

# 盈餘管理和關係企業間損益之移轉

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## 摘要

本文探討公司是否會藉由重分類損益表科目來做為盈餘管理之工具。根據 McVay (2006)，公司為了提高核心盈餘(core earnings)，公司會將核心費用重分類至特別損益科目(special items)，此盈餘管理將於下一期迴轉。本文除了延續 McVay (2006)測試並發現台灣上市公司會把核心費用重分類至特別項目以外，本文另外發現母公司報表中，台灣上市母公司也會把核心費用轉移至關係企業中認列費用，並反映於母公司損益表中非營業項目科目—投資損益。藉由核心費用重分類至特別損益以及投資損益，公司母公司報表中之核心盈餘將可因此提升。

**關鍵詞：**損益之移轉、特別損益、投資收益

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# Earnings Management and Classification Shifting through Affiliates

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## Abstract

This paper examines whether firms manage earnings by classification shifting through affiliates. Classification shifting involves reporting revenues, expenses, gains, and losses on a different line in the income statement from what GAAP requires. Consistent with McVay (2006), our results show that those firms with income-decreasing special items have significantly large unexpected core earnings, and the unexpected core earnings will reverse in the year after a firm reports special items. We also find that, in the parent company report, firms with income-decreasing income from investments have significantly large unexpected core earnings, and the unexpected core earnings reverses in the following year. Overall, the evidence is consistent with our prediction that the accounts of “special items” and “incomes from investments” can be used to inflate core earnings.

**Keywords:** *Classification shifting, Special items, Income from investment.*

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## 1. INTRODUCTION

This paper examines if firms manage earnings by classification shifting through affiliates. Classification shifting is the misclassification of accounting items within the income statement. Different from discretionary accrual management, this vertical movement does not change the bottom-line earnings, but can overstate some line items for which investors are particularly interested in. Previous studies on earnings management by classification shifting have examined extraordinary items (Barnea, Ronen and Sadan 1976), special items (McVay 2006), and discontinued operations (Barua, Lin and Sbaraglia 2010). To my knowledge no study has investigated whether special items and/or income from investment are used as classification shifting tools to manage earnings in Taiwan.

In this study, following McVay (2006), we first test whether special items are used to engage in classification shifting in Taiwan. McVay (2006) uses an expectation model to separate reported core earnings, operating income before depreciation and amortization, into its expected and unexpected components. She finds that unexpected core earnings using the U.S. sample increases during the period when firms report income-decreasing special items, and the change in unexpected core earnings decreases in the following year after the recognition of income-decreasing special items. The results suggest that firms tend to use “transitory items” that are reported below operating income (e.g., special items) to increase core earnings, even though it is a one-time event.

In addition, we test whether firms in Taiwan use classification shifting through the account of “income from investment” when preparing the parent company report. We argue that managers have high incentives to engage in classification shifting through income from investments when they prepare parent company reports. This is because the parent company’s financial statement is the primary report in Taiwan, and the account, “income from investment” is categorized as “non-operating income” in the parent-company report. Although the consolidated report can capture the economic performance of business entity much better than the parent company’s report, the reporting and disclosure requirements in Taiwan prioritize the parent company’s financial statement. For example, firms are not required to prepare consolidated semi-annual report until 2005, and even so, the coverage of information as compared to the requirement for parent company report is limited, let alone the deadline for the filing of consolidated reports being set two weeks after the deadline for parent company report. Besides, while income from investment under equity method is the income from investees upon which a firm can exert influence or control, income from investment is reported as non-operating income. Prior studies (e.g., Chu 1996; Chang 1997; Huang 2001;

Wang 2003; Chen 2006) have indicated that income from investment is very persistent, and it is inappropriate to classify it as non-operating income. In particular, as literature suggested, non-operating income is usually excluded from the core earnings when investors or analysts assess firm performance of operating activities (Nissim and Penman 2001; Penman and Zhang 2002). For example, Lipe (1986) contends that the closer to operating income an item is the more attention it receives. If investors only use core earnings to make investment decision, then they cannot capture the full picture of a firm. Thus, we infer that managers are highly likely to engage in classification shifting through income from investments in order to inflate core earnings when they prepare parent company reports.

A typical example that firms could use income from investment to engage in classification shifting is that the parent could use their influence over investees to set up various departments in investees to avoid the recognition of some operating expenses. For example, as R&D investment is a discretionary spending decision (Barber, Fairfield and Haggard 1991), the parent can request investees establish R&D department to develop new products. Investees assume R&D expenditure on behalf of the parent, who thus can avoid the recognition of R&D expenditures in their core earnings. Instead, the parent recognizes the proportionate share of R&D expense incurred in investees as income from investment on their parent-company financial statements. If the investee is a subsidiary, this misclassification might be detected later from the consolidated report.<sup>1</sup> However, if the investee is structured in the manner that the investee is not required to be consolidated with the parent company report, the trick can mislead investors in measuring economic performance even more.<sup>2</sup> In particular, research has found that Asian countries exhibit far more divergence between cash-flow rights and control rights in the way that investors can establish control over a firm despite little cash-flow rights (i.e. equity percentage) (Claessens, Djankov and Lang 2000). Thus, earnings management through affiliated transactions can be one gimmick that mislead investors' decision making.

With the sample covering from 1996 to 2007, we follow McVay (2006) and use an expectation model to decompose earnings into expected and unexpected core earnings. We then regress current-period unexpected core earnings on current-period special items and current-period income from investment under equity approach. If firms tend to inflate core

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<sup>1</sup> On the other hand, as the legal requirement for consolidated report is less stringent than that for the parent report, and investors might prioritize the parent report in Taiwan, this might be overlooked.

<sup>2</sup> A lot of anecdotal evidence in Taiwan has suggested that many firms hide liabilities and losses in the external entities which might not be the subsidiaries and thus be consolidated with the parent's report. The external entities can be created by the owner's friends, employees or relatives so that it is difficult to justify the existence of any control rights by the parent to the external entity.

earnings by shifting core expense to special items (or income from investments), we expect a positive relationship between the unexpected portion of core earnings and income-decreasing special items (unsigned) or income from investments (unsigned). Further, if this classification shifting is a one-time event, we would expect that the unexpected core earnings can reverses in the year after a firm reports special items (or income from investments under equity approach), thus a negative relation between future unexpected change in core earnings and income-decreasing special items (unsigned) or income from investments (unsigned). Our results support the expectations that managers of the parent companies not only use special items but also use income from investment to engage in classification shifting.

Our contribution to the literature is twofold. First, this study brings attention to the costs of using the parent company's financial statements as primary reports. The adoption of IFRS in Taiwan from 2013 might help us prioritize the consolidated reports over the parent report. The government should help enhance the value of consolidated report, when the parent company report is not a required statement by IFRS and consolidated report would take the dominance role after IFRS adoption. Second, we extend McVay (2006) by providing evidence of classification shifting through affiliates, in addition to special items. Our results suggest that classification shifting can be a common practice just as other earnings management tool, and further demonstrate two accounts that can be taken advantaged to manage the core earnings.

The remainder of this paper is organized as follows: Institutional background and literature reviews are discussed in section 2. Section 3 then develops testable hypotheses. Section 4 describes the sample selection and the models used to test those hypotheses. The empirical results are presented in section 5. Section 6 reports sensitivity tests and we conclude the paper in section 7.

## **2. INSTITUTIONAL BACKGROUND: PARENT AND CONSOLIDATED REPORT**

### **2.1 LEGAL REQUIREMENT**

In Taiwan, firms are required to issue the parent company's financial statements and consolidated statements. Different from the practice in Anglo-Saxon countries that use consolidated statements as the main report, the practice in Taiwan uses the parent company's financial statement as the main report, and the consolidated financial statement as an auxiliary report. This can be observed from two perspectives.

First, the legal requirement for filing the parent report is more stringent than that for the consolidated report. Table 1 provides the comparison. In 1985, Accounting Research and Development Foundation issued TSFAS No.7: Consolidated Financial Statement, which requires that companies, in addition to the parent company report, need to prepare consolidated reports. However, until 2005, all listed firms only need to issue consolidated statements annually even though the requirement for the parent report is on a quarterly basis. While all listed firms need to prepare semiannual consolidated statements from 2005 under the FSA regulation No.0930154140, auditors only need to perform “review” procedures to semiannual consolidated statements as opposed to “audit” procedures to semiannual parent statements.<sup>3</sup> In addition, the semiannually consolidated financial statements are allowed to be submitted two weeks (i.e. Sep 15) after the deadline for the semiannually parent company’s financial statements (i.e. Aug 31).<sup>4</sup> Table 1 summarizes the regulation differences between consolidated and parent report.

**TABLE 1 The Regulation Comparison for Consolidated and Parent Report**

Type of financial report		Reviewed/Audited	The filing deadline	The number of pages (see Appendix 1)	Context of the financial reports (see Appendix 1)
The annually report	Parent	Audited	4/30		
	Consolidated (1985)	Audited	4/30	Generally fewer	Table for detail of significant account is not disclosed.
The semi-annually report	Parent	Audited	8/31		
	Consolidated (2005)	Reviewed	9/15	Generally fewer	Table for detail of significant account is not disclosed.
The quarterly report	Parent	Reviewed	4/30, 10/30		
	Consolidated (2008)	Reviewed is not compulsory	5/15, 11/15	Generally fewer	Footnote is simplified <sup>5</sup> .

<sup>3</sup> In an audit, the auditor perform all the steps indicated in reviewed procedures, but also performs verification and substantiation procedures, which include direct correspondence with creditors to verify details of liabilities, physical inspection of inventories or investment securities, inspection of internal controls and other similar steps.

<sup>4</sup> Financial Supervisory Commission issued the regulation No.0960034217 & No.0960064020 in 2007 that require firms prepare the quarterly consolidated financial statements from 2008. However, the quarterly consolidated financial statements are only subject to review process, and are also allowed to be submitted later than the quarterly parent company’s statements. Moreover, the footnotes of the quarterly consolidated statements are simplified. Firms are not required to disclose the enclosed tables such as important transactions or investment in other firms.

<sup>5</sup> The regulations No.0960064020 (2007.11.15) allows the simplified version of quarterly consolidated report. (1) The related information of important transactions and investment is not required to be disclosed. (2) The related information of tax and pension expenses is not required to be disclosed. (3) The business and history of company are not required to be disclosed.

