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THE CHANGE OF CONSOLIDATION RULES AND ITS IMPACT ON EARNINGS MANAGEMENT

Abstract:

Boundaries of consolidated reporting entities vary between International Financial Reporting Standards (IFRS) and U.S. Generally Accepted Accounting Principles (GAAP). Based on the rules-oriented conceptual framework, U.S. GAAP adopts ownership-based consolidation approach (ARB 51), while IFRS adopts control-based approach that is more principle-oriented (IAS 27). Exploiting a unique setting which took place in Taiwan that switched from U.S. GAAP to IFRS in consolidation rules in 2005, this study finds that parent firms conducting more related party transactions with their subsidiaries are inclined to hide them from consolidation under ownership-based consolidation. This intention to avoid consolidation, however, is substantially restrained when switching to the control-based consolidation approach. In addition, firms employ real earnings management to substitute for earnings management via related party transactions after control-based consolidation approach is adopted, consistent with prior studies (e.g., Zang, 2012) that find relative costliness drives the earnings management decision.

Keywords:

Consolidated rules; Business group; Earnings management; Related party transactions

JEL Classification: M41, M48

Introduction

Business groups are deemed as a response to incomplete external markets, and they are pronounced around the globe, especially in emerging markets (Claessens, Fan, and Lang, 2006; Khanna and Yafeh, 2005 & 2007; Yiu, Lu, Bruton, and Hoskisson, 2007). Group affiliation is usually formed via stock ownership, e.g., investment by the parent company over its subsidiary. To provide relevant information, the parent and the subsidiary should be included in the same reporting entity to reflect the economic substance of the underlying transactions. Extant studies also support that consolidated financial information is more value-relevant than unconsolidated information (Abad, et al., 2000; Goncharov et al., 2009; Harris et al., 1994; Niskanen et al., 1998). Relevant studies are scant, however, with respect to how boundaries of consolidation affect incentives to manage earnings via related party transactions. Exploiting a unique setting regarding the regulation change in consolidation rules in Taiwan, we try to fill this void by first identifying the incentives to manage earnings via related party transactions with the regime shift, and then investigating how controlling shareholders react to the exogenous shock in consolidation rules that substantially limits window dressing via related party transactions.

Regulation of consolidated statements was started from 1986 in Taiwan when rules-based standards are predominant. In the meantime, an investor company was required to include its investee company as a part of the reporting entity only when it controls 50% or more, directly plus indirectly, of the outstanding shares of the investee. To improve the internationalization of the capital market in Taiwan, the Financial Accounting Standard Board (FASB) in Taiwan managed to converge the accounting principles toward International Financial Reporting Standard (IFRS) step by step. As a part of the convergence program, the principle regarding consolidated financial statement (TSFAS 7), was amended in Dec 9, 2004 when principle-based concept was introduced. Specifically, a parent company is required to include its subsidiary under control in the consolidated financial statement, even when the parent owns less than 50% voting rights of the subsidiary. For example, the parent can govern the financial and operating policies of the subsidiary, or can cast the majority of votes at a meeting of the board of directors.

Though the bright-line consolidation rule of 50% ownership provides a clear guidance for companies and their auditors, it leaves much room for manipulation by management (Duchac, 2004). As in the case of Enron scandal, the management of the parent company intentionally excludes the special purpose entities (SPEs) from consolidation in order to exploit the off-balance sheet financing advantages. To avoid being included in the consolidated entity in TSFAS 7, the controlling shareholder of the consolidated entity is likely to reduce the voting rights of the investor company over the investee to just below 50% when in fact the controlling shareholder could still exercise substantial control over the subsidiary. When the accounting principle of consolidated financial statements switches from rules-based to principle-based regulation which focuses on economic

substance over accounting form, consolidated reporting entities will change accordingly. For controlling shareholders, it's much easier to exclude subsidiaries from consolidation under ownership-based approach (i.e., rules-based regulation) compared with control-based approach (i.e., principle-based regulation). Therefore the consolidated reporting entities are likely to increase after control-based approach is adopted, especially for those firms intentionally avoiding consolidation. In this study we postulate that the change (or increase) in consolidated reporting entities reflects the motivation of controlling shareholders for masking financial performance. Specifically, firms inclined to engage in earnings management are more likely to exclude subsidiaries from consolidation to exploit off-balance-sheet advantages via related party transactions, e.g., via transactions that are not conducted on an arm's length basis between the parent and the subsidiaries. The intention to avoid consolidation, however, is likely to be substantially restricted under the new regime. Therefore, we predict that firms with larger increase in consolidated reporting entities with the regime shift exhibit higher frequencies of related party transactions before the regulation change, and these firms are likely to experience a sharper decrease in related party transactions after the regulation change.

