

Taxation Gap

The Introduction of Deferred Taxes Brings What to Japanese Firms' Financial Reporting ?

Kevin Pan

Graduate School of Commerce

Waseda University, Japan

Abstract

This study examines financial reporting of Japanese firms from 1977 to 2004 to exploit if the introduction of deferred taxes in March 2000 fiscal year mitigates the taxation gap? I investigate net income and pretax income and find that Japanese firms' reporting behaviors on tax expenses have significantly changed under the new tax accounting standard instituted in March 2000 fiscal year. The evidence presented in this paper shows that the taxation gap is not ameliorated with the introduction of deferred taxes to the Japanese GAAP.

1. Introduction

Researchers have built up a rich list of topics on earnings management using deferred tax assets and valuation allowance in the existing literature. Recently, researchers switched their interests to focus on the management opportunism related to the deferred tax assets, namely, the valuation allowance. Such opportunistic earnings management originates from that the U.S. SFAS No. 109 issued in 1992 that allows discretionary arbitrage over valuation allowance against deferred tax assets. Managers, thus, are able to opportunistically create “hidden reserves” for future earnings managing. Miller and Skinner (1998) thus argue that level of firms’ tax credit and tax loss carryforwards is the most important variable for valuation allowance of deferred tax assets. Schrand and Wong (2003) find evidence of income smoothing using the deferred tax assets valuation allowance in banking industry.

Phillips, Pincus and Rego (2003) assert that deferred tax expenses serve better in detecting earnings management than Jones-type accrual models. Phillips, Pincus, Rego and Wan (2004) later find that deferred tax liabilities can also picture earnings management activities. On a slightly different thread, Gordon and Joos (2004) find that U.K. managers under the partial method measure deferred taxes opportunistically to manage balance sheet (Statement of Standard Account-

ing Practice [SSAP] No. 15, Accounting Standards Committee [ASC] 1999, para. 12).

The above papers present that how a manager can manage firms’ earnings utilizing the valuation allowance against the deferred tax assets. Since the Japanese firms started recognizing deferred taxes and deferred tax assets in 2000, this paper should benefit from conducting Schrand and Wong (2003) type of test by selecting firms that record deferred tax assets and the valuation allowance against it immediately after the standard was issued. However, when examine Japanese firms’ financial statement it requires a different setting of tests.

The rest of this paper proceeds as follows. Section 2 briefly reviews the related literature and discusses the problem of taxation gap. Section 3 describes the sample selection and data, and reasons the credibility of adopted scaling factor. Section 4 presents the visual evidence using distributions of earnings, shows the distribution of effective tax rates. Section 5 concludes the paper.

2. Taxation Gap

Most of the researches study the before fiscal year of 2000 Japanese firms because series of accounting reforms were instituted into Japanese GAAP in the fiscal year in 2000. Major change in Japanese GAAP that might affect the layouts of the Japanese firms’ financial statement including

mandated cash flow statement, market price recognition of financial commodities, and the recognition of deferred tax assets.

Pan (2005) tries to find out if the Japanese firms' changing reporting behaviors on extraordinary items are associated with the deferred taxes. Another major point being argued in Pan (2005) is the taxation gap between pretax incomes and net incomes. Suppose that a firm reports exactly zero net income, then their tax amount due should be zero. In other words, if there are two 200 firms report pretax losses of 1 million JPY, then we should also expect 200 firms report net losses of 1 million. In Pan (2005), the evidence of the taxation gap between pretax incomes and net incomes is presented in the form of a deviation on the Burgstahler and Dichev (1997) earnings distribution lines at zero, provided that both of the numerators (pretax incomes and net incomes) are deflated by the same denominator (market capitalization).

Japanese government has another set of taxation accounting system to determine how much amount of taxes a firm has to pay. Since the Japanese firms are not taxed according to their accounting incomes, this is the reason why the lines of the distribution of net income and distribution of pretax income do not match to each other at zero.

