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Article

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ACCOUNTING, CORPORATE GOVERNANCE & BUSINESS ETHICS | RESEARCH ARTICLE

The role of country by country reporting on corporate tax avoidance: Does it effective for the tax haven?

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Abstract: The study evaluates the direct and moderating influence of Country-by-Country Reporting (CbCR) regulation in deterring corporate tax avoidance of multinational corporation listed in Indonesia Stock Exchange. The Indonesian CbCR stated in the regulations enacted by government of Indonesia namely Ministry of Finance Regulation no. 213/PMK/2016 (MoFR 213/PMK/2016) and Directorate General of Taxes Regulation no. 29/2017 (DGTR-29/2017). We use panel data in this study. Data is collected from the financial statements of 166 multinational companies listed in Indonesia Stock Exchange from 2010 to 2019, resulting in final sample of 1315 observations. Pooled OLS regression is used to test the hypotheses. The results show that the CbCR regulation issued by the government has significant negative impact on corporate tax avoidance measured by abnormal related party transaction. Thus, it effectively deterred multinational companies' corporate tax avoidance. Furthermore, we examine the influence of tax haven affiliation on corporate tax avoidance which provides evidence that companies with tax haven affiliation have higher level of corporate tax avoidance. However, the regulation is not significant in moderating the relationship between tax haven affiliation and corporate tax avoidance. The finding gives necessary information for policymakers

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PUBLIC INTEREST STATEMENT

This paper discusses the monitoring impact of regulation enacted by the government of Indonesia on Country-by-Country Reporting as the act upon BEPS Action Plan no. 13 as preventive action on phenomena of profit shifting by multinational corporations. It concentrates on the impact of the regulation as monitoring role and the tax haven as one of vehicle to avoid tax by profit shifting.

to formulate a specific policy for the companies that own tax haven affiliation in order to prevent profit shifting by practicing dysfunctional intra-company transaction. Furthermore, this study enriches the literature on the importance of government regulation as external monitoring tool that support tax avoidance theory.

Subjects: Economics; Corporate Finance; Business, Management and Accounting

Keywords: tax avoidance; government regulation; tax haven; transfer pricing; CbCR

1. Introduction

Base Erosion and Profit Shifting (BEPS) has become concern for government in all countries. BEPS is one of tax avoidance practices that is appplied by the multinational companies around the world. The Organization for Economic Cooperation and Development (OECD 2013) claims that BEPS inflicts cost for government, business, and individuals, especially when "shell companies strategy" is adopted. One of the significant issues entails the difference between where actual business operation takes place that can increase taxable income and where profits are reported (Payne & Raiborn, 2018). Based on the estimation of Crivelli et al. (2015) world revenue losses due to tax avoidance by corporation approximately $600 billion each year. In addition, Torslov et al. (2020) documented that in 2015 almost 40% of multinational profits are shifted by Multinational companies to their affiliates in tax haven country. Furthermore, they reveal that approximately one fifth of the US corporate tax base shifting their profit to low tax countries causing government revenue foregone.

Transfer prices can be adopted by the multinational companies as specific profit-shifting tool (Lenz, 2018). Cost and overhead allocation to estimate transfer prices for particular goods and services are higly subjective. This subjectivity enables companies to make discretion and resulting low tax payment by locating profit in low-tax or low-risk jurisdictions (Sikka & Willmott, 2010). Several studies have been conducted to give evidence on how transfer pricing scheme (Barker et al., 2017; Ming & Wong, 2010; Sikka & Willmott, 2010) and tax haven country affiliation (Cen et al., 2017; Fisher, 2014) influence corporate tax avoidance. Atwood and Lewellen (2019) stated that corporate tax avoidance is higher for tax haven firm. The utilization of tax haven by multinational companies to reduce their tax payments is undoubtful, by adopting transfer pricing, intra-company borrowing, and reallocation of ownership of patents and other sources of intangible income (Bucovetsky, 2014).

A significant factor to limit tax avoidance is government regulation. Government regulation is expected to be monitoring tool that control companies to behave in accordance with tax compliance. Jiménez-angueira (2018) stated that external monitoring is increased in accordance to the scandals of corporation. Prior research (e.g., Chang & Huang, 2017; Moore, 2012) found evidence that government regulation is important factor in companies tax compliance. Implementation of the new tax legislation General Anti Avoidance Rule (GAAR) in China was succesfully decreased tax avoidance, and become major event in corporate tax reform (Leung et al., 2019). OECD and G-20 countries launched 15 BEPS Action Plan to address tax avoidance issue by multinational companies. Several number of BEPS Action Plans are to arrange transfer pricing documentation to improve tax administration transparency (OECD, 2014), one of them is BEPS Action Plan no. 13. This administration transparency plan is appointed in the Indonesian government regulation on transfer pricing documentation MoFR 213/PMK/2016 and guidelines to CbCR in DGTR-29/2017. Nevertheless, only little is known how are the new regulation on CbCR can affect corporate tax avoidance behavior, especially on profit shifting behavior of Indonesian multinational companies.

Transfer pricing regulation is a new, inaugural and fecund area for research (Sebele-Mpofu et al., 2021). This study examines the corporate tax avoidance activities of Indonesian multinational companies to find out whether the implementation CbCR regulation MoFR 213/2016 and DGTR-29/

2017 applied for financial statement since the year 2016 triggered significant change on the corporate behavior in tax compliance. It is expected to fill the gap in existing literature on the effectiveness of government regulation on transfer pricing, specifically related to the OECD—G20 BEPS Action Plan No. 13 that is applied in Indonesia as regulation MoFR 213/2016 and DGTR-29/2017 on CbCR. Furthermore, we examined whether tax haven country affiliation is used as corporate tax avoidance tool for Indonesian multinational companies, and how the influence of the new regulations can moderate the association of tax haven country affiliation and corporate tax avoidance. Tax haven is a term for countries with low/zero tax rate and providing data-confidentiallity for companies that established in these territories (Atwood & Lewellen, 2019; Bucovetsky, 2014; Merle et al., 2019), thus become opportunities for companies to escape from paying high taxes.

The motivation of this study has several reasons. First, based on annual report data from the Directorate General of Taxation (DGT) of Indonesia, the number of cases of tax investigation are increasing year by year from 33,612 cases in the year of 2015 up to 159,616 cases in 2018, indicating the possibility of noncompliance. Second, more than 90% of Indonesia listed companies practicing various forms of related party transaction (Habib et al., 2017). Third, the issuance of the MoFR 213/2016 on 30 December 2016 was intended as monitoring role to overcome corporate tax avoidance in related party transaction by using transfer pricing for multinational companies. It introduced regulations regarding types of documents and/or additional information that must be prepared by taxpayers conducting transactions with parties that have special relations and procedures how to manage it in order to increase reliability and transparency. Anti-avoidance rules, such as MoFR 213/2016 and DGTR-29/2017, are predicted to have interaction with the decision of management to use transfer pricing and tax haven countries affiliation as vehicle to avoid tax. Based on analysis of 1315 observations, we document that the CbCR regulation issued by the government has significant direct effect on abnormal transfer pricing transcation performed by the companies. Meanwhile, this regulation tool fail to mitigate the correlation between tax haven affiliation and corporate tax avoidance by profit shifting through transfer pricing scheme.

