

Representative Directors Appointed by the Juridical Entities and Sales-based Related Party Transactions—Empirical Findings from Taiwan

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ABSTRACT

According to the Article 27 of Taiwan's Company Act, juridical entities may designate representatives to act as directors of the firms in which they invested. However, the regulation does not specify a minimum shareholding threshold needed for such an entity to designate representative directors. Note that the entity-appointed representative directors may be replaced at any time by their juridical entities of affiliated group, and thereby are less likely to effectively act with independence as board of directors. This study empirically examines whether the representative directors of an affiliated group are associated with the firm's arrangement of sales-based related party transactions.

The empirical results show that the ratio of representative directors appointed by the affiliated juridical entities (denoted as inside representative directors) is positively associated with the magnitude of abnormal sales-based related party transactions and supports the hypothesis. Further evidence, however, shows that this positive relationship is mitigated in firms with substantial numbers of counterbalancing board seats of representative directors appointed by non-affiliated juridical entities. It suggests that the presence of inside representative directors, rather than the existence of juridical entities allowed to designate representatives as board directors, results in greater incidence of abnormal related party transaction arrangements.

Keywords: Representative directors, Related-party transactions, Affiliated groups, Monitoring

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I. INTRODUCTION

According to Article 27 of Taiwan's Company Act, juridical entities¹ are allowed to designate natural persons to be elected as representatives, ("juridical representatives") to serve as board directors of firms in which they are invested.² However, the law does not require a minimum shareholding percentage threshold for such juridical entities to designate representatives to the board. Accordingly, the regulation allows juridical entities to secure relatively high numbers of director seats in targeted firms, even if their shareholdings fall below that of other natural shareholders (Wei & Chou, 2018). Moreover, the designated representative directors may be replaced at any time by their appointing juridical entities and have less contractual relationship with the firm to which they are appointed, and thus they cannot dependably serve as directors with independence in a monitoring capacity. Since representative directors appointed by the affiliated juridical entities belong to the same business group, some extent they can be regarded as another type of non-independent director. These institutional characteristics raise a concern of whether representative directors, particularly the representative directors appointed by the affiliated juridical entities, can play an effective monitoring function in the firm's operating activities and/or financial reporting, or may in fact weaken such efforts. Considerable research has focused on how board characteristics affect corporate governance (e.g., Ryan Jr. et al., 2004; Ahmeda & Duellman, 2007; Drymiotis, 2007; Chahine & Goergen, 2013; Bu et al., 2021; Baer et al., 2023). However, few studies have examined the relationship between the presence of representative directors appointed by the juridical entities and a firm's abnormal related party transactions. Moreover, the representative directors include: (1) representatives from affiliated groups (hereafter "inside representative directors") and (2) representatives from non-affiliated groups (hereafter "outside representative directors"), e.g., other juristic

¹ A juridical entity is an organization recognized by law as a fictitious person such as a corporation, government agency, communities, or NGO, along with their associated persons and assets.

² The Article 27 of Company Law in Taiwan states "...a government agency or a juristic person acts as a shareholder of a company, it may be elected as a director or supervisor of the company and designate a natural person as its proxy to exercise, in its behalf, the duties of a shareholder." (Paragraph I) and "... a government agency or a juristic person acts as a shareholder of a company, its authorized representative may also be elected as a director or supervisor of the company." (Paragraph II)

entities or government agencies. This raises a concern: Do the characteristics of representative directors in general matter, or the reduced monitoring efficacy only a problem for inside representative directors? This study thus further examines whether representative directors appointed by non-affiliated juridical entities (outside representative directors) play a distinctive monitoring role in a firm's related party transactions.

Most Taiwanese listed firms are members of specific business groups which are characterized by interlocked directorates and cross-shareholding among affiliated firms (Yeh et al., 2001; Luo & Chung, 2005).³ Thus, related party transactions (hereafter RPT) are prevalently used among Taiwanese firms. Although some related party deals are a natural part of operating activities (Gordon et al., 2007; Chen et al., 2020), a higher level of RPT is seen as reflecting tunneling practices that exceed Taiwan's legal boundaries (Yeh et al., 2012). Extant studies have considered RPT activities as potentially opportunistic because insiders and/or controlling shareholders may use such practices to maximize self-serving interests at the expense of other shareholders (Holmström 1979; Bertrand et al. 2002; Cheung et al. 2006; Djankov et al. 2008; Berkman et al. 2009; Lo et al. 2010; Kohlbeck & Mayhew 2010; Jian & Wong 2010; Kohlbeck & Mayhew 2017). In this context, "propping up" or "tunneling" activities imply that the use of RPT in business groups provides a simple route via which controlling shareholders can transfer resources at the cost of minority shareholders (Chang & Hong 2000; Cheung et al. 2006). Taiwan law requires related party activities to be approved by the board of directors. Thus, Yeh et al. (2012) link governance function, i.e., board characteristics, to RPT activities and demonstrate that good corporate governance effectively restrains related party transactions. If representative directors appointed by the affiliated juridical entities are unable to function as independent monitors, this study hypothesizes a higher ratio of representative directors appointed by the affiliated juridical entities will weaken the board's monitoring function, which in turn, is associated with a higher level of abnormal RPT activities.

³ Lin et al. (2010) find that 96% of the listed firms in Taiwan are associated with RPT in 2006. Yeh et al. (2012) evidence that the average level of related-party sales with respect to total sales in Taiwan listed firms is 14.26%.

Wong et al. (2015) argue that related-party sales are recurring activities where manipulation via sales of goods and services is less likely to be detected. The present study suggests that the considerable volume of sales-based RPT in Taiwanese listed firms and its characteristics will increase the power of the tests in examining the relationship between juridical representative directors and a firm's RPT activities. Based on the model proposed by Jian & Wong (2010), this study decomposes the sales-based RPT into the normal level of RPT and the abnormal level of RPT (hereafter ABRPT). If the ABRPT measure can properly capture the propping up (or tunneling) view of RPT (Kohlbeck & Mayhew, 2010), this study can examine whether the representative directors play a monitoring role in the firm's abnormal related party transactions to reflect the respective and distinctive roles of representative directors appointed by affiliated and the non-affiliated juridical entities. Empirical results document that ABRPT is positively associated with the ratio of inside representative directors, indicating the presence of inside representative directors enhances the degree to which affiliated firms engage in ABRPT. Further evidence, however, shows that this positive relationship is mitigated when firms have substantial counterbalancing representative directors appointed by non-affiliated juridical entities (i.e., outside representative directors). It is likely that the presence of inside representative directors, rather than the legal ability of juridical entities to designate natural persons to be elected as representative board members, drives the abnormal related party transaction arrangements. This study performs several diagnostic tests and reveals the results are robust in various specifications.