Extant literature mostly focuses on the comparison of information relevance between parent and consolidated financial statements and finds that consolidated financial information is more value relevant in Germany (Harris et al., 1994; Goncharov et al., 2009), Spain (Abad et al., 2000), and Finland (Niskanen et al., 1998). Exploiting the natural experiment of regulation change in consolidated financial statements in Taiwan, Hsu et al. (2012) further find that consolidated financial information under control-based approach is more value-relevant than ownership-based approach. Extending this line of research, this study examines if the change in boundaries of consolidation affects the incentives to manage earnings via related party transactions. Related party transactions are deemed as a means for earnings management (Jian and Wong 2003; Cheung Rau and Stouraitis 2006; Cheung, Qi, Rau and Stouraitis 2009; Jian and Wong 2010；Aharony, Wong, and Yuan 2010). For example, Jian and Wong (2010) provide evidence that Chinese listed firms use related party sales to their controlling owners to prop up earnings to maintain their listed status. Aharony et al. (2010) further point that related party sales are motivated to prop up earnings pre-IPO period, but are used as a tunneling device in the post-IPO period. Nevertheless, little is known regarding how controlling shareholders trade off related party transactions with other earnings management activities to window dress their financial statements.

The regulation change in consolidated reporting entities provides a unique opportunity to explore the extent to which controlling shareholders employ related party transactions for window dressing. Specifically, this exogenous shock in regime shift allows us to measure the tendency to manage earnings via "hiding" subsidiaries from consolidation under the ownership-based consolidation rules, as the hidden subsidiaries will be forced to show up when switching to the new regime (i.e., control-based consolidation). Utilizing this

tendency of consolidation avoidance and extending prior studies that document higher value relevance of control-based consolidation rules over ownership-based ones, this study further explores if the incentives to manage earnings through related party transactions vary between the two consolidation rules. In addition, extant studies focus on the interaction between accrual versus real earnings management (e.g., Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012). For example, Zang (2012) finds that relative costs between accrual earnings management and real activities manipulation drive the earnings management decisions. We further examine how the costliness of conducting related party transactions to manage earnings affects other choices of earnings management activities.

Empirical results show that the regulation change in consolidated financial statements substantially restricts the utilization of related party transactions to manage earnings. Firms that report larger increases in consolidated reporting entities after the adoption of control-based approach are found to conduct more related party transactions under the ownership-based approach. In addition, these firms experience a larger decline in frequencies of related party transactions under the control-based approach. In response to the cost increase of conducting related party transactions to mask economic performance, firms with larger increases in consolidated reporting entities engage in more accrual-based earnings management after the regime shift. In summary, we find that control-based consolidation rules discourage the utilization of related party transactions to manage earnings, and firms employ more accrual earnings management as substitutes.

Section 2 reviews relevant studies and develop our hypotheses. Section 3 describes our methodology. Section 4 reports the empirical results. Section 5 concludes this article.

Literature Review

Regulation in consolidated financial statements

Taiwan symbolizes a market that encompasses both US GAAP and IFRS. Before 2005, The regulation of reporting for consolidated financial statements was consistent with US GAAP (ARB 51) that adopts a bright line for consolidated financial reporting, i.e., 50% ownership for the parent company over the subsidiary, directly and indirectly. In 2005, however, the Accounting Research and Development Foundation (ARDF) amended this regulation, largely expanding the scope for investees to be included in consolidated reporting entities. The revised Taiwan Statement of Financial Accounting Standard No. 7, Consolidated Financial Statements (TSFAS 7) introduces the control-based concept that focuses on the substance of controllability of the parent. In line with IAS 27, the parent can control a subsidiary when the statute or agreement allows the parent to govern the financial and operating policies of the subsidiary. In addition, a parent company with one or more subsidiaries is required to present consolidated financial statements, unless all four of the following conditions are met: (1) the parent is itself a wholly owned subsidiary, or is a partially owned subsidiary of another entity and its other owners do not object to

the entity presenting non-consolidated financial statements; (2) the parent's debt or equity instruments are not publicly traded; (3) the parent is not filing its statements with a securities commission or other regulatory organization for the purpose of issuing any class of instruments in a public market; (4) the ultimate parent (or any intermediate parent) of the entity produces publicly available consolidated financial statements that are IFRS compliant. Rather than setting a bright line rule for consolidation, control-based consolidation rules leave much room for judgment regarding if a subsidiary should be consolidated.

Relevant international studies generally supports that consolidated financial information is more value relevant than unconsolidated information. For example, Harris et al. (1994) document higher value relevance for consolidated financial information over non-consolidated information in Germany. Further, Goncharov et al. (2009) exploit the dual reporting system (single and consolidated) in Germany and find that consolidated income exhibits higher predictability of earnings and cash flow, lower degree of earnings management, higher value relevance and higher timeliness than unconsolidated income. In addition, consolidated earnings are a better predictor for firm dividend than unconsolidated earnings. In Finland, Niskanen et al. (1998) find that parent company earnings do not provide incremental value relevance once consolidated earnings are controlled.

Numerous studies examining value relevance of consolidated financial statements are also documented in Taiwan. For example, Lin (2006) finds that consolidated earnings components in semi-annual reports are more value relevant than unconsolidated earnings components. Chen (2006) finds that explanatory power of consolidated accounting information is higher than unconsolidated information when the subsidiary is more significant. Exploiting the characteristic of amendment in defining group reporting entities in 2005, Hsu et al. (2012) find that consolidated financial statements under control-based approach (i.e., IAS 27) is more value relevant than ownership-based approach (i.e., ARB 51). Lee (2008) finds that firms that are inclined to exclude subsidiaries from consolidation exhibit lower consolidated profitability, higher leverage and poor governance of the parent company. Wang (2008) examines if the amendment of TSFAS 7 impacts earnings management activities for group firms, but fails to find significant results.

