

MODERATING ROLE OF AUDIT QUALITY AND FIRM SIZE ON PRETAX PROFIT MARGIN AND RELATED PARTY TRANSACTIONS: EVIDENCE FROM INDONESIA

Perdana Wahyu SANTOSA^{1*}, Sovi Ismawati RAHAYU², Zainal Zawir SIMON³,
Pramesti Wulandari SANTOSO⁴

^{1, 2, 3}*Faculty of Economics and Business, YARSI University, Jakarta, Indonesia*

⁴*School of Business and Management, Bandung Institute of Technology, Indonesia*

Received 31 October 2022; accepted 30 May 2023

Abstract. This study examines the effect of related party transactions (RPTs) on pretax profit margin (PPM). It analyzes the moderating effect of audit quality and firm size based on a large panel of Indonesian-listed firms. The sample of three representative business groups from 2010–2021 and analysis uses the Generalized Method of Moments (GMM) estimator to control PPM as a proxy of taxable income. We document that this study finds that PPM(t-1) and RPT Sales negatively impact and are significant on firms' PPM, consistent with the incentive alignment hypothesis. However, RPTs, RPT Loan, and RPT Receivables affect positively. We also find that audit quality strengthens the impact of RPT Loan and RPT Receivables on the PPM negatively and positively significantly; however weakens RPTs, RPT Sales, and RPT Expenses. Moreover, firm size weakens the effect RPTs on PPM. RPTs and tax avoidance are complex and multifaceted phenomena of corporate finance. Additional business groups and variables may have moderating and mediating effects on the impact of taxable income on the business group. Stakeholders, especially the government, should supervise and control RPTs activities comprehensively, especially on the types of RPT Sales and RPT Expenses transactions. The paper offers two contributions. First, it gathers the first evidence on the taxable income and RPTs practices and offers insights into Indonesia's business group behavior. Second, the analysis examines eleven years considering the sensitivity of audit quality and firm size to RPTs and pretax profit margin.

Keywords: pretax profit margin, RPTs, audit quality, firm size.

JEL Classification: G32, G38.

Introduction

Government-created related party transactions (RPTs) or transfer pricing rules are included in the rules tax system to guarantee that businesses comply with each country's tax mechanism and regulatory requirements (Minh Ha et al., 2022; Widadi et al., 2022). Considering the numerous adverse effects of RPTs, tax authorities in each country have now become increasingly strict in their monitoring of RPTs through the imposition of sanctions, the addition of new records, the addendum of specifics, the training of audit personnel, inspections, and specialist officers (Angelica et al., 2021; Ben Cheikh & Loukil, 2022). It is expected that RPTs by various parties in Indonesia influence the tax rate such that the Indonesian tax rate does not produce the maximum effects (Santosa et al., 2021). Minimize tax payment play a significant role in Indonesia's

economic growth because taxation through RPTs is the primary source of revenue for financing state expenditures, with taxation accounting for between 70 and 80 percent of total state revenue in the APBN (The State Revenue and Expenditure Budget) over the past decade (Angelica et al., 2021; Widadi et al., 2022).

Business groups take advantage of the current tax system with RPTs to minimize their tax payments by reducing their pretax profit margin and so enhance current earnings and the firm's after-tax value (Angelica et al., 2021; Park, 2018; Santosa et al., 2021). However, reducing pretax profit margin or increasing tax avoidance can lower firm value when the costs are directly tied to a firm's tax planning charges, such as adaption costs and agency fees (Ayers et al., 2009; Fuadah & Kalsum, 2021). According to Park (2018) and Supatmi et al. (2019), tax avoidance savings through the RPTs system are a source of finance that

*Corresponding author. E-mail: perdana.wahyu@yarsi.ac.id

minimizes a firm's reliance on external borrowing and can therefore be factored into financial projections.

RPTs may diminish potential tax collections for the government. The relocation of corporate profits from countries with high tax rates to countries with low tax rates could impact the tax burden corporations should bear (Löffler, 2019). The greater the use of these mechanisms, the less tax money the state can generate. The Ministry of Finance has encouraged increased tax collection in Indonesia by encouraging taxpayers, law enforcement, and interagency cooperation; however, the target was not met (Zimon et al., 2021). In addition, reducing the pretax profit margin increases financial flexibility, thereby enhancing credit quality, decreasing bankruptcy risk, and decreasing a firm's average cost of capital and debt policy (Wang et al., 2019, Tambunan et al., 2017; Santosa, 2020a).

The practice of tax avoidance has received an increasing amount of attention in recent study publications (Gaaya et al., 2017; Gallemore et al., 2014). Different corporations or business groupings could have varying priorities when it comes to their participation in activities that help them avoid paying taxes. According to Nugroho and Agustia (2018), these operations are generally regarded as dangerous choices for a company (Gallemore et al., 2014). Numerous elements, such as RPTs, firm size, leverage, profitability, and corporate governance, can contribute to the incentives for business groups to engage in tax avoidance activities (Nugroho & Agustia, 2018; Zimon et al., 2021). However, there needs to be more research that explores how RPTs affect tax evasion and the margin of pretax profit (Santosa et al., 2021; Chen et al., 2014). As a result, the motivations for participating in such hazardous endeavors can differ throughout the economy's various sectors. Nugroho and Agustia (2018), Ashrafi et al. (2020) and Bona-Sánchez et al. (2017) are just a few examples of recent research that recognizes the importance of RPTs and family ownership as distinct forms of economic organization.