This study enriches the related research from two angles. First, only a handful of countries allow juridical entities to appoint representative directors (e.g., the UK, France, Belgium, Macau, Netherlands, and Taiwan) and whether to continue the practice is still a contentious subject among Taiwan's accounting community, regulators, and capital market participants. Our findings provide evidence that the presence of inside representative directors from other juridical entities in an affiliated group is related to a higher level of ABRPT activities. This result contributes to the debate surrounding the monitoring function as regulated by the Article 27 of Taiwan's Company Law in regards to firms engage in abnormal related party transactions with the use of juridical representatives. It also complements the current literature on the relationship between corporate governance and RPT activities from

the perspective of regulation norms. Second, Wei & Chou (2018) have found that firms with more corporate representative directors are more likely to manipulate earnings upward through real earnings management. Their findings, however, imply that inside and outside representative directors are homogenous, and that both play a reduced monitoring function because the ability of juridical entities to designate representative board directors exacerbates the agency problem in the invested firms. Our findings suggest that the presence of inside representative directors, rather than the legal ability of juridical entities to designate natural persons as representatives to corporate boards, drives a firm's abnormal related party transaction arrangements. This finding will be of interest to academics, practitioners, and regulatory agencies, providing insight into the distinctive role of inside and outside representative directors and the determinants that influence firm propensity to use related party transactions.

The remainder of this study is organized as follows: Section 2 describes the institutional characteristics, discusses related studies, and develops the hypotheses. Research design and data are described in Section 3. Empirical results are summarized and discussed in Section 4. Section 5 demonstrates the robustness test. Section 6 concludes with descriptions of limitations.

II. Institutional Characteristics, Literature Review and Hypotheses

1. Institutional Characteristics

Since 1946, Taiwan has allowed juridical entities to designate representatives to act as directors of the firms in which they are invested. In 1966, the Company Act relaxed this regulation and also allowed the government agencies to designate representatives to be elected as directors. The Act also allowed a representative director of a juridical entity to not only be elected as a director but also as board chairman. The Company Act was further amended in 2011 to restrict representative directors appointed by juridical entities from simultaneously serving as supervisors. Based on the above amended process, Taiwan law only stipulates that a government agency and/or juridical entity may elect representatives to act as directors in their

invested firms. It does not specify a shareholding percentage threshold for such government agencies and/or juridical entities to hold in order to designate representatives to be elected as directors. Note that natural shareholders are limited to only have a single seat as director regardless of their total shareholding. The institutional characteristic of Article 27 of Taiwan's Company Act provides that juridical entities may secure additional seats even if they have fewer shares as compared to natural person shareholders (Wei & Chou, 2018) which, in turn, exacerbates the agency problem triggered by the presence of insiders and/or controlling shareholders in the invested firms. Although the designated representative directors have obligations to act in the best interests of the firm to which they are appointed, however, they may be replaced at any time by their appointing juridical entities in the affiliated business group. These close ties to their juridical entities may compromise the independence of representative directors, thereby limiting their ability to effectively fulfil monitoring obligations.

Related party⁴ transactions are widely used among Taiwanese firms. The Taiwan government imposes disclosure regulations on the RPT activities of listed firms, including sales amounts, unrealized profits and losses, the amount and percentage of goods sold, the balance and percentage of receivables, the balance and percentage of payables, the amount and percentage of property transactions, and the amount of profits and losses generated from these transactions at the end of each reporting period. Moreover, the regulation stipulates that any fundamental RPT needs to be approved by the board of directors and filed with the Market Observation Post System (MOPS) of the Taiwan Stock Exchange. This mechanism results in board directors of Taiwanese listed firms having more extensive links with and influence on their firms' RPT activities. The regulation provides this study an opportunity to examine whether representative directors are associated with more or

⁴ According to the rules promulgated by the regulators of Taiwan, related parties are identified as seven types: (1) a party has substantive control over or impact on the other party's operating and/or financial policies; (2) two parties are under control or affected by another party; (3) a person or his/her relatives within two tiers simultaneously serves the chairman or CEO of two firms; (4) the endowment from a firm comprises more than 1/3 of the total funds of an institution; (5) the firm's directors, supervisors, CEO, vice/associate CEO, and department heads directly supervised by the headquarter; (6) the spouse of directors, supervisors, and CEO; (7) the firm's chairman of the board, CEO, and relatives within two tiers.

less abnormal RPT activities from the corporate governance perspective. The findings can provide academics, practitioners, and regulatory agencies with insights into the impact of representative directors appointed by juridical entities on the propensity and the extent of RPT activities.

2. Literature Review and Hypotheses

Previous studies have identified several determinants of RPT activities (e.g., Kohlbeck & Mayhew 2010; Nekhilli & Cherif 2011; Chen et al. 2011; Ryngaert & Thomas 2012). Kohlbeck & Mayhew (2017) connected RPT activities to financial reporting quality and documented that RPT activities can serve as a "red flag" for possible financial misstatements. Linking auditing quality to RPT activities, Bennouri et al. (2015) found that firms audited by the Big 4 auditors record reduced incidence of RPT; El-Helaly et al. (2018) showed that the substitution between RPT and real earnings management is robust only for companies audited by auditors other than the Big 4. Based on capital data from China, Jian & Wong (2010) found that irregular sales in their business groups are used to bolster sales and these transactions are more widespread in state-owned businesses and regions with weaker economies. Lo et al. (2010) also demonstrated that listed firms in China with a higher proportion of independent directors, a smaller proportion of "parent" directors, or audit committees with financial professionals are less likely to engage in transfer pricing manipulations.

RPT activities can benefit firm operations because appropriate RPT arrangement reduces transaction costs, improves operating efficiency, and promotes resource sharing (Hope & Lu, 2020; Chen et al., 2020). RPT activities also are considered to be potentially opportunistic because insiders and/or controlling shareholders may use them to maximize self-serving interests at the expense of other shareholders (Holmström 1979; Bertrand et al. 2002; Cheung et al. 2006; Djankov et al. 2008; Berkman et al. 2009; Lo et al. 2010; Jian & Wong 2010; Kohlbeck & Mayhew 2010; 2017). From the valuation viewpoint, Cheung et al. (2006) found that minority shareholders of Hong Kong-listed firms face considerable value loss upon disclosing RPT. Liu & Lu (2007) showed that tunneling through RPT activities in China enables controlling shareholders to conceal their extraction of private control

benefits from minority shareholders, resulting in losses for latter shareholders. Kohlbeck & Mayhew (2010) demonstrated that RPT engaging firms had much lower valuations before SOX, consistent with market discounting RPT firms. Nekhilli & Cherif (2011) also found that RPT conducted directly by controlling shareholders, directors, and managers negatively influences firm value. Lei & Song (2011) evidenced that firms engaging in potentially expropriating RPT have considerably lower firm value (Tobin's Q and market-to-book value). Thus, empirical findings to some extent support the opportunistic (propping up) perspective of RPT activities which, in turn, damages firm value.