This study gives contributions in several important ways. First, it documented the effectiveness of CbCR regulation in deterring corporate tax avoidance activities by multinational companies which employ transfer pricing and tax haven affiliation. Even though many studies have documented the effect of government regulation as monitoring tool to constraint tax avoidance activities (Chang & Huang, 2017; Jiménez-angueira, 2018; Leung et al., 2019; Moore & Xu, 2018), there is lack of evidence on whether stricter regulation such as spesific tax rules on CbCR has significant impact on corporate tax avoidance activities, especially on its moderating impact. Given the fact that corporate tax reforms are infrequent, this research took the opportunity to explore its effect on the multinational companies listed in Indonesia to enriches literature on the impact of tax reform. Second, the increasing cases of transfer pricing in Indonesia as reported by Directorate General of Taxes suggests the significant of conducting research on effectiveness of CbCR regulation on corporate tax avoidance. The findings of this study provide feedback to the government whether CbCR regulation could achieve its objective to mitigate corporate tax avoidance by transfer pricing, and whether supporting regulation needed to overcome misappropriate multinational tax management. Third, this study complement current studies on the incentives of corporate tax avoidance practices in developing country and how government attempt to combat it.

The remainder of this paper is organized as follows. The literature review and hypotheses development are discussed in section 2. Section 3 addresses the research method used in this study. Section 4 discusses the result and empirical finding. Section 5 concludes the paper and provides directions for future research.

2. Literature review and hypotheses development

2.1. Tax avoidance theory

Tax research has been carried out for many years, but the theoretical model of individual tax avoidance was formulated by Allingham and Sandmo (1972). Since then the model that they formulated known as Taxpayer as Gambler has become the basis of the theory of tax avoidance. Allingham and Sandmo (1972) who analyzed individual decisions in making tax avoidance decisions said that someone would continue to avoid taxation until he was detected doing so.

The factors that encourage tax avoidance are one of the human traits that also have immoral tendencies. Allingham and Sandmo (1972) say that taxpayers are immoral, and show in their model the effort to avoid taxation in making decision-making quantities and how to use utility maximization options. Crocker and Slemrod (2005) state that tax avoidance benefits taxpayers but is at risk of being caught. Therefore, optimal tax avoidance from the side of taxpayers will depend on the possibility of being caught and imposing penalties, penalty size, and the level of risk aversion from taxpayers. Crocker and Slemrod (2005)'s analysis of thirty years of data shows that tax avoidance will continue as long as possible until caught.

Tax Avoidance Theory is used as underlie theory of this study. The theory implied that the tendency of practicing tax avoidance will extend for all time until the risk detection become higher. Companies will keep on doing to minimize their tax obligation with many ways. Multinational companies could practice their tax dysfunctional behavior by employing transfer pricing scheme and built their affiliation in tax haven countries. Tax haven affiliates become one of the facilities could provide companies to continue their tax avoidance behavior. The facilities given by the characteristics of the tax haven extricate companies from paying high tax and also data confidentiality become magnificent things to transfer wealth and avoid tax.

Tax Avoidance Theory of Allingham and Sandmo (1972) asserted that the propensity of corporate tax avoidance will be maintained until they are detected. The government regulation is necessary to prevent such a dysfunctional behavior in taxation. This study examines whether the CbCR regulation issued by the government of Indonesia could deter corporate tax avoidance by increasing the possibility of detection and caught, as implied in Tax Avoidance Theory.

2.2. Government of Indonesia country by country reporting

The idea of overcoming the issue of BEPS was raised by the OECD and countries which later joined the G-20. G-20 is an international forum founded in 1999 and aims to discuss policy issues relating to the promotion of international financial stability. The BEPS motivated government in G20 and OECD to establish a consensus stipulated in 15 BEPS Action Plan. G-20 in November 2012 and the leaders of G-8 agreement in Northern Ireland in 2013 led to BEPS Action Plans publication that was established by OECD council in May 2013 (Jones & Temouri, 2016). These 15 Action Plan are intentionally to give guidance on the global tax reform that have significant influence on firm tax strategy.

The government of Indonesia adopted several BEPS Action Plan, one of them is BEPS Action Plan No. 13 Guidance on Transfer Pricing Documentation and Country-by-country Reporting. As the act upon the BEPS Action Plan no. 13, the Indonesian government issued government regulation MOFR-213/2016 regarding Types of Documents and/or Additional Information that Must be kept by Taxpayers Conducting Transactions with Parties that Have Special Relations and Procedures How to manage it.

Consistent with BEPS Action Plan no. 13, Indonesian government adopted three-tiered approach regarding transfer pricing documentation, namely master file, local file, and country by country reporting. The three documents should be prepared by the multinational companies to report their global transaction within their related party. To complement the CbCR, the government of

Indonesia enacted a policy that explain the technical guidance on CbCR namely Directorate General of Taxes Regulation DGTR-29/2017. Based on BEPS Action 13, the MOFR-213/2016 and DGTR-29/2017, multinational corporations are mandated to submit annual CbCR to tax authorities through Ultimate Parent Entities (UPEs). Those two regulations are applied since the year of 2016 financial statement. CbCR as required by BEPS Action13, MoFR-213/2016 and DGTR-29/2017 are intended for private reporting to tax authorities.

2.3. Government regulation and corporate tax avoidance

BEPS issue and the scandals of corporation motivate government to enhance monitoring by issuing regulation (Jiménez-angueira, 2018). Studies by Chang and Huang (2017), Jiménez-angueira (2018), Leung et al. (2019), and Moore (2012) documented that government regulation is significant factor in restricting companies dysfunctional behaviour and force companies to be more aware in tax compliance.

.Moreover, in the study by Sikka & Willmott, 2010) suggested the essential of filing tax return in his proposed public policy for transparency objective in minimizing tax avoidance. It can be inferred that documentation is significant aspect to be considered in overcoming tax avoidance.

The importance of transfer pricing documentation rule to enhance transparency was also considered by OECD in the BEPS Action Plan. These rules required multinational companies to provide government with global economic operation according to particular format (OECD, 2014). Recent study by Leung et al. (2019)showed that General Anti Avoidance Rule (GAAR) significantly reduce corporate tax avoidance in China. As suggested by Dharmapala & Riedel (2013) to test how specific legal friction such as transfer pricing regulation can restrain tax avoidance, we argue that MoFR 213/2016 can mitigate corporate tax avoidance conducted by multinational companies. This regulation enhance transparency to all governments where the transaction located regarding to their related party transaction.

