

Tunnelling Behavior: Exploring Corporate Governance and Ownership Structure

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ABSTRACT

This paper investigates the impact of corporate governance quality and ownership structure on tunnelling behaviour in Indonesia, specifically examining the moderating effect of the number of subsidiaries. The study utilized quantitative research methods and secondary data from the Indonesia Stock Exchange, company websites, and relevant journals. The sample consisted of 474 observations from listed companies on the IDX, excluding non-financial firms, covering the period from 2016 to 2019. Statistical analyses, including Pearson Correlation, OLS Regression, and Moderated Regression, were conducted using STATA 14.2 software. The results indicate that managerial ownership, government ownership, and corporate governance quality positively influence tunnelling behaviour, while domestic ownership has a negative impact. Foreign ownership, on the other hand, does not significantly affect tunnelling behaviour. Notably, the number of subsidiaries strengthens the relationship between corporate governance quality and tunnelling behaviour.

Keywords: Corporate governance quality; ownership structure; tunnelling behaviour; subsidiaries.

INTRODUCTION

The primary factor to consider while setting up a company is the inclusion of proprietors within the organizational framework [54]. The owners or shareholders significantly influence the company's sustainability by providing resources for its business activities [39,44]. Shareholders' influence can be broadly categorized into dispersed and concentrated ownership structures [48]. The main difference between these forms lies in the decision-making process [1,12]. Within a concentrated ownership setup, dominant shareholders possess the authority to appoint management who will act in alignment with their interests, while other shareholders have limited authority in selecting management [37].

Consequently, controlling shareholders appear to be part of the company's management, leading to conflicts where they may engage in expropriation or increase their welfare above non-controlling shareholders through company transactions [5]. Furthermore, [32] reveals that when controlling shareholders have power over other shareholders, they use it to influence corporate decisions in their favour. Decisions made by controlling shareholders are typically aimed at obtaining special benefits from the policy control they have acquired, as expressed by [53]. Two possible ways controlling shareholders can gain special benefits from policy control are through operational policies and contractual policies with other parties [30].

Contractual policies with other parties involve transactions conducted by the company with external or related parties [51]. The control and significant influence of controlling shareholders enable them to establish policies that benefit themselves, increasing the risk of tunnelling [18]. Tunnelling behaviour denotes the actions conducted by majority shareholders involving the transfer of assets and withdrawal of profits from the company through dealings with affiliated parties [17,60]. This explanation is also supported by [19,32], who assert that transactions with affiliated parties are frequently utilized with the intention of tunnelling. Controlling shareholders tend to create policies that aim to transfer excess resources rather than distribute them as dividends [23]. The group ownership structure in Indonesia increases the potential for tunnelling, as companies are more likely to engage in transactions with related parties. Furthermore, the weak regulations regarding the protection of minority shareholders in developing countries like Indonesia encourage companies to conduct transactions with multiple parties, which also have the potential for tunnelling [19].

The studies by [25,46] provide empirical evidence of tunnelling behaviour exhibited by companies, such as transfer pricing practices, intra-company borrowing and lending, and direct fraud and theft. [11] classify transactions that can expropriate minority shareholders, encompassing asset acquisitions, asset disposals, equity transfers, trade arrangements,

and monetary disbursements. [18] After conducting further research, tunnelling through transactions with related parties among companies in China should be highlighted, particularly concerning the misuse of assets. [36] Also, it explains that merger and acquisition strategies have the potential for tunnelling.

Many researchers have conducted studies related to tunnelling behaviour and propping behaviour by controlling shareholders through transactions with related parties, including [35,59]. [13,40] examine companies' motivations in engaging in transactions with related parties, often related to tunnelling. Companies benefit from such transactions, including lower transaction costs and increased firm value [6] or shorter negotiation processes [23]. However, [9,23] also suggests that there may be intentions to engage in tunnelling or earnings management behind transactions with related parties.

Furthermore, research by [19] demonstrates a connection between politically connected companies in Indonesia and transactions with related parties as a form of tunnelling, supported by [5,18], also revealing the link between corporate governance structure and management policies, including policies related to transactions with related parties. [26] their research shows that Indonesia has a predominantly group-based business structure and government ownership, making tunnelling practices highly likely. [10] mention that 73% of companies in Indonesia belong to business groups.

More research is still needed on tunnelling behaviour with variables of corporate governance quality and firm ownership structure in Indonesian companies [36]. Most existing studies are conducted outside of Indonesia but with similar corporate governance structures, such as the two-tier corporate board system, as seen in the research by [41,55] in China, Germany, Japan, and the Netherlands. This motivates researchers to investigate tunnelling behaviour in Indonesia using a combination of variables, including corporate governance quality, ownership structure, the moderating variable of the number of subsidiaries owned by the company, and several other control variables.

Literature Review

Agency Theory

The agency problem arises from an agreement between a principal and an agent when there is a conflict of interest in achieving the best outcome. The root of this conflict emerges from the division between ownership and management. In a company, conflicts of interest arise due to the disconnect between ownership (shareholders) and management,

as highlighted in [22], also known as agency conflict type I. The problem in type I agency conflict occurs when there is dispersed ownership within the company, resulting in no party capable of controlling management performance to ensure that the company is run according to their wishes. The difference in interests, where shareholders or owners focus on the long term while management focuses on the short term, leads to the emergence of this agency problem. To control management behaviour, shareholders concentrate ownership so that with larger share ownership, they can obtain a higher voting power to influence management decisions.

However, according to [14], concentrated ownership creates a new conflict between majority and minority shareholders. The concern is that shareholders with greater control over company policies may engage in expropriation and make decisions that disadvantage minority shareholders, thus leading to what is known as agency conflict type II. In developing countries, the agency problem is not only between management and shareholders in general, but conflicts arise due to conflicting interests between controlling and non-controlling shareholders [33]. Regarding developing countries, [19] also mention that the high ownership concentration held by family-owned businesses in Indonesia leads to type II agency conflict. The research by [18] also indicates that tunnelling is part of the second type of agency problem involving expropriation by majority shareholders from minority shareholders.

Good Corporate Governance

Corporate governance plays a crucial role in preventing corporate failures. [49] also added that the mechanisms of corporate governance are determined not only at the company level but also at the national level. The concept of corporate governance has expanded to encompass attention to stakeholders and accountability to shareholders [2,3,7]. The involvement of stakeholders is also an important element of a company's business strategy and activities.

