big-bath incentive have negative income from continuing operations before VA changes ($EBVA_t$) that is less than 3% of the beginning market value of equity and less than prior income from continuing operations (E_{t-1}) by at least 1.5% of the beginning market value of equity (P_{t-1}).



Panel B: Incentive to Avoid Reporting Losses

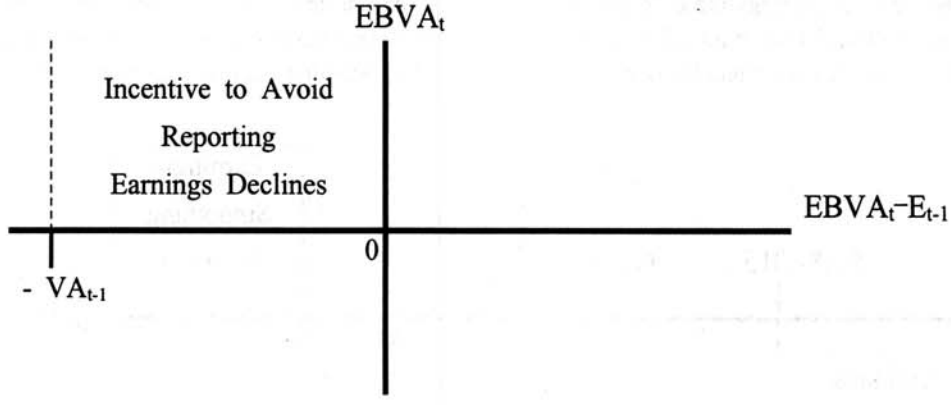
Firms with an incentive to avoid reporting losses have negative income from continuing operations before VA changes ($EBVA_t$) between 0 to -3% of the beginning market value of equity (P_{t-1}). The losses ($Loss_t$) should not be higher in magnitude than beginning VA (VA_{t-1}).



〈Figure 1〉 Identification of Firms with Earnings Management Incentives

Panel C: Incentive to Avoid Reporting Earnings Declines

Firms with an incentive to avoid reporting earnings declines have positive income from continuing operations before VA changes ($EBVA_t$) less than income from continuing operations in prior year (E_{t-1}). The differences ($EBVA_t$-E_{t-1}) should not be higher in magnitude than beginning VA (VA_{t-1}).



〈Figure 1〉 Identification of Firms with Earnings Management Incentives (continue)

firms, using the regression model (firm subscripts are omitted):

$$\Delta VA_t = \delta_0 + \Theta_1 ES_t + \Theta_2 AL_t + \Theta_3 AD_t + \Theta_4 BB_t + \lambda_1 \Delta DTA_t + \lambda_2 \Delta DTL_t + \mu_1 EBVA_{t-1} + \mu_2 E_{t-2} + \mu_3 E_{t-2} + \mu_4 \Delta MVE_t + \varepsilon_t \quad \text{(Equation 3)}$$

where,

ΔVA_t : VA changes from year t-1 to year t

ES_t = 1 for firms with an earnings smoothing incentive, = 0 otherwise

AL_t = 1 for firms with an incentive to avoid losses, = 0

AD_t = 1 for firms with an incentive to avoid earnings declines, = 0 otherwise

BB_t = 1 for firms with an earnings big bath incentive, = 0 otherwise

ΔDTA_t : changes in deferred tax assets from year t-1 to year t

ΔDTL_t : changes in deferred tax liabilities from year t-1 to year t

$EBVA_t$: earnings before VA changes in year t

E_{t-i} : income from continuing operations in year t-i

ΔMVE_t : changes in market value of equity from year t-1 to year t

* Each variable (except dummy variables) is scaled by the beginning market value of equity.

The expected signs of coefficients are as follows. Firms with an earnings-smoothing incentive (ES_t=1) or an earnings big bath incentive (BB_t=1) are likely to increase VA in order to establish "a cookie jar reserve" for future years. Therefore, Θ_1 and Θ_4 are expected to be positive. Firms with incentives to avoid losses (AL_t=1) or earnings declines (AD_t=1) are likely to decrease VA in order to report higher earnings. Thus, I expect Θ_2 and

〈Table 3〉 Earnings Management Incentives and Valuation Allowance

Model:

$\Delta VA_t = \delta_0 + \Theta_1 ES_t + \Theta_2 AL_t + \Theta_3 AD_t + \Theta_4 BB_t + \lambda_1 \Delta DTA_t + \lambda_2 \Delta DTL_t + \mu_1 EBVA_t + \mu_2 E_{t-1} + \mu_3 E_{t-2}$

