

Mediating and moderating function of corporate governance on the relationship between tax planning and tax disclosure

Função mediadora e moderadora da governança corporativa na relação entre planejamento tributário e divulgação de impostos

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Keywords

Corporate-governance.
Accounting-standards.
Voluntary-disclosure.
Disclosure-readability.
Corporate-finance.

Abstract

This study analyzes the moderating, mediating, and direct effects of corporate governance (CG) proxy mechanisms on the relationship between tax planning (TP), measured by effective tax rate components, and tax disclosure (TD). We tested the hypotheses using a 4-step hierarchical regression with Malaysian-listed non-financial companies using a balanced sample of 858 observations. We found that companies positively assessed their TP activities. Inspection of the implications of CG mechanisms as moderation on TP-TD association displayed the absence of an important constant correlated to any of the interactive variables. This makes it difficult to understand the nature of this relationship. The results illustrate the high and significant mediated impact of board compensation (BCOMS) on the TP-TD association. We further studied the sensitivity of the results and the outcomes were examined for the robustness and strength of the model specification using OLS effect estimators and the absence of TP-related factors. These test findings show no effect on the TP-TD association. This study shows that firms try to avoid taxation as far as possible by disclosing relevant tax information. These results suggest that firms express a trade-off between tax advantages and TD when choosing their TP. It meaningfully subsidizes the argument about TD concerning “comply-or-explain”, as the CG Code proposes.

Palavras-chave

Governança corporativa.
Normas contábeis.
Divulgação voluntária.
Legibilidade da divulgação.
Finanças corporativas.

Resumo

Este estudo analisa os efeitos moderadores, mediadores e diretos dos mecanismos de proxy de governança corporativa (GC) na relação entre planejamento tributário (PT), medido pelos componentes da taxa efetiva de imposto, e divulgação de impostos (DI). Testamos as hipóteses usando uma regressão hierárquica de 4 etapas com empresas não financeiras listadas na Malásia, usando uma amostra balanceada de 858 observações. Descobrimos que as empresas avaliam positivamente suas atividades de PT. A inspeção das implicações dos mecanismos de GC como moderação na associação PT-DI mostrou a ausência de uma constante importante correlacionada a qualquer uma das variáveis interativas. Isso dificulta entender a natureza dessa relação. Os resultados ilustram o impacto mediado alto e significativo da remuneração do conselho de administração (BCOMS) na associação PT-DI. Estudamos ainda a sensibilidade dos resultados e os resultados foram examinados quanto à robustez e à força da especificação do modelo usando estimadores de efeito OLS e à ausência de fatores relacionados ao PT. Esses resultados dos testes não mostram efeito na associação PT-DI. Este estudo mostra que as empresas tentam evitar a tributação tanto quanto possível ao divulgar informações fiscais relevantes. Esses resultados sugerem que as empresas expressam um trade-off entre vantagens fiscais e DI ao escolher seu PT. Isso subsidia significativamente o argumento sobre DI em relação ao “cumpra ou explique”, conforme o Código de GC propõe.

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Practical implications

This study underscores the “comply-or-explain” principle, revealing a trade-off between tax-advantages and disclosure in Malaysian CG. Regulatory bodies can consider BCOMS as a key factor in fostering tax-transparency. Management practices and compensation-structures play a critical role in shaping firms' tax-related behavior. Managers and owners may have conflicting interests in TP-decisions, emphasizing the need to align incentives. Businesses may need to re-evaluate their CG-mechanisms, with a focus on compensation-structures, to enhance tax-transparency.

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1 INTRODUCTION

Studies have taken several steps toward recognizing individual companies' TP (Schwab et al., 2022). Unexpectedly, few studies scrutinized the effect of TP on TDs across organizations. Mgammal (2020) suggests that high TP is linked to inferior TD, and organizations with elevated TP attempt to address disclosure issues by increasing the number of TDs. However, there is limited understanding of the actual impacts of TP on TD and how companies share the benefits of such disclosure (Cen et al., 2019). Furthermore, Armstrong et al. (2019) highlight that companies strategically respond to competitors' TP, adjusting their TP accordingly. The debate around the TP extends globally, with public pressure on companies to curb aggressive TP activities. Additionally, there is a push for mandatory TD due to increasing expectations for corporate responsibility, yet companies resist, fearing that the costs outweigh the benefits (Graham et al., 2014). The "comply or explain" norm is a central focus in corporate governance laws, allowing companies to justify non-compliance, as demonstrated in Mgammal et al. (2018) study, revealing businesses' efforts to keep tax-related information private and raising the need for further investigation.

In recent years, CG and tax regulations have drawn increasing attention, particularly in the wake of Enron and WorldCom scandals. As a result, transparency obligations for regulators, auditors, and IRS have been enhanced. The changing regulatory environment has increased the need of both risk management and tax preparation (Lenter et al., 2003). According to Slemrod's (2005) research, tax executives are aware of these developments and take action to comply with them, according to Slemrod (2005) research. This knowledge resulted in enhanced tax transparency and a more open TP process. This study examines company governance and tax transparency in a novel manner. Thus, taxation disclosure obligations and CG disclosure requirements should be considered complementary rather than distinct. This is due to the fact that other regulatory organizations, including the IRS, also have disclosure rules intended to encourage accountability and openness. To determine the extent of TD and whether CG rules affect the amount of disclosure, the authors studied Malaysian firms. They discovered that CG standards provide an advantage for TD. The authors also discovered that the connection between TD and TP might be moderated and mediated by company governance practices including independent boards of directors and CEO remuneration. This indicates that these systems have the potential to affect how businesses prepare taxes and report this information. The results of this study have implications for tax and CG regulators. This implies that the CG rules may be used to encourage tax transparency and compliance. This also implies that while creating TD obligations, authorities should consider company governance measures. Private companies are generally assumed to face the low costs of TP kin to public companies, and therefore, are thought to involve greater TP. Hoopes et al. (2019) find no indication that private firms tax plans virtually for similar-sized public firms in the same industry. Evidence suggests that private companies have fewer TP than private companies.

Bauer et al. (2019) investigated corporate tunneling or the utilization of business assets for personal gain by insiders and showed how active TP may have this effect. According to their research, stronger external control may make it harder for insiders to engage in tax tunneling but will not completely stop it. This study examined the moderating and mediating effects of CG on the relationship between TP and TD. According to Mgammal (2020), the degree of tax transparency and scope of TP in Malaysia are positively and strongly correlated. This shows that businesses that engage in TP are also more likely to reveal more tax information, which has consequences for CG, tax policies, and law. The writers of this article contend that Malaysia's high TP rate is concerning because it can result in tax evasion and avoidance. They advocate that the Malaysian tax administration enacts more rules to curtail these practices.

The sample period for this study was connected to a tax risk assessment according to the authors. Because TP by managers may result in higher risk categorization by authorities, interested parties may be less willing to support it. This may impact managers' TP choices, causing them to choose "tax assurance" above "aggressive TP" (Sustain Ability, 2006). The choice of the 2010-2012 period and the selection of Malaysian companies as the focus of the study can be justified by their relevance to the dynamics of tax management, economic recovery, and CG. Malaysia's economic recovery from the 2009 recession peaked in 2010, with a growth rate of 7.2%, driven by strong local demand and private-sector activities. Private investment also rebounded and the country experienced robust economic growth by the end of 2012. This period is suitable for investigating the relationship between TP, transparency, and governance practices in the Malaysian corporate landscape, as the country's economy was experiencing a period of economic resurgence and increased business activities, particularly in the private sector. This study's practical recommendations for business managers include the need for greater openness in TP practices. The results imply that interested parties' behavior may be impacted by a lack of knowledge of TP. Managers should consider the possible impact of TDs when reporting TP. The findings of this study also imply that CG may affect how interested parties view their tax plans. This might imply that business TDs or present CG performance are not sufficient to inform interested people about governance when evaluating directors' moral hazards in the TP. Thus, financial reporting authorities may need to introduce regulations that require directors to be more transparent.

However, if sufficient tax and CG information are disclosed to allow users to evaluate TP, then users may play a larger role in determining whether directors' TP decisions pose a moral hazard. Because customers consider tax expenditure information in equity prices, the publication of tax information is comparable to the disclosure of CG performance. The authorities must also wonder if the present disclosure rules, particularly those pertaining to tax costs, are sufficient to provide consumers with accurate tax information, particularly the TP. This study aims to remedy any shortcomings in the existing literature on the disclosure of tax and CG information and their impact on TP decisions. Although there is some discussion on the topic, there is a lack of clarity regarding the adequacy of current disclosure rules in providing consumers with accurate tax information, particularly related to TP. This study aimed to address this deficiency by investigating CG's mediating and moderating functions of CG in the relationship between TP and TD. Additionally, this research re-examines the direct influence of TP and CG on TP decisions (Mgamal et al., 2018; Mgamal, 2020). The ultimate goal of this study is to provide a more comprehensive understanding of how tax and CG information disclosure can affect TP decisions, an area currently underexplored in the literature. The significance of this study lies in its ability to address research gaps, enhance comprehension of the interconnections among tax, CG, and TP, and offer insights into the ways in which these variables impact disclosure and decision making, including their moderating, mediating, and direct effects.

This study finds a significant and positive mediating effect of board compensation on the relationship between TP and transfer pricing. This study also reveals a strong association between TP and the cost of goods sold (CG), indicating that TP plays a crucial role in a firm's financial growth. Additionally, specific CG mechanisms did not significantly impact the TD-TP relationship and did not support a direct link between CG and TD. The study's methodological contribution lies in its unique sample and focus on the Malaysian context, providing valuable insights into the literature. Overall, this study offers valuable insights into the complex relationships between TP, CG, and tax declarations in the Malaysian context, highlighting the importance of considering multiple factors and theories to understand these relationships. The study's framework is based on agency theory, the Scholes-Wolfson framework, and signaling theory. The remainder of this paper is organized as follows. Section 2 covers prior research as well as the moderating and mediating functions of CG in the link between TP and disclosure. The measurements and data are presented in Section 3. Section 4 presents the empirical findings, and Section 5 provides additional sensitivity analyses and test illustrations. Finally, Section 6 concludes the study.

