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Silence is golden? Evidence from disclosing related-party transactions in China[☆]



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A B S T R A C T

The significance and the manipulative nature of related-party transactions (RPTs) render transparent disclosure necessary and relevant for investors who infer firm value from accounting disclosures. However, the full disclosure of RPTs may not be cost effective because not all of the information that firms possess is value relevant to financial statement users. This study provides new evidence on the value relevance of additional disclosure on RPTs by using a unique, mandatory disclosure requirement of transfer pricing policies in China. We hypothesize and find that, compared to the mere disclosure of amounts for related-party sales, the disclosure of transfer pricing methods provides incremental value-relevant information beyond total sales. We also show that the disclosure of transfer pricing details complements weak corporate governance mechanisms and improves the prediction of abnormal returns. Our findings are robust to various model specifications, and demonstrate the significance of transparent and relevant RPT disclosure in inferring firm value.

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1. Introduction

Related-party transactions (RPTs) are commonly perceived as profit-shifting tools among group-affiliated companies to reduce taxes, prop up earnings, and tunnel profits¹ (Aharony et al., 2010; Gramlich et al., 2004; Harris, 1993; Jacob, 1996; Jian and Wong, 2010). To tackle these tax avoidance activities, tax authorities in some countries impose strict documentation requirements and request companies to provide detailed information during tax audits such as organizational structure, details of the transfer pricing methods used, and descriptions of analysis in developing the transfer pricing methods (Ernst & Young, 2013). Although RPTs are also commonly used for achieving various financial reporting purposes, such as earnings management and fund transfer within a corporate group, investors are not able to request of these companies' additional information beyond the statutory requirements. They mainly rely on the mandatory RPT disclosure reported in the financial statements to assess the presence and extent of manipulative RPTs. Whether such disclosure of RPTs for financial reporting purposes provides relevant information is thus an important issue for investors, researchers, and regulators to properly assess firm performance and infer firm value.

This study investigates whether disclosures of RPTs provide incremental value-relevant information beyond comprehensive income. RPT disclosure is a significant yet under-researched accounting issue. Prior studies evaluate the value relevance and incremental information content of accounting data by comparing the association between stock returns and accounting figures reported in financial statements. These figures include foreign translation adjustment, depreciation, fair value assets, and other comprehensive income (Brown and Sivakumar, 2003; Jones and Smith, 2011; Kang and Zhao, 2010; Louis, 2003; Song et al., 2010). However, still unresolved is the relevance of RPT disclosures in determining firm value beyond traditional financial statement items (OECD, 2012). This paper aims to shed light on this issue and extends prior literature by investigating whether the disclosure of transfer pricing details complements weak corporate governance mechanisms and improves the prediction of abnormal returns.

RPTs are substantial in both Western and Asian countries. Although RPTs are a legitimate and common business practice worldwide that may improve the performance of affiliated companies (Gordon et al., 2007; Khanna and Palepu, 2000), investors and other stakeholders are increasingly concerned with the possible abuse of RPTs (Gordon et al., 2007; OECD, 2009). Under certain conditions, RPTs can facilitate the personal gain of management and controlling owners or the tunneling of profits away from minority shareholders of a listed firm (OECD, 2009). Therefore, RPTs should be properly disclosed in financial statements to alert investors of the risk of fraudulent reporting and profit expropriation.

Investors are expected to be protected from expropriation to a certain extent if equity value already reflects a discount for such expropriation (Cheung et al., 2006; Kohlbeck and Mayhew, 2010). However, market participants are unsure that the existing RPT disclosure can achieve real transparency for identifying RPT manipulation (OECD, 2012). Even if the accounting standards promote proper RPT disclosure, this information may not be presented in a clear and investor-friendly manner (European Commission, 2011). The global accounting scandals involving Enron, Adelphia, and Tyco support this assertion. Investors experience difficulty in understanding the real motivation for RPTs from the financial statements and are unable to make investment decisions accordingly.

While Ryngaert and Thomas (2012) find that historical information concerning related-party relations helps to detect tunneling via RPTs, collecting this historical data is time-consuming, if not impossible, for general investors. Therefore, investors are likely to rely on the mandatory disclosure of RPTs reported in the current financial statements. The substance of the information contained in these disclosures is a significant issue for investors and market participants, and RPT disclosures deserve thorough research and investigation. A study of the value relevance of RPTs can extend our knowledge of the relevance and reliability of RPT disclosures with respect to equity value (Barth et al., 2001).

¹ The term “tunneling” or “tunnel” was originally used to describe “the expropriation of minority shareholders in the Czech Republic (as in moving assets through an underground tunnel)” (Johnson et al., 2000). Lo et al. (2010a) find that Chinese listed companies tunnel profits to parent companies via the manipulation of transfer prices of related-party sales transactions. Other tunneling activities can include loan guarantees and the manipulation of dividend payout rates.

We choose Chinese listed firms for our analysis of the research issue because many Chinese listed firms possess significant RPTs with their unlisted parent enterprises and other related companies (Jian and Wong, 2010). Many firms use RPTs to tunnel profits to unlisted parent enterprises (Lo et al., 2010a). Therefore, protecting minority shareholders from management exploitation is a corporate governance concern for China. The Accounting Standard for Business Enterprises 36 (ASBE 36) was issued in 2006 to strengthen Chinese RPT governance. Although ASBE 36 does not regulate the choice of transfer pricing methods, it mandates that all listed companies disclose their transfer pricing policy along with the nature and amount of RPTs in their financial statements. In particular, the two most common transfer pricing methods used by Chinese firms are market-based and cost-based methods. Whether or not this supplementary RPT disclosure effectively communicates useful information to investors has been overlooked in prior literature.² We believe that the mandatory disclosure requirement of transfer pricing policies, which is unique to China, provides a suitable setting to evaluate the usefulness of the executed RPT amounts and the substance (i.e., the disclosure details) of the RPTs. Discerning the role of transfer pricing methods should reveal information concerning the potential manipulative techniques associated with RPTs and how this information is perceived by investors.

The objective of this paper is threefold. First, we test whether the disclosure of RPT amounts provides investors with incremental relevant information concerning firm valuation beyond total sales. Following International Accounting Standard (IAS) 24, the disclosure of RPTs (including the disclosure of the relationships between affiliated companies and the nature and amount of RPTs) has become mandatory in most countries (CCH, 2010). The main objective of this accounting standard is to ensure that financial statement users are fully aware of the potential effects of RPTs on a firm's financial position and operating performance. However, prior studies, as well as the accounting scandals, suggest that such disclosure may not necessarily provide adequate or useful information for investors in evaluating the impact of RPTs (Benston et al., 2003; Cheung et al., 2006). We therefore investigate whether and how the disclosure of RPTs is useful for investor evaluation of firm performance. Specifically, we examine whether the disclosed amount of the RPTs has incremental value beyond the comprehensive income reported in financial statements.

Second, we examine the incremental value of the disclosed transfer pricing methods of RPTs. The manipulative nature of RPT pricing methods could distort investor perception of firm performance. A simple comparison of amounts transacted via related parties may not yield meaningful results concerning the usefulness and superiority of RPTs over conventional income data. Therefore, we investigate the incremental value of transfer pricing methods in addition to the amount of RPTs disclosed in financial statements. Prior studies find that firms use transfer pricing as a tool for profit expropriation (Cheung et al., 2006; Lo et al., 2010a). Therefore, we hypothesize that the disclosure of transfer pricing methods can provide incrementally useful information with respect to RPT manipulation.³ Transfer pricing methods data are not publicly available in most countries; however, our study provides new empirical evidence concerning value relevance of transfer pricing methods using the transfer pricing information available for listed firms in China.

Third, we investigate the interaction between a firm's RPT disclosure details and governance mechanisms concerning the value relevance of RPTs. We expect that transparent and detailed disclosure of RPTs may complement a firm's corporate governance mechanisms. Previous research shows that discretionary items are often valued lower in firms with weak corporate governance (Baik et al., 2008; Brown and Sivakumar, 2003). The research results suggest that discretionary items are more likely to facilitate earnings manipulations in the presence of weak governance mechanisms and thus provide indirect evidence that corporate governance may affect the information content of discretionary items. Our research aims to reveal the interplay between corporate governance and the value relevance of RPT disclosure. We argue that distinguishing non-discretionary RPTs from discretionary RPTs

² IAS, IFRS, and US GAAP do not require mandatory disclosure of the transfer pricing methods adopted for RPTs (CCH, 2010).

³ Additional disclosure should provide incremental information to the users of financial statements; however, the informativeness of the information may not be apparent because investors can be overwhelmed by lengthy and excessive footnote disclosures (KPMG, 2011). Therefore, it is possible that transfer pricing information is buried in the footnote disclosures if such disclosures are predominantly uninformative or complicated. Whether the additional disclosure of RPTs improves the value relevance of a firm's earnings is pending investigation.

based on the disclosed transfer pricing methods can improve the value relevance of RPT disclosure, particularly for firms with weak governance mechanisms.

Using a sample of 3092 firm-year observations of Chinese listed companies that had RPTs during the period 2007–2012, we first assess the value relevance of RPTs by estimating the return–earnings association. As hypothesized, we find that the disclosure of sales amounts transacted with related parties does not provide additional relevant information beyond the total sales amounts. However, the disclosure of transfer pricing methods does provide incremental value-relevant information, and this additional disclosure significantly improves the explanatory power of the regression model. We also find that transfer pricing disclosures are incrementally value relevant for firms with weak corporate governance but not for firms with strong corporate governance.⁴ Overall, our results are robust to various model specifications, and indicate that from the disclosure of transfer pricing details, investors can identify RPT manipulations and properly infer, or discount, the value of firms with such manipulations; and this is particularly manifested in firms with weak corporate governance.

