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*Corresponding author: Tye Wei Ling, Taylor's Business School, Block B Level 1 B1.12, Taylor's University, No. 1, Jalan Taylor's, 47500 Subang Jaya, Selangor, Malaysia
E-mail: WeiLing.Tye@taylors.edu.my

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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

Roles of tax planning in market valuation of corporate social responsibility

Tye Wei Ling^{1*} and Nor Shaipah Abdul Wahab¹

Abstract: This study aims to examine the roles of tax planning in market valuations of corporate social responsibility (CSR). Specifically, this study examines tax planning activities for their direct, mediating and moderating roles. As tax planning can undermine public's perceptions on company CSR due to the former's detrimental effects on society, understanding the nature of tax planning implications on shareholders' CSR valuations is crucial to draw a comprehensive conclusion on how tax planning can affect shareholders' perception on company CSR engagements. This study uses non-financial Malaysian-listed companies for 8 years from 2008 to 2015 as the sample. Tax planning is found to have significant negative direct and mediating roles in the equity valuations of CSR. On the contrary, tax planning is found to moderate the companies' market valuations of CSR positively, which suggests shareholders increasingly value company CSR and tax planning when shareholders consider both activities simultaneously in equity valuations. This study contributes to the body of knowledge by providing empirical evidence of a comprehensive view of tax planning effects on shareholders' CSR valuations. Practically, the findings are useful to industries, particularly in strategising the company CSR and tax planning activities. The findings can also benefit tax authorities in providing insights on potentials tax planning risks through CSR activities.

ABOUT THE AUTHORS

Tye Wei Ling is a lecturer at Taylor's Business School, Taylor's University, Malaysia. Her research interest includes taxation, corporate social responsibility and market valuation. Email: WeiLing.Tye@taylors.edu.my

Nor Shaipah Abdul Wahab is the Head of Department in Accounting, Finance, Economics and Actuarial Studies at Taylor's Business School, Taylor's University, Malaysia. Her research interests are taxation, corporate governance and market valuation. Email: NorShaipah.AbdulWahab@taylors.edu.my

PUBLIC INTEREST STATEMENT

This paper analyses shareholders' valuations of corporate social responsibility (CSR) in the presence of tax planning. Specifically, tax planning is examined for its direct, mediating and moderating roles in affecting the CSR-market value of equity relationship. Investigating the relationship is important following a recent phenomenon of low investors' confidence in the Malaysian market, which in turn causes instabilities in the country's economy. As CSR can help boost investors' confidence in the market, understanding the factors, including those of tax-related, which can influence shareholders' CSR valuations, is critical. Therefore, the findings are useful to signify the multiplier effects of company tax planning on market valuations. The findings also imply that taxation has multiple roles in the shareholder's CSR valuations and thus should be considered along with CSR when pricing the company equities.

Subjects: Accounting; Corporate Governance; Corporate Social Responsibility

Keywords: tax planning; corporate social responsibility; stakeholder theory; legitimacy theory

1. Introduction

This study aims to examine the roles of tax planning in shareholders' valuations of CSR. Specifically, this study examines tax planning for its direct, mediating and moderating roles in the CSR–market value relationship. Insights on the roles of tax planning in the market valuations of CSR are crucial given the increased concerns of responsible tax within the society.

In recent years, the urge for a responsible tax to be a part of social responsibility is becoming more prominent due to the significant loss of tax revenue caused by tax dodging, not only at domestic level but also within the international settings. For example, in 2016, Google, Apple, Facebook, Starbucks, IKEA, Amazon, GAP and Microsoft were accused because of their aggressive tax planning strategies, resulting into billions of euros revenue loss to the governments (Chew, 2016). While the authority accused Google because of its “double Irish, Dutch sandwich” strategy to reduce its tax liabilities, Apple was under fire for its manipulation of Ireland subsidiaries in the company’s attempt to reduce its corporate tax liability (Sommerlad, 2016). Other renowned multinational companies, including Facebook, Starbucks, IKEA, Amazon, GAP and Microsoft, were also accused because of their unacceptable tax planning activities. The public outcry on aggressive tax planning activities has become more apparent following the leak of *Panama Papers* of which media, NGOs and societies have demanded more responsible corporate tax practices (Webb, 2016).¹ In fact, recent CSR debates have developed discussions and arguments surrounding companies’ responsible tax as the future frontier of social responsibility practices (Mccluskey, 2015).

Various NGOs such as the ActionAid, Tax Justice Network, Christian Aid and Oxfam have been campaigning for responsible tax practices by discouraging aggressive tax planning as these practices are perceived immoral due to the activities’ detrimental consequences on provisions of public goods, irrespective of economic climate settings (Bbc News, 2013; Mccluskey, 2015). Given the sources of revenue of the developing countries are largely depending on tax collections, tax planning activities are particularly crucial to be clamped down by the authorities. The Malaysian government, for example, has doubled its effort to educate taxpayers on their shared responsibility to pay their fair share of tax, which eventually will be beneficial to the community and growth of the country (The Malaysian Reserve, 2017). The government’s investment to encourage socially responsible practices, particularly in terms of tax contribution, can help the country to achieve its objective to ensure the well-being of the nations. Despite this, the tax gap in Malaysia is consistently significant at 20% in recent years (Malaymail Online, 2017).² The gap is necessary to be addressed by the authorities as failures to do so will affect the provision of public goods, including the welfare provisions for underprivileged people (Jenkins & Newell, 2013) as a large tax gap increases income inequality and social unrest. Similarly, leaders of G8 countries have also been active in combating aggressive tax planning practices to ensure the “fair share of tax” across nations (Bbc News, 2013). These initiatives are to ensure the well-being of the society as governments redistribute taxes paid out of the companies’ profits to the society. Thus, by demonstrating responsible tax practices, companies are also fulfilling their CSR duties.