Taken together, prior studies can be categorized as two types. The first stream of research focuses on the comparison of value relevance between consolidated and parent financial statements. The second type of studies, however, examines the comparison of value relevance between ownership-based and control-based consolidated financial statements under the unique setting in Taiwan. Exploiting the natural experimental setting in Taiwan, this study further investigates the motivation and consequences of intentionally excluding subsidiaries from consolidated financial reporting under ownership-based approach.

Related party transactions and earnings management

Extant studies tend to support earnings management as a motivation behind related party transactions. A cross-country study in East Asia finds that related party transactions are a means of earnings manipulation, employed to maximize joint profits of the business group as a whole (Claessens and Fan, 2006). Employing listed companies in Korea, Chang and Hong (2002) documents evidence of earnings management resulting from opportunistic related party transactions. Jian and Wong (2010) find that Chinese listed companies conduct related party sales for higher earnings in order to maintain their listing status. In addition, related party sales serve as a substitute for accrual earnings management. Aharony et al. (2010) further point that related party sales are motivated to prop up earnings in the pre-IPO period to meet the profitability requirements for listing, but resources are tunneled out of the listed companies via related party lending in the post-IPO period.

Local studies generally support the entrenchment nature of related party transactions used by controlling shareholders. Chiu (1993) find that more than 96% of listed companies conduct related party transactions. Lin et al. (2010) further find that related party transactions are more pronounced in group-affiliated companies. With respect to the determinants of related party transactions, Lin et al. (2010) and Yeh et al. (2003) document that higher control-ownership deviation leads to higher related party transactions. Chi et al. (2010) examine the adoption of various types of earnings management and find that accrual management and real management serve as complements. Nevertheless, related party transactions and real earnings management are substitutes chosen under cost-benefit trade-offs.

Hypotheses development

The case of Enron demonstrates the tendency of company insiders to mask the economic substance of firm performance via off-balance-sheet transactions by exploiting the bright-line rules of consolidation for special purpose entities (SPE) (Duchac, 2004). Therefore, when firms try to window dress their financial statements, ownership-based consolidation rules which are practiced in Taiwan before 2005, provide a channel for firms to conduct earnings management. Transacting with a less-than-50% subsidiary allows a parent firm to keep debt off its balance sheet and report higher earnings, since these intercompany balance sheet transactions do not need to be eliminated. On the contrary, only partial unrealized gains or losses from the intercompany transactions, i.e., up to the proportion of the parent ownership, are eliminated under the equity method. From 2005, however, it's difficult for firms to keep undesired liabilities or losses off their financial statements when control-based consolidation rules were introduced. As a consequence, this study postulates that firms intentionally keep subsidiaries off consolidation are more likely to result in a sharper increase in consolidated reporting entities after the consolidation standard in TSFAS 7 switched from a bright-line rule (i.e.,

ownership-based) to a judgmental basis (i.e., control-based). In other words, those parent firms with a larger increase in consolidated reporting entities due to the regulation change are more likely to engage in related party transactions for window dressing before 2005 when ownership-based consolidation rules were adopted. We thus illustrate our first hypothesis as follows:

H1: Parent firms with a larger increase in consolidated reporting entities due to the regulation change in consolidation rules are more likely to conduct earnings management activities via related party transactions before the amendment of TSFAS 7 in 2005.

The amendment of TSFAS 7 discourages a parent company from excluding a subsidiary with a majority of control rather than a majority of ownership from consolidation. The opportunistic earnings management, therefore, is expected to be substantially restrained. With the increase in consolidated reporting entities, a parent company is unable to boost sales or engage in off-balance-sheet financing via intercompany transactions. Therefore, firms that intentionally kept subsidiaries off consolidation before 2005 are likely to experience larger restrictions in intercompany transactions afterwards, leading to a larger decline in related party transactions and the associated earnings management activities. The second hypothesis is therefore illustrated as follows:

H2: Parent firms with a larger increase in consolidated reporting entities due to the regulation change in consolidation rules are more likely to experience a larger decline in earnings management activities via related party transactions after the regulation change.

Prior studies regarding earnings management activities generally agree that choices among different earnings management activities depend on their relative costliness (Cohen et al., 2008; Cohen and Zarowin, 2010; Zang, 2012). Cohen et al. (2008) find that real earnings management increases while accrual earnings management decreases in the post-SOX period. Employing firms conducting seasoned equity offerings, Cohen and Zarowin (2010) show that higher cost of accrual earnings management leads to higher degree of real management activities. Using a more extensive set of proxies for costliness of accrual and real earnings management, Zang (2012) finds that accrual and real earnings management serve as substitutes. In a similar vein, we predict that the regime shift from ownership-based to control-based consolidation rules increases costs to manage earnings through related party transactions, therefore firms with larger increases in consolidated reporting entities due to the regulation change are more likely to engage in accrual or real earnings management after the regulation change. We formulate the third hypothesis as follows:

H3: Parent firms with a larger increase in consolidated reporting entities due to the regulation change in consolidation rules are more likely to conduct accrual or real earnings management after the regulation change.