Recent studies specifically examined the impact of CbCR regulation on the tax behavior of multinational companies. Joshi (2020) documented an increase in effective tax rates (ETR) approximately 1–2% among companies affected with the CbCR. She also found evidence of a reduction in tax-motivated income shifting, consistent with the increase of ETR. Thus, private country-level disclosures of CbCR could prevent overall tax avoidance. Overesch and Wolff (2021) compared the tax expense reported in financial statement of European Banks. Their result reveals significant impact of CbCR on the worldwide tax expense for banks that is affected with the CbCR regulation. Moreover, information provided by the CbCR might become a mean for investors to monitor managers' tax planning activities, and thus tax avoidance activities more transparent. The information asymmetry between managers and shareholders might become lessen by the enforcement bear in CbCR (Dutt et al., 2019).

For many years the issues of corporate tax avoidance have been regarded as big problems. Based on the analysis of Allingham and Sandmo (1972) that companies tend to avoid income tax rather than commodity tax. They emphasized that tax avoidance will decrease when the probability of detection increases. Jiménez-angueira (2018) also documented that external monitoring has significant impact to minimize tax avoidance behaviour.

Multinational corporate tax avoidance in Indonesia has become one of significant problems to be resolved. This dysfunctional phenomenon is supposed to become lower by the enhance of monitoring of the government that could increase risk detection, caught and penalties. Transfer pricing scheme and tax haven country affiliates become vehicle for multinational companies to shift profit for the purpose of avoiding high tax payment. The government of Indonesia enacted the CbCR regulation to deter the opportunities of employing corporate tax avoidance by transfer pricing scheme. The mandatory disclosure for intra-company affiliation transaction in all

jurisdiction should be provided by multinational companies, thus will increase the risk of detection of corporate tax avoidance performed by the companies.This leads to our hypotheses as follows.

H1. CbCR regulation negatively influence corporate tax avoidance in multinational companies

2.4. Tax haven and corporate tax avoidance

Richardson et al. (2013) argued that multinationality of firm affiliation enhanced the opportunity for firm to conduct aggressive transfer pricing in performing corporate tax avoidance. RPT might resulted in the shareholder expropriation, low earnings quality, and reduced firm value, it indicates that RPT were performed for opportunistic objective (El-helaly, 2018), such as corporate tax avoidance. Barker et al. (2017) argued that high-tax rate in U.S. appoint U.S. multinational corporations to employ transfer pricing scheme as vehicle in shifting income to low/no tax jurisdictions. This issue became important in multinational taxation problem because many multinational companies gain advantage from the location of the company in its association which has a different tax rate. These different locations make companies be able to take advantage of loopholes to do tax avoidance by doing profit shifting from countries with high tax rates to low tax rates through transfer pricing transactions between companies in an affiliation (West, 2017).

Hanlon & Slemrod (2009) view the tax havens as "parasitic" because they "sell protection from national taxation". They argue that the tax havens do not lever production by lowering taxes. Nevertheless, this create "tax haven firms" that produce output in non-tax haven countries, then take concealment of taxable income from tax havens. Tax havens become one of the significant tools of international tax avoidance (Bucovetsky, 2014). Companies with tax haven affiliation have additional opportunities for practicing corporate tax avoidance that may not be provided for other multinational firms (Atwood & Lewellen, 2019). Multinational companies could significantly decrease their overall tax burden by shifting profit from operations in other country to their affiliation in tax haven countries due to low or no income tax enacted in the tax haven countries for foreign companies (Desai & Dharmapala, 2008). Multinational companies with tax haven affiliation have more opportunity to perform profit shifting through transfer pricing. Based on the discussion above, the following hypothesis is tested.

H2. Tax haven affiliation significantly increase corporate tax avoidance practices in multinational corporation

2.5. Moderating effect of CBCR government regulation

The enhancement of detection probability can decrease tax avoidance (Allingham & Sandmo, 1972). Chang and Huang (2017)). Leung et al. (2019) gave evidence that GAAR significantly moderate tax avoidance practice. The stricter tax regulation can increase the level of monitoring by the government and escalate probability of being detected. Desai et al. (2007) documented a significant rise of the Russia firms' tax payment and decline of related transaction following the tax enforcement they perceived after the initial election of Putin. Atwood et al. (2012); Jones et al. (2018) found the stronger home country enforcement the lower corporate tax avoidance practices, indicating significant negative correlation.

The existence of CbCR can alter multinational companies tax behavior. Multinational companies tax behavior can be changed by the different benefits from tax planning that is received by the multinational companies after CbCR. Country-level reporting which provides important information to tax authorities related to multinational transaction and cash taxes paid, increase disclosure and enforcement to companies. This information sharing between relevant tax authorities was limited before the implementation of BEPS Action Plan no 13.

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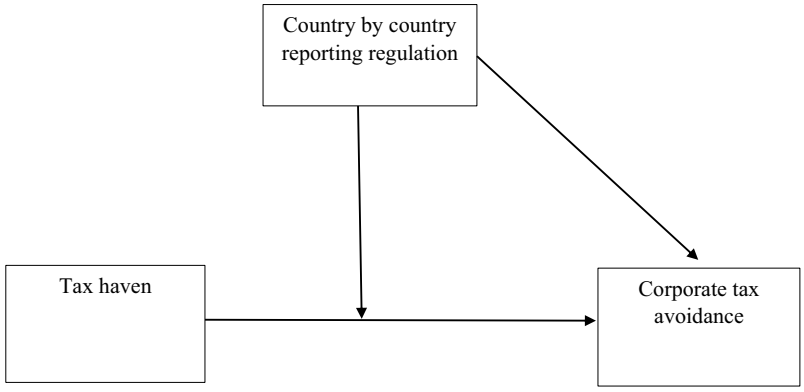
Figure 1. Conceptual framework.



The BEPS Action Plan no. 13 is purposively to deter multinational corporate tax avoidance, including the opportunity to shift profit to tax haven. Tax haven provides high level of information exchange limitation that could be used by government to raise tax revenue both at home country and foreign and also related to extremely low (often zero) rates of tax on corporate profits for non-resident companies (Jones et al., 2018). The existence of countries with tax havens label highly contribute a location for wealth to be fraudulently siphoned away from states and concealed, to launder money and reserve wealth (Morgan, 2016), thus bring big advantage for companies to practice tax avoidance.

The CbCR increases the likelihood of leak and publish information they provide to the authority, thus it also enhance the perceived cost of shifting income to low-tax countries (Joshi, 2020). The multinational banks affected with CbCR response significantly due to the transparency requirement in CbCR to report activities in tax haven that were not disclosed previously (Overesch & Wolff, 2021). The government regulation MoFR 213/2016 and DGTR-29/2017 are expected to restrict companies employing tax haven affiliation to perform transfer pricing scheme as corporate tax avoidance means. The next hypothesis is performed to confirm the moderating effect of the CbCR.

