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The impact of related parties' trading on the listed company's earnings management - evidence in Vietnam

1. Introduction

RPTs are the transfer of resources or obligations which must arise in most businesses between stakeholders. Due to the particular nature of this transaction, there can be a lot of complex analytical issues, considering whether these transactions affect the company's interests and how much the impact will be, whether there is a risk of self-interest from that transaction, and whether there is a conflict of interest between the parties or not. These are considered as challenges in corporate governance activities of currently existing companies.

In recent years, RPTs have been more interested by researchers, so research on RPTs has focused on two hypotheses: conflict of interest hypothesis and effective transaction hypothesis (efficient transaction hypothesis). With the conflict of interest hypothesis developing on the basis of agency theory, conflicts of interest and information asymmetry creates incentives and opportunities for the Board of Directors. Directors, members of the Board of Management or controlling shareholders of the company perform

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opportunistic behaviors such as EM to obtain their own interests. In contrast, the efficient transaction hypothesis suggests that RPTs merely meet the normal economic needs of the business. At that time, the emergence of RPTs does not explain that companies would implement higher EM.

The relationship between RPTs and EM has been interested and considered by a number of foreign researchers. However, in Vietnam, studies on the influence of RPTs EM behavior are still very limited. Therefore, the focus of this study is to examine the relationship between RPTs and EM behaviors in companies listed on Vietnam's stock market.

Previous studies have found a positive relationship between RPTs and EM such as Marchini et al. (2018), Sarlak and Akbari (2014), Rasheed and Mallikarjunappa (2018). However, this relationship has not been made by any researcher in Vietnam yet. Therefore, in this study, the authors will perform to test relationship about impact of related parties 'trading on the listed company's EM in Vietnam through the inheritance of previous studies.

This study measures and evaluates the status of the EM level of companies listed on the stock market of Vietnam. More importantly, the test results show the influence as well as the influence of RPTs and the other factors in the model on the level of EM. Therefore, the results of this study are quite useful references for stakeholders in making appropriate decisions.

2. Theoretical frameworks

2.1. Agency theory

Agency theory was developed by Jensen and Meckling (1976). This theory focuses on studying the relationship between the owner (principal) and the agent. This relationship arises due to the separation of ownership and management functions. The owner authorizes the manager to perform company management on his behalf including making investment decisions in the expectation that the manager will make the maximum value of his benefits. However, the manager also wants to maximize the value of their interests when there is a conflict of interest between the authorizing party and the authorized party, so it is likely that the manager will not act completely because of benefits of owner.

The majority of studies explaining the EM engine were based on agency theory. In this study, the authors also based on agency theory as a basis for developing research hypotheses. Research on the EM and RPTs is based on the existence of delegation matter which is a conflict of interest and asymmetric information

between the parties, and also the motivation for the Board of Directors, Board members or controlling shareholders to participate in. RPTs are intended to usurp company resources, so they are motivated to engage in a voluntary action to conceal their interests or to gain other benefits. The authors apply the theory of delegation to this study with the expectation that the greater the RPTs are, the higher the level of EM becomes.

2.2. Stakeholder theory

The stakeholder theory was first introduced by Freeman (1984) in the study "Strategic Management: A Stakeholder Approach". It is the theory of management strategies and business ethics. Stakeholders in this theory are conceptualized as any individual or group of people directly or indirectly affected by an organization's actions such as investors, creditors, company employees, agencies, government, trade union, related companies, customers, suppliers as well as other entities related to the operation of the business. The theory focuses on the idea that an organization's success depends on the relationship between its manager and its stakeholders. This means that stakeholders contribute significantly to the success of the organization. Therefore, while there is no single best way to ensure the interests of all groups, the organization must treat fairly, care, and balance the interests of all groups.

When stakeholders' interests conflict, as a representative, managers are responsible to balance interests across groups to ensure the achievement of the strategic goals of the business. This creates pressure for managers to pay attention, balance the interests of businesses, stakeholders and their own interests, so the ability of managers is to implement EM, and to meet the terms in the credit agreement. Therefore, the authors applied the stakeholder theory in this study as a basis for explaining the relationship between factors such as financial leverage, RPTs for EM behavior. Additionally, authors expect that the bigger financial leverage an enterprise has the higher its EM level becomes. Moreover, based on this theory, the authors expect that RPTs will have an effect on EM behaviors.

2.3. Signalling theory

Ross (1977) has shown that the way to solve this information asymmetry is the signaling mechanism. According to Signal theory, information disclosure is an effective means to send signals to investors. As a result, disclosure is

a tool that companies can use to differentiate one company's performance from another's.

The authors applied the signal theory to this study to explain the impact of a number of factors on EM behavior with the expectation that Big4 audited companies will have lower EM rates. The larger companies are, the more likely it is that a good signal is created to attract more investment capital; companies with high financial leverage will have a good signal for lenders to easily access capital, and more EM; companies with higher revenue growth rate will have higher earnings management. The higher the firm's net cash flow from operating activities creates, the lower its EM becomes.

2.4. Background on related party transactions

According to IAS 24 Related Party Disclosures, the related party transaction is defined as follows: A related party transaction is a transfer of resources, services or obligations between a reporting entity and a related party, regardless of whether a price is charged. In addition, A related party is defined as follows: A related party is a person or entity that is related to the entity that is preparing its financial statements (in this Standard referred to as the 'reporting entity'). This Standard requires disclosure of related party relationships, transactions and outstanding balances, including commitments, in the consolidated and separate financial statements of a parent, venturer or investor presented in accordance with IAS 27 Consolidated and Separate Financial Statements. This Standard also applies to individual financial statements.

According to Vietnam Accounting Standard 26 – VAS 26 Relates party disclosures, A related party is defined as follows: parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial and operating decisions. In addition, Financial statements are required to give disclosures about certain categories of related parties. Attention is focused on transactions with the directors of an enterprise, especially their remuneration and borrowings, because of the fiduciary nature of their relationship with the enterprise, as well as disclosures of significant inter-company transactions and investments in and balances with group and associated companies and with directors. VAS 25 "Consolidated Financial Statements and Accounting for Investments in Subsidiaries", and VAS 07 "Accounting for Investments in Associates" require disclosure of a list of significant subsidiaries and associates. Accounting Standard "Net Profit or Loss for the Period, Fundamental Errors and Changes in Accounting Policies"

requires disclosure of items of income and expense within profit or loss from ordinary activities that are of such size, nature or incidence that their disclosure is relevant to explain the performance of the enterprise for the period.

