The Effect of Ownership Structure on a Company's Tunneling Activities: Indonesian Evidence

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Abstract— **This study aims to provide empirical evidence about the effect of ownership structure on the tendency of firms to conduct tunneling practices. Tunneling is a form of misappropriation in related-party transactions that harms minority shareholders. The samples employed are companies listed on the Indonesia Stock Exchange from 2013 to 2015 that disclosed related-party transactions affecting assets and liabilities. The study argues that concentrated family ownership and concentrated government ownership have a positive effect on firm tunneling practices, while concentrated institutional ownership and dispersed ownership have a negative effect. Concentrated family ownership has a significant positive effect on firms' tunneling practices, while concentrated government ownership, concentrated institutional ownership, and dispersed ownership have a significant negative effect on a firm's tunneling practices.**

Keywords—party transaction, tunneling, ownership structure

I. INTRODUCTION

Related-party transactions involve the transfer of resources, services, or obligations between entities in preparing financial statements (reporting entities) with related parties, regardless of whether a price is charged or not. Gordon et al. [1] offer two opposing views on the practice of these related-party transactions, namely, the efficient transaction view and the conflict of interest view. The efficient transaction view considers related-party transactions as a practice that benefits shareholders. In contrast, the conflict of interest view assumes that related-party transactions have the potential to harm shareholders and increase agency costs.

There are two types of related-party transactions: propping and tunneling [2]. Propping has a positive impact on shareholders, while tunneling has a negative impact on minority shareholders. Tunneling is regarded as an attempt by the controlling shareholders to take over the wealth of minority shareholders [3]. It triggers type 2 agency costs, which arise from potential conflicts between majority shareholders and minority shareholders [4]. This condition can arise when forming a business group with a pyramid structure.

The pyramid structure is created when the ultimate owner controls a company through a corporate chain. Pyramid ownership creates controlling shareholders by maintaining low shareholdings. This ownership structure is also referred to by Roche [5] as concentrated ownership. La Porta et. al., [6] assign the ultimate owner to one of five types: family or individual, state, financial institution, nonfinancial corporation, and others. The more concentrated the ownership in the company, the higher the potential for expropriation by the majority shareholders.

The lower the concentration level of ownership in a company, the more dispersed the ownership within it. Roche [5] refers to this as dispersed ownership. In this ownership structure, the company is owned by many individuals, where each individual is a minority shareholder. More dispersed ownership within the company, as characterized by increased public ownership, can reduce the trend of expropriation. In addition, strong corporate governance mechanisms can prevent expropriation. However, based on the IICD in 2007 as well as the World Bank in 2010, corporate governance in Indonesia is still low and lags behind other countries in some respects.

The purpose of this study is to see how each ownership structure influences tunneling activity in Indonesian firms. The study focuses on concentrated ownership, divided into three types: family, government, and financial institutions. In addition, this study looks at how low ownership concentration affects tunneling activities. The proxy used to indicate dispersed ownership is the total public ownership in the company.

This paper is organized as follows: in Part 1, the introduction, we provide background information, describe the motivation for the research, and detail the research objectives and contributions; Part 2, the literature review, discusses the theory, previous research, and hypothesis development; Part 3 describes the research methodology, design, data, and samples; Part 4 provides result and analysis; and Part 5 offers conclusions, limitations, and implications.

II. LITERATURE REVIEW

A. Related-Party Transactions

Indonesia's Generally Accepted Accounting Principles (GAAP) Statement No. 7 (2014) regarding related-party disclosure defines a related-party transaction as a transfer of resources, services, or liabilities between reporting entities and related parties, regardless of whether there is a fee or charge associated with the transfer. Indonesia's GAAP No. 7 (2014) defines related parties as entities related to the entity that prepares its financial statements (reporting entity). Gordon et al. [1] view transactions between related parties as efficient transactions that can increase the value of the

company. On the other hand, a related-party transaction may involve a conflict of interest that adversely affects minority shareholders.

Yeh et al., [7] presents two hypotheses that encourage transactions between related parties. The first is the propping-up hypothesis, which explains that the company has a strong incentive to make sales to a related party when the company plans to issue new shares of stock but the company's earnings are declining. The second is the internal capital market hypothesis, which explains that related-party transactions are used to replace the external arm's length market through related-party lending and guarantees as well as related-party borrowing.