Data and Methodology

data

The sample period covers year 2003 and 2005 to rule out the confounding effects of the transition period that took place in 2004. First we compare the composition of reporting entities disclosed in the footnotes of consolidated financial statements of 2003 and 2005. This helps us to identify the changes in consolidated reporting entities. To measure the incentives to window dress the financial statement via hiding subsidiaries from consolidation under the old regime, we exclude the changes in reporting entities that arise purely from changes in control rights rather than from regime shift.

The data comes from the Taiwan Economic Journal (TEJ), which is a well-established database for archival research. First we derive 1,894 parent companies (excluding finance and insurance industries), 1,148 listed and 746 over-the-counter, form TEJ. After excluding 68 firms that do not experience changes in consolidated reporting entities, and 29 firms that lack relevant financial and corporate governance information, the sample comprises of 1,797 observations, including 1,097 listed firms and 700 firms that are traded over the counter.

Research methodology

To test H1, we use equation (1) to investigate if the incentives to exclude subsidiaries from consolidation are positively associated with the employment of related party transactions (hereafter as RPTs).

$$RPT_{nit} = \alpha_0 + \alpha_1 SHR_{it} + \alpha_2 DEV_{it} + \alpha_3 CFR_{it} + \alpha_4 OB_{it} + \alpha_5 BM_{it} + \alpha_6 DULA_{it} + \alpha_7 BSIZE_{it}$$

$$+ \alpha_8 SIZE_{it} + \alpha_9 LEV_{it} + \alpha_{10} ID_{it} + \alpha_{11} MK_{it} + \alpha_{12} ROA_{it} + \varepsilon_{it} \tag{1}$$

RPT represents the employment of 3 kinds of related party transactions (i.e., n is equal to 1 to 3), which includes percentage of related party trades (the ratio of related party sales to total net sales plus the ratio of related party purchases to total net purchases), percentage of related accounts receivable and payable (the ratio of related accounts receivable to total accounts receivable plus the ratio of related accounts payable to total accounts payable), and percentage of related party loan and guarantees to total stockholders' equity. We try to measure the extent to which related party transactions are employed, and thus include related party sales, purchases, accounts receivable and payable to be consistent with prior literature (e.g., Aharony et al., 2010; Jian and Wong, 2008). In addition, we further include loan guarantees, which are a common channel for entrenchment by controlling shareholders, for comparison (Berkman et al, 2009).

The main variable of interest, SHR, captures the extent to which subsidiaries are excluded from consolidation intentionally. Specifically, this study calculates the increase in consolidated reporting entities due from the regulation change and then divides the number of increase by number of consolidated subsidiaries under the old regime. This ratio exhibits the intent of controlling shareholders to manage earnings via RPTs. Thus α1

is expected to be positive, indicating that controlling shareholders are more likely to conduct RPTs when they deem RPTs as a tool for earnings management and try conceal the subsidiaries that conduct more RPTs with the parent firm.

With respect to the control variables, this study controls severity of agency problems and corporate governance that might impact RPTs, including the deviation of control from ownership (DEV), cash flow rights (CFR), outside board representation (OB), ratio of shares pledged by board members (BM), duality of chairman and CEO (DUAL), board size (BSIZE). In addition, we control for firm characteristics, including firm size calculated as natural log of total assets (SIZE), parent firm leverage (LEV), industry dummies (ID), market status equal to 1 if the firm is listed, 0 otherwise (MK), and return on assets (ROA).

To test H2, we use equation (2) to investigate if the extent to which RPTs are employed is substantially curbed for firms that experience a larger increase in consolidated reporting entities after the regime change:

$$RPT_{nit} = \gamma_0 + \gamma_1 SHR_{it} + \gamma_2 YEAR_{it} + \gamma_3 SHR_{it} \times YEAR_{it} + \gamma_4 DEV_{it} + \gamma_5 CFR_{it} + \gamma_6 OB_{it} + \gamma_7 BM_{it} +$$

$$\gamma_8 DULA_{it} + \gamma_9 BSIZE_{it} + \gamma_{10} SIZE_{i\,t} + \gamma_{11} LEV_{i\,t} + \gamma_{12} ID_{it} + \gamma_{13} MK_{it} + \gamma_{14} ROA_{it} + \varepsilon_{it} \qquad (2)$$

The variable YEAR is a dummy for year 2005, the first year that the new consolidation rule was put in practice. Consequently, the interaction variable, SHE*YEAR, measures the change in related party transactions arising from the change in the consolidated reporting entities after the regime shift. The other variables (including control variables) are the same as those in equation (1).

To investigate if the regime shift from ownership-based to control-based consolidation impacts the utilization of other means for earnings management, we use the following simultaneous equations from Zang (2012) for H3:

$$\begin{aligned} RM_{i,t} = {} & \delta_0 + \delta_1 SHR_{i,t} + \delta_2 YEAR + \delta_3 SHR_{i,t} \times YEAR + \delta_4 MSHARE_{i,t-1} \\ & + \delta_5 ZSCORE_{i,t} + \delta_6 INST_{i,t-1} + \delta_7 MTR_{i,t} + \delta_8 BIGN_{i,t} \\ & + \delta_9 TENURE_{i,t} + \delta_{10} NOA_{i,t-1} + \delta_{11} OPCY_{i,t-1} + \delta_{12} ROA_{i,t} \\ & + \delta_{13} SIZE_{i,t} + \delta_{14} MB_{i,t} + \delta_{15} EXEARN_{i,t} \\ & + Industry\ control + \mu \end{aligned} \qquad (3)$$

