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Related party transactions and their association with earnings management – evidence of Hong Kong listed companies

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This study empirically investigates whether related party transactions play an important role in earnings management in Hong Kong Stock Exchange, by using manually collected data comprising 1,278 firms' yearly observations from all listed company on Hang Seng Composite Industry Indexes from 2016 to 2018. This study analyzes the three most frequent types of related party transactions, including related sales, related lending and related borrowing, and to examine their associations with earnings management. The findings suggest that companies did not have abnormally high level of related party transactions when they have earnings management incentives. Related party transactions are not used in income smoothing or to inflate earnings in Hong Kong Stock Exchange. This study may provide insights to investors on how companies use related party transactions to manipulate earnings.

Key words: Related party transactions, earnings manipulation.

INTRODUCTION

Over the past years, related party transactions have become extensively popular as firms can divert its earnings and cash to the other members within the group. The troubled firm could gain support from the other group members like receiving guarantees, selling goods and services, borrowing funds etc. On the other hand, related party transaction is an effective tool in income smoothing and can be used in spring loading, in which the company defers revenues and accelerates expenses until it is merged with the other company, resulting the company has a more favorable earnings trend after merger and acquisition. Related party transactions are strongly related to earnings management as a group-affiliated company which can be derived as subsidiaries with hundreds of related parties, where the larger the group's networks, the greater the opportunities to have transactions with related parties. Parties within the network can divert their free cash flows to the group with better terms and credits. This type of transaction has also aroused the need of academic research with close attention as it could affect the transparency of the financial statements and investors' decision-making. This paper aims to investigate the association between related party transactions and earnings management as well as the degree of usage of this type of transaction in Hong Kong Stock Exchange.

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Hong Kong is proposed as China's international finance center with a wide range of connections with Hong Kong and Mainland Chinese companies as well as the international companies. It has a diverse and global investor base with well-established legal system which makes it a compelling platform for fundraising and to stimulate business growth. The Stock Exchange of Hong Kong ranked the third largest Asian Stock Market by domestic market capitalization in 2018, behind the Tokyo Stock Exchange and Shanghai Stock Exchange. The unique characteristic of the Hong Kong Stock Exchange has provided an efficient and effective cross-border market connecting China with the world and has provided strong confidence to investors. In this circumstance, the disclosures of related party transactions are particularly crucial to enhance the credibility of the annual reports as well as to secure inventors' confidence and wealth.

Related party transactions can be in different forms. It could be a normal business transaction with related parties like selling or purchasing goods, providing services to or from, leasing etc. It could also be a fundraising activity like providing guarantees to or from, lending or borrowing agreements, asset transfers etc. With the various types of related party transactions and increasing incentives to manipulate earnings through related party transactions, the International Accounting Standards Board (IASB) issued IAS24 - Related Party Disclosures to address the importance of disclosing the transactions and outstanding balances with the company's related parties. All the companies listed on the Hong Kong Stock Exchange should also follow HKAS24 - Related Party Disclosures to disclose all the necessary and material information that will affect investors' decisions, in which it is generally disclosed at the notes to the financial statements.

IAS 24 - Related Party Disclosures defines a related party as a person or an entity that is related to the reporting entity, in which one party has control, joint control or significant influence over the other party. It could be a member of the entity's key management personnel, a close member of that person's family, controlling shareholders, ex-shareholders, non-controlling shareholders, parent, subsidiary, fellow subsidiary, associate, or joint venture etc. Many empirical evidences have shown that entities used related party transactions to manipulate earnings for financial reporting (Aharony et al., 2010; Jian and Wong, 2010; Lo et al., 2010; Wong et al., 2015). Meanwhile, Shan (2015) found that the abnormal related party transactions reduce the level of value relevance in which value relevance is the ability to generate valuable financial information that would affect stock price and stock return (Barth et al., 2001; Holthausen and Watts, 2001). All these researches have further testified the essential of related party disclosures as it could mislead investors in determining the value of the firm. From the growing importance of related party disclosures, the Hong Kong Institute of Certified Public Accountants (HKICPA) has been revising HKAS 24 - Related Party Disclosures to clarify the definition of related party and disclosure requirements in November 2014 and November 2016 respectively. Meanwhile, Chapter 14 - Notifiable Transactions of the Rules Governing the Listing of Securities in the Stock Exchange of Hong Kong states that companies should notify the connected transactions with connected parties to the public.

This study is motivated by the prevailing studies on earnings management and the unique characteristic of Hong Kong Stock Exchange. Related party transactions have also become a universal trend to perform earnings management. This intention may reduce the value relevance of the entity's financial statements and influence the entity's stock price. It could also lead to investors making unfavorable investment decisions and losing confidence in an entity's performance. A limited number of studies could be found in analyzing the relationship between related party transactions and earnings management in Hong Kong Stock Exchange, which also brings up the motivation and potential of this academic research.

LITERATURE REVIEW

IAS 24 - Related Party Disclosures was issued in July 1984 and was reissued in November 2009. The complexity of the related party transactions has brought investors' attention and it could greatly affect investors' decision-making as it tells whether the entity heavily relies on its related parties or third parties. Many studies argued that the transactions between member firms within the same group structure could reduce the transaction costs as well as the contract costs (Coase, 1937; Fisman and Khanna, 1998; Fan and Goyal, 2002; Khanna and Palepu, 1997; Shin and Park, 1999). The costs saved also bring an incentive for the entity to trade with its member firms with shorter negotiating time and better terms and conditions. With all these benefits, related party transactions have also become a popular means of earnings management.

