Security Structure Choice and Earnings Management for A-REITs

JIAN LIANG[1]and ZHI DONG[2]

The University of Auckland

Abstract

This study investigates whether stapled and unstapled Australian Real Estate Investment Trusts (A-REITs) are significantly different from each other in terms of engaging in earnings management (EM). The A-REITs market is unique internationally because A-REITs can choose to staple together the shares of the real estate management and/or development companies and the trust unit, so that they can trade jointly on the Australian Securities Exchange market. This empirical study is conducted on a panel database containing the financial data of A-REITs from 2000 to 2013. Findings of this study prove that compared with unstapled A-REITs, stapled A-REITs are using more accrual earnings management approaches and real earnings management approaches based on discretionarily controlling expense associated with various business activities such as general administration, property management, marketing and staff training. These results imply that the structure of stapled REITs provides more space for managers to discretionarily control the disclosed financial information, and further prove that REITs are motivated by EM incentives to choose stapled structure. Therefore, the unstapled REITs use fewer EM approaches and have better financial disclosure quality compared to stapled REITs. Thus, investors and auditors should be more cautious when analysing the financial reports of stapled REITs, and regulators should discourage REITs from adopting a stapled structure in order to increase market transparency.

Key words: Real Estate Investment Trusts, stapled securities, earnings management, static panel data model, regression adjustment treatment effect model.

Introduction

This research investigates if there is a significant difference between stapled and unstapled Australian REITs (A-REITs) in terms of engaging in earnings management (EM), i.e., the managerial approaches used by managers to influence the financial information disclosed in their favoured ways. The literature confirms that REITs are different from other listed business entities with regard to the type of EM approaches used and the incentives to engage in EM activities (Liao, Dong, and Young, 2011; Anglin et al., 2012; Bauer et al., 2010; Bianco, Ghosh, and Sirmans, 2007; Edelstein et al 2007). Moreover, the financial reporting environment of REITs is also different from listed

[1] Jian Liang, PhD Candidate, Department of Property, The University of Auckland Business School, The University of Auckland. *Mailing Address*: Department of Property, The University of Auckland Business School, Private Bag 92019, Auckland 1142, New Zealand. *E-mail Address*: jian.liang@auckland.ac.nz.

[2] Dr Zhi Dong, Department of Property, The University of Auckland Business School, The University of Auckland. *Mailing Address*: Department of Property, The University of Auckland Business School, Private Bag 92019, Auckland 1142, New Zealand. Phone: (64) 9 923 8630. *Facsimile*: (64) 9 308 2314. *E-mail Address*: z.dong@auckland.ac.nz.

companies under other industries (Alshimmiri, 2004; Anglin, et al., 2012). Therefore, the research concerning EM in the context of REITs has sparked the interest of real estate and accounting scholars.

Compared with REITs in other countries, A-REITs are special, because they are permitted to staple together a unit of real estate investment trust and a share of an asset management company for exchange listing. This stapled structure is forbidden by most other countries such as the U.S and U.K because it provides tax arbitrage opportunities. Stapled structures allow real estate management companies to staple their shares onto the shares of REITs, which are fiscally transparent entities and outside the scope of corporate income tax (Wern III,1998; McCall, 2000; Corry,1998). However, a stapled structure is permitted in Australia. One reason for this is that the tax arbitrage incentive is significantly reduced by the dividend imputation system (Davis, 2012).

From 2000 to 2013, the number of stapled A-REITs has increased significantly and has increased in proportion to the number of unstapled A-REITS (Newell, 2010). According to statistics compiled by the authors, only 5 A-REITs were using a stapled structure in 2001 (41% of the total number of A-REITs). In 2012, the number increases to 27 (63%). This increase in both number and proportion contradicts mainstream financial theory as a stapled structure limits the investors' choice by compulsory binding the share and trust unit (Elton et al., 2009). Therefore, under the condition that stapled structures do not provide tax arbitrage opportunities under Australian tax law, there must be some other factors that make a stapled structure attractive. One possibility is that a stapled structure provides more room for REITs to engage in EM activities. To test this hypothesis, an empirical study is conducted. This study investigates whether stapled REITs use more EM approaches than unstapled REITs. It does this by running regression analyses on a panel database containing financial data and information on whether or not the A-REIT is stapled, from 2000 to 2013. The authors find significant statistical evidence to support the idea that stapled REITs use more various EM approaches than unstapled REITs do, to influence the disclosure of financial information. These findings imply that stapled A-REITs have lower earnings quality, despite their usefulness for active, as opposed to passive, asset management.