As Japan instituted the Tax Effect Accounting into Japanese GAAP in the

fiscal years of March 2000, the Tax Effect Accounting Standard allows Japanese firms to record deferred tax assets on the balance sheet and to recognize deferred taxes as tax credits to at least mitigate the temporary differences that will otherwise appear on the income statement. Requirements of the Japanese Tax Effect Accounting standard are much parallel to the U.S. Statement of Financial Accounting Standards No. 109 (SFAS No. 109), Accounting for Income Taxes. The Japanese Tax Effect Accounting standard also requires the publicly traded firms to recognize deferred tax assets for tax credits and tax loss carryforwards, deferred tax assets are reduced by valuation allowances. I conjecture that with the introduction of the deferred taxes, the taxation gap should be mitigated.

To following section will introduce the data and sample to address the taxation issue in this study.

3. Sample, Scaling, and Descriptive Statistics

I study the data of Japanese firms from the fiscal year of March 1977 to March 200¹⁾. The rest of this section will put an effort on introducing how the samples are selected and how the data are collected.

Sample Selection, NEEDS-FinancialQuest, and the Survivorship Bias

Financial statement data and stock price data to be used in this study are

obtained from the NEEDS-FQ (Nikkei Economic Electronic Databank System - FinancialQUEST) on-line database service. Nikkei NEEDS (Nikkei Economic Electronic Databank System) is a widely used databank system in Japan which provides access to financial data of the listed Japanese firms. The on-line service provided by Nikkei is the NEEDS-FQ. The NEEDS-FQ is a handy on-line databank service which contains not only firm's financial data but also some other statistics numbers from bond prices to industrial data. The NEEDS-FQ, however, is designed for the business purposes. The users are not able to draw the historical data of those firms once listed in the market but no longer exist now. This thus creates a high degree of survivorship bias problem for anyone who wishes to use the NEEDS-FQ for academic researches.

By drawing financial data from the NEEDS-FQ, this study also includes its indigenous survivorship bias problem. However this survivorship bias should not be the subject matter in this study. Since the purpose of this study is to examine if the deferred taxes will alter the Japanese firms' financial reporting once introduced, it is advantageous to include these older firms and insure that the data is available before and after the deferred taxes are introduced. If a firm is not able

to survive until the deferred taxes is a viable option to appear on the annual report, then it should not be included in the sample for that we will compare one to nothing. Second reason that older firms are preferable in this study is that older firms have higher possibility to recognize and realized deferred tax assets. We already know that firms assess profits from the unrealized book-market differences; therefore, the longer the firms exist, the larger the book-market differences are. Since older Japanese firms have more assets with unrealized losses; therefore, the more assets with unrealized losses, the more deferred taxes the firms will recognize. Such survivorship bias of NEEDS-FQ instead provides the data advantages to this study.

Scaling

Scaling factor in this study is the beginning-of-the-year market value of common equity. Beginning-of-the-year market value of common equity is calculated by the numbers of the year-end outstanding common shares (in this study, numbers of the common shares that outstand on March 31st) multiplying the price of the beginning-of-the-year common shares (in this study, price of common shares on April 1st or the price of the first trading day in April). Therefore, the

¹ The current Japanese Commercial Code was amended and taken into effect in fiscal year of March 1977. I exclude the pre-1977 data from my sample to avoid comparing firms operated under two types of commercial code system.

beginning-of-the-year market value of common equity being defined in this study is indeed the beginning-of-the-next-year market value of equity when compared to the beginning-of-the-year market value of common equity defined in most existing literature.²⁾

The basic thought of the model of earnings in study is that earnings are generated by assets. Therefore, it is argued that the total assets of the firm should be a more preferable scaling factor to its market value of common equity. Durtschi and Easton (2005) also argue that the discontinuity in the frequency distribution of earnings at zero found in most US base studies is actually a result of using the lagged market capitalization as the deflator. Indeed, market value of the firm's common equity includes the market anticipation of the firm's future profitability, and thus, it is a noisy measure of earnings. However, when study Japanese firms using total assets to deflate the earnings measures should be avoided because of the different assets components of the Japanese firms to the U.S. firms.