F value	(expected sign) Coefficient (t value)										
Adjust R^2	δ_0	(+) ES_t	(-) AL_t	(-) AD_t	(+) BB_t	(+) ΔDTA_t	(-) ΔDTL_t	$EBVA_t$	E_{t-1}	E_{t-2}	(-) ΔMVE_t
16.382^{+++}	.008					.458***	-.286*	-.073**	-.087**	.194***	-.020**
.307	(.283)					(7.215)	(-1.409)	(-1.885)	(-1.830)	(3.585)	(-1.875)
15.252^{+++}	-.013	.091***				.456***	-.272*	-.109***	-.067*	.200***	-.028***
.324	(-.789)	(2.455)				(7.269)	(-1.355)	(-2.648)	(-1.414)	(3.749)	(-2.592)
15.161^{+++}	.015		-.151***			.480***	-.272*	-.072**	-.095**	.192***	-.028**
.323	(1.028)		(-2.369)			(7.564)	(-1.351)	(-1.865)	(-2.014)	(3.588)	(-1.923)
15.686^{+++}	.026**			-.109***		.438***	-.265*	-.065**	-.059	.183***	-.020**
.331	(1.707)			(-2.841)		(6.980)	(-1.325)	(-1.685)	(-1.232)	(3.449)	(-1.964)
15.670^{+++}	-.015				.096***	.430***	-.314*	-.033	-.096**	.205***	-.015*
.331	(-.914)				(2.827)	(6.811)	(-1.570)	(-.799)	(-2.053)	(3.842)	(-1.483)
12.945^{+++}	-.013	.095**	-.112**	-.067*	.083**	.436***	-.274*	-.061*	-.067*	.201***	-.024**
.365	(-.531)	(1.865)	(-1.726)	(-1.589)	(2.274)	(6.967)	(-1.404)	(-1.458)	(-1.429)	(3.831)	(-2.228)

Variable Definition:

ΔVA_t : VA changes from year t-1 to year t

ES_t = 1 for firms with an earnings smoothing incentive, = 0 otherwise

AL_t = 1 for firms with an incentive to avoid losses, = 0

AD_t = 1 for firms with an incentive to avoid earnings declines, = 0 otherwise

BB_t = 1 for firms with an earnings big bath incentive, = 0 otherwise

ΔDTA_t : changes in deferred tax assets from year t-1 to year t

ΔDTL_t : changes in deferred tax liabilities from year t-1 to year t

$EBVA_t$: earnings before VA changes in year t

E_{t-i} : income from continuing operations in year t-i

ΔMVE_t : changes in market value of equity from year t-1 to year t

The number of sample is 210 firm-years and each variable (except dummy variables) is scaled by the beginning market value of equity.

***, **, * indicate significance at the .01, .05, and .10 levels, respectively for one-tailed tests.

Θ_3 to be negative.

Table 3 shows the estimation results of various versions of equation (3) using ordinary-least-squares (OLS) regression. In row 1, VA changes are regressed on factors unrelated to earnings management. As expected, changes in deferred tax assets (liabilities) are positively (negatively) associated with VA changes. Also, changes in the market value of equity have a negative coefficient as expected. This result is consistent with the view that good news on future profitability is reflected in

higher current security price and also causes management to reduce VA. Finally, current EBVA has a negative coefficient. This indicates that higher current earnings before VA changes are associated with downward revisions in deferred tax allowances. Prior earnings also have significant explanatory power in most regressions. These results imply that managers, on average, change VA in response to changes in expectations of future income.

Regressions of VA changes on each earnings management incentive are shown in rows 2 through 5. Consistent with prior studies the OLS results indicate a positive coefficient for the earnings-smoothing incentive and negative coefficients for the loss-avoidance incentive and the earnings-decline-avoidance incentive. Therefore, the methodology outlined in Figure 1 is valid in identifying likely earnings management firms through VA.

4.3 Investors' Sophistication in Identifying Earnings Management

In order to investigate investors' sophistication in screening out earnings management implications of VA changes, this study estimates equations (1) separately for likely earnings management firms and non-earnings management firms.

Table 4 presents the estimation results of equation (1) for non-earnings management firms. VA changes for non-earnings management firms are negatively associated with CARs for the long windows of (-2, -60), but are only marginally associated with CARs for a short window of (-1, +1). These results imply that the value-relevant information in VA changes of non-earnings management firms significantly (about 48.7%~50.4% of total information) leaks to the market before VA disclosures. Therefore, the conclusion of Kumar and Visvanathan (2003) that VA changes conveys "timely" new information to the market may not be applied to VA changes for non-earnings management firms. Also, an association of VA changes with CARs for the post period of (+2, +60) implies that investors underreact to disclosures of annual VA changes.