This research contributes to the literature and practice in the following ways:

- it enhances the understanding of EM activities by investors and regulatory authorities;
- it explores different level of EM incentives provided by different security structure;
- it helps investors to better interpret the disclosed financial information of REITs;
- it helps assesses the earnings quality of securities with different stapled structure;
- it suggests that a stapled structure allows for more EM , while impairing earnings quality; and
- it provides an empirical reference for improving stock market regulation to enhance market transparency.

Literature review and hypothesis development

Earnings management

Earnings management is defined by Healy and Wahlen (1999) as "*Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some*

stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers". According to this definition, the EM activities bring in the discretionary judgment of managers to the disclosed financial information. Thus the usages of EM impair the earnings quality which measures the capacity of disclosed financial information in regard to reflecting the objective and fundamental economic conditions of the company (Dechow et al., 2010). Thus the extent of usage of EM approaches is negatively correlated with the earnings quality.

Previous literature suggests that EM approaches can be classified into two categories: accrual earnings management (AEM) and real earnings management (REM). AEM is defined as the discretionary managerial judgements used in choosing accounting methods to deal with accrual items on the financial report, and further influence the disclosed financial information (Dechow et al., 1995). Real EM is defined as discretionarily using managing approaches in order to alter the financial reports in managers' favoured way (Cohen al., 2008; Cohen and Zarowin, 2010).

Existing literature found that REM approaches are more important for REITs to use compared to AEM (Edelstein et al., 2007). Moreover, previous literature suggests that REM approaches can be further decompose into three types according to what specific activities are conducted (Ambrose and Bian, 2010; Cohen al., 2008; Cohen and Zarowin, 2010). These three types of REM approaches include: (Type one) discretionary controlling the expense generated by general administration, marketing and sales activities, staffs recruitment and training, research and development; (Type two) discretionary conducting real estate asset transactions business and choosing real estate asset valuation methods in order to influence financial report; (Type three) discretionary controlling sales income by conducting discount promotion, using credit sales or raising price, to boost or cut down sales volume in short term.

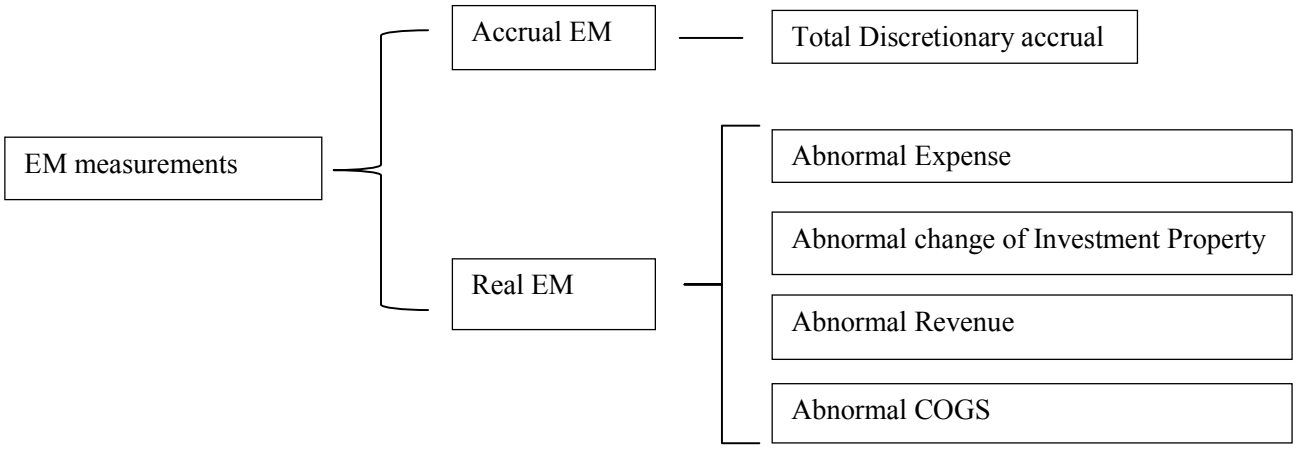
Furthermore, the authors combine the two accounting items: Selling, General and Administrative expense (SG&A) and Research and Development expense (R&D) to form a new item as General Expense, and estimate the abnormal General Expense as the measurement for the (Type one) REM approaches. The reason for the combining SG&A and R&D is that the two items of are relative small in value for REITs.

Moreover, this research uses abnormal change of Investment Property, instead of Gain or Loss from Property Transactions which has been using in previous literature (Roychowdhury, 2006; Cohen al., 2008; Cohen and Zarowin, 2010) as measurement of (Type two) REM approaches. The reason for the change is that abnormal Gain or Loss from Property Transactions cannot cover the discretionary components of real estate asset valuation. Whilst the Change of Investment Property, which is the results of both transactions and valuation, is more comprehensive in reflecting the extent of using AEM approaches based on discretionary asset transactions and valuation.

