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論 文

報告利益管理の観点から見る日本企業の時価会計への対応

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〈論文要旨〉

本研究では、時価会計の導入に対して日本企業がどのような報告利益管理を行ったのかについて検証した。本研究では、日本企業が時価会計の導入に対し、損失回避の報告利益管理を行ったことを確認した。特に、成長企業や非製造業に属する企業が実質報告利益管理を行い、損失回避行動をとったことが確認できた。

〈キーワード〉
発生項目報告利益管理、実質報告利益管理、特別項目、時価会計

How Japanese Firms Respond to Mark-to-Market Accounting? An Earnings Management Perspective

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Abstract

In this paper, I investigate how Japanese firms respond to mark-to-market accounting from an earnings management perspective. I hypothesize, and find evidence to show, that Japanese firms offset expenses occurring from income-decreasing extraordinary items through both accruals management and real earnings management. I also present evidence that firms with growth potential tend to manage earnings by using real earnings management. I also obtain evidence that, unlike manufacturing firms, nonmanufacturing firms tend to manage earnings upward by using overproduction.

Keywords: Accruals Management, Real Earnings Management, Extraordinary Items, Mark-to-market Accounting

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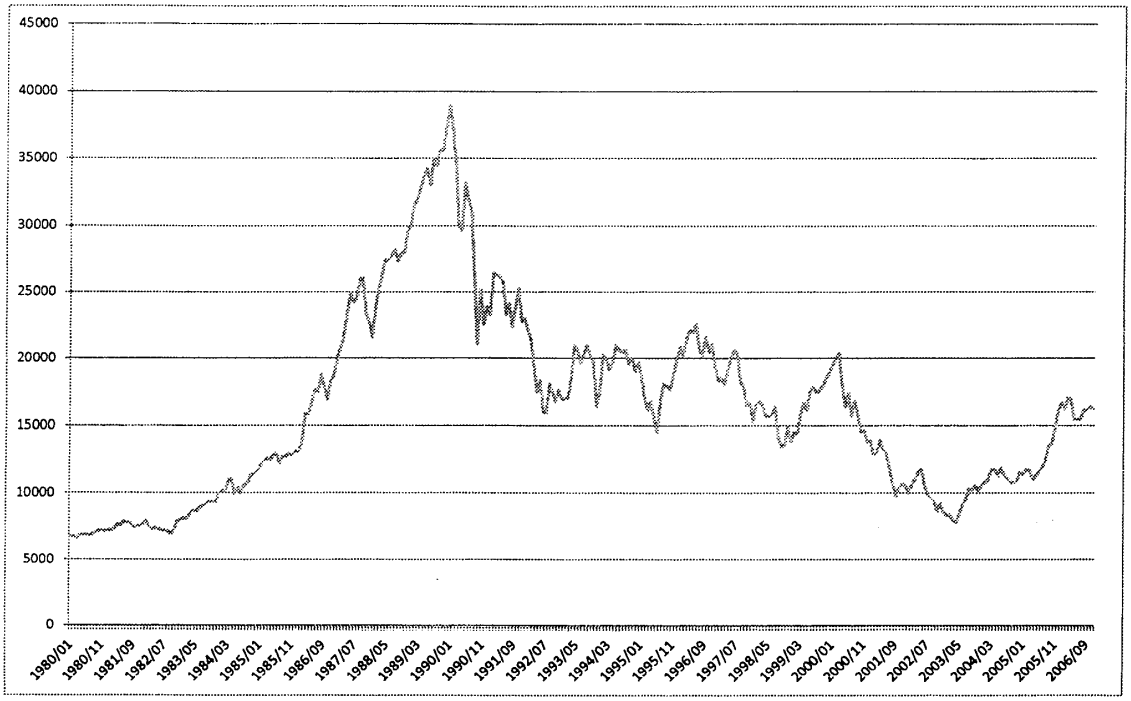

Figure 1 – Nikkei Stock Market Average (Monthly Closing Prices)

1. Introduction

In this paper, I investigate how Japanese firms respond to mark-to-market accounting from an earnings management perspective. I do so by taking advantage of Japan's unique institutional setting. Beginning in the late 1990s, Japan initiated a series of accounting standard reforms in an effort to catch up with global trends in the wake of the international harmonization of accounting standards.[1] Mark-to-market accounting first came into effect in Japan in 2000. Unexpectedly, it forced Japanese firms to operationally shift the holding position of their securities holdings. As shown in Figure 1, stock prices started to decline in 2000. Figure 2 illustrates time-series trends in mean cash holdings, marketable securities holdings, and investing securities holdings of Japanese firms in the period 1990–2008.[2] It shows that although the cash holdings position was sustained, in 2001, there was a drastic shift in the holdings position for marketable securities and investing securities.[3]

In this paper, I document the reporting of 6,582 (out of 8,205) firm-years in which there were income-decreasing extraordinary items in the period 2000–2004. However, loss reporting increased from 899 firm-years at the ordinary income level (earnings *before* extraordinary items) to 1,843 firm-years at the pretax income level (earnings *after* extraordinary items). This evidence raises several questions. First, why did Japanese firms change their securities holding positions following the introduction of mark-to-market accounting? If firms are not motivated to undertake earnings management (regardless of balance management or income statement management), there is no motivation for them to aggressively change their securities holding positions following the introduction of mark-to-market accounting. Second, following the response of securities holding positions to the introduction of mark-to-market

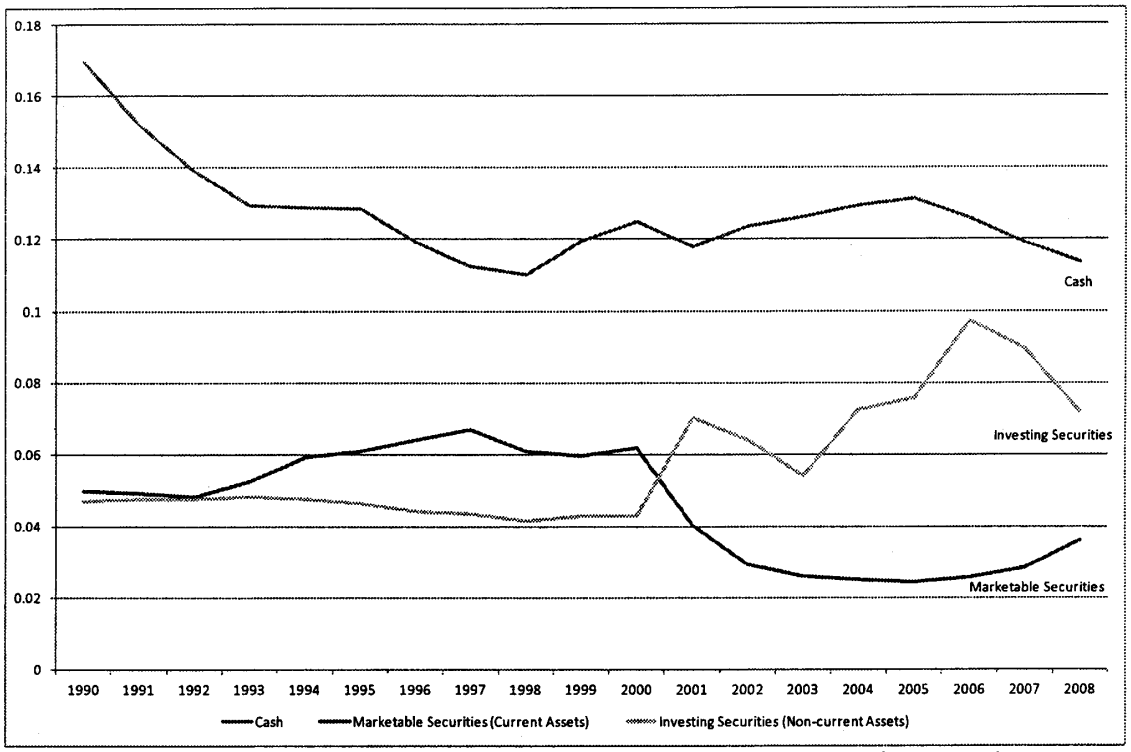

Figure 2 – Mean Cash, Marketable Securities, and Investing Securities Holdings of Japanese Firms
(based on 21,474 observations on Tokyo Stock Exchange listed firms)

