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EARNINGS MANAGEMENT THROUGH DEFERRED TAX ASSETS

— IN CASE OF BANKING COMPANY —

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INTRODUCTION

In recent journals, there are so many articles which take "earnings management" as the theme. Thomas and Zang [2000], Van Caneghe [2002], DuCharme, et al. [2004] are the examples[1]. In Japan, the situation comes to resemble to that of United States and European. I'm afraid the distrust of the corporate reporting, especially financial statements triggers these tendencies. It is very serious for us that this acknowledgement spreads not only over security analysts and institutional investors, but also scholars.

In this paper, I investigate whether banks manage earnings by setting a valuation allowances associated with deferred tax assets and adjusting the valuation allowance arbitrarily. *The Statement of Financial Accounting Standard No.109* (1992; hereafter SFAS No.109) and *Accounting Standards for Interperiod Tax Allocation Accounting* in Japan (1998; hereafter ASITAJ) require firms to create valuation allowances against the deferred tax assets (DTAs). In later years, adjustments to the allowance flow through income as part of the total tax expense. Therefore, SFAS No.109 brought about the critical debate of the existence of the earnings management through the adjustment of DTAs.

I tried to apply this theme to the Japanese situation. My analysis focuses on sample of publicly traded banking firms and bank holding companies (hereafter "banks"). I need to explain the reason I choose the banks. As is also in Japan with other nations, banks have large DTAs and, consequently there is high potentiality for recognizing the large valuation allowances against the DTAs. And bank reorganization recently occurred sequentially because of the severe inspection for DTAs by the Financial Services Agency (FSA). The rigorous surveillance for the solvency of DTAs by FSA triggered the spate of bank failures. If the banks had scare potential to future profitability, the banks must've paid attention to the deal with the DTAs and set the valuation allowances against the DTAs otherwise FSA would make the banks go bankruptcy. I guess the information content of the DTAs and valuation allowances of banks in Japan are much abundant because of this financial conditions and the regulatory circumstances peculiar to Japan.

Therefore, this paper is organized as follows. Section2 discusses the theoretical background of the earnings management. Section 3 describes the possibility of earnings management through the adjustment of the deferred tax assets and valuation allowances. Section 4 provides the survey of the several articles about the possibility of earnings management through the valuation allowances. And referring to this finding, section 5 describes the examination of the possibility of earnings management on the banks. Finally, I conclude this paper.

[1] McNichols [2000] presents some of research designs about detection of earnings management.

EARNINGS MANAGEMENT AND ACCRUAL ACCOUNTING

As Healy and Wahlen [1999] point out, earnings management is defined as activity that the managers strategically control the accounting number in order to accomplish the certain objectives[2]. It is usually said that the characteristics of the earnings management does not go against the law. That is why the tools of earnings management are chosen within the bound of acceptable principles, which are generally accepted accounting principles or GAAP. In terms with this point, Brown [1999] reveals the earnings management by corporate managers often involves one or more of the following common three approaches. First, management teams can choose among lots of reporting options. For example, leases and corporate acquisitions are reported differently, depending on how the transactions are structured[3].

Second, asset acquisitions and dispositions connect themselves with earnings management deeply. For example, the sale of the stock of intercorporate investments results in gains or losses of disposition, but the actual time of the sale is negotiable. So, management can control the period in which the gain or loss is reported.

Third, the wide array of reporting choices is also scattered with subjective estimates and application choices. Estimating losses on loans made by banks often involves a great degree of subjectivity. These estimations to apply particular reporting rules are often subject to substantial interpretation, and often estimates change over time. The subject of this paper, judgment about future solvency of DTAs and valuation allowances fall into this category.

So, why is it possible for managers to control not only earnings number but every accounting number? In terms with this point, a lot of researchers, including Ito [1996], have explained about the reasons and mechanics the corporate managers strategically control accounting number. In short, it is the reason that modern corporate accounting is based on the accrual accounting.