$$\begin{aligned} AM_{i,t} = {} & \gamma_0 + \gamma_1 SHR_{i,t} + \gamma_2 YEAR + \gamma_3 SHR_{i,t} \times YEAR + \gamma_4 MSHARE_{i,t-1} \\ & + \gamma_5 ZSCORE_{i,t} + \gamma_6 INST_{i,t-1} + \gamma_7 MTR_{i,t} + \gamma_8 BIGN_{i,t} \\ & + \gamma_9 TENURE_{i,t} + \gamma_{10} NOA_{i,t-1} + \gamma_{11} OPCY_{i,t-1} + \gamma_{12} ROA_{i,t} \\ & + \gamma_{13} SIZE_{i,t} + \gamma_{14} MB_{i,t} + \gamma_{15} ABRM_{i,t} + \gamma_{16} PRM_{i,t} \\ & + Industry\ conrol + \upsilon \end{aligned} \qquad (4)$$

RM represents the sum of real earnings management by production costs and operating expenses, whereas AM indicates discretionary accruals from Jones model. If controlling shareholders tend to adopt other means of earnings management to react to the

restriction of RPTs, then the interaction variable, SHE*YEAR, is expected to be positive, showing that firms with large increase in consolidated reporting entities after the regulation change are inclined to increase real earnings management or accrual management for substitutes.

Consistent with Zang (2012), this study controls for a variety of variables that affect earnings management, including the percentage of the firm's sales to the total sales of its industry at the beginning of the year (MSHARE), the Altman Z-score (ZSCORE), the percentage of institutional ownership at the beginning of the year (INST), the average tax rate of the latest three years (MTR), a dummy variable that equals 1 if the firm's auditor is from large audit company, and 0 otherwise (BIGN), number of the year the audit firm has audited the client (TENURE), net operating assets at the beginning of the year divided by lagged sales (NOA), the days of operating cycle (OPCY), market-to-book ratio (MB), earnings before extraordinary items excluding discretionary accruals (EXEARN), the residual value of equation (3) (ABRM), and the predicted value of equation (3) (PRM).

Results and Discussion

Table 1 illustrates the industry distribution for our samples. The electronics industry accounts for a majority of sample observations. Table 2 describes the tendency to hide subsidiaries from consolidation by industry. Results show that it's common for firms to avoid consolidation, especially for firms in the oil & petroleum, electronics, and steel industries, etc. The change in the consolidation regime doubles the entities to be included in the consolidated financial statements on average.

The descriptive statistics in Table 3 show that median (mean) related party trades, i.e., S_P, stand for 4.09% (9.96%) of total net trades in 2003, while the ratio declines to 1.25% (8.05%) in 2005, which are significantly different at both the median and mean level. The other two variables regarding related party transactions, i.e., related party receivables and payables from sales and purchases respectively (AR_AP), and related party financing and endorsements (Security), are also significant between 2003 and 2005 at both the mean and median test. Overall, the descriptive statistics provide preliminary evidence that the regime change affects the employment of related party transactions.

Table 4 reports the results consistent with H1. We find that parent firms with a larger increase in consolidated reporting entities in response to the regulation change are found to have higher frequencies of related party transactions under the old regime, therefore the coefficients of SHR are significant in all three regressions, including related party trades (S_P), related party receivables and payables (AR_AP), related party financing and endorsements (Security). The results imply that firms with higher incentives to manage earnings via related party transactions are more likely to hide subsidiaries from consolidation.

With respect to the control variables, this study finds that higher control-ownership deviation (DEV) leads to higher related party trades (S_P). The results are consistent with the extant studies that document entrenchment activities from poor corporate governance. In addition, higher firm leverage is positively associated with related party receivables and payables (AR_AP).

Table 1 Sample Distribution

| | TSE | | | | | | OTC | | | | | | Total | |
| | 2003 | | 2005 | | Subtotal | | 2003 | | 2005 | | Subtotal | | | |
Industry	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Food	12	3.56%	18	3.82%	30	3.71%	2	1.23%	3	0.86%	5	0.98%	35	2.65%
Plastic	14	4.15%	19	4.03%	33	4.08%	2	1.23%	4	1.15%	6	1.17%	39	2.96%
Textile	19	5.64%	29	6.16%	48	5.94%	1	0.61%	3	0.86%	4	0.78%	52	3.94%
Electrical machinery	18	5.34%	30	6.37%	48	5.94%	8	4.91%	18	5.17%	26	5.09%	74	5.61%
Electrical cable	5	1.48%	11	2.34%	16	1.98%	1	0.61%	1	0.29%	2	0.39%	18	1.36%
Chemical and biotechnology	15	4.45%	26	5.52%	41	5.07%	9	5.52%	23	6.61%	32	6.26%	73	5.53%
Steel	10	2.97%	20	4.25%	30	3.71%	4	2.45%	6	1.72%	10	1.96%	40	3.03%
Rubber	7	2.08%	9	1.91%	16	1.98%	0	0.00%	1	0.29%	1	0.20%	17	1.29%
Electronics	173	51.34%	225	47.77%	398	49.26%	99	60.74%	230	66.09%	329	64.38%	727	55.12%
Construction	14	4.15%	21	4.46%	35	4.33%	11	6.75%	18	5.17%	29	5.68%	64	4.85%
Shipping	13	3.86%	17	3.61%	30	3.71%	1	0.61%	2	0.57%	3	0.59%	33	2.50%
Tourism	1	0.30%	3	0.64%	4	0.50%	1	0.61%	2	0.57%	3	0.59%	7	0.53%
Trade and department store	8	2.37%	8	1.70%	16	1.98%	3	1.84%	7	2.01%	10	1.96%	26	1.97%
Culture and creation	0	0.00%	0	0.00%	0	0.00%	7	4.29%	7	2.01%	14	2.74%	14	1.06%
Oil	3	0.89%	7	1.49%	10	1.24%	1	0.61%	3	0.86%	4	0.78%	14	1.06%
Others	25	7.42%	28	5.94%	53	6.56%	13	7.98%	20	5.75%	33	6.46%	86	6.52%
Total	337	100%	471	100%	808	100%	163	100%	348	100%	511	100%	1,319	100.00%