In addition, Friedman, et al. [2] divide transactions between related parties into two types, namely, propping and tunneling. Propping is used to help affiliated companies that are in financial trouble. Thus, propping increases the value of the company. Tunneling is known as a form of looting the wealth of affiliated companies, thereby reducing the value for shareholders.

1) Tunneling

Berkman et al. [8] say that a transaction cannot be explicitly identified as tunneling because such transactions are, by nature, hidden transactions. However, Berkman, et al. [8] view a related-party loan guarantee as a transaction that is directly and clearly a form of tunneling. In addition, Gao and Kling [9] use accounting-based measures and valuation models to measure a company's tunneling activities. The first model that measures tunneling uses the difference between related parties' accounts receivable and related party accounts payable compared to the total assets of the company. Large differences between the related parties' accounts receivable and their accounts payable indicate potential losses resulting from this transaction. The second model divides the market value of assets by the replacement value of assets. Values greater than 1.0 illustrate that a company's assets are an attractive takeover target, while a value of less than 1.0 indicates that the company should be liquidated.

B. Ownership Structure

Roche [5] divides company ownership into two models, namely, the insider model and the outsider model. The insider model is characterized by more concentrated ownership among some shareholders. Insiders gain control in a variety of ways, such as by owning a majority of shares and voting rights or by owning only a small number of shares but retaining the majority of voting rights. The outsider model is also known as dispersed ownership. In this model, company ownership is widely distributed and each owner has only a small percentage of the company's total shares. This model relies on independent board members to oversee management activities. Consequently, this model is considered more accountable to shareholders and reduces the probability of corruption.

La Porta et al. [6] also divides company ownership into two types: a widely held company and a company owned by one ultimate owner. La Porta, et al. [6] categorize the ultimate owner of a company into one of five types: family or individual, state, financial institution, corporation, and other.

C. Previous Research and Hypothesis Development

Claessens et al. [10] found that firms in Indonesia are dominated by family ownership, while Roche [5] states that government ownership is still significant in Indonesia. These two forms of ownership, family and government, have a high tendency to engage in expropriation to help the parent company [11]. In addition, Chang [12] found that family ownership facilitates chaebol, the term for Korean conglomerate families, to make decisions that harm minority shareholders. The same result is found in Japan by Dow and McGuire [13]. Their research found that business conglomerates, known as keiretsu, dominated by families have a tendency to engage in tunneling when the economy is strengthening. Therefore, hypothesis 1a of this study is as follows:

H1a: Concentrated family ownership positively affects a company's tunneling activities.

Nurazi et al. [14] found that government-owned companies tend to experience high levels of tunneling. Habib et al. [15] also found a positive influence between the political relationships in companies with a tendency to perform tunneling. The influence, according to Habib, et al. [15], is clearer if the company has connections with the government. Gao and Kling [9] findings conflict with Habib et al. In their research, Gao and Kling [9] find that having a state-owned enterprise as a major shareholder does not significantly affect the practice of expropriation. They also state that the practice of tunneling is not solely driven by the influence of state ownership. However, they do recommend limiting the influence of state ownership in public firms for good corporate governance. Hence, hypothesis 1b is as follows:

H1b: Concentrated government ownership positively affects a company's tunneling activities.

Supervision of a company increases with institutional ownership [16]. Institutional ownership can also reduce agency costs [17]. Prasetyo [18] also explained that companies with a high rate of institutional ownership indicate an ability to monitor management. This is in line with research by Widyastuti [19], which explains that institutional shareholders will try to retain the company's cash flow to maximize profit. However, Gao and Kling [9] argue that relying on institutional ownership alone cannot help the internal mechanisms of corporate governance to reduce tunneling. Gao and Kling [9] also say that institutional investors only invest in companies with good governance. Therefore, according to Gao and Kling [9], arguments related to institutional ownership encouraging good corporate governance cannot be confirmed. However, Gao and Kling [9] disagree about whether institutional ownership can increase the tendency of tunneling practices. Therefore, hypothesis 1c of this study is:

H1c: Concentrated institutional ownership negatively affects a company's tunneling activities.