H3. CbCR regulation moderates the association of tax haven affiliation and corporate tax avoidance

2.6. Conceptual framework

Figure 1 shows the conceptual framework that will be examined in this study. The direct effect of CbCR regulation is tested to analize the effectiveness of its implementation on mitigating corporate tax avoidance. Corporate tax avoidance for multinational companies usually implemented by utilizing tax haven affiliation to shift profit, thus tax haven also tested in this study. Furthermore, we examine the moderating influence of CbCR regulation on the association of tax haven and corporate tax avoidance. Tax haven provide secrecy of information that might be able to influence the effectiveness of transfer pricing regulation issued by the government.

3. Research design

3.1. Sample selection and data source

Our sample are non-financial multinational companies year 2010–2019. Year 2010 is used as the beginning time frame data according to the last changes of corporate tax revenue for the fiscal year of 2010. Based on the regulation Undang-Undang Republik Indonesia No. 36 Tahun 2008, at article 17 (2a) states that from the fiscal year of 2010, the tax rate for corporation is 25%. This rate still applicable until the fiscal year of 2019. We restricted on non financial multinational companies because multinational companies have possibility to shift profit from high tax rate

countries to low tax rate countries. Multinational companies in this research are defined as firm which has foreign affiliation, whether it is parent or subsidiary. Financial companies are excluded in this study because they have specific regulation for their operation. Data of the variables were hand-collected from annual report of the companies that is published in IDX or companies website. We start our sample with a total of 1700 firm year observations. After eliminating observations because of incomplete data, we derive a final sample of 1315 firm year observations.

3.2. Dependent variable

Dependent variable of this study is corporate tax avoidance. We use three measurement to capture corporate tax avoidance practice in companies, which are effective tax rate (ETR), book tax difference (BTD) and abnormal transfer pricing (Abnormal_RPT) as measurement for corporate tax avoidance.

a. Effective Tax Ratio (ETR) is defined as the ratio of total (i.e., current and deferred) income tax expenses to pretax book income. In the US context it is recognized as GAAP ETR. ETR reveal the aggregate proportion of the accounting income payable as taxes. Accordingly, it measures corporate tax avoidance relative to accounting earnings (Salihu et al., 2013).
b. BTD is measured based on the raw book–tax gap, computed as pre-tax accounting income less taxable income scaled by total assets. Companies that are relatively able at avoiding taxes are not always able to sustain large differences between their accounting and taxable income (Frank et al., 2009; Rego & Wilson, 2012).
c. Ming and Wong (2010) and Habib et al. (2017) argue that related party transaction (RPT) may comprise normal business, to get the abnormal RPTs, those transactions occurred from normal part of business should be removed (Habib et al., 2017). Dysfunctional behavior (propping) through related party sales occurs when the abnormal related party sales values are greater than zero (Ming & Wong, 2010). In this study, we measured abnormal RPT as the residual from:

$$RPT\_operating_{it} = \alpha_0 + \alpha_1 Size_{it} + \alpha_2 Leverage_{it} + \alpha_3 Growth_{it} + \varepsilon \quad (1)$$

Where RPT_operating is measured by the sum of RPT sales and purchase divided by total asset, size is natural log of total asset, leverage is total debt divided by total assets, and growth is market value of equity divided by book value of equity.

3.3. Independent and moderating variables

3.3.1. Tax haven affiliation—independent variables

Following Atwood and Lewellen (2019) who adopted from OECD, we categorized these countries as tax haven countries: Antigua, Bahamas, Bermuda, British Virgin Islands, Cayman Islands, Cyprus, Gibraltar, Guernsey, Ireland, Isle of Man, Jersey, Liberia, Luxembourg, Malta, Marshall Isl., Mauritius, Netherland Ant., Panama, Singapore, Switzerland. Tax haven country variable is dummy variable, it is coded 1 if one of the firm affiliation is in one of tax haven country, 0 otherwise.

Independent and moderating variables

The independent and also the moderating variable is government regulation on transfer pricing, which are the effectiveness of MoFR 213/2016 and DGTR-29/2017 as the act upon BEPS Action Plan 13 which require the CbCR. The measurement of this variable using dummy, 1 in the period after the regulation issued, and 0 otherwise.

3.4. Control variables

This research uses six control variables which are size, profitability, research and development, growth, intangible, and capital intensity of the company. Size influences how company implement

their tax planning strategy (Cen et al., 2017; Mcclure et al., 2018; Wahab et al., 2017). Prior studies documented firm' operating performance effects a firm's behaviour in avoiding taxes (Cen et al., 2017; Chan et al., 2013; Rego & Wilson, 2012). This study uses Return on Asset to capture profitability of the firm. R&D expenditure should be included in the regression as control variables since the R&D expenditure is tax deductible (Taylor & Richardson, 2013). Following Taylor and Richardson (2013), R&D is calculated as R&D expense divided by total assets.

Company growth measured by market-to-book value ratio (Gaaya et al., 2017; Gallemore & Labro, 2015). This ratio is used to control growth opportunities of companies that influence their tax behavior. Richardson et al. (2015) documented that growth opportunities significantly influence corporate tax avoidance levels in positive direction. This variable is also used in the study of Gaaya et al. (2017); Gallemore and Labro (2015). The difference rules of financial and tax accounting for goodwill and other intangible assets should be control (Jiménez-angueira, 2018; Kovermann & Wendt, 2019; Lismont et al., 2018). Thus, this study also applies intangible asset variable as one of control variables. As in previous studies intangible assets measured by total intangible assets divided by total assets of the company (Kovermann & Wendt, 2019; Lismont et al., 2018). Wegener and Labelle (2017) argue that capital intensity has potential effect on tax aggressiveness because of the probability the companies having more tax write-offs. Capital intensity measured as property, plants and machinery to total assets as employed in the research of Annuar et al. (2014), Richardson et al. (2013), and Taylor and Richardson (2012).

The equation model for each hypothesis are as follows:

Hypothesis 1

$$CTA_{it} = \alpha_0 + \beta_1 CbCR_{it} + \beta_2 LnSize_{it} + \beta_3 ROA_{it} + \beta_4 Growth_{it} + \beta_5 RD_{it} + \beta_6 Intangible_{it} + \beta_7 Cap\_Intens_{it} + \varepsilon_{it} \quad (2)$$

Hypothesis 2

$$CTA_{it} = \alpha_0 + \beta_1 TH_{it} + \beta_2 LnSize_{it} + \beta_3 ROA_{it} + \beta_4 Growth_{it} + \beta_5 RD_{it} + \beta_6 Intangible_{it} + \beta_7 Cap\_Intens_{it} + \varepsilon_{it} \quad (3)$$

Hypothesis 3

$$CTA_{it} = \alpha_0 + \beta_1 CbCR_{it} + \beta_2 TH_{it} + \beta_3 CbCR * TH_{it} + \beta_4 LnSize_{it} + \beta_5 ROA_{it} + \beta_6 Growth_{it} + \beta_7 RD_{it} + \beta_8 Intangible_{it} + \beta_9 Cap\_Intens_{it} + \varepsilon_{it} \quad (4)$$

Where:

CTA_{it} = Corporate tax avoidance of the i-th firm in the period t

CbCR = Country by Country Reporting regulation period

TH = Tax haven affiliated company

LnSize = Size

ROA = Profitability

Growth = Growth

RD = Research and Development

Intangible = Intangible asset

Table 1. Sample selection

	Companies
Companies listed at Indonesia Stock Exchange in 2019	668
Financial Companies listed at Indonesia Stock Exchange in 2019	(90)
Nonfinancial companies listed at Indonesia Stock Exchange in 2019	578
Non-Multinational Companies, new listed companies, and delisting companies during 2010–2019	(408)
Non-Financial Multinational Companies listed during 2010–2019	170
Incomplete Financial Statement DataFinal sample	(4)
	166
Firm year observation 166 companies x 10 years	1660 observations
Incomplete data	(345 observations)
Final firm year observation (unbalanced panel data)	1315 observations

Cap_Intens = Capital intensity

3.5. Estimation method

We apply Pooled OLS regression techniques to examine our models using Stata. We also test our models against multicollinearity and find variation inflation factor no greater than 10, which indicates there is no multicollinearity problems in the models. Since panel data are likely to suffer heteroscedasticity, then we apply robust standard errors. To overcome extreme outliers that might influence data normality, we winsorized the data for the regressions at the 1 percent and 99 percent levels.

4. Empirical result and discussion

4.1. Descriptive statistics and correlation matrix

Sample selection process is shown in Table 1. Meanwhile, Table 2 exhibit the descriptive statistics for all variables. Based on the Table 2 abnormal transfer pricing which is measured by the residual from of eq (1) in chapter 3 show the positive average mean of 0.5927, indicating that sample firms of multinational companies in Indonesia perform abnormal transaction of transfer pricing. Opportunism in related party transaction for tax avoidance are shown by the abnormal related party transaction above 0 (Habib et al., 2017). Meanwhile, the sample show that post regulation observation is 40.30% of the observation. Furthermore 60.84% of the observation have affiliation in tax haven country.

Data multicollinearity among variables is examined by employing the Pearson's Correlation. Table 3 shows that the coefficient of Pearson's Correlation are relatively low and less than 0.8. This result stipulates that the multicollinearity is not a problem for all proposed model.

4.2. The influence of CbCR regulation

Our results in Table 4 exhibit that corporate tax avoidance measured by abnormal transfer pricing significantly influenced by the implementation of the CbCR, with significant level of 1%. The coefficient shows −.0362 meaning that the regulation is able to force companies to decrease their abnormal related party transaction. Abnormal related party transaction of multinational companies listed in IDX is lower after the regulation CbCR issued. Thus, our hypothesis (H1) supported. It confirms that the government regulation on CbCR were effective in deterring corporate tax avoidance by profit shifting through transfer pricing. Companies affected by the new tax rules in 2016 perceived the risks of conducting corporate tax avoidance. The CbCR provides a sufficient enforcement for companies to reduce their probability to engage in corporate tax avoidance activities through transfer pricing schemes in the post-regulation period. Nevertheless, the results are not significant for corporate tax avoidance measured by ETR and BTD, suggesting that companies still have opportunity to avoid tax by other scheme rather than transfer pricing

Table 2. Descriptive statistics

Panel A. Variables with Continous Data

Variable	N	Mean	Standard Deviation	Min	Max
Abnormal_RPT	1315	.5927	.1307	.2002	1.0917
ETR	1315	.2516	.1623	0	.8656
BTD	1315	−.0275	.0643	−.2809	.1206
LnSize	1315	15.5242	1.5123	11.9068	19.0063
ROA	1315	.0994	.1200	−.1791	.5803
Growth	1315	2.5467	3.9377	−.0489	28.8745
RD	1315	.4707	.2056	.0696	1.2429
Intangible	1315	.0147	.0395	0	.2388
Cap_intens	1315	.3521	0.2247	.0014	.8492

Panel B. Variables with Dichotomous Data

Variable	N	Dummy 1	Dummy 0
CbCR	1315	40.30%	59.70%
Taxhaven	1315	60.84	39.16%

scheme. This might be because the CbCR specifically focus on the regulating the transfer pricing documentation for multinational transaction. The finding of Joshi et al. (2020) for sample European banks also documented that although tax motivated income shifting decrease, the public CbCR could not reduce overall corporate tax avoidance described in ETR.

From the result suggests that multinational companies give reaction on the issuance of transfer pricing regulation CbCR by the government. They decrease related party transaction that contributes to corporate tax avoidance practice by using abnormal transfer pricing transaction. This implies that the monitoring effect of government regulation plays an important role in deterring opportunism behavior of multinational companies to shift profit using transfer pricing scheme as vehicle of tax avoidance. This result is consistent with study by Joshi et al. (2020) and Overesch and Wolff (2021) who document that CbCR regulation issued by the government effectively deter corporate tax avoidance.

In the level of individual analysis, Allingham and Sandmo (1972) assert that tax avoidance will continue until detected. Transfer pricing regulation obligates company to provide in detail transaction of their related party transaction in specific format as in CbCR. This reporting enable government to identify the fairness of related party transaction, specifically in transfer pricing scheme that is conducted by multinational companies. It can increase the level of detection by the government that can harm companies of being caught and imposing penalties. This also support the notion by (Crocker & Slemrod, 2005) that companies would choose optimum level of being caught, penalty size, and the level of risk aversion, thus our result consistent with the Tax Avoidance Theory.

4.3. The influence of tax haven affiliation

Table 5 presents the pooled OLS result for the effect of tax haven affiliation on corporate tax avoidance. This study hypothesizes that companies with tax haven affiliation practicing more corporate tax avoidance than non-tax haven firms. According to Table 3, result shows positive coefficient for corporate tax avoidance measured by BTD (with coefficient of 0.0123) and abnormal RPT (with coefficient of 0.0261). Both are significant at 1% level of significance. Meanwhile, ETR found not significant but have negative coefficient of −.0036, meaning that firms with tax haven affiliation have lower ETR than non-tax haven firms.

Finding of this analysis suggests that tax haven affiliation has an important role for companies to avoid paying taxes. Companies built affiliation in tax haven country as means to transfer their wealth from high tax jurisdiction to low/no tax jurisdiction. This result confirms study by Atwood and Lewellen (2019), Bucovetsky (2014), and Taylor and Richardson (2013) which argue that tax haven provide low/no tax opportunity and data confidentiality which become vehicle for companies to avoid taxes. Companies in Indonesia facing high tax policy, this condition makes companies utilize their affiliation in tax haven country to practice profit shifting.

4.4. The moderating effect of CbCR regulation

The interaction terms of the external monitoring and tax haven affiliates TaxHaven*CbCR is performed in equation 4. This interaction variable permits us to determine whether the moderating impact of the external monitoring government regulation CbCR weakened the relationship of tax haven affiliation and corporate tax avoidance. Thus, it is expected companies alter their tendency to engage in corporate tax avoidance by exploitting tax haven affiliates during post regulation CbCR.