Source: Own calculation based on TEJ database

Table 2 Tendency to Hide Subsidiaries from Consolidation

| | TSE | | OTC | | Total | |
Industry	n	%	n	%	n	%
Food	18	57.51%	3	0.00%	21	49.29%
Plastic	19	58.81%	4	29.17%	23	53.66%
Textile	29	64.98%	3	47.62%	32	63.35%
Electrical machinery	30	69.95%	18	61.33%	48	66.71%
Electrical cable	11	70.75%	1	0.00%	12	64.85%
Chemical and biotechnology	26	63.77%	23	70.94%	49	67.13%
Steel	20	70.52%	6	68.89%	26	70.14%
Rubber	9	32.71%	1	25.00%	10	31.94%
Electronics	225	53.24%	230	47.22%	455	50.20%
Construction	21	55.48%	18	54.71%	39	55.12%
Shipping	17	54.79%	2	85.42%	19	58.01%
Tourism	3	41.67%	2	50.00%	5	45.00%
Trade and department store	8	66.95%	7	77.66%	15	71.95%
Culture and creation	0	0.00%	7	45.11%	7	45.11%
Oil	7	72.86%	3	66.67%	10	71.00%
Others	28	47.40%	20	55.38%	48	50.72%

| Total | 471 | 57.01% | 348 | 50.91% | 819 | 54.42% |

Source: Own calculation based on TEJ database

Table 3 Summary Statistics

	2005 (n=819)			2003 (n=500)			Difference			
	Mean	Standard deviation	Median	Mean	Standard deviation	Median	Mean		Median	
S_P	0.0805	0.1553	0.0125	0.0996	0.1518	0.0409	-0.0191	**	-0.0285	***
AR_AP	0.0355	0.0847	0.0050	0.0463	0.0844	0.0150	-0.0108	**	-0.0100	***
Security	0.0078	0.0305	0.0000	0.0176	0.0433	0.0000	-0.0098	***	0.0000	***
SHR	0.5442	0.3704	0.5517	0.4300	0.3076	0.4120	0.1141	***	0.1397	***
DEV	0.0552	0.0872	0.0176	0.0532	0.0860	0.0196	0.0020		-0.0020	
CFR	0.2373	0.1615	0.2096	0.2550	0.1640	0.2279	-0.0177	*	-0.0183	*
OB	0.1510	0.1629	0.1111	0.1030	0.1482	0.0000	0.0480	***	0.1111	***
MortD	0.0858	0.1791	0.0000	0.0996	0.1872	0.0000	-0.0138		0.0000	
DUAL	0.2979	0.4576	0.0000	0.3440	0.4755	0.0000	-0.0461	*	0.0000	*
BSIZE	6.7851	2.2268	7.0000	6.7600	2.4630	7.0000	0.0251		0.0000	
SIZE	15.3173	1.3581	15.1303	15.3791	1.3251	15.1469	-0.0618		-0.0166	
LEV	0.4490	0.1637	0.4604	0.4439	0.1451	0.4499	0.0052		0.0105	
ROA	0.0563	0.0868	0.0536	0.0650	0.0714	0.0540	-0.0088	**	-0.0004	
RM	0.1452	0.1404	0.1119	0.1763	0.1571	0.1392	-0.0311	***	-0.0273	***
AM$_j$	0.0705	0.0768	0.0503	0.0682	0.0770	0.0469	0.0022		0.0033	
AM$_m$	0.0722	0.0788	0.0516	0.0705	0.0780	0.0484	0.0018		0.0031	
MSHARE	0.0150	0.0514	0.0017	0.0178	0.0455	0.0031	-0.0028		-0.0014	**
ZSCORE	1.3947	0.7371	1.3555	1.2853	0.6613	1.2176	0.1094	***	0.1379	**
INST	34.8285	21.7238	31.7700	33.9486	20.5887	31.5200	0.8799		0.2500	
MTR	16.1400	24.0975	15.4967	13.9031	26.1779	13.7550	2.2369		1.7417	
BIGN	0.8486	0.3587	1.0000	0.8660	0.3410	1.0000	-0.0174		0.0000	
TENURE	8.8730	5.0642	7.0000	8.0100	5.0020	7.0000	0.8630	***	0.0000	***
NOA	0.7318	0.6518	0.5704	0.8618	0.6945	0.6750	-0.1300	***	-0.1046	***
OPCY	109.4108	145.9579	79.5200	116.5598	139.5696	88.7800	-7.1491		-9.2600	**
MB	1.5235	1.0534	1.2339	1.6544	0.9668	1.3850	-0.1309	**	-0.1510	***