The average firm age of the Japanese firms is much higher than their US counterparts. Most of the long-established Japanese firms have huge differences between their book value of assets and

market value of assets. Many firms may have fixed assets, for example land, acquired at very low price many years ago. Now the market value of the land may be worth 50 times to 300 times more than when it was acquired; however, such book-market differences are not adjusted in the balance sheet of Japanese firms. Herrmann, Inoue and Thomas (2003) also found that Japanese firms assess such unrealized profits from the book-market differences to manage earnings by selling their assets.

On the other hand, Japanese firms also have many unrealized losses within their assets. During the bubble economy, there was a lot of money being put into the real estate market. Many lands were purchased and numerous buildings were built during the over-heated economy period. Those lands and building may only be now worth less than half of its original value. Other unrealized losses include seriously devalued securities and other financial assets.

Hence, beginning-of-the-year market capitalization is a much preferable deflator over total assets to be used in this study.

Accounting Income Measures

To insure the consistency of the sample, only firms that end their fiscal year in

²⁾ Beginning-of-the-year market value of common equity being defined in most existing is the price of the common shares in the beginning of the year multiplying the numbers of the outstanding shares in the end of the year; thus, lagged price.

March are included in the sample. The sample includes all available observations for the fiscal years of March 1977 to March 2004. Following the methodologies used in most prior empirical researches in the literature, financial institutions and utilities firms are excluded from the sample.

Two earnings measures, net income and pretax income are examined in this paper. These earning measures are scaled by the beginning-of-the-year market value of common equity. Market value of common equity is calculated by firm's year-end outstanding shares (NEEDS-FQ Item FE032) multiplying firm's beginning-of-the-year share price (NEEDS-FQ Item MOPEN).

The reason why this study chooses firm's market value of common equity as scaling factor over firm's total asset is that some long-established Japanese firms might have assets with huge book-market differences.

Net income (NI, NEEDS-FQ Item FC058) is the after tax earnings measure. Pretax income (PRETAX, NEEDS-FQ Item FC048) is the before tax earnings measure. Taxes include income taxes and the deferred income taxes. Note that the tax effect accounting became mandatory in 2000 fiscal year; therefore, the

deferred taxes appeared on the income statement in March 2000. I compare the difference between and to determine the effects of the tax expenses on the earnings distributions.

The main purpose of this paper is to evaluate how firms' financial reporting are being affected by the tax effect accounting, I break the study period into the pre-introductory period from 1977 to 1999 fiscal year and the post-introductory period from 2004 to 2004 fiscal year. During the pre-introductory period, the differences between and include only income taxes.³⁾ Since March 2000, the deferred income taxes emerged as a tax-amount-adjustment item on the income statement.

Since the distributions of the earnings measures are what this paper focuses on, any observation that is missing any numbers out of the three earnings is excluded from the sample. This last criterion results in a total of 21,776 observations. Table 1 documents the descriptive statistics of the two variables.

From Table 1, we can find that the standard deviations of all three income measures drastically increased since 1998. The is because firms were given the option to record deferred taxes and deferred taxes assets two years prior to the Tax

³ Some Japanese firms compose their annual reports based on the U.S. FASB standard. In such case, "Extraordinary Items and Gain/Loss from Discontinued Operations" comes in between NI and PRETAX. However, this is a rare case and there are only twenty some Japanese firms financially filing under the U.S. GAAP.

Table 1

Scaled values of earning measures. Sample of 21,776 observations for 1977-2004.