2 LITERATURE REVIEW

TD may pressure firms to avoid fundamental strategies to decrease tax payments because they fear that disclosing lower payments may lead to undesirable customer responses (Mgamal, 2017). Highlighting financial statement information can also reduce market performance by revealing the information enclosed in financial statements (Lenter et al., 2003; Mgamal & Ku Ismail, 2015b). Disclosing firm tax information boosts compliance, making it easier for managers to provide low-quality disclosures and minimal tax reserves (Blouin et al., 2010). Slemrod (2005) advises that disclosure may exacerbate the race to the bottom of ETRs, a result, the author raises the issue of where stockholders' lower ETRs originate. This questions whether companies that reimburse the lowering of the ETR encourage or support an aggressive TP method that may not be in the best interests of other shareholders.

It is significant to note that TP can be assessed from a shareholder perspective using tax provision information because the tax provision replicates TP actions (AbdulWahab & Holland, 2012). The variance between tax and statutory tax expenses is important because it reflects the efficiency of TP deeds, which aim to provide long-term financial benefits (Schmidt, 2006). Shareholders could benefit from information on the effectiveness of TP activities, because the variance between tax expenses and statutory tax expenses displays the amount of tax saved by firms in the financial reporting year. Thus, it is valuable for firms to disclose this information in financial reports (AbdulWahab & Holland, 2012). Atwood and Reynolds (2008) suggested that shareholders might assess tax losses as a component of TP depending on how relevant information appears in financial statements (Atwood & Reynolds, 2008). Examining shareholders' perspectives on the disclosure of tax savings evaluations is crucial to sustain evaluations of the significance of TP tax savings. Income tax disclosure, particularly when combined with other data required by firms, provides essential information to users on how to extract it. Estate planning helps discover choices included in TP, such as the assessment of intra-family gifts of underground welfare in a narrowly held family business setting, restricted liability firms, and the utilization of giving methods (Wire, 2006).

Desai et al. (2007) find a robust negative relationship between tax rates and shareholder benefits. Countries with poor CG have a low sensitivity of tax revenues to tax increases. They explain the outcomes of low tax revenues and the rise in tax rates in countries with different CG levels. The results also show that high CG leads to an increase in tax revenues in response to an increase in tax rates. Additionally, taxes and CG can demonstrate

managerial opportunism from an economic perspective, indicating an awareness conflict. Managers may have the opportunity to act selfishly when making decisions related to TP and evading disclosing tax information (Mgammal et al., 2018). In this context, CG plays a significant role in clarifying the association between TP and TD activities (Desai & Dharmapala, 2008). Studies have generally discussed the interactions between taxation and CG (Hanlon & Heitzman, 2010; Bauer et al., 2019). CG can be a moderating factor in the TP process because it requires commitment from directors with access to firm information. (AbdulWahab, 2010). Because of asymmetric information, managers can receive subsidies for stockholder expenditure. This follows the outcomes of Erickson et al. (2004), who explored the indication of taxes paid on claimed fraudulent earnings. Scholars have found that managers may overstate tax revenues to reduce their probability of being discovered by outsiders.

Shareholder responses to TP activities can be used to examine the role of CG as a moderating and mediating element in TP. Management often hides shareholders' limited access to the organization's TP information for economic reasons and to avoid tax authorities' detection. Instead, managers increase their tax surplus to avoid exaggerating investors' profits. CG is crucial for understanding TP engagement when there are concerns about the difference in information asymmetry. The determinants of CG are copied from the shares of a firm owned by influential investors. However, Desai and Dharmapala (2009) view institutional investors as crucial CG indicators because they mitigate the impact of tax avoidance on company value, resulting in greater tax savings for CG businesses.

Recently, there has been a renewed focus on taxation and CG rules due to the collapse of WorldCom and Enron. This led to a reassessment of taxation rules and an increase in disclosure requests from both the public accounting and IRS sectors. Increasing accountability is necessary to adjust the governing environment, which may result in an increase in consideration of specific taxes and risk management (Lenter et al., 2003). Slemrod (2005) finds that tax managers are attentive to shifting regulations and CG settings, which can lead to innovation in the TP procedure and demonstrate sound TD stages. However, the direct connection between the CG and TD has rarely been studied. To increase confidence in our findings, we re-examined this relationship. Some early research focused on the interaction between CG and taxation (Sabli & Noor, 2012), revealing that corporations' tax information might increase tax compliance and deter explicitly damaging TP (Kornhauser, 2005). Authorities may also be assisted by the publication of business tax return information to increase the usefulness of financial markets, stop violent TP, and generally encourage tax compliance (Mgammal & Ku Ismail, 2015b). We reviewed the literature on the association of TP and CG with TD, but only a few studies were available. Some studies focus on the relationship between disclosure and TP or between disclosure and CG. Few studies examine the relationship between TP, CG, and disclosure. However, to our knowledge, no prior study has investigated CG's moderating and mediating effects of CG on the TP-TD association. Figure 1 indicates that CG mediates and moderates the association between TD and TP.

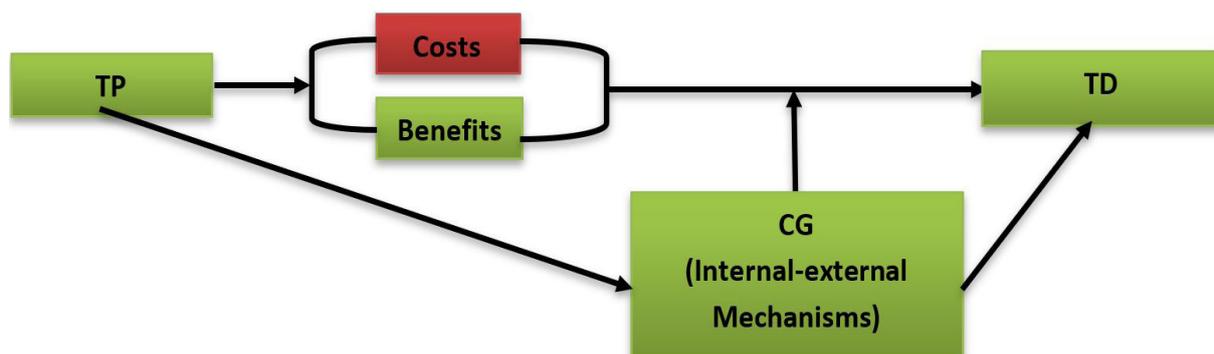


Figure 1. Summary of the direct, moderating and mediating relationship between TP, CG and TD

Any taxpayer involved in a 'listed transaction' or a 'reportable transaction' must file a disclosure statement as part of their tax returns. The statement must include details about the transaction, its tax benefits, and those that influenced the taxpayer's decision (Lipton, 2003). Wilson (2009) and Desai and Dharmapala (2009) find that good CG practices can improve a company's performance and development. A new framework for evaluating tax efficacy has been proposed that considers all parties, costs, taxes, and tax evasion. However, previous studies on this topic have not considered the governance factors. They find no unusual returns on assets or greater valuations in businesses that engage in tax evasion. Strong governance can reduce a corporation's market risk by combining market transparency and tax information disclosure, explaining ownership and management structures, and fostering interrelated interests between managers and the company as a whole. This can be achieved by ending

agency conflicts, which tends to reduce the likelihood of high-risk activities. Respectable governance also expands the value of Brazilian companies' atypical returns (Vello & Martinez, 2012). This is consistent with the earlier results of Desai and Dharmapala (2009) and Wilson (2009) for other markets. Respectable governance reduces the likelihood of high risk by combining openness with the interests of shareholders and the management. Additionally, it tends to lessen the likelihood that TP activities may result in legal threats (Rego & Wilson, 2012). A firm's CG and disclosure performance must be strong enough to align the interests of shareholders and directors and achieve effective TP. However, not every TP reduces risk, and the market is uncertain and does not benefit from TP attempts that are unclear or that serve directors' interests (Vello & Martinez, 2012). Hafkenschied (2010) advised that the amount of CG involvement should be considered when assessing corporate tax avoidance. Respectable governance reduces the impact of agency conflicts and market confusion on hidden tax liabilities, making it easier for investors to assess a company's long-term financial health.

There is a lack of research on's the moderating and mediating roles in the relationship between TP and TD. Most existing research focuses on various contexts and records conflicting views on how TP and CG relate to other aspects, such as firm value, or simply looks at the direct link (Mgammal, 2015). There is a strong connection between tax and CG literature, and research examining the association between incentive compensation and TP-TD has found that TP is linked to executive incentive compensation and CG culture. Moreover, internal mechanisms govern a firm's TD, creating an asymmetry issue in earlier debates (e.g. Desai & Dharmapala, 2006; Rego & Wilson, 2012). The board of directors provides a relatively inexpensive mechanism for monitoring and evaluating a government's decision-making in relation to the interplay between TPa and TD (Munter & Kren, 1995). The agency's difficulties can be solved through external CG processes that focus on controls and regulatory systems. Additionally, when the actual business value is less than the potential value, takeover may be viewed as an external CG mechanism. Consequently, competitors are encouraged to use the company's dominance (Denis & McConnell, 2003). Nevertheless, proceeds from an expansion program can be used to pay off debts (Jensen, 1986). Shareholders often view takeovers as desirable because of the temporary nature of cos (Abdul Wahab, 2010). Moreover, tax legislation, enforcement, and tax rates are the fundamental forces that affect corporations. Although taxes disturb the behavior and interests of many stakeholders, few studies have examined the effect of taxation on CG (Graham et al., 2014). For example, Berle and Means (1937, 1991) discussed control and ownership barriers. Among the diverse range of CG mechanisms worldwide, previous studies on CG mechanisms focus on creditors' supervision, board representation, voting-proxy and hostile takeovers, directors' boards, and management incentives and stakeholder safeguards (Jensen, 2010; Coram, 2011). These studies typically disregard the significant external mechanism of firm tax enforcement.