accounting, why did profit-reporting firms outnumber loss-reporting firms? Because the introduction of mark-to-market accounting was anticipated, why did firms want to avoid reporting losses if the market was able to ascertain the effect of mark-to-market accounting?

The drastic change in securities holding positions stems from the corresponding classifications in income statements for marketable securities and investing securities inherited from the Japanese Generally Accepted Accounting Principles (GAAP). Before the "all-inclusive" income statement replaced the "current operating performance" income statement in 1974,[4] "ordinary income" (current income) had been the bottom-line earnings figure in the income statements prepared by Japanese firms. Even after the revision of the Japanese GAAP in 1974, which placed the classification of extraordinary items below ordinary income, business people in Japan still considered ordinary income as the index of a firm's performance. Therefore, an overemphasis on ordinary income creates a strong incentive for Japanese firms to avoid reporting losses at the ordinary income level.

Herrmann, Inoue, and Thomas (2003) and Pan and Tsuji (2013) show that Japanese firms' management of earnings to overstate ordinary income stems from the Japanese GAAP treating unrealized holding gains and losses of securities and fixed assets differently depending on how they are classified on balance sheets. Pan and Tsuji (2013) further show that Japanese firms can operationally shift the classification of securities to manage earnings at the ordinary income level. When a firm sells marketable securities or fixed assets classified as current assets, it is required to report the unrealized holding gains or losses as nonoperating gains or losses (items above ordinary income). However, when the firm sells nonmarketable securities or fixed assets classified as noncurrent

assets, the firm must report the unrealized holding gains or losses as extraordinary gains or losses (items below ordinary income).

The mechanism by which a Japanese firm adjusts its ordinary income upward by selling assets that generate unrealized holding gains is as follows. The firm first shifts the classification of underlying assets from noncurrent assets to current assets. When the firm sells underlying assets, it can report the unrealized holding gains as nonoperating gains to increase ordinary income. Conversely, firms can overstate their ordinary income by selling assets that generate unrealized holding losses. The firm first shifts the classification of the underlying assets from current assets to noncurrent assets. Then, the firm can report the unrealized holding losses as extraordinary losses instead of nonoperating losses, to increase ordinary income.

Herrmann, Inoue, and Thomas (2003) show that, before mark-to-market accounting was incorporated into the Japanese GAAP, Japanese firms managed their earnings by selling fixed assets or marketable securities to generate unrealized gains or losses. However, Pan and Tsuji (2013) argue that the changes documented by Herrmann, Inoue, and Thomas (2003) relate to the period before Japan's Accounting Big Bang occurred; hence, such changes may not have been sustained since the accounting standard reforms were initiated.[5]

This paper contributes to the literature by showing that Japanese firms responded to the introduction of mark-to-market accounting by operationally shifting their securities holding positions. Despite the reclassification of securities being triggered by anticipated external events, Japanese firms still tried to manage their earnings upward through both accruals and real earnings management to offset income-decreasing extraordinary items to avoid reporting losses. The evidence presented in this paper suggests that Japanese firms are strongly motivated to avoid reporting losses.

2. Literature, Institution Issues in Japan and Hypothesis

2.1 Earnings Management in Japan

Japan-based studies provide substantial evidences that show the Japanese managers' engagement in earnings management. Shuto (2000), and Suda and Shuto (2001) provide evidences on accruals management. Suda and Shuto (2005) present earnings management evidences with combined earnings distribution and accruals management. Shuto (2007) links Japanese firms' earnings management to the compensation schemes of the executives. Yamashita and Otogawa (2008) investigate if firms manage earnings in responses to the tax reduction in late 1990s in Japan. Onuma (2004) analyzes Japanese commercial banks' use of valuation allowance of deferred taxes for earnings management since its effective in 2000. Pan (2009) presents evidences that Japanese firms engage in real earnings management in the early 2000s while reporting income decreasing accruals suggesting that real activities earnings management can be a possible substitute for accruals managements.

Earnings management by Japanese firms also draws attentions from outside of Japan. Darrough, Pourjalali and Saudagaran (1998) show that Japanese firms participate in accruals management. Mande, File and Kwak (2000) find that Japanese managers cutting R&D budgets to smooth income. Herrmann, Inoue, and Thomas (2003) specify Japanese firms' earnings management activities through the sales of fixed assets and

marketable securities. Higgins (2013) argues and investigates if Japanese stock-for-stock merger acquirers manage earnings before merger announcement and present evidence showing that acquirer firms exhibit significant positive long-term abnormal accruals before the stock-swaps mergers.

The above evidences, taken together, suggest that Japanese firms may accordingly manage earnings to serve firms interests.

2.2 Definitions of Extraordinary Items in Japan and Working Hypothesis

According to the "Supplement 12 Extraordinary Items" of the Japanese GAAP,[6] extraordinary items consist of two main components: (1) non-recurring items (including [a] gain or loss on sale of fixed assets, [b] gain or loss on sales of securities acquired for purposes other than resale, and [c] casualty loss), and (2) prior period adjustments[7] (including adjustment of [a] reverses, [b] depreciation, [c] correction of inventory valuation, and [d] recovery of bad debts written off in prior periods).[8,9] In addition, "extraordinary items of an immaterial amount or of a recurring nature may be classified as ordinary item."[10]

The definition of extraordinary items in Japanese GAAP allows more room for interpretations compared to the US GAAP or IFRS (IFRS does not have a classification for extraordinary items). In practice, extraordinary items reported by Japanese firms usually include gains/losses on sales of long-term investments in properties, equipment, real estates, and other-than-trading securities, gains/losses from retirement benefits (since 2001), impairment expense (since 2004), and gains from negative goodwill (since 2010).[11]

Herrmann, Inoue, and Thomas (2003) show that, during the 1990s, Japanese firms increased (or decreased) earnings through the sale of fixed assets and marketable securities to mitigate forecast management errors in operating earnings. Before the implementation of fixed assets impairment in 2004, fixed assets in Japan were measured at historical cost less accumulated depreciation. Thus, book-market value differences in fixed assets persist until the fixed assets are sold. In Japan, marketable securities are valued at either cost or market value, whichever is the lowest. Firms have had this option even before mark-to-market accounting was introduced. Hence, because of book-market value differences in fixed assets and marketable securities, unrealized holding gains or losses are created. Thus, Japanese firms can exploit the rules by using fixed assets or marketable securities to engineer unrealized holding gains or losses. A firm that expects to perform poorly in the current period can create unrealized holding gains to increase earnings and preserve unrealized holding losses on the books. By contrast, a firm that performs better than expected can create unrealized holding losses to decrease earnings and preserve unrealized holding gains as reserves to offset future losses. However, the introduction of mark-to-market accounting is expected to prevent firms from maintaining unrealized holding gains and losses as reserves. In fact, Pan and Tsuji (2013) show that results presented in Herrmann, Inoue, and Thomas (2003) might not apply in the 2000s.