Finally, the abnormal Revenue and abnormal Cost of Goods Sold (COGS) will be estimated as (Type three) REM approaches. The item of COGS in the context of REITs is the measurement of expense associated with property

managerial and rental activities. In conclusion, the Chart.1 blow summarizes the categories of EM measurements will be estimated in this research.

Chart.1 Classification of EM measurements

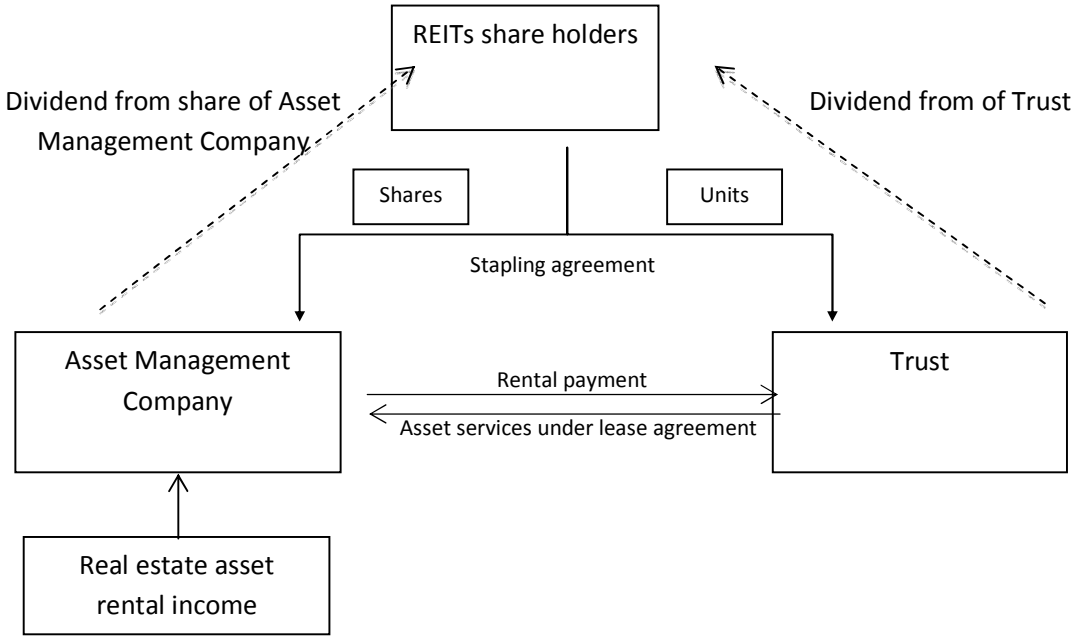


Stapled and un-stapled Real Estate Investment Trusts

Definition of stapled Real Estate Investment Trusts

Stapled securities structure is widely employed by A-REITs, infrastructure funds and banks which are listed on the Australian stock market. The charter below presents the simplified structure of a stapled REIT which staples the shares of asset management company (not development) and units of trust.

Charter.2 structure of stapled REIT



The issuing of stapled securities is the package of trusts units and firms shares which are bind together and cannot be traded separately. The stapled structure enables REITs to internalize the real estate asset management business by establishing stapling agreement with asset management company, and provides REITs with tax arbitrage opportunity (Davis, 2012; Newell, 2010). Therefore, the stapled structure is forbidden to use by REITs in the most of the REITs markets such as the U.S. and Canada. However, Australia employs the dividend imputation tax system which allows firm to attach the amount of paid corporate tax as credits along with the distributed dividend to shareholders who can use the attached credits to offset the individual income tax. Thus the incentives for A-REITs to exploit the corporate tax arbitrage by choosing stapled structure, should be reduced significantly by the dividend imputation tax (Davis,2012). Therefore the stapled structure should not be more favoured by investors and REITs than unstapled structure because stapled structure limits the capacity of investors in terms of improving their investment portfolio. Thus there must be other reasons rather than tax arbitrage incentives that drive A-REITs to go stapled.

The empirical research which investigates the incentives that for REITs to choose stapled structure is limited. The statistics from Newell and Keng (2005) and Davis (2012) demonstrated that the stapled structure had been becoming more and more dominant in A-REITs market. Their paper also mentioned that one of the reasons for the expansion of stapled structure is that stapled structure can better align the interests of asset managers and unit holder of trust, and further reduce the management cost and capital cost. However, they also pointed out that the stapled structure exposures the REITs to risk of real estate management and development business. This premise is supported by the research from Garing et al. (2004) which demonstrated that the real estate rental income took lower proportion of the gross income for stapled A-REITs than unstapled A-REITs. Additionally, the research from Dimovski and Brooks (2007) found that during IPO, stapled A-REITs needed to bare more direct capital raising cost which was associated with activities such as stock broking, legal consultancy, auditing, valuation, listing and marketing.