This study contributes to the literature by addressing an unexplored research issue – the value of mandatorily disclosing transfer pricing methods. Prior studies mainly focus on investigating the motivation and economic consequences of RPT manipulation (e.g., [Cheung et al., 2006](#); [Jian and Wong, 2010](#); [Kohlbeck and Mayhew, 2010](#); [Lo et al., 2010a](#)). No previous research, to our knowledge, has empirically examined the effectiveness of RPT disclosure in improving shareholder protection. [KPMG \(2011\)](#) finds that investors are now overwhelmed by lengthy and excessive footnote disclosures. Therefore, it is important for the standard setters to understand whether RPT disclosures can improve the value relevance of a firm's earnings. We demonstrate that compared to the mere disclosure of amounts for related-party sales, the disclosure of transfer pricing methods provides incremental value-relevant information beyond total sales. These findings could provide valuable insights to accounting standard setters and help to devise an effective disclosure policy that could reduce the information asymmetry between management and minority shareholders. In addition, our tests on the interaction between the disclosure of transfer pricing methods and a firm's corporate governance are of importance to financial statement users, providing insights into the differing interpretations of the accounting data according to the corporate governance system. While prior evidence shows that good corporate governance mechanisms can help to deter RPT manipulation, we find that informative RPT disclosures complement weak corporate governance mechanisms by helping financial statement users to properly interpret the accounting data and improve the prediction of abnormal returns. Corporate governance in China is modeled on the US and other developed countries ([Lo et al., 2010b](#)). Therefore, we believe that our results can be generalized in these developed countries and other transitional economies.

The remainder of this paper is organized as follows. Section 2 describes the institutional background. Section 3 presents our research hypotheses. Section 4 documents the research methodology, and Section 5 discusses the results of the study followed by concluding remarks in Section 6.

2. Institutional background

2.1. Related-party transactions in China

Many Chinese listed firms have significant RPTs with their unlisted parent enterprises and other related affiliates. Most RPTs are perceived as inevitable, useful, and occur in ongoing operations ([OECD, 2009](#)). However, prior studies find that Chinese listed firms use RPTs to inflate earnings to achieve certain earnings targets (i.e., propping) and to transfer profits to parent state-owned enterprises (SOEs) to subsidize loss-making operations (i.e., tunneling) ([Aharony et al., 2010](#); [Berkman et al., 2009](#); [Jian and Wong, 2010](#); [Lo et al., 2010a](#); [Peng et al., 2011](#)). For example, [Jian and Wong \(2010\)](#) find that Chinese firms prop up their related-party sales to meet certain earnings targets as

⁴ A firm is classified as having weak corporate governance if it has (i) a high percentage of directors who are representatives of the parent company of the listed firm, (ii) a high percentage of government ownership, (iii) a low percentage of independent directors, and (iv) held few board meetings. Details are discussed in Section 4.

stipulated by the regulators.⁵ Berkman et al. (2009) find that Chinese listed companies tunnel profits via loan guarantees to related parties. Aharony et al. (2010) find that firms prop up profits via related-party sales in the pre-IPO period, and then tunnel profits to their parent companies in the post-IPO period. These abusive manipulations by RPTs represent a significant challenge for China.

Companies can engage in various business activities with group-affiliated companies such as the purchase or sale of goods and services, the purchase or sale of assets or equity, and inter-company lending. The most common RPTs conducted by Chinese listed companies are related-party sales transactions for goods and services (Jian and Wong, 2010). The significant impact of related-party sales transactions and their influence on a firm's financial position and operating performance reflect a recurring phenomenon. Prior studies also argue that related-party sales transactions in China refer to an important means for earnings propping and profits tunneling (Jian and Wong, 2010; Lo et al., 2010a). Therefore, we use related-party sales transactions as our main proxy for Chinese RPTs and examine whether the disclosure of related-party sales provides incremental value-relevant information beyond total sales.

2.2. The disclosure requirements for RPTs in China

The significant volume of RPTs and their potential impact on profits and cash flows render adequate disclosure necessary to protect minority investors from exploitation by corporate insiders. In China, RPT disclosure requirements are currently governed by the ASBE 36 (MOF, 2006) and the Shanghai Stock Exchange Listing Rules (Shanghai Stock Exchange, 2008). ASBE 36 was put in place in 2007 to replace the original accounting standards implemented in 1997 (MOF, 1997).⁶ ASBE 36 requires that the disclosures of RPTs include (i) the amount of the transactions, (ii) all outstanding balances and related terms and conditions (the listing of the details of any guarantees given or received), (iii) the provisions for bad debt with respect to the amount of outstanding accounts receivable balances, and (iv) any relevant pricing policies including market-based pricing and cost-based pricing methods.⁷ Appendix A provides an example of RPT disclosures in the period before and after the implementation of ASBE 36.

Similar to ASBE 36, IAS 24 also requires disclosure of the nature and amount of RPTs, and the amount of outstanding balances. However, the disclosure of RPT pricing methods is not required under IAS 24 (CCH, 2010), and the disclosure of pricing policies was only instituted on a voluntary basis in China under the 1997 accounting standards (Lo and Wong, 2011; MOF, 1997). Therefore, the mandatory disclosure requirements of transfer pricing policies specified in ASBE 36 (MOF, 2006) offers a unique opportunity to investigate improvements in the value relevance of RPT disclosure beyond other conventional disclosures when RPTs are disclosed in conjunction with transfer pricing policies. Appendix B provides the abstract of the relevant paragraphs of ASBE 36.

2.3. Pricing methods in China

ASBE 36 does not regulate the choice of transfer pricing methods; managers of listed companies have discretion in choosing the most appropriate transfer pricing methods in devising RPTs. The common pricing methods for Chinese RPTs include market-based and cost-based pricing methods (CCH, 2010; Chan and Lo, 2004). Market-based prices can be determined by (i) the market price for similar transactions between the company and the unrelated company or, (ii) the open market price for comparable transactions between two outside, unrelated parties. Conversely, cost-based pricing methods

⁵ The China Securities Regulatory Commission (CSRC) requires listed firms in China to maintain a certain level of return on equity (ROE) to be qualified for seasoned equity offerings. Moreover, the CSRC will delist a firm at least temporarily if it reports losses for three consecutive years. These regulatory requirements create incentives for earnings management to meet regulatory targets (Jian and Wong, 2010).

⁶ Due to the capital market development in China, the Ministry of Finance (MOF) promotes changes to the accounting standards and aims at converging the original Chinese accounting standards with the international standards. However, certain accounting practices were modified for China's setting to strengthen RPT governance. One representative example refers to the mandatory disclosure requirements of transfer pricing policies as stipulated in the new ASBE 36 (MOF, 2006).

⁷ Details of pricing methods in China are discussed in Section 2.3.

are determined from the available internal cost data. The cost-based pricing methods include an appropriate mark-up based on a desired rate of return on investment or capital. The costs could be actual full cost, standard full cost, actual variable cost, and standard variable cost. While mark-up is not always added to cost, prior studies suggest that cost-based methods are arbitrary because of the complexity in determining a fair mark-up profit (Chan and Lo, 2004; McAulay and Tomkins, 1992). For example, a listed company normally selling its products to third parties at a 30% mark-up can sell its product to its parent company at cost to tunnel profits. The arbitrary nature of setting an appropriate mark-up for cost-based methods facilitates an earnings management practice (e.g., selling at a higher mark-up) or a tunneling activity (e.g., selling at a lower mark-up). In contrast, market-based methods are less manipulative and are considered more objective and fairer than cost-based methods (Al-Eryani, 1987; Chan and Lo, 2004; Cook, 1995).⁸

3. Hypotheses development

3.1. A review of the RPT research

The mainstream RPT research focuses on the motivation for RPT manipulation. For example, in a sampling of Korean group companies, Kim and Yi (2006) find that RPTs represent opportunistic earnings management that benefits controlling shareholders. Jian and Wong (2010) reveal that Chinese firms prop up related-party sales to meet regulator-stipulated earnings targets. Lo et al. (2010a) and Kim et al. (2011) suggest that corporate insiders use RPTs to manipulate profit statements to maximize compensation or to obfuscate manipulative practices. Another stream of RPT research provides evidence concerning the economic consequences of RPTs. Cheung et al. (2006), using data from Hong Kong, and Kohlbeck and Mayhew (2010), using data from the US, find that investors react negatively to RPTs. However, Buysschaert et al. (2004) and Wong et al. (2015) find that markets react positively to intra-group equity sales of Belgian companies and related-party sales of Chinese firms, respectively.

While the users of financial statements need to identify expropriations to infer accurate firm value, recent studies provide evidence on certain characteristics of RPTs that signal RPT manipulation. For example, Cheung et al. (2006) find that trading transactions, asset acquisitions/sales, and equity sales are more likely to result in profits tunneling. Ryngaert and Thomas (2012) find that RPTs that are initiated after a company becomes a related party are more likely to be used for profit expropriation. Although related-party transactions are widely examined in prior studies, a lack of research exists concerning the effectiveness of transparent RPT disclosure requirements in indicating RPT expropriation and its associated value on predicting firm performance. This study contributes to the extant research by investigating whether RPT disclosure provides incremental value-relevant information beyond comprehensive income and the interaction between detailed RPT disclosure and corporate governance.

3.2. The incremental value of disclosing related-party sales

Related-party sales are integral to business and represent legitimate business practice. Such transactions facilitate superior resource allocation and reduce transaction costs among group-affiliated companies (i.e., efficient RPTs) (Gordon et al., 2007; Khanna and Palepu, 2000). However, firms can also tunnel profits via intra-company transactions (Aharony et al., 2010; Cheung et al., 2006; Jian and Wong, 2010; Kohlbeck and Mayhew, 2010; Lo et al., 2010a). Tunneling or misappropriation allows management and controlling owners to camouflage the extraction of privately controlled benefits from outside minority shareholders, which usually results in losses for the minority shareholders

⁸ We acknowledge the availability of market prices as a limitation because market prices may be more difficult to be ascertained in certain situations. For example, market prices would be more difficult to be ascertained for transactions relate to intangible assets, and internal market prices are not available if a company sells all of its products to related companies. Given that we do not include the sales of intangible assets in our sample, and we only have one firm-year observation that sold all of its products to related parties, we believe that the management at our sample firms should have full discretion in choosing the transfer pricing methods for the related-party sales transactions.

(i.e., opportunistic RPTs) (Liu and Lu, 2007). To increase shareholders' protections, firms are mandated to disclose their related-party sales to ensure that users of financial statements are made aware of the potential negative impacts of these transactions on operational and financial performance. Chinese accounting regulations, similar to US regulations, require all listed companies to disclose related-party sales transaction amounts in the footnotes of financial statements (MOF, 2006; Shanghai Stock Exchange, 2008). Based on the disclosed information, investors can separate total company sales into related-party and non-related-party sales and evaluate the contribution of the related-party sales to a firm's operating performance.