In this paper, I investigate why 6,582 (out of 8,205) firm-years reported net income-decreasing extraordinary items during the sample period under study while the number of loss-reporting firms increased from 899 to 1,843 firm-years. Pan (2009) and Yamaguchi (2009) show that Japanese firms manage earnings to meet various earnings benchmarks (e.g., pretax earnings, zero earnings, earnings from previous earnings, and

management earnings forecasts). Firms are unlikely to change their securities holding positions for no reason. The number of loss-reporting firms suggests that managers are still reluctant to record losses after reporting income-decreasing extraordinary items. I then conjecture and hypothesize that firms manage earnings upward while reporting income-decreasing extraordinary items.

Formal Hypothesis: Firms that report income-decreasing extraordinary items (i.e., firms report net losses from extraordinary items) manage earnings upward to avoid or decrease losses.

3. Research Design

3.1 Modeling Proxies for Real Earnings Management

To estimate real earnings management, following Roychowdhury (2006), I use cash flow from operations (CFO) and use discretionary expenses and production costs to proxy real earnings management activities. Several authors (e.g., Gunny 2010; Cohen and Zarowin 2010; and Zang 2012) have obtained and validated results on real earnings management by using these variables. Following Roychowdhury (2006), I focus on the abnormal levels of CFO, discretionary expenses, and production costs. These three variables are used to proxy the real earnings management activities listed below.

1. Accelerating sales by offering increased price discounts or more lenient credit terms.
2. Overproducing to report lower cost of goods sold.
3. Cutting advertising, R&D, and SG&A expenses to decrease discretionary expenses.

Sales Acceleration: Sales volumes can be temporary boosted by offering price discount or more generous credit terms. However, temporary increased sales volumes are likely to disappear once the firms stop offering such discounts. The increased sales volumes will increase the current period earnings but not the current period cash flows.

Overproduction: Fixed costs of a specific product will not vary with the increase volumes produced. Thus, as long as the decreased per-unit fixed costs are not offset by the increased per-unit marginal costs, overproducing will lower total per-unit costs of a product. Assume that the sales volumes stay the same, the firms can report higher operating margin in current period with the decreases in reported costs of goods sold (COGS).

Cutting Discretionary Expenses: Firms can boost current period earnings by cutting expenses like advertising, R&D and selling, general and administrative expenses (SG&A). These expenses are generally paid in cash; therefore, cutting these expenses will also lead to an increase in current period cash flows.[12]

These three activities generate abnormal levels of CFO, discretionary expenses, and production costs. I use these variables to proxy real earnings management activities. First, I use a model developed by Dechow, Kothari and Watts (1998) and Roychowdhury (2006) to estimate the normal level of CFO, discretionary expenses, and production costs. The normal level of CFO is expressed as the following linear function of current sales and its change:[13]

$$CFO_{i,t} = \alpha_0 + \beta_1 Sales_{i,t} + \beta_2 \Delta Sales_{i,t} + \varepsilon_{i,t}. \quad (1)$$

To obtain an estimate of abnormal CFO, I subtract estimated CFO based on (1) from actual CFO.

Following the existing literature, I define production costs as the sum of COGS and the current change in inventory. COGS is modeled as a linear function of current sales:

$$COGS_{i,t} = \alpha_0 + \beta_1 Sales_{i,t} + \varepsilon_{i,t}. \quad (2)$$

The change in inventory is modeled by using the following regression:

$$\Delta INV_{i,t} = \alpha_0 + \beta_1 \Delta Sales_{i,t} + \beta_2 \Delta Sales_{i,t-1} + \varepsilon_{i,t}. \quad (3)$$

Equations (2) and (3) combine to generate estimated production costs:

$$PROD_{i,t} = \alpha_0 + \beta_1 Sales_{i,t} + \beta_2 \Delta Sales_{i,t} + \beta_3 \Delta Sales_{i,t-1} + \varepsilon_{i,t}. \quad (4)$$

Normal discretionary expenses are modeled as a linear function of sales:

$$Disex_{i,t} = \alpha_0 + \beta_1 Sales_{i,t} + \beta_2 \Delta Sales_{i,t} + \varepsilon_{i,t}. \quad (5)$$

However, if firms manage sales upward to increase reported earnings in the current year, modeling discretionary expenses as a function of current sales causes the error term to be biased downward. To address this issue, I let discretionary expenses be a function of sales in the previous year:

$$Disex_{i,t} = \alpha_0 + \beta_1 Sales_{i,t-1} + \varepsilon_{i,t}. \quad (6)$$

The variables used in the above regressions are defined as follows.

$CFO_{i,t}$ = cash flows from operations in period t
$Sales_{i,t}$ = sales generated in period t
$\Delta Sales_{i,t}$ = changes in sales in period t
$\Delta INV_{i,t}$ = changes in inventory in period t
$PROD_{i,t}$ = production costs, defined as cost of goods sold + change in inventory
$Disex_{i,t}$ = discretionary expenses, defined as SG&A[14]
$Sales_{i,t-1}$ = sales generated in period t–1
$\Delta Sales_{i,t-1}$ = changes in sales in the prior period t–1.

I further define the abnormal levels of CFO, production costs, and discretionary expenses as the differences between their actual values and their estimated values based on (1), (4), and (6), respectively. These estimated abnormal levels of variables are used to proxy real earnings management activities. I expect that firms that conduct real earnings management to boost reported earnings upward will exhibit the following: (i) an unusually low level of CFO; (ii) an unusually low level of discretionary expenses; and/or (iii) an unusually high level of production costs.

Proxies for Accruals-Based Earnings Management

I use standard procedures to proxy accruals-based earnings management. Following Jones (1991), I model normal accruals as follows:

$$TA_{i,t} = \alpha_0 + \beta_1 \Delta Sales_{i,t} + \beta_2 PPE_{i,t} + \varepsilon_{i,t}, \quad (7)$$

where

$TA_{i,t}$ = earnings before extraordinary items minus operating cash flow
$\Delta Sales_{i,t}$ = change in sales from previous year
$PPE_{i,t}$ = gross value of property, plant, and equipment.