Corporate governance can solve agency problems related to the separation of ownership and management [28,43,52]. Additionally, corporate governance can prevent conflicts between majority and minority shareholders, as revealed by [33] that many business practices involve the push of majority shareholders or controllers to unilaterally determine policies without considering the decisions of minority shareholders, or as described by [32] as the ability of majority shareholders who control the company to obtain private benefits, known as self-dealing. Therefore, applying sound corporate governance

principles is a crucial company assessment to reduce agency conflicts. Furthermore, good corporate governance reduces information asymmetry between controlling shareholders as insiders and non-controlling parties [46].

In developing countries, agency problems focus more on majority shareholders because a family holds most companies. Hence, suitable corporate governance mechanisms must be implemented to ensure existing conflicts do not affect the company's performance [42]. [16] stated that implementing suitable corporate governance mechanisms can reduce conflicts of interest when there is inadequate corporate governance. Poor corporate governance can lead to tunnelling behaviour within the company. Therefore, the Organisation for Economic Cooperation and Development (OECD) has developed an assessment of good corporate governance using the Corporate Governance Index (CGI), consisting of five main aspects with 184 key points: Rights of shareholders (26), the equitable treatment of shareholders (17), role of stakeholders (21), disclosure and transparency (41), and responsibilities of the Board (79). By assessing good corporate governance, companies can measure their existing corporate governance to maximize long-term value creation [49].

Tunnelling behaviour is closely related to corporate governance, where ownership structure and related management policies play a significant role. Therefore, to assess a company's governance quality, researchers utilize the Corporate Governance Quality (CGQ) framework, following the research conducted by [16]. This framework considers several governance components, such as the Composition of the Board of directors and commissioners, the number of board meetings, ownership concentration, and others.

Tunnelling

Ownership structure can determine the strategy and direction of a company's policies [29,34]. A family-owned or group ownership structure can facilitate transactions with related parties. [19] revealed that such business forms or business forms with connections created by a company can lead the company to engage in transactions that threaten minority shareholders or non-controlling parties. Transactions with related parties can be used as a channel for a company to gain advantages over minority shareholders, or they can be considered expropriation. Transactions with related parties can involve the transfer of resources, services, or obligations between reporting entities and related parties, regardless of whether a price is charged (PSAK No.7).

The expropriation of benefits from non-controlling shareholders can arise from operational

policies or contractual policies with other parties [53]. One form of contractual policy that can be an expropriation is transactions with related parties used for tunnelling. Tunnelling behaviour is a second agency problem involving controlling and non-controlling shareholders. Before that, [40] stated that agency problems involving controlling and non-controlling shareholders could be transactions with related parties referring to tunnelling and propping behaviours. However, propping, on the other hand, is a transaction that benefits non-controlling parties but is detrimental to the company. According to [25], tunnelling behaviour significantly harms non-controlling shareholders due to actions that take advantage of the control held by majority shareholders. [25] tunnelling is divided into two types: resource transfers through self-dealing transactions, including illegal/fraudulent transactions, and asset sales through contracts, such as transfer pricing. Furthermore, it may encompass augmenting ownership without asset transfers through insider trading, minority freeze-outs, dilutive share issuances, or incremental acquisitions. [5], in their research, they classified tunnelling based on the resources being tunnelled:

- a. Current asset tunnelling or cash flow tunnelling is a transaction that transfers cash and current assets from the company to the majority shareholder.
- b. Asset tunnelling is the manner in which assets are transferred between the company and the majority shareholder or vice versa.
- c. Equity tunnelling: This is done by increasing the ownership of the majority shareholder in the company at the expense of the interests of minority shareholders.

The tunnelling categorization is based on two reasons: each category has a different relationship to financial statements, and the rule of law has a relationship to a specific form of tunnelling. Cash flow tunnelling involving transactions with related parties includes receivable transactions with affiliated parties, trade transactions with affiliated parties, and payments for services rendered to related parties.

In tunnelling practices, minority shareholders are often less aware of them than majority shareholders. This is because majority shareholders are typically individuals at the management level within the company. Therefore, it can be said that tunnelling practices do not provide sufficient information about the flow of funds exiting these tunnelling practices to minority shareholders.

There are several types of tunnelling behaviours discussed in this paper, one of which we focus on in this study is current asset tunnelling. This behaviour involves the transfer of assets to related parties of

the company based on instructions from majority shareholders to the management or even when the management themselves are majority shareholders. One of the transactions with related parties includes receivables transactions, as indicated in [16]. Researchers use the indicator of the proportion between other receivables and the company's total assets to measure it.

Firm's Ownership Structure and Tunneling Behaviour

The ownership structure of a company's shares comprises various elements, including domestic ownership, foreign ownership, government ownership, management ownership, family ownership, and other stakeholders. As stated by [47], in Asia, particularly in Indonesia, ownership structures predominantly exhibit concentrated ownership, where certain shareholders can control or participate in managing a company. Research by [32,40] also explains that companies and capital markets in countries like China and Hong Kong in Asia are also dominated by controlling shareholders with relatively high levels of concentrated ownership.

Companies and capital markets in Indonesia are not much different from other Asian countries. [49] mentions that ownership structures in Indonesia are commonly concentrated among several closely related family members, resulting in most companies having affiliations (interlocking) and the potential to be controlled by the same family. Therefore, the agency problem in Asian countries lies between majority and minority shareholders. This is supported by [26], who found that over 70% of companies in Indonesia are under the control of a business group. This distinctive characteristic of a business group represents a unique aspect of concentrated ownership in Indonesia. Consistent with [56] research, the business groups are owned mainly by families, meaning family-owned companies dominate the private sector in Indonesia. [42] states that these founding families are the controlling shareholders involved in the company's management, giving rise to agency issues.

This study's ownership structure refers to four main types: managerial ownership, domestic ownership, foreign ownership, and government ownership. [16] have proven in their research that ownership structure and shareholder identity influence the likelihood of expropriation. According to [47], government shareholders predominantly engage in tunnelling behaviours, leading to the conclusion that the government is exploited by a certain group for specific interests. [32] Also, it documents the existence of propping and tunnelling behaviours in government-controlled companies. Furthermore, companies that are part of a business

group and managed by ultimate owners are more likely to engage in tunnelling [10]. Based on these findings, the first hypothesis can be formulated and tested regarding the ownership structure's impact on tunnelling behaviour, divided into four parts based on the types of ownership as follows:

H_{1a}: Managerial ownership has an influence on tunnelling behaviour in companies.

H_{1b}: Domestic ownership has an influence on tunnelling behaviour in companies.

H_{1c}: Foreign ownership has an influence on tunnelling behaviour in companies.

H_{1d}: Government ownership has an influence on tunnelling behaviour in companies.