Accounting standard setting bodies expect that the disclosure of related-party sales should provide relevant information beyond total sales; disclosure would not be required otherwise. However, in practice, even if investors can identify related-party sales transactions, they are not able to discern the motivation and underlying objectives associated with the transactions (European Commission, 2011; OECD, 2012). It implies that even if efficient RPTs are likely to be valued higher than opportunistic RPTs, investors are not able to distinguish between the two types of RPTs and that the effects will average out. Therefore, the disclosure of related-party sales may not necessarily provide incremental value-relevant information beyond conventional accounting numbers such as earnings and book value of equity. Given these contrasting views, we test the following null hypothesis to understand the usefulness of the disclosure of related-party sales.

H1. Disclosure of related-party sales transaction amounts does not provide incremental value-relevant information beyond the disclosure of total sales.

3.3. The incremental value of disclosing transfer pricing methods

Under the relevant guidelines issued by the Organization for Economic Cooperation and Development (OECD, 2001), RPT prices should be set according to the market prices used in arm's length transactions (i.e., the arm's length principle). The arm's length principle for determining the RPT transfer price is also adopted by China. However, in practice, non-market prices are also commonly used (Lo et al., 2010b). Management may treat transfer pricing as a mechanism for shifting profits among related companies to reduce taxes, circumvent foreign exchange control, reward management, and to channel resources from one firm in a corporate group to another firm, or to the owner (Chan and Chow, 1997; Lo et al., 2010a).

As discussed previously, cost-based methods (i.e., methods based on internally determined cost data) are considered subjective in cost allocation and profit sharing among corporate units (Chan and Lo, 2004; McAulay and Tomkins, 1992). In contrast, market-based methods (i.e., methods benchmarked to market data) are perceived to be more objective and fairer than cost-based methods as firms have less room to manipulate the mark-ups (Al-Eryani, 1987; Chan and Lo, 2004; Cook, 1995). Lo and Wong (2011) find that firms that have manipulated earnings, or that have tunneled profits from listed companies, are less likely to voluntarily disclose transfer pricing methods. These findings imply that management believes that disclosing the amounts of market-based (versus cost-based) related-party sales provides investors and other stakeholders with useful information to evaluate the value of RPTs, and the disclosed amount of related-party sales under the cost-based methods would be valued lower than those under the market-based methods. Therefore, under voluntary disclosure, if a firm uses transfer pricing methods for opportunistic earnings management, companies would choose to withhold that transfer pricing information to avoid potential negative impact on stock returns.⁹

While the disclosure of RPT amounts may not necessarily provide incremental information (as hypothesized in H1), we believe that the disclosure of the differing transfer pricing methods being used for the related-party sales should provide relevant information to identify if RPTs are executed for opportunistic earnings management. Therefore, we expect that the disclosure of market-based ver-

⁹ The non-disclosure requirement of transfer pricing methods administered in many countries seems to be in conflict with the usefulness of such a disclosure policy. Investors can be overwhelmed by excessive footnote disclosures and overlook the information even if the disclosure of transfer pricing methods provided is useful (KPMG, 2011).

sus cost-based RPTs can assist investors in the identification of the discretionary cost-based related-party sales within the total sales reported. Investors interpreting the disclosure may value the discretionary cost-based related-party sales lower than the market-based related-party sales. Such disclosure should provide incremental value-relevant information beyond the disclosure of the total amount of related-party sales. We thus hypothesize the following in an alternative form:

H2. Disclosure of market-based versus cost-based related-party sales provides investors and other stakeholders with incremental value-relevant information beyond the disclosure of related-party sales.

3.4. Corporate governance and the value relevance of related-party sales

We believe that the incremental value of transfer pricing disclosure varies according to a firm's corporate governance mechanisms. Weak governance mechanisms are considered ineffective in deterring opportunistic earnings management and profits expropriation where prior studies find that firms with weak corporate governance are more likely to engage in earnings management or commit fraud than firms with strong corporate governance (Beasley, 1996; DeFond et al., 2007; Leuz et al., 2003). Using a sample of Chinese listed firms, Lo et al. (2010b) find that firms with weak corporate governance, in terms of a lower percentage of independent directors and a higher percentage of government ownership, are more likely to manipulate earnings and tunnel profits via transfer prices for related-party sales.

As hypothesized in H2, if the users of financial statements can distinguish non-discretionary related-party sales from discretionary related-party sales, investors can reduce the valuation of those discretionary related-party sales (i.e., cost-based related-party sales), and we argue that this is particularly true in firms with weak corporate governance. Because of the opportunistic earnings management and profits expropriation associated with firms with weak corporate governance, discretionary cost-based related-party sales are expected to be valued lower in these firms,¹⁰ and thus the disclosure of discretionary related-party sales should provide additional value-relevant information. We expect that the impact of the pricing method disclosure on the value relevance of RPTs is more pronounced for firms with weak corporate governance. In contrast, if investors consider a firm's governance mechanism to be sufficiently effective to prevent opportunistic earnings management and profits expropriation, the disclosure of the transfer pricing methods is unlikely to provide incremental value-relevant information beyond the traditional RPT disclosures for these firms. We test the following hypothesis in an alternative form to provide systematic evidence on this issue.

H3. Disclosure of market-based versus cost-based related-party sales provides incremental value-relevant information beyond the disclosure of related-party sales amounts only when firms have weak corporate governance.

4. Research methodology

4.1. Data collection

Our initial sample includes all the listed companies on the Shanghai Stock Exchange from the year 2007 to 2012, which provides 5070 firm-year observations. We exclude 380 firm-year observations for financial institutions or utility companies and exclude 1543 observations that show no RPTs. The RPT details including the amounts, types, transfer pricing methods, and pricing policies are hand-collected from the notes of the financial statements of the listed companies. The financial information such as income, sales, debt, and firm size is collected from the China Stock Market and Accounting Research (CSMAR) databases. We exclude 55 firm-year observations because of lack of data. Our final sample is composed of 3092 firm-year observations that meet all the selection criteria.

¹⁰ Consistent with prior literature (e.g., Baik et al., 2008; Brown and Sivakumar, 2003; Wang and Hussainey, 2013), we argue that discretionary items are often valued lower in firms with weak corporate governance.

4.2. The regression models

4.2.1. The incremental value of disclosing related-party sales

We follow Kang and Zhao's (2010) model to examine the incremental value of related-party sales disclosure (i.e., Hypothesis H1) and regress abnormal returns against the pre-tax net income of a firm. Pre-tax book income is the most value-relevant performance measure applied in China (Barton et al., 2010). Model (1) decomposes a firm's net income before taxes into (i) total sales (SALE) and (ii) total expenses (EXP). Model (2) further decomposes total sales into (i) related-party sales (RPT) and (ii) non-related-party sales (NONRPT).

$$AR_t = \alpha_0 + \alpha_1 \Delta SALE_t + \alpha_2 \Delta EXP_t + \alpha_3 SIZE_{t-1} + \alpha_4 DEBT_{t-1} + \alpha_5 BM_{t-1} + \alpha_6 CMI + \alpha_7 LEI + \alpha_8 MII + \alpha_9 YEAR + \alpha_{10} INDUSTRY + \varepsilon \quad (1)$$

$$AR_t = \alpha_0 + \alpha_1 \Delta RPT_t + \alpha_2 \Delta NONRPT_t + \alpha_3 \Delta EXP_t + \alpha_4 SIZE_{t-1} + \alpha_5 DEBT_{t-1} + \alpha_6 BM_{t-1} + \alpha_7 CMI + \alpha_8 LEI + \alpha_9 MII + \alpha_{10} YEAR + \alpha_{11} INDUSTRY + \varepsilon \quad (2)$$

Here, the dependent variable, abnormal returns (AR_t), is the market-adjusted (value-weighted), buy-and-hold return on common equity inclusive of dividends.¹¹ To ensure that all the effects of income are fully reflected in stock returns, the stock returns are measured from the beginning of the fourth month in the current fiscal year to the end of the third month in the subsequent fiscal year.

The first independent variable in Model (1), $\Delta SALE_t$, measures the difference between a firm's total sales in year t and year $t - 1$. A positive $\Delta SALE_t$ implies that there is an increase in total sales in year t . ΔEXP_t measures the difference between the firm's total expenses in year t and year $t - 1$. Note that $\Delta SALE_t$ and ΔEXP_t are the components of a firm's net income (i.e., net income = total sales – total expenses). The first independent variable in Model (2), ΔRPT_t , measures the difference between a firm's related-party sales in year t and year $t - 1$. $\Delta NONRPT_t$ measures the difference between a firm's non-related-party sales in year t and year $t - 1$. Note that the net income before tax equals related-party sales plus non-related-party sales minus total expenses. All of the independent variables are scaled according to the firm's beginning market equity (e.g., Biddle et al., 1997; Kang and Zhao, 2010). We use $\Delta SALE_t$, ΔEXP_t , ΔRPT_t , and $\Delta NONRPT_t$ in Models (1) and (2), in lieu of their respective levels, to alleviate concern with respect to possibly omitted variables that may be correlated with sales, expenses, related-party sales, and non-related-party sales, respectively.¹²

Consistent with prior studies concerning the information content of accounting items (e.g., Kang and Zhao, 2010), we include several control variables in the regression models. The control variables are $SIZE_{t-1}$ (measured by the natural log of lag total market equity), $DEBT_{t-1}$ (measured by the lag total debt-to-asset ratio), and BM_{t-1} (measured by the lag book-to-market equity ratio). We also include CMI , LEI , and MI to control for the differences in regional development across China (Fan and Wang, 2011). CMI is the credit market index, where a higher CMI indicates a more developed local credit market in that province. LEI is the legal environment index, where a higher LEI indicates a better legal environment in that province. MI is the market intermediary index, where a higher MI indicates a more developed system of market intermediaries in that province. Finally, we include $YEAR$ (year dummies) and $INDUSTRY$ (industry dummies determined using the standard industry classifications compiled by the China Securities Regulatory Commission [CSRC]) to control for the year and industry fixed effects, respectively. Table 1 provides the variable definitions.