3.2 Research Design for Firms Reporting Income-Decreasing Extraordinary Items

To examine if Japanese firms manage earnings upward to offset expenses arising from income-decreasing extraordinary items, I estimate the following regression, which is based on that used by Roychowdhury (2006).

$$Y_t = \alpha_0 + \beta_1 Size_t + \beta_2 MTB_t + \beta_3 EBEI_t + \beta_4 EXTRA_t + \varepsilon_t \quad (8)$$

To determine whether firms that report income-decreasing extraordinary items engage in real earnings management activities, I estimate the excess levels of accruals, CFO, production costs, and discretionary expenses. The dependent variable Y_t represents the excess level of each of these variables in period t. These excess levels are estimated from regressions (1), (4), (6), and (7). For each variable, the excess amount is measured as the difference between its actual value and its (regression-based) predicted value for each industry-year. The indicator variable *EXTRA* is equal to one for firms reporting net extraordinary losses, and zero otherwise.

The regression includes three control variables: the market-to-book ratio of equity (*MTB*), firm size (*Size*), and earnings before extraordinary items (ordinary income) (*EBEI*), which is an earnings measure. All three variables are measured as deviations from their industry-year means. I include *Size* (measured by market capitalization) to control for systematic differences in each excess variable. Throughout, I use market capitalization as a scaling factor. Hence, I take the natural logarithm of market capitalization. *MTB* is used to control for differences in firms' growth opportunities. *EBEI* is included to control for firm performance.[15]

4. Sample and Descriptive Statistics

4.1 Data and Sample

Financial and stock price data are obtained from the Nikkei Economic Electronic Databank System–Financial QUEST online database service. All firms in the sample are listed on the first and second sections of the Tokyo Securities Exchange. All firms included in the sample report results in the fiscal year ending in March. The data cover the period from fiscal year 2000 to fiscal year 2004.[16] To ensure data consistency, firms that changed the end date of their fiscal year during the sample period were removed. In

addition, I only sample firms with consecutive firm-year data throughout the entire sample period. To calculate market capitalization, firm-year observations with missing stock price data were excluded.

Nikkei industry classification codes are used to identify whether a firm is a manufacturing or nonmanufacturing firm. Two-digit Nikkei intermediate-level industry classification codes are used to identify a firm's industry affiliation. Firms in regulated industries (such as utilities), banks, and other financial institutions are excluded from the sample.

Regressions are estimated for each industry for every year. Any industry with fewer than 15 observations in a year is excluded from the sample. This results in a final estimating sample of 8,205 observations on 1,641 individual firms from 24 industries covering the period 2000–2004.

4.2 Choice of Scaling Factor

A scaling factor is chosen to incorporate Japan's accounting environment. There is controversy in the literature over whether to use total assets or market capitalization.[17] In this study, I include an accruals model for comparison. There are two problems with using assets to scale accruals. First, assets held at the beginning of a period depend on past accruals, which are negatively serially correlated with current accruals. Second, assets held at the end of a period depend on current accruals. Scaling accruals by using average assets is even more problematic, and may in part explain the mean-reverting feature of the accruals.

Nevertheless, most researchers in this field choose not to use the market value of equity as the deflator because it incorporates investors' expectations about future prosperity and the nature of its volatility.

In the case of Japanese firms, the market value of equity is a better deflator than the book value of total assets. Because of the deep-rooted historical cost convention in Japan's accounting practices, the book values of land prices held by long-established firms are extremely undervalued. Such hidden unrealized gains in land prices are common among long-established Japanese firms that have been listed on the Tokyo Stock Exchange for at least 30 years. Therefore, unless otherwise stated, I deflate all variables by market capitalization.

4.3 Firms Reporting Income-Decreasing Extraordinary Items

In this study, I examine whether Japanese firms manage earnings upward to offset expenses from reporting income-decreasing extraordinary items. Firms can report gains or losses from extraordinary items. When losses exceed gains, firms report net losses from extraordinary items, which are hence referred to as income-decreasing extraordinary items. I split the sample into firms that report income-decreasing extraordinary items and the rest (that report either income-increasing extraordinary items or none at all).

The descriptive statistics for firms reporting income-decreasing extraordinary items and other firms are documented in Table 1. Table 1 presents firm-year means and medians. Differences between means and medians for firms reporting income-decreasing extraordinary items against the rest are investigated by using t-tests and nonparametric median tests, respectively. Definitions of variables are detailed in the notes to Table 1.

Table 1 – Descriptive Statistics on the Variables

	EXTRA < 0 (6,582)		Rest of Sample (1,623)	
	Mean (t-statistic)	Median (z-statistic)	Mean	Median
Market Value of Equity (million JPY)	***92,896 (–9.35)	**14,495 (–2.1393)	242,238	16,235
Market-to-Book Ratio	1.448999 (0.01)	0.794033 (–0.8091)	1.446902	0.811003
Total Assets (million JPY)	***209,888 (–11.21)	52,148 (–1.5851)	494,541	55,743
Sales (million JPY)	***170,714 (–11.77)	48,864 (–0.4766)	466,081	50,473
Earnings before Extraordinary Items (million JPY)	***6,885 (–5.45)	**1,671 (1.9994)	13,510	1,453
Earnings After Extraordinary Items (million JPY)	***3,005 (–9.66)	***895 (–11.9515)	15,512	1,909
Net Extraordinary Items (million JPY)	***–3,880 (–12.27)	***–579 (–44.9915)	2,002	133
CFO (million JPY)	***10,343 (–10.23)	2,194 (–0.5874)	26,580	2,284
Accruals (million JPY)	***–3458.28 (9.16)	***–456.5 (3.0706)	–13070.6	–603
Sales / Market Capitalization	*5.110682 (1.83)	**3.153498 (2.1284)	4.754626	2.920636
EBEI / Market Capitalization	***0.115145 (6.02)	***0.106637 (8.4468)	0.085286	0.080056
Pretax Income / Market Capitalization	***–0.015 (–5.85)	***0.064087 (–13.7786)	0.232169	0.105279
CFO / Market Capitalization	0.198573 (–0.05)	**0.14072 (2.5163)	0.199308	0.128422
Accruals / Market Capitalization	**–0.08343 (2.24)	**–0.03722 (2.1838)	–0.11402	–0.04791
Production Costs / Market Capitalization	*4.212698 (1.92)	*2.4031 (1.7958)	3.868204	2.245702
Disex / Market Capitalization	**0.82057 (2.77)	*0.593116 (1.9067)	0.754242	0.560964
Inventory Turnover Ratio	7.138514 (1.54)	3.99813 (0.4656)	5.766787	3.964799
Receivable Turnover Ratio	13.46794 (1.40)	5.230967 (–0.8091)	9.273564	5.297812

*, **, and *** indicate variable differences from the rest of the sample that are significant at the 10%, 5%, and 1% levels respectively. The t-statistics in the parentheses are from t-tests of differences in means; the z-statistics are from nonparametric tests of differences in medians. **Definitions of variables:** *Accruals*: [Earnings before Extraordinary Items – CFO]; *Production Costs* (*PROD*): [Cost of Goods Sold + Change in Inventory]; *Discretionary Expenses* (*Disex*): [Selling, General and Administrative Expenses]; *EBEI*: Earnings before Extraordinary Items; *MVE*: Market Value of Equity (Market Capitalization); *Market-to-Book (MTB)*: Ratio of MVE to the Book Value of Equity; *Inventory Turnover Ratio*: [Cost of Goods Sold] / [(Beginning Inventory + Ending Inventory) / 2]; *Receivable Turnover Ratio*: Sales / [(Beginning Gross Receivables + Ending Receivables) / 2].