Variable definitions:

S_P = the ratio of related party sales to total net sales plus the ratio of related party purchases to total net purchases; AR_AP = the ratio of related accounts receivable to total accounts receivable plus the ratio of related accounts payable to total accounts payable; Security = percentage of related party loan and guarantees to total stockholders' equity; SHR = the increase in consolidated reporting entities due from the regulation change divided by the number of increase by number of consolidated subsidiaries under the old regime; DEV = the percentage of control rights possessed by controlling shareholders subtracted by percentage of cash flow rights possessed by controlling shareholder; CFR = the percentage of ownership possessed by controlling shareholders; OB = the number of outside directors divided by the number of directors; MortD = ratio of shares pledged by board members; DUAL = dummy variable equal to1 if the CEO is also the chairman, 0 otherwise; BSIZE = the number of outside directors; SIZE = natural logarithm of total assets; LEV = total liabilities divided by total assets; ROA = earnings before tax divided by total assets; ID = dummy variable equal to1 if the firm belongs to electronics; MK = equal to 1 if the firm is listed, 0 otherwise; RM = the sum of real earnings management by production costs and operating expenses; AM$_j$ = discretionary accruals from Jones model; AM$_m$ = discretionary accruals from modified Jones model; MSHARE = the percentage of the firm's sales to the total sales of its industry at the beginning of the year; ZSCORE = the Altman Z-score; INST = the percentage of institutional ownership at the beginning of the year; MTR = the average tax rate of the latest three years; BIGN = a dummy variable that equals 1 if the firm's auditor is from large audit company, and 0 otherwise; TENURE = number of the year the audit firm has audited the client; NOA = net operating assets at the beginning of the year divided by lagged sales; OPCY = the days of operating cycle; MB = market-to-book ratio.

***, ** and * denote significance level of 1%, 5% and 10%, respectively, for a two-tailed test.

T-test is performed for the test of difference.

Source: Own calculation based on TEJ database

Table 4 Regression results- equation (1)

Variables	Pred.	S_P			AR_AP			Security		
		Coef.	t	VIF	Coef.	t	VIF	Coef.	t	VIF
Intercept		-0.123	-1.36	0.000	-0.032	-0.64	0.000	-0.042	-1.77 *	0.000
SHR	+	0.064	2.80***	1.142	0.030	2.41 **	1.142	0.022	3.72 ***	1.142
DEV	+	0.403	4.66***	1.285	0.150	3.16 ***	1.285	0.025	1.10	1.285
CFR	−	-0.028	-0.60	1.390	-0.035	-1.35	1.390	-0.012	-0.95	1.390
OB	−	0.028	0.56	1.321	0.037	1.32	1.321	-0.014	-1.05	1.321
MortD	+	-0.021	-0.55	1.203	-0.003	-0.14	1.203	0.009	0.89	1.203
DUAL	?	-0.003	-0.18	1.129	-0.007	-0.87	1.129	-0.002	-0.45	1.129
BSIZE	?	0.000	0.12	1.435	-0.002	-0.91	1.435	-0.001	-1.00	1.435
SIZE	+	0.011	1.86*	1.469	-0.001	-0.23	1.469	0.003	1.69 *	1.469
LEV	+	0.014	0.28	1.297	0.151	5.34 ***	1.297	0.037	2.71 ***	1.297
ROA	−	-0.089	-0.83	1.363	0.035	0.60	1.363	0.009	0.33	1.363
Industry control		Yes			Yes			Yes		
N		500			500			500		
Adjusted R^2		0.068			0.094			0.204		
F-statistic		2.53			3.16			6.33 ***		

Refer to Table 3 for definitions of the variables.

*** , ** and * denote significance level of 1%, 5% and 10%, respectively, for a two-tailed test.

Source: Own calculation based on TEJ database

This study next investigates if the adoption of control-based to replace ownership-based consolidation regime discourages the utilization of related party transactions for window dressing. Results in Table 5 shows that a parent company with a larger increase in consolidated reporting entities (SHR) leads to a larger decline in related party transactions after the regulation change, which is evidenced by the significance of SHR× YEAR in all three regressions, i.e., related party trades (S_P), receivables and payables (AR_AP), and financing and endorsements (Security). The second hypothesis that ownership-based consolidation regime is better at curbing incentives to manage earnings via related party transactions is thus supported.