To evaluate whether disclosure of related-party sales provide incremental value-relevant information beyond the disclosure of total sales (i.e., Hypothesis H1), we compare the R -squares of Models (1) and (2). If related-party sales provide incremental value over conventional sales figures, the R -square of Model (2) should be significantly larger than the R -square of Model (1), and $\alpha_1 = \alpha_2$ should also be rejected in Model (2). Conversely, if related-party sales do not provide incremental value beyond total

¹¹ We also check the robustness of our results by using various alternative measures of abnormal returns, namely raw returns, size-adjusted abnormal returns, market-adjusted (equal-weighted) abnormal returns, in replacing the market-adjusted (value-weighted) returns. Using alternative variable specifications yields similar results. Details are presented in Section 5.2.4.

¹² One limitation is that it only addresses time-invariant heterogeneity across firms.

Table 1

Variable definitions.

AR_t	Market-adjusted (value-weighted) abnormal return of the firm in year t
$\Delta SALE_t$	Change in total sales between year t and year $t - 1$ (scaled by the beginning market equity)
ΔRPT_t	Change in related-party sales between year t and year $t - 1$ (scaled by the beginning market equity)
$\Delta NONRPT_t$	Change in non-related-party sales between year t and year $t - 1$ (scaled by the beginning market equity)
ΔEXP_t	Change in expenses between year t and year $t - 1$ (scaled by the beginning market equity)
MK_t	Percentage of related-party sales that use market-based transfer pricing methods in year t
$SIZE_{t-1}$	Natural logarithm of total market equity in year $t - 1$
$DEBT_{t-1}$	Total debt over total assets of the firm in year $t - 1$
BM_{t-1}	Book-to-market equity ratio of the firm in year $t - 1$
CMI	Credit market index; a higher CMI indicates a more developed local credit market in that province
LEI	Legal environment index; a higher LEI indicates a better legal environment in that province
MII	Market intermediary index; a higher MII indicates a more developed system of market intermediaries in that province
CG_t	=1 if the sum of P_DIR_t , GOV_t , IND_DIR_t , and $MEET_t$ is equal to 4, and 0 otherwise
P_DIR_t	=1 if the percentage of parent directors is below the sample median, and 0 otherwise
GOV_t	=1 if the percentage of government controlling ownership is below the sample median, and 0 otherwise
IND_DIR_t	=1 if the percentage of independent directors is above the sample median, and 0 otherwise
$MEET_t$	=1 if the number of board meetings is above the sample median, and 0 otherwise
$YEAR$	A vector of year dummy variables
$INDUSTRY$	A vector of industry dummy variables

sales, there should be no significant difference between the R -squares of Models (1) and (2). Moreover, if $\alpha_1 = \alpha_2$ in Model (2), it means that related-party sales and non-related-party sales can be collapsed into a single component, sales, and thus separating total sales into related-party and non-related-party sales does not provide incremental relevant information.

4.2.2. The incremental value of disclosing transfer pricing methods

We include MK_t and an interaction term of ΔRPT_t and MK_t in Model (2) to construct a new regression model that examines whether the disclosure of transfer pricing methods provides incremental value-relevant information beyond the mere disclosure of the amounts of related-party sales (i.e., Hypothesis H2).

$$AR_t = \alpha_0 + \alpha_1 \Delta RPT_t + \alpha_2 MK_t + \alpha_3 \Delta RPT_t * MK_t + \alpha_4 \Delta NONRPT_t + \alpha_5 \Delta EXP_t + \alpha_6 SIZE_{t-1} + \alpha_7 DEBT_{t-1} + \alpha_8 BM_{t-1} + \alpha_9 CMI + \alpha_{10} LEI + \alpha_{11} MII + \alpha_{12} YEAR + \alpha_{13} INDUSTRY + \varepsilon \quad (3)$$

In Model (3), the variable MK_t represents the percentage of related-party sales that use market-based transfer pricing methods for total related-party sales. A transaction is classified as using market-based transfer prices if the company uses an uncontrolled pricing method to determine prices. An uncontrolled price can be determined by the market price for transactions between the company and its unrelated companies, or the open market price of similar transactions between two third parties. All other variables are the same as those specified in Model (2). Hypothesis H2 is supported if we observe that the R -square of Model (3) is significantly larger than that of Model (2). This suggests that the disclosure of transfer pricing methods, if disclosed together with the related-party sales, provides incremental value-relevant information beyond the disclosure of RPT amounts. Additionally, because we hypothesize that managers are less likely to manipulate related-party sales via market-based transfer pricing methods, we expect that market-based related-party sales should have a larger impact on firm value than cost-based related-party sales, and thus α_3 should be positive and significant in Model (3).

4.2.3. Corporate governance and the value relevance of related-party sales

We categorize our sample firms according to strong firm governance versus weak governance to evaluate whether the value of transfer pricing disclosure varies between firms with different levels of governance efficacy. The level of governance efficacy is based on (i) the percentage of directors that are representatives of parent companies (i.e., parent directors), (ii) the government controlling

ownership, (iii) the percentage of independent directors, and (iv) the number of board meetings (Beasley, 1996; Carcello et al., 2002; Lo and Wong, 2011).

To examine Hypothesis H3, we run Models (2) and (3) for the subsample of firms with strong corporate governance versus the subsample of firms with weak corporate governance. We first construct a composite variable, CG_t , to represent the sum of P_DIR_t , GOV_t , IND_DIR_t , and $MEET_t$. P_DIR_t is a dummy variable which is equal to 1 if the percentage of parent directors on the board in year t is below the sample median, and 0 otherwise. GOV_t is a dummy variable which is equal to 1 if the percentage of shares owned by the controlling shareholder in year t is below the sample median, and 0 otherwise. IND_DIR_t is a dummy variable which is equal to 1 if the percentage of independent directors on the board in year t is above the sample median, and 0 otherwise. $MEET_t$ is a dummy variable which is equal to 1 if the number of board meetings held in year t is above the sample median, and 0 otherwise. We then classify a firm as having strong corporate governance (i.e., $CG_t = 1$) if the sum of P_DIR_t , GOV_t , IND_DIR_t , and $MEET_t$ is equal to 4, and classify a firm as having weak corporate governance (i.e., $CG_t = 0$) if otherwise.¹³ Hypothesis H3 is supported if we observe that the R -square of Model (3) is significantly larger than that of Model (2), and α_3 is positive and significant in Model (3) for firms with weak corporate governance only (i.e., for the subsample of $CG_t = 0$).

5. Empirical results

5.1. Descriptive statistics and correlations

Table 2 shows the descriptive statistics (Panel A) and correlations (Panel B) of selected variables included in Models (1), (2), and (3). Panel A shows that the mean value of the abnormal return (AR_t) is 0.002, whereas the mean values of firm size ($SIZE_{t-1}$), leverage ($DEBT_{t-1}$), and growth (BM_{t-1}) are 21.996, 0.537 and 0.398, respectively. The mean and median values of MK_t are 0.570 and 1.000, respectively, implying that over 50% of our sample firms use market-based pricing for their related-party sales.¹⁴ Panel B shows that the change in sales ($\Delta SALE_t$), the change in non-RPTs ($\Delta NONRPT_t$), the change in expenses (ΔEXP_t), and market-based methods (MK_t) are positively correlated with the market-adjusted abnormal returns (AR_t); whereas $SIZE_{t-1}$ and CMI are negatively correlated with the abnormal returns. We also find that leverage ($DEBT_{t-1}$) is negatively correlated with book-to-market ratio (BM_{t-1}), which is consistent with the findings of Kang and Zhao (2010). Additionally, although we find that $\Delta SALE_t$, $\Delta NONRPT_t$, and ΔEXP_t are highly correlated with each other, we do not find that these correlations cause significant multicollinearity in our regressions.

5.2. Regression results

5.2.1. The incremental value of disclosing related-party sales and transfer pricing methods

Table 3 reports the regression results for Models (1) and (2). The table shows that both models are statistically significant at the 1% level, and the R -squares are both 15.9%.¹⁵ There is no significant difference in the explanatory power between the two models. We also find that, in Model (2), both the coefficients on ΔRPT_t and $\Delta NONRPT_t$ are statistically significant (p -values < 0.01) but they are not significantly

¹³ We note that the value of 1 for each variable of P_DIR_t , GOV_t , IND_DIR_t , and $MEET_t$ represents firms with strong corporate governance, and thus the case when CG_t is equal to 1 represents the situation where firms have “clear cut” strong corporate governance. As a robustness check, we alternatively classify a firm as having strong corporate governance (i.e., $CG_t = 1$) if the sum of P_DIR_t , GOV_t , IND_DIR_t , and $MEET_t$ is equal to 3 or larger, and classify a firm as having weak corporate governance (i.e., $CG_t = 0$) if otherwise. Regression results using this alternative sample partitioning are qualitatively similar to the main results reported in Table 6.

¹⁴ In total, 37.6% of our sample firms use cost-based pricing for all of their related-party sales (i.e., $MK_t = 0.00\%$), and 50.4% of our sample firms use market-based pricing for all of their related-party sales (i.e., $MK_t = 100.00\%$). As a sensitivity test, we use a dummy variable MK_DUM_t to replace MK_t . MK_DUM_t represents firms with a dominant market-based transfer pricing method and is equal to 1 if MK_t is larger than 50%; and 0 otherwise. Details of this sensitivity test will be discussed in Section 5.2.4.

¹⁵ The average variance inflation factor (VIF) for the independent variables in Model (2) is 3.207, whereas the largest VIF is 9.959. According to Gujarati (1999) and Greene (2008), multicollinearity is unlikely to be problematic in our regression because all the VIFs are lower than 10. A VIF below 10 is not regarded as high by accounting research (Lennox et al., 2012).

Table 2Descriptive statistics and correlations for firms with related-party sales ($n = 3092$).