Concluding the previous literature, authors find that adopting stapled structure induces both benefits and detriments to A-REITs, and the existing research cannot provide satisfying explanations for the prevalence of stapled structure among A-REITs. Moreover, most of the existing literature implies that the stapled structure engenders more complicated business activities for A-REITs compared to unstapled structure, thus stapled structure generates more room for A-REITs to engage in EM, especially REM. Therefore, the authors assume that EM incentive could be one of the reasons that A-REITs choose stapled structure.

Moreover, the research from Yong and Singh (2013) and Yong (2010) showed that the return of un-stapled A-REITs are more integrated with bonds and stapled A-REITs are more closely correlated with stock and have higher volatility. Because the extent of AEM approaches usage is positively associated with the volatility of the financial performance, stapled A-REITs should be using more AEM approaches.

Concluding the literature above, the authors develop the following two hypotheses:

Hypothesis.1 Stapled structure induces REITs to engage in more accrual earnings management activities.

Hypothesis.2 Stapled structure provides more room for REITs to use real earnings management approaches which are based on discretionary controlling of general expense, asset transactions and sales volume.

Methodology

Earnings management estimation

This research will extend the methodologies used in existing accounting literature to estimate the measurements of AEM and REM as the following sections show.

Accrual earnings management

The extent of AEM can be measured by abnormal accrual which cannot be explained by fundamental economic condition of the company but the discretionary manipulation of accrual items on the financial report. This research follows the methods used by Dechow, Sloan and Sweeney (1995), Dechow, Sloan and Sweeney (1995) and Degeorge et al. (1999) to employ modified Jones' model to estimate the discretionary accrual as the measurement of AEM.

$$TA_{i,t}/A_{i,t-1} = \alpha_1 + \beta_1 \times (\Delta REV_{i,t}/A_{i,t-1}) + \beta_2 \times (PPE_{i,t}/A_{i,t-1}) + \varepsilon_{i,t} \quad (1)$$

Firstly, the total accrual (TA), which is computed as the difference between income before extraordinary items and cash flow from operation, will be regressed against the change of revenues compared to last year (ΔREV) and property, plant and equipment (PPE), to estimate the coefficients β_1 and β_2. All the variables in equation (1) will be scaled by total asset in last year to cope with possible heteroscodastity. Then the estimated β_1 and β_2 estimated from equation (1) will be used in the following equation (2) to calculate the normal discretionary (NDA):

$$NDA_{i,t}/A_{i,t-1} = \alpha_1 + \beta_1 \times (\Delta REV_{i,t} - \Delta REC_{i,t})/A_{i,t-1} + \beta_2 \times (PPE_{i,t}/A_{i,t-1}) \quad (2)$$

In equation (2), Δ REC stands for the change of revenue receivable compared to last accounting period and NDA is the non-discretionary accrual. Then Discretionary Accrual (DA) is computed as the difference between the Total Accrual and the Non-Discretionary Accrual (NDA).

Real earnings management

This research extends the methods from Cohen and Zarowin (2008) and Roychowhury (2006) to estimate the abnormal discretionary expense (DISXEP) as the measurement of REM approaches through discretionary controlling expense.

$$EXP_{i,t}/A_{i,t-1} = \alpha_o + \alpha_1 \times (1/A_{i,t-1}) + \beta_1 \times (REV_{i,t}/A_{i,t-1}) + \beta_2 \times (\Delta REV_{i,t}/A_{i,t-1}) + \beta_3 \times Q_{i,t} + \beta_4 \times (PPE_{i,t}/A_{i,t-1}) + \varepsilon_{i,t} \quad (3)$$

In equation (3), EXP is the combination of the two items of financial report: Selling, General and Administrative expense (SG&A) and Research and Development expense (R&D). Q is the Tobin's Q which is the proxy for marginal benefits to marginal cost of additional investment, and REV stands for revenue. The error term of the model (3) present the abnormal expense which cannot be explained by fundamental conditions of REITs but REM.

Then this research extends the methods from Gunny (2010) and Bartov (1993) to estimate the abnormal Change of Investment Property (CIP) as the measurement of REM though discretionarily conducting property transactions:

$$CIP_{i,t}/A_{i,t-1} = \alpha_o + \alpha_1 \times (1/A_{i,t-1}) + \beta_1 \times REV_{i,t}/A_{i,t-1} + \beta_2 \times \Delta REV_{i,t}/A_{i,t-1} + \beta_3 \times Q_{i,t} + \varepsilon_{i,t} \quad (4)$$

In equation (4), the abnormal Change of Investment Property (CIP) is measured as error term, which cannot be explained by the fundamental conditions of A-REITs but discretionary property asset transactions.

