PACIFIC RIM PROPERTY RESEARCH JOURNAL, 2017
VOL. 23, NO. 2, 213–226
https://doi.org/10.1080/14445921.2017.1303263

Announcement effects of dividend tax cuts and corporate policies: evidence from Malaysia REITs

Woei-Chyuan Wong, Kamarun Nisham Taufil Mohd and Nur Adiana Hiau Abdullah

School of Economics, Finance and Banking, Universiti Utara Malaysia, Sintok, Malaysia

ABSTRACT

This study examines the effect of dividend tax changes on the share prices and corporate policies of Malaysian REITs. Event study results show that dividend tax cut announcements provide positive abnormal returns. Based on cross-sectional regression, the abnormal returns are found to be larger for REITs with a higher retail ownership. The implementation of dividend tax cuts also increases dividend payout and reduce investment activities. These results partly support the traditional view of dividend taxation which posits that tax reform could affect economic efficiency and resource allocation in an economy.

ARTICLE HISTORY
Received 29 August 2016
Accepted 3 March 2017

KEYWORDS
Dividend tax change; Malaysia REIT; firm valuation; dividend policy; investment policy; announcement effects

1. Introduction

Little has been written about the impact of dividend tax changes on share prices and corporate policies. This is because major changes in dividend tax rates are rare and often confounded with other non-dividend changes announcements. A number of papers have used Jobs and Growth Tax Relief Reconciliation Act of 2003 in the US as a laboratory test to examine the impact of dividend tax cuts on firm value and corporate decisions (see Amromin, Harrison, Liang, & Sharpe, 2005; Auerbach & Hassett, 2005; Edgerton, 2010). The 2003 Act signed by President George W. Bush on 28 May 2003 was aimed to reduce the maximum statutory personal tax rate on dividends from 38.1 to 15% and capital gain rate of 20–15%.

We aim to shed light into this area of research by focusing on Malaysia REITs sector that experienced temporary dividend tax cuts announced during the presentations of the national budget by the Malaysian prime minister in 2006, 2008 and 2011. The impact of such policy is expected to benefit both local and foreign investors as well as help to increase the growth of this sector. As shown in Table 1, foreign (include individuals) and domestic institutional investors are the main beneficiaries of these tax cuts. This group of investors saw their dividend tax rate reduced from 28% in 2006 to 10% in 2009; while the impact of dividend tax cuts on domestic individual investors would depend on their personal income tax bracket. Individuals with taxable income of at least RM35,000 saw their marginal tax rate from investing in REITs reduce from 13 to 10% while those earning below this number

CONTACT Woei-Chyuan Wong wwchyuan@uum.edu.my

Table 1. Dividend taxes for REIT during the period 2006–2012.

	2006 (prior to dividend tax cut announcement) (%)	2007 (after the 1st dividend tax cut) (%)	2009–2016 (after 2nd dividend tax cut) (%)
Foreign institutional investors	28	20	10
Domestic institutional investors	28	15	10
Foreign individual	28	15	10
Domestic individual	28 (top rate)	15	10
Corporate investors	28	27	25

Notes: This table shows the changes in dividend taxes for different classes of investors during the period 2006–2016. Source: *Inland Revenue Board of Malaysia*.

experienced an increase in marginal tax rate from 7 to 10%.[1] Nonetheless, corporate investors (mainly IPO sponsors) are not affected by these tax changes. They are subjected to a corporate tax rate during the respective fiscal years. This favourable tax regime would prevail until the end of 2016.

Malaysia's REITs dividend tax cut announcements provide a cleaner test to examine the economic impact of dividend policy due to the following reasons. First, similar to the 2003 Act, the magnitude of the dividend tax changes is significant at 18%. Second, unlike the 2003 Act which saw the reduction of both dividend and capital gain tax rates across all sectors in the US, Malaysia's dividend tax cuts are uniquely applied to listed and private REITs (property trust funds). The first announcement made in 2006 was, however, confounded with a change in taxes at the REITs level where the undistributed income of REITs is exempted from corporate tax as long as REITs distribute at least 90% of their taxable income. Prior to this, undistributed income is subjected to corporate tax. Third, there were many announcements (noises), debates and negotiations leading to the passing of the 2003 Act into law. Auerbach and Hassett (2005), who used event study methodology to measure the abnormal returns surrounding the 2003 Act announcements, resorted to eight event dates that track the release of significant news concerning the likelihood passage of the 2003 Act. On the contrary, dividend tax cut announcements made during the tabling of the Malaysian budgets were relatively clean events.

We also contribute to the theoretical argument in dividend tax literature as to whether changes in dividend tax affect firm valuation, investment and dividend payout policies. The "traditional view" of dividend tax theory posits a positive impact of dividend tax cuts on these corporate policies through the reduction of firms' cost of capital. In contrast, the "new view" posits that dividend tax cuts have no impact on firms' cost of capital; hence, they do not influence firms' investment and dividend policies. Empirical relevance of these views has implication on whether regulators should introduce tax-exempt REIT structure or extend the dividend tax concession to existing REITs in the market. On one hand, dividend tax concession clearly results in large losses in tax revenue to the government. On the other hand, REIT structure could enhance the transparency and liquidity of the real estate market that could benefit the economy at large.[2] Our estimation shows that it costs the Malaysian government more than RM306 million over the first six years (2007–2012) of its implementation.[3]

The empirical tests are carried out in two stages. First, an event study is conducted to examine the dividend tax cut announcement effects. Regression analysis of the cumulative abnormal returns (CARs) against firm level characteristics is then executed to reveal factors

that drive the wealth effects of dividend tax cuts. Next, we examine the impact of tax cuts on REIT's payout and investment policies. Our results reject the dividend tax irrelevance hypothesis as tax cut announcements are associated with positive CARs. Our cross-sectional analysis of CARs shows that the level of retail ownership in REITs is associated positively with CARs. We also find dividend tax cuts to exert positive (negative) impact on dividend payout (investment growth). Overall, these findings are broadly consistent with the traditional view of dividend taxation.