Global policies promoting corporate tax disclosure have shifted businesses' voluntary practices, reflecting a changing landscape of corporate transparency and its impact on global tax practices (Hoopes et al., 2023). In Italy et al. (2023) explored the influence of CG mechanisms on tax aggressiveness among companies listed on the Milan Stock Exchange. In Ghana et al. (2022) link transfer pricing to insurance company performance, highlighting the need for robust CG measures. Olayiwola and Okoro (2021) research in Nigeria underscore the significant impact of ownership structure and capital intensity on ROA, providing international insights for businesses and policymakers navigating the interplay among CG, TP, and firm performance.

3 RESEARCH HYPOTHESES

The article's framework is based on agency theory, the Scholes-Wolfson framework, and signaling theory. These theories help predict the relationship between variables (AbdulWahab, 2010; Mgammal, 2015). TD is a new area with limited research, making signaling theory the most applicable and suitable theory for understanding the setting. Signaling theory suggests that businesses send "signals" about their identity and value (Spence, 1973, p. 355). Organizations that share tax information vary in the amount of disclosure, ranging from no disclosure to complete disclosure (Premuroso, 2008). Signaling theory can also explain why directors want to spread asymmetrical information about a company's success by disclosing financial reports. If disclosures mimic information on a firm's unobservable characteristics, they function as "signals" (Morris, 1989). Therefore, the directors of higher-quality companies can differentiate themselves from those of lower-quality companies through disclosure. Directors can use TD to alert related parties who need tax information, thus enabling informed decisions. According to Akerlof (1970), businesses with sophisticated successes should use tax data to direct indicators to the market, consumers, and tax authorities. Tax information can be considered a signal (Mgammal & Ku Ismail, 2015a).

Schole-Wolfson's framework presents three important TP concepts: "all costs", "all taxes", and "all contracting parties" (Scholes et al., 2009). Managers must include the 'all costs' and 'all taxes' concepts into their

TP actions in order to increase after-tax returns and consider all parties to a contract. Companies are the most affected stakeholders, as TP operations may result in resource allocation (Abdul Wahab, 2010). The TP should account for the trade-off between benefits and TP costs, and all business expenditures that are not taxed, and all taxes that are not observed (Mgamal & Ku Ismail, 2015b). Sound CG principles, which can be achieved through CG mechanisms, can alter the unfavorable opinions of connected parties on the TP. Research on the functions of internal CG mechanisms such as management ownership and compensation incentives is substantial. TP activities may affect by CG, such as management ownership, compensation incentives, and disclosure behavior (e.g. Mgamal, 2015). According to agency theory, transparency helps to identify costs between agents and principals, as well as between businesses and creditors. Disclosure acts as a tool for monitoring managers' accomplishments. Agency theory is vital for monitoring managerial opportunism when ownership is separated from control (Friese et al., 2008). This study examined the relationship between transparency and trustworthiness in three sections. First, we compared TD and TP with a previous study by (Mgamal, 2015, 2020) to better understand TD issues. Second, we verified the association between TD and CG and compared it with previous studies by (Hasegawa et al., 2013) to establish the direct effect of CG on TD. Finally, we will investigate the relationship between TD, TP, and CG to understand CG's role as a moderator and mediator in the TD-TP relationship, as shown in Figure 2, and the theoretical framework is illustrated in Figure 3.

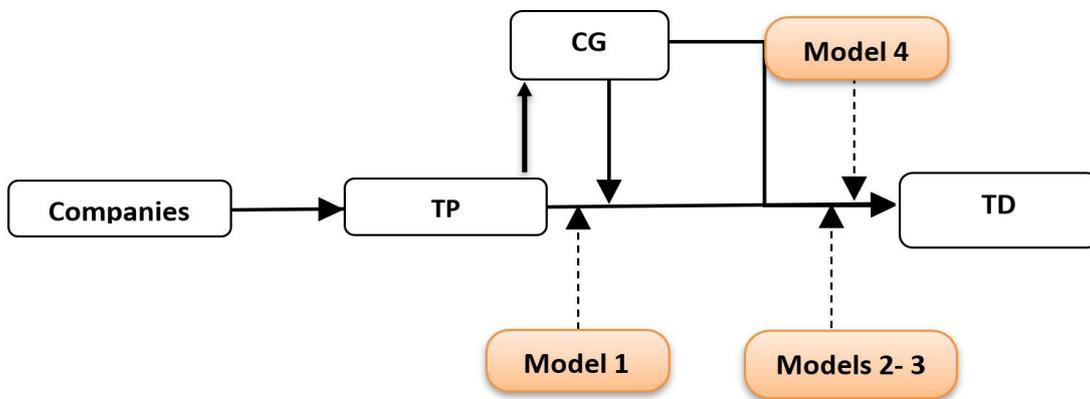


Figure 2. TP and CG: Influences on TD

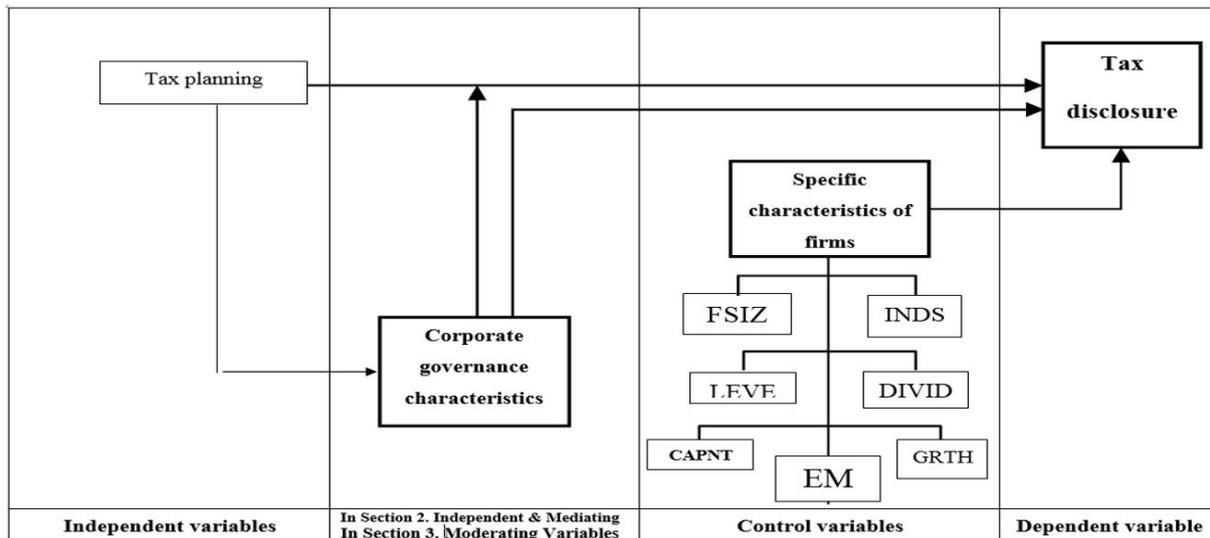


Figure 3. Study framework

The preceding talks have shown that high TD may have a number of advantageous impacts. Increased tax appeasement, for instance, ought to make tax shelter transactions more transparent (Lenter et al., 2003). TD may also encourage businesses to oppose effective TP-reduction tactics by highlighting the data included in financial statements, which may support improving the performance of financial markets. The sharing of corporate tax data also promotes increased compliance, making it easier for tax officials to identify corporate tax avoidance (Lenter et

al., 2003). Mgammal et al. (2018) used incentive compensation and managerial ownership as proxies to represent CG. They found that CG did not significantly influence TD. Moreover, Desai and Dharmapala (2008) establish that internal factors control how a corporation discloses taxes. If corporations' tax information is made public, it may reduce explicit tax evasion, increase tax compliance, or encourage businesses to be less inclined to establish business sites for TP within the confines of the law (Kornhauser, 2005; Hasegawa et al., 2013). The association between TP and TD can be best understood with CG mechanisms (Lenter et al., 2003). However, there is a dearth of literature on CG's moderating and mediating functions of CG in the TD-TP link. Moreover, the studies (Vello & Martinez, 2012; Christians, 2013; Al-Matari & Mgammal, 2020) focus on diverse contexts, conflicting viewpoints, and diverse outcomes about the relations between TP and CG with other aspects (such as shareholders' valuation, for instance). Accordingly, CG's moderating and mediating roles in the link between TD and TP will be noticed based on the research cited above. In the alternate form, we hypothesize that:

H₁: There is association between TP and TD.

H₂: There is association CG proxy and TD.

H₃: The association between TD and TP is moderated by CG proxy.

H₄: The association between TD and TP is mediated by CG proxy.

4 RESEARCH DESIGN

Our study used a panel dataset of listed firms in Malaysia from 2010 to 2012. We chose this sample because public access to information about companies' CG and financial performance is available and Malaysian listed companies are required to publish their annual reports publicly (MFCCG, 2000). The sample framework focuses on non-financial corporations, because financial organizations have separate laws that may affect the relationship between TP and TD. We selected a three-year period to determine whether there are variations in TD information from year to year, whether improved CG characteristics from year to year influence the TP-TD relationship, and to ensure accuracy in our analysis. We aimed to obtain more realistic results.

Given that 2010 was the year immediately after the 2009 recession ended, this era in Malaysia was unique because it marked the height of the market economic recovery. Activities related to tax management increased at this time. After the recession of 2009, the Malaysian economy enjoyed strong recovery in 2010, with an expansion of 7.2%. Strong local demand and predominantly private-sector activities were the major drivers of growth. Additionally, private investment made a significant headway to register a double-digit rise in 2010, with a dazzling extension of capital expenditure across all sectors following a steep decline in 2009 (Bank Negara, 2010). According to the Statistics Department, Malaysia's economy grew by 6.4% in the 4th Q of 2012, its most rapid growth in nine quarters, and subsequently to the 2Q of 2010, maintained by the construction and manufacturing industries (Statistics Department, 2013). We follow Mgammal et al. (2018, 2019, 2020) to determine the final sample, where the variables are defined in Appendix C. This study employs a 4-step hierarchical regression model. Hierarchical regression was considered the most appropriate analysis to study the influence of CG as a moderator and mediator. The data were organized hierarchically in a hierarchical regression analysis: the first-level components were nested within second-level components, second-level components were nested within third-level components, and third-level components were nested within fourth-level units (Baron & Kenny, 1986). The hierarchical regression method was applied to investigate the association between TP among Malaysian firms and TD while considering CG as a moderator and meditation. The estimated models used in this study integrated tax-related variables using a 4-step hierarchical regression model. The first level of the estimating models in this situation considers variables related to business-specific characteristics such as firm size, growth, management, and industry earnings.