Table 6 provides the pooled OLS statistical result for the influence of transfer pricing regulation CbCR on the correlation between tax haven affiliation and corporate tax avoidance. This study hypothesizes that transfer pricing regulation weakened the correlation between tax haven affiliation and corporate tax avoidance. According to Table 6 result shows that transfer pricing regulation is not able to weakened the correlation of tax haven affiliation and corporate tax avoidance. Thus, our hypothesis (H3) is not supported.

Potential tax revenue become lost and companies wealth are hidden as the consequences of the existence of tax haven (Morgan, 2016). Multinational companies reduce their tax payment by shifting their profit through transfer pricing scheme and policies to their affiliates in tax haven countries (Merle et al., 2019). The finding points out that tax haven become a barrier for government to enhance tax compliance. Government regulation on transfer pricing that has been issued by the government has no significant impact on decreasing corporate tax avoidance through tax haven affiliation.

Tax haven countries are mainly distinguished by secrecy and limitation of information exchange with other countries. In consequence, companies with tax haven affiliation may minimize their tax payment due to the narrow regulatory authorities' enforcement as external monitor tool. As a result, escalating managers' opportunities for being dysfunctional without detection. Moreover, incorporating the parent entity in a tax haven, give rise to potential weakened shareholder protection in the country where the firm's legal domicile located outside of its base country. Thus, companies with tax haven affiliation may produce bigger opportunities for managers to practice tax avoidance and for not being transparent, while at the same time extend the difficulty for shareholders or regulators to apply corrective actions, reducing the potential costs of diversion for managers (Atwood & Lewellen, 2019). Secrecy laws in tax haven countries may escalate managers' capability to conceal complicated tax avoidance strategies from shareholders (Desai & Dharmapala, 2006). While the absence of information exchange may reduce the propensity of regulators and tax authorities to perform as additional monitors of manager behavior (Desai et al., 2007). The enactment of government regulation CbCR is not able to moderate the correlation between tax haven affiliation and corporate tax avoidance, it could indicate that the regulation is not strong enforcement for the companies with tax haven affiliation. Tax haven companies are confident that the CbCR regulation enacted by the government of Indonesia could not "touch" the information they hide in the tax haven countries. Moreover, institutional characteristics of Indonesia is very strong with the history of political connection. Political factor in Indonesia gives chance for companies to exploit their political connection for beneficial business policies (Joni et al., 2020), including policies pertaining to tax.

Table 3. Correlation matrix of predictor variables

	CbCR	TaxHaven	LnSize	ROA	Growth	RD	Intangible	Cap_Intens
CbCR	1							
TaxHaven	0.0431	1						
LnSize	0.1577***	0.2767***	1					
ROA	−0.0936***	−0.0753**	0.0032	1				
Growth	−0.0772**	−0.0264	0.0521	0.5466***	1			
RD	0.0013	0.0297	−0.0817**	−0.0425	0.0099	1		
Intangible	−0.0199	0.0900**	0.2023***	0.0340	0.0422	−0.0572*	1	
Cap_Intens	0.0072	−0.0224	0.0125	−0.0431	0.0532	0.1232***	−0.1142***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4. Transfer pricing regulation hypothesis

	Corporate Tax Avoidance in General		Corporate Tax Avoidance by Transfer Pricing
Variables	**ETR**	**BTD**	**Abnormal_RPT**
CbCR	−0.0029	−0.0053	−0.0349***
	(0.0210)	(0.0068)	(0.0120)
LnSize	0.0142**	0.0054**	0.0013
	(0.0056)	(0.0024)	(0.0049)
ROA	−0.1490**	−0.1780***	−0.3390***
	(0.0753)	(0.0588)	(0.0835)
Growth	−0.0013	0.0032***	−0.0089***
	(0.0020)	(0.0010)	(0.0016)
Intangible	−0.0368	−0.0953	−0.1790
	(0.1740)	(0.0823)	(0.1480)
Cap_Intens	0.0139	0.0186	0.0291
	(0.0418)	(0.0172)	(0.0425)
RD	−0.3100	−0.3300*	−0.0931
	(0.3820)	(0.1940)	(0.5320)
Constant	0.0647	−0.0974**	0.6400***
	(0.0929)	(0.0388)	(0.0851)
Year Effect	Yes	Yes	Yes
Industry Effect	Yes	Yes	Yes
Observations	1,315	1,315	1,315
Adj R^2	0.6410	0.1982	0.3607
F-statistics	1.78**	3.43***	14.82***

Robust standard errors in parentheses

*** p < 0.01, ** p < 0.05, * p < 0.1

4.5. Robustness check

We conduct several robustness checks to identify the consistency of our conclusion, to confirm the main results and to provide additional evidences. We justify our result by conducting data analysis using Generalized Least Square (GLS) random effect estimation, parametric and non-parametric test. Table 7 until Table 10 provide the result of the robustness test.

The transfer pricing regulation and tax haven affiliation relatively time invariant. Pathan (2009) suggest that the GLS random effect estimation technique is more acceptable for time invariant variables. Government regulation is time invariant, to gain robustness for the analysis, the result of GLS random effect estimation is provided below.

Table 7 exhibit GLS random effect estimation for transfer pricing regulation effectiveness hypothesis. The coefficient of transfer pricing regulation (CbCR) is consistent with the main result that transfer pricing regulation is able to mitigate tax avoidance practice by decreasing abnormal transfer pricing, and also significant at 1% for GLS random effect estimation. Thus, it supports the robustness of the main result. Furthermore, the next table give result on the GLS estimation of the moderating impact of CbCR government regulation MoFR-213/2016 and DGTR-29/2017. Table 8 presents the result which show that the moderating influence of the regulation is not significant. This result is similar with the pooled OLS estimation in the main result. Thus, the model is robust.

Table 5. Tax haven influence regression result

	Corporate Tax Avoidance in General		Corporate Tax Avoidance by Transfer Pricing
Variables	**ETR**	**BTD**	**Abnormal_RPT**
TaxHaven	−0.0036	0.0123***	0.0261***
	(0.0158)	(0.0033)	(0.0062)
LnSize	0.01450**	0.0043***	−0.0009
	(0.0059)	(0.0011)	(0.0023)
ROA	−0.1500*	−0.1740***	−0.3294***
	(0.0767)	(0.0284)	(0.0509)
Growth	−0.0013	0.0032***	−0.0089***
	(0.0020)	(0.0006)	(0.0010)
Intangible	−0.0364	−0.0966**	−0.1813**
	(0.1740)	(0.0474)	(0.0743)
Cap_Intens	0.0136	0.0198**	0.0317
	(0.0421)	(0.0089)	(0.0195)
RD	−0.3050	−0.3480***	−0.1313
	(0.3830)	(0.0929)	(0.2385)
Constant	0.0627	−0.0906***	0.6548***
	(0.0921)	(0.0192)	(0.0376)
Year Effect	Yes	Yes	Yes
Industry Effect	Yes	Yes	Yes
Observations	1,315	1,315	1,315
Adj R^2	0.0635	0.2052	0.380
F-statistics	1.69**	10.02***	61.24***