Year	N	NI			PRETAX		
		Mean	Median	Std.Dev.	Mean	Median	Std.Dve.
1977	590	0.0265	0.0404	0.0806	0.0695	0.0824	0.1064
1978	600	0.0249	0.0374	0.0670	0.0640	0.0740	0.0918
1979	617	0.0374	0.0403	0.0478	0.0789	0.0800	0.0751
1980	623	0.0590	0.0561	0.0459	0.1178	0.1102	0.0865
1981	627	0.0507	0.0483	0.0400	0.1032	0.0949	0.0728
1982	633	0.0524	0.0485	0.0570	0.1159	0.1062	0.1013
1983	637	0.0342	0.0381	0.0616	0.0833	0.0832	0.1048
1984	643	0.0285	0.0307	0.0454	0.0686	0.0658	0.0718
1985	649	0.0367	0.0345	0.0343	0.0816	0.0750	0.0607
1986	656	0.0232	0.0237	0.0291	0.0553	0.0525	0.0491
1987	682	0.0179	0.0195	0.0302	0.0471	0.0439	0.0507
1988	691	0.0185	0.0190	0.0174	0.0427	0.0417	0.0315
1989	704	0.0226	0.0208	0.0149	0.0485	0.0437	0.0308
1990	721	0.0209	0.0199	0.0124	0.0435	0.0418	0.0236
1991	734	0.0231	0.0230	0.0183	0.0479	0.0455	0.0306
1992	772	0.0244	0.0259	0.0323	0.0547	0.0543	0.0475
1993	784	0.0105	0.0189	0.0443	0.0367	0.0431	0.0586
1994	800	0.0050	0.0138	0.0434	0.0249	0.0312	0.0542
1995	826	0.0123	0.0204	0.0459	0.0378	0.0435	0.0596
1996	848	0.0164	0.0207	0.0335	0.0405	0.0428	0.0462
1997	883	0.0258	0.0297	0.0415	0.0584	0.0599	0.0572
1998	921	0.0213	0.0323	0.0737	0.0597	0.0652	0.0917
1999	942	-0.0193	0.0216	0.1293	0.0152	0.0508	0.1571
Total	16583	0.0233	0.0582	0.0593	0.0269	0.0559	0.0579
2000	965	-0.0052	0.0263	0.1299	0.0167	0.0532	0.1804
2001	1010	0.0046	0.0327	0.1346	0.0270	0.0611	0.1971
2002	1047	-0.0336	0.0231	0.2010	-0.0147	0.0442	0.2518
2003	1080	-0.0215	0.0389	0.2493	0.0239	0.0801	0.2685
2004	1091	0.0307	0.0417	0.0779	0.0689	0.0750	0.0928
Total	5193	-0.0143	0.0301	0.1879	0.0131	0.0593	0.2294
Total	21776	0.0159	0.0272	0.0987	0.0493	0.0563	0.1257

NI represents Net Income (NEEDS-FinancialQUEST Item FC058) ; PRETAX represents Pretax Income (NEEDS-FinancialQUEST Item FC048) ; and ORDNI represents Ordinary Income (NEEDS-FinancialQUEST Item FC029). All variables are scaled by beginning-of-year market capitalization.

Effect Accounting Principle became mandatory in March 2000. What is interesting us is that the number of the standard deviations of all three income measures peaked in March 2003 and fell back to the 1998 level in March 2004. This might suggest that the increased fluctuation in standard deviation might be a transitory phenomenon. Also note that it is not until 1999 that Japanese firms started to reporting negative incomes.

4. Taxation Gap on Accounting Income and Taxation Income

Another major point to be argued in this study, as in Pan (2005), is the taxation gap between pretax incomes and net incomes. Suppose that a firm reports exactly zero net income, then their tax amount due should be zero. Both of the numerators (pretax incomes and net incomes) are deflated by the same denominator (market capitalization), such deviation of distribution lines at zero is the evidence of the taxation gap.

Japanese government has another set of taxation accounting system to determine how much amount of taxes a firm needs to pay. Since the Japanese firms are not taxed according to their accounting incomes, this is the reason why the lines of the distribution of net income and distribution of pretax income do not match to each other at zero. With the values of the numerator (reported losses

of the firms) increase and the scaled differences between pretax income and net income become insignificant, these two distribution lines eventually converge.