The rest of this paper proceeds as follows. In the next section, a brief review of the literature is presented which is followed by the data and research methodology in the third section. The fourth section discusses the empirical results. The fifth section concludes the paper.

2. Literature review and hypotheses development

There are three widely held views with respect to the effects of dividend reduction on equity value and firm behaviour. The "tax irrelevance view" postulates that dividend reduction has no impact on firm value, firms' investment and payout policy. This view is valid when the marginal shareholder is a non-taxable entity such as pension fund or in a situation when taxable investors could find ways to compensate the higher dividend taxes as compared to capital gain taxes (Miller & Scholes, 1978, 1982). Miller and Scholes (1978), for example, used the nuances in the US tax code to explain why marginal investors do not require extra pre-tax returns to hold dividend paying securities.

The "new view" of dividend taxation, developed by Auerbach (1979), Bradford (1981) and King (1977), postulates that dividend tax cut has a positive impact on share value as it leads to a one off windfall to shareholders. This wealth transfer, however, does not change a firm's cost of capital, hence, has no effect on firm's dividend payout and investment policies. The assumption underlying this prediction is the availability of retained earnings to finance new investment.[4] From the policy point of view, this implies that dividend tax changes will not distort firm's investment and payout policies.

Similar to the new view, "traditional view" of dividend taxation predicts share price to react positively to dividend tax cut announcements. Firms in traditional view are characterized by their reliance on new equity financing for investment and the need to distribute dividends to equity holders. Reduction in dividend taxes is theorized to have a positive impact on firms' investment and payout policies through the reduction in firms' cost of capital. According to the traditional view, dividend tax cuts reduce the cost of using dividend payment as a tool to signal firm quality and to curb agency problems. Hence, increase the dividend payout ratio.[5] From policy-makers' viewpoint, dividend tax cut could be a fiscal tool to stimulate investment and dividend payout ratio.

Empirical evidence on the impact of dividend taxation on firm value and corporate financial policies are relatively scant because major tax reforms are uncommon.[6] Auerbach and Hassett (2005) found support for the value creation of the 2003 dividend tax cuts by using event study methodology. They noted that high-yielding firms registered higher abnormal returns than their low-yielding counterparts. In similar vein, Amromin et al. (2005) provided visual evidence (line graphs) of positive abnormal returns surrounding the 2003 dividend tax cut announcements.

Poterba and Summers (1984) examined the impact of three dividend tax reforms on stock prices in Britain in the year 1958, 1964 and 1971. The authors postulated that reduction in dividend taxes should, *ceteris paribus*, increase the attractiveness of high-yielding firms relative to low-yielding firms. They found support for this hypothesis where the reduction in dividend taxes in 1958 and 1971 led to higher excess returns of those high-yield shares. A later study by Bell and Jenkinson (2002) on the impact of dividend tax reform in the UK in 1997 echoed the above finding. Bell and Jenkinson documented significant drop in the valuation of dividend income following the tax reform which saw withdrawal of dividend tax credit for tax exempt investors. The drop in valuation is more pronounced for high-yielding firms that are largely held by tax exempt investors.

Poterba and Summers (1983) found dividend tax cuts to exert a positive influence on firms' investment policy in the UK, which is consistent with the prediction of the traditional view paradigm. Desai and Goolsbee (2004), however, provided strong support to the new view of dividend taxation where they showed that the 2003 dividend tax cut in the US had no effect on investment growth. A more recent study by Frank, Singh, and Wang (2012) documented another perspective of dividend tax cuts on firm level investment that relied on firms' cash holdings (cash-to-asset ratio). Dividend tax cuts tend to boost firm level investment of those cash constrained firms but reduce the investment of those cash rich firms. Chetty and Saez (2005) provided clear evidence of a surge in the frequency and amount of dividends following dividend tax cuts which is consistent with the traditional view's prediction. Wang and Guo (2011) echoed this traditional view of dividend taxation with evidence from listed companies in China when there was a reduction from 20 to 10% on individual investors' dividend tax rate, effective 13 June 2005. They documented that China's dividend tax cut in 2005 led firms to increase their dividend payment.

In real estate, Gentry, Kemsley, and Mayer (2003) found that investors capitalized dividend tax saving from depreciation tax shield into share prices. Specifically, the book value of real estate properties, a proxy for tax basis in asset, is associated positively with the market value of common equity. Since REITs do not pay corporate taxes, the authors infer this finding as "equivalent to finding investors price shareholder-level dividend taxes". In other words, the authors argue that this finding has the same implication as in stock price changes following dividend taxes changes as discussed above. Edgerton (2010) who examined the 2003 dividend tax cuts in the US documented that dividend payout by REITs also rose sharply following the tax cut, even though REITs dividends did not qualify for the tax cut. The author relates this counter-intuitive finding with contemporaneous increases in earnings and investor demand for high dividend payout that it has nothing to do with dividend tax cut event.