Robust standard errors in parentheses

*** p < 0.01, ** p < 0.05, * p < 0.1

Next, to corroborate our result we analyze the corporate tax avoidance difference between tax haven and non-tax haven affiliates companies, and corporate tax avoidance difference between pre-regulation and post-regulation for tax haven firm sample by using parametric and non-parametric test. Table 9 and Table 10 provide the test result. Table 8 shows the Parametric and also Non Parametric test for the difference of corporate tax avoidance practices between companies with tax haven affiliation and companies without tax haven affiliation. From the result of the t-test, abnormal_RPT for companies with tax haven affiliation exhibit higher mean than comapnies without haven affiliation. Furthermore, BTD for non-tax haven companies also shows lower value than BTD for companies with tax haven affiliations. Both measurements of corporate tax avoidance show significant at 1%. The results justify our main result that tax haven affiliation significantly influence corporate tax avoidance. The statistical results from the parametric t-test are verified by the non-parametric Mann–Whitney (Wilcoxon) and Kruskall–Wallis tests. The tests for both non-parametric test show significant difference of BTD and Abnormal_RPT at 1%. This result corroborates our main finding which show significant for corporate tax avoidance measured by BTD and Abnormal_RPT.

The next robustness test is shown in Table 9. We analyze the corporate tax avoidance practice differences between pre-regulation and post-regulation for companies with tax haven affiliation sample. The statistical results from the parametric t-test exhibit non-significant difference between pre-regulation and post-regulation for all corporate tax avoidance measurements (ETR, BTD, Abnormal_RPT). The results from the parametric t-test are verified by the non-parametric Mann–Whitney (Wilcoxon) and Kruskall–Wallis tests. The tests show non-significant mean rank difference for

Table 6. Moderating effect of transfer pricing regulation

Variables	Corporate Tax Avoidance in General				Corporate Tax Avoidance by Transfer Pricing	
	ETR		BTD		Abnormal_RPT	
		(3)		(3)		(3)
TaxHaven	−0.0036	−0.0102	0.0123***	0.0117**	0.0261***	0.0340***
	(0.0158)	(0.0224)	(0.0034)	(0.0049)	(0.0062)	(0.0095)
CbCR	−0.0031	0.0034	−0.0049	−0.0043	−0.0339**	−0.0417***
	(0.0209)	(0.0249)	(0.0068)	(0.0081)	(0.0138)	(0.0160)
TaxHaven*CbCR		0.0108		0.0009		−0.0130
		(0.0201)		(0.0066)		(0.0123)
LnSize	0.0145**	0.0145**	0.0043***	0.0043***	−0.0009	−0.0009
	(0.0056)	(0.0056)	(0.0011)	(0.0011)	(0.0023)	(0.0023)
ROA	−0.150*	−0.1500*	−0.1740***	−0.1740***	−0.3290***	−0.3300***
	(0.0767)	(0.0769)	(0.0284)	(0.0284)	(0.0509)	(0.0508)
Growth	−0.0013	−0.0013	0.0032***	0.0032***	−0.0089***	−0.0089***
	(0.0020)	(0.0020)	(0.0006)	(0.0005)	(0.0010)	(0.0010)
Intangible	−0.0364	−0.0363	−0.0966**	−0.0966**	−0.1810**	−0.1810**
	(0.1740)	(0.1740)	(0.0474)	(0.0474)	(0.0743)	(0.0742)
Cap_Intens	0.0136	0.0135	0.0198**	0.0198**	0.0317	0.0318
	(0.0421)	(0.0421)	(0.0089)	(0.0089)	(0.0195)	(0.0195)
RD	−0.3050	−0.2990	−0.3480***	−0.3470***	−0.1310	−0.1380
	(0.3830)	(0.3850)	(0.0929)	(0.0929)	(0.2390)	(0.2370)
Constant	0.0627	0.0602	−0.0906***	−0.0908***	0.6548***	0.6578***
	(0.0921)	(0.0925)	(0.0192)	(0.0192)	(0.0376)	(0.0379)
Year Effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry Effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,315	1,315	1,315	1,315	1,315	1,315

(*Continued*)

Table 6. (*Continued*)

Variables	Corporate Tax Avoidance in General						Corporate Tax Avoidance by Transfer Pricing	
	ETR		BTD		Abnormal_RPT	
		(3)		(3)		(3)
Adj R^2	0.0635	0.0630	0.2052	0.2046	0.3686	0.3687
F-statistics	1.69**	1.63**	10.02***	9.61***	61.24***	58.80***

Robust standard errors in parentheses*** p < 0.01, ** p < 0.05, * p < 0.1

Table 7. Transfer pricing regulation—random effect estimation

	Corporate Tax Avoidance in General		Corporate Tax Avoidance by Transfer Pricing
Variables	**ETR**	**BTD**	**Abnormal TP**
CbCR	0.0014	0.0003	−0.0400***
	(0.0189)	(0.0054)	(0.0125)
LnSize	0.0178***	0.0025	0.0121*
	(0.0056)	(0.0023)	(0.0073)
ROA	−0.1210**	−0.1030**	−0.1660***
	(0.0575)	(0.0456)	(0.0450)
Growth	−0.0016	0.0012	−0.0132***
	(0.0015)	(0.0007)	(0.0014)
Intangible	0.0474	−0.0802	−0.2300**
	(0.1790)	(0.0738)	(0.1080)
Cap_Intens	0.0755*	0.0221	0.0324
	(0.0431)	(0.0160)	(0.0289)
RD	−0.4000	−0.0429	−0.5730
	(0.5180)	(0.1110)	(0.3960)
Constant	−0.0289	−0.0620*	0.4840***
	(0.0956)	(0.0370)	(0.1200)
Year Effect	Yes	Yes	Yes
Industry Effect	Yes	Yes	Yes
Observations	1,315	1,315	1,315
Chi square	48.42***	76.25***	366.84***

Robust standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

both non-parametric test. It suggests that the CbCR regulation MoFR-213/2016 and DGTR-29/2017 couldn't be able to significantly weakened the corporate tax avoidance practices among tax haven firms. Thus, our parametric and non-parametric test confirm the main finding which infer that the correlation of tax haven firm and corporate tax avoidance could not be influence by the existence of the regulation.