THE POSSIBILITY OF EARNINGS MANAGEMENT THROUGH THE ADJUSTMENT OF THE DEFERRED TAX ASSETS AND VALUATION ALLOWANCES

Every accounting number has potential of managing arbitrarily because the earnings management is based on the accrual accounting. The interperiod tax allocation accounting is a typical case of the accrual accounting (in detail see Behn, et al [1998], Miller and Skinner [1998], Onuma [2000]). Hereinafter, we take up the DTAs and valuation allowance in this accounting treatment.

The most challenging issue about the interperiod tax allocation accounting is how we evaluate the solvency or impairment of the DTAs. In general, DTAs is recognized based on the temporary differences. Temporary differences include all differences between the tax and financial reporting bases of assets and liabilities, if those differences will result in taxable or deductible amounts in future years. And the computation of deferred taxes can be accomplished simply by applying the effective tax rate to all temporary differences outstanding as of the balance sheet date. This technique would be applied both to taxable temporary differences (producing deferred tax liabilities), and to deductible

[2] Nakajo [2001] indicated the earnings management as "the micro accounting policy".

[3] Brown [1999] indicates these type of other examples were too numerous to mention.

temporary differences (giving rise to deferred tax assets, that is DTAs). However, the deferred tax assets must still be evaluated for impairment; some, or all, of the projected tax benefits may fail the "more-likely-than-not" test and consequently may need to be offset by a valuation allowance account.

With regard to the valuation allowances, ASITAJ as well as SFAS 109, requires all deferred tax assets be given full recognition, subject to possible offsetting when it's determined that the asset has been impaired. To ascertain the extent of impairment to the deferred tax asset, Japanese accounting standards setter relies on the measure, that is, "more-likely-than-not" rule, which has been applied exclusively to this situation. As used in this context, "more-likely-than-not" rule represents a probability of just over 50%. Since it is widely agreed that the term probable denotes a much higher probability (possibly a likelihood as high as 85% to 90%), the threshold for reflecting an asset impairment in the case of deferred tax assets is much lower than is the corresponding threshold for recognition and impairments of other assets. While the meaning of the more-likely-than-not rule is clear, the practical difficulty of assessing whether or not this threshold test is met in a given situation remains. A number of positive and negative factors need to be evaluated in reaching a conclusion as to whether a valuation allowance is needed. Hence, the creation of a valuation allowances is so subjective there is a large room for manager to manage the earning arbitrarily.

PRIOR RESEARCHES

Visvanasan [1998] studies changes in valuation allowances to ascertain whether such changes are consistent with earnings management. His empirical tests examine the relationship between changes in valuation allowances and changes in current earnings after considering the determinants of valuation allowances, as discussed in SFAS No.109. The results don't support valuation allowances are subject to widespread earnings management. There is no evidence of smoothing, and no direct associations are indicated between changes in valuation allowances and debt-to-equity ratios or bonus plan-based incentives. The results do show that changes in valuation allowances are negatively related to changes in current profitability after controlling for changes in future profitability, implying that firms are using the allowance to mimic changes in current earnings.

Miller and Skinner [1998] explore the determinants of the valuation allowance for deferred tax assets under SFAS No.109. First, they examine whether managers appear to set the valuation allowance in accordance with the provisions of SFAS No.109. This statement indicates the appropriate level of the valuation allowance depends on the likelihood that firms' deferred tax assets will be realized, as well as the level of their firms' deferred tax liabilities relative to deferred tax assets. Second, they investigate whether manager exploit their discretion over the valuation allowances for earnings management purpose. In order to examine how managers account for the deferred tax assets valuation allowance, they collect data on the deferred tax positions of 200 large firms selected to have relatively large deferred tax assets. According to their test results, there is a good deal of variation across these firms in level of the valuation allowance. Their result indicates that a statistically significant part of the variation in the valuation allowance is explained by variables that proxy for managers' expectations about future taxable income and their firms' net deferred tax asset positions. In addition, they find the extent to which deferred tax assets represent operating loss, tax credit or other carryforward items is an especially strong explanatory variable for the valuation allowance. However, they find little evidence that managers of sample firms use the valuation allowance for earnings management purposes.