Finally, the authors follow the research of Ambrose and Bian (2010), Anglin et al. (2012), Edelstein et al. (2007) and Roychowdhury (2006) to estimate the abnormal revenue (REV) and abnormal cost of goods sold (COGS) as measurements of REM through discretionary controlling sales:

$$REV_{i,t}/A_{i,t-1} = \alpha_o + \alpha_1 \times (1/A_{i,t-1}) + \beta_1 \times Q + \beta_2 \times (\Delta REV_{i,t}/A_{i,t-1}) + \varepsilon_{i,t} \quad (5)$$

$$COGS_{i,t}/A_{i,t-1} = \alpha_o + \alpha_1 \times (1/A_{i,t-1}) + \beta_1 \times (REV_{i,t}/A_{i,t-1}) + \beta_2 \times Q + \beta_3 \times (\Delta REV_{i,t}/A_{i,t-1}) + \varepsilon_{i,} \quad (6)$$

As the equations above show, the abnormal REV and abnormal COGS is estimated as the error terms in the equations (5) and (6) respectively, which cannot be explained by the fundamental conditions of A-REITs but REM through sales manipulation.

Impacts of stapling status on earnings management

This research then employs the EM measurements estimated above as dependent variables to regress against dummy variables which indicates the stapling structure of the REITs, as well as other controlling variables. Previous accounting literature has identified what characteristics of firms influence the earnings management, these characteristics include: financial performance, leverage ratio, firm size and sales growth. Firstly, existing research confirms that firms with poor financial performance are more likely to engage in EM activities to embellish their financial report (Petroni, 1992; Keating and Zimmerman, 1999; Doyle et al., 2007). Thus this research employs the ratio of Return on Asset as a measure the financial performance and a controlling variable. Secondly, according to the papers from Balsam et al. (1995) and Bartov (1993), firms with higher leverage ratio are usually facing more financial distress, thus they are more likely to engage in EM approaches to avoid violating debt covenants. Moreover, literature from Kinney and McDaniel (1989) suggests that larger size firms are more likely to engage in accrual EM by choosing accounting methods to influence disclosed financial information, thus the Total Asset size of the firm

should be positively correlated with the EM measurements. Furthermore, existing research from accounting found that the firms with higher rate of sales income growth report financial information with lower quality (Nissim and Penman, 2001; Penman and Zhang, 2002), thus the growth of sales are positively correlated with EM measurements. In addition to that, real estate literature (Edelstein, 2007) demonstrates that tax exemption status is very important for REITs to maintain. In order to comply with the dividend requirement of REITs specific regulatory regimes, REITs are motivated to engage in EM activities to bring down the disclosed earnings, so they can distribute fewer funds as dividends to investors to maintain more reservation while the dividend requirement can be achieved (Edelstein, 2007). Therefore, this research incorporates dividend pay-out as a controlling variable. Finally, the research from Liang and Dong (forthcoming) confirms that the past global financial crisis has significantly impacted the financial disclosure behaviour of REITs, thus this research also incorporate this factor as a controlling variable. All the variables mentioned above which influence the EM are included as controlling variables in the estimation model below.

$$EM_{i,t} = \alpha_1 + \beta_1 \times \text{Controlling Variables} + \beta_2 \times \text{DStapled} + \varepsilon \quad (7)$$

In equation (7), the five EM measurements ($EM_{i,t}$) , which are estimated by equations (1) to (6) above, are used as dependent variables to regressed against the dummy variables DStapled which is used to indicate if the A-REIT i is stapled in financial year t. Moreover, other controlling variables are also included in equation (7). The controlling variables include: leverage ratio (LR), total asset size (A), revenue growth (ΔREV), gross income change (ΔGI), return on assets(ROA), dividend pay-out ratio(DPR) and dummy variables indicating if the information is collected after the financial year of 2007 when the global financial crisis broke out (DGFC).

Statistical results analysis

The above equations (1) to (6) which are used to estimate EM measurements will be conducted on an unbalanced panel database containing financial data of all A-REITs from 2000 to 2013. The total number of A-REITs is 45, and the total observations number is 391. The database is downloaded from DataStream, and the information of stapling condition is manually collected from the financial reports. The table (1) below summarized the variables from the database which are used to estimate the EM measurements.