In this research, we examine the RPTs in one country in Southeast Asia, Indonesia. Specifically, we study the configuration of RPTs and the impact of these connected transactions on financial performance (pretax profit margin or EBT) for a sample of listed Indonesian business groups throughout 2011–2021. This study was conducted due to the phenomenon gaps revealed by the discrepancy between the analytical results of the variables and Indonesia's inability to meet its tax target. Inconsistencies in these findings are likely due to variations in variable measurement, research objects, and data analysis procedures. Overall, minimizing the pretax profit margin in the RPT system can assist firms in decreasing their operational and debt costs by allowing them to save on state taxes temporarily. Consequently, this study uses GMM regression analysis to compare the two-variable RPTs measures and assess business groups listed on the Indonesian stock exchange. This study aimed to analyze the impact of RPT, RPT income, RPT expense, RPT loan, and RPT receivables

on the pretax profit margin of the Indonesian business group. This study was innovative in its use of some RPTs intensity, which was consistent with a study (Santosa et al., 2021; Klassen et al., 2017; Tambunan et al., 2017).

1. Literature review and hypothesis

Related party transactions (RPTs), also known as transfer pricing, are any transfer of resources, services, or responsibilities between a reporting business and a related party, whether or not a price is charged. Related parties can include controlling shareholders, directors, and any other group influencing the firm's choices; thus, they can transfer resources in or out of the organization (Rathke et al., 2020; Pozzoli & Venuti, 2014). In other words, RPTs are the price one corporate unit charges for items or services delivered to other firm units. The amount of this transfer fee may or may not be suitable, depending on market conditions. Businesses can shift their earnings to connected parties by implementing transfer pricing strategies. This result may be unfavorable to the interests of non-controlling shareholders, as a reduction in the firm's profits will lower the rate of return on investment in the form of dividends they receive (Sari et al., 2017; Santosa et al., 2021).

Khaoula and Moez (2019) and Hanlon and Heitzman (2010) define tax avoidance as the reduction of pretax profit margin or pretax accounting income. During the past two decades, related party transactions (RPTs) have been identified as one of the primary sources of tax avoidance by reducing pretax profit margin or erasing before tax. Commonly, regulators, standard-setters, investors, and other stakeholders view such transactions as red flags that may negatively influence the business group financial performance (Pozzoli & Venuti, 2014; Cheung et al., 2006). Due to existing conflicting interests, RPTs can be used to abuse business resources, resulting in poor corporate performance. This type of RPT is referred to as "tunneling" or "conflict of interests transaction theory" in the academic literature (Pozzoli & Venuti, 2014; Hendratama & Barokah, 2020).

1.1. Hypothesis development

There are related party transaction activities in the form of sales and incomes, purchases and expenses, loans, receivables, and asset tunneling in all Indonesia Stock Exchange business group companies (Tambunan et al., 2017). Sales and income from related parties, as well as acquisitions and expenditures, have a positive impact on the value of a company. The value of a company is diminished by transactions involving loans, receivables, and asset tunneling involving related parties (Santosa et al., 2021). Related party transactions of sales and earnings as well as purchases and expenses can prop up the financial position of a financially distressed affiliate company (Wang et al., 2019; Wong et al., 2015). However, it is possible for these two types of related party transactions to exist only for the purpose of enhancing the financial statement in order to

avoid the risk of being delisted, maintaining a “shell,” and losing the capacity to obtain funding. The tunneling aspect of related party transactions including loans, receivables, and asset tunneling results in the expropriation of majority owners at the expense of minority shareholders (Tambunan et al., 2017).

Numerous research has demonstrated that RPTs worsen the profitability of business groups in Indonesia; for instance, Hendratama and Barokah (2020) and Tambunan et al. (2017) indicate that RPTs have a substantial and negative impact on profitability and firm value. Recent studies discovered a negative correlation between RPTs and the valuation of the firms (Supatmi et al., 2019; Ashrafi et al., 2020; Fazli, 2019). Some recent research determined that related party transactions negative connection with pretax profit margin and had a negative relationship with a firm's market value (Tariq & Mousa, 2020; Santosa et al., 2021).

Wang et al. (2019) discovered that while related party transactions are adversely correlated with firm performance, however businesses with greater similarity in industry features or a greater degree of vertical integration within business groups have stronger performance due to related party trades.

Hypothesis 1: There is relationship between RPTs and pretax profit margin (+/-).

A pretax profit margin and a company's market value are closely tied to other RPTs, such as sales, expenses, loans, and receivables. According to Tambunan et al. (2017), sales to related parties have diverse perspectives from various research linked to related party transactions that sales to affiliate parties of an aberrant type might be used as propping up or lowering profitability. The risk of the listed firm being delisted from the stock exchange or losing its capacity to obtain refinancing means that earnings are propped up by employing abnormally linked sales (Jian & Wong, 2010; Yeh et al., 2012). In contrast, transfers of sales pricing to related parties below market value or purchases from related parties above market value are included in cash flow tunneling. Over the years, cash flow tunneling has been performed numerous times, however the proportion may occasionally change. These studies include sales and earnings as well as linked party purchases and expenses that have an impact on profitability (Tambunan et al., 2017; Wang et al., 2019).