Model (1)

$$TD_{it} = \beta_0 + \beta_1 EM_{it} + \beta_2 CAPNT_{it} + \beta_3 LEVE_{it} + \beta_4 DIVID_{it} + \beta_5 FSIZ_{it} + \beta_6 INDS_{it} + \beta_7 GRTH_{it} + \varepsilon_{it}$$

Model (2)

$$TD_{it} = \beta_0 + \beta_1 TP_{it} + \beta_2 EM_{it} + \beta_3 CAPNT_{it} + \beta_4 LEVE_{it} + \beta_5 DIVID_{it} + \beta_6 FSIZ_{it} + \beta_7 INDS_{10-1} + \beta_8 GRTH_{it} + \varepsilon_{it}$$

Model (3)

$$TD_{it} = \beta_0 + \beta_1 TP_{it} + \beta_2 BCOMS_{it} + \beta_3 MOWNR_{it} + \beta_4 TP_{it} BCOMS_{it} + \beta_5 TP_{it} MOWNR_{it} + \beta_6 EM_{it} + \beta_7 CAPN_{it} + \beta_8 LEVE_{it} + \beta_9 DIVID_{it} + \beta_{10} FSIZ_{it} + \beta_{11} INDS_{10-1} + \beta_{12} GRTH_{it} + \varepsilon_{it}$$

Model (4)

$$TD_{it} = \beta_0 + \beta_1 TP_{it} + \beta_2 BCOMS_{it} + \beta_3 MOWNR_{it} + \beta_6 EM_{it} + \beta_7 CAPN_{it} + \beta_8 LEVE_{it} + \beta_9 DIVID_{it} + \beta_{10} FSIZ_{it} + \beta_{11} INDS_{it} + \beta_{12} GRTH_{it} + \varepsilon_{it}$$

5 ANALYSIS

5.1 Descriptive statistics

Appendix A displays the descriptive statistics, including the means and standard deviations, highlighting the importance of each variable (dependent, independent, moderating, and mediating). TD ranged from 3.23% to 70.97%, with an average of 22.3%, indicating a generally low TD among the sample businesses. The average TP was 6.15%, which is below the norm reported for enterprises in the UK. CG components, MOWNR and BCOMS, had means of 11.89% and 5.46%, respectively, suggesting a modest to moderate effect on control. The mean FSIZ score was 5.6477 points. Earnings management (EM) averaged 0.86%, capital intensity (CAPNT) showed a mean of 39.34%, and GRTH had an average of 11.93%. LEVE ranged from 0% to 58.32%, with an average of 7.76%. The dividends yielded an average of 1.2095%. industry dummies indicate an average of 1.05% in HOTELS and 26.57% in TRADSERV.

5.2 Panel unit root test, multicollinearity and multivariate

According to the results in Appendix J, the Hadri LM test for TD and D.TD, H_0 : all panels are stationary and H_a : some panels contain unit roots. We accept the null hypothesis and reject the alternative hypothesis. This means that the TD data at level and in the first difference do not contain a unit root, and the TD data of both models are stationary. To identify instances of multicollinearity, several examinations were conducted prior to the multivariate analysis. IVs and DVs have a clear link and various diagnostic studies have been conducted, including correlation coefficients, matrix assessments, and Variance Inflation Factors (VIF) (Hair et al., 2013). The control variable INDS is measured as a company-specific characteristic variable across industrial sectors. The multicollinearity issue in STATA led to the removal of the real estate investment trust (REITS) sector. The correlation matrix in Appendix I shows no multicollinearity, as all variables have a correlation coefficient of less than 0.781. The correlation matrix evaluation demonstrates that multicollinearity does not pose a problem in any model. While this inquiry does not formally prove the existence of multicollinearity, the relationship coefficient test clarifies the association of only two variables (Hair et al., 2013). A VIF inflation factor < 10 indicates multicollinearity (Pallant, 2010; Hair et al., 2013). The VIF for the models that examine how the effects of CG and TP relate to one another are shown in Appendix D. In Appendix D, there is no discernible multicollinearity between the IVs for any of the VIF values. The mean VIF of all IVs in one regression was only 2.64, whereas the mean VIF values of the three models vary from 2.67 to 2.71. This indicates that there was no multicollinearity with respect to IVs. Multivariate analyses were performed after accounting for outliers and the results confirmed the absence of multicollinearity among the IVs (Xiao et al., 2005). Heteroscedasticity checks also revealed no fixed effect on the residuals (White, 1980). According to our hypotheses, the outcomes are obtained based on four sections: first, TP and TD; second, CG and TD; third, the moderating effect of CG on the TP-TD relation; and fourth, the mediating effect of CG on the TP-TD relation.

5.3 TD and TP

The results of the Model 1 analysis support Mgamal (2020) and show a significant positive correlation between TD and TP, indicating that total TD may be explained. The relationship between TP and TD is presented in Appendix B, with a Wald χ^2 value of 127.60 and R^2 of 17.60%, indicating a significant ($p < 0.0000$) relationship. The eight-variable control industry dummy measurements are significant. No significant negative associations were found for any control variables, and insignificant relationships with TD were found for firm-specific characteristic variables, such as earnings management, capital intensity, dividends, leverage, and growth.

5.4 TP, CG and TD (moderation and mediation)

Mediators and moderators represent two separate processes with their own temporal circumstances (Karazsia & Berlin, 2018). Although they may also merge, this integration is crucial for advancing theory testing and development. Moderated mediation occurs when a third variable influences the mediating effect and the size of the indirect influence differs from that of moderators or moderated mediation (Muller et al., 2005). Preacher et al. (2007) suggest explaining the restricted nature of mediation by approximating the restricted indirect influences on the size of indirect influences conditioned on the specific values of a moderating variable. The estimation model was used to examine the direct relationship between CG and TD as well as the moderating and mediating effects of CG on the relationship between TP and TD. The model results shown in Models 2, 3, and 4 in Appendix B indicate that CG and TP have a significant relationship. The direct connection between TD and CG (Model 2) was significant (p 0.000), with a chi² of 128.90 and an R² of 17.68%, as described in H₂, was negligible for both the proxies. These findings do not support Slemrod’s (2005) research, which found that higher levels of awareness among tax directors of changing laws and the establishment of a CG environment reflect adequate TD levels. However, these findings are consistent with those of Mgamal et al. (2018), who found minimal direct impacts of the CG proxy on TD, indicating that MOWNR and BCOMS are not major factors in the relationship between CG and TD.

Model 2 in Appendix B was re-estimated to examine the role of CG. The outcomes of Model 3 demonstrate how TP (TP × MOWNR and TP × BCOMS) and CG factors interact to affect the TD. That is, the model shows whether the strength of a firm's CG traits limits the link between TP and TD. In general, the model's Wald chi² value of 138.51 and R² of 18.26% indicate that it is significant (p 0.000). The results from Model 3 demonstrate that, even after including both interaction factors in the model, a strong link still exists between TP and TD. This suggests that CG mechanisms have a favorable effect on how interested parties perceive TP actions. However, the lack of a significant coefficient related to any of the interactive variables makes it difficult to recognize the nature of the association. However, the results are in line with the U.K. study, which failed to underpin the evidence on the importance of CP in moderating the association between TP and other factors that may, to some extent, have influenced the quality of firms' financial reporting (AbdulWahab & Holland, 2012).

The mediating variable transmitted the impact of independent factors on the dependent variable. Variances between the mediating variables, confounders, moderators, and covariates were determined. Statistical methods for evaluating mediation have been previously described (MacKinnon et al., 2007). The power and form of the mediated influences depend on other variables that are recognized as moderators and examined as interface influences (MacKinnon et al., 2007). To test the mediation influence, we followed Acock’s (2013) methodology and used SEM in the Stata statistics (Figure 4).

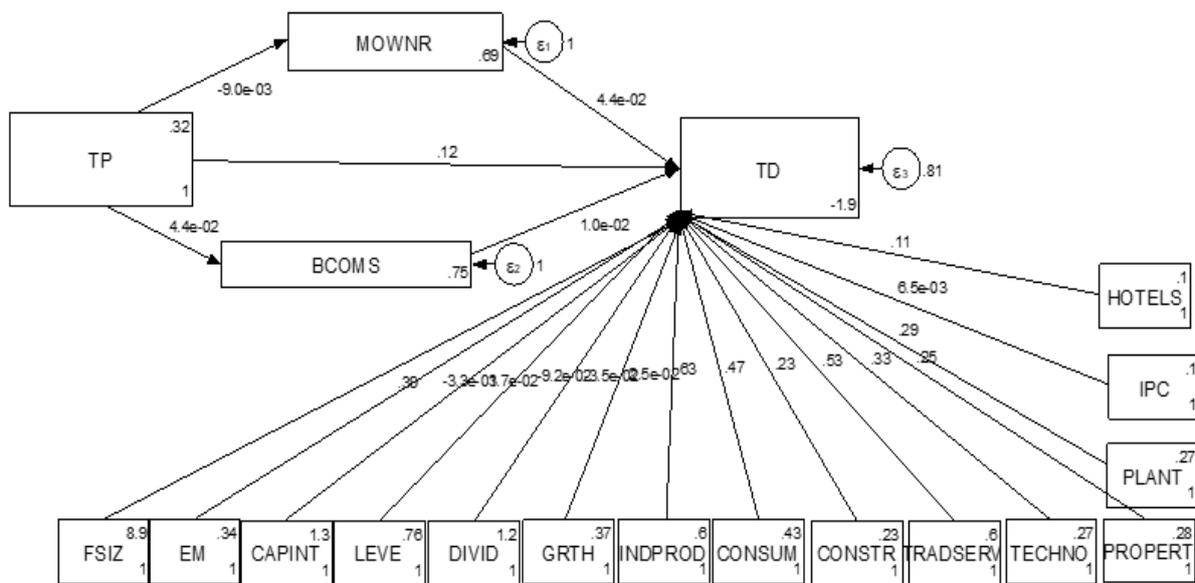


Figure 4. Mediating model

To explore the function of CG, the model in Model-3 of Appendix B was re-estimated. The outcomes in Model 4 express the mediating impacts of CG variables (MOWNR and BCOMS) on TD. Strictly speaking, it

illustrates whether the association between TP and TD is restricted by the power of a company's CG characteristics. Overall, the model is important ($p < 0.000$) with Wald χ^2 value of 620.89 and R^2 of 18.84%. We deduce from the results that we have an inconsistent mediation model. In this model, a minimum one-mediated impact has a dissimilar signal than other mediated or direct impacts in a model (MacKinnon et al., 2007).