The linkage of corporate governance mechanisms and a firm's monitoring function is well known (e.g., Jensen, 1986; Hermalin and Weisbach, 2003; Shleifer and Vishny, 1997), and many studies have examined the association between corporate governance and RPT activities (e.g. Gao & Kling, 2008; Cheung et al., 2009; Aharony et al., 2010; Jiang et al., 2010; Lo et al., 2010; Liu & Tian, 2012; Yeh et al., 2012; Lo & Wong, 2016; Hope & Lu, 2020; Dou et al., 2022). Extant studies found that RPT activities are related to weak corporate governance. For example, Denis & Sarin (1999) and Klein (2002) both documented that RPT activities undermine non-executive directors' monitoring functions, thereby turning them into affiliated or gray directors who are no longer independent and are associated with weaker corporate governance. Kohlbeck & Mayhew (2010), Lo et al. (2010), and Nekhilli & Cherif (2011) also reported that weaker corporate governance makes RPTs more likely to occur. More recently, Zhang et al. (2023) examined the effect of unrelated shareholder alliance (SA) on the related party transactions in China and documented that SA reduces RPTs between listed firms and related parties. And, this negative effect of SA on RPTs differs between state-owned enterprises (SOEs) and non-SOEs. In Taiwan, Yeh et al. (2012) demonstrated that good corporate governance effectively restrains RPT, with the negative relationship persisting across several RPT sales-related variables. Note that the board of directors is at the center of the debate concerning the reform of corporate governance mechanisms, especially in terms of how board structure contributes to board performance (Adams et al., 2010; Armstrong et al., 2010; Kim et al., 2014). Several studies extend this stream of research to examine whether board of directors, including inside and outside directors, play a distinctive monitoring role in the corporate governance

process (Drymiotis, 2007; Adams et al., 2010; Kim et al., 2014; Kang et al., 2018; Bu. et al., 2021). Nonetheless, few studies have examined whether the representative directors appointed by the affiliated versus the non-affiliated groups are associated with the firm's arrangement of sales-based related party transactions from the perspective of corporate governance.

Drymiotis (2007) argues that an overwhelming majority of corporate boards include inside directors who are generally assumed to act in the best interests of management rather than of the outside shareholders, thereby potentially blunting board effectiveness in its monitoring role. A major concern is that inside directors may opt to compromise their independence because of their close ties to management and/or controlling shareholders and thereby provide little value to improving corporate governance through monitoring (Bu et al., 2021). Empirical findings to some extent support this argument (e.g., Ryan Jr. et al., 2004; Ahmeda & Duellman, 2007; Chahine & Goergen, 2013). Under the Article 27 of Taiwan's Company Act, representative directors appointed by affiliated juridical entities contribute another type of inside board directors. Although these inside representative directors have fiduciary duty to act in the best interests of the invested firms, they are less contractual bond to the firm to which they are appointed. The regulation also allows affiliated juridical entities to replace their representative directors at any time and for any reason, thus limiting the credibility of such representative directors' fiduciary duty of the invested firm's shareholders. Wei & Chou (2018) document that listed firms in Taiwan with more representative directors (including inside and outside directors) are more likely to manipulate earnings upward through real earnings management. The finding to some extent supports the perspective that affiliated boards play less of a monitoring role for their shareholders in situations where the affiliate's interests conflict with those of the business group.

Yeh et al. (2001) found that the controlling shareholders in Taiwanese listed firms usually designate family members or close friends as directors in other affiliated firms, and this situation becomes even more pronounced when controlling shareholders use cross-shareholdings or pyramid structures to designate additional representative directors to the board. Thus, Taiwan's listed firm generally designate friendly representatives to serve on the boards of firms within the same affiliated

group.⁵ In this case, the close ties of representative directors to the affiliated group rather than to the firm that designated them raises concerns for the integrity and independence of such inside representative directors in corporate monitoring. Recently, Doo & Yoon (2020) found that affiliated business groups in Korea engage in tax-motivated income shifting to benefit their business group as a whole, but this strategy does not benefit all shareholders of related firms, especially the minority shareholders of those whose profits are shifted out. This finding supports the viewpoint that inside representative directors play a reduced monitoring role in situations where the affiliates' interests conflict with those of the affiliated group. If the "propping up" or "tunneling" perspective of RPT activities in business groups can provide a simple route to transfer resources at the cost of minority shareholders (Chang & Hong, 2000; Cheung et al., 2006), it is expected that a firm with more inside representative directors on the board will be more likely to engage in abnormal RPT activities. Accordingly, we hypothesize:

H1: *Ceteris paribus*, having more inside representative board directors is positively associated with abnormal sales-based related party transactions.

Representative directors include both representatives from affiliated juridical entities (inside representative directors) and representatives from the non-affiliated juridical entities (outside representative directors). These two types of representative directors have the same obligations and fiduciary duty to the invested firm's shareholders and the firms that designated them as directors. Note that boards with higher proportions of outside directors do a better job of monitoring management (Helland & Sykuta, 2005). Peasnell et al. (2005) also documented that the proportion of outsiders on the board is negatively correlated with the likelihood of managers making income-increasing abnormal accruals to avoid reporting losses and earnings reductions. Prior studies (e.g., Kim et al., 2014; Wintoki et al., 2019) argued that outside directors rather than inside directors benefit corporate monitoring given their independence from management. Recently, Baer et al. (2023) further documented that firms with greater advising needs are more likely to appoint tainted executives

⁵ In this study, the ratio of board seats held by the appointed representative directors from affiliated groups in Taiwanese list firms was approximately 26.65% (please see Table 2), which supports this argument.

to their boards as outside directors and display an improvement in operating performance in the post-appointment period. Outside representative directors⁶, as a type of outside directors, are expected to be more effective at monitoring than inside representative directors because they are appointed by non-affiliated juridical entities. Accordingly, we hypothesize:

H2: *Ceteris paribus*, the positive association between inside representative board directors and abnormal sales-based related party transactions is mitigated by outside representative directors.

III. Research Design

1. Data

The years 1996-2021 are chosen as the observation period, because related party transactions data is available in year 1996. The sample firms are composed of publicly traded companies listed on the Taiwan Securities Exchange (TWSE) and over-the-counter (OTC) in Taiwan stock markets. The empirical data are retrieved from the Taiwan Economic Journal (TEJ) database. Table 1 reports the sample selection process in this study.

The observations on the TEJ database from 1996-2021 include 37,007 firm/years (excluded finance-related institutions (Code No. 28) as they are subject to different disclosure requirements). Because this study followed the way of Jian & Wong (2010) to calculate abnormal sales-based RPT activities (the dependent variable), we excluded 6,006 observations for missing data for estimating the Jian & Wong (2010). Next, we respectively excluded 1,056 and 6 observations for missing pivotal explanatory variable (IRDIR) and other control variables. Finally, 7,068 observations were excluded for the lack of control variables to run the empirical regression, producing a final sample of 29,939 observations over 1,556 firms to examine H1 and H2. The final sample includes 28,156 (1,783) firm-year

⁶ Outside representative directors are proxied by the representative directors who are appointed and named by the non-affiliated juridical entities. The non-affiliated juridical entities include a fictitious person such as a privately held companies, foundations, public/listed firms, along with their associated persons and assets.

observations on firms who's without (with) counterbalancing outside representative directors. Table 1 presents the sample selection procedures.