Panel A: Descriptive statistics												
	Mean	Std. deviation		25%		50%		75%				
AR_t	0.002	0.331		−0.219		−0.043		0.182				
$\Delta SALE_t$	0.095	0.321		−0.008		0.047		0.151				
ΔRPT_t	0.007	0.144		−0.002		0.000		0.008				
$\Delta NONRPT_t$	0.088	0.309		−0.011		0.041		0.143				
ΔEXP_t	0.085	0.316		−0.006		0.046		0.141				
MK_t	0.570	0.481		0.000		1.000		1.000				
$SIZE_{t-1}$	21.996	1.302		21.142		21.820		22.685				
$DEBT_{t-1}$	0.537	0.250		0.391		0.534		0.662				
BM_{t-1}	0.398	0.297		0.205		0.336		0.544				
CMI	10.804	1.393		10.170		10.680		11.960				
LEI	11.426	5.801		6.000		8.300		17.140				
MII	6.863	1.706		5.570		6.700		8.350				
Panel B: Correlations												
	AR_t	$\Delta SALE_t$	ΔRPT_t	$\Delta NONRPT_t$	ΔEXP_t	MK_t	$SIZE_{t-1}$	$DEBT_{t-1}$	BM_{t-1}	CMI	LEI	MII
AR_t	1.000											
$\Delta SALE_t$	0.075***	1.000										
ΔRPT_t	0.011	0.166***	1.000									
$\Delta NONRPT_t$	0.074***	0.850***	0.016	1.000								
ΔEXP_t	0.029**	0.813***	0.158***	0.723***	1.000							
MK_t	0.038***	0.001	−0.024	0.013	0.015	1.000						
$SIZE_{t-1}$	−0.138***	0.068***	0.023	0.065***	0.075***	−0.080***	1.000					
$DEBT_{t-1}$	0.017	0.099***	0.021	0.086**	0.098***	0.058***	−0.036***	1.000				
BM_{t-1}	0.005	0.038***	−0.029**	0.042***	0.051***	−0.053***	−0.146***	−0.090***	1.000			
CMI	−0.028**	−0.038***	−0.025**	−0.030**	−0.043***	−0.033**	0.015	−0.031**	0.035***	1.000		
LEI	−0.023	−0.041***	−0.025**	−0.033***	−0.045***	−0.039***	0.072***	−0.039***	0.021	0.601***	1.000	
MII	−0.007	−0.032***	−0.018	−0.025**	−0.036***	−0.033**	0.094***	−0.038***	0.008	0.410***	0.679***	1.000

Variable definitions are in Table 1.

*** Significance at the 1% level (two-tailed test).

** Significance at the 5% level (two-tailed test).

Table 3Regression results on the impact of related-party sales on abnormal return ($n = 3092$).

$AR_t = \alpha_0 + \alpha_1 \Delta SALE_t + \alpha_1 \Delta EXP_t + \alpha_3 SIZE_{t-1} + \alpha_4 DEBT_{t-1} + \alpha_5 BM_{t-1} + \alpha_6 CMI + \alpha_7 LEI + \alpha_8 MII + \alpha_9 YEAR + \alpha_{10} INDUSTRY + \varepsilon \quad (1)$ $AR_t = \alpha_0 + \alpha_1 \Delta RPT_t + \alpha_1 \Delta NONRPT_t + \alpha_3 \Delta EXP_t + \alpha_4 SIZE_{t-1} + \alpha_5 DEBT_{t-1} + \alpha_6 BM_{t-1} + \alpha_7 CMI + \alpha_8 LEI + \alpha_9 MII + \alpha_{10} YEAR + \alpha_{11} INDUSTRY + \varepsilon \quad (2)$					
Independent variable	Predicted sign	Model (1)		Model (2)	
		Regression coeff.	<i>t</i> -stat	Regression coeff.	<i>t</i> -stat
$\Delta SALE_t$		1.634	10.980***	1.643	11.000***
ΔRPT_t	+	0.494	5.270***		
$\Delta NONRPT_t$	+			0.451	4.170***
ΔEXP_t	–			0.499	5.360***
$SIZE_{t-1}$?	–0.390	–3.840***	–0.388	–3.810***
$DEBT_{t-1}$?	–0.071	–12.820***	–0.071	–12.820***
BM_{t-1}	?	–0.018	–0.780	–0.018	–0.790
CMI	?	0.042	1.900*	0.041	1.820*
LEI	?	–0.019	–3.350***	–0.019	–3.350***
II	?	–0.001	–0.450	–0.001	–0.430
$YEAR$?	0.019	2.960***	0.019	2.940***
$INDUSTRY$		Included		Included	
Adjusted <i>R</i> -square		15.9%		15.9%	
<i>F</i> statistic		26.433***		25.396***	
Test of coefficient restriction (<i>p</i> -value)					
Model (2) $\alpha_1 = \alpha_2$				0.340	

The *t*-statistics are based on standard errors adjusted for clustering on firms.

Variable definitions are in Table 1.

*** Significance at the 1% level (two-tailed test).

* Significance at the 10% level (two-tailed test).

different from each other. Taken together, these results are consistent with Hypothesis H1, which indicates that the disclosure of related-party sales has no incremental information content beyond total sales disclosure. Therefore, ΔRPT_t and $\Delta NONRPT_t$ can be combined into a single coefficient $\Delta SALE_t$ to predict the abnormal returns of a firm. The separation of total sales into related-party sales and non-related-party sales is not incrementally useful for predicting firm market performance as reflected in annual market-adjusted stock returns.¹⁶

Table 4 presents the regression results for Model (3). As shown in the table, we find that the *R*-square for Model (3) (16.2%) is larger than the *R*-square for Model (2) (15.9%) at the 5% level ($Z = -1.775$; $p = 0.038$).¹⁷ This finding implies that the disclosure of transfer pricing methods provides incremental value-relevant information beyond the information contained in the related-party sales. Additionally, we find that the coefficients on ΔRPT_t (α_1), $\Delta RPT_t * MK_t$ (α_3), and $\Delta NONRPT_t$ (α_4) are positive and significant in the model (p -values < 0.01). Further, we find that the coefficient on ΔRPT_t (α_1) is significantly smaller than the coefficient on $\Delta NONRPT_t$ (α_4) (p -value < 0.01), while the sum of coefficients on ΔRPT_t and $\Delta RPT_t * MK_t$ ($\alpha_1 + \alpha_3$) is not significantly different from the coefficients on $\Delta NONRPT_t$ (α_4).

Consistent with Hypothesis H2, these findings suggest that the cost-based related-party sales have a less positive impact on a firm's abnormal returns than do the market-based related-party sales. Interpreting our results implies that separately disclosing these two types of RPTs can provide relevant information.¹⁸ The results also suggest that one standard deviation increase in MK_t (0.481) increases the abnormal return by 1%. This impact is economically significant given that the average abnormal return of the sample firms is about 0.2%. Cheung et al. (2006) and Peng et al. (2011) find that the market reacts unfavorably to tunneling via RPTs. We believe that our results largely reflect the negative tunneling effects of cost-based related-party sales. Although the amount of related-party sales transactions *per se* does not provide incremental value-relevant content (as reported in Models (1) and (2)), specific information concerning the pricing methods of the related-party sales does contain incremental information content beyond the conventional sales figures and helps to explain abnormal returns (as captured in Model (3)).

5.2.2. Corporate governance and the value relevance of related-party sales

Table 5 reports the descriptive statistics of firms with strong versus weak corporate governance. Our results show that almost all firm characteristics, including abnormal returns (AR_t), sales ($\Delta SALE_t$), related-party sales (ΔRPT_t), and size ($SIZE_{t-1}$), for firms with weak corporate governance (i.e., $CG_t = 0$) are similar to those for firms with strong corporate governance (i.e., $CG_t = 1$). Table 6 reports the regression results for Model (3) for firms with strong corporate governance versus firms with weak corporate governance. For firms with weak corporate governance, Subsample (ii) of Table 6 shows that the coefficients on ΔRPT_t , $\Delta RPT_t * MK_t$, and $\Delta NONRPT_t$ are positive and significant at the 1% level, where the coefficient on ΔRPT_t is significantly smaller than the coefficient on $\Delta NONRPT_t$ (i.e., $\alpha_1 = \alpha_4$ is rejected). The results are very similar to those reported in Table 4, and they suggest that market-based related-party sales are valued higher than cost-based related-party sales. We also compare the *R* squares of Model (3) and Model (2) using the subsample of firms with weak corporate governance. Although the results of Model (2) are not reported for brevity's sake, we find that the disclosure of market-based transfer pricing methods (i.e., Model (3)) generally improves the *R* square of the model where the difference in *R* squares between Model (3) and Model (2) is statistically significant

¹⁶ As a sensitivity test, we rerun Models (1) and (2) using the year 2006 data (i.e., observations in the pre-regulation period), and we find that the results are qualitatively similar to the results reported in Table 3. It implies that related-party sales do not provide incremental value over total sales no matter if it is before or after the implementation of the mandatory transfer pricing disclosure requirements.

¹⁷ Following Subramanyam and Venkatachalam (2007), we use Vuong's (1989) test to compare the *R*-squares of the two regression models.

¹⁸ As an alternative test, we identify if there are sample firms (within our sample period) that had voluntary disclosure of transfer pricing policies prior to the rule change in 2007. Based on this identification, we partition our sample into companies that had prior disclosure policies versus companies that did not, and rerun regressions for these subsamples. Our results show that the *R*-square of Model (3) is significantly larger than the *R*-square of Model (2) only for the sub-sample of companies that did not disclose transfer pricing policies in 2006. However, we find that the coefficients on $\Delta RPT_t * MK_t$ are positive and significant no matter whether the firms had prior disclosure of transfer pricing policies or not.

Table 4Regression results on the impact of market-based transfer pricing methods on abnormal return ($n = 3092$).
$$AR_t = \alpha_0 + \alpha_1 \Delta RPT_t + \alpha_2 MK_t + \alpha_3 \Delta RPT_t * MK_t + \alpha_4 \Delta NONRPT_t + \alpha_5 \Delta EXP_t + \alpha_6 SIZE_{t-1} + \alpha_7 DEBT_{t-1} + \alpha_8 BM_{t-1} + \alpha_9 CMI + \alpha_{10} LEI + \alpha_{11} MII + \alpha_{12} YEAR + \alpha_{13} INDUSTRY + \varepsilon \quad (3)$$

Independent variable	Predicted sign	Regression coeff.	t-stat
Intercept		1.609	10.650***
ΔRPT_t	+	0.334	3.280***
MK_t	?	0.020	1.700*
$\Delta RPT_t * MK_t$	+	0.244	3.980***
$\Delta NONRPT_t$	+	0.512	5.440***
ΔEXP_t	—	−0.397	−3.850***
$SIZE_{t-1}$?	−0.070	−12.470***
$DEBT_{t-1}$?	−0.019	−0.830
BM_{t-1}	?	0.047	2.090**
CMI	?	−0.020	−3.380***
LEI	?	−0.001	−0.250
MI	?	0.018	2.830***
YEAR		Included	
INDUSTRY		Included	
Adjusted R-square		16.2%	
F statistic		24.029***	
Test of coefficient restriction (p-value)			
$\alpha_1 = \alpha_4$		0.001***	
$\alpha_1 + \alpha_3 = \alpha_4$		0.187	

The t-statistics are based on standard errors adjusted for clustering on firms.