5. Conclusion

This study investigates the effect of external monitoring by the introduction of the CbCR government regulation MoFR-213/2016 and DGTR-29/2017 on preventing multinational corporate tax avoidance in Indonesia. We found that the regulation has been effective in curbing corporate tax avoidance by profit shifting through transfer pricing scheme. The reduction in corporate tax avoidance measured by abnormal related party transaction following the implementation of the CbCR regulation appears to be due to the implementation of new and strict tax legislation. It implies that the intervention of government by formulating a policy has critical role in corporate behavior taxation. Consistent with the idea that external monitoring is effective control mechanism to mitigate tax avoidance. Unfortunately, it appears that the CbCR government regulation MoFR-213/2016 and DGTR-29/2017 are not able to moderate the correlation of tax haven affiliate firm and corporate tax avoidance. Tax haven affiliation could provide biggerr opportunities to engage in tax avoidance, because of secrecy laws and lack of information exchange may reduce the monitoring ability of government.

Our findings are important for the government to build more severe tax regulation which can comprehend tax haven also in the regulation on transfer pricing. Because the majority of profit

Table 8. The moderating effect of transfer pricing regulation on tax haven and corporate tax avoidance relationship—random effect estimation

Variables	Corporate Tax Avoidance in General				Corporate Tax Avoidance by Transfer Pricing	
	ETR		BTD		Abnormal RPT	
		(3)		(3)		(3)
TaxHaven	−0.00932	−0.0130	0.0157**	0.0117*	−0.0145	−0.00761
	(0.0164)	(0.0227)	(0.00644)	(0.00685)	(0.0154)	(0.0170)
CbCR	0.00133	0.00495	0.000161	0.00410	−0.0397***	−0.0464***
	(0.0189)	(0.0225)	(0.00531)	(0.00653)	(0.0124)	(0.0148)
TaxHaven*CbCR		0.00596		0.00640		−0.0107
		(0.0193)		(0.00600)		(0.0111)
LnSize	0.0184***	0.0184***	0.00150	0.00142	0.0129*	0.0131*
	(0.00563)	(0.00562)	(0.00231)	(0.00232)	(0.00736)	(0.00735)
ROA	−0.121**	−0.121**	−0.105**	−0.104**	−0.164***	−0.165***
	(0.0579)	(0.0580)	(0.0449)	(0.0449)	(0.0451)	(0.0453)
Growth	−0.00160	−0.00160	0.00123*	0.00122*	−0.0132***	−0.0132***
	(0.00150)	(0.00150)	(0.000743)	(0.000743)	(0.00139)	(0.00142)
Intangible	0.0468	0.0461	−0.0754	−0.0776	−0.236**	−0.231**
	(0.178)	(0.179)	(0.0663)	(0.0656)	(0.109)	(0.107)
Cap_Intens	0.0757*	0.0759*	0.0215	0.0215	0.0332	0.0332
	(0.0431)	(0.0431)	(0.0158)	(0.0157)	(0.0289)	(0.0288)
RD	−0.3965	−0.3966	−0.0464	−0.0482	−0.570	−0.565
	(0.520)	(0.524)	(0.117)	(0.116)	(0.396)	(0.389)
Constant	−0.0330	−0.0342	−0.0574	−0.0574	0.4811***	0.4804***
	(0.0955)	(0.0959)	(0.0372)	(0.0372)	(0.1194)	(0.1193)
Observations	1,315	1,315	1,315	1,315	1,315	1,315
Chi square	47.73***	47.78***	86.66***	87.81***	366.09***	363.16***

Robust standard errors in parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

Table 9. Parametric and non-parametric test between tax haven and non-tax haven firm

Panel A. ETR

	Test Groups					
	Parametric test		Non Parametric test			
	t-test		Mann-Whitney (Wilcoxon rank-sum)		Kruskall-Wallis	
	Mean	t	Mean Rank	Z	Mean Rank	X^2
Non tax haven	0.249	−0.514	663.696	0.436	663.696	0.190
Tax haven	0.253		654.333		654.333	

Panel B. BTD

	Test Groups					
	Parametric test		Non Parametric test			
	t-test		Mann-Whitney (Wilcoxon rank-sum)		Kruskall-Wallis	
Non tax haven	Mean	t	Mean Rank	Z	Mean Rank	X^2
Tax haven	−0.022		678.543		678.543	

Panel C. Abnormal RPT

	Test Groups					
	Parametric test		Non Parametric test			
	t-test		Mann-Whitney (Wilcoxon rank-sum)		Kruskall-Wallis	
	Mean	t	Mean Rank	Z	Mean Rank	X^2
Non tax haven	0.576	−3.820***	590.478	−5.173***	590.478	26.763***
Tax haven	0.604		701.468		701.468	

*** p < 0.01, ** p < 0.05, * p < 0.1

Table 10. Parametric and non-parametric test for pre and post regulation for tax haven firms

Panel A. ETR

	Test Groups					
	Parametric test		Non Parametric test			
	t-test		Mann-Whitney (Wilcoxon rank-sum)		Kruskall-Wallis	
ETR	Mean	t	Mean Rank	Z	Mean Rank	X^2
Pre-regulation	0.254	0.101	395,5474 407,3393	−0.712	395,5474 407,3393	0.507
Post-regulation	0.253					

Panel B. BTD

	Test Groups					
	Parametric test		Non Parametric test			
	t-test		Mann-Whitney (Wilcoxon rank-sum)		Kruskall-Wallis	
BTD	Mean	T	Mean Rank	Z	Mean Rank	X^2
Pre-regulation	−0.022	0.101	401,8998 398,567	0.201	401,8998 398,567	0.041
Post-regulation	−0.023					

Panel C. Abnormal RPT

	Test Groups					
	Parametric test		Non Parametric test			
	t-test		Mann-Whitney (Wilcoxon rank-sum)		Kruskall-Wallis	
Abnormal_RPT	Mean	t	Mean Rank	Z	Mean Rank	X^2
Pre-regulation	0.394	0.412	405,1218 394,1176	0.665	405,1218 394,1176	0.442
Post-regulation	0.392					

shifting that can create wealth transfer from nation is by engaging tax haven affiliation in the transfer pricing scheme. Future research could consider the issue of how to formulate regulation that can mitigate corporate tax avoidance performed by tax haven affiliation firms, specifically for Indonesia that have strong of political connection history.

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Appendix A. Variable Measurement

Variable	Measurement
Coporate Tax Avoidance	1. $Abnormal\_RPT_{it} = \alpha_0 + \alpha_1 Size_{it} + \alpha_2 Leverage_{it} + \alpha_3 Growth_{it} + \varepsilon_{it}$ Abnormal_RPT = related party sales and purchase/total asset; Size = natural log of total assets; Leverage = total debt divided by total assets; Growth = market capitalization/shareholder equity 2. BTD = (pre-tax income—taxable income)/total assets 3. ETR = the ratio of total (i.e., current and deferred) income tax expenses to pretax book income
CbCR	CbCR is coded 1 for the year after regulation (2016–2019), 0 otherwise
Tax Haven	Tax haven is coded 1 if companies have affiliation in tax haven countries, 0 otherwise
LnSize	Logarithm natural of total assets
Growth	Market capitalization over the book value of total shareholders' equity
ROA	After tax income/total assets
RD	R&D expense divided by total assets
Intangible	Intangible assets/total assets
Capital intensity	Property Plant Equipment/total assets

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