Second, we argue that the information coverage of the parent report is much broader than consolidated report. Appendix 1 provides two instances - Asus and Chia Hsin Cement. We find that (1) the number of pages for the parent report is generally longer than that for the consolidated report; and (2) the footnotes for consolidated statements are much more simplified than the footnotes for parent statements. For example, the section of “guarantee”, “related information of investments” and “investment in China” are not required to be disclosed in the quarterly consolidated financial statements.

To sum up, as the information coverage of the consolidated financial statements is not as timely and complete as that in the parent statements, and the dividend determination specified in Company Act is based on the parent’s report, we can therefore expect that the parent’s report is the primary report in practice.

## **2.2 THE “INCOME FROM INVESTMENT” ACCOUNT IN THE PARENT REPORT**

For all affiliate investments, a parent company can use the equity method to account for its investments (either significance influence over the investee or the control over the investee) under R.O.C GAAP No.5. That is, the parent company maintains the “investment in subsidiary” account in the balance sheet by taking up its share of the subsidiary’s income and reducing the investment account for its share of subsidiary dividends declared (Beams, Brozovsky and Shoulders 2009). Likewise, investment income is reported in a single amount on one line of “income from investment” account. In Taiwan, however, we categorize this account as a non-operating income, even though its components are categorized as operating incomes and core earnings in the consolidated reports.

Prior literature has indicated that the account of “income from investment” is inappropriately classified in the parent company’s financial statement. Chang (1997), Hsu (1993) and Huang (2001) claim that the account of “income from investment” is the extension of core business and has recurring nature. It is inappropriately classified as non-operating income. Wang (2003) argues that this problem can be alleviated if the government enforces the preparation of consolidated statements. Through the elimination of consolidation process, the account of income from investment will be reported as operating income. Thus, meanwhile as parent companies is prioritized in Taiwan, this inappropriate classification of the account “income from investment” in the parent report may give managers stronger incentives to shift some core expenses to income from investment and mislead investors.

### 3. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENTS

#### 3.1 LITERATURE REVIEW

While prior literatures on earnings management focus largely on the accrual management (Jones 1991; Dechow, Sloan and Sweeney 1995) and the real economic activity manipulation (Roychowdhury 2006), classification shifting is another type of earnings management. Classification shifting is the misclassification of items within the income statement. It shifts certain revenues, expenses, gains, and losses between different line items on the income statement. Different from discretionary accruals and real activity earnings management, classification shifting does not actually change net income; thus, it is claimed that using classification shifting to engage in earnings management is less costly (Nelson, Elliott and Tarpley 2002). Besides, without changing bottom-line earnings, Nelson et al. (2002) assert that regulators or auditors might spend less time identifying detail accounts. In particular, when the allocation of core expenses to specific items can be subjective, auditors might not be able to verify the appropriate classification.

Ronen and Sadan (1975) examine whether extraordinary items are used in classification smoothing of ordinary income. As Wall Street analysts use ordinary income to compute the P/E ratio reported in the financial press, they find that managers are likely to hide operating expense in extraordinary items and shift extraordinary gains to operating income to smooth ordinary income (Nissim and Penman 2001; Penman and Zhang 2002). In addition, Kinney and Trezevant (1997) investigate if managers use special items to manage earnings and investor's perceptions. They show that managers are more likely to report income-decreasing special items separately on the face of income statement, in order to let investors know that the earnings decrease caused by these items is temporary; however, for income-increasing special items, firms are more likely to be disclosed in the footnotes of the financial statements. While income-decreasing items are separately listed on the face of income statement, income-increasing items are disclosed in the footnotes of the financial statement. These findings provide evidence that managers tend to be opportunistic when reporting special items.

McVay (2006) examines the classification of items within the income statement as an earnings management tool. She specifically argues that managers are likely to classify a portion of core expenses as special items. Using an expectation model to get the expected core earnings and unexpected core earnings, she finds that unexpected core earnings are increasing with income-decreasing special items, and this unexpectedly high performance will reverse in the following year. This finding implies that earnings management by using special items (transitory items) to do classification shifting is temporary. It only affects one period.



Using the same approach, Haw, Ho and Li (2008) examine earnings management undertaken by shifting the classification of expenses within the income statement and the roles of external and internal corporate governance mechanisms in curbing such misclassification in an international setting. They find that managers opportunistically shift core expenses to special items to increase core earnings. Their study shows that misclassification increases as the ultimate controller's control divergence increases.

### **3.2 HYPOTHESIS DEVELOPMENT**

Thus, to validate the findings of McVay (2006) in Taiwan, we first argue that managers can shift special items to increase core earnings. Managers are likely to have incentives to classify income and gains closer to operating income or classify expenses and losses farther from operating income. In particular, core expenses and special items have totally different nature. Special items are defined as unusual or infrequent, so core expenses tend to be more stable than special items. Lipe (1986), Fairfield, Sweeney and Yohn (1996) and Bradshaw and Sloan (2002) indicates that special items are highly transitory and investors treat these items accordingly. Thus, if investors only focus on core earnings and disregard special items because of its transitory items, we expect that firms are likely to shift core expenses as special items. We would observe an unexpected high portion of core earnings as the negative amount of special items increases.

McVay (2006) illustrates two examples in the U.S. Borden, Inc. shifted \$192 million of marketing expenses to part of a restructuring charge (special items) while it should have been classified as core expenses; and AmeriServe Food Distribution classified large amount of operating expenses as restructuring charges for the purpose of masking deteriorating financial performance. Similarly, in Taiwan, corporate restructurings and asset impairments are usually reported as special items; however, it always involves subjectivity to determine items being classified as special items or operating items. Managers may classify normal severance charges as charges resulting from the restructuring or merger. Managers might also classify more legal costs or other administrative expenses than were actually related to the restructuring or merger as the special items. Thus, our first hypothesis is as follows:

#### **H1: Managers shift core expenses to special items to increase core earnings.**

Our second hypothesis is to argue that managers have high incentives to engage in classification shifting through income from investments when they prepare the parent company reports. We propose two reasons that companies are likely to shift core expense to affiliates' account —income from investment.

First, using the parent company's financial statement as the primary report in Taiwan gives management flexibility to manage earnings through affiliated transactions. Although the consolidated report can capture the economic performance of business entity much better than the parent company's report, the reporting and disclosure requirements in Taiwan as illustrated in section 2.1 make the investors and companies in the practice prioritize the parent company's financial statement. Prior literature (Harris, Lang and Möller 1994; Niskanen, Kinnunen and Kasanen 1998; Goncharov, Werner and Zimmermann 2009) has generally agreed that consolidated statements are more value relevant than unconsolidated statements or parent information. The aggregate account of "income from investment" in the parent report gives managers the discretion to shift costs and revenues across segments or investees (Givoly, Hayn and D'Souza 1999).

Second, classifying "income from investment" as "non-operating income" in the parent company's financial statement rather than as "operating income" gives managers an additional avenue other than "special items" to hide core expenses. Prior studies have indicated that income from investment is very persistent, and it is inappropriate to classify it as non-operating income (e.g., Chu 1996; Chang 1997; Huang 2001; Wang 2003; Chen 2006). Empirical studies (Lipe 1986; Fairfield et al. 1996; McVay 2006) all suggest that the closer a line item is to sales, the more permanent this items tends to be. Investors usually recognize this distinction and weigh individual line items closer to sales to a larger extent because they capture core earnings more closely (Lipe 1986; Elliott and Hanna 1996; Davis 2002; Bradshaw and Sloan 2002; McVay 2006). Thus, managers have incentives to shift expenses down and shift revenue up the income statement to inflate core performance.

Thomas, Herrmann and Inoue (2004) investigate earnings management through affiliated transactions. The study suggests that the parent company could manipulate or influence the economic activities of the affiliated company in order to manage parent earnings. Managers of parent companies therefore have more opportunities to engage in earnings management of parent earnings. A typical example that firms could use income from investment to engage in classification shifting is that the parent could use their influence over investees to set up various departments in investees to avoid the recognition of some operating expenses. For example, as R&D investment is a discretionary spending decision (Barber et al. 1991), the parent can request investees establish R&D department to develop new products. Investees assume R&D expenditure on behalf of the parent, who thus can avoid the recognition of R&D expenditures in their core earnings. Instead, the parent recognizes the proportionate share of R&D expense incurred in investees as income from investment on their parent-company financial statements. If the investee is a subsidiary, this misclassification might be detected

later from the consolidated report. However, if the investee is structured in the manner that the investee is not required to be consolidated with the parent company report, the trick can mislead investors in measuring economic performance and is difficult to detect.

Taken together, we expect that managers are likely to shift some expenses to income from investment to mislead investors when they prepare parent company reports because “income from investment” is categorized as non-operating income. We argue that managers of the parent companies use not only special items but also income from investment to engage in classification shifting to inflate core earnings<sup>6</sup>. This leads to our second hypothesis:

**H2: Managers of the parent companies can shift core expenses to income from investment to inflate core earnings.**

## 4. RESEARCH DESIGN

### 4.1 MODELS

#### 4.1.1 Measurement of unexpected core earnings (unexpected changes in core earnings)

Following McVay (2006), we use an expectation model to separate reported core earnings (and reported change in core earnings) into its expected and unexpected components. Expected core earnings (levels) are estimated using equation (1) and expected changes in core earnings (changes) are estimated using equation (2). The models attempt to control for economic performance, macroeconomic and industry factors. In Equation 1 (Equation 2), we first separately estimate for each of the TEJ industry code in each year to obtain industry-year estimates of the coefficient. To estimate the parameter coefficient, we exclude firm  $i$  from the estimation of Equation 1 (Equation 2); we then use the parameter coefficients obtained from Equation 1 (Equation 2) to estimate expected core earnings for firm  $i$  at time  $t$ ,  $EX\_CORE_{i,t}$  (expected changes in core earnings for firm  $i$  at time  $t$ ,  $\Delta EX\_CORE_{i,t}$ ).

$$\begin{aligned} CORE_{i,t} = & \beta_0 + \beta_1 CORE_{i,t-1} + \beta_2 AT_{i,t} + \beta_3 ACC_{i,t} + \beta_4 ACC_{i,t-1} + \beta_5 SALE_{i,t} \\ & + \beta_6 NEG\_SALE_{i,t} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

$$\begin{aligned} CORE_{i,t+1} = & \gamma_0 + \gamma_1 CORE_{i,t} + \gamma_2 \Delta CORE_{i,t} + \gamma_3 AT_{i,t+1} + \gamma_4 ACC_{i,t+1} + \gamma_5 \Delta ACC_{i,t} \\ & + \gamma_6 \Delta SALE_{i,t+1} + \gamma_7 \Delta NEG\_SALE_{i,t+1} + \varepsilon_{i,t} \end{aligned} \quad (2)$$

<sup>6</sup> Core earnings is defined as operating income before depreciation, amortization, special items and investment income, calculated as [Net Sales- Cost of Goods Sold – Selling, General, and Administrative Expenses]/ net Sales, where Cost of Goods Sold and Selling, General, and Administrative Expenses exclude Depreciation and Amortization.