There are 6,582 firm-year observations characterized by income-decreasing extraordinary items against only 1,623 firm-year observations for income-increasing extraordinary items, which represents a ratio of five to one in favor of the former. The statistics documented in Table 1 reveal that firms reporting income-decreasing extraordinary items have relatively low figures for the market value of equity, the market-to-book ratio, total assets, sales, incomes before and after extraordinary items, CFO, and accruals.

Table 2 – Correlation Matrix

Spearman / Pearson	CFO	PROD	Disex	Accruals	Excess Accruals	Excess CFO	Excess Disex	Excess PROD	EBEI
CFO	1	**0.311**	–0.012	**–0.787**	**–0.506**	**0.704**	–0.019	**–0.177**	**0.405**
		.000	.268	**.000**	**.000**	**.000**	.089	**.000**	**.000**
PROD	**0.249**	1	–0.013	**–0.194**	–0.012	–0.009	**–0.034**	**0.085**	**0.311**
	.000		.253	**.000**	.289	.430	**.002**	**.000**	**.000**
Disex	–0.009	–0.011	1	0.004	–0.005	0.004	**0.513**	–0.017	–0.010
	.431	.332		.690	.651	.719	**.000**	.119	.375
Accruals	**–0.941**	**–0.183**	0.007	1	**0.677**	**–0.584**	–0.003	**0.100**	**0.108**
	.000	**.000**	.530		**.000**	**.000**	.811	**.000**	**.000**
Excess Accruals	**–0.729**	–0.014	–0.004	**0.815**	1	**–0.647**	–0.007	**0.056**	**0.161**
	.000	.205	.747	**.000**		**.000**	.533	**.000**	**.000**
Excess CFO	**0.759**	**–0.042**	0.002	**–0.770**	**–0.836**	1	–0.014	**–0.214**	**0.238**
	.000	**.000**	.872	**.000**	**.000**		.218	**.000**	**.000**
Excess Disex	–0.006	–0.003	**0.655**	0.003	0.002	–0.010	1	**–0.029**	**–0.037**
	.579	.803	**.000**	.775	.858	.369		**.010**	**.001**
Excess PROD	**–0.248**	**0.096**	–0.014	**0.235**	**0.204**	**–0.327**	–0.016	1	**–0.129**
	.000	**.000**	.189	**.000**	**.000**	**.000**	.136		**.000**
EBEI	**0.370**	**0.233**	–0.007	**–0.033**	**0.085**	**0.128**	–0.009	**–0.088**	1
	.000	**.000**	.549	**.003**	**.000**	**.000**	.392	**.000**	

Pearson product moment correlations are reported in the lower part of the table and Spearman's rank correlations are reported in the upper part of the table. Correlation coefficients are reported first in each cell followed underneath by the respective p-value. Correlations significant at less than the 5% level are marked in bold. Please see Table 3 and Table 4 for definitions of variables.

4.4 Correlations between Variables

Table 2 reports the Pearson product moment correlation and Spearman's rank correlation coefficients between variables. As expected, CFO and Accruals are negatively correlated (-0.941, -0.787). Earnings before extraordinary items is positively correlated with CFO and production costs but negatively correlated with accruals and discretionary expenses.

The excess CFO are negative correlated (-0.327, -0.214) with the excess production costs suggesting that productions costs generated negative cash flow consequences. The correlation coefficients between excess CFO and excess accruals are negative (-0.836, -0.647). This strongly suggests that firms might simultaneously engage in both accruals and real earnings management.

5. Results for Firms Report Income-Decreasing Extraordinary Items

5.1 Empirical Results for Firms Report Income-Decreasing Extraordinary Items

Table 3 reports the time-series means of the coefficients of the five annual cross-sectional regressions from fiscal 2000 to fiscal 2004. The Fama-MacBeth[18] t-statistics are reported in the parentheses. The t-statistics are calculated from the corrected for autocorrelation standard errors produced by the Newey-West procedure.

Table 3 presents results for regression (8). Regression (8) is intended to examine if the excess variables are correlating with the indicator variable *EXTRA*. In Table 3, each excess variable correlates with the before extraordinary items earnings variable. The excess production costs and discretionary expenses are negatively and statistically significant at 1% and 5% level (t = -8.562, t = -2.149) while the excess CFO and accruals are positively and statistically significant at 1% level (t = 9.473, t = 12.726).

Table 3 - Comparisons of Firms Report Income-Deceasing Extraordinary Items

	Excess CFO	Excess Production Cost	Excess Disex	Excess Accruals
Intercept	0.009049	***-0.014848	***0.025808	**-0.012625
	(1.473)	(-5.030)	(3.166)	(-2.163)
Size	-0.000851	***0.013337	***-0.02572	0.001580
	(-0.507)	(8.221)	(-11.303)	(0.805)
Market-to-Book	-0.001131	-0.002557	-0.00322	-0.000553
	(-0.880)	(-0.799)	(-1.278)	(-0.401)
EBEI	***0.345046	***-0.338631	**-0.06508	***0.2104231
	(9.473)	(-8.562)	(-2.149)	(12.726)
EXTRA	**-0.012127	***0.019622	***-0.03194	**0.0150431
	(-2.107)	(5.925)	(-4.064)	(2.660)
Adjusted R^2	0.0163	0.0271	0.0097592	0.01116

*, **, and *** indicate variable significant at 10%, 5%, and 1% level respectively. Numbers presented in the table are mean coefficients and mean adjusted R-squared. Fama-MacBeth indicates that a cross-sectional regression is estimated each year and the mean coefficients are calculated from the time series coefficients generated by the annual cross-sectional regressions. The Fama-MacBeth t-statistics presented in the parentheses are calculated using the Newey-West procedure for corrected for autocorrelation standard errors. The sample includes 24 industries and 120 industry-years over 2000 to 2004 fiscal-years. **Variable Definition:** *Size*: Natural Logarithm of the Market Capitalization; measured as deviation from industry-year mean; *Market-to-Book*: Ratio of Market Capitalization over Book Value of Equity; measured as deviation from industry-year mean; *EBEI*: Earnings before Extraordinary Items; measured as deviation from industry-year mean; *Extra*: Indicator variable set equal to one if the Net of Extraordinary Items [Extraordinary Gains + Extraordinary Losses] is negative and 0 otherwise.

The coefficient on EXTRA for excess productions costs is 0.0196 at 1% statistical significance. This implies that firms report income-decreasing extraordinary items have an average of 1.96% production costs more than other firms.

The coefficient on EXTRA for excess discretionary expenses is -0.03194 at 1% statistical significance. This implies that firms report income-decreasing extraordinary items have an average of 3.194% less discretionary expenses than other firms.

The coefficients on EXTRA for excess CFO and excess accruals are -0.0121 and 0.0150 respectively (both at 5% significance). These differences are also economically significant given that the mean and median of CFO are 19.8% and 14%, and the mean and median of accruals are -8.3% and -3.7% of the market capitalization.

In sum, the results reported in Table 3 strongly suggest that Japanese firms might manage earnings upward through both real earnings management and accruals management to offset losses from extraordinary items. The results reported in this study are also largely consistent with the results reported in Roychowdhury (2006).