Variable definitions are in Table 1.

*** Significance at the 1% level (two-tailed test).

** Significance at the 5% level (two-tailed test).

* Significance at the 10% level (two-tailed test).

Table 5Descriptive statistics for firms with strong versus weak corporate governance.

	$CG_t = 1$ ($n = 387$)		$CG_t = 0$ ($n = 2705$)		t-value
	Mean	Std. deviation	Mean	Std. deviation	
AR_t	0.018	0.331	−0.001	0.330	1.024
$\Delta SALE_t$	0.102	0.249	0.094	0.331	0.446
ΔRPT_t	0.010	0.066	0.007	0.152	0.373
MK_t	0.602	0.477	0.566	0.481	1.395
$\Delta NONRPT_t$	0.092	0.243	0.087	0.317	0.291
ΔEXP_t	0.086	0.239	0.085	0.325	0.027
$SIZE_{t-1}$	22.245	1.015	22.304	1.242	−0.893
$DEBT_{t-1}$	0.548	0.224	0.536	0.253	0.891
BM_{t-1}	0.376	0.270	0.401	0.301	−1.493
CMI	10.740	1.514	10.813	1.375	−0.961
LEI	10.777	5.585	11.519	5.827	−2.357**
MI	6.553	1.614	6.907	1.715	−3.827***

Variable definitions are in Table 1.

*** Significance at the 1% level (two-tailed test).

** Significance at the 5% level (two-tailed test).

at the 5% level ($Z = -1.917$; p -value = 0.028). It implies that the disclosure of transfer pricing details complements weak corporate governance and improves the prediction of abnormal returns.

In contrast, for firms with strong corporate governance (i.e., Subsample (i) of Table 6), we find that the coefficient on $\Delta RPT_t * MK_t$ is not statistically significant, and the R -square for Model (3) is not significantly different from the R -square for Model (2). Additionally, we find that the coefficient on ΔRPT_t (α_1) is not significantly different from the coefficient on $\Delta NONRPT_t$ (α_4), and the sum of coefficients on

Table 6Regression results on the impact of related-party disclosures for firms with strong versus weak corporate governance.

$AR_t = \alpha_0 + \alpha_1 \Delta RPT_t + \alpha_2 MK_t + \alpha_3 \Delta RPT_t * MK_t + \alpha_4 \Delta NONRPT_t + \alpha_5 \Delta EXP_t + \alpha_6 SIZE_{t-1} + \alpha_7 DEBT_{t-1} + \alpha_8 BM_{t-1} + \alpha_9 CMI + \alpha_{10} LEI + \alpha_{11} MII + \alpha_{12} YEAR + \alpha_{13} INDUSTRY + \varepsilon \quad (3)$					
Independent variable	Predicted sign	Subsample (i) Strong corporate governance ($CG_t = 1$; $n = 387$)		Subsample (ii) Weak corporate governance ($CG_t = 0$; $n = 2705$)	
		Coeff.	t-stat	Coeff.	t-stat
Intercept		1.751	3.690***	1.599	9.920***
ΔRPT_t	+	0.866	2.180**	0.300	2.950***
MK_t	?	0.007	0.190	0.022	1.820*
$\Delta RPT_t * MK_t$	+	−0.358	−0.830	0.259	4.200***
$\Delta NONRPT_t$	+	0.887	2.990***	0.481	5.090***
ΔEXP_t	−	−0.672	−2.150**	−0.371	−3.570***
$SIZE_{t-1}$?	−0.078	−3.910***	−0.069	−11.920***
$DEBT_{t-1}$?	−0.064	−0.960	−0.016	−0.660
BM_{t-1}	?	−0.048	−0.610	0.054	2.290*
CMI	?	−0.021	−1.270	−0.020	−3.170***
LEI	?	0.000	0.070	−0.001	−0.550
MI	?	0.022	0.960	0.020	3.030***
$YEAR$		Included		Included	
$INDUSTRY$		Included		Included	
Adj. R-square			17.0%		16.4%
F statistic			4.042***		21.381***
Test of coefficient restriction (p-value)					
$\alpha_1 = \alpha_4$			0.935	0.001***	
$\alpha_1 + \alpha_3 = \alpha_4$			0.279	0.119	

The t-statistics are based on standard errors adjusted for clustering on firms.

Variable definitions are in Table 1.

*** Significance at the 1% level (two-tailed test).

** Significance at the 5% level (two-tailed test).

* Significance at the 10% level (two-tailed test).

ΔRPT_t (α_1) and $\Delta RPT_t * MK_t$ (α_3) is not significantly different from the coefficient on $\Delta NONRPT_t$ (α_4) in Model (3). These results imply that the cost-based related-party sales, market-based related-party sales, and non-related-party sales can be combined into a single component, sales. Taken together, the results reported in Table 6 are consistent with Hypothesis H3, which states that the disclosure of transfer pricing details is incrementally value relevant for firms with weak governance, but not for firms with strong governance. The market-based related-party sales are of higher value than the cost-based related-party sales for firms with weak corporate governance, whereas the impacts of market-based and cost-based related-party sales on abnormal returns are similar for firms with strong corporate governance.

To check for the robustness of our results, we run the regression models separately for the subsamples of firms with (i) a small percentage versus a large percentage of parent directors (P_DIR_t); (ii) low versus high government ownership (GOV_t); (iii) a large percentage versus a small percentage of independent directors (IND_DIR_t); and (iv) more versus fewer board meetings ($MEET_t$). The results are presented in Table 7. As shown in the table, we find that the coefficients on $\Delta RPT_t * MK_t$ are positive and significant at the 1% level, and the disclosure of market-based transfer pricing methods generally improves the R squares of the models where the differences in R squares between Model (3) and Model (2) are statistically significant at the 5% or 10% levels ($Z = -1.924/-1.488/-1.832/-1.965$; p -value = 0.027/0.069/0.033/0.025) for the respective subsamples of firms with weak corporate governance proxies (i.e., $P_DIR_t = 0$; $GOV_t = 0$; $IND_DIR_t = 0$; or $MEET_t = 0$). For firms with strong corporate governance, we find that the coefficients on $\Delta RPT_t * MK_t$ are not statistically significant, and the R-squares for Model (3) are not significantly different from the R-squares for Model (2). These findings are qualitatively similar to the results reported in Table 6, which further buttress our results and sug-

Table 7Sensitivity test: regression results on the impact of related-party disclosures for firms with strong versus weak corporate governance.

$AR_t = \alpha_0 + \alpha_1 \Delta RPT_t + \alpha_2 MK_t + \alpha_3 \Delta RPT_t * MK_t + \alpha_4 \Delta NONRPT_t + \alpha_5 \Delta EXP_t + \alpha_6 SIZE_{t-1} + \alpha_7 DEBT_{t-1} + \alpha_8 BM_{t-1} + \alpha_9 CMI + \alpha_{10} LEI + \alpha_{11} MII + \alpha_{12} YEAR + \alpha_{13} INDUSTRY + \varepsilon \quad (3)$									
Independent variable	Predicted sign	Subsample (i) Strong corporate governance $P_DIR_t = 1$ (n = 1548)		Subsample (i) Weak corporate governance $P_DIR_t = 0$ (n = 1544)		Subsample (ii) Strong corporate governance $GOV_t = 1$ (n = 1557)		Subsample (ii) Weak corporate governance $GOV_t = 0$ (n = 1535)	
		Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept		1.815	8.480***	1.562	7.510***	1.764	6.340***	1.556	8.570***
ΔRPT_t	+	0.530	3.240**	0.303	2.300**	0.286	1.840*	0.534	3.060***
MK_t	?	0.008	0.490	0.026	1.610	0.029	1.740*	0.017	1.060
$\Delta RPT_t * MK_t$	+	0.161	1.170	0.262	4.740***	0.183	0.970	0.247	3.740***
$\Delta NONRPT_t$	+	0.599	4.980***	0.494	3.890***	0.486	4.450***	0.686	4.090***
ΔEXP_t	–	–0.444	–3.550***	–0.411	–2.870***	–0.278	–2.420**	–0.620	–3.290***
$SIZE_{t-1}$?	–0.077	–9.380***	–0.069	–9.300***	–0.078	–7.000***	–0.065	–9.440***
$DEBT_{t-1}$?	–0.028	–0.760	–0.008	–0.280	–0.009	–0.330	–0.057	–1.190
BM_{t-1}	?	–0.025	–0.790	0.110	3.360***	0.019	0.560	0.104	3.500***
CMI	?	–0.022	–2.930***	–0.020	–2.110**	–0.016	–1.890*	–0.027	–3.510***
LEI	?	0.001	0.410	–0.002	–0.530	–0.002	–0.630	0.002	0.570
MI	?	0.018	1.910*	0.019	2.110**	0.020	2.240**	0.013	1.450
YEAR		Included		Included		Included		Included	
INDUSTRY		Included		Included		Included		Included	
Adj. R-square			16.5%		16.2%		15.9%		17.2%
F statistic			12.784***		12.485***		12.337***		13.240***
Test of coefficient restriction (p-value)									
$\alpha_1 = \alpha_4$			0.457		0.001***		0.921		0.002***
$\alpha_1 + \alpha_3 = \alpha_4$			0.380		0.140		0.060*		0.063*