REITs' institutional structure allows us to better distinguish between the traditional and new views of dividend taxation for the following reasons. First, REITs are cash-constrained entities that rely heavily on external financing due to its mandatory 90% distribution requirement.[7] This fits well into the traditional view description of dividend taxation theory which assumes equity financing rather than retained earnings in financing new investment. The mandatory dividend payout policy of REITs, according to the traditional view, is likely to amplify the impact of dividend tax changes on REITs than other general companies that pay lower or do not intend to pay dividends. Second, as stated by Gentry et al. (2003), REITs' non-discretionary dividend distribution requirement reduces managers' incentive to use dividend as a signalling tool and eliminate the tax benefit associated with share repurchases

(since REITs do not pay corporate taxes) which lead to a cleaner test between dividend tax changes and share price returns.

The foregoing literature review leads to the following alternate hypothesis.

H1: REITs stock prices react positively to dividend tax cut announcements.

The validity of *H1* will support both the new and traditional views but reject the dividend tax irrelevance view of dividend taxation. We further hypothesize the impact of tax cuts is muted for property companies that do not enjoy the dividend tax cuts.

H2: Property company stock prices do not respond to dividend tax cut announcements.

Since both foreign and domestic institutional investors are the main beneficiaries of these tax cuts, we, therefore, hypothesize that the announcement effects will increase monotonically with the importance of these groups of shareholders represented by the number of shares owned by them. We also expect to observe a positive relationship between retail ownership and abnormal returns if majority of those individual investors, who are attracted to REITs shares, are high tax bracket individuals who experienced increases in after-tax returns upon the implementation of the tax reforms.

H3: Institutional and retail ownerships are positively related to abnormal returns from dividend tax cut announcements

As discussed earlier, the traditional view posits that reduction in dividend taxes could spur dividend distribution and business investment. The new view on the other hand posits that dividend tax changes do not affect firms' investment and dividend policies. This leads to the following alternate hypothesis under traditional view paradigm.

H4: REITs' dividend payout and investment increase after the implementation of dividend tax cut announcements.

3. Data and methodology

The primary data used in this research are obtained from Thomson Reuters's database covering all listed Malaysian REITs over the period June 2006–September 2012. We use event study to examine the wealth effects surrounding the three dividend tax cut announcements made on 1 September 2006 (Event 1), 29 August 2008 (Event 2) and 7 October 2011 (Event 3). We also replicate the test using universal of listed property companies in Malaysia for comparison purposes. The event date is taken as the first day the announcement appears during the tabling of 2007, 2009 and 2012 national budgets. The final sample comprises 26 observations. Abnormal returns surrounding the dividend tax cut announcements are estimated using the standard market model where the abnormal return of firm i on day $t(\mathrm{AR}_{i,t})$ is:

$$\mathrm{AR}_{i,t} = R_{i,t} - \left(\hat{\alpha}_i + \hat{\beta}_i R_{m,t}\right) \tag{1}$$

where, $R_{i,t}$ = return of firm i on day t, $\hat{\alpha}_i$ and $\hat{\beta}_i$ = parameters estimated in the estimation period (−90 to −30)

The average abnormal return (AAR) of all firms on day $t(\mathrm{AAR}_t)$ is computed using the following formula:

$$\mathrm{AAR}_t = \frac{1}{n_t}\sum_{i=1}^{n} \mathrm{AR}_{i,t} \tag{2}$$

where, $AR_{i,t}$ = abnormal returns of firm i on day t, n_t = number of observations of abnormal returns on day t

The variance of the AAR on day $t\left(\mathrm{Var}_{\mathrm{AAR}(t)}\right)$ using the market model is:

$$\mathrm{Var}_{\mathrm{AAR}(t)} = \frac{1}{n^2}\sum_{i=1}^{n}\sigma_{ei}^2 \tag{3}$$

where, σ_{ei}^2 = variance of residuals of firm i from the market model estimation, n = number of observations of abnormal returns on day t

The significance of AAR_t is estimated as:

$$Z-\mathrm{stat} = \frac{\mathrm{AAR}_t}{\sqrt{Var_{\mathrm{AAR}(t)}}} \tag{4}$$

The cumulative AAR (CAAR) of all firms from day t_1 until $t_2\left(\mathrm{CAAR}\left(t_1,t_2\right)\right)$ is:

$$\mathrm{CAAR}\left(t_1,t_2\right) = \sum_{t=t_1}^{t_2}\mathrm{AAR}_t \tag{5}$$

The variance of the CAARs of all firms from day t_1 until $t_2\left(\mathrm{Var}_{\mathrm{CAAR}(t_1,t_2)}\right)$ for the market model is:

$$\mathrm{Var}_{\mathrm{CAAR}(t1,t2)} = \frac{1}{n^2}\sum_{i=1}^{n}\sigma_{ei}^2\left(t_1,t_2\right) \tag{6}$$

$$\sigma_{ei}^2\left(t_1,t_2\right) = \sum_{t=t_1}^{t_2}\sigma_{ei}^2(t) \tag{7}$$

where, $\sum_{t=t_1}^{t_2}\sigma_{ei}^2(t)$ = cumulative variance of residuals of firm i from the market model estimation from day t_1 until t_2, n = number of observations of CARs on day t.