6 RESULTS DISCUSSIONS

This study aimed to investigate the connection between the TP, CG, and TD. The Socholes-Wolfson framework, agency theory, and signaling theory served as the basis for the four hypotheses. By testing these predictions, this study produced findings that could help improve our understanding of corporate TP and disclosure. The ideal goal of the TP is to increase after-tax return. The likelihood of non-tax expenses limits the success of the TP operations. Furthermore, not every TP strategy results in a tax burden that is reduced to the lowest anticipated level (Scholes et al., 1992). The goal of TP operations is to use knowledge and abilities to reduce tax liabilities, while immediately securing an increase in post-tax returns. TP operations are successful when the cost of taxes and other consequences drive the decision-making rule for utilizing after-tax returns or increasing tax obligations (Scholes et al., 1992). Additionally, the goal can be quantified as maximizing the after-tax net existing price of a transaction (Jones & Rhoades-Catanach, 2005). However, TD, TP, and tax depreciation processes are expensive. Before beginning TP activity, take into account these expenses (Mgamal & Ku Ismail, 2015b). Early studies (Maydew & Shackelford, 2007; Mgamal, 2019) highlighted the significance of TP costs in a variety of different areas, including the decision of TP, TD, the role of auditors, and efficient TP.

The results indicate a positive correlation between the extent of TP and TD (H_1). This finding contradicts the conclusions of earlier empirical research by Lenter et al. (2003), who acknowledge that excellent TD may have positive benefits. As TP is not seen as a value-rising activity within Malaysian enterprises, TD may encourage businesses to oppose effective ways to lower TP taxes. This is also the case because, as Desai and Dharmapala (2009) stated, these activities are thought to be separate from the director's moral hazard, or because higher TP levels cannot simply be attained by taking more risks (Chen et al., 2010). According to Lenter et al. (2003), the release of corporate tax information increases compliance. This is so that the differences between tax and income may be settled more easily owing to the TD. However, the results indicate that the TP is linked to a higher company TD, and firms that make tax-aggressive attempts to address these transparency issues by expanding multiple TDs. The conclusions of H_1 may be supported by this discussion, and these reconciliations may assist tax authorities in identifying corporate tax avoidance. This is in line with the research conducted by Balakrishnan et al. (2018), who look at how managers use disclosure to reduce the costs of aggressive TP's disclosure.

In contrast, according to Gross (2011), firms engaged in further TP are associated with lower-quality disclosures and are less likely to nurture tax reserves after using FIN 48. However, Inger et al. (2018) suggest that tax authorities obtain information in TD, forcing directors to choose between withholding information from the tax authority and providing helpful information to stakeholders. For businesses with tax avoidance below the industry-year median, researchers discovered a strong correlation between tax footnote readability and tax avoidance. This makes sense for managers, who consider strong performance in the form of tax savings through open disclosure. Instead, they reveal a negative correlation between tax footnote readability and tax evasion for businesses with levels of tax evasion over the industry-year median, which is attributed to management hiding tax evasion from the tax department. Furthermore, this conclusion may be explained by taxpayers' lack of concern regarding police inquiries. As Tiley (2005) noted in the context of "Furniss v. Dawson", there is a risk of aggravating the tax authority when potential tax savings may be reduced by the authority's actions in opposing the TP. Therefore, the results support the hypothesis that there is a link between the extent of TD and TP-extent.

Regarding the specific characteristic company variables, the outcomes displayed optimistic and important relationships only between TD and three variables: FSIZ, CAPNT, and INDS. The optimistic and significant relationship between firm size and TD relies on research by Evers et al. (2014). Moreover, the results show that the coefficient value of the individual relationship between the FSIZ and the TD in the mediating model is (0.049825), and the value of Z has reached (8.48)*** at a confidence level (0.000)***, which is much higher than the models, which means that the analysis of the relationship with mediating variables is preferable. Capital intensity (CAPNT) and significant negative associations were found. In the mediating model, the individual association between the CAPNT and TD has a coefficient value of (-0.0737986), and the value of Z reached (-2.49) at a confidence level of (0.00)** according to the data. Research on observed disclosure and insignificant earnings management (EM) frequently regards these results as credible. These findings suggest that, when interested parties evaluate the degree to which corporations engage in earnings manipulation, they may not pay close attention. The claim that interested parties are aware of management's discretion in financial statements is not supported by this study

(Lev & Nissim, 2010). Furthermore, concerning the above associations, the outcomes demonstrate no important association between TD and leverage, dividends, or growth, since the latter is mostly connected with respectable performance and management. It is challenging for corporations with good forecasts to instruct financial experts on growth occasions (Kanto & Schadewitz, 1997). In contrast to signaling theory, high-growth corporations tend to disclose further information to highlight decent newscasts and tender sureness to stakeholders.

From the agency theory viewpoint, Jensen and Meckling (1976) stated that, to decrease monitoring costs, it is normal for extremely leveraged companies to disclose additional information in financial statements. Thus, the relationship between leverage and amount of transparency should be positive. While some studies found a significant correlation, for example, Schadewitz and Blevins (1998), others did not (e.g. Ahmed & Nicholls, 1994). We find that highly leveraged corporations publish more information in their financial reports than less leveraged organizations, taking into account agency theory claims. This runs counter to Ismail and Chandler's (2005) analysis of leverage's effect on Malaysia's degree of transparency. However, our results are consistent with those of Ahmed et al. (2014) and Evers et al. (1994).

The disclosure of firms' tax information can enhance compliance with CG guidelines and increase tax compliance (Lenter et al., 2003). The impact of CG on the relationship between TD (tax disutility) and TP (tax propensity) is contingent on the strength of firms' CG structures. Our research revealed that CG does not influence the relationship between TD and TP. In fact, the estimated TP coefficients for both the direct and moderating relationships were found to be higher when CG variables were added. The models' estimated TP variable coefficients with and without CG variables for direct and moderating relationships were not significantly different.

Our findings are in agreement with those of a study conducted in the U.K., which failed to find evidence for the significance of the moderating effect of CG on the relationship between factors that impact the quality of firms' value and TP (AbdulWahab & Holland, 2012). Additionally, our results indicate that in the presence of CG, concerned parties evaluated TP even more positively. However, the insignificant variation between the estimations does not provide evidence to support the dispute over the significance of CG mechanisms in TP evaluations (Desai & Dharmapala, 2009). The relevant parties believe that Malaysia offers superior CG repetition. Therefore, from the perspective of the parties involved, CG use was not a distinguishing aspect. As a result, the data do not support the hypotheses when examining how CG directly and moderately affects the relationship between the magnitude of TP activities and TD. The outcomes in Model 4 show that all models' previous significant associations between TP and TD still hold when both mediating variables are added, but with less significance (1.3)* than the other models. This suggests that CG mechanisms have a less positive impression of interested parties' assessment of TP activities, which is consistent with the other examined models. However, understanding the relationship between TP and TD is important to explain these findings. The results show a highly significant mediated effect of BCOMS on the TP-TD relationship with the z-statistic (3.93)***. This result underpins Desai and Dharmapala's (2009) indication of the robust impact of the TP when the CG mechanism is stronger. In contrast, there is a lack of a significant mediated effect coefficient related to the MOWNR variable, which makes it difficult to recognize the nature of the relationship, as unpredictable mediation is more communal in various mediator models where mediated impacts have dissimilar signals and may be particularly serious in assessing counterproductive results.

7 SENSITIVITY ANALYSIS

Pooled ordinary least squares (OLS) is commonly used for quick data analyses. It combines all data and uses OLS to run a regression. The outcomes of this study are based on random-effect approximation after passing the Breusch-Pagan LM test, which shows that the random-effects model is better than the pooled OLS model. Appendix E presents the results of evaluating the assumptions of the OLS regression estimate for all models of the relationships between TP, CG, and TD with interaction variables. The analysis describes the estimated model coefficients, related significance test results, and the R² of the models. Appendix E presents the results of testing the hypotheses on all connection models. Similar to a previous study by Mgamal (2020), Model 1 analysis confirmed that TD is statistically significant with TP, suggesting that total TD may be explained. According to Model 2's results using CG variables, there was a substantial TP-TD association. However, when CG factors are included, the estimated coefficients of TP moderating connections have a greater coefficient than their initial assessments, or when CG variables are not included. Moreover, the potential impact of tax-related factors, LEVE, CAPNT, and GRTH, were considered when examining the link between TP and TD. To assess the effect of TP-related parameters on the outcome of TP, the models were re-estimated without GRTH, LEVE, or CAPNT. The results showed that the TP-TD link remained consistent with core findings (Appendix F).