Table 4 also presents the estimation results for equations (1) for likely earnings management firms. VA changes are negatively associated with CARs only for a short window of (-1, +1) as in Kumar and Visvanathan (2003). An insignificant association of VA changes with CARs for the pre-period window of (-2, -60) implies that VA changes of earnings management firms are not value-relevant as information that summarizes events that effect on firm values. On the other hand, a significant association of VA changes with CARs for the event period of (-1, +1) implies that investors price VA changes of earnings management firms. Moreover, the insignificant association of VA changes

〈Table 4〉 Valuation Allowance and Stock Returns

Model: $CAR = \chi_0 + \chi_1 \Delta VA_t + \chi_2 EBVA_t + \chi_3 E_{t-1} + \varepsilon_{it}$ (1)

Number of Sample	Windows	F value	Adjust R^2	(expected sign) Coefficient (t value)			
				χ_0	(-)ΔVA_t	$EBVA_t$	E_{t-1}
Non-EM (73 firm-years)	(-1, +1)	1.092	.001	.005 (.613)	-.064 (-1.273)	.038 (.884)	-.012 (-.665)
	(-2, -60)	6.588^{+++}	.076	-.001 (-.042)	-.285* (-1.627)	.005 (.034)	-.230*** (-3.726)
	(+2, +60)	7.259^{+++}	.084	.010 (.378)	-.236** (-1.659)	-.156 (-1.286)	-.216*** (-.362)
EM (137 firm-years)	(-1, +1)	7.128^{+++}	.145	.003 (.176)	-.186* (-1.476)	.110** (1.960)	.081 (.589)
	(-2, -60)	.373	-.018	.048 (.839)	-.003 (-.006)	-.161 (-.788)	-.311 (-.116)
	(+2, +60)	.581	-.012	.043 (.822)	-.419 (-1.002)	-.200 (-1.075)	-.971** (-2.130)

Variable Definition.
Non-EM : non-earnings management firms
EM : likely earnings management firms
CAR : cumulated market-model abnormal returns
ΔVA_t : VA changes from year t-1 to year t
$EBVA_t$: earnings before VA changes from year t-1 to year t
E_{t-1} : income from continuing operation in year t-1
Each independent variable is scaled by the beginning market value of equity at year t.
$^{+++}$, $^{++}$, $^{+}$ indicate significance at the .01, .05, and .10 levels, respectively for two-tailed tests.
***, **, * indicate significance at the .01, .05, and .10 levels, respectively for one-tailed tests.

with CARs for the post-period of (+2, +60) implies that investors are not able to recognize the earnings management implication of VA changes for at least 60 days. These findings support that investors are not sophisticated enough to screen out earnings management implications from value-relevant information in VA changes.

Table 5 shows the estimation results of equation (2) with dummy variables of EM_t and EA_t. The association of CARs with VA changes for likely earnings management firms is not significantly different from the association for non-earnings management firms. This result confirms that investors are not sophisticated enough to recognize earnings management implications of VA. However, the positively significant coefficients of the dummy variables of EM_t and EA_t for a long window of (+2, +60) imply that investors are likely to adjust the earnings management implications through VA changes of earnings

〈Table 5〉 Valuation Allowance and Stock Returns for Earnings Management

Model: $CAR=\chi_0+\chi_1\Delta VA_t+\chi_2 EBVA_t+\chi_3 E_{t-1}+\chi_4 EM_t+\chi_5 EM_t{}^*\Delta VA_t+\chi_6 EA_t+\chi_7 EA_t{}^*\Delta VA_t+\varepsilon_t$ (2)

Windows	F value	(expected sign) Coefficient (t value)							
	Adj't R^2	χ_1	(-)ΔVA_t	$EBVA_t$	E_{t-1}	EM_t	EM_t* ΔVA_t	EA_t	EA_t* ΔVA_t
(-1, +1)	3.195^{+++}	-.007	-.045	.070***	-.016	-.015	-.037	.044***	-.075
	.068	(-.632)	(-.811)	(2.349)	(-.870)	(-.921)	(-.524)	(2.483)	(-.686)
(-2, -60)	2.467^{++}	.027	-.298*	-.082	-.208***	.060	.300	-.102**	-.135
	.047	(.700)	(-1.520)	(-.790)	(-3.197)	(1.041)	(1.204)	(-1.658)	(-.353)
(+2,+60)	4.393^{+++}	.043*	-.282**	-.038	-.223***	.028	.391**	-.135***	.423*
	.102	(1.308)	(-1.670)	(-.425)	(-3.970)	(.577)	(1.822)	(-2.538)	(1.291)