Panel B of Table 1 presents industry breakdown of the observations. It reveals that the sample is distributed across 18 industries with about 49.25 percent in the electronics industry. However, the remaining observations are widespread across industries, such as chemical & medical (8.25%), electrical machinery (6.92%), building & construction (6.8%), textile & fiber (4.55%), iron (4.11%), and plastic (2.68%) industries.

Table 1. Sample Selection and Industry Distribution

Panel A: Sample selection			
			Sample
Observations on TEJ during 1996-2021 (TWSE- and OTC-listed firms excluded finance-related industries)			37,007
Less:			
Missing data for estimating the Jian & Wong (2010) model			6,006
Missing data for pivotal explanatory variable			1,056
Missing data for the control variables			6
Final empirical observations			29,939
Without counterbalancing ORDIR observations			28,156
With counterbalancing ORDIR observations			1,783
Panel B: Industry distribution			
Code	Industry	Sample (N)	Sample (%)
11	Cement	276	0.92%
12	Food	662	2.21%
13	Plastic	801	2.68%
14	Textile & Fiber	1,361	4.55%
15	Electrical Machinery	2,071	6.92%
16	Electrical Cable	227	0.76%
17	Chemical & Medical	2,471	8.25%
18	Glass Ceramics	135	0.45%
19	Paper	158	0.53%
20	Iron	1,229	4.11%
21	Rubber	266	0.89%
22	Car	254	0.85%
23	Electronics	14,746	49.25%
25	Building & Construction	2,035	6.80%
26	Shipping	645	2.15%
27	Tourism	610	2.04%
29	Trade & Store	519	1.73%
99	Other	1,473	4.92%
Total		29,939	100.00%

2. Variables

Dependent variable: Abnormal level of sales-based RPT (ABRPT)

The sale of goods and services is the most common and recurring type activity carried out through related party transactions (Jian & Wong 2010; Yeh et al., 2012; Wong et al., 2015; Chen et al., 2020). Note that sales-related RPT has the most direct impact on earnings. Thus, the primary concern is whether firms have used this type of RPT to inflate earnings. The test variable, RPT, represents the related-party sales transactions as a proportion of sales of goods and services among affiliated firms. Thus, sales-based related-party transactions (RPT) are measured as a firm's ratio of intercompany-related party sales in affiliated firms.

Note that the magnitude of sales-based RPT can either be normal contracting arrangements based on economic reasons (Gordon et al. 2007; Ryngaert & Thomas 2012; Balsam et al. 2017; Chen et al. 2020) or a means by which insiders and/or controlling shareholders can expropriate outside shareholders via self-dealing for the affiliated firms (Bertrand et al. 2002; Cheung et al. 2006; Djankov et al. 2008; Berkman et al. 2009; Lo et al. 2010; Kohlbeck & Mayhew 2010; Jian & Wong 2010; Kohlbeck & Mayhew 2017). Based on the model proposed by Jian & Wong's (2010), this study decomposes RPT into normal and abnormal (ABRPT) levels of RPT. It is expected that the ABRPT measure can properly capture the propping up (or tunneling) view of RPT activities (Kohlbeck & Mayhew 2010).

RPT is regressed by the firm size (SIZE) as measured by the natural logarithm of firm's total assets; leverage (LEV) measured by debt ratio; market-to-book equity (MB), a dummy for affiliated firms (GROUP) that is assigned 1 when the underlying firm is in a specific business group; the year dummies; and industry dummies. The residual term estimated by the model is defined as the abnormal level of RPT (ABRPT) in this study.

Pivotal explanatory variables: Ratio of inside representative directors (IRDIR)

The ratio of inside representative directors is measured as the percentage of representative directors designated by the affiliated juridical entities, divided by the total number of board seats in a firm. The affiliated juridical entities include privately held companies, foundations, and public/listed firms. In the same manner, the ratio of outside representative directors (ORDIR) is measured as the percentage of

representative directors who are appointed by the non-affiliated juridical entities divided by the total number of board seats in the firms. This study further uses the 30% threshold to identify firms with counterbalancing outside representative directors which, in turn, divides the entire samples into two mutually exclusive subsamples, i.e., with counterbalancing outside representative directors if the ratio of outside representative directors $\geq 30\%$ and without counterbalancing outside representative directors otherwise. This study uses these two subsamples to test the second hypothesis, i.e., to examine whether the representative directors appointed by non-affiliated juridical entities (outside representative directors) plays a distinctive monitoring role for the firm's abnormal RPT activities.

Control variables

Following Jian & Wong (2010) and Bennouri et al. (2015), this study uses several variables to explain a firm's RPT activities, i.e., firm size (SIZE), leverage (LEV), market-to-book equity (MB), the size of the board of directors (BSIZE), dividend yield (DIV), return on assets (ROA), the intensity of investment in R&D (RD), control-ownership wedge (SEP), and voting rights (VOTE). The year and firm characteristic dummies are also used to control for the year and firm effects in the regressions.

Firm size (SIZE) is measured by the natural logarithm of a firm's total assets to control for the potential effects of omitted variables (Becker et al., 1998). Leverage (LEV) is measured by the debt ratio to proxy for default risk on the RPT activities at the end of the fiscal year (Kohlbeck & Mayhew, 2010; McConnell & Servaes, 1995; Bennouri et al., 2015). The market-to-book value of equity (MB) is measured as the market value of the common equity divided by the book value of the common equity at the end of the fiscal year and is incorporated into empirical models as a proxy for growth opportunities (Collins and Kothari, 1989). A firm's board size (BSIZE) is measured in terms of the number of board directors. Bennouri et al. (2015) argued that larger boards are less efficient and thus board size is expected to be positively associated with the level of RPT activities. La Porta et al. (2000) also documented that dividend yield (DIV) is positively related to the protection of minority shareholders. It is expected that dividend yield is negatively associated with the extent of a firm's RPT activities. Following Kohlbeck & Mayhew (2010), this study expects that the return on assets (ROA) is negatively associated with RPT activities.

Note that firms with higher R&D intensity (RD) have more high-growth opportunities and should be less engaged in RPT activities (Bennouri et al., 2015). We add the RD variable in the empirical regression. Finally, prior studies (e.g., Jiang et al., 2010; Kang et al., 2014; and Bennouri et al., 2015) have documented that RPT activity is associated with a firm’s ownership concentration. This study thus considers two variables related to ownership structure, i.e., the voting rights of the controlling shareholders (VOTE) and the control-ownership wedge defined as the difference between cash-flow rights and voting rights (SEP), in the empirical regression.