3. Literature review

Gordon and Henry (2005) performed a test to see if RPTs were related to EM. This research is based on two perspectives. The first one is that if the company's executives or board members participate in RPTs to appropriate the company's resources, then they are motivated to implement the EM for the purpose of adding other rights or to conceal their appropriation. The other one is that RPTs merely meet the company's other economic requirements, so they do not have the incentive to implement EM, in this case RPTs do not need to be concealed or compensated. Therefore, the author does not expect a relationship between RPTs and EM. This study was conducted with a sample of 331 companies in 2000 and 2001. The author used adjusted abnormal accruals to measure the EM. The test results show that there is a positive relationship between the EM and certain types of related party transactions such as capital financing with fixed interest rates from related parties. The explanation for this result is that companies receive financial assistance from stakeholders rather than from a third party, since they cannot receive funding from outside or for other reasons. This could be an incentive for them to implement the EM to obtain future financial support from related parties. The research results also show that there is no relationship between the EM and certain types of related party transactions such as lending, real estate transactions, purchases, direct services. In general, only certain transactions with related parties are related to EM. Therefore, the mere presence of RPTs is not necessarily an indication that a company is more likely to participate in the EM.

The study by Chu-Yang and Hsu Joseph (2010) was conducted to test whether RPTs can reduce the performance of the company or not, and to check whether good corporate governance can reduce the impact. The author used the return on average of total assets (ROA) to measure the performance of the company, while the corporate governance mechanism was measured through two representatives Big N CPA auditing firm and independence of the Board of Directors and the Supervisory Board. The empirical results show that RPTs are inversely opposite to ROA, suggesting that companies with higher RPTs have lower performance. Besides, the results also show that good corporate governance mechanisms will transfer RPTs from conflicts of interest into efficient transactions, which

indicates that good corporate governance mechanisms will reduce the negative impact of RPTs to corporate performance.

Research by Kuan et al (2010) examined the relationship between RPTs and EM in companies listed on the Indonesian stock market between 2004 and 2005 with a sample of 50 companies. The research hypothesis was developed on the basis of agency theory, whereby the existence of RPTs showing conflicts of interest could lead to the implementation of EM and appropriation by shareholders controlling to minority shareholders. The paper used the Modified Jones model (1991) to measure discretionary accruals (DA) on behalf of EM. Testing results show no statistical significance on the relationship between RPTs and EM. This means that the mere presence of RPTs in Indonesian companies is not a signal that companies engage in greater EM.

Chen et al. (2011) contributed to the EM theory by solving the problem of RPTs in the process of initial public offering (IPO) of Chinese companies. The author viewed EM based on RPTs as an agency problem in the context of the Chinese IPO, and considered the conflict of interest between controlling shareholders and minority shareholders as the "root" of EM based on RPTs in Chinese IPO. The study provides empirical evidence for EM based on RPTs. The research results show that controlling shareholders have structured RPTs during the initial public offering stage of IPOs and these RPTs are positively related to the company's performance. In addition, the research results also show that the decline in RPTs after the IPO leads to a decrease in the company's operating efficiency and negatively affects the company's stock profits.

Research by Srinivasan (2013) was conducted for the purpose of analyzing RPTs in Indian companies for three years from 2009 to 2011 and found that RPTs were present in most companies during this period. Furthermore, companies with high RPTs have lower performance (as measured by the ratio of profit to total assets - ROA) than those with low RPTs. In addition, the test results also show that the ownership structure does not provide any explanation for the level of RPTs and RPTs are lower in the companies audited by BigAudit.

Sarlak and Akbari (2014) used data from listed companies in the Tehran Stock Exchange (the capital of Iran) to check whether RPTs had an impact on EM. According to the agency theory, because the separation between control and management functions increases the conflict of interest, in this case if the director or board member of the company gets involved in RPTs to appropriating company resources, then they will have the incentive to implement EM to hide their appropriation. The study used RPTs as an independent variable and the adjusted accruals represent the EM as a dependent variable. The sample

consisted of 145 companies from 2008 to 2012. Table data and multivariate regression were used to test the research hypothesis. Research results show that there is a positive impact relationship between RPTs and EM.

The research objective of Marchini et al. (2018) considered whether good corporate governance structures could reduce EM through RPTs. The study focused on Italian listed companies from 2007 to 2012. The author expected that high quality corporate governance systems could reduce the positive relationship between RPTs and EM. This study measured abnormal accruals according to the model of Francis and Wang (2008) representing EM. Research results show that there exists a positive relationship between RPT sales and abnormal accruals, showing that companies have used sales transactions with related parties to implement EM. At the same time, the study also shows that good corporate governance structure will reduce the impact of RPT sales on EM behaviors.

El-Helaly et al. (2018) conducted the study with the purpose of checking whether RPTs have an impact on EM through arising economic operations or on a cumulative management basis, or RPTs are used as a third alternative method for EM to be reported at companies listed on the Greek - Athens stock market between 2009 and 2014. The paper used the Jones model (1991) to measure level of variable EM based on the accrual (dependent variable) and used Roychowdhury (2006) model to measure the variable of EM through arising economic operations (dependent variable) through 3 representative variables, including the anomaly in cash flow from operations, production costs and arbitrary costs. The results of the study indicate that EM through arising economic operations and RPTs are used instead. However, additional tests show that this replacement is not significant if the company is audited by Big4. The study results also show that no significant relationship is found between EM based on cumulative basis and RPTs. The study has added an understanding of the interaction between RPTs and EM and the quality of audits that may affect this relationship.

Alhadab et al. (2020) conducted the study with the purpose of examining the relation between RPTs and both accrual and real EM practices in Jordanian industrial public-listed companies, taking into account the uniqueness of the Jordanian company ownership structure. Data were collected from Jordanian industrial public-listed companies for the period 2011–2017. This paper used the modified Jones model to measure level of Accrual EM, while real EM and RPTs are measured by using relevant proxies. A regression model is developed and used to test the relation between RPTs and EM, taking into account the effects of ownership concentration, family ownership, and institutional ownership levels of the companies involved. The results of the study indicate that Accrual EM is

negatively associated with RPTs. Regarding the role of ownership structure, the presence of institutional investors has a positive impact on the use of both RPTs and real EM, while ownership concentration plays an efficient role to mitigate the use of both accrual EM and RPTs. No statistically significant relations between real EM and RPTs exist.