Table 5 Regression results- equation (2)

Variables	Pred.	S_P			AR_AP			Security		
		Coef.	t	VIF	Coef.	t	VIF	Coef.	t	VIF
Intercept		-0.098	-1.79 *	0.000	-0.016	-0.54	0.000	-0.026	-2.04 **	0.000
SHR	+	0.065	2.98 ***	3.631	0.031	2.57 **	3.631	0.026	5.26 ***	3.631
YEAR	−	-0.004	-0.29	3.092	-0.001	-0.10	3.092	0.002	0.51	3.092
*SHR*YEAR*	−	-0.043	-1.66 *	6.236	-0.028	-1.97 **	6.236	-0.026	-4.34 ***	6.236
DEV	+	0.471	9.16 ***	1.219	0.164	5.78 ***	1.219	0.023	1.96 *	1.219
CFR	−	-0.001	-0.02	1.323	-0.003	-0.17	1.323	-0.012	-1.89 *	1.323
OB	−	0.001	0.04	1.392	0.014	0.83	1.392	-0.008	-1.13	1.392
MortD	+	-0.026	-1.06	1.176	-0.005	-0.36	1.176	0.009	1.69 *	1.176
DUAL	?	-0.005	-0.58	1.088	-0.005	-1.04	1.088	-0.001	-0.30	1.088
BSIZE	?	0.002	0.97	1.305	0.000	-0.38	1.305	0.000	-1.01	1.305
SIZE	+	0.009	2.38 **	1.486	-0.002	-0.98	1.486	0.002	2.18 **	1.486
LEV	+	0.014	0.47	1.352	0.134	8.11 ***	1.352	0.019	2.70 ***	1.352
ROA	?	-0.015	-0.26	1.315	0.060	1.91 *	1.315	0.005	0.39	1.315
Industry control		Yes			Yes			Yes		
N		1,319			1,319			1319		

Adjusted R^2		0.098		0.094	0.139
F-statistic		6.48 ***		6.24 ***	9.18 ***

Refer to Table 3 for definitions of the variables.

*** , ** and * denote significance level of 1%, 5% and 10%, respectively, for a two-tailed test.

Source: Own calculation based on TEJ database

In a further test to examine if the change in boundaries of consolidated reporting entities motivates the controlling shareholders to manage earnings via other means to substitute for related party transactions, this study employs two kinds of alternative mechanisms for earnings management, i.e., the real management (RM) and the accrual management (AM). Results in Table 6 indicate that firms with higher inclination to manage earnings via related party transactions are more likely to switch to real management when control-based consolidation rules are put in practice. Therefore the coefficient of the interaction variable, SHR×YEAR, is found to be significantly positive with the dependent variable of real management (RM).

Table 6 Regression results- equation (3) & (4)-(AM from Jones model)

		RM					AM		
Variables	Pred.	Coef.	t		VIF	Pred.	Coef.	t	VIF
Intercept		0.205	3.60	***	0.000		0.139	4.35 ***	0.000
SHR	-	-0.021	-1.07		3.640	-	0.006	0.57	3.638
YEAR	?	-0.047	-3.49	***	3.106	?	-0.012	-1.58	3.516
*SHR*YEAR*	+	0.046	1.98	**	6.248	+	-0.001	-0.11	6.402
MSHARE	+	0.008	0.09		1.620	-	-0.022	-0.44	1.620
ZSCORE	+	0.032	4.11	***	2.285	-	0.033	7.34 ***	2.674
INST	-	0.000	1.33		1.316	+	0.000	3.02 ***	1.329
MTR	?	0.000	2.01	**	1.081	+	0.000	0.31	1.104
BIGN	+	-0.009	-0.80		1.104	-	-0.006	-1.08	1.094
TENURE	+	-0.001	-0.94		1.644	-	-0.001	-2.11 **	1.650
NOA	+	0.019	2.32	**	2.273	-	0.001	0.28	2.321
OPCY	-	0.000	-0.70		2.017	+	0.000	2.10 **	2.034
ROA	?	-0.237	-3.40	***	2.371	?	-0.215	-6.11 ***	2.192
SIZE	?	-0.004	-0.99		1.893	?	-0.002	-0.94	1.936
MB	?	0.001	0.17		2.246	?	0.021	7.32 ***	2.260
EXEarn	?	0.166	10.61	***	1.510				
ABRM						?	0.108	7.35 ***	1.000
PRERM						?	-0.417	-8.43 ***	2.897
Industry control		Yes					Yes		
N		1,319					1,319		
Adjusted R^2		0.184					0.169		
F-statistic		10.88					9.67		

Refer to Table 3 for definitions of the variables.

*** and ** denote significance level of 1% and 5%, respectively, for a two-tailed test.

Source: Own calculation based on TEJ database

Conclusions

The regulation regarding reporting entities included in the consolidated financial statements in Taiwan had experienced a change in 2005. Specifically, the boundaries of consolidated reporting entities were changed from an ownership-based to a control-based conceptual framework. This study exploits the unique setting in Taiwan regarding

the changes in boundaries of consolidated reporting entities to investigate if the regulation change impacts the incentives to manage earnings via related party transactions. Further, this regime shift also allows us to examine how controlling shareholders react with other alternative means of earnings management.

Employing the data of 2003 (one year before the regulation change) and 2005 (the first year that the new regulation was implemented), this study finds that controlling shareholders conducting more related party transactions among parent firms and their subsidiaries are inclined to exclude subsidiaries from consolidation. This intention to manage earnings via related party transactions, however, is substantially restrained under the control-based consolidation rules. In addition, controlling shareholders shift to real earnings management to substitute for earnings management through related party transactions after the regulation change.

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