Bauman, et al. [2001] investigate the extent to which changes in deferred tax asset valuation allowance are used as a mean to manage earnings through income taxes on continuing operations. They look at the earnings management (1) to avoid losses, (2) to avoid a decrease in year-to-year

income, (3) to invoke an earnings "big bath", and (4) to meet the analyst forecast. However, using cross-sectional test, they can find little evidence consistent with the systematic use of the deferred tax asset valuation allowance to manage earnings other than possibly mitigate the difference between reported earnings and analysts' forecast. According to their results, the incidence of "big bath" behavior may be overstated and document behavior that is consistent with the provisions of SFAS No.109. Put simply, they express skepticism about the earnings management via deferred tax asset valuation allowance.

On the other hand, Phillips, et al. [2003] evaluate the use of deferred income tax expense as a metric for detecting earnings management. They investigate the usefulness of deferred income tax expense in identifying earnings management to meet three earnings target: (1) to avoid reporting an earnings decline, (2) to avoid reporting a loss, and (3) to avoid failing to meet analysts' earnings forecast. Their research results are consistent with the incremental usefulness of deferred tax expense in detecting earnings management. Deferred tax expense is incrementally useful to total accruals and modified Jones model abnormal accruals in detecting earnings management to avoid an earnings decline, and is incrementally beyond total accruals, modified Jones model abnormal accruals, and forward-looking abnormal accruals in detecting earnings management to avoid a loss. They also show the deferred tax expense is significantly more accurate than the three accrual measures in classifying firm-years as earnings management and non-earnings management firm-years with regard to avoiding a loss.

Schrand and Wong [2003] investigate whether banks manage earnings by setting a high valuation allowance associated with deferred tax asses and adjusting the valuation allowance in subsequent periods. They focus on a sample of publicly traded bank holding companies (banks). Banks have large DTAs and consequently, the potential for substantial valuation allowances. Besides, banks have relatively homogeneous operating activities and exposure to microeconomic conditions. They think these factors reinforce their model of the nondiscretionary adjustments to the valuation allowance. They find banks reduce their valuation allowance (i.e., increase income) to offset the deviations of the banks' unadjusted earnings from the consensus analyst forecast and average historical earnings per share. When unadjusted earnings are below (above) the target, they identify that banks make income-increasing (income-decreasing) changes in the valuation allowance. The amount of the changes in the valuation allowance is significantly associated with the magnitude of the deviation from the target. In short, their results indicate that banks use the valuation allowance to smooth earnings toward the consensus forecast and historical earnings per share.

EMPIRICAL RESEARCH

In the empirical research I examine the possibility of earnings management in banks through the adjustment of the deferred tax assets and valuation allowances, relying on the models of Schrand and Wong [2003]. Especially, I focus on the period subsequent to the adoption of ASITAJ and the recent period.

SAMPLE AND DESCRIPTIVE STATISTICS

I collect the sample of banks, such as commercial banks and community banks which are listed on the first section of Tokyo Stock Exchange and have a March fiscal year-end. Why these samples are selected is that this industry is always exposed to governmental pressure for the bad-debt disposal,

therefore, I conjecture information content of the valuation allowance of banks abounds[4]. And I set limit to the sample of banks whose amount of shareholders' equity is more than ten billion yen. After all, the sample is comprised of the 74 commercial and community banks.

We collect data related to DTAs from income tax footnotes in the financial report of 2003. Table 1 and 2 provide explanation and descriptive statistics on deferred taxes for the sample of 74banks in the year after bank industry adopts ASITAJ. My model includes the components of the DTAs and proxies for the managers' incentive to manage earnings. To test the significance of the relation between ΔVA (variations of valuation allowance) and earnings-management incentives, I use a multiple regression analysis that controls for the nondiscretionary components of ΔVA. My model follows[5]:

$$\Delta VA = \alpha + \delta_1 \Delta LLP + \delta_2 \Delta NOL + \delta_3 \Delta VLS + \delta_4 \Delta LDD + \delta_5 \Delta VLT + \delta_6 \Delta EPB + \delta_7 \Delta RSR + \delta_8 \Delta OTHER + \lambda_1 \Delta DTL + \lambda_2 \Delta EPS + \sum_i \phi_i EARNMGMT + \varepsilon$$