Earnings management occurs when the entity uses its discretion in financial reporting and to present information with management's interests and benefits in order to mislead investors about its underlying financial performance or to influence the contractual outcomes (Healy and Wahlen, 1999; Jian and Wong, 2010; Lo and Wong, 2011; Shan, 2014). It is also a means to relocate resources within group. The corporate scandals like the Enron and Adelphia cases have brought attention to the use of related party transactions to manipulate earnings which had also led to a decline in perceived earnings quality (Ge et al., 2010). The quality of the financial statements is heavily relied on the full disclosure of the entity's transactions, in which firms with the intention to

manipulate earnings through related party transactions would deeply affect the quality of the firms' financial statements. Lang et al. (2006), Barth et al. (2008) and Pananen and Lin (2009) stated that the quality of the accounting information is correlated with value relevance and earnings management. Meanwhile, the quality of the information and value relevance are positively related, while earnings management would distort the value relevance of the financial statements (Nasution and Mita, 2017).

Even though the related party transactions are only disclosed at the end of the financial statements and they are easily to have missed or ignored, scholars including investors have boost their awareness on analyzing the related party transactions. Chien and Hsu (2010), Cheung et al. (2006), Gordon and Henry (2005) and Gordon et al. (2004) studied associations between related party transactions and earnings management, corporate governance, fraudulent financial reporting, and other phenomena. Jian and Wong (2010) mentioned that there are more frequent related party transactions under the environment of weak market development and heavy government intervention, which also gives rise to more opportunities for propping. Chang (2002) found companies using related party sales and purchases as a means to manipulate the accounting earnings in Korea. Jian (2003), Shan (2015) and Williams and Taylor (2013) studied on Chinese listed firms engaging in earnings management, propping and tunneling through related party transactions. Ye et al. (2002) investigated the effects of several corporate governance measures on related party transactions in Taiwan with the results showing that related party sales have a negative impact on firm's performance. However, Nasution and Mita (2017) suggested that there is a positive association between related party transactions and value relevance of earnings in Indonesia, while abnormal related party transactions are not an indicator of earnings management.

The prevalence of related party transactions has also led to firms' trade in internal financial markets as it might bring optimal economic transactions for all firms within the same group structure. However, it could also lead to agency problems with conflicting resources allocation (Cleassens and Fan, 2003). As the complex structure and ownership of the group-affiliated firms brings different controlling and minority shareholders together, their interests may be conflicted; while the management may not align their interests with the shareholders' interests. The information asymmetry could bring a huge problem to the group with rising agency costs and longer duration in decision-making (Jensen and Meckling, 1976; Rezaee, 2009; Shleifer and Vishny, 1997). Claessens et al. (2000) found that the separation of ownership and control is negatively related to firms' valuation in East Asia listed companies. In this regard, it is more likely to have minority shareholder expropriation and Cheung et al. (2006) supported this argument by stating that listed firms in Hong Kong Stock Exchange expropriate minority shareholders through connected transactions. Comparatively, Jian (2003) mentioned that group-controlled firms have greater ability to abuse related party transactions and inflate earnings than the non-group-controlled firms. The non-group-controlled firms are more independent and mainly depend on the external market with smaller level of related party transactions.

On the other hand, Hu et al. (2015) found that the larger the amount of related party loans, guarantees and capital transfers, it will generate the higher the audit fee as it requires the auditor to provide additional audit work on the related party transactions disclosures. However, surprisingly, Kohlbeck and Mayhew (2014) studied the relationship between related party transactions and audit fees, and argued that the audit assessments of related party transactions are easier than the third-party transactions, which leaded to auditor reducing the audit fees. The different empirical results have left a great potential and room to investigate on the topics regarding to related party transactions. As the related party transactions could bring many benefits to the entity, but at the same time, it could also destroy the group's value (Khanna and Palepu, 2000).

HYPOTHESIS DEVELOPMENT

There are two main situations that the company has incentives to inflate its earnings. First, the controlling shareholders may want to prop up earnings to avoid reporting losses. Jian and Wong (2010) mentioned that Chinese listed firms have stronger incentives to manipulate earnings, as reporting losses will lead to government scrutiny or even delisting. Article 157 of China's Company Law states company will be temporarily delisted if it has net loss for three consecutive years by the China Securities Regulatory Commission (CSRC). However Hong Kong Stock Exchange (HKEX) Main Board Rules Chapter 6 mentions listing may be suspended if the issuer fails to meet continued listing criteria for not maintaining sufficient assets or operations for listing. Second, the controlling shareholders may want to escalate earnings during rights issue offerings. Rights issue offerings are another source of funds that the listed companies can generate after the initial public offering. Bai et al. (2005) claimed that even the central government, which is also the ultimate controlling owner of the listed firms, has the incentives to help firms to maintain its listing status in order to qualify for rights issues. Meanwhile, previous studies provide evidence that listed companies managed to maintain 10% Return on Equity (ROE) as it is one of the requirements of rights issue offerings in China for achieving a ROE of at least 10% for three consecutive years prior (Chen and Yuan, 2001; Jiang and Wei, 1998; Chen, 1998; Haw et al., 1998; Chen et al., 2000). Li and Yu (2001) found that listed companies have a phenomenon to manipulate

ROE through related party transactions, while Lei and Song (2007) and Guan and Zhao (2014) stated that related party transactions is an important means to manage earnings whether the related party transactions are included above-the-line items or below-the-line items. Under the pressure of fulfilling continued listing requirements, listed companies have greater incentives to undertake earnings management in order to maintain favorable financial outcomes to stay in the financial market and obtain funds.