Table (1) Summary of variables for estimating EM measurements

Variable	Description	Obs	Mean	Std. Dev.	Min	Max
TA	Total accrual	390	-11169.93	381092.70	-3457256.00	3063313.00
REV	Revenue	390	281235.60	539732.70	25.80	4138943.00
A	Total asset	390	2724677.00	5914815.00	462.60	48900000.00
PPE	Property, plant and equipment	390	1291680.00	3790298.00	0.00	41400000.00
REC	Account receivables	390	66451.92	153015.60	0.00	1562086.00
EXP	Expense which is equal to the sum of	359	64018.53	219552.80	-2252591.00	1578217.00

	Selling, General and Administrative Expense and R&D Expense					
MKC	Market capitalization	378	1741022.00	3930548.00	0.00	32100000.00
TL	Total reliabilities	390	1150380.00	2916696.00	199.80	27000000.00
Q	Tobin's Q	378	1.02	0.50	0.23	7.48
IVP	Investment Property	390	1211381.00	4243627.00	0.00	41400000.00
COGS	Cost of Goods Sold	373	132884.00	284601.00	0.00	2413976.00

The information of the database is measured in thousand U.S. dollars. All the variables have been winsorized to eliminate outliers before running regression models. Moreover, the possibility of multicollinearity is tested by VIF test and the test results suggest that the problem of multicollinearity does not bother the estimation of EM measurements. Then results of running regression models (1),(3),(4),(5) and (6) are presented in the following table (3).

Table (3) results of running regression model to estimate EM measurements

	equation(1) (OLS)	equation(3) (Random effect)	equation(4) (OLS)	equation(5) (Random effect)	equation(6) (Fixed effect)
Independent variables	TA	EXP	CIP	REV	COGS
ΔREV	-0.004	0.027	2.148	1.002	-0.141
	(-0.08)	(0.87)	(7.07)	(24.72)	(-4.67)
PPE	0.037	0.007			
	(-3.98)	(1.86)			
REV		0.110	-0.449		0.802
		(4.16)	(-2.21)		(30.94)
1/A		78.108	302.641	178.103	-29.580
		(6.58)	(2.18)	(6.20)	(-2.31)
Q		-0.001	0.005	0.093	-0.039
		(-0.09)	(0.07)	(6.35)	(-5.03)
_cons	-0.036	0.021	0.102	0.021	-0.013
	(-4.41)	(2.17)	(1.50)	(1.22)	(-1.83)
Number of obs	345	313	338	338	326
Number of groups	42	42	42	43	43
F(2, 342)	8.730		22.610		701.620
Prob > F	0.000		0.000		0.000
Wald chi2(5)		262.270		861.850	
Prob > chi2		0.000		0.000	
Adj R-squared	0.043	0.394	0.204	0.681	0.896
Prob > F(Individual effect test)	0.627	0.000	0.870	0.000	0.000

Prob>chi2(Hausman test)	0.178	0.677	0.020

As the table above shows, equations (1) and (4) choose OLS estimator, equations (3) and (5) choose random effect model and equation (6) chooses fixed effect model. The selection of models follows the results of individual test and Hausman test. The estimated EM measurements are summarized in the following table (4), along with other independent variables in equation (7).

Table (4) Summary of EM measurements and independent variables in equation (7)

Variable	Variables description	Obs	Mean	Std. Dev.	Min	Max
EM measurements variables						
DA	Discretionary accrual scaled by total asset in last accounting period	345	0.000	0.095	-0.412	0.241
DCIVP	Discretionary change of investment property scaled by total asset in last accounting period	338	0.000	0.379	-1.367	1.879
DEXP	Discretionary expense scaled by total asset in last accounting period	313	-0.004	0.036	-0.101	0.295
DREV	Discretionary revenue scaled by total asset in last accounting period	338	0.005	0.104	-0.347	0.571
DCOGS	Discretionary Cost of Goods Sold scaled by total asset in last accounting period	326	0.000	0.043	-0.366	0.169
Absolute value of EM measurements variables in Logarithmic term						
lnabsDA	Absolute value of DA Logarithmic term	345	-3.297	1.244	-8.270	-0.887
lnabsDCIVP	Absolute value of DCIVP in Logarithmic term	338	-2.069	1.209	-7.374	0.631
lnabsDEXP	Absolute value of DEXP in Logarithmic term	313	-4.275	1.159	-10.455	-1.221
lnabsDREV	Absolute value of DREV in Logarithmic term	338	-3.492	1.250	-11.322	-0.560
lnabsDCOGS	Absolute value of DCOGS in Logarithmic term	326	-4.349	1.238	-11.316	-1.006
Independent variables						
DStapled	Dummy variables indicating if the A-REIT is stapled	390	0.531	0.500	0.000	1.000
LR	Leverage ratio	390	0.441	0.185	0.011	0.920
A	Total asset	390	2724677	5914815	463	48900000
GREV	Growth of revenue	345	27711	176446	-1719935	1334777
GGI	Growth of gross income	337	5182	246116	-2713621	2650188
ROA	Return on asset	390	0.1261	0.1361	0.0003	1.3404
POR	Pay-out dividend ratio	356	55.4705	32.2859	0.0000	100.0000
DGFC	Dummy variables indicating if the observation is collected after the broke out of 2007 global financial crisis	390	0.5744	0.4951	0.0000	1.0000