Independent variable	Predicted sign	Subsample (iii) Strong corporate governance <i>IND_DIR_t</i> = 1 (n = 1317)		Subsample (iii) Weak corporate governance <i>IND_PIR_t</i> = 0 (n = 1775)		Subsample (iv) Strong corporate governance <i>MEET_t</i> = 1 (n = 1194)		Subsample (iv) Weak corporate governance <i>MEET_t</i> = 0 (n = 1898)	
		Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept		1.563	6.190***	1.747	9.970***	1.599	6.230***	1.655	8.990***
ΔRPT_t	+	0.267	1.740*	0.410	2.880**	0.622	2.500**	0.234	2.410**
MK_t	?	0.003	0.150	0.030	2.040**	0.001	0.050	0.026	1.830*
$\Delta RPT_t * MK_t$	+	0.243	1.370	0.255	4.420***	0.079	0.390	0.289	4.590***
$\Delta NONRPT_t$	+	0.428	3.830***	0.611	4.440***	0.720	3.750***	0.464	4.920***
ΔEXP_t	–	–0.323	–2.600***	–0.488	–3.300***	–0.672	–3.200***	–0.308	–3.090***
$SIZE_{t-1}$?	–0.062	–7.570***	–0.080	–10.820***	–0.063	–6.850***	–0.076	–10.860***
$DEBT_{t-1}$?	–0.050	–1.190	–0.007	–0.250	–0.031	–0.650	0.001	0.020
BM_{t-1}	?	0.038	1.080	0.039	1.340	–0.021	–0.500	0.073	2.550**
<i>CMI</i>	?	–0.034	–2.830***	–0.010	–1.840*	–0.030	–3.000***	–0.013	–1.880*
<i>LEI</i>	?	–0.001	–0.160	0.000	0.050	0.000	0.120	–0.001	–0.480
<i>MII</i>	?	0.029	2.720***	0.010	1.300	0.017	1.660*	0.019	2.400**
<i>YEAR</i>		Included		Included		Included		Included	
<i>INDUSTRY</i>		Included		Included		Included		Included	
Adj. R-square			12.9%		19.5%		16.1%		17.31%
F statistic			8.499***		17.554***		9.828***		16.282***
Test of coefficient restriction (p-value)									
$\alpha_1 = \alpha_4$			0.119		0.001***		0.544		0.001***
$\alpha_1 + \alpha_3 = \alpha_4$			0.607		0.198		0.889		0.276

The *t*-statistics are based on standard errors adjusted for clustering on firms.

Variable definitions are in Table 1.

*** Significance at the 1% level (two-tailed test).

** Significance at the 5% level (two-tailed test).

* Significance at the 10% level (two-tailed test).

Table 8Regression results on the impact of market-based transfer pricing methods on stock prices ($n = 3092$).
$$P_t = \alpha_0 + \alpha_1 MK_RPT_t + \alpha_2 COST_RPT_t + \alpha_3 NI_t + \alpha_4 EQUITY_t + \alpha_5 DIV_t + \alpha_6 DEBT_t + \alpha_7 SGR_t + \alpha_8 CMI + \alpha_9 LEI + \alpha_{10} MII + \alpha_{11} YEAR + \alpha_{12} INDUSTRY + \varepsilon \quad (4)$$

Independent variable	Predicted sign	Regression coeff.	t-stat
Intercept		7.237	3.130***
MK_RPT_t	+/-	0.101	0.420
$COST_RPT_t$	+/-	-0.341	-2.820***
NI_t	+	6.390	9.360***
$EQUITY_t$	+	0.851	6.380***
DIV_t	?	11.019	1.330
$DEBT_t$?	1.142	1.660*
SGR_t	?	0.562	2.970***
CMI	?	-0.568	-2.740***
LEI	?	-0.029	-0.340
MI	?	0.147	0.660
$YEAR$		Included	
$INDUSTRY$		Included	
Adjusted R-square		46.3%	
F statistic		107.470***	

The t-statistics are based on standard errors adjusted for clustering on firms.

P_t = stock price per share on the annual announcement date. MK_RPT_t = amount of market-based related-party sales per share in year t . $COST_RPT_t$ = amount of cost-based related-party sales per share in year t . NI_t = net income per share in year t . $EQUITY_t$ = book value of equity per share in year t . DIV_t = dividend per share in year t . $DEBT_t$ = total debt over total assets of the firm in year t . SGR_t = sale growth from year $t - 1$ to t . All other variables are defined in Table 1.

*** Significance at the 1% level (two-tailed test).

* Significance at the 10% level (two-tailed test).

gest that disclosing transfer pricing details improves the value relevance of RPT and the improvement is especially pronounced for firms with weak corporate governance mechanisms.

5.2.3. Price model and the value relevance of related-party sales

We further evaluate the value relevance of disclosing transfer pricing methods of RPTs by performing a market value test. Similar to the earnings–returns association, we argue that firms reporting related-party sales using discretionary cost-based methods should yield lower stock prices than those using non-discretionary market-based methods. Following Kang and Zhao (2010), we use the following regression model to examine the pricing of market-based versus cost-based related-party sales:

$$P_t = \alpha_0 + \alpha_1 MK_RPT_t + \alpha_2 COST_RPT_t + \alpha_3 NI_t + \alpha_4 EQUITY_t + \alpha_5 DIV_t + \alpha_6 DEBT_t + \alpha_7 SGR_t + \alpha_8 CMI + \alpha_9 LEI + \alpha_{10} MII + \alpha_{11} YEAR + \alpha_{12} INDUSTRY + \varepsilon \quad (4)$$

The dependent variable, P_t , is the stock price per share on the annual announcement date.¹⁹ We separate the total amount of related-party sales based on their pricing methods, and include MK_RPT_t and $COST_RPT_t$ as our main variables. MK_RPT_t is the amount of market-based related party sales per share. $COST_RPT_t$ is the amount of cost-based related-party sales per share. We expect that if the disclosed amounts of market-based/cost-based related-party sales provide relevant information that help investors evaluate the presence of RPT manipulation, the amounts would be associated with stock price. Conversely, if the disclosed amounts are irrelevant, market-based/cost-based related-party sales should be unrelated to stock price. Following Kang and Zhao (2010), we include NI_t (net income per share), $EQUITY_t$ (book value of equity per share), DIV_t (dividend per share), $DEBT_t$ (debt to asset ratio), and SGR_t (sale growth from year $t - 1$ to t) in our model. As we use the China data, we also include CMI , LEI , and MI as the control variables (definitions of these variables are the same as those described previously). Finally, we include $YEAR$ and $INDUSTRY$ to control for the year and industry fixed effects, respectively.

¹⁹ The stock price per share on the next trading date will be used if the annual announcement is made on a non-trading date.

Table 8 shows the regression results of Model (4); it shows that the coefficient on $COST_RPT_t$ is negative (and significant at the 1% level), and the coefficient on MK_RPT_t is positive (but not statistically significant). These results suggest that the cost-based related-party transactions are priced less than other sales transactions. Consistent with the main findings reported previously, this further test implies that the disclosure of cost-based related-party sales provides incremental information beyond net income. Therefore, the disclosure of market-based versus cost-based related-party sales should be value-relevant.

5.2.4. Other robustness checks

We conduct several additional tests to check the robustness of the regression results. First, we include observations with no related-party sales in our sample and rerun Model (3).²⁰ The untabulated results of using an extended sample are qualitatively similar to the main results reported in Table 4. In particular, we find that the *R*-square for Model (3) is significantly larger than the *R*-square for Model (2) at the 5% level ($Z = -1.886$; $p = 0.030$), and the coefficient on $\Delta RPT_t * MK_t$ is positive and significant at the 1% level.

Second, we use various alternative measures of abnormal returns, namely raw returns, size-adjusted abnormal returns, market-adjusted (equal-weighted) abnormal returns, and abnormal returns calculated under a standard market model (three years of data are used to estimate betas).²¹ Table 9 reports the findings of these sensitivity tests, and it shows that the regression results are qualitatively similar to the main results reported in Table 4, regardless of what measures of abnormal returns are used. We also rerun the OLS regressions by using total assets (instead of market equity) as the scaling base. Although not reported for brevity's sake, the results show that, similar to the original results reported in Table 4, the interaction term of ΔRPT_t and MK_t is positive and significant at the 5% level.

Third, in another sensitivity test, we replace MK_t in Model (3) by a dummy variable, MK_DUM_t , and replace Model (3) by the following model.

$$\begin{aligned} AR_t = & \alpha_0 + \alpha_1 \Delta RPT_t + \alpha_2 MK_DUM_t + \alpha_3 \Delta RPT_t * MK_DUM_t + \alpha_4 \Delta NONRPT_t + \alpha_5 \Delta EXP_t \\ & + \alpha_6 SIZE_{t-1} + \alpha_7 DEBT_{t-1} + \alpha_8 BM_{t-1} + \alpha_9 CMI + \alpha_{10} LEI + \alpha_{11} MII + \alpha_{12} YEAR \\ & + \alpha_{13} INDUSTRY + \varepsilon \end{aligned} \quad (5)$$

MK_DUM_t represents firms with a dominant market-based transfer pricing method, and is equal to 1 if a firm uses market-based transfer pricing methods for more than 50% of its related-party sales in year t , and 0 otherwise. Table 10 shows the descriptive statistic of firms that substantially use market-based transfer pricing methods versus those that do not. We find that firms that substantially use market-based methods (i.e., $MK_DUM_t = 1$) have a higher abnormal return, a smaller increase in related-party sales, and a larger increase in non-related-party sales than their counterparts (i.e., $MK_DUM_t = 0$). The (untabulated) regression results using this alternative measure of market-based transfer pricing disclosure yield qualitatively similar results as those reported in Table 6. We find that the *R*-square of Model (5) is significantly larger than the *R*-square of Model (2) at the 5% level ($Z = -1.728$; p -value = 0.042). Besides, we find that the coefficients on MK_DUM_t (0.019) and the interaction term of MK_DUM_t and ΔRPT_t (0.232) are positive and significant at the 10% and 1% levels, respectively. Therefore, all else being equal and using the mean value of ΔRPT_t (0.007), we find that firms switching from cost-based transfer pricing methods to market-based transfer pricing methods increase their market-adjusted abnormal returns by 0.021 (i.e., 0.232 times 0.007 plus 0.019).

Fourth, we re-estimate the weak and strong corporate governance effects in a single regression model, and include an interaction term of ΔRPT_t , MK_DUM_t , and CG_t to capture the effects of disclosing market-based (versus cost-based) transfer pricing methods by firms with strong (versus weak) corporate governance. We also use CG_t to interact with other income and expense items in the model. Although not reported for brevity sake, we find that the coefficients on MK_DUM_t and $\Delta RPT_t * MK_DUM_t$ are both positive and significant at the 1% and 10% levels; whereas the coefficient

²⁰ The initial sample for firms with no related-party sale is 1543 firm-year observations. We exclude 46 observations because of lack of data. The final sample for this analysis includes 4589 firm-year observations.