Prior studies investigate the use of related party transactions in earnings management in different dimensions. Berkman et al. (2009) examined the controlling shareholders issue loan guarantees to related parties to expropriate the wealth of minority shareholders in China. Jian and Wong (2010) found that Chinese listed firms use abnormal related sales to prop up their earnings. Jiang et al. (2010) suggested that controlling shareholders use corporate loans widely to extract funds from the entity in China from 1996 to 2006. Shan (2015) analyzed the relationship between earnings management, value relevance and corporate governance. The results show that abnormal related party transactions as a proxy of earnings management, reduces the value relevance of the financial information. However, good corporate governance could mitigate the level of earnings management. Therefore, the hypothesis is formed as follows:

H1: Firms inflate earnings through related party transactions.

The above hypothesis is further expanded in three most frequent types of transactions: related party sales, related party lending and related party borrowing.

Earnings management through related sales

Jian and Wong (2010) suggested that increasing number of firms using cash-based related sales to manage earnings. Khanna and Yafeh (2005) used related party sales to proxy for propping to manage earnings. While Jian (2003) indicated listed firms can sell more goods to its parent company in order to increase its overall sales level, in which the core earnings, income earned from operating activities, become higher when the profit margin is fixed. He further suggested that manipulating core or operating earnings and non-core or non-operating earnings could be two alternative means to meet earnings target. Management can easily conceal its earnings manipulation through core and non-core earnings as the details of earnings are disclosed separately in footnotes but not the income statement. Therefore, it is difficult for the investors to identity abnormal transactions for the manipulation purpose from the normal operating transactions. The following hypothesis is develop:

H1a: When firms have earnings management incentives, the level of related sales is abnormally high.

Earnings management through lending to related parties

Jensen (1986) brought up a free cash flow theory and argued that management tends to reinvest the free cash flow rather than distribute it to investors. Controlling shareholders prefer to divert companies' resources in their own benefits instead of distributing dividends to shareholders. This tunneling behavior brings up the agency problem that managerial decisions are mainly based on management's interests rather than the investor's interests (Shleifer and Vishny, 1997). Meanwhile, Jian and Wong (2010) stated that cash-based propping through related sales is associated with the cash transfers through related lending to the controlling owners. Listed companies may offer generous credits with longer credit periods to their related parties in order to divert resources and develop a long-term relationship with them. By doing so, companies may receive larger amounts of credits in trading and future fundraising activities from related parties in return. On one hand, internal borrowing and lending requires less procedures and shorter processing time than bank borrowing. Companies may provide interest-free or discount loans to their related parties so that related parties can generate more free cash flow with much profitable earnings. On the other hand, companies may charge significant front-end and loan origination fees to boost earnings (Ertan, 2017). Likewise, the interest income earned from related lending can contribute a huge part of the entity's revenue. Accordingly, the following hypothesis is formulated:

H1b: When firms have earnings management incentives, the level of related lending is abnormally high.

Earnings management through borrowing from related parties

The stable relationships that have been built within the group structure enable the entities to divert its resources and maximize group's overall benefits. Similar to related party lending, listed firms can receive better credits and longer loan period from their related parties in order to avoid the high interest expense from bank borrowing. Moreover, the free cash flow theory proposed by Jensen (1986) has further stated that the parent company could have access to the extra funds that the listed entity raised when the listed entity is the financial resources provider of the parent company, while entities are generally offering better credits to related parties than the non-related parties. Therefore, the internal borrowing could be a means to divert resources within group and at the same time, to manipulate earnings through financing activities.

Table 1. Data.

Variable	No. of observation
480 companies listed in Hang Seng Composite Industry Indexes from 2016 to 2018	1,332
Less:	
Observations of companies that are listed after 2016	(54)
Total firm-year observations	1,278

Frame et al. (2001) mentioned that borrower has a strong incentive to manage earnings in order to increase its borrowing capacity before a lending agreement is made. The large borrowing capacity could lead to lower interest rate and lower contracting costs. Mafrolla and D'Amico (2017) further stated that borrowers have incentives to improve their creditworthiness and consequent borrowing capacities through earnings management. Companies could use related party borrowing to build up satisfactory credit scores so that they could have an easier access to bank or third-party borrowing with lower interest rate in the future. At the same time, firms can enjoy interest-free or discount loans and avoid reporting interest expenses in its financial statements in order to inflate earnings. Therefore, the following hypothesis is built:

H1c: When firms have earnings management incentives, the level of related borrowing is abnormally high.

RESEARCH METHODS

Data collection

The sample contains all listed companies included in the Hang Seng Composite Industry Indexes from 2016 to 2018. The final sample composed of 426 companies after removing 54 companies that are listed after 2016, with a total of 1,278 firm-year observations from 2016 to 2018. The Hang Seng Composite Index is sub-divided into 12 industry indexes, including consumer discretionary, consumer staples, healthcare, conglomerates, information technology, properties and construction, financials, utilities, telecommunications, industrials, materials and energy. The data were sourced in two ways. Data of related party transactions, including related party sales, related party lending and related party borrowing, were manually collected from the annual reports disclosed on the Hong Kong Stock Exchange News. Other accounting data, such as leverage, firm size, market value of equity, book value of equity, firm age, ROE, industry median of ROE and ROA, were collected from Thomson Reuters Eikon and further verified by the information shown on the annual reports (Table 1).