Hypothesis 2: RPTs-sales effect on pretax profit margin (+/-).

Hypothesis 3: RPTs-expenses effect on pretax profit margin (+/-).

Hendratama and Barokah (2020) and Tambunan et al. (2017) studied the related party transactions between the companies their controlling shareholders. The findings showed that the controlling shareholders of the business groups in Indonesia performed tunneling through inter-corporate loans. Furthermore, Cheung et al. (2009) and Minh Ha et al. (2022) argue that loans to affiliate

companies are part of profit tunneling out that it affects the profitability of the existing company assets and firm value (Andrikopoulos et al., 2021).

Hypothesis 4: RPTs-loans effect on pretax profit margin (+/-).

Suk et al. (2019) and Andrikopoulos et al. (2021) conclude that a transaction is lucrative for minority shareholders when there are cash receipts and subsidiary links. Cash receipts occur when a corporation receives cash or a loan in a transaction. When assets, equity shares, or commercial contacts are acquired, a subsidiary relationship is formed. Wang et al. (2019) and said that propping up exists over minority shareholder-profitable deals. These transactions will improve the profitability.

Hypothesis 5: RPTs-receivables effect on pretax profit margin (+/-).

1.2. Moderating hypothesis

Management's decision-making on RPT related-party sales, an area where monitoring and auditing such transactions is challenging, is a neglected field of research. By manipulating transfer prices, stakeholders can shift resources, resulting in advantages for some and losses for others. In addition, these manipulations affect financial accounts, resulting in an increase in information asymmetry and a general degradation of trust in the company (Lo et al., 2010). To the best of our knowledge, there is no empirical research on whether and how corporate governance affects the extent of transfer pricing manipulation by management. Due to the RPTs being exerted by family enterprises, the implementation of corporate governance has less of an effect on firm performance. The study's findings should aid regulatory bodies such as the Securities and Exchange Commission of Pakistan (SECP) in enhancing significant disclosure and enforcing the corporate governance code on the role of the independent non-executive director and family directorship (Fazli, 2019). However, the data also indicate a favorable association between the audit quality and audit committee and the firm's value. In addition, the results indicate that different forms of RPTs have varying effects on the firm's value. In addition, the data indicate that the audit quality and audit committee does not affect the correlation between RPTs and firm performance (Santosa et al., 2020; Angelica et al., 2021; Ashrafi et al., 2020).

Hypothesis 6: The moderating effect of audit quality on the between RPTs and pretax profit margin.

A firm's size substantially affects firm performance and value, both directly and indirectly, because it influences the firm's attributes, reputation, and goodwill. Previous studies find that firm size favors firm performance, considering diversity, product and service portfolio, collateral, business cycle, firm age, firm image, and capital structure (Utama & Utama, 2014; Santosa, 2020b). According to Santosa et al. (2021), a positive effect of firm size on firm value

is driven by the significance of firm size in the expansion of the firm’s operations and the ease of obtaining external capital. Larger companies often engage in a greater number of commercial operations and financial transactions than smaller ones, hence affording much more options to avoid paying corporation taxes (Nekhili & Cherif, 2011; Richardson et al., 2013). Larger firms are more likely to have large intercompany transactions that may have thin capitalization and/or transfer pricing consequences, tax-favored leasing and financing arrangements, and complicated flowthrough entities (including partnerships and trusts). In addition, the significance of firm size as a moderating variable for liquidity, leverage, profitability, and efficiency reinforces the influence of these factors on firm value owing to the possibility for diversification and group business affiliation (Sayidah et al., 2019; Freihat & Razaq, 2019).

Hypothesis 7: The moderating effect of firm size on the relationship between RPTs and pretax profit margin.

1.3. Framework

From the theoretical review and the hypothesis development, the variables in this study are RPTs, RPT-Income, RPT-Expenses, RPT-Loan and RPT-Receivable as independent variables and the firm size and audit quality as a moderating variables. So the research mindset that formed is as follows Figure 1 which presents the main dependent variables pretax profit margin with the independent and moderating variable of audit committee and firm size respectively. This framework was classified into three models (1) all variable effect (five main variables) on pretax profit margin; (2) all variable effect on pretax profit margin with the interaction of moderating audit quality and five main independent variables (RPTs); (3) all variable effect on pretax profit margin with the interaction of moderating firm size and five main independent variables (RPTs).

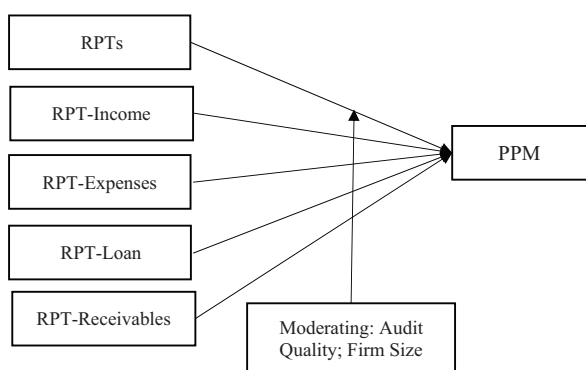


Figure 1. Conceptual research frameworks

2. Data and method

The selection of business groups is based on the typology of the population of business groups listed on the Indonesia Stock Exchange from 2013 to 2020. The typology of three business groups is classified based on market

capitalization, which is divided into capitalization categories, namely 1) business group capitalization over IDR 300 trillion (large group), 2) business group capitalization of IDR 150-300 trillion (medium group), and 3) business group capitalization below IDR 150 trillion as a small group (Santosa et al., 2021; Tambunan et al., 2017). IDX (<https://www.idx.co.id>), ICAMEL, and the websites of the Astra International business group, Tbk as a proxy for a large business group of seven companies (<https://www.astra.co.id>), the Lippo Group, Tbk (<https://lippogroup.com/>) with nine companies (medium group), and Bakrie Brothers, Tbk (<https://bakriebrothers.com/>).