Corporate Governance Quality (CGQ) and Tunneling Behaviour

The significance of corporate governance lies in its role of mitigating agency issues that may arise between controlling shareholders and non-controlling shareholders. With good corporate governance, a company can create value for all its shareholders [58]. The governance mechanisms aim to oversee the company's business activities, protect the interests of shareholders [20], and improve the quality of company information, thereby reducing acts of expropriation [33]. Good corporate governance is based on five fundamental principles: transparency, accountability, responsibility, independence, and fairness and equality. Research by [27] documents that good governance benefits companies in obtaining financing, lower cost of capital, and better company performance.

Additionally, [16] also mentions that companies with efficient corporate governance mechanisms are anticipated to possess a more robust competitive edge when compared to those with inadequate governance. Existing studies have shown that corporate governance mechanisms can mitigate agency problems. Therefore, by using measures to define corporate governance quality, the second hypothesis can be formulated and tested in this study regarding the quality of corporate governance based on the CGQ Index and its relationship with tunnelling behaviour as follows:

H₂: Corporate governance quality has an influence on tunnelling behaviour in companies.

Subsidiaries, Corporate Governance Quality (CGQ), and Tunneling Behaviour

Regarding the above hypothesis, this study adds an analysis with the number of subsidiaries as a moderating variable, forming this research's third hypothesis. Based on existing research, it is known that concentrated ownership, predominantly held

by controlling shareholders who belong to family business groups, can exert control over non-controlling shareholders [15,21]. However, not all business groups consist of family-owned companies; some have direct connections with the government [26], indicating that the governance of such companies can influence policies or organizational behaviour in various aspects, including profit determination, capital increase, and even financial reporting practices [5]. As the controlling shareholder, the parent company can control its subsidiary companies in conducting business activities and setting policies. Therefore, the number of subsidiaries can influence the governance of majority shareholders' companies.

Several previous studies, such as [45], have shown the moderating effect of subsidiaries on company performance. The parent company's CEO's leadership abilities are strengthened by the business complexity and autonomous decision-making of subsidiaries, which impact overall company performance. As the complexity of issues and business decisions the CEO faces increases, their leadership skills improve, leading to more effective company management. Another study by [8] documents the moderating effect of subsidiaries' strategic initiatives on innovation and knowledge within the company.

This research uses the number of subsidiaries of a company, referring to the findings from [8] and [45], which suggest that the number of subsidiaries a company has can influence the governance of its parent company. This is supported by [8], which shows that personal monitoring and incentive alignment exist, and by [45], which indicates that the entrepreneurial leadership of subsidiary CEOs leads to improved subsidiary performance, consequently increasing the financial consolidation value of the parent company. These previous studies inspired the researcher to utilize the number of subsidiaries of a company to examine the role of subsidiaries in the governance of their parent company, whether it has the potential for tunnelling behaviour or not.

However, in previous studies, the use of the number of subsidiaries as a moderator between corporate governance quality and tunnelling behaviour has yet to be explored. Therefore, this research will also test this hypothesis:

H₃: Companies with an above-average number of subsidiaries weaken the influence of Corporate Governance Quality on tunnelling behaviour within the company.

RESEARCH METHOD

Data Sources and Samples

This study relies on secondary data sources. The research utilizes time series data for the period

from 2016 to 2019. This period was chosen to incorporate the latest data and complement previous studies, which predominantly used data until 2015. As such, the objective of this study is to investigate potential variations in findings compared to previous research that explored comparable variables. Data for this study were sourced from audited annual reports of all companies listed on the Indonesia Stock Exchange (IDX) from 2016 to 2019, excluding those in the financial sector. The data were accessed through the website www.idx.co.id and OSIRIS. Additionally, data related to variables not available from these sources were collected from the respective company websites, relevant journals, or through a Google search.

The population under study comprises all the companies listed on the Indonesia Stock Exchange (IDX) from 2016 to 2019, except those from the financial sector. This selection process led to a sample size of 474 entities from the entire population. The data used in this study are derived from the companies' annual reports, specifically in organizational structure, corporate governance, and financial statements published by the companies from 2016 to 2019 and audited. The researcher adopted a purposive sampling technique, which involves deliberately selecting samples based on predetermined criteria to include them in the study. The criteria include the absence of delisting for the selected companies and the availability of complete data regarding the variables under investigation.

Variable Measurement

Dependent Variable

Tunnelling behaviour refers to a company's conduct of transactions with related parties, which can be used to divert resources out of the company for the benefit of majority shareholders. Therefore, there is a possibility of expropriation against minority shareholders. While not all transactions with related parties necessarily lead to expropriation, such transactions can serve as the primary means for companies to engage in tunnelling [25]. This study measures cash flow tunnelling behaviour, where companies engage in transactions with related parties related to cash payments or receivables to related parties. Following the research by [18], the indicator used to measure tunnelling behaviour (TUNNEL) based on the ratio of receivables from related parties (OREC) is determined as follows:

$$\text{OREC} = \text{related party receivables} / \text{total assets}$$

The proportion of receivables to related parties can be used to reflect company transactions that conceal benefits for majority shareholders. For

example, they may record the amounts owed to related entities or individuals in the "other receivables" category without proper disclosure, effectively hiding these transactions from minority shareholders or regulators. Therefore, the impact of receivables on related parties can be used to record fictitious receivables.

Independent Variable

Firm's Ownership Structure

This study divides ownership types (SHARE) in companies into four categories: managerial ownership, domestic ownership, foreign ownership, and government ownership. Following [47] categorization of ownership, this research makes several modifications to determine the measurements for each ownership type, thereby establishing these variables' general and specific relationships with the dependent variable. The measurement of ownership is done using dummy variables to determine the dummy effects of each ownership type on tunnelling behaviour in companies. The following are explanations of the four ownership types and their measurements in this study:

a. Managerial Ownership

Managerial ownership (SHARE) refers to the condition where the managers of a company also hold a portion of its shares. In this study, managerial ownership is measured by the company's presence or absence of management ownership using a dummy variable. The measurement is also conducted for the other three types of ownership. A dummy variable of 1 indicates the presence of managerial ownership in the company, and 0 indicates otherwise.

b. Domestic ownership

Domestic ownership (DSHARE) is defined as the participation of the public and general public through shareholding in a company. Individuals or entities hold the company's shares as part of their capital participation. Domestic ownership is measured by assigning a dummy variable of 1 if there is domestic ownership in the company and 0 if otherwise.

c. Foreign ownership

Foreign ownership (FSHARE) is indicated by foreign institutional investors with capital participation in a domestic company. Like domestic ownership, foreign ownership reflects individual and foreign entity shareholders in a domestic company. A dummy variable represents the measurement of foreign ownership. The dummy variable is assigned a value of 1 if foreign ownership exists in the company and 0 if otherwise.

d. Government ownership

Government ownership (GSHARE) refers to the ownership of company shares by the government,

typically in state-owned enterprises that have gone public. Similar to the previous three types of ownership, government ownership is measured by assigning a dummy variable. The dummy variable is assigned a value of 1 if government ownership exists in the company and 0 if otherwise.