Model specification

This study adopts Jian and Wong (2010) model to examine H1 and measure the degree of earnings management through related party transactions. This model had been used by Lo and Wong (2011) and Shan (2015) to employ abnormal related party transactions as a proxy of earnings management. The model is as follows:

$$RLPT_{i,t} = \beta_0 + \beta_1 LEVERAGE_{i,t} + \beta_2 FIRMSIZE_{i,t} + \beta_3 MKVE_{i,t} + \varepsilon_{i,t} \quad (1)$$

Model (1) is then further expanded by adding two more independent variables shown as below:

$$RLPT_{i,t} = \beta_0 + \beta_1 LEVERAGE_{i,t} + \beta_2 FIRMSIZE_{i,t} + \beta_3 MKVE_{i,t} + \beta_4 FIRMAGE_{i,t} + \beta_5 ROA_{i,t} + \varepsilon_{i,t} \quad (2)$$

Following Jian and Wong (2010)'s model, the residual values from Model (1) or Model (2) with the higher adjusted R^2 are proxied as the abnormal related party transactions and are regressed on the incentive dummy by the following model:

$$e_{i,t} = \beta_0 + \beta_1 INCENTIVE(V1)_{i,t} + \beta_2 INCENTIVE(V2)_{i,t} + \varepsilon_{i,t} \quad (3)$$

Dependent and explanatory variables

The dependent variable $RLPT_{i,t}$ represents the related party transactions of firm i in year t. $RLPT_{i,t}$ can be represented as either related party sales, related party lending or related party borrowing to testify H1a, H1b and H1c. The residual value $e_{i,t}$ is the abnormal related party transactions resulting from Model (1) or Model (2).

Prior studies found that companies have attempted to maintain their earnings at 10% ROE in order to be eligible for rights issues and continue listed on the stock exchange in China (Chen and Yuan, 2001; Jiang and Wei, 1998; Chen, 1998; Haw et al., 1998; Chen et al., 2000). Jian (2003) used ROE ranges from 0 to 10% as the indicator of high earnings manipulation intention in his research on earnings management. On the other hand, the Hong Kong Stock Exchange (HKEX) Main Board Listing Rules indicates one of the financial requirements for listing is to satisfy either profit test, market capitalization / revenue test or market capitalization / revenue / cash flow test, in which the company has to have 3-year aggregate profit more than HK$50 million and market capitalization greater than HK$500 million to satisfy the profit test. The profit test requirement is approximately the 10% ROE benchmark set in China. Meanwhile, due to the special characteristic of Hong Kong Stock Exchange, it attracts a lot of Mainland Chinese firms. Combining the above two factors, it is probable that the major constituents in Hong Kong Stock Exchange may also tempted to achieve a ROE of at least 10%. Therefore, an incentive dummy is used to testify companies' intention to enact earnings management.

Table 2. Descriptive statistics (n = 1,278).

Variable	Mean	Median	Std. Deviation
RLPT_SALES (HKD million)	15,523.34	316.74	129,060.25
RLPT_LENDING (HKD million)	17,122.31	515.95	116,411.57
RLPT_BORROWING (HKD million)	12,908.28	391.12	53,468.99
INCENTIVE(V1)	0.77	1.00	0.42
INCENTIVE(V2)	0.35	0.00	0.48
LEVERAGE	0.54	0.55	0.22
FIRMSIZE	24.83	24.74	1.86
MKVE	4.03	1.06	30.02
FIRMAGE	14.82	12	10.61
ROA	0.06	0.06	0.08

RLPT_SALES = related party sales disclosed in the firm's financial statements. RLPT_LENDING = firm's lending to related parties disclosed in the firm's financial statements. RLPT_BORROWING = firm's borrowing from related parties disclosed in the firm's financial statements. INCENTIVE(V1) = 1 if firm's ROE is higher than the industry median of the year; 0 otherwise. INCENTIVE(V2) = 1 if firm's ROE is between 0and 10%; 0 otherwise. LEVERAGE = debt-asset ratio, calculated by dividing total liabilities by total assets. FIRMSIZE = the natural logarithm of total assets, in which total assets represent the ability of the firm to generate more profit in the future. MKVE = growth of the firm, measured by the market-to-book equity ratio. FIRMAGE = firm's age, measured by the number of years since its initial listing. ROA = return on assets.

$INCENTIVE(V1)$ equals to 1 when the firm's ROE is higher than the industry median, equals to 0 otherwise, while $INCENTIVE(V2)$ equals to 1 when the firm's ROE is between 0 and 10%, equals to 0 otherwise.

Control variable

Control variables consist of $LEVERAGE$, which is measured by a firm's debt-asset ratio, $FIRMSIZE$, which is measured by the natural logarithm of a firm's total assets, and growth ($MKVE$), which is measured by the firm's market-to-book equity ratio.

Meanwhile, by taking reference to Shan (2015)'s earnings management equation model, two control variables are added in Model (2). $FIRMAGE$ is the firm's age represented by the number of years since initial listing in Hong Kong Stock Exchange. ROA is the return on assets.