3. Model Specification

To examine H1, the empirical regression is presented as follows:

$$\begin{aligned}
 ABRPT = & \alpha_0 + \alpha_1 IRDIR + \alpha_2 BSIZE + \alpha_3 DIV + \alpha_4 LEV + \alpha_5 ROA + \\
 & \alpha_6 MB + \alpha_7 RD + \alpha_8 SEP + \alpha_9 SIZE + \alpha_{10} VOTE + \text{Firm Effect} \\
 & + \text{Year Effect} + \varepsilon_{i,t} \dots \dots \dots (1)
 \end{aligned}$$

Where,

Variable	Definition
ABRPT	: Abnormal RPT activities, which is measured by residual term that is estimated by Jian & Wong's (2010) model.
IRDIR	: Ratio of inside representative directors appointed by the affiliated juridical entities, measured as the percentage of representative directors belonging to the same affiliated group divided by the number of directorships of the full board of directors.
BSIZE	: Board size, which is measured by the number of directors on the board.
DIV	Dividend yield, which is measured as the ratio of dividends to share price.
LEV	: Leverage, which is calculated as total debt scaled by the total assets.
ROA	: Return on assets, which is a ratio of earnings before interest and tax divided by the total assets.
MB	: Market-to-book equity, measured as the ratio of market value to book value of equity.
RD	: R&D expenditures, which is measured as R&D expenditures divided by the total sales.
SEP	: Separation between ownership and control, which is measured as the deviation of voting rights over cash-flow rights of the controlling shareholders.
SIZE	: Firm size, which is measured as the natural logarithm of total assets at the end of the fiscal year.
VOTE	: Voting rights of the controlling shareholders, which is measured as the percentage of voting rights held by the controlling shareholders (including the percentage held in other subsidiaries).

According to H1, the coefficient of IRDIR (α_1) is expected to be positive to reflect the percentage of inside representative board directors being positively associated with a higher level of firm ABRPT.

To examine H2, we further divide the full sample into two mutually exclusive subsamples based on whether the ratio of outside representative directors (ORDIR) accounted exceeded 30% of the total number of board seats. Firms that meet the 30% threshold are considered to have substantial counterbalance on decision making and are denoted as firms with counterbalancing ORDIR, while those that do not meet the threshold are denoted as firms without counterbalancing ORDIR. We split the sample rather than estimating interaction terms, allowing the coefficients on all the control variables to also vary between the with versus without counterbalancing

ORDIR subsample. The coefficient of IRDIR (α_1) is expected to be statistically significant for the without counterbalancing ORDIR subsample, but statistically insignificant for the with counterbalancing ORDIR subsample, indicating a firm with counterbalancing ORDIR can play a role in mitigating the positive relationship between IRDIR and ABRPT activities.

IV. Empirical Results

1. Descriptive Statistics

Table 2 presents descriptive statistics of related variables winsorized for the top and bottom 1% of outliers for all continuous variables. The mean (median) of ABRPT variable is -0.0011 (-0.0387) in the full sample. The estimated ABRPT measure is slightly skewed left. This suggests that the estimated ABRPT measure is likely to have a long-tail in the direction of negative ABRPT in the sample. The mean (median) of IRDIR variable is 0.2565 (0.2000), indicating approximately 25% of the directors in the board were appointed by the affiliated juridical entities. The mean (median) of SEP variable is 0.2561 (0.2492), suggesting a serious divergence of control rights over cash-flow rights of the controlling shareholder and supports the argument of Yeh et al. (2001). The right column of Table 2 documents the mean statistics difference of related variables between with and without counterbalancing ORDIR subsamples. It is found that, except for the LEV and RD variables, the mean difference of the controlling variables between with ORDIR subsample and without ORDIR subsample is statistically significant. Thus, the with ORDIR subsample likely reveals distinctive firm characteristics compared to the without ORDIR subsample.

Table 2. Descriptive Statistics of Related Variables (N=29,939)

Variable	Total observations					ORDIR < 30%	ORDIR >=30%	Mean diff.
	Mean	SD	25th	Med.	75th	Mean	Mean	
ABRPT	-0.0011	0.1203	-0.0513	-0.0387	-0.0132	-0.0028	0.0250	-0.0278 ^a
IRDIR	0.2565	0.2649	0	0.2000	0.4286	0.2592	0.2136	0.0456 ^a
BSIZE	7.2117	2.1355	5.0000	7.0000	8.0000	7.1611	8.0095	-0.8484 ^a
DIV	0.0356	0.0312	0	0.0338	0.0574	0.0360	0.0286	0.0074 ^a
LEV	0.4173	0.176	0.2838	0.4194	0.5431	0.4172	0.4192	-0.002
ROA	0.0448	0.0857	0.0106	0.046	0.0878	0.0459	0.0285	0.0174 ^a
MB	1.8374	1.4744	0.9300	1.4100	2.1900	1.8275	1.9937	-0.1661 ^a
RD	0.0393	0.0775	0	0.0139	0.0415	0.0392	0.0416	-0.0024
SEP	0.2561	0.2535	0.0912	0.2492	0.4217	0.2598	0.1968	0.0631 ^a
SIZE	15.246	1.4051	14.2547	15.0557	16.026	15.2498	15.1852	0.0646 ^b
VOTE	0.3129	0.1827	0.1653	0.2893	0.4351	0.3195	0.2080	0.1106 ^a

Notes:

1. *ABRPT*: Abnormal RPT activities, which is measured by residual term that is estimated by Jian & Wong's (2010) model. *IRDIR*: Ratio of inside representative directors appointed by the affiliated group, measured as the percentage of representative directors belonging to the same affiliated group (i.e. group unlisted companies, group foundations, group listed companies) divided by the number of directorships of the full board of directors. *BSIZE*: Board size, which is measured by the number of directors on the board. *DIV*: Dividend yield, which is measured as the ratio of dividends to share price. *LEV*: Leverage, which is calculated as total debt scaled by the total assets. *ROA*: Return on assets, which is a ratio of EBITDA to total value of equity. *MB*: Market-to-book equity, measured as the ratio of market value to book value of equity. *RD*: R&D expenditures, which is measured as R&D expenditures divided by total sales. *SEP*: Separation between ownership and control, which is measured as the ratio of voting rights over cash-flow rights of the controlling shareholders. *SIZE*: Firm size, which is measured as the natural logarithm of total assets at the end of the fiscal year. *VOTE*: Voting rights of the controlling shareholders, which is measured as the percentage of voting rights held by the controlling shareholders (including the percentage held in other subsidiaries). *ORDIR*: the ratio of outside representative directors, which is measured as the percentage of representative directors who are appointed by the non-affiliated juridical entities divided by the total number of board seats in the firms.
2. The related variables are winsorized for the top and bottom 1% of outliers for all continuous variables.
3. "a" and "b" denote the significance on the 1% and 5% levels respectively, based on two-tailed tests.

Table 3 presents the correlations among the related variables. It indicates that that the inside representative directors (*IRDIR*) is positively associated with *ABRPT* in the sample. The control variables, except for the *LEV* and *MB* variables, are related to *ABRPT*, suggesting these variables play roles in explaining a firm's abnormal RPT activities. While most independent variables are highly correlated with the others, the variance inflation factors (*VIF*) do not suggest severe multicollinearity problems.