Where  $CORE_{i,t}$  (dependent variable) is core earnings, calculated as the difference between sales margin and selling, general, and administrative expenses divided by net sales;  $\Delta CORE_{i,t+1}$  is the change in core earnings;  $AT_{i,t}$  is asset turnover ratio, defined as net sales divided by the average of net operating assets;  $ACC_{i,t}$  is operating accruals, calculated as the difference between net income and operating cash flows, divided by net sales;  $\Delta SALE_{i,t}$  is defined as the percentage change in net sales divided by sales in year  $(t-1)$ ;  $NEG\_SALE_{i,t}$  is an indicator variable equal to one when  $\Delta SALE_{i,t}$  is negative and zero otherwise.<sup>7</sup>

Unexpected core earnings for firm  $i$  and year  $t$  ( $UN\_CORE_{i,t}$ ) is calculated as the difference between reported core earnings ( $CORE_{i,t}$ ) and expected core earnings ( $EX\_CORE_{i,t}$ ); Unexpected changes in core earnings for firm  $i$  in year  $(t+1)$  ( $\Delta UN\_CORE_{i,t+1}$ ) is calculated as the difference between changes in reported core earnings from year  $t$  to  $(t+1)$  ( $\Delta CORE_{i,t+1}$ ) and the expected changes in core earnings in year  $(t+1)$  ( $\Delta EX\_CORE_{i,t+1}$ ).

In equation (1), untabulated results show that  $\beta_1$  is positive (0.58) as  $CORE_{i,t-1}$  can be persistent.  $\beta_2$  is significantly negative (-0.001) because  $AT_{i,t}$  is inversely related to profit margin. In line with Louis and Robinson (2005),  $\beta_3$  is significantly positive (0.18), which suggests that unusually good performance is associated with a large increase in accruals and that unusually poor performance is associated with a large decline in accruals. While Sloan (1996) argues that prior year accruals are negatively associated with future earnings,  $\beta_4$  is insignificant in our test. Finally, both  $\beta_5$  (0.02) and  $\beta_6$  (0.18) are significantly positive. McVay (2006) argues that this is because the extent to which costs increases with sales is much larger than the extent to which costs decreases with sales. For equation (2), as in McVay (2006), untabulated results show that  $CORE_{i,t}$  and  $\Delta CORE_{i,t}$  are negatively associated with  $\Delta CORE_{i,t+1}$ . This is consistent with mean reversion. We also find that  $ACC_{i,t}$ ,  $\Delta SALE_{i,t}$ , and  $NEG\_SALE_{i,t}$  are positively associated with  $\Delta CORE_{i,t+1}$ .

#### 4.1.2 Regression model for hypothesis one: special items

To test hypothesis one, following McVay (2006), we propose Model 1.

##### **Model 1**

$$UN\_CORE_{i,t} = \alpha_0 + \alpha_1 SPECIAL_{i,t} + \varepsilon_{i,t} \quad (3a)$$

<sup>7</sup> In equation (1), McVay includes lagged core earnings ( $CORE_{i,t-1}$ ) because core earnings tend to be very persistent. Asset turnover ratio ( $AT_{i,t}$ ) is controlled as it can be inversely related to core earnings;  $ACC_{i,t}$  is to control for the likelihood of accrual management; prior-year operating accruals ( $ACC_{i,t-1}$ ) is considered because Sloan (1996) finds that the level of accruals is an explanatory variable for future performance. In equation (2), McVay includes both  $CORE_{i,t}$  and  $\Delta CORE_{i,t}$ . This can allow the model to vary with the degree of mean reversion that is based on the prior-year's level of core earnings. For the details, see McVay (2006).

$$CORE_{i,t+1} = \gamma_0 + \gamma_1 CORE_{i,t} + \gamma_3 + AT_{i,t+1} + \gamma_4 ACC_{i,t+1} + \gamma_5 ACC_{i,t} + \gamma_6 SALE_{i,t+1} + \gamma_7 NEG\_ \Delta SALE_{i,t+1} + \varepsilon_{i,t} \quad (3b)$$

$SPECIAL_{i,t}$  is composed of five items: gains/losses on disposal of investment, losses (or reversals of losses) on investment revaluation, gain/loss on disposal of fixed assets, loss (or reversals of losses) on assets impairments, and losses (or reversals of losses) on inventory revaluation.  $SPECIAL_{i,t}$  is also defined as income-decreasing special items divided by net sales, in year  $t$ , and is set to zero if firms have income-increasing special items.  $UN\_CORE_{i,t}$  is unexpected core earnings in year  $t$ , measured as the difference between reported and expected core earnings.  $\Delta UN\_CORE_{i,t+1}$  is unexpected changes in core earnings in year  $(t+1)$ , measured as the differences between actual and expected changes in core earnings.

Following McVay (2006), we test Model 1 using full sample and restricted sample that only include firms with non-zero income-decreasing special items. We use the restricted sample because we want to focus on those firms that have more opportunities to engage in classification shifting.

If managers use classification shifting to overstate core earnings by hiding core expenses in income-decreasing special items, we expect that unexpected core earnings ( $UN\_CORE_{i,t}$ ) in year  $t$  to be increasing with the income-decreasing special items (unsigned) in year  $t$ . Thus, we expect  $\alpha_1$  to be positive in equation (3a). However, different from classification shifting explanation,  $\alpha_1$  in equation (3a) can also be positive if it captures the immediate benefits from the restructuring activities recognized in income-decreasing special items. Equation (3b) is to address this concern. We expect that the unexpected core earnings ( $UN\_CORE_{i,t}$ ) will reverse in year  $(t+1)$  and  $\Delta UN\_CORE_{i,t+1}$  is negative if unexpected core earnings are associated with the opportunistic behavior of managers. Thus,  $\eta_1$  is expected to be negative. Conversely, if  $\eta_1$  is positive, this suggests that  $\Delta UN\_CORE_{i,t+1}$  is positive and  $UN\_CORE_{i,t}$  can persist, which is consistent with real economic benefits rather than classification shifting.

In short, to find evidence supporting classification shifting using special items, both  $\alpha_1$  should be positive and  $\eta_1$  should be negative. If we only find either  $\alpha_1$  to be positive or  $\eta_1$  to be negative, this cannot substantiate our H1.

#### 4.1.3 Regression model for hypothesis two: income from investments in affiliates

In the same spirit as shifting core expense to special items, we propose model 2 to test our hypothesis two whether managers of the parent shift operating expenses to affiliates by means of the account, income from investment. We estimate the following regressions by replacing the  $SPECIAL_{i,t}$  in equation (3a) and (3b) with income from investment accounts,  $INV_{i,t}$ :

## **Model 2**

$$UN\_CORE_{i,t} = \alpha_0 + \alpha_1 INV_{i,t} + \varepsilon_{i,t} \quad (4a)$$

$$UN\_CORE_{i,t} = \eta_0 + \alpha\eta_1 INV_{i,t} + v_{i,t} \quad (4b)$$

The variable  $INV_{i,t}$  is defined as income-decreasing “income from investment under equity approach” as a percentage of sales. When income from investment is positive, we set the variable to be zero.

If managers use classification shifting to overstate core earnings by hiding core expenses in income-decreasing “income from investment”, we expect that unexpected core earnings ( $UN\_CORE_{i,t}$ ) in year  $t$  to be increasing with the income-decreasing “income from investment” (unsigned) in year  $t$ . Thus, we expect  $\alpha_1$  to be positive in equation (4a). However, different from classification shifting explanation,  $\alpha_1$  in equation (4a) can also be positive because of the immediate benefits from the restructuring activities recognized in income-decreasing “income from investment”. Equation (4b) is to address this concern. We expect that the unexpected core earnings ( $UN\_CORE_{i,t}$ ) will reverse in year  $(t+1)$  and  $\Delta UN\_CORE_{i,t+1}$  is negative if unexpected core earnings is associated with the opportunistic behavior of managers. Thus,  $\eta_1$  is expected to be negative. Conversely, if  $\eta_1$  is positive, this suggests that  $\Delta UN\_CORE_{i,t+1}$  is positive and  $UN\_CORE_{i,t}$  can persist, which is consistent with real economic benefits rather than classification shifting.

In short, to find evidence supporting classification shifting through affiliates, both  $\alpha_1$  should be positive and  $\eta_1$  should be negative. If managers engage in classification shifting using “income from investment” account, unexpected core earnings in year  $t$  ( $UN\_CORE_{i,t}$ ) is expected to increase with income-decreasing income from investment in year  $t$  ( $INV_{i,t}$ ), and the unexpected change in core earnings in year  $(t+1)$  ( $\Delta UN\_CORE_{i,t+1}$ ) is expected to decrease, thereby a negative relation between  $\Delta UN\_CORE_{i,t+1}$  and  $INV_{i,t}$ .

If we only find either  $\alpha_1$  to be positive or  $\eta_1$  to be negative, this cannot substantiate our H2. In line with the tests for Model 1, we use the full sample and restricted sample to test Model 2. Full sample includes all TSEC and OTC listed companies, which have zero and non-zero (income-decreasing) income from investment; restricted sample includes only firms with non-zero income-decreasing income from investment.

### **Model 3**

To address the likelihood that firms may use multiple accounts to engage in classification shifting, we control for both special items and income from investments at the same time.

$$UN\_CORE_{i,t} = \alpha_0 + \alpha_1 SPECIAL_{i,t} + \alpha_2 INV_{i,t} + \varepsilon_{i,t} \quad (5a)$$

$$UN\_CORE_{i,t} = \eta_0 + \eta_1 SPECIAL_{i,t} + \eta_2 INV_{i,t} + \varepsilon_{i,t} \quad (5b)$$

From the above discussion, we expect  $\alpha_1$  and  $\alpha_2$  to be positive and  $\eta_1$  and  $\eta_2$  to be negative.