Because this research aims to estimate the impacts of stapled structure on the extent of EM approaches usage, the absolute term of these EM measurements are used instead of real term in equation (7). Moreover, because all the

estimated EM measurements are scaled by total asset in last accounting periods to copy with possible heteroscedasticity, these EM measurements are low in value and variation. Therefore, these EM measurements in absolute term will be transformed into logarithmic term to increase the variation. Moreover, according to the table (4), 53.1% of the observations are stapled, and 57.44% of them are collected after the broke out of 2007 global financial crisis. The average return on asset of all the A-REITs from 2000 to 2013 is 12.61%, and the average leverage ratio is 44.1%. Furthermore, the table (5) below presents the correlation coefficients of all the independent variables, as well as the results of variance inflation factor (VIF) test which indicates the existence of multicollinearity problem.

Table (5) correlation coefficients and VIF test for variables used for equation (7)

	DStapled	LR	A	GREV	GGI	ROA	POR	DGFC	VIF	1/VIF
DStapled	1.00								1.22	0.82
LR	-0.01	1.00							1.15	0.87
A	0.27	-0.04	1.00						1.16	0.86
GREV	0.09	-0.02	0.16	1.00					1.11	0.90
GGI	0.01	-0.01	-0.07	0.19	1.00				1.05	0.95
ROA	0.29	-0.04	-0.07	0.13	0.00	1.00			1.15	0.87
POR	0.15	-0.33	0.10	0.07	-0.01	0.13	1.00		1.22	0.82
DGFC	0.04	0.24	0.03	-0.12	-0.04	-0.01	-0.26	1.00	1.13	0.89
									Mean VIF	1.15

As the table (5) above shows, the mean VIF is 1.15, thus multicollinearity is not bothering the estimation for equation (7). Then the results of running regression model on equation (7) are presented in the table (6) below.

Table (6) results of regression for equation (7)

	lnabsDA (Random effect)	lnabsDCIVP (OLS)	lnabsDEXP (Random effect)	lnabsDREV (Random effect)	lnabsDCOG (Random effect)
DStapled	***0.566******	0.025	***0.669******	-0.151	0.150
	(3.560)	(0.180)	***(3.220)***	(-0.640)	(0.720)
LR	0.471	0.933**	-0.075	-0.481	-0.263
	(1.200)	(2.450)	(-0.160)	(-1.070)	(-0.550)
A	0.000	0.000*	0.000	0.000**	0.000
	(-0.120)	(-1.910)	(-0.430)	(2.460)	(0.750)
GREV	0.000	0.000	0.000	0.000	0.000
	(0.080)	(1.490)	(0.400)	(-1.360)	(-0.290)
GGI	0.000	0.000***	0.000**	0.000	0.000
	(-0.480)	(2.630)	(2.480)	(0.780)	(-0.110)
ROA	1.288*	0.069	3.433***	3.856***	3.514***

	(1.870)	(0.100)	(4.460)	(5.060)	(4.410)
POR	-0.015***	-0.001	-0.005**	-0.001	0.001
	(-6.760)	(-0.240)	(-2.160)	(-0.660)	(0.450)
DGFC	-0.237	-0.102	-0.188	-0.473***	-0.344**
	(-1.740)	(-0.710)	(-1.440)	(-3.930)	(-2.530)
_cons	-2.978	-2.382	-3.853	-3.445	-4.579
	-10.850	-8.870	-11.700	-10.940	-13.610
Number of obs	327	323	304	323	312
Number of groups	43		42	43	43
Adj R-squared	0.191	0.044	0.131	0.188	0.124
F test		2.860			
Prob > F		0.004			
Wald chi2	66.450		44.970	40.380	29.810
Prob > chi2	0.000		0.000	0.000	0.000
Prob>F(Individual effect test)	0.021	0.526	0.000	0.000	0.000
Prob>chi2(Hausman test)	0.275		0.603	0.768	0.075

***Significant at 1% level
**Significant at 5% level
*Significant at 10% level

As the table above shows, because the individual effect is not significant according to the result of individual effect test, OLS estimator is chosen for equation (7) with discretionary investment property (lnabsDCIVP) as dependent variable. Moreover, the selection of the static panel data estimators is accord with the results of individual effect test and Hausman test. The random effect estimator is chosen for equations using dependent variables as discretionary accrual (lnabsDA), discretionary expense (lnabsDEXP), abnormal revenue (lnabsDREV) and abnormal cost of goods sold (lnabsDCOG).