2.1. Research variables and measurement scale

Some research studies have focused on specific pretax profit margin (EBT) as proxies of financial performance and “taxable income”. The independent variables we use in previous research have concentrated on certain RPTs, including asset buys and sales, lending and borrowing arrangements, loan guarantees, and receivables agreements. In this study, the pretax profit margin is the dependent variable as a proxy of financial performance, whereas RPTs, RPT-Sale, RPTs-Expenses, RPTs-Loan, and RPTs-Receivables are the independent variables. Other studies have a larger perspective by considering a full set of RPT variables. Furthermore, this study includes an analysis of a set of moderating variables commonly used in previous studies as potential determinants of firm performance, such as the quality of public auditors and the firm size are considered as moderating factors (Bona-Sánchez et al., 2017; Cheung et al., 2009; Berkman et al., 2009; Tambunan et al., 2017; Santosa et al., 2021). Table 1 provides more specifics about variables, definitions, and abbreviations.

Table 1. Summary of the operationalization of the variables and definitions

Variables	Definitions	Notation	Expected
Dependent			
Pretax profit margin	Earning before tax	PPM	-
Independent			
RPTs	Total Related Party Transactions	RPT	-
RPT (Incomsales)	Sales to related entities/ Total Sales	RPT-INC	-
RPT Expense	Expenses to related entities/Total expenses	RPT-EXP	-
RPT Loan	Loan to related entities/ Total Loan	RPT-LON	+/-
RPT Receivable	Receivables to related entities/Total receivables	RPT-REC	+/-
Moderating			
Audit Quality	Big 4 auditor: 1; otherwise: 0	QA	-
Firm size	Log natural of Total Assets	Size	+

Table 3. Correlation analysis

	PPM	RPT	INC	EXP	LON	REC	QA	Size
PPM	1.0000							
RPT	-0.4144	1.0000						
INC	-0.3594	0.0635	1.0000					
EXP	-0.0723	0.3977	0.0317	1.0000				
LON	0.0810	0.1584	-0.0666	0.2180	1.0000			
REC	-0.3201	0.0886	0.2715	-0.1617	-0.1101	1.0000		
QA	0.3675	0.3682	-0.0342	0.3198	0.1691	-0.2397	1.000	
Size	0.6762	0.7341	-0.2863	0.1671	0.1863	-0.1644	0.3780	1.0000

3.2. Correlation analysis

Table 3 presents the correlation analysis of the criterion and predictor variables. The dependent variables are PPM (pretax profit margin), and the independent variables are RPT, RP sales (INC), RP expenses (EXP), RP loans (LON), and RP receivables (REC). The moderating variables are audit quality (QA) and firm size (Size), and PPM positively correlates with RP loans, QA, and Size. The highest one is the correlation to the size of 0.67622. Meanwhile, RPT correlated with all variables positively.

The correlation between INC, QA, and Size is negative. However, the relationship between EXP and REC is negative. Furthermore, the correlation of EXP with REC is negative, but EXP with LON, QA, and Size is positive.

3.3. Stationary and Endogeneity test

The potential concern regarding our test specifications is stationary and endogeneity. The results of the stationary test in Table 4 show that the RP expenses (EXP) variable shows the first difference and audit quality (QA) is an error. Furthermore, the results of the endogeneity test show that the RPT and RP sales variables are symptomatic of endogeneity. From the results of the stationary and endogeneity tests, the choice of the money regression model used in this study is GMM (Generalized Method of Moments).

Table 4. Stationary test and Endogeneity test

Variable	Stationary	Endogeneity
PPM	Level	No
RPT	Level	Yes
INC	Level	Yes
EXP	1st difference	No
LON	Level	No
REC	Level	No
QA	Error	No
Size	Level	No

3.4. Main results

The study results are grouped into three models, which show that the independent variables presented in Model 1 include elements of the type of related party transactions (RPTs), such as RPT total, RP sales, RP expenses, RP loans, and RP receivables. For the dependent variable, we use pretax profit margin or earnings before tax (EBT), which represents taxable income. Audit quality and firm size as moderating variables represent the proxies of the principle of transparency. This study classifies the findings into three GMM models: Model 1 is unmoderated, Model 2 is moderated by audit quality, and Model 3 is moderated by firm size. The three models produce different GMM results, especially the moderating audit quality and firm size, but the parameters are identical.

Hansen is the test for over-identifying limitations under the null hypothesis that all instruments are uncorrelated with the disturbance process, whereas m2 is the test for the lack of second-order serial correlation in the first-difference residual. The Wald test for the significance of the provided coefficients is denoted by z1. Z2 denotes the Wald test for the joint importance of the time dummies. Z3 denotes the Wald test for the joint importance of the industry dummies.