By assuming that $\mathrm{CAAR}\left(t_1,t_2\right)$ is normally distributed, the Z-statistic is computed using the following formula:

$$Z_{\mathrm{CAAR}(t_1,t_2)} = \frac{\mathrm{CAAR}\left(t_1,t_2\right)}{\sqrt{\mathrm{Var}_{\mathrm{CAAR}(t_1,t_2)}}} \tag{8}$$

where $\mathrm{CAAR}\left(t_1,t_2\right)$ = CAARs from day t_1 until t_2, $\mathrm{Var}_{\mathrm{CAAR}(t_1,t_2)}$ = variance of the CAARs from day $t_1$until t_2

Next, we examine the cross-sectional determinants of the CARs. The estimated OLS regression model is as follows:

$$\begin{aligned}\mathrm{CAR}_i = {} & \alpha_1 + \alpha_2 Retail\ Investors_i + \alpha_3 ForeignInst.Investors_i + \alpha_4 DomesticInst.\ Investors_i \\ & + \phi\mathbf{F}_i + Eventdummy_i + u_{it}\end{aligned} \tag{9}$$

Retail Investors, *Foreign Inst. Investors* and *Domestic Inst. Investors* are our key variables of interest. A positive and significant coefficient of ownership variables will establish a stronger causality between dividend tax changes and abnormal returns because only REITs, for whom retail and institutional investors are the main beneficiaries of the tax cut, will react positively to the tax cut announcements. We also include *Event dummy*, an indicator variable that equals to one for CARs that belong to Event 1 and Event 2 and zero for CARs in Event 3. Rather than estimating the event separately, we combined them due to the small sample size. To ensure the robustness of our results, we control for vector of firm-level controls (***F***) which include dividend yield, cash holding, firm size, firm age, profitability and leverage. Auerbach and Hassett (2005) found that firms with a higher dividend yield benefited more (high abnormal returns) from dividend tax cut announcements.

4. Results

Figure 1 tracks the mean CAARs, for the sample, over the corresponding 21-day window period. This figure provides preliminary results supporting H1 where stock prices increase following dividend tax cut announcements. The gradual rise of abnormal returns in days leading to Event1 and Event 2 suggests that the market could have predicted the impending tax cut announcements. As mentioned earlier, Event 1 is a joint test of the impact of dividend and corporate tax (for undistributed profit) cut announcements. We, therefore, cannot attribute solely the positive abnormal returns to dividend tax cut. The extension of tax cut period for another five years during Event 3 did not receive a positive market response as in Event 1 and Event 2. This could be due to no release of new information to the market participants as compared to the first two events that saw a reduction in dividend taxes.

Figure 2 tracks the CAARs for property companies. The CAAR for Event 1 is negative and is on a downward trend during the 10 days prior to the event date. CAARs for Event 2 experienced an increase in abnormal returns four day prior to the event date before declining marginally and stabilizing after the event date. As for Event 3, the CAARs hit its lowest point on the event date. A visual comparison of Figures 1 and 2 support *H2* where the positive impact of dividend tax cuts accrued only to REIT sector and not the general property sector.

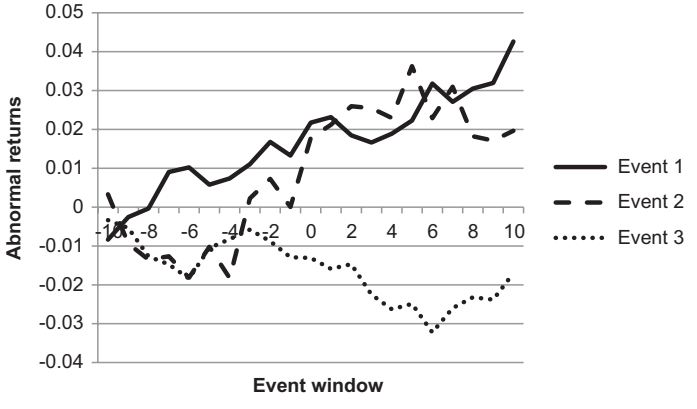

Figure 1. CAARs of REITs surrounding dividend tax cut announcements.

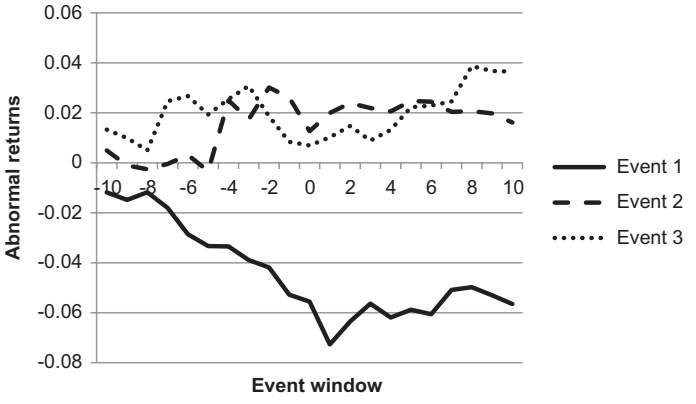

Figure 2. CAARs of property companies surrounding dividend tax cut announcements.