The following figures document the mean and median of the effective tax rates conditional on the pretax income. The effective tax rates are measured by the tax expenses divided by the pretax incomes. Figure 1 documents the mean and median effective tax rates conditional of the pretax income from 1977 to 1999.

It is very obvious that there is a big spike in Figure 2. The peak of the spike represents that the mean of the effective tax rate between -1% and 0% is more than 400% of the firms' pretax income. In other words, firms are paying more than 4 times of their pretax incomes government for taxes.

However, such spike is the result of the scaling problems. Since the Japanese firms are not taxed on their reported accounting incomes but a different set of taxation accounting, Japanese firms are still taxed by the Japanese government even if they are reporting losses. Hence if the firm reports JPY 1 million pretax incomes but the taxation requires the firm to pay JPY 10 million taxes, the realized effective tax rate for this firm will be 1000%. So, this is the reason why the position of the spike is around zero.

Figure 1. ETR Conditional on PRETAX 1977 — 1999

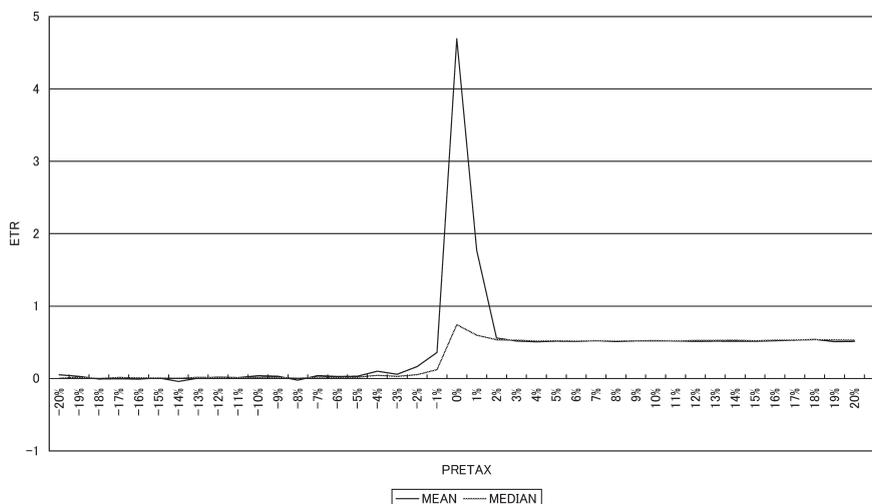


Figure 2. ETR Conditional on PRETAX 2000 — 2004

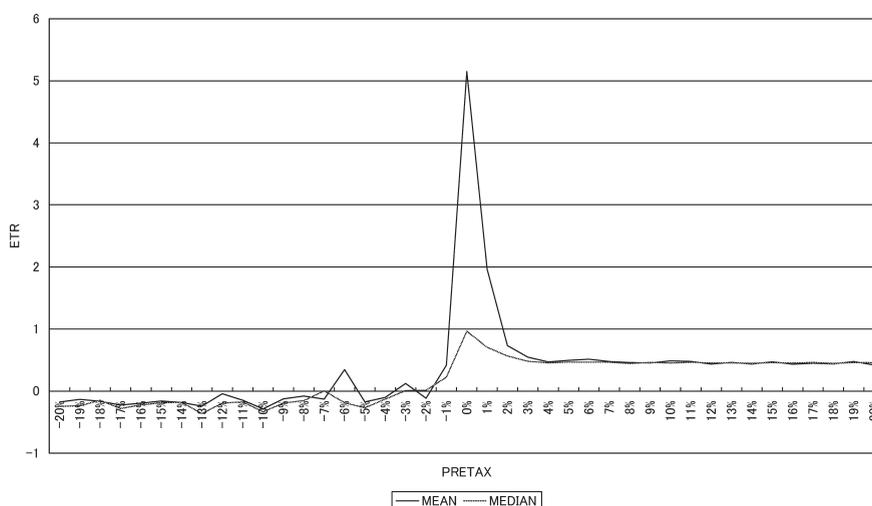


Figure 2 documents the mean and median effective tax rates conditional of the pretax income from 2000 to 2004. As we can see, the spike still exists. One of the major functions given to the deferred tax (or the Tax Effect Accounting Principle) when it was introduced into Japanese GAAP was to mitigate the taxation gap of accounting income. The spike in Figure 2 suggests that such function is not

being performed. The gap still exists.