Table 5 presents the results of Model 1, which examines the relationship between pretax profit margin (PPM) and related party transactions (RPTs). The results of the effect of RPTs on PPM, which was moderated by audit quality and firm size, were reported by Model 2 and Model 3 at Table 5. We analyze random effect regressions for each of the PPM measures. Model 1 reports that the coefficients on PPM (t-1) are negative and statistically significant with PPM but positive and significant with RPTs. It indicates that PPM (t-1) decreases PPM, and RPTs strongly influence PPM significantly. This finding does not support hypothesis 1 because the positive influence of RPT loans and receivables is stronger than the negative effect of RPT Income and RPT Expenses. This result is an interesting finding because not all types of RPT are negatively related to PPM. Some of our results are consistent with recent studies (Tambunan et al., 2017; Santosa et al., 2021;

Table 5. Results of GMM models

Model	Model 1		Model 2		Model 3	
	GMM 1st Diff		GMM 1st Diff		GMM 1st Diff	
	Coeff.	Prob.	Coeff.	Prob.	Coeff.	Prob.
Tax(-1)	-0.1953	0.0002	-0.2192	0.0421	-0.1339	0.0729*
RPT	0.6263	0.0005	1.0045	0.0818*	-1.6125	0.2054
INC	-3.6638	0.0000	-3.6303	0.0354	-4.3303	0.9573
EXP	-2.5987	0.0797*	-5.1239	0.3588	-5.9768	0.0485
LON	5.4655	0.0021	5.4014	0.0936*	6.5682	0.5153
REC	0.7650	0.0701*	2.3614	0.0972*	-2.6118	0.6466
RPT × QA			1.5529	0.0761*		
INC × QA			-0.8355	0.2556		
EXP × QA			-6.2805	0.1605		
LON × QA			8.6474	0.0587*		
REC × QA			2.5129	0.0656*		
RPT × Size					0.0378	0.0329
INC × Size					-0.1374	0.0969*
EXP × Size					0.2011	0.0675*
LON × Size					-4.1018	0.5245
REC × Size					0.7207	0.6422
Industry effect	Yes		Yes		Yes	
Year effect	Yes		Yes		Yes	
Hansen	41.77		21.33		32.56	
m2 test	-0.82		-1.09		-0.98	
z1	233.05*		187.88*		320.39*	
z2	12.77*		9.41*		20.28*	
z3	25.32*		82.55*		56.37*	

Note: * Significant statistically at $p = .01$.

Angelica et al., 2021). An increase in RPT Income and RPT Expenses may significantly reduce PPM in all models and therefore add their role in constraining earnings before tax. These findings are in line with hypotheses 2 and 3. The pricing of intercompany transactions has the ability to distort incentives, privilege one group of investors or stakeholders over another, and tarnish the firm's reputation (Lo et al., 2010).

However, RPT Loan and RPT Expenses results do not support hypotheses 4 and 5; RPT Loan and RPT Expenses show a positive and significant effect on PPM at 5% and 10% levels of confidence, respectively. This result is because the large size of RPT Loans and RPT Receivables makes the business more profitable (propping). RPT Income and RPT Expenses make the complex relationship with RPT Loans and RPT Receivables propping, creating results that support PPM.

3.5. Moderating audit quality and firm size

The primary purpose of the second and third models is to evaluate the association between RPTs and components of

RPTs with PPM. Another goal is to examine whether audit quality weakness plays a moderating role in the relationship between them. The results of each above association are shown in Table 5 as Model 2. The results witness the same relationship between RPT Loans and RPT Receivables with PPM are positively significant at $\alpha = 10$ percent. We proved that audit quality strengthens the positive influence of RPT Loans and RPT Receivables on PPM; however, audit quality could not moderate RPTs total, RPT Income, and RPT Expenses. These results suggest that purchase-related party transactions and PPM ratio, while sale-related party transactions affect profitability negatively. Indonesian managers seem to engage in purchases and sales of goods or contract services acquired from the related party to mask the extraction of the firm's resources. The ability of managers (or controlling shareholders) to manipulate transfer pricing is based on the corporate governance of a company. In this research, we argue that robust corporate governance systems, in terms of features of the board of directors and company ownership, should increase fairness among the business's various stakeholders (Fooladi & Farhadi, 2019; Lo et al., 2010; Sari et al., 2017).

Regarding moderating variables, the results suggest that firm size positively strengthens business group performance, even though there is a negative linkage between financial leverage and profitability. The analysis finds that material weakness in RPTs, RPT Income, and RPT Expenses significantly influences the connection with profitability, especially PPM. In fact, despite the larger firm size, opportunistic managers have taken action with the help of related parties to extract the firm's assets and resources. However, the most important point is that in fraudulent financial reporting, executives often violate controls that have operational effectiveness (Santosa et al., 2021; Utama & Utama, 2014).

3.6. Robustness test

In the System GMM method, we test the instrument validity using Hansen's J statistic of over-identifying restrictions. The test results reported in Table 5 show that the models do not reject the null hypothesis of valid instruments (because all p-values are higher than 0.1). As a robustness test, we applied the System GMM method to estimate Model 1, Model 2, and Model 3, and the results are presented in Table 5. The results show that our instruments applied in the models are appropriate.