Table 2. Five-day abnormal returns surrounding dividend tax cut announcements.

	REIT			Property company		
	Event 1	Event 2	Event 3	Event 1	Event 2	Event 3
Panel A						
AAR (−2)	.57%	.50%	−.30%	−.30%	1.27%**	−1.21%**
AAR (−1)	−.34%	−.72%	−.41%	−1.09%***	−.41%	−1.02%*
AAR (0)	.85%**	1.77%***	−.02%	−.28	−1.34%**	−.15%
AAR (1)	.14%	.34%	−.28%	−1.71%***	.73%	.33%
AAR (2)	−.47%	.48%	.12%	.92%**	.40%	.45%
Panel B						
CAAR (−1, +1)	.64%	1.39%	−.71%	−3.08%***	−1.01%	−.86%
CAAR (−2, +2)	.74%	2.37%**	−.89%	−2.46%**	.65%	−1.41%
CAAR (0, +1)	.98%*	2.12%**	−.30%	−1.99%***	−.61%	.29%
CAAR (0, +2)	.52%	2.59***	−.18%	−1.07%	−.21%	.82%
No of Obs.	4	10	12	67	68	71

Notes: This table reports the three announcement effects on 1st September 2006 (Event 1), 29th August 2008 (Event 2) and 7th October 2011 (Event 3) on REITs and property companies in Malaysia. Event time is measured in days relative to the announcement date (0); *, **, *** denote statistical significance at the 1, 5 and 1% levels, respectively.

Table 2 reports the abnormal returns for the five-day period surrounding the dividend tax cut announcements. Consistent with the findings from Figures 1 and 2, Panel A shows that dividend tax cut announcements on day $t = 0$ for Events 1 and 2 resulted with significant positive AAR of .85 and 1.77%, respectively. The announcement of dividend tax cut extension (Event 3), however, does not yield any significant changes in prices. The cumulative effect (CAAR) in Panel B is positive for all eight windows for Event 1 and Event 2 of which four event windows are significant. For property shares, both AAR and CAAR results are mostly negative. One plausible explanation for these negative abnormal returns is that investors are substituting property shares with REITs, particularly for property companies that carry an almost similar risks and returns profile as in REITs. The contradictory findings between REITs and property companies that operate in the same sector also suggest that the positive abnormal returns of REIT shares are unlikely to be driven by favourable macro factors that drive the property sector returns surrounding the event dates.

Next, we extend our event study analysis by examining cross-sectional factors that could influence the CARs. We begin with a set of control variables as presented and defined in

Table 3. Descriptive statistics for CAR regression.

	Definition	Mean	Std. Dev	Min	Max
Dependent variable					
CAR (−1, +1)	Cumulative abnormal returns for a 3-day window covering 1-day before and after the event date	.003	.022	−.042	.051
CAR (−2, +2)	Cumulative abnormal returns for a 5-day window covering 2-day before and after the event date	.006	.029	−.064	.062
CAR (0, +1)	Cumulative abnormal returns for a 2-day window covering 1-day after the event date	.008	.019	−.025	.049
CAR (0, +2)	Cumulative abnormal returns for a 3-day window covering 2-day after the event date	.010	.025	−.031	.056
Control variables					
Retail Investors	The percentage of shares held by shareholders holding 100,000 or less REIT shares	.068	.053	.017	.215
Foreign Inst. Investors	Percentage shares owned by foreign institutional investors	.059	.057	0	.200
Domestic Inst. Investors	Percentage shares owned by domestic institutional investors	.236	.132	.070	.580
Corporate Shareholders	Percentage shares owned by corporate shareholders	.500	.207	0	.772
Sponsor Ownership	Percentage shares owned by IPO sponsors	.487	.210	0	.765
Cash Holdings	Cash and Short Term Investments scaled by total assets	.063	.131	.000	.682
Dividend Yield (%)	Dividend per share scaled by share price	8.290	2.188	5.470	13.770
REIT Size	Total assets (Millions RM)	942.71	859.19	173.40	4,452.90
REIT Age (month)	Number of months from IPO date	36.54	23.08	5	75
ROA	Net income divided by total assets	.078	.031	.029	.138
Leverage	Total debts divided by total assets	.285	.100	.113	.454

Notes: This table provides summary statistics for the data employed in our analysis over the period 2006–2011. Total number of observations is 26. *REIT Age* and *REIT Size* are in their natural logarithm form in the regression models.

Table 3. The ownership measures and associated mean values are as follows: *Retail Investors* (6.8%), *Foreign Inst. Investors* (5.9%), *Domestic Inst. Investors* (23.6%) and *Corporate Shareholders* (50.0%). Approximately 97% (.49/.50) of the corporate shares are owned by REIT sponsors. The average REITs in our sample holds RM943 million worth of assets, has a 28.5% debt ratio and maintains a 6.3% cash holdings. The mean age of the REITs is 37 months, which confirms their lack of track record. The dividend yield and average profitability (ROA) are 8.29 and 7.8%, respectively.