Corporate Governance Quality

Table 1. Construction of Corporate Governance Quality Index (CGQI)

Corporate Governance	Definition	Measurement
BOD size	Number of directors in the company	Dummy 1 if the number of directors in the company exceeds the average director in other companies in the year concerned, and dummy 0 otherwise
Independent director size	Number of independent directors in the company	Dummy 1 if the number of independent directors in the company exceeds the average of independent directors in other companies in the year concerned, and dummy 0 otherwise
BOC size	Number of commissioners in the company	Dummy 1 if the number of commissioners in the company exceeds the average commissioners in other companies in the year concerned, and dummy 0 otherwise
Independent commissioner size	Number of independent commissioners in the company	Dummy 1 if the number of independent commissioners in the company exceeds the average independent commissioners in other companies in the year concerned, and dummy 0 otherwise
Board meeting	Number of Board of Directors meetings in a year	Dummy 1 if the number of directors' meetings in the company exceeds the average of the directors' meetings in other companies in the year concerned, and dummy 0 otherwise
Ownership concentration	The percentage of ownership held by the highest shareholder in the company	Dummy 1 if the percentage of the highest shareholder in the company exceeds the average percentage of the highest shareholder in other companies in the year concerned, and dummy 0 otherwise
Managerial shareholding	Whether or not there is share ownership by company management	Dummy 1 if there is share ownership by company management, and dummy 0 otherwise
Audit Firm	Public Accounting Firm (KAP) that audits financial reports company	Dummy 1 if KAP includes BIG 4, and dummy 0 otherwise

The Organisation for Economic Cooperation and Development (OECD) has developed an assessment of good corporate governance using the Corporate Governance Quality Index (CGQI), which measures the quality of corporate governance mechanisms.

Several researchers have used various proxies as measures of corporate governance, such as audit committees and independent commissioners in the studies conducted by [19,33], the number of board meetings [55], board size [31] and other related variables. However, measuring corporate governance using a single factor is considered less accurate in defining corporate governance. Therefore, following the study by [16], a framework for the corporate governance quality index (CGQI) was developed in this research to measure the effectiveness of governance in the studied companies by averaging the weights of the components of corporate governance itself. Based on this research, Table 1 develops a similar definition with some modifications to obtain a CGQ Index value.

$$\text{CGQ Index} = \sum_{j=1}^8 \text{corporate governance component}$$

Moderating Variable: Total Subsidiaries

Companies with concentrated ownership can form a business group comprising a parent company and its subsidiaries. The parent company may have more subsidiaries, increasing the possibility of expropriation. In this study, the number of subsidiaries owned by a company is used as a moderating variable that weakens or strengthens the relationship between the independent variable, corporate governance quality, and the dependent variable, tunnelling behaviour. Therefore, the measurement of the number of subsidiaries (SUBS) is based on the research by [26], where a dummy variable is assigned a value of 1 if the number of subsidiaries in a company is above the average number of subsidiaries in other companies, and a value of 0 otherwise.

Control Variable

Firm's Size

[19] defined firm size (SIZE) by looking at the total book value of the company's assets at the end of the year. Knowing the total assets can be used to assess the company's condition reflected in the asset position after the respective year has passed. SIZE can be determined from the natural logarithm of the total company assets at the end of the year.

Firm's Age

According to [18], the longer a company has been established, the better its corporate governance

tends to be, which can create more value for its shareholders. Therefore, based on that research, the firm age (AGE) measurement is determined by looking at the company's establishment year.

Audit Committee

[23] explained that the presence of an audit committee can assist the performance of the Board of Commissioners in their oversight function. This enables prompt follow-up and shortens the reporting chain in case of internal issues related to the company's business activities. Following [9], the measurement of the audit committee variable (ACOMM) is defined as a dummy variable, taking the value of 1 if an audit committee exists in the company and 0 otherwise.

Return on Asset (ROA)

This study uses one proxy for company profitability: return on assets (ROA). ROA measures a company's effectiveness in utilizing its assets to generate profit. In this study, ROA is used as a control variable, consistent with the explanation by [19] that ROA can help investors and management assess how well a company converts its investments in company assets into profits. ROA can be calculated by dividing net income by the total book value of assets.

Research Model

To test the influence of a firm's ownership structure (SHARE) on a firm's tunnelling behaviour (TUNNEL) according to hypothesis 1, a multiple linear regression equation is formulated as follows:

$$TUNNEL = \alpha + \beta_1 SHARE + \beta_2 SUBS + \beta_3 SIZE + \beta_4 AGE + \beta_5 ACOMM + \beta_6 ROA + \epsilon$$

To test the influence of corporate governance quality (CGQI) on a firm's tunnelling behaviour (TUNNEL) according to hypothesis 2, a multiple linear regression equation is formulated as follows:

$$TUNNEL = \alpha + \beta_1 CGQI + \beta_2 SUBS + \beta_3 SIZE + \beta_4 AGE + \beta_5 ACOMM + \beta_6 ROA + \epsilon$$

To examine the moderating effect of the number of subsidiaries on the influence of corporate governance quality on a firm's tunnelling behaviour, an interaction between the corporate governance quality index (CGQI) and the number of subsidiaries (SUBS) is created as CGQIxSUBS. Hence, the multiple linear regression equation is formulated as follows:

$$TUNNEL = \alpha + \beta_1 CGQI * SUBS + \beta_2 CGQI + \beta_3 SUBS + \beta_4 SIZE + \beta_5 AGE + \beta_6 ACOMM + \beta_7 ROA + \epsilon$$

This study will conduct several analyses to test the hypotheses, including descriptive statistical analysis, Pearson correlation analysis, multiple linear regression analysis, and moderation regression analysis.

Table 2. Variable Definition

Variable	Definition
TUNNEL	tunnelling proxy in the form of a proportion of receivables from related parties
SHARE	dummy value of each type of ownership
CGQI	the value of the CGQ Index in the company in the year concerned
SUBS	dummy value of the company's subsidiaries
SIZE	natural logarithm of the company's total assets at the end of the year
AGE	natural logarithm of the company's age since the company was founded
ACOMM	dummy score of the audit committee
ROA	company profitability is calculated from net income divided by total assets

RESULTS AND DISCUSSION

Descriptive Statistics

This study utilizes descriptive statistical analysis of the variables used in the research. Descriptive statistics are presented in Table 3, which displays the minimum value, maximum value, mean value, and median value of the dependent variable tunnelling behaviour (TUNNEL), the independent variable firm's ownership structure (SHARE), and the variables corporate governance quality (CGQI), moderation variable number of subsidiaries (SUBS), as well as control variables return on asset (ROA), firm size (SIZE), firm age (AGE), and audit committee (ACOMM).