## **4.2 SAMPLE SELECTION**

The sample used in this study is collected from the Taiwan Economic Journal (TEJ) Data. Financial firms are excluded from the sample selection because of their distinctive characteristics. The initial sample period covers the years from 1996 to 2007. Following McVay (2006), we require a minimum of 15 observations per industry and per fiscal year in order to alleviate a bias to estimate expected core earnings. Since we need lag and lead data for one year to obtain  $UN\_CORE_{i,t}$ , we conduct empirical analyses with observations for the period starting from 1997 through 2006. Also, each firm-year observation is required to have sufficient data to test our hypotheses. Finally, observations in which any variable is in the top and bottom 1% of the distribution are excluded. Our final sample comprises 5,169 firm-years. The details can refer to Table 2.

## **5. EMPIRICAL RESULTS**

### **5.1 DESCRIPTIVE STATISTICS**

Table 3 provides descriptive statistics for the main variables. The mean (median) value of reported core earnings ( $CORE_{i,t}$ ), changes in reported core earnings ( $\Delta CORE_{i,t}$ ), unexpected core earnings ( $UN\_CORE_{i,t}$ ) and unexpected change in core earnings ( $\Delta UN\_CORE_{i,t+1}$ ) are 0.074 (0.090), -0.004 (-0.004), 0.001 (-0.001), and -0.022 (-0.001), similar to the findings in McVay (2006). The mean value of unsigned income-decreasing special items ( $SPECIAL_{i,t}$ ) is 0.027 and unsigned income-decreasing “income from investment ( $INV_{i,t}$ )” is 0.025.

**TABLE 2**  
**Sample Collection**

Details of firm-year cases used in the study	Firm-year observations
Firm-year cases for non-financial firms listed on the Taiwan Stock Exchange (TSE) from 1996 to 2007 for which Taiwan Economic Journal (TEJ) provides the data necessary for the construction of the measures of operating income before special items, cash, short-term investment, total assets, total debts, common stock, preferred stock, special items, income from investment, cash flow from operating, net income, depreciation expense and amortization expense.	13,858
Less: firms with missing data of market value	(5,311)
Less: firm-years with less than 15 observations per industry-year	(1,188)
Less: firms with fiscal years= 1996 and 2007	(1,174)
Less: firms with missing data	(922)
Less: observations in the top and bottom 1% of each variable (unexpected core earnings and unexpected change in core earnings)	(94)
Firm-year cases used in the study	5,169

**TABLE 3**  
**Descriptive Statistics**

Variable	Mean	Median	Standard Deviation	25%	75%
$SALE_{i,t}$ (in millions)	8,545	2,288	28,342	1,065	5,599
$\Delta SALE_{i,t}$	0.126	0.060	0.861	- 0.069	0.224
$CORE_{i,t}$	0.074	0.090	1.035	0.037	0.163
$\Delta CORE_{i,t+1}$	- 0.004	- 0.004	0.361	- 0.031	0.023
$UN\_CORE_{i,t}$	0.001	- 0.001	0.088	- 0.034	0.033
$\Delta UN\_CORE_{i,t+1}$	- 0.022	- 0.001	2.117	- 0.035	0.035
$SPECIAL_{i,t}$ (income-decreasing)	0.027	0.000	0.354	0.007	0.000
$INV_{i,t}$ (income-decreasing)	0.025	0.000	0.183	0.011	0.000
$ACC_{i,t}$	- 0.062	- 0.027	1.561	- 0.111	0.039
$AT_{i,t}$	3.699	1.312	106.074	0.699	2.416
$SIZE_{i,t}$	15.192	15.014	1.283	14.282	15.854
$BM_{i,t}$	0.824	0.544	1.033	0.297	0.980
$OCF_{i,t}$	0.058	0.057	0.125	0.008	0.115

$SALE_{i,t}$  is net sales for firm  $i$  at time  $t$ ;  $\Delta SALE_{i,t}$  is defined as percentage change in net sales divided by sales in year  $(t-1)$ ;  $CORE_{i,t}$  is core earnings, calculated as the difference between sales margin and selling, general, and administrative expenses divided by net Sales;  $\Delta CORE_{i,t+1}$  is the change in core earnings in year  $(t+1)$ ;  $UN\_CORE_{i,t}$  is calculated as the difference between reported core earnings and expected core earnings;  $\Delta UN\_CORE_{i,t+1}$  is calculated as the difference between changes in reported core earnings from year  $t$  to  $(t+1)$  ( $\Delta CORE_{i,t+1}$ ) and expected changes in core earnings in year  $(t+1)$  ( $\Delta EX\_CORE_{i,t+1}$ ).  $SPECIAL_{i,t}$  is also defined as income-decreasing special items divided by net sales, both in year  $t$  and is set to zero if firms have income-increasing special items. The variable  $INV_{i,t}$  is defined as income-decreasing “income from investment under equity approach” as a percentage of sales.  $ACC_{i,t}$  is operating accruals, calculated as the difference between net income and operating cash flows, divided by net sales;  $AT_{i,t}$  is asset turnover ratio, defined as net sales divided by the average of net operating assets;  $SIZE_{i,t}$  is measured as the natural logarithm of total assets;  $BM_{i,t}$  is the ratio of book value to market value of equity;  $OCF_{i,t}$  is cash flows from operation activities scaled by lagged total assets.



Table 4 exhibits the Pearson and Spearman correlation coefficients. The results show that  $CORE_{i,t}$  ( $\Delta CORE_{i,t+1}$ ) is significantly and positively associated with  $\Delta SALE_{i,t}$  and  $ACC_{i,t}$ . This is consistent with the inclusion of  $\Delta SALE_{i,t}$  and  $ACC_{i,t}$  in the expectation equation 1 (2) to estimate the expected core earnings (expected changes in core earnings). Also, in line with H1, we find that  $UN\_CORE_{i,t}$  is significantly and positively associated with  $SPECIAL_{i,t}$  and  $\Delta UN\_CORE_{i,t+1}$  is significantly and negatively associated with  $SPECIAL_{i,t}$ . Similarly, we also find the results supporting H2.  $UN\_CORE_{i,t}$  is significantly and positively associated with  $INV_{i,t}$  and  $\Delta UN\_CORE_{i,t+1}$  is significantly and negatively associated with  $INV_{i,t}$ .

As we find that some variables are significantly correlated, we further investigate the variance inflation factor (VIF) for equation (1), (2), (5), (6) and (7). The results show that VIF are all far less than 10, which indicates nonexistence of multicollinearity.

## 5.2 REGRESSION ANALYSES

### 5.2.1 Regression of special items

H1 predicts that managers shift core expenses to special items to increase core earnings. Panel A of Table 5 reports the results for the model of unexpected core earnings on concurrent income-decreasing special items (Equation 3a) and the model of unexpected changes in core earnings at year  $(t+1)$  on income-decreasing special items in year  $t$  (Equation 3b). If managers engage in classification shifting using special items, then unexpected core earnings is predicted to be positively related with income-decreasing special items (unsigned) in year  $t$  ( $\alpha_1$  to be positive), and the unexpected change in core earnings in year  $(t+1)$  is predicted to be negatively related to income-decreasing special items in year  $t$  ( $\eta_1$  negative).

Following McVay (2006), we report results using full sample and restricted sample that include only firms with non-zero income decreasing special items. The restricted sample is expected to have greater explanation power because the sample is directly related to firms that have more opportunities to engage in classification shifting. Panel A of Table 5 shows that the coefficient on  $SPECIAL_{i,t}$  for Equation (3a) ( $\alpha_1$ ) is significantly positive in both full sample (0.026,  $t=2.64$ ) and restricted sample (0.026,  $t=2.56$ ). Also, the coefficient on  $SPECIAL_{i,t}$  for Equation (3b) ( $\eta_1$ ) is significantly negative in both full sample (-0.294,  $t=-3.86$ ) and restricted sample (-0.289,  $t=-3.05$ ). To find evidence supporting H1, both  $\alpha_1$  should be positive and  $\eta_1$  should be negative. Our results support our hypothesis one that special items are the items that tend to be used to hide core expenses. As predicted, we also find that the adjusted  $R^2$  in the restricted sample is higher than that in the full sample.

TABLE 4 Pearson (above) / Spearman (below) Correlation Matrix

	$\Delta SALE_{i,t}$	$CORE_{i,t}$	$\Delta CORE_{i,t+1}$	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$	$SPECIAL_{i,t}$	$ACC_{i,t}$	$AT_{i,t}$	$INV_{i,t}$
$\Delta SALE_{i,t}$	1.000	0.248 (0.046)	0.030 (0.016)	0.112 ( $<0.0001$ )	0.017 (0.2218)	-0.036 (0.0037)	0.017 (0.162)	0.001 (0.914)	-0.016 (0.190)
$CORE_{i,t}$	0.279 ( $<0.0001$ )	1.000	0.923 ( $<0.0001$ )	0.845 ( $<0.0001$ )	-0.125 ( $<0.0001$ )	-0.130 ( $<0.0001$ )	0.891 ( $<0.0001$ )	0.001 (0.922)	-0.913 ( $<0.0001$ )
$\Delta CORE_{i,t+1}$	0.325 ( $<0.0001$ )	0.252 ( $<0.0001$ )	1.000	0.932 ( $<0.0001$ )	0.163 ( $<0.0001$ )	-0.124 ( $<0.0001$ )	0.936 ( $<0.0001$ )	0.000 (0.974)	-0.967 ( $<0.0001$ )
$UN\_CORE_{i,t}$	-0.037 (0.003)	0.306 ( $<0.0001$ )	0.513 ( $<0.0001$ )	1.000	0.167 ( $<0.0001$ )	0.271 ( $<0.0001$ )	0.839 ( $<0.0001$ )	0.003 (0.837)	0.864 ( $<0.0001$ )
$\Delta UN\_CORE_{i,t+1}$	-0.009 (0.511)	0.002 (0.875)	0.012 (0.375)	0.007 (0.592)	1.000	-0.052 (0.0001)	-0.011 (0.419)	0.003 (0.827)	-0.038 (0.006)
$SPECIAL_{i,t}$	-0.070 ( $<0.0001$ )	-0.915 ( $<0.0001$ )	-0.045 (0.0003)	0.002 (0.885)	-0.012 (0.398)	1.000	0.004 (0.741)	0.002 (0.863)	-0.002 (0.989)
$ACC_{i,t}$	0.302 ( $<0.0001$ )	0.070 ( $<0.0001$ )	0.110 ( $<0.0001$ )	-0.080 ( $<0.0001$ )	-0.027 (0.045)	0.203 ( $<0.0001$ )	1.000	0.001 (0.958)	-0.984 ( $<0.0001$ )
$AT_{i,t}$	0.264 ( $<0.0001$ )	0.037 (0.003)	0.023 (0.067)	-0.030 (0.001)	-0.047 (0.001)	0.060 ( $<0.0001$ )	0.288 ( $<0.0001$ )	1.000 (0.967)	-0.001 (0.967)
$INV_{i,t}$	-0.172 ( $<0.0001$ )	-0.123 ( $<0.0001$ )	-0.067 ( $<0.0001$ )	0.021 (0.090)	-0.016 (0.250)	-0.119 ( $<0.0001$ )	-0.316 ( $<0.0001$ )	-0.197 ( $<0.0001$ )	1.000