In Vietnam, there have been many researches related to EM. However, the impact of RPTs on EM has not yet been considered.

The study of Nguyen Thi Minh Trang (2012) was conducted with a sample of 20 enterprises belonging to 4 different types of enterprises (state enterprises, private enterprises, joint-stock companies, limited liability companies) to identify the management's profit adjustment, thereby showing that the motivation to adjust profits of each type of business is different. The research results show that, the profit adjustment motive to save the cost of corporate income tax in joint stock companies is not always the preferred choice, but it is possible that the incentive to increase profits to attract investment from outside. The remaining types of businesses will prioritize the option to reduce profits to save the cost of corporate income tax.

Research by Vo Van Nhi and Hoang Cam Trang (2013) examines the relationship between earnings management and the risk of bankruptcy of companies listed on the Ho Chi Minh Stock Exchange. The authors use the model of Leuz et al (2003) to determine the profit-correcting behavior and use Altman's Z index (2000) to determine the risk of corporate bankruptcy. Research results show that the level of profit adjustment is similar to the risk of bankruptcy: companies in safe areas, without risk of bankruptcy, have the lowest average level of profit adjustment; companies in the warning zone, may be at risk of bankruptcy, have higher average profit adjustment level; companies with high risk and bankruptcy areas have the highest average level of profit adjustment.

Nguyen Thi Phuong Hong and Nguyen Thi Thuong (2015) studied the impact of board characteristics (size of the board, independence of the board, the duality of director and chairman board, financial experts on the board, number of meetings of the board, ownership by the organization, ownership by the manager and the existence of the bonus plan) to the EM (measured by adjustable accruals). With a sample of 416 companies in 2012-2013, the study results indicate that 4 out of 8 factors in the model are statistically significant for EM, of which two factors had the opposite effect on EM is the size of the board and financial experts in the board. The two factors acting in the same direction with EM are the independence of the board of directors, the duality between the director general and the chairman of the board of directors, based on the research results,

the authors also proposed some recommendations. The proposal is quite useful in relation to EM for authorities, business owners, users of financial reporting information, financial analysts and researchers.

The research of Dang Ngoc Hung (2015) used the Friedlan model (1994) to conduct empirical research on whether companies make profit adjustment. Research data were collected from 193 companies listed on Vietnam's stock market in the period of 2011-2014. This study was conducted to answer the question: when the corporate income tax rate decreased from 25% in 2013 to 22% in 2014, did companies make adjustments to reduce profits? The research results show that in 2013, companies adjusted to reduce profits for the purpose of saving corporate income tax, while in the years before and after 2013, companies tended to adjust to increase profits. The non-parametric test results also confirm that the profit adjustment does not depend on the size of the company.

The study of La Xuan Dao et al (2017) was conducted with the goal of analyzing the factors including the quality of auditing impact on EM of 196 listed companies on Ho Chi Minh Stock Exchange (HOSE) from 2012-2016 period in Vietnam (Excluding specific financial sectors, insurance and real estate). The research on measurement of EM by cumulative adjustment variables through the Modified Jones model of Dechow (1995) for eight specific industries classified by GICS (Global Industry Classification Standard) from Thomson Reuters and audit quality is measured through two representative variables, the auditor's size and the industry specialization auditors. The research results show that the size of company has a positive relationship with EM behavior and operating cash flow has a negative impact on EM behavior. The research results also show that financial leverage and audit quality do not impact on EM behaviors, which means that there is no difference in providing audit quality between the company- Big4 and other auditing businesses.

Nguyen Thi Phuong Hong (2017) analyzed the current management of companies listed on Vietnam's stock market in the period of 2012-2014 by using the Jones model adjusted with 394 companies in each sample from 2012, 2013 and 2014. The research results show that the EM of companies listed on the stock market of Vietnam is compared to some that of other countries in the world through the average research. In terms of the current state of the amount of EM in the period of 2012-2014, the amount of EM increased from 2012 to 2013, however, by 2014, the amount of EM decreased significantly compared to both 2012 and 2013. In addition, the EM level among industries each year is different and changes every year.

Another study by Nguyen Thi Phuong Hong and Duong Thi Khanh Linh (2019) examines the impact of profit quality on investor decisions with a sample of 2980 observations from 669 companies listed on the two main stock markets in Vietnam over the five year period from 2013 to 2017. Profit quality is measured in the Jones model adjusted with the industry approach, while the natural logarithm of the ratio between the purchase volume and annual sales represent investment decisions. Profits, financial leverage, revenue growth, asset size, type of audit firm are included in the regression model as control variables. Research results indicate that the quality of the annual profit is lower (that is, there is a higher margin), the volume of orders ordered is greater than the volume of orders sold. In addition, investors prefer to buy stocks of companies with high ROE and low financial leverage, while investors' decisions are not affected by the types of auditing company, revenue growth or size of the company's assets.

Nguyen Cong Phuong and Pham Nguyen Dinh Tuan (2020) conducted the study with the purpose which is to test the relationship between debt and EM in Vietnam. This study uses D-GMM estimation technique with unbalanced panel data from 1,349 companies on the stock exchange with 10,130 observations from 2010 to 2018. The results of the study indicate that profit is adjusted to increase by managers if the company has large short-term debts or increased debt balance compared to the previous year. In contrast, the profit is adjusted to decrease when the company has high long-term debt. In addition, bank debt no longer plays a supervisory role as expected, but administrators tend to choose to increase profits at a high level in case of large outstanding loans and increase compared to the previous year. Finally, the study results show that the effect from debt to EM is long-term, in which the manager performs more and more profit management under pressure from debt.

4. Research methodology

In this study, the authors also based on agency theory as a basis for developing research hypotheses. Research on the EM and RPTs is based on the existence of delegation matter which is a conflict of interest and asymmetric information between the parties, and also the motivation for the Board of Directors, Board members or controlling shareholders to participate in. RPTs are intended to usurp company resources, so they are motivated to engage in a voluntary action to conceal their interests or to gain other benefits. The authors applied the theory of delegation to this study with the expectation that the greater the RPTs are, the higher the level of EM becomes.