The variable tunnelling behaviour (TUNNEL) is a proxy for the proportion of related party receivables to total assets in the current year. The minimum value of 0 is observed for some companies that did not have related party receivables during the research year, such as PT Akbar Indo Makmur Stimec Tbk, PT Maming Enam Sembilan Mineral Tbk., PT Bhakti Agung Propertindo Tbk., PT Bumi Benowo Sukses Sejahtera Tbk., PT Berlian Laju Tanker Tbk, PT Cowell Development Tbk., PT Dewata Freightinternational Tbk., PT Surya Esa Perkasa Tbk., and several other companies listed in the tabulated data. The maximum value of 0.855 is observed for PT Adaro Energy Tbk. The average value of this variable is 0.040, while the median value is 0.007. A mean value of 0.040 means that the companies used in this research sample, on average,

have a proportion of 4% of receivables to related parties compared to their total assets. This indicates that 4% of the total asset value of the companies can flow out for tunnelling behaviour purposes.

Based on the mean value of tunnelling behaviour (TUNNEL) in this research, which is 0.040, we compared tunnelling studies using similar proxies and found that there are not many differences in this tunnelling value when compared to other countries, such as China, India, Hong Kong, and even similar studies conducted in Indonesia.

[18] conducted research in China on the independent directors' monitoring effect on controlling shareholders' tunnelling behaviours. The study showed an average tunnelling value of 0.038. Meanwhile, research in India conducted by [4] regarding the moderation effect of independent boards in the relationship between related party transactions and banks' financial performance showed an average related party transactions value of 0.03. Furthermore, research in Hong Kong conducted by [57] on Capital-Market Liberalization and Controlling Shareholders' Tunneling showed an average tunnelling value of 0.0161. When compared to research in these three countries, the tunnelling value in this study is nearly similar, at 0.040, when compared to China (0.038), India (0.03), and Hong Kong (0.0161). We also compared it to a similar study in Indonesia by [38] and found an average tunnelling value of 0.023.

The firm's ownership structure (SHARE) is categorized into four types: managerial ownership (MSHARE), domestic ownership (DSHARE), foreign ownership (FSHARE), and government ownership (GSHARE). Each of these variables is measured using dummy variables, with 1 indicating the presence of a particular type of ownership in a company and 0 indicating otherwise. Thus, the minimum value is 0, and maximum values are 1. Managerial ownership (MSHARE) has an average value of 0.726, indicating that 72.6% of the total sample in this study includes managerial ownership in the shareholders' composition of the company. Domestic ownership (DSHARE) has an average value of 0.970, suggesting that 97% of the overall sample includes domestic ownership in the shareholders' composition of the company. Foreign ownership (FSHARE) has an average value of 0.814, indicating that 81.4% of the total sample includes foreign ownership in the shareholders' composition of the company. Government ownership (GSHARE) has a relatively low average value of 0.032, indicating that only 3.2% of the total sample used has government ownership in the shareholders' composition of the company.

Corporate governance quality is proxied by weighing its components, resulting in a corporate

governance quality index (CGQI). This variable is measured using a dummy variable, as indicated in Table 3.1, with a minimum value of 0 and a maximum value of 1. The average value of this variable is 0.459, and the median value is 0.375. PT Surya Citra Media Tbk. has an index value of 1.00, indicating that it meets all the measurement components of corporate governance in this study.

The variable number of subsidiaries (SUBS) is measured by assigning a value of 1 if a company's number of subsidiaries is above the average number of subsidiaries of other companies and a value of 0 otherwise. Thus, the minimum value of the data is 0, and the maximum is 1. Based on the tabulated data, PT Medikaloka Hermina Tbk. has the highest number of subsidiaries, with 72, while some companies do not have subsidiaries. The average value obtained from this variable is 0.297.

Firm size (SIZE), as a proxy for company size, is measured by the natural logarithm of total assets. PT Indonesia Pondasi Raya Tbk holds a minimum value of 22.442. Moreover, PT Jakarta Kyoei Steel Works Tbk. has a maximum value of 32.308. The average value is 28.419, while the median value is 28.319, indicating a positive skewness in the data. The company's age is proxied by firm age (AGE), which looks at the year of establishment. The average value of the data is 30.703, while the median value is 31.

The minimum value is held by five companies with an AGE of 6 years, such as PT Anabatic Technologies Tbk., PT Red Planet Indonesia Tbk., PT Sejahtera Bintang Abadi Textile Tbk., PT Selamat Sempurna Tbk., and PT Sona Topas Tourism Industry Tbk., while the maximum value of 60 years is held by PT Waskita Karya (Persero) Tbk. and several other companies listed in the tabulated results. The return on asset (ROA) variable calculates the proportion of net profit to total assets in the current year. This study's average value obtained is 0.019, and the median value is 0.024. The minimum value is -0.802, held by PT Trikonsel Oke Tbk., while the maximum value is 0.832, held by PT Toba Pulp Lestari Tbk.

The audit committee (ACOMM) indicates the presence or absence of an audit committee within the company. ACOMM is measured using a dummy variable, with 1 indicating the presence of an audit committee and 0 indicating otherwise. Thus, the minimum value of the data is 0, and the maximum is 1. The average value shown in the table is 0.998, indicating that 99.8% of the total sample companies have an audit committee in their organizational structure.

Pearson Correlation

This study uses Pearson correlation analysis to examine the direction and strength of the relationship between two variables. The results of the Pearson correlation analysis are presented in Table 4, where asterisks (*) indicate the significance level for each coefficient of a variable. The addition of more asterisks indicates a stronger relationship between the two variables. A positive sign indicates a positive relationship, while a negative sign indicates an inverse relationship between the two variables. In the table below, the variables government ownership (GSHARE), firm size (SIZE), and audit committee (ACOMM) are found to be significantly related to the dependent variable in this study, which is tunnelling behaviour (TUNNEL). In contrast, the remaining variables do not show a significant relationship with the dependent variable.