Figure 2 also presents another important evidence that the loss firms are reporting an average of 20% of negative tax rates. If a firm reports negative tax rate, it means this firm is decreasing its deferred tax assets to increase its earnings.

Figure 3. Excess ETR Conditional on PRETAX 1977 – 1999 (N=530)

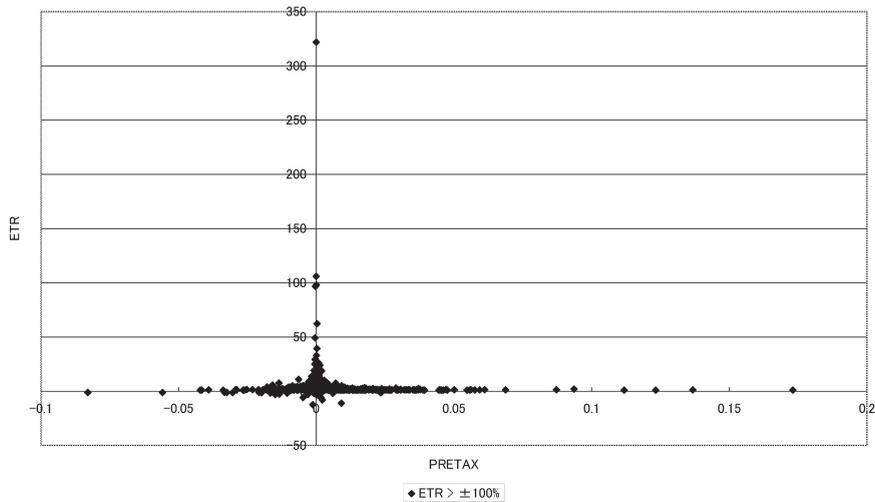
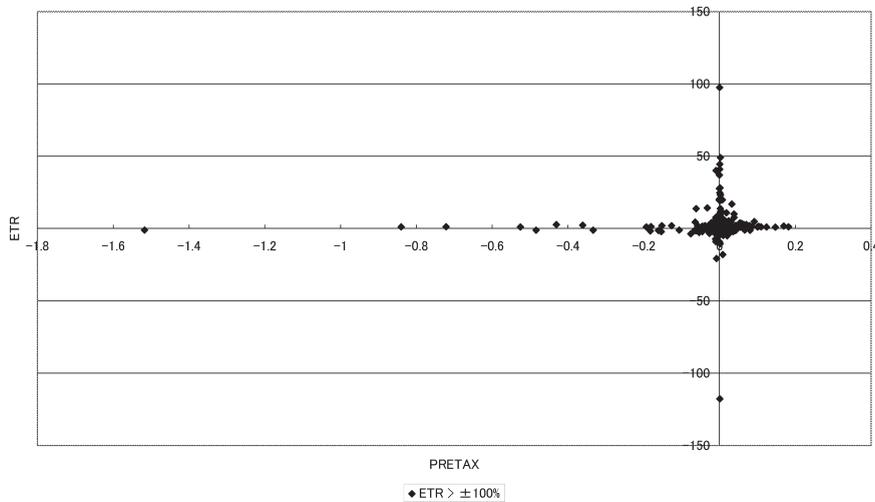


Figure 4. Excess ETR Conditional on PRETAX 2000 – 2004 (N=269)



Distribution of Excess Effective Tax Rates

The following figures document the excess effective tax rates conditional on pretax incomes. The excess effective tax rate is defined as effective tax rates that exceed positive 100% or negative 100%. Table 3 documents the descriptive statis-

tics of the excess effective tax rates. There are 530 observations of excess ETR found from the 1977 to 1999 sample period while 269 observations are found during the 2000 to 2004 sample period. Figure 3 and Figure 4 document the distributions of the excess ETR conditional on the pretax income in each period respectively.