Table 1

Explanation of components of DTAs

ΔVA	Variations of valuation allowances
ΔLLP	Variations in DTAs sourced from bad debt allowances
ΔNOL	Variations in DTAs sourced from loss carryforward
ΔVLS	Variations in DTAs sourced from unrealized gain and loss of marketable securities
ΔLDD	Variations in DTAs sourced from leases and depreciation and amortization and so on
ΔVLT	Variations in DTAs sourced from unpaid local operating tax
ΔEPB	Variations in DTAs sourced from the employee benefits, including the bonus and postretirement benefit
ΔRSR	Variations in DTAs sourced from the write-down of some loans

[4] The homogeneity of my sample firms, which strengthens the model of the nondiscretionary adjustments to the valuation allowance, results in more powerful tests. But the focus on the banks obviously reduces the generalizability of the results.

[5] Schrand and Wong [2003] use the dummy variable as the proxy for the earnings management. Consequently, they include proxies for the two earnings-management targets. They assume that banks manage earnings toward I/B/E/S consensus forecast, and separately assume that banks managers manage earnings toward average historical earnings. To my regret, due to time constraints I don't investigate the relation between earnings management and earnings forecast. I hope to survey this theme in the future.

ΔOTHER	Variations in DTAs sourced from other resources
Proxies for future profitability	
ΔDTL	Variations in deferred tax liabilities
ΔEPS	Variations in earnings per share($\Delta EPS_{t+1} - \Delta EPS_t$)
Dummy variables for the earnings management (hereafter, EARNMGNT)	
IG	If earnings larger than previous year=1, otherwise=0
DG	If earnings smaller than previous year=1, otherwise=0

It is well known that setting for the valuation allowance is related to future profitability. Hence, I use the variable ΔDTL and ΔEPS as the proxies for future profitability. To examine the possibility of earnings management through the valuation allowance, I use the dummy variables IG and DG which show increase or decrease in profit. Including these variables enables me to test the possibility of the earnings management through the adjustment of valuation allowance. For example, if the coefficient of IG shows positive sign, this implies banks try to manage net profit upward by adjusting the valuation allowance. Moreover, to mitigate the heteroskedastisity, all regression variables except for dummy variables are deflated by the number of shares outstanding[6]. And to avoid the multicolinearity, I construct two models which include IG and DG each.

RESULTS OF THIS TEST

The table3 presents the regression results for these models. Column one of Table 3 presents the estimated regression coefficient (probability levels) for the each of two models. One model include dummy variable IG, the other includes another dummy variable DG.

The regression results are wholly consistent with my expectations. Specially, the regression results indicate that the variation of valuation allowances is caused by the variations in DTAs sourced from loss carryforward and unrealized gain and loss of marketable securities, leases and depreciation and amortization, the write-down of some loans. On the other hand, it is revealed that variations in DTAs sourced from the employee benefits, including the bonus and postretirement benefit and other resources have little impact on the variation of valuation allowances. Similarly, the results suggest the variation of deferred tax liabilities and earnings per share as the proxy for future profitability seldom affect the variation of valuation allowances.

In this regard, I suspect setting for the valuation allowances is based on the prudent judgment for the solvency and impairment of DTAs. Though I anticipate the corporate managers take the future profitability into consideration and decide the level of the valuation allowance, the results of this test doesn't support my speculation. Rather, the results suggest management adjust the level of the

[6] The number of shares outstanding stands for the sum of number of common stocks outstanding and preferred stocks outstanding.

valuation allowance by taking into account the present matters such as the disposal of loss carryforward, unrealized gain and loss of marketable securities, and writing off the bad debt and so forth.

Then, I proceed to a relationship with the earnings management. The results of the test indicate IG and DG is significantly related to change in valuation allowance. This result implies that valuation allowance is used for managing the earnings downward. In summary, it is anticipated banks make use of the valuation allowance in order to reduce net profit or account for current loss and smooth unadjusted earnings.