Conclusions and recommendation

Thus, this paper aimed to examine whether various types of RPTs activities in the Indonesian capital market were aimed at maximizing pretax profit margin or earning before tax to create tax potency of the business group that uses RPTs intensively. This study also determined whether directors consider RPTs as sound business exchanges to meet corporate economic needs or, owing to conflicting interests, consider them a tool to exploit enterprise resources. Additionally, considering the important role of the proper audit quality system in preventing the occurrence of tax opportunistic managerial behaviors. Moreover, this study sought to investigate whether the firm size moderates the relationship between RPTs and their components and pretax profit margin (PPM).

In conclusion, when pretax profit margin performance is evaluated based on a GMM analysis, the results confirm a negative association between PPM (t-1), RPT Income, and RPT Expenses and PPM. However, the relationship between PPM and RPTs, RPT Loans, and RPT Receivables is positive and significant. These findings indicate that RPT Loans and RPT Receivables can cover the negative effects of RPT Income and RPT Expenses. Total RPTs are positively associated with PPM because the value added from RPT Loans and RPT Receivables is greater than the negative effect from other RPT transactions, so the propping process is more dominant than tunneling. The moderating role of audit quality in this study showed a strengthened relationship between the RPTs and its components and PPM, in which audit quality attenuated the negative impact of RPT Income and RPT Expenses.

Furthermore, audit quality strengthens the positive impact of RPT Loans and RPT Receivables on PPM. Thus, the moderation of audit quality significantly impacts minimizing tax avoidance from RPTs activities in the business group but has not been effective in reversing the negative role of RPT Income and RPT Expenses completely. Recent studies have shown that audit quality incorporates control of the RPTs, business groups using the big four auditor services in their RPTs activities, and reporting at more adequate prices.

Furthermore, the findings of the moderating role of firm size on the relationship between RPTs and their components show different results from those of the role of audit quality. The larger firm size weakens the positive effect of RPT Loans and RPT Receivables on PPM, where both types of RPT become insignificant after being moderated by firm size. In addition, the moderating role of firm size also weakens the negative effect of RPT Income and RPT Expenses on tax potential. These findings are very interesting because of the attenuation of the positive and negative effects of the RPTs components on PPM.

Stakeholders, especially the government, should supervise and control RPTs activities comprehensively, especially on the types of RPT Income/Sales and RPT Expenses transactions that opportunistic managers use to do tax avoidance through PPM reduction because it is an interaction transaction between business units within a business group. Increasing corporate governance through the quality of auditors positively prevents tax avoidance efforts, especially tunneling. In contrast, the moderating effect of firm size positively affects increasing tax potential in RPTs activities insofar as there is an increase in audit quality.

Limitations and avenue for future research

This study has two limitations, firstly the future model could use re-specification analysis that can capture all data RPTs "in-out" to/from the business group along with period study; and secondly, this study could be adding variable control (business risk and political connection) and investment. Besides, it should also consider the use of more extended periods and the comparative study between conventional business group and MNC in order to obtain more representative international findings.

Acknowledgements

The authors gratefully acknowledge the financial contribution of the Ministry of Education, Culture, Research and Technology, Republic of Indonesia (PDUPT Research project-Competitiveness for research grant No. 473/LL3/AK.04/2022).

References

- Andrikopoulos, A., Merika, A., Merikas, A., & Sigalas, C. (2021). Related party transactions and principal-principal conflicts in public companies: Evidence from the maritime shipping