In addition, to explain the impact of the other factors on EM, the authors applied the stakeholder theory as a basis for explaining the relationship between factors such as financial leverage, RPTs and EM behavior. The authors also applied the signal theory to this study to explain the impact of a number of factors on EM level with the expectation that Big4 audited companies will have lower EM level. The larger companies are, the more likely it is that a good signal is created to attract more investment capital, while companies with high financial leverage will have a good signal for lenders to easily access capital, and more EM. Also, companies with higher revenue growth rate will have higher EM. Additionally, The higher the firm's net cash flow from operating activities creates, the lower its EM becomes.

4.1. Research model and Hypothesis Development

The objective of this study is to analyze the impact of RPTs on the behaviors of EM. Based on the underlying theories and the results of previous studies, the authors expect that RPTs will positively impact on EM; in addition, this research model will consider 5 more control variables as public. How auditing firm, firm size, financial leverage, revenue growth and operating cash flow affect EM.

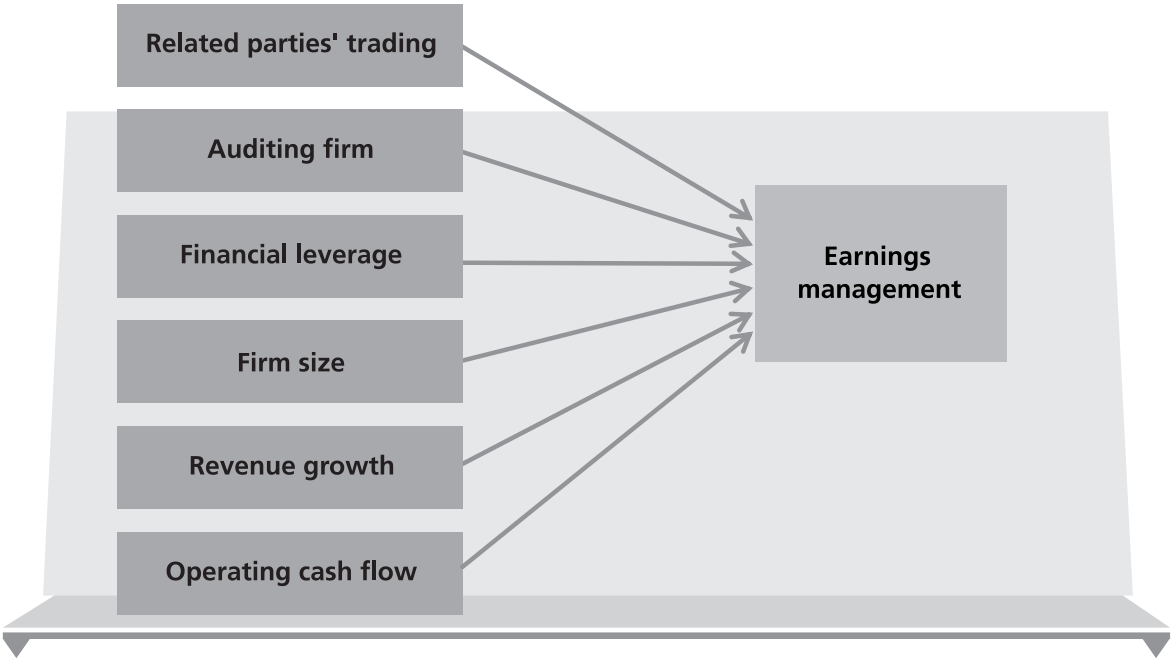

Figure 1. Research Model

Source: own study

The proposed research hypotheses are as follows:
H1: The higher the company has the RPTs, the greater the level of EM becomes.
H2: The company is audited by Big4 auditing firm has lower level of EM than those not audited by Big4.
H3: The greater the financial leverage a company has, the higher the level of its EM appears.
H4: The larger the company is, the higher its EM level becomes.
H5: The higher the firm's revenue growth rate is, the higher its EM level becomes.
H6: The higher the operating cash flow is, the lower the level of internal control is.

The author performed multivariate regression analysis to examine the relationship between RPTs, audit quality, firm size, financial leverage, revenue growth rate and operating cash flow with EM behavior. The regression model is as follows:

$$EMit = \beta0 + \beta1*RPTsit + \beta2*AUDITit + \beta3*LEVit + \beta4*SIZEit + \beta5*GROit + \beta6* CFOit + \varepsilon it$$

In which: EM is the level of EM, RPTs are related party transactions, AUDIT is the audit quality, SIZE is the size of the business, LEV is the financial leverage, GRO is the revenue growth rate, and CFO is Operating cash flow, εit: Residual.

4.2. Measuring variables

As mentioned above, the authors choose the modified Jones model of Dechow (1995) and colleagues to measure the behaviors of EM. Independent variables in the model are RPTs. A common measure of RPTs is the logarithm of annual transaction values (Hu et al. 2012). Table 1 below shows the method of measuring variables in the model.

Inheriting the previous studies, the authors built a research model in which RPTs are main variables affecting on EM level. Similar with previous research (Kuan et al, 2010; Chen et al, 2011; El – Helaly et al, 2018), the authors used Auditing firm (AUDIT) as a control variable in the study. Similar with previous research (El – Helaly et al, 2018; Marchini et al, 2018; Chen et al, 2011; Kuan et al, 2010; Chu-Yang & Hsu Joseph, 2010; Gordon và Henry, 2005) the authors used Firm size (SIZE) as a control variable in the study. Similar with research (El – Helaly et al, 2018; Marchini et al, 2018; Chen et al, 2011; Srinivasan, 2013;

Linvani Kuan et al, 2010; Gordon và Henry, 2005) the authors used variables Financial leverage (LEV) as a control variable in the study. Similar with research of Marchini et al (2018), Linvani Kuan et al (2010), Gordon and Henry (2005), the authors used the operating cash flow (CFO) to control the model. For the company's growth variable, there are 3 studies by Chen et al (2011), Srinivasan (2013), Chu-Yang and Hsu Joseph (2010), using the firm growth (GRO) variable to control for the model.