CONCLUSIONS AND FUTURE ISSUES

The purpose of this paper is to survey the prior studies about earnings management through the adjustment of valuation allowance against the DTAs and examine whether banks strategically set a valuation allowance associated with the DTAs for purpose of managing earnings subsequent to the release of ASITAJ. Prior studies didn't completely indicate the evidence of possibility of earnings management through the adjustment of valuation allowance. In this paper, as with Schrand and Wong [2003], I restrict the sample to the bank industry since the bank industry has accepted the pressure of rapid bad-debt disposal from govemment

According to the results of this test, the variation of valuation allowance is attributed to the change in DTAs sourced from loss carryforward, unrealized gain and loss of marketable securities, leases and depreciation and amortization, writing off the bad debt. On the other hand, the variation in DTAs sourced from the employee benefits and other resources doesn't seem to have strong relationship with the changes of valuation allowance because these variables contain various factors. Moreover, the variation of deferred tax liability and earnings per share don't have strong effect on the variation of valuation allowance.

In contrast, the result of the dummy variables in this test suggests that banks reduce the profit and smooth earnings arbitrarily. It has been often pointed out that banks in Japan have an enormous amount of deferred tax asset. Once suspecting the solvency in DTAs, banks can set a valuation allowance and increase the deferred tax expense flexibly. Put it another way, banks in Japan are in a condition they can smooth earnings through the adjustment of valuation allowance.

But, my research in this paper is greatly insufficient. I can't explain about the relation between the earnings forecast security analysts announce and earnings management managers of banks do due to time constraints. Similarly, I can't mention the objective of earnings management. In the future, I will research for these points.

Table 2

Descriptive statistics of components of DTAs

	ΔVA	ΔLLP	ΔNOL	ΔVLS	ΔLDD	ΔVLT	ΔEPB	ΔRSR	ΔOTHER	ΔDTL	ΔEPS
Mean	3385.6	-539.3	5341.4	-314.5	-11.7	-41.2	252.3	-653.5	-112.6	118.3	-3498.2
Std. dev.	17131.1	9839.8	23837.5	2956.1	68.6	351.1	1675.6	5204.9	1529.0	1286.3	31885.8
Minimum	-58.6	-35753.1	-208.5	-16333.9	-462.7	-3020.1	-260.8	-44731.5	-10575.7	-6480.5	-205268.5
Median	0.0	-5.9	0.0	0.0	-0.3	0.0	0.6	0.0	-0.3	-1.0	1.9
maximum	129476.6	64234.7	129214.7	9139.2	11.4	6.4	14020.6	297.4	5311.4	6356.1	106811.6
n	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0	74.0

Table3

Determinants of changes in the valuation allowances and tests for earnings management

Variable		Pred. Sign	Model 1		Model 2	
			Coefficient	t-value	Coefficient	t-value
α			10.845	2.60**	-1.414	-0.46
$\delta 1$	ΔLLP	+	0.164	1.68*	0.164	1.68*
$\delta 2$	ΔNOL	-	0.303	2.06**	0.303	2.06**
$\delta 3$	ΔVLS	+	0.645	4.10***	0.645	4.10***
$\delta 4$	ΔLDD	?	3.005	2.08**	3.005	2.08**
$\delta 5$	ΔVLT	?	-4.250	-1.82*	-4.250	-1.82*
$\delta 6$	ΔEPB	?	0.112	0.50	0.112	0.50
$\delta 7$	ΔRSR	?	0.693	3.05***	0.693	3.05***
$\delta 8$	ΔOTHER	?	0.361	1.39	0.361	1.39
$\lambda 1$	ΔDTL	+	0.058	0.80	0.058	0.80
$\lambda 2$	ΔEPS	?	-0.023	-1.09	-0.023	-1.09
Φ	IG		-12.259	-2.38**		
Φ	DG				12.259	2.38**
F-value			5.1523***		5.1523***	
AdjR^2			0.401807		0.401807	

＊＊＊ : significant at the 0.01level ＊＊ : significant at the 0.05level ＊ : significant at the 0.1level

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