Table 3. Pearson Correlation Matrix for Related Variables (N=29,939)

	ABRPT	IRDIR	BSIZE	DIV	LEV	ROA	MB	RD	SEP	SIZE	VOTE
ABRPT											
IRDIR	.816**										
BSIZE	.016**	-.084**									
DIV	-.030**	.029**	.020**								
LEV	0.007	.029**	0.007	-.083**							
ROA	.035**	.050**	.026**	.565**	-.205**						
MB	0.001	-.070**	.025**	-.065**	-.048**	.282**					
RD	-.112**	-.133**	-.021**	-.171**	-.306**	-.195**	.224**				
SEP	.240**	.307**	.126**	-.045**	.030**	-.058**	-.113**	-.031**			
SIZE	.037**	-0.005	.349**	.135**	.302**	.134**	-.094**	-.213**	.328**		
VOTE	-.046**	-.050**	-.089**	.058**	.040**	.081**	.032**	-.142**	-.417**	-.066**	

Notes:

1. Please see Table 2 for variable definitions.
2. "***" and "**" denote the significance on the 1% and 5% levels respectively, based on two-tailed tests.

2. Empirical Results

This study begins the estimation process with the least-squares regression of the pooled data followed by an assessment of the validity of the pooled model's assumption of a single, overall intercept term. The Lagrange Multiplier statistic (LM test) rejects the pooled model (BP=175.69, which is statistically significant at the 1% level in the Breusch-Pagan test). This implies heterogeneous intercepts; thus the panel data regression offers a more powerful approach to test the hypotheses. The estimation proceeds to the panel data analysis and a choice between the fixed effect and a random effect. The Hausman test (Hausman, 1978) indicates the potential for omitted variable bias and the importance of the firm-specific effect in the regression ($\chi^2=1,623.58$, which is statistically significant at the 1% level). This study thus anticipates the need to use the fixed-effect unbalanced-panel approach to examine

the association between IRDIR and ABRPT in the analysis. The empirical results of the tests for H1 (full sample model) and H2 (subsample model) are reported in Table 4.

Table 4. Empirical Results from Representative Directors of Affiliated Group and Abnormal Sales-based Related Party Transactions

$$ABRPT = \alpha_0 + \alpha_1 IRDIR + \alpha_2 BSIZE + \alpha_3 DIV + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 RD + \alpha_8 SEP + \alpha_9 SIZE + \alpha_{10} VOTE + Firm\ Effect + Year\ Effect + \varepsilon_{i,t}$$

Variable	Dependent Variable: ABRPT		
	Entire Sample	Subsample	
		Without Counterbalancing ORDIR	With Counterbalancing ORDIR
Coefficients (t-value)	Coefficients (t-value)	Coefficients (t-value)	
IRDIR	0.0256*** (7.69)	0.0302*** (8.76)	-0.0374 (-1.56)
BSIZE	0.0006* (1.74)	-0.0001 (-0.26)	0.0016 (0.64)
DIV	-0.0976*** (-4.67)	-0.0886*** (-4.23)	0.0089 (0.09)
LEV	0.0244*** (5.51)	0.0262*** (5.33)	0.0147 (0.53)
ROA	0.0022* (1.90)	0.0211 (1.54)	0.0099 (0.36)
MB	0.0015** (2.06)	0.0014* (1.71)	0.0019 (0.82)
RD	0.0534** (2.09)	0.0454* (1.70)	0.0475 (0.84)
SEP	-0.0032 (-0.54)	-0.0028 (-0.47)	0.0273 (0.84)
SIZE	-0.0077*** (-4.55)	-0.0071*** (-3.96)	0.0083 (1.01)
VOTE	0.0311*** (3.90)	0.0281*** (3.92)	0.0790** (2.14)
Firm Effect	Included	Included	Included
Year Effect	Included	Included	Included
N	29,939	28,156	1,783
Adj. R ²	62.17%	63.62%	83.71%
F value	29.48***	26.50***	22.60***

Notes:

1. Please see Table 2 for variable definitions.
2. “***”, “**”, and “*” denote the significance on the 1%, 5% and 10% levels respectively, based on two-tailed tests.
3. The equations to test our hypotheses are estimated using unbalanced-panel model with both firm and year fixed-effects and significance levels based on White (1980) standard errors adjusted for heteroskedasticity.

In Table 4, the coefficient of IRDIR is 0.0256 ($t=7.69$) in the full sample regression, which is positive and statistically significant at the 1% level and supports H1. Thus, a higher percentage of inside representative directors likely triggers more abnormal levels of RPT activities. This result supports concerns that the close ties between the representative directors to their affiliated group will compromise their independence, and thus weaken their monitoring function. The finding also consistent with Doo & Yoon (2020), who found that inside representative directors play a less effective monitoring role in situations where the affiliates' interests conflict with those of the affiliated group.

In terms of other explanatory variables, BSIZE has a positive and statistically significant coefficient, indicating larger boards are less efficient and thus board size is positively associated with the level of abnormal RPTs activities (Bennouri et al., 2015). The coefficient of DIV, as expected, is negatively associated with abnormal RPT activity. The positive coefficient of LEV supports the argument that increased default risk leads to more abnormal RPT activities (Kohlbeck & Mayhew, 2010; McConnell & Servaes, 1995; Bennouri et al., 2015). The significantly positive coefficient reveals a firm's growth opportunities (MB) are positively associated its ABRPT activities. The observed positive coefficients of the ROA and RD variables are inconsistent with the findings of previous studies, and can to some extent be attributed to the use of the abnormal RPT activity measure in the current study, rather than the RPT activity measure used in previous research.

In the with and without counterbalancing ORDIR subsamples test, this study directly classifies the sampled observations into two groups based on the 30% threshold to identify firms with counterbalancing outside representative directors. In the without counterbalancing ORDIR subsample test, the coefficient of IRDIR is 0.030 ($t=8.76$), which is statistically significant at the 1% level. This result approximates that of the full sample test. However, the coefficient of IRDIR is -0.037 ($t=-1.56$) in the without counterbalancing ORDIR subsample, which is negative and statistically insignificant. The coefficient of IRDIR (α_1) is statistically significant (insignificant) for the without (with) counterbalancing ORDIR subsample, indicating counterbalancing ORDIR can play a role in mitigating the positive association between IRDIR and ABRPT activities. H2 gains empirical support in the

subsample check. As expected, these results indicate that the outside representative directors appointed by non-affiliated juridical entities, who are more independent of management and are more effective monitors (Kim et al., 2014; Wintoki et al., 2019) than the inside representative directors.

V. Additional Analysis

1. Alternative 40% Threshold to Measure the Counterbalancing ORDIR

This study uses a 30% threshold to categorize firms as having counterbalancing outside representative directors, thereby dividing the entire sample into two mutually exclusive subsamples to test H2 in the main analysis. We then rerun the regression using a 40% threshold as a diagnostic check. The results, as shown in Table 5 show that the coefficient of IRDIR in the without counterbalancing ORDIR subsample is 0.0289 ($t=9.03$), again positive and statistically significant at the 1% level. However, the coefficient of IRDIR in the with counterbalancing ORDIR subsample is -0.0225 ($t=-0.63$), which is negative and statistically insignificant. These results are consistent with the main findings and support H2. It is thus safe to conclude that the empirical findings are robust to the alternative threshold of ORDIR measure tests.