The relationships differ among a firm's ownership structure variables. At a significance level of 5%, managerial ownership (MSHARE) is associated with foreign ownership (FSHARE) and government ownership (GSHARE). At the same time, the remaining variables do not have a significant relationship with this variable. At a significance level of 1%, domestic ownership (DSHARE) is significantly related to foreign ownership (FSHARE), firm size (SIZE), firm age (AGE), and audit committee (ACOMM). Additionally, the variable number of subsidiaries (SUBS) has a significant negative relationship with this variable. Foreign ownership (FSHARE) is associated with government ownership (GSHARE) with a coefficient of 0.086, suggesting that government capital participation in a company is supported by increased capital participation from individual and institutional investors. It also indicates that the government can be seen as a pioneer in attracting foreign investment into the shareholder composition of Indonesian companies. Another significant positive relationship, with a coefficient of 0.120 at a significance level of 1%, is shown between government ownership (GSHARE) and firm age (AGE), suggesting that the longer a company exists, the higher the tendency for it to be owned by the government.

Table 3. Descriptive Statistics

	Minimum	Maximum	Mean	Median
<i>TUNNEL</i>	0.000	0.855	0.040	0.007
<i>MSHARE</i>	0.000	1.000	0.726	1.000
<i>DSHARE</i>	0.000	1.000	0.970	1.000
<i>FSHARE</i>	0.000	1.000	0.814	1.000
<i>GSHARE</i>	0.000	1.000	0.032	0.000
<i>CGQI</i>	0.000	1.000	0.459	0.375
<i>SUBS</i>	0.000	1.000	0.297	0.000
<i>SIZE</i>	22.442	32.308	28.419	28.319
<i>AGE</i>	6.000	60.000	30.703	31.000
<i>ROA</i>	-0.802	0.832	0.019	0.024
<i>ACOMM</i>	0.000	1.000	0.998	1.000

Table 4. Pearson Correlation

	<i>TUNNEL</i>	<i>MSHARE</i>	<i>DSHARE</i>	<i>FSHARE</i>	<i>GSHARE</i>	<i>CGQI</i>	<i>SUBS</i>	<i>SIZE</i>	<i>AGE</i>	<i>ROA</i>	<i>ACOMM</i>
<i>TUNNEL</i>	1.000										
<i>MSHARE</i>	0.006 (0.898)	1.000									
<i>DSHARE</i>	-0.037 (0.425)	-0.052 (0.258)	1.000								
<i>FSHARE</i>	-0.002 (0.958)	-0.111** (0.016)	0.129*** (0.005)	1.000							
<i>GSHARE</i>	0.163*** (0.000)	0.111** (0.015)	0.098** (0.033)	0.086* (0.060)	1.000						
<i>CGQI</i>	0.012 (0.798)	-0.055 (0.230)	0.066 (0.154)	0.063 (0.168)	-0.050 (0.274)	1.000					
<i>SUBS</i>	-0.019 (0.687)	0.038 (0.408)	-0.117** (0.011)	0.066 (0.150)	-0.027 (0.559)	-0.023 (0.612)	1.000				
<i>SIZE</i>	0.090* (0.051)	0.055 (0.232)	-0.150*** (0.001)	0.017 (0.717)	0.040 (0.383)	-0.032 (0.483)	0.342*** (0.000)	1.000			
<i>AGE</i>	0.013 (0.778)	0.020 (0.671)	0.276*** (0.000)	-0.059 (0.200)	0.120*** (0.009)	0.115** (0.012)	-0.159*** (0.001)	0.052 (0.258)	1.000		
<i>ROA</i>	0.035 (0.448)	0.012 (0.787)	-0.016 (0.724)	-0.049 (0.289)	-0.039 (0.398)	-0.059 (0.199)	0.006 (0.903)	0.091** (0.047)	-0.016 (0.730)	1.000	
<i>ACOMM</i>	-0.087* (0.059)	-0.024 (0.598)	-0.132*** (0.004)	0.014 (0.753)	0.050 (0.275)	0.283*** (0.000)	-0.073 (0.111)	-0.026 (0.567)	0.016 (0.730)	0.026 (0.578)	1.000

t statistics in parentheses

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

Another independent variable, corporate governance quality, proxied by the corporate governance quality index (CGQI), has a significant relationship with firm age (AGE) and audit committee (ACOMM). This relationship arises because as a company's age increases, improvements in corporate governance tend to increase, thus enhancing the value of CGQI. Establishing an audit committee in a company also determines the increase in CGQI value.

The moderation variable, which also serves as a control variable, namely the number of subsidiaries, shows a relationship with firm size (SIZE) and firm age (AGE) at a significance level of 1%, with coefficients of 0.342 and -0.159, respectively. Other control variables, such as firm size (SIZE), are related to return on assets (ROA), while the remaining variables do not have a significant relationship.

Multiple Linear Regression Test

The multiple linear regression tests will test 1) the effect of the firm's ownership structure on its tunnelling behaviour and 2) the effect of corporate governance quality on that behaviour.

Table 5 presents the multiple linear regression analysis results to test this study's first hypothesis (H1). The first hypothesis consists of four sub-hypotheses because this study divides ownership types into four categories and examines the influence of each ownership type on the main dependent variable, which is tunnelling behaviour.

Table 5. Regression Result for H₁

	(1.1)	(1.2)	(1.3)	(1.4)
	<i>TUNNEL</i>	<i>TUNNEL</i>	<i>TUNNEL</i>	<i>TUNNEL</i>
<i>Constant</i>	12.456*** (3.10)	15.100*** (3.69)	12.398*** (3.06)	12.793*** (3.22)
<i>MSHARE</i>	1.019* (1.88)			
<i>DSHARE</i>		-2.393*** (-4.52)		
<i>FSHARE</i>			0.213 (0.31)	
<i>GSHARE</i>				5.465*** (8.02)
<i>SUBS</i>	0.074*** (4.54)	0.072*** (4.62)	0.074*** (4.68)	0.067*** (4.34)
<i>SIZE</i>	0.280* (1.88)	0.271* (1.80)	0.282* (1.88)	0.270* (1.83)
<i>AGE</i>	-0.017 (-0.89)	-0.016 (-0.86)	-0.016 (-0.87)	-0.022 (-1.21)
<i>ROA</i>	2.430* (1.94)	2.603** (2.12)	2.361* (1.89)	2.346* (1.88)
<i>ACOMM</i>	1.914*** (3.24)	2.099*** (3.72)	1.988** (2.46)	2.176*** (3.93)
<i>Year fixed effects</i>	Yes	Yes	Yes	Yes
<i>Industry fixed effects</i>	Yes	Yes	Yes	Yes
<i>R-squared</i>	0.046	0.045	0.040	0.066
<i>Observations</i>	474	474	474	474

t statistics in parentheses

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

The study results show that managerial ownership and government ownership increase the tendency of companies to engage in tunnelling behaviour. This is related to the high asymmetry of information held by majority shareholders against

minority shareholders so that majority shareholders can control the company's strategic decisions. This shows that majority shareholders can control management through political connections or more intervention to act in the interests that benefit only a few parties. Therefore, agency theory can be used to explain this phenomenon and provide reasons why information asymmetry still exists among some concentrated ownership in companies.