Intuitively, the awareness in risks of CSR performance, which shareholders consider tax planning as a part of the companies’ CSR activities, triggers shareholders to discount their CSR valuations. The evidence, however, is generally scarce within the CSR and taxation literature. CSR literature documents significant links between share prices and CSR performance (e.g. De Klerk, De Villiers, & Van Staden, 2015; Verbeeten, Gamerschlag, & Moller, 2016). Positively, shareholders value company CSR activities due to perceived “moral duties” performed by the companies (Schmeltz, 2012). In contrast, negative links between share price and CSR could be due to reflections on significant

costs incurred in performing the CSR activities (Attig, El Ghouli, Guedhami, & Suh, 2013). In the tax planning context, a UK study finds unfavourable shareholders' valuations on companies' tax planning levels (Abdul Wahab & Holland, 2012). The finding is in contradiction with the evidence using US setting in which tax planning relates positively with the companies' market value (Desai & Dharmapala, 2009). While the former relates the findings to the risks of tax planning, the latter is associating the findings with perceived increased after-tax returns. However, as these studies investigate the valuations of CSR and tax planning separately, the shareholders' valuations of CSR in the presence of tax planning are limitedly implied, hence the aim of this study to investigate the role of tax planning in valuations of CSR.

In summary, using a final sample of 373 Bursa Malaysia-listed companies for 8-year period (2008–2015), this study finds tax planning plays three significant roles, firstly in directly impacting market value of equity, secondly as a mediator to CSR in determining market value of equity, and finally, as a moderator on the relationship between CSR and market value of equity. This study contributes to the literature by providing empirical evidence of a comprehensive view of tax planning effects on shareholders' CSR valuations. The findings are also useful to industry players, who can strategise the companies' tax planning activities based on the roles of tax planning, particularly in considering the implications of the activities towards CSR performance. Tax authorities can also be benefited from this study as the findings provide insights on potentials of tax planning risks through CSR activities.

This paper proceeds as follows. The next section reviews relevant literature and discusses the hypotheses development. The following sections are research design, and findings and discussions. Discussions on further tests are in the subsequent section. Finally, conclusion section concludes the paper.

2. Literature review and hypotheses development

The root of CSR term is from the “social responsibility of business” terminology. CSR has long been established as a concept to express the need for companies to not only take heed of its financial responsibilities but also to perform its social responsibilities in their daily operations (Bowen, 1953). Literature also describes CSR as conducts of business operation that exceed public's expectations in ethical, legal and commercial contexts (Baker, 2004).

Stakeholder theory and legitimacy theory underpin previous studies in the CSR mainstreams. Stakeholder theory expands the scope of managers' responsibilities to all parties that can be affected by a company operation of which stakeholders' perceptions on the inclusiveness of the “impacting parties” definition can have significant influence on the companies' success, both economically and socially (Donaldson & Preston, 1995; Friedman & Miles, 2002; Mitchell, Agle & Wood, 1997). Applying stakeholder theory in taxation context reconciles CSR with legitimacy theory of which “good standing” image established within the tax authority's framework helps the companies to appear legitimate in the society's eyes (Holland, Lindop, & Zainudin, 2016; Jenkins & Newell, 2013; Rose, 2007). The appearance is crucial to the companies' existence as seeking for legitimacy is fundamental to sufficient supplies of labour, attracting future and retaining current customers, and adequate inflows of capital (Hybels, 1995).

Based on Scholes–Wolfson framework, shareholders value tax planning incrementally following the activities' potentials to increase the companies' after-tax returns (Scholes & Wolfson, 1992). However, as tax planning involves secrecy and obfuscation (Desai & Dharmapala, 2009), shareholders value tax planning in a detrimental manner to avoid tax- and non-tax costs, for example, reputational costs (Abdul Wahab & Holland, 2012). This argument is also in line with “under-sheltering puzzle” (Weisbach, 2002), which theorises that companies are not always engaging in tax planning despite the perceived benefits of the activities. Following the adverse relationship between tax planning and CSR (Hoi, Wu, & Zhang, 2013; Huseynov & Klamm, 2012), shareholders' valuations on companies' tax planning can be moderated and mediated by the extent of

companies' engagement in CSR. This argument is developed based on the premise of legitimacy theory (Dowling & Pfeffer, 1975) of which companies that involve in tax planning activities conduct CSR to appear legitimate in the eye of the shareholders. Consistent with the theories in tax planning and CSR, previous studies in linking CSR and tax planning find the latter can explain the extent of companies' involvement in the former in an adverse manner (Hoi et al., 2013; Huseynov & Klamm, 2012; Lanis & Richardson, 2012). The studies, however, do not comprehensively test the nature of tax planning effects on the market valuations of companies' CSR involvements, hence the aim of this study is to investigate the tax planning's direct, mediating and moderating roles in companies' market valuations of CSR.