RESULTS AND DISCUSSION

Descriptive statistics

Table 2 displays descriptive statistics of all 1,278 firm-year observations. During 2016-2018, the means (medians) of RLPT are 15,523.34 (316.74), 17,122.31 (515.95) and 12,908.28 (391.12) for related party sales, related party lending and related party borrowing respectively in HKD million. This finding indicates that sample firms are engaging more lending activities to its related parties than sales and borrowing, which also suggests the behavior of diverting resources to related parties. The huge gap between the mean and median also shows that some firms have extremely large amount of related party transactions than the others. On one hand, Table 2 indicates that 77% of sample firms had a ROE higher than the industry median. On the other hand, it shows that only 35% of sample firms had a ROE between 0and 10%. These results suggest that 65% of the sample firms had a negative ROE or a ROE greater than 10 and 77% of sample firms were performed better than the industry average in 2016-2018. While in terms of leverage, the mean value of debt-asset ratio is 54%. This finding tells that the sample firms had maintained a relatively good leverage ratio and had sufficient liquid assets to pay off its debts. The sample firms have a mean (median) of 14.82 (12) years listed on the Hong Kong Stock Exchange. The mean (median) values for firms' logarithmic total assets, market-to-book equity ratio and return on assets are 24.83 (24.74), 4.03 (1.06) and 0.06 (0.06) respectively.

Multicollinearity diagnostics

In order to test whether the multicollinearity problem exists, the correlation coefficients among the independent variables are found. Table 3 shows that none of them have an absolute value greater than 0.7. Therefore, there are no multicollinearity problems in the models.

Regression results

Table 4 to 9 show the results of regression analysis on the sample observations. The related party sales, related party lending and related party borrowing are regressed on various explanatory and control variables shown in Model (1) and (2) respectively. The residuals from either Model (1) or Model (2) with the higher adjusted $R^2$are then regressed on the incentive dummy shown in Model (3). As reported in Table 4 to 8, the F-statistics for both regression Model (1) and Model (2) are statistically significant at the 1 percent level; while Table 5, 7 and 9 also suggest that Model (3) is statistically significant at

Table 3. Pearson's correlation matrix.

Variable	Incentive(V1)	Incentive(V2)	Leverage	Firmsize	Mkve	Firmage	Roa
INCENTIVE(V1)	1						
INCENTIVE(V2)	-0.4481	1					
LEVERAGE	0.0465	-0.0230	1				
FIRMSIZE	0.0181	0.1137	0.5470	1			
MKVE	0.0344	-0.0161	0.0393	-0.0672	1		
FIRMAGE	-0.1426	0.1556	-0.1369	0.1024	0.0588	1	
ROA	0.4307	-0.2695	-0.3092	-0.2396	-0.0058	-0.0558	1

INCENTIVE(V1) = 1 if firm's ROE is higher than the industry median of the year; 0 otherwise. INCENTIVE(V2) = 1 if firm's ROE is between 0and 10%; 0 otherwise. LEVERAGE = debt-asset ratio, calculated by dividing total liabilities by total assets. FIRMSIZE = the natural logarithm of total assets, in which total assets represent the ability of the firm to generate more profit in the future. MKVE = growth of the firm, measured by the market-to-book equity ratio. FIRMAGE = firm's age, measured by the number of years since its initial listing. ROA = return on assets.

Table 4. Regression results on abnormal related party sales.

Variable	Predicted sign	Model 1		Model 2	
		Coeff.(S.E.)	Significance (*t*-statistics)	Coeff.(S.E.)	Significance (*t*-statistics)
Intercept		$-4.17 \times 10^{11}(5.15 \times 10^{10})$	0.0000(-8.0915) **	$-4.20 \times 10^{11}(5.27 \times 10^{10})$	0.0000(-7.9602) **
LEVERAGE	-	$-9.74 \times 10^{10}(1.90 \times 10^{10})$	0.0000(-5.1335) **	$-1.05 \times 10^{11}(2.01 \times 10^{10})$	0.0000(-5.2173) **
FIRMSIZE	+	$1.95 \times 10^{10}(2.27 \times 10^{9})$	0.0000(8.6155) **	$2.01 \times 10^{10}(2.33 \times 10^{9})$	0.0000(8.6266) **
MKVE	+	$5.51 \times 10^{7}(1.18 \times 10^{8})$	0.6403(0.4675)	$6.84 \times 10^{7}(1.18 \times 10^{8})$	0.5636(0.5777)
FIRMAGE				$-4.32 \times 10^{8}(3.45 \times 10^{8})$	0.2112(-1.2508)
ROA				$-1.70 \times 10^{10}(4.62 \times 10^{10})$	0.7135(-0.3672)
Observations		1278		1278	
Adj. R-Squared		0.0531		0.0529	
F-statistics		24.8857 **		15.2533 **	
S.E. of Estimates		1.26×10^{11}		1.26×10^{11}	

Model 1 : $RLPT_{SALES_{i,t}} = \beta_0 + \beta_1 LEVERAGE_{i,t} + \beta_2 FIRMSIZE_{i,t} + \beta_3 MKVE_{i,t} + \varepsilon_{i,t}$;