Table 1. Measuring variables

Order	Variable name	Symbol	Measure	Source
Dependent Variable				
1	Earning Management	EM	Adjusted residues using Dechow's Modified Jones (1991) model (1995)	(Dechow at el, 1995)
Independent variables				
1	RPTs	RPTs	Logarithm of total sales transaction with related parties (RPT sales)	(Hu et al., 2012).
Control variables				
1	Auditing firm	AUDIT	Equals 1 if the firm is audited by Big4, and zero if the firm is not audited by Big4	
2	Financial leverage	LEV	Equal total debt to total assets as at the balance sheet date	
3	Firm size	SIZE	Logarithm of total assets of the firm at the end date financial year	
4	Revenue growth	GRO	Equal to the difference between this year's revenue and the previous year divided by the previous year's revenue	
5	Operating cash flow	CFO	Net operating cash flow	

Source: own study

5. Empirical research

5.1. Descriptive statistics

According to table 2, the EM is a profit-correcting act, so it is not possible to distinguish whether it is an adjustment or a decrease in profit. Therefore, to analyze the magnitude of the inter-year earnings in the research period, the authors performed the absolute value. If the company has a higher absolute value, then the greater the level of the trust appears. Based on the statistical results in table 2, the absolute value of EM in the whole research period has an average value of 9.71%, which shows that the average manager of the implementation of the EM (increase or decrease) at level 9.71% of total assets at the beginning of the year, the lowest is 0.04% and the highest is 116.74%. EM levels have a significant difference between the maximum and the smallest values in each year in the research period and when considered for the 3-year study. The absolute average of EM between years does not differ significantly. However, based on the aggregate results, we can see that the level of EM tends to decrease gradually from 2016 to 2018. Specifically, the absolute average EM value in 2016 was 10.51%, 2017 was 9.42%, 2018 was 9.2% and the whole research period was 9.71%.

Table 2. Status of EM

Year	Obs	Min	Max	Mean	Std. Dev
2016	266	.0014414	1.167426	.1051203	.1195864
2017	266	.0004952	.545814	.0942346	.0868183
2018	266	.0004461	.942008	.092048	.1007391
3 year	798	.0004461	1.167426	.0971343	.103287

Source: own study

The authors also conducted analysis of trends and levels of EM of companies listed on Vietnam's stock market. Therefore, the authors will summarize the level of the EM by year and divide into the EM_negative, EM_positive as follows:

According to figure 2, it can be seen that when considering the overall study, regardless of whether the trend is positive or negative profit adjustment, then the average value of the EM is 4.91%, meaning that the average manager will adjust to increase profits 4.91% compared to the total assets of the year. The highest level of profit management is adjusted to increase profits by 116.74% and the

lowest level of profit management is the adjustment to reduce profits (-94.2%) compared to total assets at the beginning of the year. The majority of companies tended to adjust profits, during the research period a total of 798 observations of which 545/798 observations were adjusted to increase profits (accounting for 68%), the trend of adjustment profit growth still accounted for a high proportion (doubling the trend of adjustment profit reduction) when considered for each individual year, specifically in 2016, the profit adjustment trend increased by 67%, 70% in 2017, and 2018 accounted for 68%. The average of negative EM level in the research period was (-7.58%) and the average of positive EM in the research period was 10.71%.

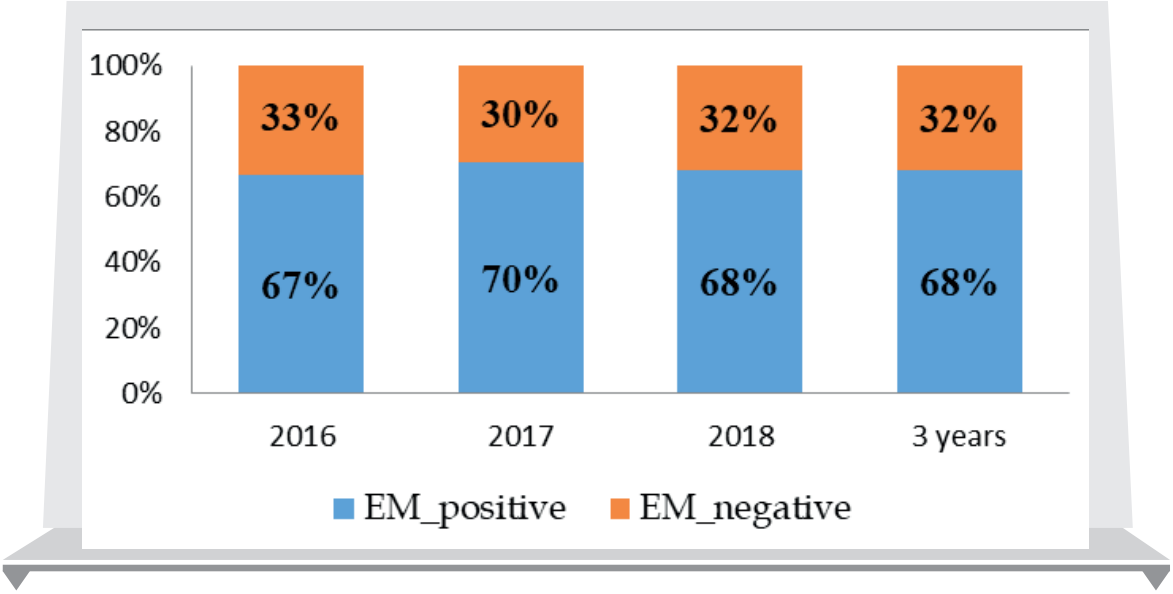

Figure 2. Trends of EM

Source: own study

Table 3. Status of sales transactions with related parties (RPTs)

Year	Min	Max	Mean	Std. Dev	Obs
2016	.6931472	15.86634	10.72262	2.495801	266
2017	2.397895	16.01967	10.81293	2.397218	266
2018	3.89182	16.14341	10.74766	2.483913	266
3 year	.6931472	16.14341	10.76107	2.456578	798

Source: own study

According to the results shown in table 3, RPTs are measured by taking logarithms of sales of goods and providing services with related parties arising in the year of companies listed on Vietnam's stock market in the period of 2016 - 2018. The average value is 10.76107, the smallest value is 0.6931472 and the maximum value is 16.14341, which shows the distance between the largest value and the minimum value is quite large, which means that there is a significant difference on engaging in sales transactions with stakeholders between businesses during the research period. This is still true when considered separately for each year in the research period, meaning that in each of the years 2016, 2017 and 2018 the level of participation in sales transactions with related parties between companies is The difference is very large, specifically in 2016 the largest value of RPTs is 15.86634 while the smallest value of RPTs is 0.6931472, in 2017 the largest value of RPTs is 16.01967 and the smallest value is 2.397895, in 2018 the biggest value of RPTs is 16.14341 and the smallest value of RPTs is 3.89182. However, the average value of sales transactions with related parties of RPTs between years did not have a significant difference but the highest in 2017 was 10.81293, followed by 2018 at 10.74766 and the lowest in 2016 was 10.72262.