Table 5. Empirical Results from Representative Directors of Affiliated Group and Abnormal RPT---40% Counterbalancing ORDIR

$$ABRPT = \alpha_0 + \alpha_1 IRDIR + \alpha_2 BSIZE + \alpha_3 DIV + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 RD + \alpha_8 SEP + \alpha_9 SIZE + \alpha_{10} VOTE + \text{Firm Effect} + \text{Year Effect} + \varepsilon_{i,t}$$

Variable	Dependent Variable: ABRPT	
	Without Counterbalancing ORDIR	With Counterbalancing ORDIR
	Coefficient (t-value)	Coefficient (t-value)
IRDIR	0.0289*** (9.03)	-0.0225 (-0.63)
BSIZE	0.0004 (0.92)	-0.0041 (-1.42)
DIV	-0.1004*** (-4.75)	0.1677 (1.28)
LEV	0.0256*** (4.97)	0.0308 (1.06)
ROA	0.0203 (1.56)	0.0787* (1.86)
MB	0.0015* (2.04)	0.0022 (0.62)
RD	0.0484* (1.85)	-0.0254 (-0.52)
SEP	-0.0052 (-0.98)	0.0304 (0.83)
SIZE	-0.0075*** (-4.29)	0.0059 (0.69)
VOTE	0.0279*** (4.03)	0.0645 (1.50)
Firm Effect	Included	Included
Year Effect	Included	Included
N	28,843	1,096
Adj. R ²	62.38%	76.2%
F value	28.312***	12.46***

Notes:

1. Please see Table 2 for variable definitions.
2. “***”, “**”, and “*” denote the significance on the 1%, 5% and 10% levels respectively, based on two-tailed tests.
3. The equations to test our hypotheses are estimated using unbalanced-panel model with both firm and year fixed-effects and significance levels based on White (1980) standard errors adjusted for heteroskedasticity.

2. Interactive Variable Model Examination

This study splits the sample into with versus without counterbalancing ORDIR subsample rather than estimating interaction terms to examine the second hypothesis. We also run the interactive variables (IRDIR*DORDIR) model, which only restricts the coefficient of the specified product terms, to gain confirmatory results to support our hypothesis. In this diagnostic check, the dummy variable for firms with counterbalancing ORDIR (DORDIR) is denoted as 1 if the ratio of outside representative directors larger than the threshold and without counterbalancing ORDIR otherwise. The interactive regression is reported as follows:

$$\begin{aligned} \text{ABRPT} = & \alpha_0 + \alpha_1 \text{IRDIR} + \alpha_2 \text{DORDIR} + \alpha_3 \text{IRDIR} * \text{DORDIR} + \alpha_4 \text{BSIZE} \\ & + \alpha_5 \text{DIV} + \alpha_6 \text{LEV} + \alpha_7 \text{ROA} + \alpha_8 \text{MB} + \alpha_9 \text{RD} + \alpha_{10} \text{SEP} \\ & + \alpha_{11} \text{SIZE} + \alpha_{12} \text{VOTE} + \text{Firm Effect} + \text{Year Effect} \\ & + \varepsilon_{i,t} \dots \dots \dots (2) \end{aligned}$$

We report the results of the tests of H2 by showing both the 30% threshold and 40% threshold ORDIR samples. The further results are showed in Table 6. From Table 6, the coefficient of IRDIR is 0.0270 (t=8.21) and 0.0264 (t=7.98) respectively, both positive and statistically significant at the 1% level. It again indicates that the close tie of representative directors to the affiliated group raises the inside representative directors compromise their independence, thereby weakens their monitoring function in the board of directors. The results do not qualitatively change the initial findings. From Table 6, moreover, the coefficient of the interactive variable, IRDIR*DORDIR, is -0.0328 (t=-3.32) and -0.0280 (t=-1.87) respectively, negative and statistically significant. The results also support the initial findings, i.e., outside representative directors can play an effectively monitoring function than the inside representative directors because they are appointed by the non-affiliated juridical entities. In sum, our empirical findings are robust to the interactive model testing.

Table 6. Empirical Results from Representative Directors of Affiliated Group and Abnormal RPT— Interactive Model Test

$$ABRPT = \alpha_0 + \alpha_1 IRDIR + \alpha_2 DORDIR + \alpha_3 IRDIR * DORDIR + \alpha_4 BSIZE + \alpha_5 DIV + \alpha_6 LEV + \alpha_7 ROA + \alpha_8 MB + \alpha_9 RD + \alpha_{10} SEP + \alpha_{11} SIZE + \alpha_{12} VOTE + \text{Firm Effect} + \text{Year Effect} + \varepsilon_{it}$$

Variable	Dependent Variable: ABRPT	
	30% Threshold	40% Threshold
	Coefficients (t-value)	Coefficients (t-value)
IRDIR	0.0270*** (8.21)	0.0264*** (7.98)
DORDIR	0.0146*** (4.05)	0.0103** (2.46)
IRDIR*DORDIR	-0.0328*** (-3.32)	-0.028* (-1.87)
BSIZE	0.0006* (1.82)	0.0007* (1.85)
DIV	-0.0965*** (-4.69)	-0.0977*** (-4.69)
LEV	0.0243*** (5.47)	0.0243*** (5.50)
ROA	0.0221* (1.95)	0.0219* (1.93)
MB	0.0013* (1.95)	0.0014** (1.99)
RD	0.054** (2.12)	0.0535** (2.10)
SEP	-0.0008 (-0.13)	-0.002 (-0.36)
SIZE	-0.0076*** (-4.54)	-0.0076*** (-4.53)
VOTE	0.0342*** (4.35)	-0.032*** (4.36)
Firm Effect	Included	Included
Year Effect	Included	Included
N	29,939	29,939
Adj. R ²	62.19%	62.17%
F value	29.04***	29.02***

Notes:

1. Please see Table 2 for variable definitions.
2. “***”, “**”, and “*” denote the significance on the 1%, 5% and 10% levels respectively, based on two-tailed tests.
3. The equations to test our hypotheses are estimated using unbalanced-panel model with both firm and year fixed-effects and significance levels based on White (1980) standard errors adjusted for heteroskedasticity.

3. Non-operating revenues or Gain from Assets Sales

Chen et al. (2020) found that sub-classifying revenue-related RPT activity induces distinctive patterns of earnings informativeness in Taiwan listed firms. This study thus further uses two alternative revenue-related RPT activities to proxy a firm's abnormal RPT activity. Following Chen et al. (2020), the first measure is the related party's non-operating revenue from affiliated firms, measured as the ratio of intercompany related party non-operating revenue in affiliated firms, including rent, advertising, and commission items. We use the total amounts of the related party's non-operating revenue in affiliated firms divided by the total sales of the sample firm (denoted as NORPT). The second measure is the related party's assets sales in affiliated firms, which is measured as the intercompany related party's gains from assets sales in affiliated firms divided by the total sales of the sample firm (denoted as GASRPT). In this additional test, the sample includes 28,755 firm/year observations, with results reported in Table 7.