The first sub-hypothesis (H1.1) examines managerial ownership's effect on companies' tunnelling behaviour. The results show a significant favourable influence of managerial ownership on tunnelling behaviour. This is evidenced by the t-value of 1.88, which exceeds the critical value of 1.64 required for accepting the hypothesis. The regression coefficient value 1.019 indicates a positive relationship between managerial ownership and tunnelling behaviour. This is consistent with [42] explanation that when managers own shares in a company, it may lead to the expropriation of minority shareholders, especially if the managers are family members of controlling shareholders. Managers in such cases are more prone to making decisions that prioritize the interests of their family members. The findings of this study align with the research conducted by [10,56], which documented a positive influence of family ownership, where managers are family members of a business group, on the likelihood of expropriation.

The observed impact of managerial ownership on tunnelling behaviour finds illumination through agency theory, which elucidates the dynamics between principals (like shareholders) and agents (such as managers). It highlights the inherent conflicts of interest when agents prioritize personal gains over the stakeholders' welfare. The positive correlation between managerial ownership and tunnelling behaviour mirrors agency theory's expectations. Significant managerial stakes, especially within family-controlled setups, may lead to decisions favouring the family's interests, potentially at the expense of minority shareholders. This echoes past research emphasizing the link between family ownership and increased expropriation likelihood. These findings aptly reinforce agency theory's premises regarding conflicts of interest within corporate frameworks.

A significant negative effect is observed in the second part of the hypothesis (H1.2), which examines the influence of domestic ownership on tunnelling behaviour. This is indicated by a t-value of -4.52 at a significance level of <1%, leading to the acceptance of the second part of the hypothesis. Consequently, domestic ownership significantly negatively impacts tunnelling behaviour in companies. According to [47], when a company's shares are

widely dispersed or held by the public, management cannot control the company according to their wishes, as the dispersed ownership structure differs from a concentrated ownership structure, where shareholders consist primarily of majority shareholders and a few minorities. This makes the company more vulnerable to expropriation. The findings of this study align with the research conducted by [19,26], which demonstrates that increased public share ownership can reduce concentrated ownership, especially in developing countries with weak governance mechanisms, thus decreasing the frequency of related-party transactions that facilitate tunnelling by managers. The insights gleaned from agency theory enrich the understanding of how the broader dispersal of domestic ownership may counteract avenues for managerial exploitation within corporate settings.

The multiple linear regression analysis results for the third part of the hypothesis (H1.3) show a t-value of 0.31 with a significance level of >10%, indicating that this hypothesis is rejected. Therefore, foreign ownership does not significantly influence tunnelling behaviour, which is consistent with the findings of [16] that foreign ownership does not affect tunnelling behaviour. This differs from [47] claim that foreign ownership can serve as better monitoring in a company, implying that foreign ownership can reduce corporate expropriation, including tunnelling behaviour. However, this study indicates a non-significant positive direction of foreign ownership, suggesting that foreign ownership encourages transactions that may lead to tunnelling. These results also contradict the findings of [19], which demonstrate a significant negative influence between foreign ownership and one of its dependent variables, which also proxies tunnelling behaviour.

Agency theory explains why foreign ownership may not have a significant impact on tunnelling behaviour. Agency theory suggests that the relationship between foreign ownership and tunnelling behaviour is complex and depends on several factors, such as the alignment of interests between foreign investors and other shareholders. In some cases, foreign investors may be more interested in short-term profits, which could pressure managers to engage in tunnelling behaviour. Additionally, foreign investors may have a different level of information about the company and its management than domestic investors, which could make it more difficult for them to detect and deter tunnelling behaviour.

The multiple linear regression analysis results for the fourth part of the hypothesis (H1.4) reveal a significant positive effect between government ownership and tunnelling behaviour, as indicated

by a t-value of 8.02 at a significance level of <1%. Therefore, this hypothesis is accepted. This positive influence can be explained by the phenomenon described by [47], where state-owned enterprises are milked by a group with specific interests, making state-controlled companies vulnerable to tunnelling. Thus, in developing countries, especially in Indonesia, political connections in management exist due to government ownership or managers who have previously held government positions. Such connections can be utilized to conduct transactions with higher-level related parties susceptible to tunnelling behaviour. The results of this study support the findings of [16,26,56], which demonstrate that companies with political connections increase transactions with higher-level related parties to exploit the benefits of political connections. However, management often opportunistically uses these transactions with related parties to tunnel resources from minority shareholders, particularly in countries with weak protection for minority shareholders and concentrated ownership structures. This sheds light on the substantial agency costs entwined with government ownership, emphasizing the vulnerability to exploitative transactions when political ties provide avenues for tunnelling, especially within environments lacking robust safeguards for minority shareholders and featuring concentrated ownership structures.

Table 6. Regression Result for H₂

	(2) <i>TUNNEL</i>
<i>Constant</i>	11.768*** (2.92)
<i>CGQI</i>	1.773* (1.82)
<i>SUBS</i>	0.075*** (4.73)
<i>SIZE</i>	0.306** (2.05)
<i>AGE</i>	-0.020 (-1.08)
<i>ROA</i>	2.459** (1.99)
<i>ACOMM</i>	1.591** (2.58)
<i>Year fixed effects</i>	Yes
<i>Industry fixed effects</i>	Yes
<i>R-squared</i>	0.047
<i>Observation</i>	474

t statistics in parentheses

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

The results of the multiple linear regression analysis conducted on the second hypothesis (H₂) of this study, as presented in Table 6, indicate a positive influence of corporate governance quality

on tunnelling behaviour by companies. This is supported by a t-value of 1.82 at a significance level of <10%, leading to the acceptance of the second hypothesis. The fulfilment of governance components constructed in this study as a proxy for corporate governance quality can positively impact tunnelling behaviour. Notably, agency theory can explain why corporate governance quality influences tunnelling behaviour. This theory highlights the inherent conflict of interest between shareholders and managers, emphasizing that effective corporate governance mechanisms align manager incentives with shareholder interests to mitigate such conflicts.

The hypotheses tested in this study align with the results obtained regarding the positive influence of managerial and government ownership on tunnelling behaviour in the first hypothesis. This phenomenon can be explained by [40], stating that a good corporate governance mechanism is established for all shareholders in companies, whether under a dispersed ownership structure or a concentrated ownership structure. However, with managerial ownership, management is likely to influence within a company, especially when controlling shareholders have special relationships with management. These special relationships can be family ties or other ties between management and controlling shareholders, encouraging transactions with affiliates or connected transactions [40]. Based on this explanation, the fulfilment of governance components constructed in this study positively influences management actions that may use connected transactions as a form of expropriation against minority shareholders, including tunnelling.