2.1. CSR and tax planning as direct determinants of companies' market value of equity

Following Abdul Wahab and Holland (2012), we define tax planning as activities that can generate tax benefits. Due to the unclear line to categorise the activities based on their legality aspect (Fisher, 2014; Hartnett, 2008), this study attempts to analyse tax planning in its general context, i.e. without distinguishing the activities into avoidance and evasion. Debates on negative influences of tax planning activities span the implications of the activities on the government's revenue, which is the source for provisions of public goods and services to the society (Dowling, 2014; Freedman, 2003; Friese, Link, & Mayer, 2008; Landolf, 2006; Williams, 2007). It is thus worldwide accepted that tax payment is a social obligation of companies within their social responsibility and legal frameworks.

Previous taxation and CSR studies find shareholders' value tax planning (Abdul Wahab & Holland, 2012) and CSR (De Klerk et al., 2015; Verbeeten et al., 2016). The studies, however, limitedly address value relevance of tax planning as part of CSR obligation. In linking tax planning and CSR, significant negative relationships are documented across settings, suggesting negative effects of tax planning on companies' CSR commitments (Hoi et al., 2013; Muller & Kolk, 2015). Following this, shareholders are expected to value CSR in the presence of tax planning. The directions of the relationship however can be equivocal. Positively, shareholders value CSR and tax planning positively due to the activities' influence on company reputations both from social (De Klerk et al., 2015) and economic (Desai & Dharmapala, 2009) perspectives. On the other hand, there can be unfavourable shareholders' reactions on CSR and tax planning due to the perceived significant expenses (Attig et al., 2013) and risks of reputational costs (Abdul Wahab & Holland, 2012) of the activities respectively. Therefore, we expect that there is a significant direct relationship between CSR, tax planning and market value of equity as in Hypothesis 1:

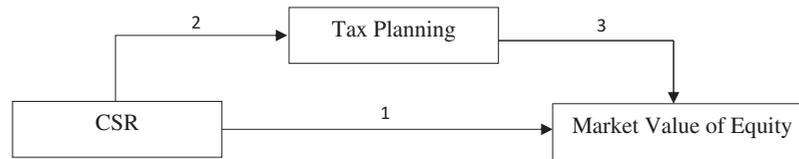
Hypothesis 1 (H₁): There is a significant direct relationship between CSR, tax planning and market value of equity.

2.2. Tax planning as a mediator of CSRs

As previous studies find a significant relationship between CSR and corporate tax planning activities (Hoi et al., 2013; Lanis & Richardson, 2012; Muller & Kolk, 2015), the extent of company tax planning activities can potentially be a mediator to CSR in affecting companies' market value of equity. Prior to the mediator hypothesis testing, three relationships are first to be confirmed (Baron & Kenny, 1986; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). In the context of CSR and tax planning effects on companies' market value of equity, the first relationship is concerning a direct relationship between CSR and market value of equity. The second relationship is related to the significance of CSR in impacting tax planning. Thirdly, tax planning is significant in explaining companies' market value of equity. These assumptions are illustrated in Figure 1.

Within the first relationship framework, previous studies document that the relationship between CSR and market value of equity can be in both directions due to favourable valuations by shareholders on the affirmative effects of CSR on the society and the cost incurred in

Figure 1. Mediating role of tax planning on CSR–market value of equity relationship.



performing or conducting the CSR engagements (Attig et al., 2013; Dowell, Hart, & Yeung, 2000; Goll & Rasheed, 2004; Luo & Bhattacharya, 2006; Russo & Fouts, 1997). The second relationship, i.e. between CSR and tax planning, is evident to be more conclusive following the tendencies of companies with low (high) CSR engagement to conduct (avoid) tax planning activities (Hoi et al., 2013; Lanis & Richardson, 2012). Within the third relationship framework, i.e. between tax planning and market value, similar equivocal relationship with the relationship between CSR and market value of equity is expected. The relationship is due to the risks of tax planning as the activities involve obfuscations (Abdul Wahab & Holland, 2012) and the perceived potential outcome of tax planning on companies’ after-tax returns (Scholes & Wolfson, 1992; Toder & Viard, 2016). Following the collective establishment of the three relationships, we therefore hypothesise tax planning as a mediator to CSR in explaining market value of equity as in Hypothesis 2:

Hypothesis 2 (H₂): Tax planning is a significant mediator of CSR in explaining market value of equity.

2.3. Tax planning as a moderator of CSR–tax planning relationship

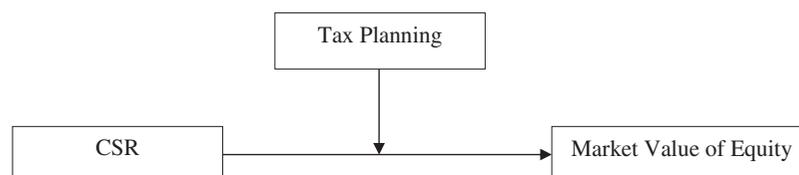
Tax planning can potentially moderate the relationship between CSR and market value of equity following the harms that tax planning activities can cause (Abdul Wahab, 2016; Feller & Schanz, 2017; Wilde & Wilson, 2018), including reputational risks, which then drive the tax planning-engaged companies to seek for legitimacy for their existence through CSR disclosure (Holland et al., 2016). This argument is in line with Lanis and Richardson’s (2015) findings on less tax planning engagement by more socially responsible companies. As shareholders value CSR (De Klerk et al., 2015; Verbeeten et al., 2016), the strength of the CSR–market value of equity relationship can thus be argued to be moderated by the extent of the companies’ engagements in tax planning. The moderating effect of tax planning on the relationship between CSR and market value of equity is illustrated in Figure 2.