Table 4 presents the results of the cross-sectional analysis between CARs and the ownership variables, event indicator and firm characteristic variables. The average variance inflation factor (VIF) for each of the regression model is 2.54, indicating that the variables are not highly correlated and that multicollinearity problem is not a threat to this study. Consistent with the results reported in Table 1 and Figure 1, Event 1 and Event 2 carry higher CARs as compared to Event 3 where the coefficients of *Event dummy* are significantly positive across all the regression models. The only significant institutional ownership variable is *Domestic Inst. Investors* which appeared in Model 2 while none of the coefficients of *Foreign Inst. Investors* and *Domestic Inst. Investors* are significantly related to CARs. The coefficients of *Retail Investors* are positive and significant in two out of four of the estimated models which is consistent with our expectation. Not reported here, we also experimented with two alternative measures of retail ownership: the percentage of shares held by shareholders

Table 4. Determinants of REITs' CARs.

	Model 1	Model 2	Model 3	Model 4
	CAR (−1, +1)	CAR (−2, +2)	CAR (0, +1)	CAR (0, +2)
Intercept	−.078 (−1.12)	−.074 (−.68)	−.071 (−.92)	−.141 (−1.06)
Retail Investors	.154 (1.60)	.182 (1.31)	.170* (2.05)	.232* (1.92)
Foreign Inst. Investors	.084 (.79)	.130 (1.13)	.105 (1.04)	.097 (.75)
Domestic Inst. Investors	.039 (1.15)	.073* (1.99)	.027 (.82)	.036 (.57)
Cash Holdings	.040* (1.76)	.055* (1.84)	.040* (2.06)	.036 (1.34)
Dividend Yield	−.006* (−2.02)	−.005 (−1.31)	−.000 (−.06)	−.001 (−.18)
REIT Size	−.003 (−.18)	−.014 (−.38)	.000 (.00)	.019 (.55)
REIT Age	.049** (2.55)	.045 (1.49)	.019 (1.07)	.023 (.83)
ROA	−.062 (−.32)	−.146 (−.75)	.007 (.04)	−.008 (−.04)
Leverage	.047 (.93)	.110* (1.89)	.020 (.45)	.036 (.53)
Event Dummy	.060*** (3.44)	.070** (2.91)	.037** (2.34)	.049** (2.41)
Adjusted R^2	.20	.21	.25	.03
No of Obs.	26	26	26	26

Notes: This table reports result of OLS regressions of abnormal returns surrounding dividend tax cut announcements on firm characteristic variables for a sample of 26 announcements. The dependent variables are CARs for 3–5 day event windows. T-statistics are reported in the parentheses with robust standard errors. ***, ** and * refer to statistical significance at 1, 5 and 10 % respectively.

holding 10,000 REIT shares and the natural logarithm of total number of shareholders in REITs. Higher values of these variables indicate a greater presence of small or retail investors in REITs. The coefficients for these variables are positive across all regression models as in Table 4 and are significant in one (for 10,000 shareholding) and three (total number of shareholders) of the four estimated models in Table 4. These findings suggest that REITs with a larger fraction of retail investors are more receptive towards dividend tax cut announcements.

We did not include *Corporate Shareholders* in the regression due to its high collinearity with domestic institutional ownership variables (pairwise:-.82).[8] Cash holdings are positively related to CARs in three of the estimated models. This suggests that the stock market associates higher valuation to firms that have greater capacity to distribute dividend following the tax cuts. The significant negative coefficients of *Dividend yield* in Model 1 does not concur with Auerbach and Hassett (2005)'s findings of high-yielding firms reacted positively to dividend tax cut. The coefficients for *REIT Age* and *Leverage* are positive and significant in Models 1 and 2, respectively, implying that older and more leveraged REITs are more receptive towards dividend tax cuts. Given the small sample size, these results are offered with caution.[9]

As a final analysis, we investigate whether dividend payout and investment increase following the implementation of dividend tax cuts. The average VIF of 2.90 and 2.88 for the respective Model 1 and 2 indicate that multicollinearity is not a concern. We use the same set of firm-level control variables as in Equation (9). In addition, we also control for year and property type fixed effects. Table 5 reports the results from ordinary least squares estimation using 204–205 firm-quarter observations. The dependent variable for Model 1 is dividend payout ratio one year before and after the implementation of dividend tax cuts. For Model 2, the dependent variable is the change in total assets (representing investment) one year before and after the tax cut announcements. The key variable of interest is *Tax Cuts,* a binary variable equals to one for payout ratio or total assets growth during the first quarter after the implementation of dividend tax cuts and zero otherwise.

Table 5. The impact of divided payout and asset growth.

	Model 1	Model 2
	Dividend payout	Asset growth
Intercept	1.358*** (4.34)	−.280 (−1.17)
Tax Cuts	.098*** (3.00)	−.022** (−2.09)
Cash Holdings	.665 (1.21)	−.041 (−.77)
Dividend Yield	−.012 (−1.06)	−.002 (−.51)
REIT Size	.017 (.34)	.049* (1.77)
REIT Age	−.150* (−1.70)	.040 (.74)
ROA	−.886*** (−7.91)	.960*** (8.02)
Leverage	−.222 (−1.13)	.249* (1.81)
Property types dummies	Yes	Yes
Year dummies	Yes	Yes
Adjusted R^2	.57	.10
No of Obs.	205	204

Notes: This table reports result of OLS regressions of dividend payout and asset growth surrounding dividend tax cut announcements on firm characteristic variables, property type and year dummies for a sample of 205 (204) firm-quarter observations for the period of 2006–2012. The dependent variable for Model 1 is dividend payout ratio one year before and after the implementation of dividend tax cuts. For Model 2, the dependent variable is the change in total assets one year before and after the tax cut announcements. *Tax Cuts* is a binary variable equals to one for payout ratio or total assets growth during the first quarter after the implementation of dividend tax cut and zero otherwise. T-statistics are reported in the parentheses with robust standard errors. ***, ** and * refer to statistical significance at 1, 5 and 10 %, respectively.