Table 4. Descriptive statistics of LEV, SIZE, GRO, CFO variables

Variable	Obs	Min	Max	Mean	Std. Dev
LEV	798	.0057185	.9650876	.4908974	.2243
SIZE	798	9.745605	17.38415	13.57021	1.487151
GRO	798	-.9934326	12.07301	.1750707	.8656386
CFO	798	-2,173,432	2,320,177	90,410.13	300,120.3

Source: own study

The statistical results from table 4 show that:

1. Financial leverage variable (LEV): the statistical results show that the ratio of liabilities to total assets of companies listed in Vietnam's stock market has an average value of 49.09%, the lowest debt ratio is 0.57% and the highest debt ratio is 96.5%. From there, it shows that the capital structure of the companies is significantly different.
2. Company size variable (SIZE): company size is measured by taking the total asset logarithm with the average value of 13.57, the smallest value is 9.75 and

the largest value is 17.38 Thus, there is a significant difference between the largest and the smallest value, which shows that the size of the enterprises has significant differences, which is also easily understood by companies in other industries.

3. Turnover of sales growth rate (GRO): the difference between this year's revenue and the previous year on the previous year's sales of companies listed in Vietnam's stock market has the smallest value of -0.99, the largest value is 12.07 and the average value is 0.18.
4. Net cash flow from business activities (CFO): this index is collected on cash flow statements with the minimum value of -2,173,432 (million), the largest value is 2,320,177 (million) and the average value is 90,410.13 (million).

Table 5. Descriptive statistics of AUDIT variable

AUDIT	Quantity	Ratio %	Total
0	550	68.92	68.92
1	248	31.08	100
Total	798	100	

Source: own study

The statistical results from table 5 show that there are 550/798 observations accounting for 68.92% of the financial statements that have not been audited by the Big4 audit firm.

5.2. Regression results

Table 6 shows the correlation matrix between the independent and dependent variables. Correlation coefficient indicates the degree of strictness between the two quantitative variables. The results of this analysis are the basis for regression analysis. Besides, through correlation analysis will help us detect multi-collinear phenomena in the research model. The analysis results in table 6 indicate that the correlation between the independence in the model is low and has r <0.8, so it is less likely that multi-collinear phenomenon occurs.

Table 6. Correlation matrix

	EM	RPTs	AUDIT	LEV	SIZE	GRO	CFO
EM	1.0000						
RPTs	0.0660	1.0000					
AUDIT	-0.0175	0.2275	1.0000				
LEV	-0.1123	0.2773	0.1396	1.0000			
SIZE	0.0140	0.2745	0.4009	0.3597	1.0000		
GRO	0.0770	0.0329	-0.0244	-0.0678	0.0189	1.0000	
CFO	-0.3814	0.0606	0.1480	-0.0078	0.3126	-0.0294	1.0000

Source: own study

The results of regression estimates with Pooled OLS are shown in table 7, the adjustment coefficient is 20.32% and the Prob> F = 0.0000 index (statistically significant at 1%). This suggests that the regression estimate with Pooled OLS may be an appropriate estimate.

Table 7. Regression result using Pooled OLS

Source	SS	df	MS
Model	2.95169282	6	.491948803
Residual	11.156407	791	.014104181
Total	14.1080998	797	.017701505

Number of obs	= 798
F(6, 791)	= 34.88
Prob > F	= 0.0000
R-squared	= 0.2092
Adj R-squared	= 0.2032
Root MSE	= .11876

EM	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
RPTs	.0053399	.001837	2.91	0.004	.001734	.0089459
AUDIT	-.008246	.0100219	-0.82	0.411	-.0279187	.0114266
LEV	-.1269028	.0207963	-6.10	0.000	-.1677253	-.0860803

SIZE	.019291	.0034778	5.55	0.000	.0124641	.0261178
GRO	.0063261	.0048912	1.29	0.196	-.0032751	.0159274
CFO	-2.00e-07	1.49e-08	-13.40	0.000	-2.29e-07	-1.71e-07
_cons	-.1883221	.0444256	-4.24	0.000	-.2755281	-.101116

Source: own study

The results of regression estimates with FEM are shown in Table 8, showing that the statistical value F (265, 526) = 1.17 and Prob> F = 0.0713 is greater than 0.05. Based on this result, the thesis has basis accepts of Ho hypothesis that all coefficients are ui = 0. This means that there is no difference among the objects (enterprises). As a result, the regression estimates with Pooled OLS are a more consistent than those with FEM.

Table 8. Regression result using FEM with cross-sectional and period fixed effects

Fixed-effects (within) regression		Number of obs	= 798
Group variable: firm		Number of groups	= 266
R-sq: within	= 0.2110	Obs per group: min	= 3
between	= 0.1180	avg	= 3.0
overall	= 0.1545	Max	= 3
		F(6,526)	= 23.45
corr(u_i, Xb)	= -0.2941	Prob > F	= 0.0000

EM	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
RPTs	-.0021466	.0050113	-0.43	0.669	-.0119913	.0076981
AUDIT	.0479992	.0336882	1.42	0.155	-.0181807	.1141791
LEV	-.2190293	.0956624	-2.29	0.022	-.4069566	-.031102
SIZE	.0103113	.030105	0.34	0.732	-.0488295	.0694521
GRO	.0061182	.0058194	1.05	0.294	-.0053138	.0175503
CFO	-2.15e-07	1.89e-08	-11.37	0.000	-2.52e-07	-1.78e-07
_cons	.0432585	.3796849	0.11	0.909	-.7026265	.7891435

sigma_u	.08215507					
sigma_e	.11558476					
rho	.33563865	(fraction of variance due to u_i)				

F test that all u_i=0: F(265, 526) = 1.17 Prob > F = 0.0713

Source: own study

Table 9 shows the results of regression estimates with REM, and the authors conducted Breusch and Pagan tests to choose between Pooled OLS and REM estimates which would be more appropriate. The test results show that the values are Statistics Chibar2 (01) = 1.39 and Prob> chibar2 = 0.1190, greater than 5%. This result helps the dissertation to accept the Ho hypothesis that all coefficients are ui = 0. Therefore, pooled OLS estimate is more consistent than the REM estimate. The dissertation does not perform Hausman test (used to select suitable estimates between FEM and REM) because when comparing Pooled OLS and FEM as well as between Pooled OLS and REM estimates, Pooled OLS is the most appropriate estimates (table 10).