We, therefore, hypothesise that tax planning activities can significantly moderate the relationship between CSR and market value of equity as in Hypothesis 3.

Hypothesis 3 (H₃): Tax planning significantly moderates the relationship between CSR and market value of equity.

In summary, previous studies that examine role of tax planning on the valuations of CSR comprehensively are limited. The findings on the tax planning implications within shareholder’s responses on CSR are crucial to inform investment decisions. Directly, shareholders may value tax planning along with CSR involvements. Shareholders may also react on CSR activities through the

Figure 2. Moderating role of tax planning on CSR–market value of equity relationship.



mediating effects of companies' engagement in tax planning given the significant findings by previous studies on the relationship between CSR and tax planning. Alternatively, tax planning may moderate shareholders' responses on company CSR due to the detrimental effect of tax planning activities.

3. Research design

3.1. Sample selection and data source

The sample of this study is non-financial Bursa Malaysia-listed companies from 2008 to 2015. Financial companies are filtered to control for bias due to variations of reporting requirements. The year 2008 is to reflect the year of Malaysian corporate tax reform, in which single-tier system replaced the imputation system. The period ends with 2015 to reflect the most current available data. We also filter the sample for inconsistencies in reporting currency and accounting year end to control for bias in financial disclosure. We control non-recurrence activities by filtering companies with extreme value of tax planning at the 5th percentiles. These result to the initial sample of 422 companies. Table 1 summarises the sample selection process.

As CSR and tax data is unavailable in machine readable format, the data is hand-collected from company annual report. We collect other financial from *Thomson Reuters Datastream*. Industry classification data is determined based on *Bursa Malaysia Main Market* industry classification.

3.2. Measurement of tax planning

This study measures tax planning using book-tax differences (BTDs), which reflects the dispersion of taxable income from accounting income (Abdul Wahab & Holland, 2015; Jackson, 2015; Noga & Schnader, 2013). As tax return data is not publicly available, following Abdul Wahab and Holland (2015), the estimated taxable income is measured by grossing up the company current tax expense with Malaysian statutory tax rates and, to capture differences between local and overseas tax rates, we sum this figure with statutory tax rates differences as in Equation (1).

$$TI = \frac{CTE}{MSTR} + STRD \quad (1)$$

where *TI* is taxable income, *CTE* is current tax expense, *MSTR* is Malaysian statutory tax rates and *STRD* is the income level of statutory tax rates differences, which are disclosed in tax reconciliation footnotes of financial statements.

Following Abdul Wahab and Holland (2015), BTD is then measured as the differences between profit before tax and estimated taxable income. Thus, we derive *BTD* by subtracting *TI* from profit before tax (*PBT*) as in Equation (2):

$$BTD = PBT - TI \quad (2)$$

Table 1. Sample selection

	Number of companies
Non-financial companies listed throughout 2008–2015	608
Extreme tax planning value	137
Changes of accounting year end	41
Incomplete annual reports	7
Inconsistency in reporting currency	1
Initial sample size	422

3.3. Measurement of CSRs

This study measures a company's CSR involvement using CSR index which is developed based on Asset4 ESG from Thomson Reuters Datastream. We examine a balanced view of the company's CSR performance in economic, environmental, social and corporate governance using an equal-weighted rating index. As the company's profit, an indicator of economic performance, is used to compute BTM, the CSR index of this study comprises environmental, social and corporate governance elements. This measurement is to control for redundancy and bias between CSR elements. There are 295 indicators used to develop the index of which the environment, social and governance components comprise 79, 123 and 93 indicators, respectively.³ Each available indicator from the annual report is assigned "1" point. We calculate the CSR score by computing the percentage of the total sum of points (m) assigned to the indicators over a total possible maximum point of 295 as in Equation (3).

$$CSRScore = \frac{\sum_{m=1}^{295} m}{295} \times 100 \quad (3)$$

3.4. Regression models

The panel regression models of this study are developed based on Ohlson's (1995) equity valuation model in which book value of equity and abnormal earnings are theorised to be value relevant. The model is extended to include tax planning, CSR and other control variables. In examining the direct relationship of CSR and tax planning, we regress the variables on companies' market value of equity using a random-effect panel regression model as in Model 1.⁴

$$MV_{it+3} = \alpha_0 + \alpha_1 BV_{it} + \alpha_2 PBT_{it} + \alpha_3 TP_{it} + \alpha_4 CSR_{it} + \alpha_5 LEV_{it} + \alpha_6 CAPINT_{it} + \alpha_7 EM_{it} + \alpha_8 FS_{it} + \alpha_9 DIV_{it} + \alpha_{10} GTA_{it} + \alpha \sum_{r=11}^{20} IND_{it} + \varepsilon_{it} \quad (\text{Model 1})$$

where MV_{it+3} is market value of equity three months after the accounting year end. Consistent with previous market valuation studies (e.g. Abdul Wahab & Holland, 2012; Horton, 2008), the 3-month post year end is to allow for markets to reflect the company's preliminary financial performance.⁵ BV is book value of equity at the year end. PBT is profit before tax. TP and CSR are respectively tax planning and CSR score. The remaining variables are the control variables, which are found by previous studies (e.g. Abdul Wahab & Holland, 2012; Gunasekera et al., 2015; Heaton & Lucas, 2000; O'hanlon & Taylor, 2007) as can determine market value of equity and tax planning, and can control for firm-specific effects, consisting LEV for leverage, $CAPINT$ for capital intensity, EM for earnings management, FS for foreign sales, DIV for dividends, GTA for growth of total assets and IND for industry classifications.