- industry. *Transportation Research Part E: Logistics and Transportation Review*, 145(November 2020), 102171. <https://doi.org/10.1016/j.tre.2020.102171>
- Angelica, B., Gunawan, D., Christella, J., Chandra, Y., & Rachman, R. A. (2021). The effect of related party transactions on the performance of Indonesian listed companies. *Jurnal Manajemen Teknologi*, 20(1), 21–39. <https://doi.org/10.12695/jmt.2021.20.1.2>
- Ashrafi, M., Abbasi, E., Hosseini, S. A., & Etemadi, M. P. (2020). The effect of related parties transactions on the firm value: Moderating role of audit committee. *Iranian Journal of Finance*, 3(2), 25–43.
- Ayers, B. C., Jiang, J., & Laplante, S. K. (2009). Taxable income as a performance measure: The effects of tax planning and earnings quality. *Contemporary Accounting Research*, 26(1), 15–54. <https://doi.org/10.1506/car.26.1.1>
- Baltagi, B. H. (2013). *Econometric analysis of panel data*. John Wiley & Sons. <https://doi.org/10.1002/9781118445112.stat03160>
- Ben Cheikh, S., & Loukil, N. (2022). Political connections, related party transactions and firm performance: Evidence from Tunisia context. *Journal of Accounting in Emerging Economies*, 13(1). <https://doi.org/10.1108/JAEE-10-2020-0287>
- Berkman, H., Cole, R. A., & Fu, L. J. (2009). Expropriation through loan guarantees to related parties: Evidence from China. *Journal of Banking & Finance*, 33(1), 141–156. <https://doi.org/10.1016/j.jbankfin.2007.11.001>
- Bona-Sánchez, C., Fernández-Senra, C. L., & Pérez-Alemán, J. (2017). Related-party transactions, dominant owners and firm value. *BRQ Business Research Quarterly*, 20(1), 4–17. <https://doi.org/10.1016/j.brq.2016.07.002>
- Chen, X., Hu, N., Wang, X., & Tang, X. (2014). Tax avoidance and firm value: Evidence from China. *Nankai Business Review International*, 5(1), 25–42. <https://doi.org/10.1108/NBRI-10-2013-0037>
- Cheung, Y.-L., Jing, L., Lu, T., Rau, P. R., & Stouraitis, A. (2009). Tunneling and propping up: An analysis of related party transactions by Chinese listed companies. *Pacific-Basin Finance Journal*, 17(3), 372–393. <https://doi.org/10.1016/j.pacfin.2008.10.001>
- Cheung, Y., Rau, P., & Stouraitis, A. (2006). Tunneling, propping, and expropriation: Evidence from connected party transactions in Hong Kong. *Journal of Financial Economics*, 82(2), 343–386. <https://doi.org/10.1016/j.jfineco.2004.08.012>
- Fazli, A. (2019). *Corporate governance, related party transactions and firm performance among family owned firms in Pakistan* [PhD thesis, University of Malaya]. <http://studentsrepo.um.edu.my/id/eprint/12094>
- Fooladi, M., & Farhadi, M. (2019). Corporate governance and detrimental related party transactions. *Asian Review of Accounting*, 27(2), 196–227. <https://doi.org/10.1108/ARA-02-2018-0029>
- Freihat, F., & Razaq, A. (2019). Factors affecting price to earnings ratio (P/E): Evidence from the emerging market. *Risk Governance and Control: Financial Markets and Institutions*, 9(2), 47–56. <https://doi.org/10.22495/rgcv9i2p4>
- Fuadiah, L. L., & Kalsum, U. (2021). The impact of corporate social responsibility on firm value: The role of tax aggressiveness in Indonesia. *Journal of Asian Finance, Economics and Business*, 8(3), 209–216. <https://doi.org/10.13106/jafeb.2021.vol8.no3.0209>
- Gaaya, S., Lakhal, N., & Lakhal, F. (2017). Does family ownership reduce corporate tax avoidance? The moderating effect of audit quality. *Managerial Auditing Journal*, 32(7), 731–744. <https://doi.org/10.1108/MAJ-02-2017-1530>
- Gallemlere, J., Maydew, E. L., & Thornock, J. R. (2014). The reputational costs of tax avoidance. *Contemporary Accounting Research*, 31(4), 1103–1133. <https://doi.org/10.1111/1911-3846.12055>
- Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics*, 50(2–3), 127–178. <https://doi.org/10.1016/j.jacceco.2010.09.002>
- Hendratama, T. D., & Barokah, Z. (2020). Related party transactions and firm value: The moderating role of corporate social responsibility reporting. *China Journal of Accounting Research*, 13(2), 223–236. <https://doi.org/10.1016/j.cjar.2020.04.002>
- Jian, M., & Wong, T. J. (2010). Propping through related party transactions. *Review of Accounting Studies*, 15(1), 70–105. <https://doi.org/10.1007/s11142-008-9081-4>
- Khaoula, F., & Moez, D. (2019). The moderating effect of the board of directors on firm value and tax planning: Evidence from European listed firms. *Borsa Istanbul Review*, 19(4), 331–343. <https://doi.org/10.1016/j.bir.2019.07.005>
- Klassen, K. J., Lisowsky, P., & Mescall, D. (2017). Transfer pricing: Strategies, practices, and tax minimization. *Contemporary Accounting Research*, 34(1), 455–493. <https://doi.org/10.1111/1911-3846.12239>
- Kohlbeck, M., & Mayhew, B. W. (2010). Valuation of firms that disclose related party transactions. *Journal of Accounting and Public Policy*, 29(2), 115–137. <https://doi.org/10.1016/j.jaccpubpol.2009.10.006>
- Lo, A. W. Y., Wong, R. M. K., & Firth, M. (2010). Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China. *Journal of Corporate Finance*, 16(2), 225–235. <https://doi.org/10.1016/j.jcorpfin.2009.11.002>
- Löffler, C. (2019). Divisionalization and domestic transfer pricing for tax considerations in the multinational enterprise. *Management Accounting Research*, 45(November 2017), 100646. <https://doi.org/10.1016/j.mar.2019.07.003>
- Minh Ha, N., Phuong Trang, T. T., & Vuong, P. M. (2022). Relationship between tax avoidance and institutional ownership over business cost of debt. *Cogent Economics & Finance*, 10(1). <https://doi.org/10.1080/23322039.2022.2026005>
- Nekhili, M., & Cherif, M. (2011). Related parties transactions and firm's market value: The French case. *Review of Accounting and Finance*, 10(3), 291–315. <https://doi.org/10.1108/14757701111155806>
- Nugroho, W. C., & Agustia, D. (2018). Corporate governance, tax avoidance, and firm value. *AFEBI Accounting Review*, 2(2), 92. <https://doi.org/10.47312/aar.v2i02.87>
- Park, S. (2018). Related party transactions and Tax avoidance of business groups. *Sustainability*, 10(10). <https://doi.org/10.3390/su10103571>
- Pozzoli, M., & Venuti, M. (2014). Related party transactions and financial performance: Is there a correlation? Empirical evidence from Italian listed companies. *Open Journal of Accounting*, 03(1), 28–37. <https://doi.org/10.4236/ojacct.2014.31004>
- Rathke, A. A. T., Rezende, A. J., & Watrin, C. (2020). Classification of transfer pricing systems across countries. *International Economics*, 164(September 2019), 151–167. <https://doi.org/10.1016/j.inteco.2020.08.002>
- Richardson, G., Taylor, G., & Lanis, R. (2013). Determinants of transfer pricing aggressiveness: Empirical evidence from Australian firms. *Journal of Contemporary Accounting and Economics*, 9(2), 136–150. <https://doi.org/10.1016/j.jcae.2013.06.002>
- Santosa, P. W. (2020a). The effect of financial performance and innovation on leverage: Evidence from Indonesian food and