Table 9. Regression result using REM with cross-sectional random effects

Random-effects GLS regression	Number of obs	=	798
Group variable: firm	Number of groups	=	266
R-sq: within = 0.2011	Obs per group: min	=	3
between = 0.2263	Avg	=	3.0
overall = 0.2092	max	=	3
	Wald chi2(6)	=	208.24
corr(u_i, X) = 0 (assumed)	Prob > chi2	=	0.0000

EM	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
RPTs	.005198	.0019069	2.73	0.006	.0014604	.0089355
AUDIT	-.007401	.0104415	-0.71	0.478	-.0278661	.013064
LEV	-.1277408	.0216913	-5.89	0.000	-.170255	-.0852266

SIZE	.0193391	.0036265	5.33	0.000	.0122313	.0264468
GRO	.0061971	.0048749	1.27	0.204	-.0033575	.0157517
CFO	-2.01e-07	1.50e-08	-13.45	0.000	-2.31e-07	-1.72e-07
_cons	-.187146	.0463615	-4.04	0.000	-.2780128	-.0962791
sigma_u	.02641982					
sigma_e	.11558476					
rho	.04965247	(fraction of variance due to u_i)				

Source: own study

Breusch and Pagan Lagrangian multiplier test for random effects

EM[firm,t] = Xb + u[firm] + e[firm,t]

Estimated results:

	Var	sd = sqrt(Var)
EM	.0177015	.133047
e	.0133598	.1155848
u	.000698	.0264198

Test: Var(u) = 0

chibar2(01) = 1.39

Prob > chibar2 = 0.1190

Table 10. Summary of appropriation tests for the regression model

Test	Pooled OLS and FEM	Pooled OLS and REM	FEM and REM
F – test	F(265, 526) = 1.17 and Prob > F = 0.0713		
Breusch – Pagan test		Chibar2(01) = 1.39 and Prob > chibar2 = 0.1190	
Hausman test			N/A
Conclusion	**Choose Pooled OLS**	**Choose Pooled OLS**	

Source: own study

Then, we test on four assumptions of the Pooled OLS model. These assumptions include homoscedasticity assumption, the normal distribution of residuals assumption, no autocorrelation assumption and no multicollinearity assumption. The results of these tests show that three assumptions are not violated, which are the normal distribution of residuals assumption, no autocorrelation assumption and no multicollinearity assumption. Conversely, only homoscedasticity assumption is violated (Appendix A). To overcome this defect, we have to conduct the regression by the Feasible generalized least squares estimation (FGLS).

FGLS regression results (table 11) show that of the 6 variables in the model, there are 4 variables affecting the behaviors of EM with statistical significance of 1%. Of the 4 variables that impact on behaviors, the opposite of the two are the financial leverage (LEV) and the net cash flow from business operations (CFO), while two with the same directional impact on the behaviors are company size (SIZE) and RPTs. Audit quality variables (AUDIT) and revenue growth (GRO) are not statistically significant.

Table 11. Results of regression analysis FGLS

Cross-sectional time-series FGLS regression
Coefficients: generalized least squares
Panels: heteroskedastic
Correlation: no autocorrelation

Estimated covariances	=	266	Number of obs	=	798
Estimated autocorrelations	=	0	Number of groups	=	266
Estimated coefficients	=	7	Time periods	=	3
			Wald chi2(6)	=	763.46
			Prob > chi2	=	0.0000

EM	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
RPTs	.0045325	.0007224	6.27	0.000	.0031166	.0059484
AUDIT	-.0041477	.0034437	-1.20	0.228	-.0108972	.0026018
LEV	-.1365283	.008486	-16.09	0.000	-.1531606	-.119896
SIZE	.0195498	.0014985	13.05	0.000	.0166127	.0224869
GRO	-.000899	.0036876	-0.24	0.807	-.0081266	.0063287

CFO	-2.06e-07	7.99e-09	-25.77	0.000	-2.22e-07	-1.90e-07
_cons	-.1832814	.0183886	-9.97	0.000	-.2193225	-.1472403

Source: own study

6. Conclusion

EM is one of the topics that many researchers are interested in. There have been numerous research on the methods of measurement of EM and factors having impact on the EM behaviors. However, studies on the influence of RPTs on EM behavior in Vietnam are still very limited. Therefore, this study was conducted with the aim of examining the influence of RPTs on EM behaviors of companies listed on Vietnam's stock market. Research on measurement of EM by adjusting accruals according to Modified Jones model, RPTs are measured by taking logarithms of total annual sales value with related parties. The authors then performed regression analysis between the representative of the dependent variable which is the discretionary accruals and RPTs and the control variables of the model including financial leverage, firm size, revenue growth, operating cash flow and quality of audits. The sample is balance sheet data involving 266 companies in 2016, 2017 and 2018. The authors performed regression with 3 methods of Pooled OLS, EM and REM and passed F tests - Test and test Breusch - Pagan test has selected the appropriate regression model of the study which is Pooled OLS.

The results after remedying the defects of the model by regression with FGLS show that among 6 variables in the model, there are 4 variables affecting the behaviors of EM with statistical significance 1%. Of the 4 variables that impact on behaviors, there are 2 variables affecting the opposite direction: financial leverage (LEV) and net cash flow from business operations (CFO), while the other two have the same direction effect on the behaviors are company size (SIZE) and RPTs. Audit quality variables (AUDIT) and revenue growth (GRO) are not statistically significant. Thus, the study has achieved the goal with the test result that RPTs impact in the same direction as the level of EM. This shows that the higher the RPTs are, the greater its EM level becomes. In addition, there are certain limitations. Firstly, in terms of the number of independent variables in the model, the study can only check the influence of RPTs and 5 control variables on the behaviors of EM; Secondly, RPTs are very diverse, so there are many different scales such as based on sales, costs, loans / loans (including guarantees), liabilities with related parties, sales transactions, real estate,

financial revenue, financial expenses, etc. Hence, the authors only check the impact of sales transactions with the parties involved in EM. Thirdly, the study has not considered examining the impact of external factors on EM level such as corporate income, tax rates, economic crisis, inflation situation, etc., at the same time of the study. This auditing cost has not been announced on the financial statements yet, which is also considered as a new research direction in the future when the information on auditing fee is published on the financial statements.