$\Delta SALE_{i,t}$  is defined as percentage change in net sales divided by sales in year  $(t-1)$ ;  $CORE_{i,t}$  is core earnings, calculated as the difference between sales margin and selling, general, and administrative expenses divided by net sales;  $\Delta CORE_{i,t+1}$  is the change in core earnings in year  $(t+1)$ ;  $UN\_CORE_{i,t}$  is calculated as the difference between reported core earnings and expected core earnings;  $\Delta UN\_CORE_{i,t+1}$  is calculated as the difference between changes in reported core earnings from year  $t$  to  $(t+1)$  ( $\Delta CORE_{i,t}$ ) and expected changes in core earnings in year  $(t+1)$  ( $\Delta EX\_CORE_{i,t+1}$ ).  $SPECIAL_{i,t}$  is also defined as income-decreasing special items divided by net sales, both in year  $t$  and is set to zero if firms have income-increasing special items. The variable  $INV_{i,t}$  is defined as income-decreasing "income from investment under equity approach", as a percentage of sales.  $ACC_{i,t}$  is operating accruals, calculated as the difference between net income and operating cash flows, divided by net sales;  $AT_{i,t}$  is asset turnover ratio, defined as net sales divided by the average of net operating assets.

**TABLE 5**  
**Regressions of Unexpected Core Earnings and Future Unexpected Change in Core Earnings**

<b>Panel A: Special items</b>				
	Full sample		Restricted Sample	
	Equation (3a)	Equation (3b) (reversal)	Equation (3a)	Equation (3b) (reversal)
Intercept	0.000 (0.04)	-0.014 (-0.47)	0.000 (-1.21)	-0.038 (-0.75)
$SPECIAL_{i,t}$	0.026 (2.64)***	-0.294 (-3.86)***	0.026 (2.56)***	-0.289 (-3.05)***
$N$	5,169	5,169	2,619	2,619
adj. $R^2$	0.11%	0.26%	0.21%	0.31%
<b>Panel B: Income from investments</b>				
	Full sample		Restricted Sample	
	Equation (4a)	Equation (4b) (reversal)	Equation (4a)	Equation (4b) (reversal)
Intercept	-0.001 (-0.58)	-0.011 (-0.37)	-0.004 (-1.98)	-0.019 (-0.35)
$INV_{i,t}$	0.052 (3.87)***	-0.409 (-2.78)***	0.070 (4.64)***	-0.404 (-2.12)***
$N$	5,169	5,169	2,486	2,486
adj. $R^2$	0.22%	0.12%	0.74%	0.14%
<b>Panel C: <math>SPECIAL_{i,t}</math> and <math>INV_{i,t}</math></b>				
	Full sample		Restricted Sample	
	Equation (5a)	Equation (5b) (reversal)	Equation (5a)	Equation (5b) (reversal)
Intercept	-0.001 (-0.89)	-0.004 (-0.14)	-0.031 (-1.51)	-0.133 (-0.30)
$SPECIAL_{i,t}$	0.042 (2.99)***	-0.280 (-3.67)***	0.034 (2.05)*	-0.311 (-3.59)**
$INV_{i,t}$	0.050 (2.89)***	-0.370 (-2.51)***	0.066 (3.05)**	-0.488 (-9.25)**
$N$	5,169	5,169	2,486	2,486
adj. $R^2$	0.12%	0.35%	0.64%	0.54%

<sup>a</sup>  $UN\_CORE_{i,t}$  is calculated as the difference between reported core earnings and expected core earnings;  $\Delta UN\_CORE_{i,t+1}$  is calculated as the difference between changes in reported core earnings from year  $t$  to  $(t+1)$  ( $\Delta CORE_{i,t+1}$ ) and expected changes in core earnings in year  $(t+1)$  ( $\Delta EX\_CORE_{i,t+1}$ ).  $SPECIAL_{i,t}$  is also defined as income-decreasing special items divided by net sales, both in year  $t$  and is set to zero if firms have income-increasing special items. The variable  $INV_{i,t}$  is defined as income-decreasing “income from investment under equity approach” as a percentage of sales.

<sup>b</sup>  $t$ -statistics are in parentheses. \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% levels, respectively, in a two-tailed test.

### 5.2.2. Regression of income from investment

H2 predicts that managers of the parent companies shift operating expenses to income from investment. In the same spirit as special items, we predict  $\alpha_1$  to be positive and  $\eta_1$  to be negative. Panel B of Table 5 presents the regression results of equation (4a) and (4b). We find that, in equation (4a), the coefficient on  $INV_{i,t}$  is significant positive when unexpected core

earnings in year  $t$  is dependent variable.  $\alpha_1$  is 0.052 ( $t=3.87$ ) in the full sample and 0.070 ( $t=4.64$ ) in the restricted sample. We also find that the coefficient on  $INV_{i,t}$  in equation (4b) is -0.409 ( $t=-2.78$ ) in full sample and -0.404 ( $t=-2.12$ ) in restricted sample when unexpected changes in core earnings at year  $(t+1)$  is dependent variable. To find evidence supporting H2, both  $\alpha_1$  should be positive and  $\eta_1$  should be negative. Our finding suggests that managers of the parent companies will use the income from investment to engage in classification shifting. Since using income from investment to engage in classification shifting is a one-time event, the unexpected core earnings should reverse in the year after a firm reports income from investment.

### 5.2.3 Regression of special items and income from investment

Finally, we extend McVay (2006) equations by including both  $SPECIAL_{i,t}$  and  $INV_{i,t}$  in equation (5a) and (5b). If the account of “special items” and “income from investment” can be used as classification shifting tools, we expect  $\alpha_1$  and  $\alpha_2$  to be positive and  $\eta_1$  and  $\eta_2$  to be negative. Panel C of Table 5 presents the regression results of equation (5a) and (5b). The results show that  $\alpha_1$  and  $\alpha_2$  are positive and  $\eta_1$  and  $\eta_2$  are negative, reconfirming our hypothesis one and two that managers use special items and income from investment to engage in classification shifting.

## 6. SENSITIVITY TESTS

### 6.1 THE IMPACT OF TSFAS NO. 7 (REVISED) FROM 2005 ON

In 1985, the Accounting Research and Development Foundation (ARDF) in Taiwan promulgated TSFAS 7 based on U.S. ARB 51. Specifically, Paragraphs 8 and 11 of TSFAS 7, in the spirit of ARB 51, clearly stated that consolidated financial statements are necessary for a fair presentation when one of the companies in the group directly or indirectly has ownership of a majority (i.e. more than 50%) of voting shares. In 2003, TSFAS 7 was amended as an attempt to converge with IAS 27. TSFAS 7 (revised), in the spirit of IAS 27, requires the inclusion of an entity if the parent has the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities (Paragraph 16). The revised standard was effective for financial statements from 2005 on. In addition, all listed firms need to prepare semiannual consolidated statements from 2005 on under the FSA regulation No.0930154140. All of these might affect the flexibility and capacity that parent firms can manage earnings through affiliates. Thus, we re-examine our tests and see whether classification shifting can still be observed after 2005. Table 6 reports the results. We find that the coefficient on  $SPECIAL_{i,t}$  ( $INV_{i,t}$ ) is 0.007 (0.116), and in the reversal model the coefficient

on  $SPECIAL_{i,t}$  ( $INV_{i,t}$ ) is -0.310 (-0.513). All the results are significant at the 5% level. Our results are robust during the period from 2005 to 2007.

## 6.2 FIRM CHARACTERISTICS

Barua et al. (2010) suggest that some firm-specific characteristics such as firm size ( $SIZE_{i,t}$ ), book to market ratio ( $BM_{i,t}$ ), total accruals scaled ( $ACC_{i,t}$ ), and operating cash flow ( $OCF_{i,t}$ ) are likely to influence dependent variables. Thus we control for these firm-characteristics in equation (3a), (3b), (4a), (4b), (5a) and (5b), and report the results in Table 7.

Using full sample alone, Table 7 shows that our results are robust with these firm-characteristics. When we examine the association between special items and classification shifting, we find that in equation (3a) the coefficient on special items ( $SPECIAL_{i,t}$ ) is 0.054 ( $t=5.07$ ), and in equation (3b) the coefficient on  $SPECIAL_{i,t}$  is significant positive (-0.297,  $t=-3.72$ ), after controlling for firm characteristics. Likewise, as we replace  $SPECIAL_{i,t}$  with  $INV_{i,t}$ , in equation (4a) and (4b), the results also show that a significantly positive association between  $INV_{i,t}$ , and  $UN\_CORE_{i,t}$  (0.109) and a significantly negative association between  $INV_{i,t}$ , and  $\Delta UN\_CORE_{i,t+1}$  (-0.421). The results are also the same when we include both  $SPECIAL_{i,t}$  and  $INV_{i,t}$  in equation (5a) and (5b). Both special items and income from investments can be used simultaneously to inflate core earnings. The results reconfirm our hypotheses.