However, the result for excess accruals presented in this study is inconsistent with what is reported in Pan (2009) where the coefficient on indicator variable for excess accruals is negative. Pan (2009) shows that small profit reporting firms have higher than average excess production costs and lower than average excess discretionary expenses but have higher than average excess CFO and lower than average excess accruals. In other words, Pan (2009) shows that small profit reporting firms only engage in real earnings management while this study shows that income-decreasing extraordinary items reporting firms engage in both real earnings management and accruals management.

5.2 Cross-sectional Variation Analysis

Additional variables proposed in Roychowdhury (2006) are added to further explore *sources of cross-sectional variation in incentives for real activities management*. These

four variables include sum of inventories and receivables over total assets, current liabilities, presence of debt and membership in manufacturing industry. The estimate regressions are based on regression (8), and the variables for cross-sectional variation. The estimate regressions are as followed:

$$\begin{aligned} Y_t = {} & \alpha_0 + \beta_1 EBEI_t + \beta_2 EXTRA_t + \beta_3 Mfg_t + \beta_4 Debt_t \\ & + \beta_5 MTB_t + \beta_6 CL_t + \beta_7 INVREC_t + \beta_8 Size_t \\ & + \beta_9 EXTRA * Mfg_t + \beta_{10} EXTRA * Debt_t + \beta_{11} EXTRA * MTB_t \\ & + \beta_{12} EXTRA * CL_t + \beta_{13} EXTRA * INVREC_t + \beta_{14} EXTRA * Size_t + \varepsilon_t \end{aligned} \tag{9}$$

where

Mfg: Indicator variable set to one if the firm is categorized as a manufacturing company and zero otherwise

Debt: Indicator variable set to one if the firm has any short-term or long-term debt outstanding and zero otherwise

CL: Current liabilities excluding short-term debt; measured as deviation from industry-year mean

INVREC: Sum of inventories and receivables over total assets; measured as deviation from industry-year mean

and

$$\begin{aligned} Y_t = {} & \alpha_0 + \beta_1 EBEI_t + \beta_2 EXTRA_t + \beta_3 Mfg_t + \beta_4 Debt_t \\ & + \beta_5 MTB\_Rank_t + \beta_6 CL\_Rank_t + \beta_7 INVREC\_Rank_t \\ & + \beta_8 Size\_Rank_t + \beta_9 EXTRA * Mfg_t + \beta_{10} EXTRA * Debt_t \\ & + \beta_{11} EXTRA * MTB\_Rank_t + \beta_{12} EXTRA * CL\_Rank_t \\ & + \beta_{13} EXTRA * INVREC\_Rank_t + \beta_{14} EXTRA * Size\_Rank_t + \varepsilon_t \end{aligned} \tag{10}$$

where

MTB_Rank: Rank variable set equal to one if MTB is above the median value for the corresponding year, and 0 otherwise

CL_Rank: Rank variable set equal to one if CL is above the median value for the corresponding year, and 0 otherwise

INVREC_Rank: Rank variable set equal to one if INVREC is above the median value for the corresponding year, and 0 otherwise

Size_Rank: Rank variable set equal to one if SIZE is above the median value for the corresponding year, and 0 otherwise

The correlation coefficients between the hypothesized determinants of cross-sectional variation are reported in Panel A and Panel B in Table 4. The empirical results of regression (9) ~ (10) are reported in Table 5 and Table 6.

Table 4 - Correlation Matrix for Cross-Sectional Variation

Panel A: Correlation among cross-sectional variation determinants

Spearman / Pearson	Mfg	Debt	Market-to-Book	Current Liabilities	INVREC	Size
Mfg	1	**0.044**	**0.131**	**0.042**	**0.058**	0.021
		.000	**.000**	**.000**	**.000**	.058
Debt	**0.044**	1	**0.048**	0.009	**0.114**	-0.002
	.000		**.000**	.434	**.000**	.886
MTB	0.002	-0.001	1	**0.074**	0.015	**0.454**
	.866	.901		**.000**	.161	**.000**
CL	**0.044**	0.005	0.004	1	**0.095**	**0.085**
	.000	.665	.727		**.000**	**.000**
INVREC	**0.057**	**0.099**	-0.011	**0.170**	1	**-0.088**
	.000	**.000**	.317	**.000**		**.000**
Size	**0.092**	0.008	**0.079**	**0.241**	**0.184**	1
	.000	.451	**.000**	**.000**	**.000**	

Panel B: Correlation among ranked cross-sectional variation determinants

Spearman / Pearson	Mfg	Debt	MTB_Rank	CL_Rank	NVREC _Rank	Size_Rank
Mfg	1	**0.044**	**0.030**	**-0.133**	**0.046**	**0.057**
		.000	**.007**	**.000**	**.000**	**.000**
Debt	**0.044**	1	0.017	**0.158**	**0.099**	0.002
	.000		.127	**.000**	**.000**	.847
MTB_Rank	**0.030**	0.017	1	**-0.341**	**-0.109**	**0.394**
	.007	.127		**.000**	**.000**	**.000**
CL_Rank	**-0.133**	**0.158**	**-0.341**	1	**0.311**	**-0.327**
	.000	**.000**	**.000**		**.000**	**.000**
INVREC_Rank	**0.046**	**0.099**	**-0.109**	0.311	1	**-0.159**
	.000	**.000**	**.000**	.000		**.000**
Size_Rank	**0.057**	0.002	**0.394**	**-0.327**	**-0.159**	1
	.000	.847	**.000**	**.000**	**.000**	

This table reports Pearson product moment correlations at the lower level of the table and Spearman's rank correlations at the upper level of the table. Correlation coefficients are reported at the upper level of each cell and the respective p-value is reported

Mfg in Table 5 and Table 6 both show that manufacturing companies do not manage earnings through discretionary expenses. However, signs reverse on the interaction variable *EXTRA*Mfg*. *EXTRA*Mfg* is negatively correlated with excess production costs and excess accruals and positively correlated with excess CFO in both tables. This implies that income-decreasing extraordinary items reporting firms in manufacturing industries do not engage in real earnings management and accrual management.

In Table 5 and Table 6, *Debt* indicates that firms have debt use accruals earnings management instead of real earnings management to manage earnings, However, *EXTRA*Debt* shows that income-decreasing extraordinary items reporting firms with debt outstanding use both accruals management and real earnings management except for discretionary expenses (coefficient is insignificant).