Table 7. Empirical Results from Representative Directors of Affiliated Group and Abnormal RPT--Alternative Revenue-related RPT Measures

$$RPT = \alpha_0 + \alpha_1 IRDIR + \alpha_2 BSIZE + \alpha_3 DIV + \alpha_4 LEV + \alpha_5 ROA + \alpha_6 MB + \alpha_7 RD + \alpha_8 SEP + \alpha_9 SIZE + \alpha_{10} VOTE + \text{Firm Effect} + \text{Year Effect} + \varepsilon_{i,t}$$

Variable	Non-operating Revenue Model		Gains from Assets Sale Model	
	Dependent Variable: NORPT		Dependent Variable: GASRPT	
	Without	With	Without	With
	Counterbalancing	Counterbalancing	Counterbalancing	Counterbalancing
	ORDIR	ORDIR	ORDIR	ORDIR
	Coefficients	Coefficients	Coefficients	Coefficients
	(t-value)	(t-value)	(t-value)	(t-value)
IRDIR	0.0005*** (4.13)	-0.0016*** (-2.82)	0.0001* (1.92)	-6.90E-05 (-1.62)
BFSIZE	-4.54E-05*** (-2.68)	5.24E-05 (0.76)	8.42E-06 (1.37)	-1.57E-05 (-0.65)
DIV	-0.0019** (-2.33)	-0.0036* (-1.72)	-0.0006 (-1.35)	0.0009 (0.29)
LEV	-0.0003 (-1.49)	4.81E-05 (0.09)	0.0002*** (2.98)	6.31E-05 (0.27)
ROA	-0.0015*** (-3.34)	0.0001 (0.07)	-0.0001 (-1.03)	-0.0002 (-0.53)
MB	1.51E-05 (0.66)	4.64E-05 (0.45)	4.46E-06 (0.57)	-9.62E-06 (-0.53)
RD	0.0004 (0.56)	0.0081* (1.89)	7.26E-05 (0.75)	-0.0002 (-0.43)
SEP	3.90E-05 (0.32)	0.001** (2.10)	-3.79E-05 (-0.60)	0.0002 (0.66)
SIZE	-0.0002*** (-4.97)	-0.0006** (-2.45)	-5.28E-05*** (-2.51)	-2.46E-05 (-0.29)
VOTE	0.0009*** (4.64)	0.0018* (1.93)	-1.30E-05 (-0.14)	3.21E-05 (0.05)
Firm Effect	Included	Included	Included	Included
Year Effect	Included	Included	Included	Included
N	27,027	1,728	27,027	1,728
Adj. R ²	32.05%	45.82%	7.50%	11.78%
F value	8.82***	4.54***	2.34***	1.56***

Notes:

1. Please see Table 2 for variable definitions.
2. ****, ***, and ** denote the significance on the 1%, 5% and 10% levels respectively, based on two-tailed tests.
3. The equations to test our hypotheses are estimated using unbalanced-panel model with both firm and year fixed-effects and significance levels based on White (1980) standard errors adjusted for heteroskedasticity.

From the NORPT model in Table 7, the coefficients of IRDIR for the “without” and “with” counterbalancing ORDIR subsamples is respectively 0.0005 (t=4.13) and -0.0016 (t=-2.82), both statistically significant at the 1% level. From the GASRPT

model in Table 7, the coefficients of IRDIR for the “without” and “with” counterbalancing ORDIR subsamples is respectively 0.0001 ($t=1.92$) and -0.0001 ($t=-1.62$), where the former is statistically significant at the 10% level. Collectively, the positive association between IRDIR and RPT activities (measured as non-operating revenue and gains from assets sale) is more pronounced in the without counterbalancing ORDIR subsample tests. To some extent, this result supports the argument that irregular revenue-related RPT activity can be mitigated by a higher percentage of outside representative board directors.

VI. Additional Analysis

This study first examines the role of representative directors appointed by affiliated groups (inside representative directors) on a firm’s arrangement of sales-based related party transactions. Prior studies (e.g., Helland & Sykuta, 2005; Peasnell et al., 2005) have documented that boards with higher proportions of outside directors do a better job of monitoring management which, in turn, is negatively related to the likelihood of earnings management. This study further examines whether the representative directors from the non-affiliated groups (outside representative directors) play a distinctive monitoring role in a firm’s abnormal sales-based related party transactions. Empirical results document that a higher ratio of representative directors appointed by an affiliated group are positively associated with a higher level of abnormal sales-based related party transactions and supports the hypothesis. Further evidence, however, shows that this positive association is mitigated when the firm has a substantial counterbalancing force in the form of representative directors who are appointed by non-affiliated groups. These results provide evidence that, in Taiwan, the monitoring effectiveness of outside directors rather than the institutional characteristics of representative directors is possible because outside directors (e.g., the outside representative directors) are better able to monitor given their independence from management (Kim et al., 2014; Wintoki et al., 2019). This test provides insights into the debate about the monitoring role of representative directors appointed by juridical entities from the perspective of corporate governance and regulation.

The feature of representative directors provides juridical entities, particularly the non-affiliated firms, a mechanism by which they may appoint various industry

experts or professionals as board members to facilitate the dual role of advisory as well as monitoring functions of directors in their investee firms (Lin, 2011). Our finding supports the argument that the monitoring effectiveness of outside directors rather than the institutional characteristics of representative directors is associated with the invested firms' related party transactions. This result contributes to the debate surrounding monitoring functions regulated under Article 27 of Taiwan's Company Law with regard to firms that engage in related-party activities and use juridical representatives. Future studies can distinguish outside representative directors into different types such as appointed by corporate, government, with/without industry expertise, accounting/financial backgrounds, and re-examine whether these different types of outside representative directors play a role in the analysis. The findings in this study are subject to a number of limitations and should be interpreted with caution. First, the difficulty related to the identification and measurement of abnormal RPT may lead to possible noisy measures in the analysis. Although the abnormal RPT measure used in this study, i.e., residual value estimated by the Jian & Wong (2010) model, are widely used in the recent literature on RPT activities, the empirical findings may not extend to other abnormal RPT measures. Second, this study documents that outside representative directors likely play a monitoring role in the firm's abnormal RPT activities. Nevertheless, the monitoring role of outside representative directors appointed by the non-affiliated firms may be different from the outside directors; thus, the usual caution with different type of outside directors' effect should be employed in interpreting the results.

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法人代表董事與關係人銷貨交易之關係- -台灣的實證

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摘要

我國公司法第 27 條規定，法人個體股東可以指派代表人擔任其投資公司之董事。然而，此規範並無限制法人個體股東指派代表董事所需的最低股權門檻。因法人個體股東依法可隨時改派其指派的代表董事，法人個體股東指派之代表董事，其於董事會中能否扮演獨立性角色，一直受到關注。本研究檢測由集團企業指派的法人代表董事與關係人銷貨交易之關係。

實證結果顯示，集團企業指派的法人代表董事比率（簡稱內部法人代表董事）與異常關係人銷貨交易呈現顯著正向關係，支持研究假說。然而，進一步的研究發現，當非集團企業指派的法人代表董事比率越高，可以減緩此正向關係。亦即法人代表董事與異常關係人銷貨交易之正向關係，僅存在於集團企業指派的法人代表董事。

關鍵字：法人代表董事、關係人交易、集團企業、監督

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