The researchers examined the relationship between Total Points (TP), Goal Orientation (CG), Time Pressure (TP), and Time Demand (TD) over a three-year period from 2010 to 2012. To do this, they analyzed

three-year regressions from 2010 to 2012. They found a positive relationship between TP and TD in 2010 and 2012 but not in 2011 (Appendix G). This technique is appropriate because it allows for a more detailed analysis of the relationship between the variables and is a useful tool for examining changes over time (Chen et al., 2010). The results support the argument made by Cavana et al. (2001) that Total Points is a more sensitive measure of changes that may occur between points in time. The initial results of the unimportant relationship between the MOWNR, BCOMS, and TD were appropriate during this era. TP, CG, and TD were associated with the interaction variables. The results indicate a negative and significant relationship between TP*MOWNR and TD in 2010 and a negative and significant relationship between TP*BCOMS and the TD interaction variable in 2011 (Appendix H).

8 REMARKS AND CONCLUSION

The purpose of this study was to explore the mediating and moderating roles of CG in the relationship between TP and TD, as well as to re-evaluate the direct effects of TP and CG on TP decisions. Our findings provide several insights. First, we discovered that TP actions have a considerable impact on a company's perspective, underscoring the crucial role TP plays in a firm's financial success. Specifically, a positive correlation between TP and TD is identified, emphasizing the importance of TP as a foundational element of corporate achievement. However, our research did not reveal any significant effects of CG mechanisms on the TP-TD connection, implying that the direct relationship between CG and tax declarations is not supported.

Regarding moderating factors, we found that CG had no effect on TD-TP correlation, and including CG variables in the models made TP coefficients more significant. However, the estimated coefficients for TP are not statistically significant in either direct or moderating relationships. Our findings suggest that the OLS effect approximation is qualitatively similar to the random effects estimation, indicating the robustness of our measurement model. However, we found a highly significant mediating effect of BCOMS on the TP-TD relationship. However, the mediated effect coefficient for MOWNR is insignificant, making it difficult to determine the nature of their relationship. Unpredictable mediation is common in various models, where mediated impacts have different signals and may lead to misleading results when assessing counterproductive effects. Additionally, our analysis revealed that TP-TD connections are unaffected by certain TP-related components. The panel regression results also exhibited time variation, emphasizing the evolving nature of these relationships.

Incorporating incentive payments and management ownership as indicators of CG behavior, we build on prior taxation (Desai & Dharmapala, 2009). While some CG factors are consistent across firms, others are not, thus making them relevant to the research context. We also contribute to the literature by suggesting data reduction techniques for selecting general CG mechanisms that signal a company's CG behavior. The theoretical framework of signaling theory underlines the relevance of this study in explaining these intricate relationships. Furthermore, selecting a CG measure in this approach results in estimation findings that regulate the frequency of CG mechanism functions, keeping in mind that CG mechanisms may replace each other (Ho & Wong, 2001). This study contributes to the literature on tax governance by suggesting data reduction techniques for choosing general CG mechanisms to signal businesses' CG behavior. Theoretically, this essay uncovers ideas by considering the contributions of CG and TP from the perspective of interested parties' TD evaluations in the Malaysian context. Signaling theory is the most appropriate and pertinent theory for explaining this situation in such cases. The signaling hypothesis also brought to light a heated debate on tax transparency. According to Scholes et al. (2009), the Scholes-Wolfson TP framework recommends three key rules for TP decisions: a multilateral approach (concern must be maintained for all constraining parties), cost, and tax. These requirements are important for achieving effective TP goals, that is, increasing returns after tax. Using the TP framework, this study adds new empirical findings and analyses to the theory, supporting the TP framework. The findings of this study show that interested parties are concerned about managers' TP practices. This provides further evidence-based recommendations on the significance of contractual parties on the TP, particularly in Malaysia. Consequently, the analysis and results enhance the comprehension and provide empirical support for this hypothesis.

We provide an empirical suggestion of manager-owners' conflicting proposals in interested parties' TP evaluations, particularly in the Malaysian context, which contributes to agency theory's thoughtfulness. This contradicting theory concerning managers' and owners' interests is supported by several TP studies. Additionally, as was already said, Malaysian company governance and tax laws are different from those in the United Kingdom and the United States. This may cause differences in the perceptions of the interested parties in different countries. As a result, it can be determined that this study broadens the acceptance of CG in the evaluation of TD and TP from the standpoint of Malaysian enterprises. While Malaysian statistics help clarify this study, caution should be exercised when extrapolating the results to other nations with diverse legal systems, economies, and cultural norms. The disparate rules and laws between nations, notably in terms of CG and taxes, may explain the inconsistent findings

of this study and previous studies in this field. Future studies should be conducted to confirm this discrepancy by comparing and analyzing problems from the perspective of various laws and regulations. In this study, the TP behavior was analyzed as a combination of evasion and avoidance. However, it is important to examine linked parties' TP assessments from the perspective of evasion rather than avoidance. Future research should assess the legal concepts of evasion and avoidance. To evaluate the comparative assessment consequences of new, sophisticated proxies for invisible tax evasion and avoidance, future research should focus on obtaining these proxies. Studies could be done to determine whether there is any "infection" influence on other companies with parallel characteristics, for example, within an exact industrial categorization, as this article does not investigate whether the results are restrictive upon the tax implications for peer firms.

Finally, this study focuses on Malaysia, distinguishing it from previous research centered on the US and the UK. Malaysia provides valuable insights into the TP, CG, and TD in different economic and regulatory environments. This study examines the relationship between tax transparency and TP, a connection that has not been explored extensively. This study also investigated the impact of CG mechanisms on this relationship. The findings offer practical insights into how CG practices can affect the perception and provide empirical evidence in the Malaysian context. This study contributes to the literature by presenting unique data from a distinct geographical and regulatory context, and underlines the significance of managerial TP practices in the eyes of stakeholders. This offers practical recommendations for TP in the Malaysian business landscape.

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APPENDIX

Appendix A. Descriptive statistics

N = 858	Mean	Min	Max	S. D.	Skewness	Kurtosis	Jarque-Bera	Probability
TD	0.223	0.032	0.710	0.082	1.016	6.055	481.148	0.000
TP	0.062	-0.762	1.145	0.189	1.232	8.899	1461.139	0.000
MOWNR	0.119	0.000	0.697	0.172	1.472	4.031	347.884	0.000
BCOMS	0.055	0.000	0.458	0.071	2.265	8.967	2006.431	0.000
FSIZ	5.648	3.756	7.816	0.637	0.447	3.386	33.912	0.000
EM	0.009	-0.099	0.105	0.026	-0.393	10.935	2272.860	0.000
CAPNT	0.393	0.000	1.340	0.296	0.867	3.506	116.742	0.000
GRTH	0.119	-0.998	1.581	0.322	1.842	6.777	995.264	0.000
LEVE	0.078	0.000	0.583	0.102	1.787	8.216	1429.251	0.000
DIVID	1.210	0.000	7.000	1.044	1.235	9.986	1962.864	0.000
INDS*	Firms	Percentage						
INDPROD	75	26.220%						
CONSUM	44	15.380%						
CONSTR	14	4.900%						
TRADSERV	76	26.570%						
TECHNO	20	6.990%						
REITS*	10	3.490%						
PROPERT	21	7.340%						
PLANT	20	6.990%						
IPC	3	1.050%						
HOTELS	3	1.050%						
TOTAL	286	100.00%						

Note: *REITS industry has been removed from all regressions by STATA. *Industry Dummy Variable.

Appendix B.
TP, CG and TD regressions

DV = TD	(Model 1)		(Model 2)		(Model 3)		(Model 4)		
	IV = Tax Planning		IV = Tax Planning and Corporate Governance		IV = TP and CG with Interactive Variables		IV = TP and CG with Interactive Variables Mediation		
	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic	P> z -statistic
TP	0.0464	(4.16)***	0.0466	(4.17)***	0.0684	(4.08)***	0.0211029	(1.3)*	(0.193)*
MOWNR	-	-	0.0156	(0.60)	0.0196	(0.74)	0.0118137	0.25	0.799
BCOMS	-	-	-0.0325	(-0.71)	-0.015	(-0.30)	0.0531572	(3.93)***	(0.000)***
FSIZ	0.0452	(5.37)***	0.0447	(4.81)***	0.0451	(4.84)***	0.049825	(8.48)***	(0.000)***
EM	0.0793	(1.35)	0.0796	(1.35)	0.0789	(1.34)	0.0063286	0.79	0.43
LEVE	-0.0231	(-0.79)	-0.0236	(-0.81)	-0.0262	(-0.90)	-0.0027238	-1.1	0.271
CAPNT	-0.00081	(-0.07)	0.0000538	(0.00)	-0.000534	(-0.04)	-0.0737986	(-2.49)**	(0.013)**
DIVID	-0.00195	(-1.12)	-0.00197	(-1.13)	-0.00192	(-1.12)	0.0046951	0.47	0.639
GRTH	-0.000927	(-0.18)	-0.000656	(-0.12)	0.000262	(0.05)	-0.0105577	-0.11	0.916
INDPROD	0.128	(7.77)***	0.128	(7.71)***	0.128	(7.88)***	0.1174429	(7.29)***	(0.000)***
CONSUM	0.116	(5.82)***	0.116	(5.80)***	0.115	(5.83)***	0.105581	(6.52)***	(0.000)***
CONSTR	0.0970	(4.47)***	0.0946	(4.27)***	0.0932	(4.24)***	0.0862612	(4.68)***	(0.000)***
TRADSERV	0.107	(7.25)***	0.107	(7.28)***	0.106	(7.43)***	0.098542	(6.5)***	(0.000)***
TECHNO	0.118	(5.62)***	0.119	(5.64)***	0.118	(5.75)***	0.1071659	(5.87)***	(0.000)***
PROPERT	0.0891	(6.00)***	0.0879	(5.80)***	0.0870	(5.8)***	0.0787852	(4.66)***	(0.000)***
PLANT	0.102	(4.62)***	0.100	(4.66)***	0.101	(4.74)***	0.0915068	(5.29)***	(0.000)***
IPC	0.0106	(0.42)	0.0110	(0.44)	0.00824	(0.34)	0.005262	0.18	0.854
HOTELS	0.0935	(4.77)***	0.0934	(4.80)***	0.0916	(4.91)***	0.0858323	(3.02)***	(0.003)***
TP_MOWNR	-	-	-	-	-0.0835	(-1.13)	-	-	-
TP_BCOMS	-	-	-	-	-0.142	(-1.27)	-	-	-
Cons	-0.135	(-2.76)***	-0.132	(-2.44)**	-0.136	(-2.50)**	-0.1563312	(-4.43)***	(0.000)***
R-sq	-	0.1760	-	0.1768	-	0.1826	-	0.1884013	