Table 2
Descriptive statistics for profit and loss firms

1977-1999										
Variable	Negative NI (1,970 obvs)					Positive NI (14,613 obvs)				
	Mean	Median	Std.Dev.	%≠0	%>0	Mean	Median	Std.Dev.	%≠0	%>0
NI	-0.0754	-0.0407	0.0962	100.00 %	0.00 %	0.0366	0.0303	0.0285	100.00 %	100.00 %
ETR	0.9819	0.0550	4.4194	88.42 %	77.91 %	0.5348	0.5217	2.8176	98.29 %	97.68 %
PRETAX	-0.0694	-0.0355	0.1042	100.00 %	16.60 %	0.0754	0.0630	0.0565	100.00 %	99.71 %
2000-2004										
Variable	Negative NI (1,227 obvs)					Positive NI (3,966 obvs)				
	Mean	Median	Std.Dev.	%≠0	%>0	Mean	Median	Std.Dev.	%≠0	%>0
NI	-0.2023	-0.1152	0.2600	100.00 %	0.00 %	0.0562	0.0456	0.0437	100.00 %	100.00 %
ETR	0.7313	-0.0310	4.4601	99.73 %	47.71 %	0.3780	0.4482	2.1065	99.92 %	96.29 %
PRETAX	-0.2241	-0.1313	0.2886	100.00 %	9.37 %	0.1019	0.0868	0.0813	100.00 %	99.19 %

See Table 1 for definitions of NI and PRETAX. ETR represents the effective tax rate, calculated as income tax expenses (NEEDS-FinancialQUEST Item FCO052+NEEDS-FinancialQUEST Item FC052) divided by PRETAX.

The implication drawn from the above figures are the ranges where the excess ETRs are distributed. Excess ETR intensively distribute between -0.05 to 0.05 earnings intervals around zero in Figure 3. On the other hand, excess ETR distribute in a wider range from -0.2 to 0.2 in Figure 4. The represent that after the deferred taxes and deferred taxed assets are recognized in Japanese GAAP, the managers have more discretionary power to choose how many tax they are going to pay to the government.

Table 2 reports the descriptive statistics of the profit and loss firms. The profit-to-loss firm ratio during 1977-1999 is about 7.42 whereas it is 3.24 in 2000-2004. This confirms that this sample does include certain degree of survivorship bias indigoes to the NEEDS-FQ.

The ETR in Table 2 shows the realized

effective tax rate. The realized effective tax rate is income tax expenses (NEEDS-FQ Item FC052 + NEEDS-FQ Item FC052) divided by pretax income. The mean ETR of firms that report negative net income during 1977 to 1999 is 98% while its median is only 5.5%. Such skewness of the reported ETR can largely be attributed to the taxation gap between accounting income and taxation income.

The same situation is also found in the 2000 to 2004 period where mean ETR of firms that report negative net income is 73% while its median is -3.1%. In addition to the taxation gap problem, the deferred taxes also contribute to the skewness of the ETR since more than half of the firms report negative ETR in the 2000 to 2004 period. On the other hand, the mean-median differences of ETR of the firms that report positive net income also in-

Table 3
Descriptive statistics for excess effective tax rates.