Model 2 : $RLPT_{SALES_{i,t}} = \beta_0 + \beta_1 LEVERAGE_{i,t} + \beta_2 FIRMSIZE_{i,t} + \beta_3 MKVE_{i,t} + \beta_4 FIRMAGE_{i,t} + \beta_5 ROA_{i,t} + \varepsilon_{i,t}$

where RLPT_SALES = related party sales disclosed in the firm's financial statements. LEVERAGE = debt-asset ratio, calculated by dividing total liabilities by total assets. FIRMSIZE = the natural logarithm of total assets, in which total assets represent the ability of the firm to generate more profit in the future. MKVE = growth of the firm, measured by the market-to-book equity ratio. FIRMAGE = firm's age, measured by the number of years since its initial listing. ROA = return on assets. The residuals are proxied as the abnormal related party transactions. * and ** represent statistical significance at 5 and 1% levels.

the 1 percent level, which indicate the models are overall significant. While FIRMSIZE is positively value-relevant and statistically significant in all three regression results on related party sales, related party lending and related party borrowing. On top of that, either INCENTIVE(V1) or INCENTIVE(V2) is negatively significant in each independent variable which is contrasting hypothesis H1.

Earnings management through related sales

As reported in Table 4, the adjusted R^2 decreases from 0.0531 to 0.0529 in Model (1) and (2). The coefficient on FIRMSIZE is positive and statistically significant, while the coefficient on LEVERAGE is negative and statistically significant. These results are consistent with the prediction. However, Table 5 shows a different result than the prediction. The coefficient on INCENTIVE(V1) is negative and statistically significant. It implies that companies with higher level of ROE than the industry median did not result in a higher level of abnormal related sales. This evidence does not support H1a that firms have a higher level of abnormal related sales when they have incentives to inflate earnings.

Table 5. Regression results on the association between earnings management and related party sales.

Variable	Predicted sign	Model 3	
		Coeff. (S.E.)	Significance (*t*-statistics)
Intercept		2.88×10^{10}(9.49×10^{9})	0.0024(3.0376) **
INCENTIVE(V1)	+	-3.65×10^{10}(9.28×10^{9})	0.0001(-3.9351) **
INCENTIVE(V2)	+	-1.98×10^{9}(8.15×10^{9})	0.8077(-0.2435)
Observations		1278	
Adj. R-Squared		0.0127	
F-statistics		9.1874 **	
S.E. of Estimates		1.25×10^{11}	

Model 3: $e_{model\ 1_{i,t}} = \beta_0 + \beta_1\ INCENTIVE(V1)_{i,t} + \beta_2\ INCENTIVE(V2)_{i,t} + \varepsilon_{i,t}$
where e = residual, which is proxied as the abnormal related party sales. INCENTIVE(V1) = 1 if firm's ROE is higher than the industry median of the year; 0 otherwise. INCENTIVE(V2) = 1 if firm's ROE is between 0 and 10%; 0 otherwise. *and ** represent statistical significance at 5 and 1% levels.

Table 6. Regression results on abnormal related party lending.

Variable	Predicted sign	Model 1		Model 2	
		Coeff. (S.E.)	Significance (*t*-statistics)	Coeff. (S.E.)	Significance (*t*-statistics)
Intercept		-5.09×10^{11}(4.51×10^{10})	0.0000(-11.2957) **	-5.25×10^{11}(4.60×10^{10})	0.0000(-11.4041) **
LEVERAGE	-	-9.66×10^{9}(1.66×10^{10})	0.5607(-0.5820)	-2.10×10^{10}(1.75×10^{10})	0.2307(-1.1992)
FIRMSIZE	+	2.14×10^{10}(1.99×10^{9})	0.0000(10.7845) **	2.28×10^{10}(2.04×10^{9})	0.0000(11.1949) **
MKVE	+	3.08×10^{7}(1.03×10^{8})	0.7650(0.2990)	5.85×10^{7}(1.03×10^{8})	0.5712(0.5665)
FIRMAGE				-8.90×10^{8}(3.01×10^{8})	0.0032(-2.9551) **
ROA				8.03×10^{9}(4.04×10^{10})	0.8423(0.1990)
Observations		1278		1278	
Adj. R-Squared		0.1082		0.1131	
F-statistics		52.6665 **		33.5609 **	
S.E. of Estimates		1.10×10^{11}		1.10×10^{11}	

Model 1: $RLPT_{LENDING_{i,t}} = \beta_0 + \beta_1\ LEVERAGE_{i,t} + \beta_2\ FIRMSIZE_{i,t} + \beta_3\ MKVE_{i,t} + \varepsilon_{i,t}$

Model 2: $RLPT_{LENDING_{i,t}} = \beta_0 + \beta_1\ LEVERAGE_{i,t} + \beta_2\ FIRMSIZE_{i,t} + \beta_3\ MKVE_{i,t} + \beta_4\ FIRMAGE_{i,t} + \beta_5\ ROA_{i,t} + \varepsilon_{i,t}$

where RLPT_LENDING is the firm's lending to related parties disclosed in the firm's financial statements. LEVERAGE = debt-asset ratio, calculated by dividing total liabilities by total assets. FIRMSIZE = the natural logarithm of total assets, in which total assets represent the ability of the firm to generate more profit in the future. MKVE = growth of the firm, measured by the market-to-book equity ratio. FIRMAGE = firm's age, measured by the number of years since its initial listing. ROA = return on assets. The residuals are proxied as the abnormal related party transactions.* and ** represent statistical significance at 5 and 1% levels.