- beverage sector. *Organizations and Markets in Emerging Economies*, 11(22), 367–388.
<https://doi.org/10.15388/omee.2020.11.38>
- Santosa, P. W. (2020b). The moderating role of firm size on financial characteristics and Islamic firm value at Indonesian equity market. *Business: Theory and Practice*, 21(1), 391–401.
<https://doi.org/10.3846/btp.2020.12197>
- Santosa, P. W., Rahayu, S. I., Simon, Z. Z., & Tambunan, M. E. (2021). The moderating role of audit quality and firm size in the effect of corporate governance on related party transactions: Evidence from Indonesia. *Investment Management and Financial Innovations*, 18(4), 166–176.
[https://doi.org/10.21511/imfi.18\(4\).2021.15](https://doi.org/10.21511/imfi.18(4).2021.15)
- Santosa, P. W., Tambunan, M. E., & Kumullah, E. R. (2020). The role of moderating audit quality relationship between corporate characteristics and financial distress in the Indonesian mining sector. *Investment Management and Financial Innovations*, 17(2), 88–100.
[https://doi.org/10.21511/imfi.17\(2\).2020.08](https://doi.org/10.21511/imfi.17(2).2020.08)
- Sari, D. K., Utama, S., & Rossieta, H. (2017). Tax avoidance, related party transactions, corporate governance and the corporate cash dividend policy. *Journal of Indonesian Economy and Business*, 32(3), 190. <https://doi.org/10.22146/jieb.28658>
- Sayidah, N., Assagaf, A., & Possumah, B. T. (2019). Determinant of state-owned enterprises financial health: Indonesia empirical evidence. *Cogent Business and Management*, 6(1), 1–15.
<https://doi.org/10.1080/23311975.2019.1600207>
- Suk, K. S., Haryanto, M., & Purba, J. T. (2019). Cash holdings of business group-affiliated firms in Indonesia. *DLSU Business and Economics Review*, 29(1), 40–57.
- Supatmi, M., Sutrisno, T., Saraswati, E., & Purnomosidhi, B. (2019). The effect of related party transactions on firm performance: the moderating role of political connection in Indonesian banking. *Business: Theory and Practice*, 20, 81–92.
<https://doi.org/10.3846/btp.2019.08>
- Tambunan, M., Siregar, H., Manurung, A., & Priyarsono, D. (2017). Related party transactions and firm value in the business groups in the Indonesia stock exchange. *Journal of Applied Finance & Banking*, 7(3), 1–20. <https://search.proquest.com/abicomplete/docview/1898416706/fulltextPDF/7011ACE8BAF9440BPQ/38?accountid=151027>
- Tariq, T. I., & Mousa, G. A. (2020). Can related party transactions be a matter for firm value? Evidence from emerging markets. In *2020 International Conference on Decision Aid Sciences and Application (DASA)* (pp. 258–263). IEEE.
<https://doi.org/10.1109/DASA51403.2020.9317048>
- Utama, C. A., & Utama, S. (2014). Corporate governance, size and disclosure of related party transactions, and firm value: Indonesia evidence. *International Journal of Disclosure and Governance*, 11(4), 341–365.
<https://doi.org/10.1057/jdg.2013.23>
- Wang, H. Da, Cho, C. C., & Lin, C. J. (2019). Related party transactions, business relatedness, and firm performance. *Journal of Business Research*, 101(January 2018), 411–425.
<https://doi.org/10.1016/j.jbusres.2019.01.066>
- Widadi, F. A., Subroto, B., & Rahman, A. F. (2022). Tax avoidance mediated by constitutional ownership as moderating variables. *ETIKONOMI*, 21(2), 411–430.
<https://doi.org/10.15408/etk.v21i2.25799>
- Wong, R. M. K., Kim, J.-B., & Lo, A. W. Y. (2015). Are related-party sales value-adding or value-destroying? Evidence from China. *Journal of International Financial Management & Accounting*, 26(1), 1–38. <https://doi.org/10.1111/jifm.12023>
- Yeh, Y. H., Shu, P. G., & Su, Y. H. (2012). Related-party transactions and corporate governance: The evidence from the Taiwan stock market. *Pacific Basin Finance Journal*, 20(5), 755–776. <https://doi.org/10.1016/j.pacfin.2012.02.003>
- Zimon, G., Appolloni, A., Tarighi, H., Shahmohammadi, S., & Daneshpou, E. (2021). Earnings management, related party transactions and corporate performance: The moderating role of internal control. *Risks*, 9(8), 146.
<https://doi.org/10.3390/risks9080146>