In examining the mediating role of tax planning, the direct relationship between TP and CSR is firstly determined. Following the significant relationships, firstly, between tax planning and CSR , secondly, between market value of equity and CSR (Model 1), and thirdly, between tax planning and market value of equity (Model 1), Model 2 is estimated using generalised structural equation model to determine the mediating effect of tax planning on the relationship between market value of equity and CSR .

$$MV_{it+3} = \alpha_0 + \alpha_1 BV_{it} + \alpha_2 PBT_{it} + \alpha_3 TP_{it} + \alpha_4 CSR_{it} + \alpha_5 LEV_{it} + \alpha_6 CAPINT_{it} + \alpha_7 EM_{it} + \alpha_8 FS_{it} + \alpha_9 DIV_{it} + \alpha_{10} GTA_{it} + \alpha \sum_{r=11}^{20} IND_{it} + \varepsilon_{it} \quad (\text{Model 2})$$

where TP is estimated using Model 2a:

$$TP_{it} = \beta_1 CSR_{it} + \varepsilon_{it} \quad (\text{Model 2a})$$

We insert an interaction variable between CSR and tax planning ($CSRTP$) in Model 1 to examine the moderating effect of tax planning on the relationship between market value of equity and CSR using a random-effect panel regression model as in Model 3.

$$MV_{it+3} = \alpha_0 + \alpha_1 BV_{it} + \alpha_2 PBT_{it} + \alpha_3 TP_{it} + \alpha_4 CSR_{it} + \alpha_5 CSRTP + \alpha_6 LEV_{it} + \alpha_7 CAPINT_{it} + \alpha_8 EM_{it} + \alpha_9 FS_{it} + \alpha_{10} DIV_{it} + \alpha_{11} GTA_{it} + \alpha \sum_{r=12}^{21} IND_{it} + \varepsilon_{it} \quad (\text{Model 3})$$

Table 2 summarises the variable measurements of this study. To control for size effect, all continuous variables, *MV*, *BV*, *TP* and *EM*, are scaled using prior-year book value of equity (BV_{it-1}).⁶

4. Findings and discussion

4.1. Descriptive statistics

Prior to the analysis, we test the data for outliers using studentised residual's excess value of |2| (Chen, Ender, Mitchell, & Wells, 2005; Hair, Black, Babin, Anderson, & Tatham, 2006). After controlling for outliers, the final sample is 2,992 firm-years. Table 3 presents the descriptive statistics of the sample.

Table 2. Variable measurements	
Variables	Measurements
Market value of equity (MV_{it+3})	Market value of equity 3 months after the year end
Book value of equity (<i>BV</i>)	Book value of equity at the year end
Profit before tax (<i>PBT</i>)	Profit before tax at the year end
Tax planning (<i>TP</i>)	Tax planning measured using BTD as in Equation (2)
CSR score (<i>CSR</i>)	CSR score measured using Equation (3)
Interaction of <i>CSR</i> and <i>TP</i> (<i>CSRTP</i>)	$CSR \times TP$
Leverage (<i>LEV</i>)	Long-term debt/total assets
Capital intensity (<i>CAPINT</i>)	Gross machinery and equipment/total assets
Earnings management (<i>EM</i>)	$PBT - \text{net cash flow from operation}$
Foreign sales (<i>FS</i>)	Percentage of foreign sales over total sales
Dividends (<i>DIV</i>)	$(\text{Dividend per share} / \text{earnings per share}) \times 100$
Growth of total assets (<i>GTA</i>)	$((\text{Current year total asset} / \text{Prior-year total asset}) - 1) \times 100$
Industry (<i>IND</i>)	Industry category coded as "1" for each classification and "0" otherwise

Table 3. Descriptive statistics				
<i>n</i> = 2,992	Mean	Min	Max	Standard deviation
MV_{t+3}	1.8209	0.0089	25.8082	2.0557
<i>BV</i>	1.0535	0.0622	27.9860	0.5710
<i>PBT</i>	0.1920	-0.3098	4.8502	0.2447
<i>TP</i>	0.0215	-0.2786	1.3865	0.1418
<i>CSR</i>	18.0578	8.1356	38.6441	3.9159
<i>LEV</i>	0.0804	0.0000	0.9812	0.1079
<i>CAPINT</i>	0.2625	0.0000	2.4508	0.3012
<i>EM</i>	0.0051	-1.8445	2.9363	0.2616
<i>FS</i>	18.4162	0.0000	100.0000	26.5612
<i>DIV</i>	0.4527	0.0000	175.2917	4.1779
<i>GTA</i>	7.9029	-72.9500	3654.9800	70.4334

The descriptive statistics show positive value of tax planning at 0.022, indicating a higher amount of PBT compared to the taxable income, which suggests, on average, Malaysian-listed companies do conduct tax planning activities. The average CSR score of the companies is 18%. With a minimum and maximum CSR scores of 8% and 39%, respectively, Malaysian-listed companies' CSR practice is below than average of 50%. The score is relatively lower compared to UK companies as documented by Adeneye and Ahmed (2015). The companies finance 8% of their total assets using long-term debt, suggesting significant utilisation of equity in raising the capital. The utilisation of capital expenditure that attracts significant capital allowances compared to others, i.e. machinery and equipment, is averagely at 26% of the total assets. The companies' total accrual earnings management magnitudes are positive in average, suggesting lower cash flow from operation compared to PBT. The companies' involvement in international operations is at the average of 18% of the total sales. The mean of dividends payout ratio is 0.5%, indicating a low return on investment at the average.