## 6.3 INCENTIVES

Prior literature has shown that managers manage earnings to avoid losses and declines in earnings. Burgstahler and Dichev (1997) find unusually low frequencies of small decreases in earnings and unusually high frequencies of small increases in earnings. This suggests that managers use accounting choice and operating decisions to avoid the decline in earnings. They also find a concentration of firms reporting earnings just above zero and relatively few firms reporting earnings just below zero, suggesting that firms manage earnings to avoid losses. Bartov (1993) find that firms time asset sales to smooth earnings, and Bushee (1998) find that firms reducing R&D expenditures to reverse an earnings decline. Thus, we would like to examine whether classification shifting through  $SPECIAL_{i,t}$  and  $INV_{i,t}$ , is used to avoid losses or to avoid the decline in earnings. We propose the following models.

$$UN_{CORE_{i,t}} = \alpha_0 + \alpha_1 SPEACIAL_{i,t} + \alpha_2 INV_{i,t} + \alpha_3 \times MEET_{i,t} + \alpha_4 \times MEET_{i,t} \times SPECIAL_{i,t} + \alpha_4 \times MEET_{i,t} \times INV_{i,t} + \varepsilon_{i,t} \quad (6a)$$

$$UN_{CORE_{it}} = \alpha_0 + \alpha_1 SPEACIAL_{i,t} + \alpha_2 INV_{i,t} + \alpha_3 \times MEET_{i,t} + \alpha_4 \times MEET_{i,t} \times SPECIAL_{i,t+1} + \alpha_4 \times MEET_{i,t} \times INV_{i,t} + \varepsilon_{i,t} \quad (6b)$$

TABLE 6 Regressions of Unexpected Core Earnings and Future Unexpected Change in Core Earnings during 2005-2007

	Model 3a	Model 3b (reversal)	Model 4a	Model 4b (reversal)	Model 5a	Model 5b (reversal)
	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$
Intercept	-0.000 (-0.13)	-0.062 (-0.76)	-0.005 (-1.53)	-0.118 (-1.36)	-0.005 (-1.55)	-0.104 (-1.19)
$SPECIAL_{i,t}$	0.045 (1.98) *	-0.299			0.007 (2.27) *	-0.310 (-2.28) *
$INV_{i,t}$			0.119 (4.10) **	-0.512 (-6.17) **	0.116 (3.72) **	-0.513 (-6.19) **
Adj. $R^2$	0.06%	0.2%	0.06%	0.21%	0.06%	0.24%
N	1,717	1,717	1,717	1,717	1,717	1,717
Model 3a:	$UN\_CORE_{i,t} = \alpha_0 + \alpha_1 SPECIAL_{i,t} + \varepsilon_{i,t}$		Model 3b:	$\Delta UN\_CORE_{i,t+1} = \eta_0 + \eta_1 SPECIAL_{i,t} + v_{i,t}$		
Model 4a:	$UN\_CE_{i,t} = \alpha_0 + \alpha_1 INV_{i,t} + \varepsilon_{i,t}$		Model 4b:	$\Delta UN\_CE_{i,t+1} = \eta_0 + \eta_1 INV_{i,t} + v_{i,t}$		
Model 5a:	$UN\_CE_{i,t} = \alpha_0 + \alpha_1 SPECIAL_{i,t} + \alpha_2 INV_{i,t} + \varepsilon_{i,t}$		Model 5b:	$\Delta UN\_CE_{i,t+1} = \eta_0 + \eta_1 SPECIAL_{i,t} + \eta_2 INV_{i,t} + v_{i,t}$		

$UN\_CORE_{i,t}$  is calculated as the difference between reported core earnings and expected core earnings;  $\Delta UN\_CORE_{i,t+1}$  is calculated as the difference between changes in reported core earnings from year  $t$  to  $(t+1)$  ( $\Delta CORE_{i,t+1}$ ) and expected changes in core earnings in year  $(t+1)$  ( $\Delta EX\_CORE_{i,t+1}$ ).  $SPECIAL_{i,t}$  is also defined as income-decreasing special items divided by net sales, both in year  $t$  and is set to zero if firms have income-increasing special items. The variable  $INV_{i,t}$  is defined as income-decreasing "income from investment under equity approach" as a percentage of sales.

t-statistics are in parentheses. \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% levels, respectively, in a two-tailed test.

**TABLE 7**  
**Regressions of Unexpected Core Earnings and Future Unexpected Change**  
**in Core Earnings with Control Variables**

	<i>SPECIAL</i> <sub><i>i,t</i></sub>		<i>INV</i> <sub><i>i,t</i></sub>		<i>SPECIAL</i> <sub><i>i,t</i></sub> + <i>INV</i> <sub><i>i,t</i></sub>	
	<i>UN_CORE</i> <sub><i>i,t</i></sub>	$\Delta$ <i>UN_CORE</i> <sub><i>i,t+1</i></sub>	<i>UN_CORE</i> <sub><i>i,t</i></sub>	$\Delta$ <i>UN_CORE</i> <sub><i>i,t+1</i></sub>	<i>UN_CORE</i> <sub><i>i,t</i></sub>	$\Delta$ <i>UN_CORE</i> <sub><i>i,t+1</i></sub>
	Model 3a	Model 3b	Model 4a	Model 4b	Model 5a	Model 5b
Intercept	0.011 (0.78)	0.295 (0.83)	-0.008 (-0.41)	0.266 (0.75)	-0.011 (-0.60)	0.309 (0.87)
<i>SPECIAL</i> <sub><i>i,t</i></sub>	0.054 (5.07) ***	-0.297 (-3.72) ***			0.075 (5.06) ***	-0.298 (-3.74) ***
<i>INV</i> <sub><i>i,t</i></sub>			0.109 (6.26) ***	-0.421 (-2.70) ***	0.097 (5.55) ***	-0.420 (-2.70) ***
<i>BM</i> <sub><i>i,t</i></sub>	0.000 (-0.17)	-0.112 (-3.91) ***	0.001 (0.49)	-0.114 (-3.99) ***	0.000 (0.04)	-0.103 (-3.57) ***
<i>SIZE</i> <sub><i>i,t</i></sub>	-0.001 (-1.42)	-0.012 (-0.54)	-0.000 (-0.19)	-0.010 (-0.44)	-0.000 (-0.04)	-0.013 (-0.56)
<i>ACC</i> <sub><i>i,t</i></sub>	0.013 (5.56) ***	-0.046 (-2.31) ***	0.015 (4.93) ***	-0.044 (-2.22) ***	0.020 (6.26) ***	-0.059 (-2.90) ***
<i>OCF</i> <sub><i>i,t</i></sub>	0.161 (15.21) ***	-0.418 (-1.69)	0.156 (11.39) ***	-0.407 (-1.65)	0.164 (11.93) ***	-0.479 (-1.93)
Adj. <i>R</i> <sup>2</sup>	4.51%	0.55%	2.34%	0.42%	2.73%	0.66%
N	5,169	5,169	5,169	5,169	5,169	5,169

<sup>a</sup> *UN\_CORE*<sub>*i,t*</sub> is calculated as the difference between reported core earnings and expected core earnings;  $\Delta$ *UN\_CORE*<sub>*i,t+1*</sub> is calculated as the differences between changes in reported core earnings from year *t* to (*t*+1) ( $\Delta$ *CORE*<sub>*i,t+1*</sub>) and expected changes in core earnings in year (*t*+1) ( $\Delta$ *EX\_CORE*<sub>*i,t+1*</sub>). *SPECIAL*<sub>*i,t*</sub> is also defined as income-decreasing special items divided by net sales, both in year *t* and is set to zero if firms have income-increasing special items. The variable *INV*<sub>*i,t*</sub> is defined as income-decreasing “income from investment under equity approach” as a percentage of sales. *ACC*<sub>*i,t*</sub> is operating accruals, calculated as the difference between net income and operating cash flows, divided by net sales. *SIZE*<sub>*i,t*</sub> is measured as the natural logarithm of total assets; *BM*<sub>*i,t*</sub> is the ratio of book value to market value of equity; *OCF*<sub>*i,t*</sub> is cash flows from operation activities scaled by lagged total assets.

<sup>b</sup> *t*-statistics are in parentheses. \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% levels, respectively, in a two-tailed test.

We use two earnings benchmarks to measure the incentives for income classification shifting. The first proxy for *MEET*<sub>*i,t*</sub> is earnings management to avoid losses (*MEET\_LOSS*<sub>*i,t*</sub>) and earnings management to avoid the decline in earnings (*MEET\_DECLINE*<sub>*i,t*</sub>). To identify firms that could have avoided losses by using classification shifting, we define *MEET\_LOSS*<sub>*i,t*</sub> as one if firm-years have  $\Delta$ *CORE*<sub>*i,t*</sub> between 0 and 0.01, and zero if otherwise. In addition, we identify those firms that report small positive annual earnings increases as the suspicious candidates because they plausibly achieved the increases by using classification shifting. Thus, *MEET\_DECLINE*<sub>*i,t*</sub> is defined as one if firm-years have  $\Delta$ *CORE*<sub>*i,t*</sub> at between 0 and 0.01; otherwise *MEET\_DECLINE*<sub>*i,t*</sub> is equal to zero.<sup>8</sup> We then interact *MEET\_LOSS*<sub>*i,t*</sub> (and *MEET\_DECLINE*<sub>*i,t*</sub>) with *SPECIAL*<sub>*i,t*</sub> and *INV*<sub>*i,t*</sub>, as equation (6a) and (6b) show.

<sup>8</sup> We also use scaled earnings by  $MVE_{t-1}(E_t/MVE_t - 1)$  between 0 and 0.01 and scaled earnings changes [ $(E_t - E_{t-1})/MVE_{t-1}$ ] at between 0 and 0.01. The results are qualitatively similar.