*EXTRA*MTB_Rank* is negatively correlated with excess discretionary expenses and positively correlated with excess production costs. This suggests that firms with growth potential have motivations to manage earnings to avoid reporting losses. This also implies that Japanese firms also feel pressures from the stock market expectation. Further, this result is consistent with Skinner and Sloan (2002) that stock returns of growth firms will be penalized by the stock market once the firms release negative earnings surprises so that firms will motivations to avoid reporting losses.[19]

Table 5 - Cross-sectional Variation of Firms Report Income-Deceasing Extraordinary Items

	Excess CFO	Excess Production Cost	Excess Disex	Excess Accruals
Intercept	**0.011871	***0.058828	***-0.06862	***-0.01961
	(2.409)	(5.686)	(-6.701)	(-2.625)
EBEI	0.361809	***-0.34614	***-0.19987	***0.219799
	(1.434)	(-18.608)	(-10.352)	(13.249)
EXTRA	***-0.0295	***0.025395	**-0.02427	***0.022416
	(-6.417)	(2.955415)	(-2.559)	(3.384)
Mfg	***-0.0511	***0.019128	-0.00149	***0.035641
	(-3.618)	(3.012)	(-0.105)	(3.240)
Debt	**0.034325	***-0.09191	***0.09766	-0.01634
	(2.472)	(-10.788)	(9.250)	(-1.295)
MTB	-0.00541	-0.01657	0.006427	0.003688
	(-0.999)	(-1.630)	(0.692)	(0.705)
CL	0.025153	***0.131362	**-0.13269	-0.03708
	(0.411)	(3.257)	(-2.100)	(-0.586)
INVREC	***-0.2533	-0.36397	**0.637342	-0.12995
	(-2.993)	(-1.648)	(2.391)	(-0.871)
Size	-0.00988	***0.027083	***-0.02808	0.004165
	(-1.363)	(6.648)	(-11.851)	(0.572)
EXTRA*Mfg	***0.066209	***-0.03118	0.005323	***-0.04254
	(5.124)	(-5.491)	(0.379)	(-4.136)
EXTRA*Debt	**-0.02716	*0.014194	-0.00658	*0.020389
	(-2.091)	(1.753)	(-0.578)	(1.722)
EXTRA*MTB	0.003747	*0.01797	-0.01197	-0.00362
	(0.708)	(1.707)	(-0.680)	(-0.696)
EXTRA*CL	0.03383	***-0.1796	***0.180684	-0.0132
	(0.604)	(-4.556)	(3.062)	(-0.214)
EXTRA*INVREC	-0.0222	***0.663882	***-0.70484	0.036435
	(-0.270)	(3.526)	(-3.132)	(0.252)
EXTRA*Size	*0.012763	***-0.01953	***-0.05994	-0.00584
	(1.934)	(-5.379)	(-27.994)	(-0.903)
Adjusted R^2	0.03864	0.021608	0.022971	0.025384

*, **, and *** indicate variable significant at 10%, 5%, and 1% level respectively. Numbers presented in the table are mean coefficients and mean adjusted R-squared. Fama-MacBeth indicates that a cross-sectional regression is estimated each year and the mean coefficients are calculated from the time series coefficients generated by the annual cross-sectional regressions. The Fama-MacBeth t-statistics presented in the parentheses are calculated using the Newey-West procedure for corrected for autocorrelation standard errors. The sample includes 24 industries and 120 industry-years over 2000 to 2004 fiscal-years. **Variable Definition:** *EBEI*: Earnings before Extraordinary Items; measured as deviation from industry-year mean; *Extra*: Indicator variable set equal to one if the Net of Extraordinary Items [Extraordinary Gains + Extraordinary Losses] is negative and 0 otherwise; *Mfg*: Indicator variable set to one if the firm is categorized as a manufacturing company and zero otherwise; *Debt*: Indicator variable set to one if the firm has any short-term or long-term debt outstanding and zero otherwise; *MTB*: Ratio of Market Capitalization over Book Value of Equity; measured as deviation from industry-year mean; *CL*: Current liabilities excluding short-term debt; measured as deviation from industry-year mean; *INVREC*: Sum of inventories and receivables over total assets; measured as deviation from industry-year mean; *Size*: Natural Logarithm of the Market Capitalization; measured as deviation from industry-year mean.

*EXTRA*CL_Rank* is also negatively correlated with excess discretionary expenses and positively correlated with excess production costs. This is consistent with the prediction that firms with high current liabilities as a percentage of total assets will have higher production costs and lower discretionary expenses. The results show that income-decreasing extraordinary items reporting firms with high current liabilities use both accruals and real earnings management.

*EXTRA*INVREC_Rank* is positively correlated to excess production costs, consistent with the prediction that firms with high level of inventories and receivables over total assets have more excess production costs. This is because firms with higher level of

Table 6 - Cross-sectional Variation of Firms Report Income-Deceasing Extraordinary Items

	Excess CFO	Excess Production Cost	Excess Disex	Excess Accruals
Intercept	***0.058121	***0.060482	***-0.04883	-0.02263
	(3.156)	(6.101)	(-3.868)	(-1.225)
EBEI	***0.343227	***-0.32742	***-0.22172	***0.216246
	(9.256)	(-12.252)	(-8.829)	(11.153)
EXTRA	***-0.04648	-0.00521	-0.00712	**0.035237
	(-2.872)	(-0.362)	(-0.403)	(2.209)
Mfg	***-0.05155	***0.01983	0.008374	***0.034111
	(-4.067)	(3.254)	(0.547)	(3.356)
Debt	***0.035403	***-0.08472	***0.075033	***-0.0261
	(4.889)	(-11.224)	(5.899)	(-3.642)
MTB_Rank	***-0.044	0.007775	-0.00858	***0.034784
	(-7.723)	(1.067)	(-0.864)	(6.899)
CL_Rank	0.005801	***-0.04851	***0.061156	*-0.01481
	(0.671)	(-17.359)	(16.513)	(-1.821)
INVREC_Rank	***-0.07296	-0.01788	***0.047117	0.014527
	(-4.839)	(-1.284)	(4.213)	(1.089)
Size_Rank	0.00772	***0.044011	***-0.08641	-0.00798
	(1.063)	(11.315)	(-9.261)	(-1.133)
EXTRA*Mfg	***0.062372	***-0.03237	0.00135	***-0.04152
	(4.973)	(-4.949)	(0.088)	(-4.023)
EXTRA*Debt	***-0.03406	***0.021544	0.01037	***0.029053
	(-5.261)	(3.026)	(0.843)	(4.288)
EXTRA*MTB_Rank	***0.019896	**0.031161	***-0.0436	***-0.03258
	(4.304)	(2.605)	(-5.949)	(-5.423)
EXTRA*CL_Rank	*-0.01383	***0.021876	***-0.0274	*0.011154
	(-1.805)	(7.486)	(-5.922)	(1.683)
EXTRA*INVREC_Rank	***0.038033	***0.065811	***-0.09351	**-0.02499
	(2.862)	(6.364)	(-12.984)	(-2.047)
EXTRA*Size_Rank	*0.013208	***-0.06916	***0.079172	0.001997
	(1.722)	(-11.062)	(9.648)	(0.304)
Adjusted R^2	0.02999	0.014015	0.017701	0.016295

*, **, and *** indicate variable significant at 10%, 5%, and 1% level respectively. Numbers presented in the table are mean coefficients and mean adjusted R-squared. Fama-MacBeth indicates that a cross-sectional regression is estimated each year and the mean coefficients are calculated from the time series coefficients generated by the annual cross-sectional regressions. The Fama-MacBeth t-statistics presented in the parentheses are calculated using the Newey-West procedure for corrected for autocorrelation standard errors. The sample includes 24 industries and 120 industry-years over 2000 to 2004 fiscal-years. **Variable Definition:** *EBEI*: Earnings before Extraordinary Items; measured as deviation from industry-year mean; *Extra*: Indicator variable set equal to one if the Net of Extraordinary Items [Extraordinary Gains + Extraordinary Losses] is negative and 0 otherwise; *Mfg*: Indicator variable set to one if the firm is categorized as a manufacturing company and zero otherwise; *Debt*: Indicator variable set to one if the firm has any short-term or long-term debt outstanding and zero otherwise; *MTB_Rank*: Rank variable set equal to one if MTB is above the median value for the corresponding year, and 0 otherwise; *CL_Rank*: Rank variable set equal to one if CL is above the median value for the corresponding year, and 0 otherwise; *INVREC_Rank*: Rank variable set equal to one if INVREC is above the median value for the corresponding year, and 0 otherwise; *Size_Rank*: Rank variable set equal to one if SIZE is above the median value for the corresponding year, and 0 otherwise.

inventories and receivables are easily to absorb fixed costs, accelerating the recognition of sales. Note that *EXTRA*INVREC_Rank* is negatively correlated with the excess discretionary expenses, indicating that firms actively reduce discretionary expenses when the inventories and receivables are higher. At last, *EXTRA*SIZE_Rank* is negatively correlated with excess production costs and positively correlated with excess discretionary expenses.