The results are revealing. First, the coefficients of *Tax Cuts* are positive in the payout equation but negative in the investment equation. This implies that REITs' payout increases following the tax cuts, which is in line with the prediction of the traditional view paradigm. However, the decrease of investment growth following the tax cut runs contrary to the prediction of the traditional view and it is also inconsistent with the new view that predicts no impact of tax cuts on investment activity. We could think of two plausible explanations for the negative coefficients of *Tax Cuts* in the investment equation. First, the results could be explained by lack of investible properties during the period immediately after the tax cuts. Recall that the second and third announcements made in 2008 and 2011 coincided with heightening of global financial crisis and the European debt crisis, respectively. Second, unlike firms with no mandatory payout requirements, REITs need to juggle between paying higher dividends and reserving funds for future investment following the tax reforms. Our results suggest the opposing effects of dividend tax cuts on payout and investment policies. Not reported here, we also conducted robustness check by changing the definition of tax cuts dummy to equal to one for the first two quarters before and after the implementation of tax cuts and zero otherwise. The tax cuts variable remains positive and significant at the 5% level in the payout equation. This variable is negative but insignificant (t-value: −1.38) in the investment equation.

The negative and significant coefficients of *ROA* and *REIT Age* in the payout equation suggest that young and less profitable REITs pay a higher dividend than their older and profitable counterparts. These counter-intuitive findings suggest that young and less profitable firms may face higher signalling costs (via dividend payments) in convincing the market of their credibility. The positive and significant coefficients of *ROA* and *REIT Size* in the investment equation suggest that profitable and larger REITs have more capacity to increase their portfolio size. Overall, the regression results provide partial support to the traditional view paradigm of dividend taxation where only payout but not investment policy of REITs is influenced positively by dividend tax cuts.

5. Conclusion

This paper adds to the scarce literature on the impact of dividend taxation changes on firm financial policies. Malaysian dividend tax cut announcements which are uniquely applied to the REIT sector allows us to circumvent the issues of confounding effects (e.g. concurrent capital gain tax announcements) faced by previous research. Our results show that dividend tax cut announcements lead to positive abnormal returns for REITs. However, we do not observe positive abnormal returns for property companies that did not enjoy these tax cuts. We also find evidence of increase in REITs' payout ratio following the implementation of dividend tax cuts which is consistent with the prediction of the traditional view paradigm.

Three significant implications could be drawn from this study. First, the positive abnormal returns registered by REITs suggest that dividend tax cuts are welcome by the stock market. Findings of stronger announcement effects on REITs with a higher retail ownership suggest that this tax cut might result in a higher retail participation in the REIT sector. High payout following the tax cuts could lead to a higher consumer spending and economic growth. These imply that dividend tax cuts are beneficial to corporations and society at large. We, however, find a negative impact of dividend tax cuts on firm investment which clouded the efficiency gain from a tax reform as postulated in the traditional view of dividend taxation. Second, the negative tax announcement effects on property companies suggest that some property companies could have become less attractive to investors following these tax reforms. Policy-makers in their efforts to increase the popularity of REIT sector need to keep a close watch on potential cannibalization of the market shares of property companies that are close substitutes of REIT shares, particularly those that carry a risk-return profile similar to REITs (e.g. high rental income).

Third, the dividend tax reforms have in fact increased the dividend taxes of individual REIT investors with taxable income less than RM 35,000. Our computation reveals that the average Malaysian household faced a marginal tax rate of 7% which is lower than the 10% rate after the reforms. This implies that individual REIT shareholders in this tax bracket in fact suffer a 3% reduction in their after-tax returns following the tax reforms. Instead of making REIT shares accessible to all individual investors, this tax reform could actually make REITs less attractive to the lower income earners. Policy-makers need to take this disparity in dividend taxation between different classes of investors into consideration when a review of dividend tax rate is due by the end of 2016.

Notes

1. Households with taxable income of RM35,000, on average, carry a gross income of RM52,000 (based on RM17,000 tax exemptions in 2006) (http://www.hasil.gov.my/pdf/pdfam/NP_BE2006_1.pdf. Accessed on 18 April 2016) which is 33% higher than average gross income of RM39,000 for average householders in 2005 in Malaysia (http://www.epu.gov.my/documents/10124/fec5c411-a97c-491b-b9a5-e28cd227ac95. Accessed on 18 April 2016).
2. One of the factors that hamper the implementation of REIT structure in China is the reluctant on the part of the government to let go their lucrative real estate tax revenue (RICS, 2016). Similarly, regulators in South Korea and Hong Kong still impose corporate taxes on REITs albeit lower (for Hong Kong) than the general companies.
3. This is based on total tax savings enjoyed by retail and institutional investors, computed by multiplying average non-corporate shareholders ownership (50%) with gross dividend and dividend tax rate reduction, i.e. 13% (28–15%) for 2007–2008; 18% (28–10%) for 2009–2012.