1977-1999						
	N	Mean	Median	SD	Max	Min
ETR < -100 %	29	-2.97108123	-1.75510204	2.9469969	-1.04672897	-12.3636364
ETR > 100 %	501	4.76460814	1.7037037	16.9876071	321.894737	1.00048193
2000-2004						
	N	Mean	Median	SD	Max	Min
ETR < -100 %	62	-4.86474494	-1.65686275	15.0064014	-1.00495751	-117.6875
ETR > 100 %	207	5.2687047	1.94078947	10.1373919	97.5744681	1.00917431
1977-1999						
	N	Mean	Median	SD	Max	Min
NI < 0	409	-0.01531638	-0.00996486	0.01745331	-0.00022772	-0.11607782
NI > 0	121	0.00940756	0.00592534	0.0137353	0.10960906	2.2387 E-05
2000-2004						
	N	Mean	Median	SD	Max	Min
NI < 0	177	-0.10838219	-0.03001998	0.27000347	-0.00058075	-1.8647561
NI > 0	92	0.03789971	0.01615208	0.04648068	0.19940039	6.9621 E-05
1977-1999						
	N	Mean	Median	SD	Max	Min
PRETAX < 0	163	-0.0089212	-0.00483214	0.0112708	-8.3313 E-06	-0.08293922
PRETAX > 0	367	0.01426351	0.00859399	0.01895827	0.17307649	5.1235 E-05
2000-2004						
	N	Mean	Median	SD	Max	Min
PRETAX < 0	102	-0.08129383	-0.02064324	0.20065246	-8.4179 E-05	-1.51735503
PRETAX > 0	167	0.0279743	0.01808337	0.0316162	0.18176128	0.00011863

crease in this period. Please also note that the average ETR of the 2000 to 2004 period is much lower than the 1977 to 1999 period.

5. Concluding Remarks

The evidences presented in this paper,

tax spike and increased numbers of excess ETRs, to some extent, suggest that the introduction of the deferred taxes does not mitigate the taxation gap that has long existed in the Japanese GAAP. However, this paper does not provide any empirical evidence to insure the credibility of the above conclusions drawn from

the evidences presented in this paper. Future study on the same scope should be benefited from empirically examining the subject matters raised in this paper.

Reference

- Beaver, W., M. McNichols, and K. Nelson, 2004. "An Alternative Interpretation of the Discontinuity in Earnings Distributions." Working paper. Stanford University.
- Burgstahler, D., and I. Dichev, 1997. "Earnings Management to Avoid Earnings Decreases and Losses." *Journal of Accounting and Economics* 24, 99-126.
- Durtschi, C., and P. Easton, 2005. "Earnings Management? The Shapes of the Frequency Distributions of Earnings Metrics Are Not Evidence Ipso Facto" *Journal of Accounting Research* 43, 557-592.
- Gordon, E., and P. Joos, 2004. "Unrecognized Deferred Taxes: Evidences from the U.K." *Accounting Review* 79, 97-124
- Herrmann, D., T. Inoue and W. B. Thomas, 2003. "The Sale of Assets to Manage Earnings in Japan." *Journal of Accounting Research* 41, 80-108.
- Miller, G., and D. Skinner, 1998. "Determinants of the Valuation Allowance for Deferred Tax Assets under SFAS No. 109." *Accounting Review* 73, 213-233.
- Pan, C., 2005. "Deferred Taxes, Increased Managerial Discretion, and Japanese Firms' Changing Reporting Behaviors," Working Paper, Waseda University.
- Phillips, J., M. Pincus and S. Rego, 2003. "Earnings Management: New Evidence Based on Deferred Tax Expense." *Accounting Review* 78, 491-521.
- Phillips, J., M. Pincus, S. Rego and H. Wan, 2004. "Decomposing Changes in Deferred Tax Assets and Liabilities to Isolate Earnings Management Activities." (forthcoming on) *Journal of the American Taxation Association*.
- Rego, S. and M. Frank, 2003. "Do Managers Use the Valuation Allowance Account To Manage Earnings Around Certain Earnings Targets?" Working paper. University of Iowa.
- Schrand, C. and M. H. F. Wong, 2003. "Earnings Management Using the Valuation Allowance for Deferred Tax Assets under SFAS No. 109." *Contemporary Accounting Research* 20, 579-611.