4.2. Multivariate results

Prior to the multivariate analyses, we test the model for multicollinearity and heteroscedasticity. The multicollinearity is tested using Pearson correlation coefficients and variance-inflation factor (Hair et al., 2006). Table 4 presents the Pearson correlation coefficients of continuous variables. Except for the bivariate relationship between *TP* and *CSRTP*, all correlation coefficients are below than 0.9 (Hair et al., 2006), suggesting insignificant initial multicollinearity between the variables, which is consistent with the variance-inflation factor of which only *TP* and *CSRTP* are found to be more than 10.0, i.e. 30.65 and 29.16, respectively. Following this, we conduct a further multicollinearity analysis using condition indices. The highest index for the *TP* and *CSRTP* is 18.95 with a variance decomposition of 0.92. Based on Belsley, Kuh, and Welsch (1980), it is therefore concluded that there is no significant multicollinearity between *TP* and *CSRTP*.⁷ In testing the models for heteroscedasticity, Breusch-Pagan and White tests are used (Breusch & Pagan, 1979; White, 1980). Both tests indicate significant heteroscedasticity at $p < 0.05$. The models are therefore estimated using robust standard errors.

Table 5 presents the results of the multivariate analyses. Column 2 is related to the results of a direct role of tax planning and CSR. Column 3 presents the results on the mediating role of tax planning on CSR in explaining the market value of equity. Results in column 4 are related to the moderating role of tax planning on the relationship between CSR and market value of equity.

The results indicate consistent significant ($p < 0.01$) positive relationship between CSR and market value of equity across models, suggesting incremental value relevance of CSR within Malaysian settings. In line with stakeholder theory's (Freeman, 1984) assertion on the responsibilities of the companies to perform their CSR duties while meeting their bottom line of financial statements objectives, shareholders incrementally value companies with higher level of CSR practices. On the company counterpart, CSR practices are crucial for their legitimate appearance in the eye of the shareholders. This finding is consistent with legitimacy theory's (Suchman, 1995) stance that social responsibility is a pathway for companies to ensure its legitimate position within the society, hence promises long-term survival of the companies. On the contrary, tax planning is found to be consistently significant ($p < 0.01$) across models and negatively related to market value of equity, which suggests that shareholders discount tax planning activities in their valuations. These detrimental effects of tax planning on shareholders' valuations are in line with Abdul Wahab and Holland (2012) in which shareholders are argued to be against tax planning activities due to the activities' potential risks to shareholders' wealth, including reputational risks, despite the activities' perceived benefits, i.e. increased in after-tax returns (Scholes & Wolfson, 1992). The findings of significant relationships between *CSR*, *TP* and MV_{t+3} thus support H_1 that hypothesises a significant direct relationship between CSR, tax planning and market value of equity.

In testing the mediating effect of tax planning on CSR in impacting companies' market value of equity, results from the generalised structural equation model presented in column 3 of Table 5

Table 4. Pearson correlation

	MV	BV	PBT	TP	CSR	CS RTP	LEV	CAPINT	EM	FS	DIV	GTA
MV	1.0000											
BV	0.3119***	1.0000										
PBT	0.7593***	0.4218***	1.0000									
TP	0.3895***	0.2245***	0.5715***	1.0000								
CSR	0.2794***	-0.0121	0.1460***	0.0423**	1.0000							
CS RTP	0.3827***	0.1694***	0.5349***	0.9801***	0.0693***	1.0000						
LEV	0.0620***	0.0070	0.0286	0.0156	0.1682***	0.0261	1.0000					
CAPINT	0.0117	-0.0249	-0.0491***	0.0766***	0.1077***	0.0907***	-0.0941***	1.0000				
EM	0.0570***	0.1892***	0.3051***	0.1897***	-0.0300	0.1681***	-0.0004	0.3172	1.0000			
FS	0.0494***	-0.0098	0.0433**	0.1338***	0.1031***	0.1398***	-0.0862***	0.2743***	-0.0929***	1.0000		
DIV	0.0185	-0.0024	0.0042	-0.0152	0.0265	-0.0150	-0.0237	0.0230	0.0036	0.0024	1.0000	
GTA	0.2372***	0.2348***	0.1202***	0.1633***	0.0262	0.1920***	0.0656***	0.0223	-0.0630***	-0.0163	-0.0033	1.0000