Earnings management through lending to related parties

Table 6 shows that the adjusted R^2 increases from 0.1082 to 0.1131 in Model (1) and (2). Consistent with the prediction, the coefficient on FIRMSIZE is positive and statistically significant, while the coefficient on FIRMAGE is negative and statistically significant. An older firm tends to have less related lending than the younger firms listed on Hong Kong Stock Exchange. Contrast to the regression results on the association between earnings management and related party sales, Table 7 reports that the coefficient on INCENTIVE(V2) is negative and statistically significant. It indicates that firms with a ROE within the range of 0 to 10% did not have a higher level of abnormal related lending when they have earnings

Table 7. Regression results on the association between earnings management and related party lending.

Variable	Predicted sign	Model 3	
		Coeff. (S.E.)	Significance (*t*-statistics)
Intercept		1.08×10^{10} (8.31×10^{9})	0.1943(1.2987)
INCENTIVE(V1)	+	-4.24×10^{9} (8.12×10^{9})	0.6017(-0.5221)
INCENTIVE(V2)	+	-2.12×10^{10} (7.14×10^{9})	0.0030(-2.9753) **
Observations		1278	
Adj. R-Squared		0.0060	
F-statistics		4.8378 **	
S.E. of Estimates		1.09×10^{11}	

Model 3: $e_{model\ 2_{i,t}} = \beta_0 + \beta_1\ INCENTIVE(V1)_{i,t} + \beta_2\ INCENTIVE(V2)_{i,t} + \varepsilon_{i,t}$
where e = residual, which is proxied as the abnormal related party lending. INCENTIVE(V1) = 1 if firm's ROE is higher than the industry median of the year; 0 otherwise. INCENTIVE(V2) = 1 if firm's ROE is between 0 and 10%; 0 otherwise.* and ** represent statistical significance at 5 and 1% levels.

management incentives, which did not support H1b.

Earnings management through borrowing from related parties

From Table 8, the adjusted R^2 increases from 0.2300 to 0.2416 in Model (1) and (2). Among all the dependent variables, the regression results on the association between earnings management and related borrowing have the highest adjusted R^2. Similar to the regression results on the association between earnings management and related lending, the coefficient on FIRMSIZE is positive and statistically significant, while the coefficient on FIRMAGE is negative and statistically significant. However, the results shown in Table 9 have once again differed from the prediction. It tells that firms with a ROE ranging between 0and 10% did not have a higher level of abnormal related borrowing as the coefficient on INCENTIVE(V2) is negative and statistically significant. Companies with these ROE ranges are likely to have financing activities with its related parties, including both lending and borrowing activities, but it does not necessarily mean that they have the incentive to inflate earnings through these related party transactions. This evidence also opposes H1c that firms did not have a higher level of abnormal related borrowing when they have incentives to manipulate earnings.

Robustness check

In order to ensure the relation between related party sales, related party lending and related party borrowing is not spurious, in which firms with higher level of related party transactions have a higher level of related party sales, related party lending and related party borrowing, and a robustness check is performed. Abnormal related party sales is regressed on the interaction between the three dependent variables, abnormal related party sales, abnormal related party lending and abnormal related party borrowing. The coefficient on the interaction between abnormal related party sales and abnormal related party borrowing is positively and statistically significant. This indicates that the relation is not driven by spurious correlations and when firms have earnings management incentives, the positive relation between abnormal related sales and abnormal related borrowing is much stronger. Meanwhile, the coefficient on the interaction between abnormal related party borrowing and abnormal related party lending is positive, but it is statistically significant at 7 percent level. The relation between these two dependent variables is weaker than the relation between abnormal related party sales and abnormal related party borrowing. Surprisingly, the coefficient on the interaction between abnormal related party sales and abnormal related party lending is negative and statistically significant, which explains that firms tend to have either abnormal related party sales or abnormal related party lending exclusively when they have incentives for earnings management (Table 10).

Conclusion

This study aims to examine the significant influence of related party transactions on earnings management in Hong Kong. Evidence is based on hand-collected data from annual reports disclosed on Hong Kong Stock Exchange News and accounting data collecting from Thomson Reuters Eikon comprising 426 listed companies on the Hang Seng Composite Industry Indexes from 2016

Table 8. Regression results on abnormal related party borrowing.

Variable	Predicted sign	Model 1		Model 2	
		Coeff.(S.E.)	Significance (*t*-statistics)	Coeff.(S.E.)	Significance (*t*-statistics)
Intercept		-3.29×10^{11} (1.92×10^{10})	0.0000(-17.1129) **	-3.39×10^{11} (1.95×10^{10})	0.0000(-17.3671) **
LEVERAGE	−	1.34×10^{9} (7.09×10^{9})	0.8500(0.1892)	-6.15×10^{9} (7.45×10^{9})	0.4089(-0.8261)
FIRMSIZE	+	1.38×10^{10} (8.47×10^{8})	0.0000(16.2311) **	1.47×10^{10} (8.65×10^{8})	0.0000(16.9535) **
MKVE	+	1.08×10^{7} (4.40×10^{7})	0.8069(0.2445)	2.90×10^{7} (4.39×10^{7})	0.5093(0.6600)
FIRMAGE				-5.85×10^{8} (1.28×10^{8})	0.0000(-4.5748) **
ROA				5.05×10^{9} (1.71×10^{10})	0.7682(0.2948)
Observations		1278		1278	
Adj. R-Squared		0.2300		0.2416	
F-statistics		128.1772 **		82.3619 **	
S.E. of Estimates		4.69×10^{10}		4.66×10^{10}	