Appendix B.
TP, CG and TD regressions

DV = TD	(Model 1)		(Model 2)		(Model 3)		(Model 4)		
	IV = Tax Planning		IV = Tax Planning and Corporate Governance		IV = TP and CG with Interactive Variables		IV = TP and CG with Interactive Variables Mediation		
	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic	Coefficient	z-statistic	P> z -statistic
N	-	858	-	858	-	858	-	858	858
Wald chi ²	18#	127.60***	20#	128.90***	22#	138.51***	31#	620.89***	
Breusch-Pagan	16#	101.48***	18#	118.33***	20#	123.36***	-	-	-
Structural									-
MOWNR <-									
TP							-0.00822	-0.26	0.791
_cons							0.119368	19.31	0.000
Structural									
BCOMS<-									
TP							0.0166478	1.30	0.195
_cons							0.0535452	20.94	0.000
Variance									
e.MOWNR							0.0296518		
e.BCOMS							0.0050732		
e.TD							0.0054413		

Note: The Ecker-Huber-White adjusted z-statistics, represented by the information in brackets, have values of 5%, 2.5%, and 1%, respectively. The corresponding values of the amount of freedom are also provided.

This supplementary document includes a table summarizing the results of the articles analyzed in the study.

Appendix C.

Measurements & variables description

Variables	Description	Measurements
TD	Tax disclosure of ETR reconciling items	Assigning a score for TD data in view of the quantity of items disclosed in the organizations' annual reports (Mgammal, 2020).
TP	Tax planning	(STR-ETR)*PBT (AbdulWahab & Holland, 2012; Mgammal, 2020).
BCOMS	Board compensations	Percentage of shares held by directors (Baek et al., 2009; Cheng et al., 2011).
MOWNR	Managerial ownership	Florackis (2008) total salary paid to executive directors scaled by total assets.
FSIZ	Firm size	Log of total assets. Armstrong et al. (2012), and Holland (1998).
EM	Earnings management	“PBT – Cash flow from operating activities” (John et al., 2003).
CAPNT	Capital intensity	“Gross machinery and equipment/total assets” (Derashid & Zhang, 2003).
LEVE	Leverage of company	“Long term debt/total assets” (Berkman et al., 2002).
DIVID	Dividend payout percentage of firm	(Dividends per share/earnings per share)*100
GRTH	Growth of firm	The ratio change in annual net sales (Xu et al., 2012).
INDS	Industry dummy of firm	Coded “1 for each particular industry categorization, 0 otherwise” (Mills et al., 1998).

Appendix D.

MVIF test

Variables	Model 1	Model 2	Model 3
	TD and TP variable	CG mechanisms and TD	CG mechanisms, TD and TP
	VIF	VIF	VIF
INDPROD	7.79	7.91	7.94
TRADSERV	6.85	7.07	7.07
CONSUM	5.26	5.38	5.38
TECHNO	3.3	3.42	3.42
PROPERT	3.01	3.07	3.07
PLANT	3.02	3.06	3.07
CONSTR	2.39	2.49	2.49
FSIZ	1.54	2.21	2.21

Appendix D.
MVIF test

	Model 1	Model 2	Model 3
	TD and TP variable	CG mechanisms and TD	CG mechanisms, TD and TP
Variables	VIF	VIF	VIF
TP	1.03	-	2.27
MOWNR	-	1.23	1.32
BCOMS	-	1.73	1.93
LEVE	1.42	1.43	1.43
CAPNT	1.37	1.38	1.40
IPC	1.32	1.33	1.34
HOTELS	1.33	1.32	1.33
GRTH	1.05	1.05	1.05
DIVID	1.04	1.05	1.05
EM	1.02	1.03	1.03
TP_BCOMS	-	-	2.09
TP_MOWNR	-	-	1.86
N	858	858	858
Mean VIF	2.67	2.71	2.64

Appendix E.
TD with TP & CG with interaction variables, OLS regression

	Model 1		Model 3	
DV = TD		z-statistic	Coefficient	z-statistic
TP	0.0533	(3.81)***	0.0917	(5.01)***
MOWNR	-	-	0.0252	(1.34)
BCOMS	-	-	0.0402	(0.86)
FSIZ	0.0473	(7.78)***	0.0503	(7.04)***
EM	-0.00651	(-0.07)	-0.00257	(-0.03)
LEVE	-0.0711	(-2.30)**	-0.0739	(-2.39)**
CAPNT	0.00362	(0.38)	0.00193	(0.2)

Appendix E.

TD with TP & CG with interaction variables, OLS regression

		Model 1		Model 3	
DV = TD			z-statistic	Coefficient	z-statistic
DIVID	-0.00291		(-1.05)	-0.00303	(-1.09)
GRTH	0.00503		(0.67)	0.00644	(0.88)
INDPROD	0.120		(11.36)***	0.119	(11.37)***
CONSUM	0.109		(8.82)***	0.106	(8.77)***
CONSTR	0.0913		(6.81)***	0.0856	(6.23)***
TRADSERV	0.102		(11.15)***	0.0993	(11.09)***
TECHNO	0.111		(8.2)***	0.108	(8.19)***
PROPERT	0.0821		(8.25)***	0.0789	(7.88)***
PLANT	0.0945		(6.89)***	0.0933	(7.03)***
IPC	0.0072		(0.34)	0.000554	(0.03)
HOTELS	0.0853		(6.47)***	0.0834	(6.64)***
TP*MOWNR	-		-	-0.101	(-1.16)
TP*BCOMS	-		-	-0.314	(-2.14)**
Cons	-0.138		(-4.15)***	-0.158	(-4.0)***
N			858		858
R-sq			0.18		0.189
F-statistic	18 [#]		16.66***	22 [#]	15.32***

Notes: Information in brackets symbolizes cross-section clustered Eicker-White adjusted z-statistics. * 5%, ** 2.5%, *** 1% respectively.

degree of freedom.

Appendix F.

Potential impacts of TP-related-factors test

		Model 1		Model 3	
DV = TD		Coefficient	z-statistic	Coefficient	z-statistic
TP		0.0464	(4.15)***	0.0679	(4.05)***
MOWNR		-	-	0.0189	(0.71)
BCOMS		-	-	-0.0161	(-0.32)

Appendix F.

Potential impacts of TP-related-factors test

DV = TD	Model 1		Model 3	
	Coefficient	z-statistic	Coefficient	z-statistic
FSIZ	0.04340	(5.520)***	0.0430	(4.90)***
EM	0.07870	(1.350)	0.0784	(1.34)
DIVID	-0.001940	(-1.120)	-0.00188	(-1.09)
INDPROD	0.1300	(8.550)***	0.130	(8.60)***
CONSUM	0.1190	(6.210)***	0.118	(6.20)***
CONSTR	0.09840	(4.540)***	0.0951	(4.32)***
TRADSERV	0.1090	(7.540)***	0.108	(7.66)***
TECHNO	0.1200	(6.160)***	0.120	(6.26)***
PROPERT	0.09060	(6.060)***	0.0891	(5.86)***
PLANT	0.1040	(4.86)***	0.104	(5.00)***
IPC	0.01130	(0.450)	0.00932	(0.39)
HOTELS	0.09600	(5.170)***	0.0944	(5.35)***
TP_MOWNR	-	-	-0.0819	(-1.10)
TP_BCOMS	-	-	-0.137	(-1.25)
Cons	-0.1290	(-2.700)***	-0.128	(-2.41)**
N	-	858	-	858
Wald chi2	15#	120.820***	19#	131.29***

Notes: Numbers in brackets symbolize cross-section clustered Eicker-Huber-White adjusted z-statistics. * 5%, ** 2.5%, *** 1% respectively.

degree of freedom.

Appendix G.

TP and TD yearly regressions

DV = TD	2010	2011	2012	All
TP	0.0946 (3.56)***	0.0388 (1.18)	0.0417 (2.49)**	0.0533 (3.81)***
FSIZ	0.0469 (4.24)***	0.0515 (3.87)***	0.0447 (5.65)***	0.0473 (7.78)***

Appendix G.
TP and TD yearly regressions

DV = TD	2010	2011	2012	All
EM	0.00305 (0.02)	0.128 (0.63)	-0.167 (-0.98)	-0.00651 (-0.07)
LEVE	-0.0486 (-0.78)	-0.102 (-1.80)*	-0.0684 (-1.43)	-0.0711 (-2.30)**
CAPNT	0.000193 (0.01)	-0.00492 (-0.27)	0.012 (0.82)	0.00362 (0.38)
DIVID	-0.00498 (-1.07)	0.000646 (0.13)	-0.00385 (-0.82)	-0.00291 (-1.05)
GRTH	-0.00867 (-0.58)	-0.00238 (-0.19)	0.0244 (2.12)**	0.00503 (0.67)
INDPROD	0.119 (5.87)***	0.126 (7.09)***	0.117 (7.26)***	0.120 (11.36)***
CONSUM	0.105 (4.6)***	0.111 (4.99)***	0.110 (6.03)***	0.109 (8.82)***
CONSTR	0.0953 (3.93)***	0.0879 (3.62)***	0.0881 (3.83)***	0.0913 (6.81)***
TRADSERV	0.104 (5.87)***	0.102 (6.88)***	0.0999 (7.34)***	0.102 (11.15)***
TECHNO	0.116 (4.87)***	0.112 (4.37)***	0.103 (5.17)***	0.111 (8.2)***
PROPERT	0.0732 (4.05)***	0.0946 (5.7)***	0.0775 (4.91)***	0.0821 (8.25)***
PLANT	0.101 (4.1)***	0.0862 (3.7)***	0.100 (4.12)***	0.0945 (6.89)***
IPC	-0.0254 (-0.53)	0.035 1.83	0.00661 0.26	0.0072 (0.34)
HOTELS	0.0616 (2.62)**	0.0906 (4.42)***	0.102 (5.57)***	0.0853 (6.47)***

Appendix G.
TP and TD yearly regressions

DV = TD	2010	2011	2012	All
Cons	-0.133 (-2.24)**	-0.164 (-2.31)**	-0.132 (-2.92)***	-0.138 (-4.15)***
N	286	286	286	858
R-sq	0.212	0.166	0.202	0.18
adj. R-sq	0.165	0.117	0.154	0.163
F-statistic	6.07*** 16 [#]	7.77*** 16 [#]	8.44*** 16 [#]	16.66*** 18 [#]

Notes: Information in brackets symbolizes cross-section clustered Eicker-White adjusted z-statistics. * 5%, ** 2.5%, *** 1% respectively.

degree of freedom.