Variable Definition.
CAR : cumulated market-model abnormal returns
ΔVA_t : VA changes from year t-1 to year t
$EBVA_t$: earnings before VA changes from year t-1 to year t
E_{t-1} : income from continuing operation in year t-1
EM_t = 1 for likely earnings management firms, = 0 otherwise
EA_t = 1 for firm-years between 1994 and 1998, = 0 otherwise
Each independent variable is scaled by the beginning market value of equity at year t.
$^{+++}$, $^{++}$, $^{+}$ indicate significance at the .01, .05, and .10 levels, respectively for two-tailed tests.
***, **, * indicate significance at the .01, .05, and .10 levels, respectively for one-tailed tests.

management firms in recent years.

V. Conclusion

Consistent with Kumar and Visvanathan (2003), this study finds that stock returns negatively change in response to VA changes for a short period around the disclosure. However, this phenomenon is not consistent with non-earnings management firms. For non-earnings management firms, value-relevant information in VA changes significantly leaks to the market before the disclosures. This result implies that VA changes for non-earnings management firms are not timely new information inconsistent with Kumar and Visvanathan (2003).

On the other hand, investors mechanically respond to unexpected VA changes of earnings management firms. Their mechanical responses to VA changes lead Kumar and Visvanathan's conclusion that do not consider earnings management implications of VA. However, investors are likely to adjust the earnings management implications through VA changes of earnings management firms in recent years.

The findings of this study conclude that investors are not sophisticated enough to

screen out earnings management implications from value-relevant information in VA changes even though they are better in recent years. Therefore, standard setters and regulators should exercise caution in mandating recognition of managers' subjective information in financial statements, as this has the potential to make these statements less informative.

References

Beaver w. 1998. Financial Reporting: An Accounting Revolution. Third edition. Upper Saddle, NJ: Prentice Hall.

Burgstahler, D., and I. Dichev. 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics* 24: 99-126.

Degeorge, F., J. Patel, and R. Zeckhauser. 1999. Earnings management to exceed thresholds. *Journal of Business* 63: 1-33.

Frank, M., and S. Rego. 2006. Do managers use the valuation allowance account to manage earnings around certain earnings target? *The Journal of the American Taxation Association* 28.1(Spring): 43-65.

Kumar, K. R., and G. Visvanathan. 2003. The information content of the deferred tax valuation allowance. *The Accounting Review* 78.2(April): 471-490.

이연법인세자산충당금을 이용한 이익조정과 투자자들의 식별능력*

정도진**

요 약

만약 경영자들이 미래에 이연법인세자산을 실현하기에 충분한 소득을 기대하지 않는다면 이연법인세자산충당금(이하 '충당금')을 설정하여야 한다. 선행연구들은 이러한 충당금이 가치관련성이 있는 정보를 적시에 제공하지만, 동시에 이익조정의 수단으로 사용됨을 발견하였다. 그러나 비이익조정기업의 충당금은 공시되기 이전에 이미 그 변동과 관련한 가치관련 정보들이 자본시장에 노출되기 때문에, 충당금이 공시되더라도 투자자들은 이에 반응하지 않을 것이다. 오히려 선행연구처럼 공시되는 충당금에 투자자들이 반응하는 것은 이익조정의 수단으로 충당금이 변경되었을 때, 투자자들이 단순히 이러한 변동을 새로운 정보로 인식하고 반응하기 때문이다. 210개의 자료를 사용하여 실증분석한 결과, 비이익조정기업의 경우 충당금 변동에 대한 정보가 공시전에 상당부분 시장에 노출되어, 충당금이 공시되었을 경우 반응하지 않음을 발견하였다. 반면에 이익조정기업의 경우 이익조정의 수단으로 사용된 충당금 변경에 투자자들이 기계적으로 반응함을 발견하였다. 이러한 실증분석결과들은 투자자들이 충당금에 내재되어 있는 이익조정요소를 구분하여 투자의사결정에 사용하고 있지 못함을 의미한다. 따라서 경영자들의 주관적 판단에 기초한 정보를 재무제표에 포함시키는 것은 투자자들의 이해가능성의 제한으로 매우 주의하여야 한다.

주제어: 이연법인세자산충당금, 이익조정, 정보요소

* 본 논문은 한국연구재단의 신진교수지원을 보조받음.
** 중앙대학교 경영대학 부교수