The study results will be added to the theory model of the relationship between the RPTs and several other factors to EM level. Therefore, it will be considered as useful documents for researchers to study relevant topics.

Furthermore, this research has contribution in practice. Specifically, it is possible to assist relevant agencies such as legislatures, business managers, auditing firms, auditors, etc., to come up with rational decisions related. The results of this study show that RPTs have an impact on EM, which indicates that RPTs may not be viewed as a business transaction that meets the normal business needs of the enterprise. Therefore, members of the Board of Directors need to have meetings to discuss and approve RPTs clearly to control RPTs well.

The study has several limitations as follows: First of all, it is the limitation of sample size. Because sampling subjects are non-financial companies listed on Vietnam's stock market, not including companies in the financial industry because companies in the Finance, Banking and Insurance sectors have very distinct characteristics in terms of operations business activities as well as there is a heterogeneity in current regulations on financial statements preparation and presentation so they will be excluded from the research sample. Second, RPTs are very diverse. There are many different scales such as based on revenue, costs, loans/loans (including guarantees), related party liabilities, sales transactions, real estate, financial revenue, financial expenses, etc. However, in this study, the authors only measure RPTs by sales transactions with related parties. Third, in this study, the authors only study the relationship between RPTs and EM, the authors have not considered what factors affect this relationship, for example structural characteristics. company ownership structure, or board characteristics, …

In fact, we can analyze little more about indirect influence: RPTs will cause conflicts of interest and information asymmetry creates incentives and opportunities and challenges for the Board of Directors in operating the business.

The future researchers will collect larger sample size, and measure RPTs by other scales such as financial expenses, cost, revenue, etc.

Summary

The Impact Of Related Parties' Trading On The Listed Company's Earnings Management - Evidence In Vietnam

This study considers the impact of related parties' trading (RPTs) on the listed company's earnings management level (EM) in Vietnam's securities market, of which EM is measured according to the modified Jones model by Dechow and Associates (1995). Through using 5 more control variables as public. How auditing firm, firm size, financial leverage, revenue growth and operating cash flow affect EM, The research results show that RPTs impact the same dimension on EM level. The study provides empirical evidence of the impact of RPTs on the EM level of companies listed on Vietnam's securities market. Among its results to science is that it indicated with evidence, the higher the RPTs are, the greater its EM level becomes. We also identify practical contributions and limitations showin in the conclusion section.

Keywords: *Earnings management; Related parties trading; modified Jones model.*

JEL Classification: M4, M41, M48

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Appendix A

After choosing the most appropriate model, we test four assumptions including homoscedasticity assumption, the normal distribution of residuals assumption, no autocorrelation assumption and no multicollinearity assumption. The results are as below:

Multicollinearity test result

The VIF coefficients of the explanatory variables in the model are less than 2, indicating that the model does not exist multicollinearity. Therefore the model does not violate the multi-collinear assumption. The results are shown in table A1.

Table A1. VIF value of the model

Variable	VIF	1/VIF
SIZE	1.51	0.661552
LEV	1.23	0.813313
AUDIT	1.22	0.821553
RPTs	1.15	0.869002
CFO	1.13	0.883083
GRO	1.01	0.987158
Mean VIF	1.21	

Source: own study

Table A1 shows that the VIF coefficients of 6 independent variables in the model are all less than 2. Therefore, so it can be concluded that no collinearity phenomenon between the independent variables can occur.

Autocorrelation assumption result

To test the autocorrelation assumption, we use the Wooldridge test. With Prob> F = 0.1100 (no statistical significance at 1%, 5% and 10%) (Figure A1), the result find that the model does not have autocorrelation type 1.

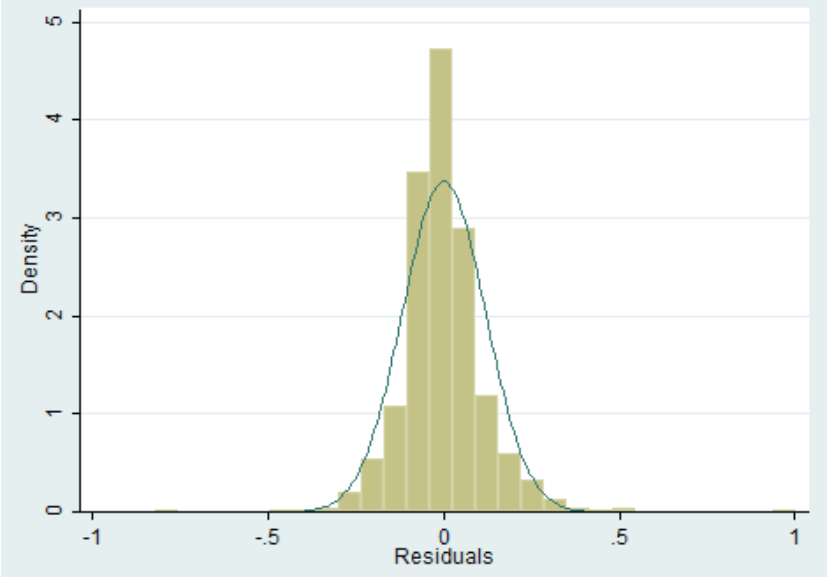
Figure A1. Wooldridge test result for autocorrelation

```
Wooldridge test for autocorrelation in panel data
H0: no first-order autocorrelation
    F(  1,     265) =      2.571
           Prob > F =      0.1100
```

The normal distribution of residuals test result

Through the shape of the residual distribution histogram shown in Figure A2, the test results show that the residuals of the research model have a normal distribution.

Figure A2. Histogram of residual with normal distribution



Source: own study

Homoscedasticity assumption result

We performed Breusch-Pagan/Cook-Weisberg test to test the homoscedasticity assumption. According to Breusch-Pagan/Cook-Weisberg result, Prob> chi2 = 0.0375 is less than 0.05 (statistically significant at 5%) (Figure A3). The null hypothesis is homoscedasticity is rejected. Therefore, the research model has heteroscedasticity.

Figure A3. Breusch-Pagan/Cook-Weisberg test result for homoscedasticity assumption

```
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of EM

         chi2(1)      =     4.33
         Prob > chi2  =   0.0375
```