Appendix H.
CG and TD annual regressions

DV = TD	2010	2011	2012	All
TP	0.188 (4.81)***	0.0772 (2.26)**	0.0483 (2.06)**	0.0917 (5.01)***
MOWNR	0.0159 (0.46)	0.0527 (1.44)	0.015 (0.51)	0.0252 (1.34)
BCOMS	0.0905 (1.17)	0.0728 (0.8)	-0.0118 (-0.15)	0.0402 (0.86)
FSIZ	0.0506 (3.95)***	0.0598 (3.86)***	0.0446 (4.48)***	0.0503 (7.04)***
EM	0.0281 (0.21)	0.122 (0.61)	-0.164 (-0.96)	-0.00257 (-0.03)
LEVE	-0.0443 (-0.70)	-0.113 (-2.01)**	-0.069 (-1.43)	-0.0739 (-2.39)*
CAPNT	-0.00346 (-0.19)	-0.00656 (-0.35)	0.0124 (0.84)	0.00193 (0.2)

Appendix H.

CG and TD annual regressions

DV = TD	2010	2011	2012	All
DIVID	-0.00564 (-1.25)	0.000242 (0.05)	-0.00339 (-0.68)	-0.00303 (-1.09)
GRTH	-0.0056 (-0.38)	0.0013 (0.11)	0.0245 (2.12)**	0.00644 (0.88)
INDPROD	0.123 (6.71)***	0.118 (6.56)***	0.116 (6.85)***	0.119 (11.37)***
CONSUM	0.107 (5.12)***	0.102 (4.64)***	0.109 (5.76)***	0.106 (8.77)***
CONSTR	0.0930 (3.91)***	0.0753 (2.84)***	0.0854 (3.63)***	0.0856 (6.23)***
TRADSERV	0.105 (6.65)***	0.0934 (6.21)***	0.0990 (6.95)***	0.0993 (11.09)***
TECHNO	0.116 (5.16)***	0.105 (4.15)***	0.102 (4.83)***	0.108 (8.19)***
PROPERT	0.0700 (4.2)***	0.0870 (4.99)***	0.0764 (4.71)***	0.0789 (7.88)***
PLANT	0.108 (4.75)***	0.0798 (3.49)***	0.0989 (4.06)***	0.0933 (7.03)***
IPC	-0.0339 (-0.78)	0.0221 1.06	0.00614 0.23	0.000554 (0.03)
HOTELS	0.0604 (3.12)***	0.0873 (4.21)***	0.101 (5.59)***	0.0834 (6.64)***
TP_MOWNR	0.407 (-3.29)***	0.0431 (0.2)	0.0079 (0.07)	-0.101 (-1.16)
TP_BCOMS	-0.419 (-1.41)	-0.470 (-2.03)**	-0.121 (-0.56)	-0.314 (-2.14)**
Cons	-0.162 (-2.31)**	-0.213 (-2.55)**	-0.132 (-2.35)**	-0.158 (-4.00)***
N	286	286	286	858

Appendix H.

CG and TD annual regressions

DV = TD	2010	2011	2012	All
R-sq	0.245	0.186	0.203	0.189
adj. R-sq	0.188	0.124	0.143	0.167
F-statistic	6.42***	6.59***	6.81***	15.32***
	20 [#]	20 [#]	20 [#]	22 [#]

Notes: Information in brackets symbolizes cross-section clustered Eicker-White adjusted z-statistics. * 5%, ** 2.5%, *** 1% respectively.

degree of freedom.

Appendix I.

Correlation

N = 858	TD	TP	MOW	BCOMS	FSIZ	EM	LEVE	CAPNT	DIVID	GRTH
TD	1.0000									
TP	0.1213**	1.0000								
MOWNR	-0.0369	-0.0090								
BCOMS	-0.1143**	0.0442	0.3372***	1.0000						
FSIZ	0.2429***	-0.0460	-0.3309***	-0.5937***	1.0000					
EM	-0.0011	-0.0035	0.0024	0.0291	-0.0107	1.0000				
CAPNT	-0.0003	-0.0113	-0.1337	-0.2369***	0.4840***	-0.0273	1.0000			
LEVE	0.1223***	0.0627	-0.0518	0.1020	-0.1001	0.0309	-0.1022**	1.0000		
DIVID	0.0041	0.0030	0.0103	0.0835	0.0375	0.0216	-0.0114	-0.0270	1.0000	
GRTH	-0.0019	0.0148	-0.0070	0.0192	0.0067	-0.0346	0.0353	-0.0766	0.0793*	1.0000
INDPROD	0.1072**	0.1291***	-0.0254	0.0789	-0.1710	0.0189	-0.1380***	0.3899***	0.0248	-0.0789*
CONSUM	0.0336	-0.0296	0.0199	0.0016	-0.0371	0.0569	-0.1277***	0.0605	-0.0037	-0.0494
CONSTR	-0.0159	-0.0490	0.1192	-0.0523	0.0646	-0.0694	0.0722	-0.0798*	-0.0216	0.0075
TRADSER	0.0318	-0.0709	-0.0022	-0.0006	0.1388***	-0.0271	0.1425***	-0.1246***	0.0533	0.0081
TECHNO	-0.0613	0.0440	0.0945	0.2954***	-0.2981***	0.0661	-0.1172**	0.0828*	0.0266	0.0172
PROPERT	-0.0365	-0.0063	0.0021	-0.0913	0.0902	-0.0893*	0.0695	-0.2024***	-0.0614	0.1629***
PLANT	0.0237	-0.0811*	-0.0322	-0.1490	0.1480***	0.0015	-0.0262	-0.1079**	-0.0176	0.0010
IPC	-0.0599	0.0576	-0.0702	-0.0672	0.1660***	-0.0044	0.1314***	-0.0894*	-0.0756	0.0158
HOTELS	-0.0192	0.0372	-0.0710	-0.0595	-0.0189	-0.0307	-0.0329	-0.0615	-0.0490	-0.0383

Appendix I.
Correlation

N = 858	TD	TP	MOW	BCOMS	FSIZ	EM	LEVE	CAPNT	DIVID	GRTH		
TP_ MOWNR	0.0311	0.6193***	0.1961***	0.0964*	-0.1178**	0.0225	-0.0411	0.0288	0.0076	0.0283		
TP_ BCOMS	0.0032	0.6425***	0.0600	0.2932***	0.1679***	0.0155	-0.0750	-0.0221	0.0462	0.0575		
	INDPRO	CONSU	CONST	TRADSE	TECHNO	PROPE	PLANT	IPC	HOTELS	TP * MOWNR	TP * BCOMS	
INDPROD	1.0000											
CONSUM	-0.2542***	1.0000										
CONSTR	-0.1353***	-0.0967*	1.0000									
TRADSER	-0.3587***	-0.2565***	-0.1365***	1.0000								
TECHNO	-0.1635***	-0.1169**	-0.0622	-0.1650***	1.0000							
PROPERT	-0.1678***	-0.1200	-0.0639	-0.1693***	-0.0772*	1.0000						
PLANT	-0.1635***	-0.1169**	-0.0622	-0.1650***	-0.0752	-0.0772	1.0000					
IPC	-0.0614	-0.0439	-0.0234	-0.0619	-0.0282	-0.0290	-0.0282	1.0000				
HOTELS	-0.0614	-0.0439	-0.0234	-0.0619	-0.0282	-0.0290	-0.0282	-0.0106	1.0000			
TP_ MOWNR	0.1347***	-0.0351	-0.0599	-0.0348	0.0481	-0.0518	-0.0333	-0.0155	-0.0158	1.0000		
TP_ BCOMS	0.0638	-0.0162	-0.0497	-0.0344	0.0906	0.0061	-0.0473	-0.0147	-0.0137	0.5262***	1.0000	

Notes: Indicate significant * 5%, ** 2.5%, *** 1% respectively.

Appendix J.

Panel unit root test

Hadri LM test (Level)			
H_0 : All panels are stationary	Number of panels	= 286	
H_a : Some panels contain unit roots	Number of periods	= 3	
Time trend: Not included	Asymptotics: T, N \rightarrow Infinity sequentially		
Heteroskedasticity:	Not robust		
	z	Statistic	p-value
TD		-1.6706	0.9526
TP		-0.7095	0.7610
MOWNR		2.2086	0.0136
BCOMS		2.1431	0.0161
Hadri LM test (first deference level)			
H_0 : All panels are stationary	Number of panels	= 286	
H_a : Some panels contain unit roots	Number of periods	= 2	
Time trend: Not included	Asymptotics: T, N \rightarrow Infinity sequentially		
Heteroskedasticity:	Not robust		
	z	Statistic	p-value
D.TD		-4.7269	1.0000
D.TP		-4.7269	1.0000
D.MOWNR		-4.7269	1.0000
D.BCOMS		-4.7269	-4.7269