Model 1: $RLPT_{BORROWING_{i,t}} = \beta_0 + \beta_1 LEVERAGE_{i,t} + \beta_2 FIRMSIZE_{i,t} + \beta_3 MKVE_{i,t} + \varepsilon_{i,t}$

Model 2: $RLPT_{BORROWING_{i,t}} = \beta_0 + \beta_1 LEVERAGE_{i,t} + \beta_2 FIRMSIZE_{i,t} + \beta_3 MKVE_{i,t} + \beta_4 FIRMAGE_{i,t} + \beta_5 ROA_{i,t} + \varepsilon_{i,t}$

where RLPT_BORROWING is the firm's borrowing from related parties disclosed in the firm's financial statements. LEVERAGE = debt-asset ratio, calculated by dividing total liabilities by total assets. FIRMSIZE = the natural logarithm of total assets, in which total assets represent the ability of the firm to generate more profit in the future. MKVE = growth of the firm, measured by the market-to-book equity ratio. FIRMAGE = firm's age, measured by the number of years since its initial listing. ROA = return on assets. The residuals are proxied as the abnormal related party transactions.* and ** represent statistical significance at 5 and 1% levels.

Table 9. Regression results on the association between earnings management and related party borrowing.

Variable	Predicted sign	Model 3	
		Coeff. (S.E.)	Significance (*t*-statistics)
Intercept		7.59×10^{9} (3.51×10^{9})	0.0310(2.1594) *
INCENTIVE(V1)	+	-3.61×10^{9} (3.43×10^{9})	0.2930(-1.0519)
INCENTIVE(V2)	+	-1.36×10^{10} (3.02×10^{9})	0.0000(-4.4922) **
Observations		1278	
Adj. R-Squared		0.0149	
F-statistics		10.6673 **	
S.E. of Estimates		4.61×10^{10}	

Model 3: $e_{model\ 2_{i,t}} = \beta_0 + \beta_1 INCENTIVE(V1)_{i,t} + \beta_2 INCENTIVE(V2)_{i,t} + \varepsilon_{i,t}$

where e = residual, which is proxied as the abnormal related party borrowing. INCENTIVE(V1) = 1 if firm's ROE is higher than the industry median of the year; 0 otherwise. INCENTIVE(V2) = 1 if firm's ROE is between 0 and 10%; 0 otherwise.* and ** represent statistical significance at 5 and 1% levels.

to 2018. The primary results indicate that related party transactions are abnormally low when firms have incentive in engaging earnings management in Hong Kong, either through trading or financing activities. These results did not prove the strong association between related party transactions and earnings management for Hong Kong listed companies. Conflict with Jian and Wong's (2010) results which show that Chinese listed firms had incentive to inflate earnings through related sales and related party transactions is not an effective tool in earnings management in Hong Kong Stock Exchange. This phenomenon can be explained by the successful monitor on the related party disclosures by the securities regulators.

However, the empirical evidence is only based on past data; there is still a high possibility that firms will manipulate earnings through related party transactions in the future. As such, the independent auditors should keep on paying more attention on the firms' intention to manage earnings through related party transactions, in which firms may be less voluntarily disclosing the transactions with related parties when they have incentives to do so and affect the overall quality of the financial statements. The implications of these findings

Table 10. Regression results on the robustness check.

Variable	Model 4	
	Coeff.(S.E.)	Significance (*t*-statistics)
Intercept	-7.50×10^{9} (2.07×10^{9})	0.0003(-3.6185) **
ABNRLPT_S × ABNRLPT_B	1.21×10^{11} (2.41×10^{13})	0.0000(50.3430) **
ABNRLPT_S × ABNRLPT_L	-3.42×10^{12} (4.95×10^{13})	0.0000(-6.9164) **
ABNRLPT_B × ABNRLPT_L	2.85×10^{13} (1.53×10^{13})	0.0627(1.8630)
Observations	1278	
Adj. R-Squared	0.6661	
F-statistics	849.9812 **	
S.E. of Estimates	7.25×10^{10}	

Model 4. $ABNRLPT\_S_{i,t} = \beta_0 + \beta_1 \times ABNRLPT\_S_{i,t} \times ABNRLPT\_B_{i,t} + \beta_2 \times ABNRLPT\_S_{i,t} \times ABNRLPT\_L_{i,t} + \beta_3 \times ABNRLPT\_B_{i,t} \times ABNRLPT\_L_{i,t} + \varepsilon_{i,t}$

where ABNRLPT_S = abnormal related party sales. ABNRLPT_B = abnormal related party borrowing. ABNRLPT_L = abnormal related party lending.*, ** represent statistical significance at 5 and 1% levels.

are as follow. First, this study enhances stakeholders' understanding of how firms manipulate earnings through related party transactions, as well as boosts their awareness on focusing notes disclosures but not just the bottom line of the financial statements. Second, it adds evidence to demonstrate that related party transactions may not be a tool in fraudulent reporting with successful guidance. Related party transactions could be used to transfer resources or profits to shareholders, subsidiaries, associates, joint ventures, management personnel and other group companies. This kind of practice can have profound implications for the economies and therefore requires closer monitor. It also further addresses the importance of voluntary disclosure of related party transactions to protect the public interests.

CONFLICT OF INTERESTS

The author has not declared any conflict of interest.

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