²¹ All available data is used if we have less than three years' data for a particular firm.

Table 9Sensitivity test: regression results on the impact of market-based transfer pricing methods on abnormal return ($n = 3092$).

$AR_t = \alpha_0 + \alpha_1 \Delta RPT_t + \alpha_2 MK_t + \alpha_3 \Delta RPT_t * MK_t + \alpha_4 \Delta NONRPT_t + \alpha_5 \Delta EXP_t + \alpha_6 SIZE_{t-1} + \alpha_7 DEBT_{t-1} + \alpha_8 BM_{t-1} + \alpha_9 CMI + \alpha_{10} LEI + \alpha_{11} MII + \alpha_{12} YEAR + \alpha_{13} INDUSTRY + \varepsilon \quad (3)$									
		Dependent variable (alternative measures of AR_t)							
Independent variable	Predicted sign	Raw return		Size-adjusted return		Market-adjusted (equal-weighted) return		Standard market model (3 year prior data for estimating beta)	
		Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat	Coeff.	t-stat
Intercept		1.696	11.240***	0.709	4.750***	1.569	10.390***	−0.289	−0.950
ΔRPT_t	+	0.334	3.280***	0.384	3.890***	0.334	3.280***	0.422	3.890***
MK_t	?	0.020	1.700*	0.022	1.940*	0.020	1.700*	−0.021	−1.300
$\Delta RPT_t * MK_t$	+	0.244	3.980***	0.220	3.750***	0.244	3.980***	0.163	1.670*
$\Delta NONRPT_t$	+	0.512	5.440***	0.554	5.980***	0.512	5.440***	0.533	5.400***
ΔEXP_t	−	−0.397	−3.850***	−0.432	−4.250***	−0.397	−3.850***	−0.557	−5.410***
$SIZE_{t-1}$?	−0.070	−12.470***	−0.032	−5.810***	−0.070	−12.470***	−0.018	−1.800*
$DEBT_{t-1}$?	−0.019	−0.830	0.016	0.710	−0.019	−0.830	0.106	2.090**
BM_{t-1}	?	0.047	2.090**	0.115	5.100***	0.047	2.090**	0.484	10.690***
CMI	?	−0.020	−3.380***	−0.018	−3.190***	−0.020	−3.380***	0.017	1.480
LEI	?	−0.001	−0.250	0.000	−0.220	−0.001	−0.250	−0.005	−1.360
MI	?	0.018	2.830***	0.016	2.510**	0.018	2.830***	0.027	3.190***
$YEAR$		Included		Included		Included		Included	
$INDUSTRY$		Included		Included		Included		Included	
Adj. R-square			53.8%		7.1%		10.6%		16.5%
F statistic			139.452***		10.154***		15.106***		24.490***
Test of coefficient restriction (p-value)									
$\alpha_1 = \alpha_4$			0.001***		0.001***		0.001***		0.033**
$\alpha_1 + \alpha_3 = \alpha_4$			0.187		0.324		0.187		0.546

The t-statistics are based on standard errors adjusted for clustering on firms.

Variable definitions are in Table 1.

*** Significance at the 1% level (two-tailed test).

** Significance at the 5% level (two-tailed test).

* Significance at the 10% level (two-tailed test).

Table 10

Descriptive statistics for firms which use market-based versus cost-based transfer pricing methods.

	$MK_DUM_t = 0$ ($n = 1332$)		$MK_DUM_t = 1$ ($n = 1760$)		<i>t</i> -value
	Mean	Std. deviation	Mean	Std. deviation	
AR_t	−0.021	0.311	0.019	0.344	−3.309***
$\Delta SALE_t$	0.089	0.329	0.100	0.315	−0.902
ΔRPT_t	0.014	0.148	0.002	0.140	2.356**
$\Delta NONRPT_t$	0.075	0.298	0.098	0.316	−2.037**
ΔEXP_t	0.079	0.312	0.090	0.318	−0.917
$SIZE_{t-1}$	22.458	1.354	22.175	1.085	6.433***
$DEBT_{t-1}$	0.514	0.225	0.555	0.266	−4.517***
BM_{t-1}	0.426	0.306	0.376	0.289	4.669***
<i>CMI</i>	10.870	1.423	10.754	1.368	2.287**
<i>LEI</i>	11.817	5.794	11.131	5.791	3.262***
<i>MII</i>	6.951	1.722	6.796	1.692	2.497**

 $MK_DUM_t = 1$ if MK_t is larger than 50%; 0 otherwise. All other variables are defined in Table 1.

*** Significance at the 1% level (two-tailed test).

** Significance at the 5% level (two-tailed test).

on $\Delta RPT_t * MK_DUM_t * CG_t$ is negative and significant at the 10% level. These results are broadly consistent with our main findings and they suggest that the value of market-based related-party sales is higher than the value of cost-based related-party sales for firms with weak corporate governance.

Finally, as corporate governance, RPTs, and transfer pricing methods are likely to be endogenously determined, we use a Heckman two-stage approach (Heckman, 1979) to check the robustness of our results. In the first-stage probit model, we regress MK_DUM_t against ΔRPT_t , $\Delta NONRPT_t$, $SIZE_{i,t-1}$, $DEBT_{i,t-1}$, $BM_{i,t-1}$, industry dummies, and the exogenous variables (P_DIR_t , GOV_t , IND_DIR_t , and $MEET_t$). We then include the inverse Mills ratio obtained from the first-stage probit model and re-run Model (5). The untabulated results yield qualitatively similar findings to the original results. In particular, we find that the interaction term of ΔRPT_t and MK_DUM_t is positive and significant at the 1% level. The inverse Mills ratio is not statistically significant, and we believe that endogeneity does not have significant impacts on our reported results. We acknowledge that the endogeneity issues cannot be perfectly addressed because of the difficulty of choosing appropriate exogenous variables.

6. Conclusion

RPTs are a common business practice among group-affiliated companies. While these transactions can help a corporate group obtain superior resource allocation and economies with respect to transaction costs, RPTs are also used as a tool to manipulate earnings and transfer profits to management and controlling owners or other group companies. In serious cases of accounting fraud, such as the Enron saga, RPTs are executed for deceptive or fraudulent purposes. While prior studies find that corporate governance can deter management from engaging in opportunistic RPTs, our study demonstrates that the transparent disclosure of RPTs does increase the usefulness and value relevance of RPTs. This could be considered an alternative means of protecting the interests of minority shareholders, investors, and the public.

One possible way to improve the value relevance of RPTs is to enhance disclosure of the transfer pricing methods. Most countries do not require mandatory disclosures of transfer pricing methods. However, the recent changes in accounting standards in China require such mandatory disclosure, and our research provides supporting evidence that this type of disclosure can convey relevant and credible information to investors concerning the prediction of a firm's market performance. Our findings indicate that the disclosure of related-party sales does not necessarily provide incrementally useful information for predicting abnormal returns in addition to the disclosure of total sales. However, the disclosure of the amount of market-based related-party sales has a significant impact on predicting abnormal returns, particularly for firms with weak governance. These results, taken together, suggest that the disclosure of transfer pricing methods provides incremental information content beyond

the disclosure of related-party sales. Policy makers could consider using the transfer pricing disclosure to protect minority shareholders from corporate scandals.

The findings of this study enhance our understanding of the impact of RPT disclosure. Related-party sales are common transactions in developed and developing countries, and extensive incentives exist to manipulate transfer prices. Our research demonstrates that the disclosure of transfer pricing methods used with respect to related-party sales can provide investors with additional information concerning the nature of related-party sales. Except for pervasive state ownership, which is more likely to be present in developing countries, we believe that our results can be generalized in both developed and developing countries. However, one limitation of our study is that we focus only on the pre-tax effects of related-party sales. Future research can extend this study to investigate the effect of transfer pricing methods disclosure on taxation policies.

Appendix A

Examples of Disclosures of Transfer Pricing Methods before and after the Implementation of Accounting Standard for Business Enterprises 36 (ASBE 36)

I. 2006 financial statement from Wolong Real Estate Group Company Limited (i.e., Pre-regulation Period)

Abstract from the Notes to Financial Statements
Related-Party Transactions
Related-party sales

Related parties	Related-party transactions	Amount (RMB)	Percentage
Mudanjiang Cement Company	Sale of cement	49,289,889.40	27.63%

II. 2007 financial statement from Wolong Real Estate Group Company Limited (i.e., Post-regulation Period)

Abstract from the Notes to Financial Statements
Related-Party Transactions

Related parties	Related-party transactions	Pricing methods	Amount (RMB)	Percentage
Mudanjiang Cement Company	Sale of product	Negotiated price based on the actual cost of production and with reference to the market prices	5,679,671.26	4.02%

Appendix B

Abstract from the Accounting Standard for Business Enterprises 36 (ASBE 36)
Article 1

With a view to regulating the disclosure of information about affiliated parties and transactions among them, these Standards are formulated in accordance with Accounting Standards for Enterprises – Basic Standards.

Article 2

An enterprise shall, in its financial statements, disclose the related information about all affiliated party relationships and the transactions among them. If it offers consolidated financial statements to outsiders, it is not required to disclose the transactions among the enterprises that have been included

in the scope consolidation, but it shall disclose the affiliated party relationships and transactions beyond the scope of consolidation.

(Article 3 to Article 9 are not included in this appendix)

Article 10

If there have been transactions between an enterprise and its related parties, the enterprise should disclose the nature of the related-party relationship, types of transactions, and essential elements of the transactions. The essential elements of the transactions should at least include:

- (i) the amount of transactions,
- (ii) the amount of outstanding balances and their terms and conditions, and details of any guarantees granted or obtained,
- (iii) the amounts of provisions for bad debts relating to the amount of outstanding balances, and
- (iv) pricing policies.

Article 11

Related-party transactions should be disclosed separately according to the related parties and the types of the transactions involved. Related-party transactions with similar types can be aggregately disclosed only if it would not affect users' understanding of the financial statements.

Article 12

No enterprise may disclose a related party transaction was made on terms equivalent to those that prevail in arm's length transactions unless such terms can be substantiated by supporting evidence.

(Source: CCH, 2010; MOF, 2006).

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