This study supports the findings documented in the research conducted by [16,24], which reveal that the absence of a governance mechanism can facilitate tunnelling behaviour. This is evidenced by the CGQ Index documented in this study, which has an average value of 0.459, indicating that the companies included in this study have yet to reach 50% of the assessment of governance quality formulated in this research. The results documented in this study contradict the findings of research conducted on individual governance components, such as the proportion of independent directors [18], the number of board meetings [50], the size of the Board of directors and Board of Commissioners [42], and the size of professional supervisors and the number of their meetings [55], which hurt tunnelling behaviour.

Moderation Regression Test

This study uses moderation regression analysis to examine the moderating effect of a company's number of subsidiaries on the influence

of corporate governance quality on a firm's tunnelling behaviour.

Table 7. Regression Result for H₃

	(3) <i>TUNNEL</i>
<i>Constant</i>	10.471*** (2.59)
<i>CGQIxSUBS</i>	-0.020 (-0.36)
<i>CGQI</i>	3.471** (2.48)
<i>SUBS</i>	0.075** (2.58)
<i>SIZE</i>	0.288* (1.95)
<i>AGE</i>	-0.025 (-1.34)
<i>ROA</i>	2.572* (1.95)
<i>ACOMM</i>	3.149*** (6.15)
<i>Year fixed effects</i>	Yes
<i>Industry fixed effects</i>	Yes
<i>R-squared</i>	0.058
<i>Observations</i>	474

t statistics in parentheses

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

In the third hypothesis, the results indicated by moderation regression analysis in Table 7, examining the interaction between corporate governance quality and the number of subsidiaries of a company, showed a t-value of -0.36 with a significance level >10%. This means that having several subsidiaries above the average of other companies does not significantly weaken the influence of corporate governance quality on tunnelling behaviour. However, contrasting results were observed for companies with several subsidiaries below the average, showing a positive regression coefficient of 2.48. These findings indicate that as the number of subsidiaries increases, the impact of corporate governance quality on tunnelling behaviour does not diminish but rather strengthens significantly. This observation aligns with the second hypothesis, which posits that the components of corporate governance utilized to create the CGQ Index in this research positively influence tunnelling behaviour. This is due to special relationships, in addition to managerial share ownership, between management and controlling shareholders, which can lead to the formation of connected transactions. These stakeholders can use opportunistic behaviour, such as connected transactions, to divert company resources through activities such as asset acquisitions, asset sales, asset swaps, sales of goods and services, and other cash payments that have the potential for tunnelling [9].

The regression results of the moderation analysis on the number of subsidiaries in this study contradict previous research that used subsidiaries as moderators. For example, [8] found that subsidiaries have a reinforcing effect on increasing company innovation and knowledge. At the same time, [45] stated that the leadership abilities of the parent company's CEO are strengthened by the complexity of the business and the autonomous decision-making of subsidiaries, which impact company performance. However, the results obtained in this study conclude that the number of subsidiaries needs to moderate the relationship between corporate governance quality and tunnelling behaviour.

Agency theory can also help to explain why the number of subsidiaries does not moderate the relationship between corporate governance quality and tunnelling behaviour. Agency theory suggests that the costs of monitoring and disciplining managers increase with the complexity of the corporate structure. This is because managers have more opportunities to engage in tunnelling behaviour in complex corporate structures, such as those with many subsidiaries. The findings of this study suggest that corporate governance quality can mitigate the agency costs associated with complex corporate structures. In other words, corporate governance quality can help deter managers from engaging in tunnelling behaviour, even in companies with many subsidiaries.

CONCLUSION

In conclusion, this research has revealed valuable insights into the relationship between ownership structure, corporate governance quality, and tunnelling behaviour. Managerial and government ownership contribute to tunnelling behaviour, while domestic ownership is a deterrent. The constructed measure of corporate governance quality positively influences tunnelling behaviour, indicating the importance of managerial share ownership and the special relationship between managers and controlling shareholders in facilitating such actions.

Based on the analysis of the average tunnelling values when compared to other countries, the differences in tunnelling values are primarily attributed to the number of research samples used, both in the observation year and the number of companies included. Variations in the corporate sector and industry can also lead to differences in average tunnelling values. For instance, companies in the real estate and infrastructure sectors may be more vulnerable than other sectors. Furthermore, factors influencing tunnelling behaviour can also be observed from the shareholder structure. This is because, in certain industries, management may

hold shares in the company where they work, which may have different structures or characteristics from those in other countries. Lastly, it relates to corporate governance systems. Each country has different regulations regarding governance in various industries. One country may have higher prevention mechanisms against tunnelling than another.

A higher number of subsidiaries does not weaken the impact of corporate governance quality on tunnelling behaviour, suggesting that this variable does not moderate the relationship. However, it is essential to acknowledge the study's limitations, particularly related to data sources and measurements. Using secondary data sources led to some data incompleteness and unavailability, necessitating adjustments and caution in data interpretation. The diverse measurement approaches for tunnelling behaviour proxies and corporate governance components introduced subjectivity into the analysis.

For company investors, this research serves as a valuable resource for assessing the effectiveness of corporate governance mechanisms in mitigating the risk of expropriation, specifically tunnelling behaviour. It is recommended that investors consider these findings as part of their decision-making process and re-evaluate the governance structure of potential investments. Future researchers are encouraged to refine the measurement approaches utilized in this study, including developing a more comprehensive Corporate Governance Quality Index (CGQ Index) encompassing a more comprehensive range of governance components. Additionally, incorporating alternative measures of tunnelling behaviour and exploring different variables that could moderate the relationship would enrich future studies in this field. By addressing these recommendations, scholars can further enhance our understanding of the intricate dynamics between ownership structure, corporate governance quality, and tunnelling behaviour.

For regulators, in Indonesia, regulations related to protecting minority shareholders are already stipulated in Article 100 of Law No. 8 of 1995 on the Capital Market. However, in practice, it is ineffective. As a result, the implications of this research aim to enhance the effectiveness of these regulations. This includes the establishment of mechanisms for whistleblowing within companies in case suspected deviations are made by the management alongside majority shareholders. Additionally, it involves the creation of mechanisms for reporting transactions with related parties and anti-tunnelling procedures within the company.

Finally, for accounting aspects, research on tunnelling behaviour provides broader insights,

particularly for accountants and auditors who are involved in testing balance sheet figures in financial reports. They should consider testing the balances of related party receivables. Moreover, management accountants in companies need to analyze financial statements while also considering financial models and mechanisms to prevent the potential transfer of assets, which could be indicative of tunnelling behaviour.

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