In sum, the results show that firms that report income-decreasing extraordinary items engage in both accruals and real earnings management. The results also reveal an interesting fact that while manufacturing firms over-produce to manage earnings

upward, income-decreasing extraordinary items reporting firms in non-manufacturing industry use over-production to avoid reporting losses. As COGS is used to proxy for production costs, this result indicates possible channel stuffing done by non-manufacturing firms.

6. Concluding Remarks

In this paper, I investigated Japanese firms' responses to mark-to-market accounting from an earnings management perspective. In doing so, I took advantage of Japan's unique institutional setting. Following the introduction of mark-to-market accounting in 2000, Japanese firms changed their securities holding positions. Further, despite there being 6,582 observations characterized by income-decreasing extraordinary items between 2000 and 2004, the incidence of loss reporting because of income-decreasing extraordinary items increased from 899 firm-years to 1,843 firm-years. My hypothesis is that Japanese firms with income-decreasing extraordinary items manage earnings upward to avoid reporting (or to reduce) losses.

I found evidence that firms that incur the costs of extraordinary items manage their earnings upward through both accruals and real earnings management to avoid reporting losses. I also found that the growth potential of firms is positively associated with their real earnings management activities. Further, I found that nonmanufacturing firms tend to use overproduction to avoid reporting losses because of extraordinary items, and this does not occur in manufacturing industry.

However, as found by other researchers who have used Roychowdhury's (2006) approach to study real earnings management activities (e.g., Gunny (2010) using US data, and Pan (2009), Yamaguchi (2009), and Yamaguchi (2011) using Japanese data), I obtained low adjusted R^2 values for the second-stage regressions. This should be noted in all such studies.

I used existing commercial data to analyze empirically Japanese firms' earnings management activities. It would be useful in future to use survey research of the type conducted by Graham, Harvey, and Rajgopal (2005) and Dichev, Graham, Harvey, and Rajgopal (2013) to study Japanese firms' earnings management activities.

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[1] Taken together, these reforms define Japan's "Accounting Big Bang."

[2] Observations on 21,474 firms listed on the Tokyo Securities Exchange were used to plot Figure 1. Using either the mean or median produces an identical graph.

[3] When mark-to-market accounting came into effect in 2002, marketable securities accounted for around

4% of the total assets of Japanese firms (the ratio of marketable securities of listed firms to the total assets of listed firms). Corresponding figures for 1998, 1999, 2000, 2001, and 2002 were 3.9%, 4.1%, 2.0%, 1.6%, and less than 1%, respectively. In 2001, 52% of firms listed on the Tokyo Stock Exchange had no marketable securities on their balance sheets.

[4] The shift from "current operating performance" income statements to "all-inclusive" income statements was motivated by the US Accounting Principles Board Opinion No. 9 ("Reporting the Results of Operations)."

[5] The data used by Herrmann, Inoue, and Thomas (2003) cover the period 1992–1997, and the data used by Pan and Tsuji (2013) cover the period 1978–2007.

[6] The underlying descriptions of extraordinary items in the Japanese GAAP are based on a translation prepared by the Japanese Institute of Certified Public Accountants (JICPA 1987).

[7] Since the classification of extraordinary items first appeared in income statements prepared according to the Japanese GAAP in 1974, the contents have been the same until the publication of "Statement No. 24, Accounting Standard for Accounting Changes and Error Corrections" issued by the Accounting Standard Board of Japan (ASBJ), which is the current private-sector accounting standard-setting body in Japan. This took effect in March 2012.

[8] Nobes and Parker (2010) interpret the "prior period adjustments" part as "material restatement resulting from corrections of error."

[9] From March 2012, "prior period adjustments" were not included in the classification of extraordinary items. This took effect with the publication of "Statement No. 24, Accounting Standard for Accounting Changes and Error Corrections", issued by the ASBJ in December 2009.

[10] In relation to extraordinary items, the term "ordinary items," which appears in the JICPA's (1978) translation, is equivalent to "nonoperating items," as referred to in this paper.

[11] Herrmann, Inoue, and Thomas (2000) document that 93% of the firms in their sample (which covers Japan in 1984–1995) reported extraordinary items, whereas only 20% of US firms did so in the same period. Only 2% of US firms reported extraordinary items in 2003 (Accounting Trends and Techniques, 60th edition, AICPA, 2006).

[12] Roychowdhury (2006) defines discretionary expenses as advertising expenses + R&D expenses + SG&A expenses. Roychowdhury (2006) obtains SG&A expenses from COMPUSTAT (data item #189). According to the definition of COMPUSTAT data item #189, SG&A already includes advertising and R&D. In other words, Roychowdhury (2006) may well have double-counted advertising and R&D expenses in discretionary expenses.

[13] I do not include a scaled intercept, as does Roychowdhury (2006). As argued by Ball and Shivakumar (2006), there is no theoretical justification for doing so.

[14] Because advertising and R&D expenses are included in SG&A in Japan, to avoid the double-counting error made by Roychowdhury (2006), I use SG&A expenses as discretionary expenses.

[15] Because the model is meant to capture firms' reporting behavior in relation to extraordinary items, I use both earnings before and after extraordinary items to control for firm performance. I obtain identical results whether I control for before or after extraordinary items earnings measures. In this paper, I report only empirical results based on using earnings before extraordinary items.

[16] The data cover only five years for two reasons. First, as shown in Figure 2, the shift in securities holding positions occurred in 2001. Second, because my aim is to analyze firms' initial response to mark-to-market accounting, there is no need for data that cover a lengthy period.

[17] See Durtschi and Easton (2005, 2009) and Jacob and Jorgensen (2007) for discussion of the choice of deflator. However, discussion focuses mainly on the causes of the "discontinuity" in the distribution of earnings around zero, as described by Hayn (1995) and Burgstahler and Dichev (1997). Because I do not investigate the earnings management activities of firms that report earnings at or just above zero, the deflator issue is not directly relevant to this paper.

[18] See Fama and MacBeth (1973) for the details of this methodology. The notes of the results tables also provide details on how the Fama–MacBeth methodology is employed in this study.

[19] There is a concern that Japanese firms with growth potentials manage earnings to save face but not to avoid stock market penalties. However, investigating whether growing Japanese firms manage earnings to save face or avoid losses is beyond the scope of this paper.

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