According to the estimated results, the coefficients of dummy variable "DStapled" ,which indicates if the A-REIT is stapled, are positive and significant at 1% level in equation (7) with "lnabsDA" and "lnabsDEXP" as dependent variables. These results provide statistical significant evidences to support that stapled A-REITs engage more accrual based EM activities and real EM activities through discretionarily controlling expense. Therefore, the Hypothesis (1) and (2) are supported. However, explaining power of dummy variable "DStapled" is not significant for dependent variables "lnabsDCIVP", "lnabsDREV" and "lnabsDCOG" which measure the extend of using REM approaches based on property transactions and sales controlling. These two findings conflict with Hypothesis (2).

Moreover, the possibility that REITs choose stapled structure may be affected by other factors which also influence the EM measurements at the same time. Therefore the dummy variable "DStapled" may be correlated with other explaining variables, and may cause the problem of endogeneity and biased results. To tackle the possible problem, authors further employ two-step regression adjustment treatment effect (RATE) estimators to provide robust tests for the results. In the RATE estimators, the action that REITs choose stapled structure is considered as a treatment

that REITs used to influence the outcome which is the EM measurements in this case. The RATE estimators firstly fit two separate regression models using sample(1) which has received treatment(stapled REITs) and sample (0) which has not received treatment (unstapled REITs) respectively. Then the estimated two regression models are used on the whole database (both stapled and unstapled REITs) to predict the two potential outcomes (EM measurements) under two conditions: (1) all the REITs are stapled and (0) all the REITs are unstapled. Finally, the difference of the averages for the two potential outcomes is interpreted as the effects of the treatment on the outcome, i.e. the impacts of choosing stapled structure on EM measurements. The table below presents the robust test results from RATE.

Table (7) treatment effect robust test

	lnabsDA	lnabsCIVP	lnabsDEXP	lnabsDREV	lnabsDCOGS
ATE: Dstapled (1vs0)	***0.383****	-0.100	***0.472*****	-0.088	0.155
	(2.04)	(-0.57)	***(3.11)***	(-0.54)	(0.91)
Pomean: Dstapled: 0	-3.454***	-2.001***	-4.040***	-3.552***	-4.407***
	(-19.84)	(-13.25)	(-32.56)	(-27.27)	(-28.73)
Number of obs	327	323	304	323	312

***Significant at 1% level
**Significant at 5% level
*Significant at 10% level

In the table (7) above, the row of ATE stands for the effects on treatment (stapled structure) on various EM measurements.. According to the table, the average treatment effects (ATEs) are significant different from 0 for EM measurements of discretionary accrual (lnabsDA) and abnormal expense (lnabsDEXP). The ATEs for both of the two EM measurements are positive (0.383 and 0.472 respectively), it means that the stapled structure induces the A-REITs to use more AEM and REM through expense manipulation. These findings are consistent with above table (6) results and Hypothesis (1) and (2).

The above estimated results imply that the A-REITs with stapled structure usually need to conduct more complicated business activities such as asset management and real estate development, and these business activities provide with more space for REITs to engage in EM activities. In return, this EM incentive provided by stapled structure further encourages REITs to choose stapled structure. Therefore, the EM incentive should be one of the explanations for the prevalence of stapled structure among A-REITs. In addition to that, the results also imply that the stapled A-REITs should have lower earnings quality compared to unstapled A-REITs. Moreover, the overall financial disclosure quality of A-REITs market should have been continues weakening because increasing A-REITs have been adopting stapled structure according to the previous literature (Newell and Keng, 2005; Davis , 2012) .

Conclusion

This study investigates how stapled structure influences the A-REITs in terms of engaging in EM by conducting regression analysis on a panel database containing financial information of A-REITs from 2000 to 2013. The authors find significant statistics evidences to support the hypothesis that stapled A-REITs engage in more AEM approaches. Moreover, statistical results also prove that stapled A-REITs are using more REM approaches based on discretionary controlling the general expense. These findings have the following implications: Firstly, these findings imply that stapled structure provides more room for A-REITs to engage in EM activities. Secondly, stapled REITs should have lower earnings quality compared to unstapled REITs, because stapled REITs are using more EM approaches. Thirdly, the overall financial quality of A-REITs has been declining over years because stapled structure has been adopted by increasing A-REITs according to previous research (Newell and Tan , 2005; Davis, 2012). Finally, the EM incentive is one of the explanations for the prevalence of stapled structure among A-REITs.

This study contributes to literature and practice from the following dimensions: Firstly, the findings contribute to literature by investigating how stapled structure influences REITs in terms of financial disclosure behavior and quality. Secondly, this paper provides empirical research reference for regulators from markets where stapled structure is permitted such as Australia, to help them to improve the regulation and auditing of stapled securities. Finally, this research also helps investors to improve their knowledge concerning different financial disclosure behavior between stapled and unstapled securities, so they can make adjustment and better interpret the disclosed financial information. Future research in this filed can be conducted to investigate what specific business actives of stapled REITs induce more EM.

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