Panel A (Panel B) of Table 8 reports the results whether firms use classification shifting to avoid losses (avoid earnings decline). For Panel A, the variables of interest are  $MEET\_LOSS_{i,t}$  interacted with  $SPECIAL_{i,t}$  and interacted with  $INV_{i,t}$ . In year  $t$ , the coefficients on these variables are significantly positive, which suggest that core expense have been shifted to special items and income from investment to avoid the negative value of  $CORE_{i,t}$ . In year  $(t+1)$ , we also find negative coefficients on  $MEET\_LOSS_{i,t} \times SPECIAL_{i,t}$  and  $MEET\_LOSS_{i,t} \times INV_{i,t}$ , supporting the reversal of classification shifting in the following year. These findings suggest that  $SPECIAL_{i,t}$  and  $INV_{i,t}$  are used to avoid negative earnings. However, in Panel B, we do not find any significance for the coefficients on  $MEET\_DECLINE_{i,t} \times SPECIAL_{i,t}$  and  $MEET\_DECLINE_{i,t} \times INV_{i,t}$ . Our results cannot suggest the incentives to use classification shifting to avoid earnings decreases. Overall our results imply that  $SPECIAL_{i,t}$  and  $INV_{i,t}$  are used for classification-shifting to meet or beat earning's levels to avoid losses; our results do not support that firms use the classification shifting to beat the increases in earnings.<sup>9</sup>

#### 6.4 STOCK PRICE IMPLICATIONS OF CLASSIFICATION SHIFTING

Next, we examine stock market reactions to classification shifting and whether investors are aware that core expenses are hidden in special items or in affiliates' accounts. We first explore whether there is an increase in the announcement period return when unexpected core earnings increase. We conduct equation (7a) for the first analysis and use two windows to capture the announcement period returns of financial statements: (0, -1) and (-1, 1). We also control for  $SIZE_{i,t}$ ,  $GRWOTH_{i,t}$ , and year/industry effects, because both of these factors could explain cross-sectional variations in expected returns (Fama and French 1993).

$$CAR_{i,t} = \alpha_0 + \alpha_1 UN_{CORE_{i,t}} + \alpha_2 SPECIAL_{i,t} + \alpha_3 \times INV_{i,t} + \alpha_4 UN_{CORE_{i,t}} \times SPECIAL_{i,t} + \alpha_5 \times UN_{CORE_{i,t}} \times INV_{i,t} + \varepsilon_{i,t} \quad (7a)$$

Where  $CAR_{i,t}$  is the market-adjusted announcement period returns around the announcement date of financial statements for fiscal year  $t$ .

Column (1) and column (2) of Table 9 report the results for  $CAR$  (0,1) and  $CAR$  (-1,1), respectively. We find that the coefficient on  $UN_{CORE_{i,t}}$  is significantly positive. Further, the coefficient on the interaction term between  $UN_{CORE_{i,t}}$  and  $SPECIAL_{i,t}$  is 6.068 for  $CAR$  (0,1) and 7.875 for  $CAR$  (-1,1), respectively, at a 10% significance level. This suggests that investors do not see through the classification shifting via special items. As the core expenses

<sup>9</sup> While McVay (2006) provides evidence that special items are used to increase core earnings in order to meet or beat analysts' forecasts, we do not conduct the tests due to the lack of data in analyst forecasts in Taiwan.



that have been hidden in special items increase, the response to  $UN\_CORE_{i,t}$  also increases. Similarly, the coefficient on the interaction term between  $UN\_CORE_{i,t}$  and  $INV_{i,t}$  is 2.062 for  $CAR(0,1)$  and 3.067 for  $CAR(-1,1)$ , respectively, but only the coefficient for  $CAR(-1,1)$  is significant. The evidence weakly suggests that investors might not be able to know that core expenses have been hidden in  $INV_{i,t}$ .

**TABLE 8**  
**Regressions of Unexpected Core Earnings and Future Unexpected Change in**  
**Core Earnings with Control Variables: Incentives**

<b>Panel A: Avoid losses</b>		
	$SPECIAL_{i,t} + INV_{i,t}$	
	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$ (reversal)
Intercept	0.005 (2.10)*	-0.058 (-1.16)
$SPECIAL_{i,t}$	0.010 (0.54)	-0.319 (-3.64)**
$INV_{i,t}$	0.101 (4.01)**	-0.505 (-9.42)**
$MEET\_LOSS_{i,t}$	-0.018 (-4.98)**	0.023 (0.30)
$MEET\_LOSS_{i,t} \times SPECIAL_{i,t}$	0.155 (3.85)**	-0.613 (-1.89)*
$MEET\_LOSS_{i,t} \times INV_{i,t}$	0.122 (2.49)*	-0.564 (-1.86)*
Adj. $R^2$	1.20%	2.30%
<b>Panel B: Avoid earnings declines</b>		
	$SPECIAL_{i,t} + INV_{i,t}$	
	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$ (reversal)
Intercept	-0.017 (-7.13)**	-0.083 (-1.74)
$SPECIAL_{i,t}$	0.038 (2.25)*	-0.305 (-3.50)**
$INV_{i,t}$	0.077 (3.35)**	-0.490 (-9.28)**
$MEET\_DECLINE_{i,t}$	0.032 (8.81)**	0.092 (1.19)
$MEET\_DECLINE_{i,t} \times SPECIAL_{i,t}$	0.019 (0.22)	-0.316 (-0.34)
$MEET\_DECLINE_{i,t} \times INV_{i,t}$	0.034 (0.53)	-0.351 (-0.30)
Adj. $R^2$	1.90%	2.30%

<sup>a</sup>  $UN\_CORE_{i,t}$  is calculated as the difference between reported core earnings and expected core earnings;  $\Delta UN\_CORE_{i,t+1}$  is calculated as the difference between changes in reported core earnings from year  $t$  to  $(t+1)$  ( $\Delta CORE_{i,t+1}$ ) and expected changes in core earnings in year  $(t+1)$  ( $\Delta EX\_CORE_{i,t+1}$ ).  $SPECIAL_{i,t}$  is also defined as income-decreasing special items divided by net sales, both in year  $t$  and is set to zero if firms have income-increasing special items. The variable  $INV_{i,t}$  is defined as income-decreasing “income from investment under equity approach” as a percentage of sales.  $MEET\_LOSS_{i,t}$  equals to one if firm-years have scaled earnings ( $E_t / MVE_{t-1}$ ) at least 0 and at best 0.01, and zero otherwise; Earnings ( $E$ ) is the income before discontinued operations and extraordinary items and MVE is the market value of equity.  $MEET\_DECLINE_{i,t} = 1$  if firm-years have scaled earnings changes  $[(E_t - E_{t-1}) / MVE_{t-1}]$  at least 0 and at best 0.01 and else  $MEET\_DECLINE_{i,t} = 0$ .

<sup>b</sup>  $t$ -statistics are in parentheses. \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% levels, respectively, in a two-tailed test.

**TABLE 9**  
**Regressions of Abnormal Returns on Special Items and Income**  
**from Investments**

	$CAR_{i,t}$		$RET_{i,t+1}$
	(1) $CAR(0,1)$	(2) $CAR(-1,1)$	(3)
Intercept	0.469 (0.46)	0.150 (0.12)	1.102 (43.63)**
$UN\_CORE_{i,t}$	2.085 (2.08)*	3.292 (2.68)**	0.003 (0.17)
$SPECIAL_{i,t}$	-0.397 (-0.48)	-0.818 (-0.81)	-0.061 (-2.56)*
$INV_{i,t}$	4.277 (3.73)**	4.637 (3.30)**	-0.068 (-2.45)*
$UN\_CORE_{i,t} \times SPECIAL_{i,t}$	6.068 (1.81)*	7.875 (1.92)*	-0.120 (-1.85)*
$UN\_CORE_{i,t} \times INV_{i,t}$	2.062 (0.53)	3.067 (1.69)*	-0.118 (-1.93)*
<b>Control variables:</b>			
$SIZE_{i,t}$	-0.091 (-1.41)	-0.090 (-1.13)	-0.007 (-4.38)**
$GROWTH_{i,t}$	9.415 (4.18)**	8.859 (5.04)**	8.521 (6.22)**
Year	yes	yes	yes
Industry	yes	yes	yes
Adj. $R^2$	0.012	0.014	0.012

<sup>a</sup>  $UN\_CORE_{i,t}$  is calculated as the difference between reported core earnings and expected core earnings;  $\Delta UN\_CORE_{i,t+1}$  is calculated as the difference between changes in reported core earnings from year  $t$  to  $(t+1)$  ( $\Delta CORE_{i,t+1}$ ) and expected changes in core earnings in year  $(t+1)$  ( $\Delta EX\_CORE_{i,t+1}$ ).  $SPECIAL_{i,t}$  is also defined as income-decreasing special items divided by net sales, both in year  $t$  and is set to zero if firms have income-increasing special items. The variable  $INV_{i,t}$  is defined as income-decreasing “income from investment under equity approach” as a percentage of sales.  $CAR_{i,t}$  is the market-adjusted announcement period returns around the announcement date of financial statements for fiscal year  $t$ .  $RET_{i,t+1}$  is the one-year ahead market-adjusted returns that is the raw buy-and-hold return over the twelve-month period beginning four months after the fiscal year end  $t$ , less the market return for comprises of all listed companies over the time period.

<sup>b</sup>  $t$ -statistics are in parentheses. \*\*\*, \*\* and \* denote significance at the 1%, 5% and 10% levels, respectively, in a two-tailed test.

A significant concern about the announcement period return results is that it may take the market a relatively longer time to figure out the valuation implication of classification shifting. If this is the case, the effects of classification shifting will not be reflected on the announcement date, but rather over a longer time horizon. Further, Sloan (1996) documents that investors tend to fixate on earnings numbers as a whole, which leads to the overpricing of the earnings components (i.e. accrual). The overpricing of the earnings component will be corrected in subsequent periods. The earnings component being overpriced in current period is then associated with positive abnormal returns in the subsequent period. Thus, following Sloan (1996) and McVay (2006), we explore whether investors can see through the classification shifting when core expenses are hidden in special items or in affiliates' accounts. If investors cannot fully understand the classification shifting in year  $t$ , we expect that investors are negatively surprised when the expenses that are shifted from core earnings in year  $t$  recur as core expenses in year  $(t+1)$ . To investigate whether market correctly prices core earnings, following McVay (2006), we use abnormal returns in year  $(t+1)$  as the dependent variable, and estimate the following model.

$$RET_{i,t+1} = \alpha_0 + \alpha_1 UN_{CORE_{i,t}} + \alpha_2 SPECIAL_{i,t} + \alpha_3 \times INV_{i,t} \\ + \alpha_4 \times UN_{CORE_{i,t}} \times SPECIAL_{i,t} + \alpha_5 \times UN_{CORE_{i,t}} \times INV_{i,t} + \varepsilon_{i,t} \quad (7b)$$

Where  $RET_{i,t+1}$  is the one-year ahead market-adjusted returns that is the raw buy-and-hold return over the twelve-month period beginning four months after the fiscal year end  $t$ , less the market return for comprises of all listed companies over the time period.