*** and ** indicate significance levels at 1% and 5%, respectively.

Table 5. Multivariate results

DV = MV_{t+3}	Model 1	Model 2	Model 3
BV	0.1513** (1.81)	-0.0411 (-0.50)	0.2226*** (2.71)
CSR	0.0969*** (7.99)	0.0788*** (10.57)	0.0923*** (8.22)
PBT	5.4767*** (12.44)	6.7830*** (32.00)	5.5038*** (12.70)
TP	-1.6121*** (-3.79)	-1.2196*** (-3.49)	-6.5571*** (-4.90)
CS RTP			0.2642*** (3.78)
LEV	-0.0016 (0.00)	-0.0300 (-0.12)	-0.0515 (-0.16)
CAPINT	0.0340 (0.17)	-0.0044 (-0.04)	0.0003 (0.00)
EM	-0.6997*** (-5.17)	-1.1636*** (-9.20)	-0.6987*** (-5.04)
FS	0.0002 (0.12)	0.0000 (0.03)	0.0000 (0.01)
DIV	0.0035** (2.29)	0.0056* (1.76)	0.0035** (2.32)
GTA	0.0045*** (9.46)	0.0042*** (9.56)	0.0040*** (9.09)
Constant	-1.4651*** (-6.67)	-0.0061 (-0.53)	-1.4513*** (-7.05)
R ²	73.34%	69.50%	73.36%
n	2,992	2,992	2,992
Wald χ^2	797.38***	2151.46***	954.67***
White	1119.60***	N/A	1182.44***
Breusch-Pagan	1886.39***	N/A	1950.55***

Cross-sectional clustered Eicker-Huber-White adjusted t-statistics are represented by the figures in the parentheses. ***, ** and * indicate significance levels at 1%, 5% and 10%, respectively. CSR in Model 2a is significant at $p < 0.05$, $\beta_1 = 0.0015$ ($t = 2.17$).

indicate a significant mediating role of tax planning ($p < 0.01$). In specific, tax planning is found to partially mediate the relationship between CSR and market value of equity negatively despite the incremental valuations of CSR by the shareholders. The overall effect of the tax planning mediating effect on the CSR valuations is at the rate of 0.04%. This finding supports H₂ in predicting a mediating role of tax planning on CSR in explaining market value of equity. The results are in line with Russo and Fouts (1997), Dowell et al. (2000), Goll and Rasheed (2004) and Luo and Bhattacharya (2006), in which additional CSR-related activities are argued to be able to mediate the impact of CSR. CSR is thus able to impact companies' market value of equity indirectly through tax planning in an adverse manner in which higher tax planning level undermines shareholders' valuations on CSR. This argument is also consistent with the negative relationship between CSR and TP documented by previous studies (Hoi et al., 2013; Lanis & Richardson, 2015).

Results from the estimation of Model 3 in testing the moderating role of tax planning on the relationship between CSR and market value of equity (column 4 of Table 5) show positive and

significant ($p < 0.01$) moderating effects of tax planning. This result supports H_3 that predicts tax planning as a moderator in impacting shareholders' valuations on the extent of companies' involvements in CSR. Despite the potential risks of tax planning, including reputational risks (Abdul Wahab, 2016; Feller & Schanz, 2017; Wilde & Wilson, 2018), shareholders' valuations on CSR activities are incremental in manner when tax planning activities are present, which suggests that shareholders trust companies with a high extent of tax planning activities when the level of CSR involvement is also at the higher end. This compensating perspective is in line with Holland et al. (2016) that tax planning-engaged companies seek for legitimacy for their existence through CSR disclosure. Tax planning activities are thus can be concluded as playing a moderating role in CSR-companies' market value of equity relationship.

Results on control variables from the three estimations indicate consistent significant ($p < 0.01$) negative relationship between earnings management and market value of equity. The results suggest that shareholders value earnings management in a decreasing manner, which could be due to low earnings quality (Fang, Huang, & Karpoff, 2016; Katmon & Al Farooque, 2017) and high earnings manipulation (Cohen, Cornett, Marcus, & Tehranian, 2014; Shafer, 2015) when earnings management activities are present. On the contrary, we find dividends are significantly ($p < 0.05$ for Models 1 and 3, and $p < 0.10$ for Model 2) and positively related to market value of equity. This finding is in line with value relevance theory (Ohlson, 2005) that differences in dividends are able to explain the variations in share price.

In summary, the results of this study provide evidence on the significant roles of tax planning in CSR valuations. Tax planning is found to have direct, mediating and moderating effects on shareholders' valuations of companies' CSR involvements. The results provide further evidence to support stakeholder theory and legitimacy theory in terms of shareholders' appreciation on companies' social responsibility duties in the presence of tax planning activities. In its direct role, tax planning impacts companies' market value of equity negatively along with the positive effect of CSR. Indirectly, tax planning mediates CSR negatively in explaining the variations of companies' market value of equity. In its moderating role, the strength of tax planning positively moderates the relationship between CSR and market value of equity.

5. Further tests

In testing the robustness of the initial results, further tests consisting alternative lag times of companies' market value of equity, deflator effect and fixed-effect estimation are carried out. Results in Table 5 are from the multivariate analyses when we regress the independent variables on companies' market value of equity 3 months post companies' accounting year end. The lag period is to allow for the lag time for shareholders to reflect on the release of the companies' preliminary results. The lag is also to control for excessive noise in market valuations. We re-estimate the models using companies' market value of equity 4 and 6 months post accounting year end to allow for a longer time of reflection. The findings indicate similar qualitative results with the initial results in Table 5 when the independent variables are regressed on companies' market value of equity 4 and 6 months post accounting year end, suggesting that the initial results are robust upon the time lag of the market value of equity.