4. See Zodrow (1991) for theoretical discussion on how the effective rate of taxation of investment financed with retained earnings is independent of individual dividend tax rate in the new view model.
5. Again, readers are referred to Zodrow (1991) for theoretical discussion on how decreases in dividend tax tend to increase dividend payout rate and investment growth in the traditional view model.
6. One strand of literature exploit the difference in dividend (high) and capital gain (low) taxes to infer the share price effects of dividend taxes. Fama and French (1998) examined the relationship between the market value of assets and dividends. A negative coefficient on dividend would support the hypothesis that investors imposed a tax penalty on dividend paying firms. The authors did not find support for this hypothesis. Green and Rydqvist (1999) provided support on the tax penalty by showing dividend taxes resulted in less-than-dollar-for-dollar decline in share prices on ex-dividend days.
7. Ott, Riddiough, and Yi (2005) documented that only 7% of the US REITs' investments are funded by retained earnings, as compared to 70% usage of retained earnings by general firms. REITs frequently return to the capital market for external financing due to their capital constraint status (Ooi, Wong, & Ong, 2012).
8. Nevertheless, in order to ensure our result is robust, an analysis is executed by replacing the institutional variables with *Corporate Shareholders,* but they are not reported here. Results show that none of the coefficients of *Corporate Shareholders* are significantly related to CARs.
9. Normality tests reveal that the residuals for all regression models in Table 4 are normally distributed. The coefficients for the ownership variables remain intact in the estimation models without firm characteristic variables.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by Ministry of Higher Education Malaysia under grant number S/O: 12910.

ORCID

Kamarun Nisham Taufil Mohd http://orcid.org/0000-0003-2630-0231

References

Amromin, G., Harrison, P., Liang, N., Sharpe, S. (2005, September 26). How did the 2003 dividend tax cut affect stock prices and corporate payout policy? (Working paper). Washington, DC: Federal Reserve Board.

Auerbach, A. J. (1979). Share valuation and corporate equity policy. *Journal of Public Economics, 11*, 291–305.

Auerbach, A.J., & Hassett, K. A. (2005, June). The 2003 dividend tax cuts and the value of the firm: An event study (Working paper). Cambridge, MA: NBER.

Bell, L., & Jenkinson, T. (2002). New evidence of the impact of dividend taxation and on thethe identity of the marginal investor. *The Journal of Finance, 57*, 1321–1346.

Bradford, D. (1981). The incidence and allocation effects of a tax on corporate distributions. *Journal of Public Economics, 15*(1), 1–22.

Chetty, R., Saez, E. (2005). 2003. Dividend taxes and corporate behaviour: Evidence from the 2003 dividend tax cut. *Quarterly Journal of Economics, 120*, 791–833.

Desai, M. A., & Goolsbee, A. D. (2004). Investment, overhang, and tax policy. *Brookings Papers on Economic Activity, 2004*, 285–355.
Edgerton, J. (2010, April). Effects of the 2003 dividend tax cut: Evidence from real estate investment trusts (Working paper). Washington, DC: Federal Reserve Board.
Fama, E. F., & French, R. F. (1998). Taxes, financing decisions, and firm value. *The Journal of Finance, 53*, 819–843.
Frank, M. Z., Singh, R., Wang, T. Y. (2012, November). The effect of dividend taxation on corporate investment: Old debate, new evidence (Working paper). Minneapolis, MN: University of Minnesota.
Gentry, W. M., Kemsley, D., & Mayer, C. J. (2003). Dividend taxes and share prices: Evidence from real estate investment trusts. *The Journal of Finance, 58*, 261–282.
Green, R. C., & Rydqvist, K. (1999). Ex-day behaviour with dividend preference and limitations to short-term arbitrage: The case of Swedish lottery bonds. *Journal of Financial Economics, 53*, 145–187.
King, M. (1977). *Public Policy and the Corporation*. London: Chapman and Hall.
Miller, M. H., & Scholes, M. S. (1978). Dividend and taxes. *Journal of Financial Economics, 6*, 333–364.
Miller, M. H., & Scholes, M. S. (1982). Dividend and taxes: Some empirical evidence. *Journal of Political Economy, 90*, 1118–1141.
Ooi, J. T. L., Wong, W. C., & Ong, S. E. (2012). Can bank lines of credit protect REITs against a credit crisis? *Real Estate Economics, 40*, 285–316.
Ott, S., Riddiough, T., & Yi, H. C. (2005). Finance, investment, and investment performance: Evidence from REIT sector. *Real Estate Economics, 33*, 203–235.
Poterba, J. M. & Summers, L. H. (1983). Dividend taxes, corporate investment, and `Q'. *Journal of Public Economics, 22*, 135–167.
Poterba, J. M., & Summers, L. H. (1984). New evidence that taxes affect the valuation of dividends. *The Journal of Finance, 39*, 1397–1415.
RICS. (2016, May). *REITs in China: Opportunities and challenges*. London: RICS.
Wang, C. F., & Guo, Y. (2011). Do dividend tax cuts lead firms to increase dividends: Evidence from China. *China Journal of Accounting Research, 4*, 197–209.
Zodrow, G. R. (1991). On the "traditional" and "new" views of dividend taxation. *National Tax Journal, 44*, 497–509.