If investors can see through the classification shifting in year  $t$ , they would price  $UN_{CORE_{i,t}}$  correctly in year  $t$ . We then observe insignificance on  $\alpha_4$  or  $\alpha_5$  for abnormal return in year  $(t+1)$  because investors cannot earn hedge returns in year  $(t+1)$  based on  $SPECIAL_{i,t}$  or  $INV_{i,t}$ . On the contrary, we expect a negative coefficient on  $\alpha_4$  or  $\alpha_5$  if investors were misled by companies classification shifting and misprice  $UN_{CORE_{i,t}}$  in year  $t$ . Column (3) of Table 9 reports the mean coefficients from cross-sectional regressions. The results show that  $\alpha_4$  and  $\alpha_5$  are negative and statistically significant at the 10% level. This suggests that investors are misled by companies' classification shifting, and cannot price unexpected core earnings in year  $t$  correctly. Investors therefore would react to the manipulation in the following year  $(t+1)$ .

## 6.5 TOTAL ACCRUALS AND EXPECTATION MODEL BIAS

Following McVay (2006), we use equation (1) to estimate unexpected core earnings at  $t$  and equation (2) to estimate unexpected changes in core earnings at  $(t+1)$ . In these two

expectation equations, McVay (2006) uses current period accruals to control for performance. As total accruals include normal operating accruals, special items and possibly income from investments in our context, McVay (2006) acknowledges that her expectation model might introduce bias. Barua and Cready (2008) also claim that the inclusion of special item accruals in the expectation model of core earnings can introduce a model bias. To address this concern that the model bias may be present in the expectation model, in a reply to Barua and Cready (2008), McVay (2008) suggests two avenues to address the concern. First, following Athanasakou, Strong and Walker (2008), her suggestion is to replace total accruals with working capital accruals in the expectation model to partially mitigate the concerns of Barua and Cready (2008). Compared with total accruals, working capital accruals exclude fixed assets impairment losses, goodwill impairment losses, losses on fixed assets and income from investments. We employ the same approach and report the results in Panel A of Table 10. The results are consistent with our main results.

Second, McVay (2008) proposed to identify a subset of firms with positive core earnings. As the performance effect for the set of sample is mitigated, she suggests that we can exclude accrual variables from the expectation model and re-estimating the models of classification shifting within this set of sample. As shown in Panel B of Table 10, our results are robust. The coefficient on  $SPECIAL_{i,t}$  ( $INV_{i,t}$ ) is significantly positive in model 3a, 4a and 5a, which suggests that core earnings can increase as more core expenses are classified as special items (income from investments). Likewise, in model 3b, 4b and 5b, the coefficient on  $SPECIAL_{i,t}$  and  $INV_{i,t}$  are significantly negative, which suggests the subsequent reversal of the artificially inflated year- $t$  core earnings in year  $(t+1)$ . Taken together, our results in Table 10 suggest that our findings using McVay (2006) are consistent with classification shifting and are not driven by the expectation model bias.

## 7. CONCLUSIONS

Following McVay (2006), this study first tests whether special items are used to engage in classification shifting in Taiwan. We use an expectation model to separate reported core earnings, operating income before depreciation and amortization, into its expected and unexpected components. We find that unexpected core earnings increases during the period when firms report income-decreasing special items, and the change in unexpected core earnings decreases in the following year after the recognition of income-decreasing special items. The results suggest that firms tend to use the account of special items as classification shifting tool, even though it is a one-time event.

**TABLE 10**  
**Sensitivity Tests: Accruals and Expectation Model Bias**

<b>Panel A: Working capital accruals replacing total accruals in expectation model</b>						
	Model 3a	Model 3b (reversal)	Model 4a	Model 4b (reversal)	Model 5a	Model 5b (reversal)
	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$
Intercept	0.000 (0.01)	-0.095 (-0.58)	-0.011 (-0.87)	-0.124 (-0.50)	-0.011 (-0.87)	-0.123 (-0.50)
$SPECIAL_{i,t}$	0.052 (3.83)**	-0.291 (-3.82)**			0.032 (1.91)*	-0.309 (-3.56)**
$INV_{i,t}$			0.079 (3.85)**	-0.489 (-9.25)**	0.065 (3.01)**	-0.491 (-9.30)**
Adj. $R^2$	0.1%	0.2%	0.11%	0.21%	0.2%	0.24%
N	5,169	5,169	5,169	5,169	5,169	5,169
<b>Panel B: Excluding accruals from expectation model and rerun the tests using firms with positive core earnings</b>						
	Model 3a	Model 3b (reversal)	Model 4a	Model 4b (reversal)	Model 5a	Model 5b (reversal)
	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$	$UN\_CORE_{i,t}$	$\Delta UN\_CORE_{i,t+1}$
Intercept	0.004 (2.72)**	-0.137 (-2.08)*	0.002 (1.14)	-0.207 (-1.06)	0.007 (0.43)	-0.206 (-2.33)*
$SPECIAL_{i,t}$	0.083 (4.20)**	-0.204 (-1.80)*			0.091 (4.03)**	-0.249 (-2.07)*
$INV_{i,t}$			0.064 (2.11)*	-0.543 (-17.62)**	0.231 (4.11)**	-0.543 (-28.87)**
Adj. $R^2$	0.3%	0.1%	0.1%	1.20%	1.3%	2.8%
N	4,851	4,851	4,851	4,851	4,851	4,851
Model 3a:	$UN\_CORE_{i,t}$	$= \alpha_0 + \alpha_1 SPECIAL_{i,t} + \varepsilon_{i,t}$	Model 3b:	$\Delta UN\_CORE_{i,t+1}$	$= \eta_0 + \eta_1 SPECIAL_{i,t} + v_{i,t}$	
Model 4a:	$UN\_CE_{i,t}$	$= \alpha_0 + \alpha_1 INV_{i,t} + \varepsilon_{i,t}$	Model 4b:	$\Delta UN\_CE_{i,t+1}$	$= \eta_0 + \eta_1 INV_{i,t} + v_{i,t}$	
Model 5a:	$UN\_CE_{i,t}$	$= \alpha_0 + \alpha_1 SPECIAL_{i,t} + \alpha_2 INV_{i,t} + \varepsilon_{i,t}$	Model 5b:	$\Delta UN\_CE_{i,t+1}$	$= \eta_0 + \eta_1 SPECIAL_{i,t} + \eta_2 INV_{i,t} + v_{i,t}$	

$UN\_CORE_{i,t}$  is calculated as the difference between reported core earnings and expected core earnings;  $\Delta UN\_CORE_{i,t+1}$  is calculated as the difference between changes in reported core earnings from year  $t$  to  $(t+1)$  ( $\Delta CORE_{i,t+1}$ ) and expected changes in core earnings in year  $(t+1)$  ( $\Delta EX\_CORE_{i,t+1}$ ).  $SPECIAL_{i,t}$  is also defined as income-decreasing special items divided by net sales, both in year  $t$  and is set to zero if firms have income-increasing special items. The variable  $INV_{i,t}$  is defined as income-decreasing “income from investment under equity approach” as a percentage of sales. t-statistics are in parentheses. \*, \*\*, and \*\*\* denote significance at the 1%, 5% and 10% levels, respectively, in a two-tailed test.

# APPENDIX 1

## Example for Context of Financial Reports

Panel A: ASUS							
	The type of financial statement	The number of pages	Table for detail of important account	The related information of significant transactions	The related information of investments	The information of investments in China	The type of audited report
The first quarterly report	Parent	79	x	v	v	v	Review
	Consolidated	54	x	x	x	x	Review
The semiannually report	Parent	117	v	v	v	v	Audit
	Consolidated	103	x	v	v	v	Review
The third quarterly report	Parent	87	x	v	v	v	Review
	Consolidated	57	x	x	x	x	Review
The annually report	Parent	130	v	v	v	v	Audit
	Consolidated	120	x	v	v	v	Audit
Panel B: Chia Hsin Cement Corporation							
	The type of financial statement	The number of pages	Table for detail of important account	The related information of significant transactions	The related information of investments	The information of investments in China	The type of audited report
The first quarterly report	Parent	64	x	v	v	v	Review
	Consolidated	38	x	x	x	x	Not review
The semiannually report	Parent	102	v	v	v	v	Audit
	Consolidated	83	x	v	v	v	Review
The third quarterly report	Parent	69	x	v	v	v	Review
	Consolidated	40	x	x	x	x	Not review
The annually report	Parent	109	v	v	v	v	Audit
	Consolidated	93	x	v	v	v	Audit

\*The source of the panel A and B is from the 2008's financial statements for Asus and Chia Hsin Cement Corporation.

In addition, we test and find that firms in Taiwan use classification shifting through the account of “income from investment” when preparing the parent company report. We argue that managers have high incentives to engage in classification shifting through income from investments when they prepare parent company reports. This is because the parent company’s financial statement is the primary report in Taiwan and “income from investment” is categorized as “non-operating income” in the parent-company report. Although the consolidated report can capture the economic performance of business entity much better than the parent company’s report, the reporting and disclosure requirements in Taiwan prioritize the parent company’s financial statement. Thus, if investors primarily rely on the information reported in the parent company’s financial statements, they will neglect the real economic condition of whole entity. This paper therefore suggests that the use of consolidated financial statement is the best way to address the classification shifting through affiliates account. Our regulator should level the playing field between consolidated reports and the parent reports such that the information content is the same between the two reports. All types of disclosures should be included in the footnote of the consolidated financial statements rather than in the parent report alone.

Our contribution to the literature thus is twofold. First, this study brings attention to the costs of using the parent company’s financial statements as primary reports. The adoption of IFRS in 2013 might help us prioritize the consolidated reports over the parent report. The government should help enhance the value of consolidated report, when the parent company report is not a required statement by IFRS and consolidated report would take the dominance role after IFRS adoption. Second, we extend McVay (2006) by providing evidence of classification shifting through affiliates, in addition to special items. Our results suggest that classification shifting can be a common practice just as other earnings management tool, and further demonstrate two accounts that can be taken advantaged by the firms to manage the core earnings. Future research can extend the research by investigating alternative accounts that can be used for classification shifting.

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