The second robustness test, deflator effects, is run using total assets as the deflator of the continuous variables (*MV*, *BV*, *TP* and *EM*). Similar to sensitivity analysis using lag time of companies' market value of equity, the initial results are also robust when the continuous variables are deflated using total assets. These qualitatively similar results suggest that total assets are an alternative deflator of prior-year book value of equity when regressing CSR and tax planning and other control variables on companies' market value of equity.

We use random estimation to derive the initial results in Table 5. We re-estimate the models using fixed-effect estimations to test for the sensitivity of the results upon model specifications. Similar to the previous sensitivity tests, the results are also qualitatively identical to those of

random-effect estimations. This finding suggests that the results presented in Table 5 are robust upon specifications of model estimations.

In line with the literature in the area, we relax the assumptions of autocorrelation in the initial estimations. In testing the robustness of the results upon controlling for autocorrelation, we test the stationarity of the variables using Wooldridge test (Wooldridge, 2002) and subsequently re-estimate the model using cross-sectional time-series feasible generalised least squares (FGLS) regression.⁸ The re-estimation results indicate similar qualitative results of *TP* and *CSR* with the initial results, which suggest that the initial results are robust upon controlling for the autocorrelation.⁹

6. Conclusions

This study seeks to investigate three roles of tax planning, i.e. direct, mediating and moderating roles, on *CSR* in explaining market value of equity. The results indicate that tax planning directly explains market value of equity in decreasing manner along with positive effects of *CSR* on companies' market value of equity. In its indirect role, tax planning is found to mediate the extent of *CSR* involvement negatively despite positive effect of *CSR* on companies' market value of equity. On the contrary, tax planning moderates the relationship between *CSR* and market value of equity in an incremental manner. Thus, this study concludes that tax planning plays three roles on shareholders' valuations of companies' *CSR* involvements.

The results provide further evidence to support stakeholder theory and legitimacy theory. In specific, the results contribute to the literature in suggesting additional dimension in evaluating the stakeholder-relevant activities of which *CSR* is to be valued together with companies' tax planning activities as the former is found to impact the extent of the latter. The results also provide further evidence on shareholders' valuations of companies' legitimate appearances through *CSR* when tax planning activities are present. This study also provides evidence to the literature in extending the boundary of the value relevance of *CSR* and tax planning knowledge by providing evidence that the comprehensive effect of tax planning is necessary when investigating the relationships between *CSR* and market value of equity. In addition, the results are of use to the tax authorities when revising tax planning-related policies as the risks of tax planning activities, in specific, those that are conducted by large companies, are not only impacting the government's revenue but also the shareholders' wealth. The results of this study also enhance the knowledge of managers in managing company stakeholders' interests of which the awareness on the complexities of tax planning consequences on firm value following tax planning's multiple roles are important in establishments and revisions of company *CSR* and tax policies.

As this study uses a specific country setting, the generalisation of the results to other settings can be limited. Researchers can conduct future studies by replicating this study using multiple country settings. In addition, as this study is investigating *CSR* and tax planning in an aggregated manner, the effects of *CSR*'s and tax planning's components on companies' market value of equity are limitedly examined. Future studies, therefore, can be carried out to further investigate the roles of components of tax planning in explaining the value relevance of disaggregated measure of *CSR*.

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Author details

Tye Wei Ling¹

E-mail: WeiLing.Tye@taylors.edu.my

Nor Shaipah Abdul Wahab¹

E-mail: NorShaipah.AbdulWahab@taylors.edu.my

¹ Taylor's Business School, Block B Level 1 B1.12, Taylor's University, Subang Jaya, Malaysia.

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Notes

1. *Panama Papers* are documents that were leaked by an anonymous individual in 2015 in Panama. The papers contain more than 11 million classified documents relating to offshore financial activities of prominent world figures, in which, among others, information relating to tax dodging activities of government officials, relatives of government officials, members of parliaments, members of the International Federation of Association Football, sportsmen, entertainment celebrities and multinational corporations is disclosed (ICIJ, 2016).

2. The tax gap, a measure of differences between tax theoretically due and collected, is consistent at 20% for 2015 and 2016, i.e. a revenue loss of RM47 billion (Malaymail Online, 2017).
 3. In the interest of economy the list is not included in this article but available from the author upon request. The full list of indicators used in Asset4 ESG is also available from https://uvalibraryfeb.files.wordpress.com/./asset4_esg_data_glossary_april2013.xlsx.
 4. We test the robustness of the results using fixed-effect estimation and the results are discussed in further tests section.
 5. To test for the sensitivity of the results upon variations of lag time after the disclosure of company financial information, the variables are also regressed on market value of equity 4 and 6 months after the year end. This is discussed in further tests section.
 6. To test for the sensitivity of the results using an alternative deflator, the models are re-estimated using continuous variables that are scaled with total assets. The results are discussed in further tests section.
 7. The threshold level of insignificant multicollinearity is when the condition index is above 30 with variance decomposition of 0.5 or more (Belsley et al., 1980).
 8. The Wooldridge test is suitable due to the panel data design (Wooldridge, 2002). Following the rejection of the H_0 at F -statistic of 108.192 ($p < 0.01$), we re-estimate the model using a cross-sectional time-series FGLS regression with Wald of 6138.00 ($p < 0.01$).
 9. In the interest of economy, the results of further tests are not tabulated but available from the author upon request.
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