Public ownership can also be used to monitor management behavior [20]. Public ownership, in which each individual has only a small percentage of the company's total stock, is referred to as dispersed ownership by Roche [5] and as widely held by La Porta et al. [6]. With majority public ownership, then there is no longer a single party who

becomes a majority shareholder. Therefore, the existence of public investors eliminates conflicts between majority and minority shareholders [5]. Public ownership, according to Roche [5], also relies on independent board members to oversee the company. Castro and Brown [21] state that increasing the percentage of independent board members in a company makes it easier to control expropriation. This is also in line with research by Roche [5], which says that public ownership is considered more accountable and more likely to reduce corruption. Hence, hypothesis 2 of this study is: H2: More dispersed ownership of a company negatively affects tunneling activity.

III. RESEARCH METHODOLOGY

A. Data and Samples

The samples are companies listed on the Indonesia Stock Exchange for the period 2013–2015. The sample selection criteria are as follows:

- Published audited annual financial statements as of December 31, 2013 to December 31, 2015
- Not in the financial industry
- Disclosed related-party transaction involving assets and liabilities during 2013–2015.
- The value of related parties' receivables minus related parties' payables is greater than zero (indicates the company conducts tunneling).

B. Research Model

The research model to test the hypothesis is as follows:

$$Tnl = \alpha_0 + \beta_1 Fam_{i,t} + \beta_2 Govt_{i,t} + \beta_3 Ins_{i,t} + \beta_4 Public_{i,t}$$
$$+ \beta_5 Lev_{i,t} + \beta_6 TA_{i,t} + \beta_7 Npm_{i,t} + \beta_8 Mtbv_{i,t} + \varepsilon_{i,t}$$

Definitions for each variable are shown in Table 1.

Hypothesis 1 is accepted if β_1 is positive (+), hypothesis 2 is accepted if β_2 is positive (+), hypothesis 3 is accepted if β_3 is negative (-), and hypothesis 4 is accepted if β_4 is negative (-).

TABLE 1 VARIABLE DEFINITIONS

Variable	Definition
Tnl	Ratio of related-party transactions, measured by the differences between related-party receivables and payables, divided by total assets.
Fam	*Dummy*, 1 if the company is more than 50% owned by a family, 0 otherwise.
Govt	Percentage of government ownership
Ins	Percentage of institutional investor ownership
Public	Percentage of public ownership
Lev	Percentage of total debt to equity
TA	Logarithm of total assets
Npm	Percentage of net profit margins
Mtbv	Market-to-book-value ratios

C. Data-Collection Methods

The data used are secondary data from audited financial statements and annual reports of each company from 2013 to 2015. Related-party transactions data related to assets and liabilities are taken from a company's audited financial statements. Information on company ownership is taken from annual reports, notes on financial statements, and relevant websites. The data for control variables are obtained from Thomson Reuters PDEB FEB UI.

IV. RESULTS AND ANALYSIS

A. Sample

Based on sample selection criteria, the sample selected is as shown in Table 2.

Based on the criteria, there are 127 companies used in the study. Because the study uses three years of observations, the total number of data points in this study is 381.

B. Descriptive Statistics

Table 3 below summarizes the statistical descriptions of each variable:

Based on Table 3 above, variable *Tnl* has a mean of +0.05. This indicates the average company in the sample has a 5% gap between related-party accounts receivable and related-party accounts payable. The positive value for this variable suggests that companies in Indonesia are likely to be engaged in tunneling.

TABLE 2 SAMPLE

Description	Total
Number of listed companies during 2015	517
-/- Companies listed after 2013	(42)
-/- Financial-sector companies	(73)
-/- Companies with incomplete annual reports and financial statements	(6)
-/- Companies that did not disclose related-party transactions	(120)
-/- Companies with related-party receivables less than related-party payables	(149)
Number of companies	127
Year of observation	x3
Number of samples	381

TABLE 3 STATISTICAL DESCRIPTION

	N	Mean	St. Dev	Min	Max	Median
Tnl	381	0.05	0.07	0.00	0.38	0.02
Fam	381	0.35	0.48	0	1	0
Govt	381	2.98	14.4	0	90.03	0
Ins	381	12.03	21.8	0	92.66	0
Public	381	29.87	18.88	1.51	92.3	27.57
Lev	381	78.74	117.57	-172.57	778.41	49.11
TA	381	7.67 billion	12 billion	30.8 million	97 billion	3.2 billion
Npm	381	10.42	48.70	-114.22	382.1	4.47
Mtbv	381	2.63	8.55	-2.11	134.62	1.19

The *Fam* variable indicates whether the company is more than 50% owned by a family. The mean value of this variable is 0.36. This number shows that 36% of the companies in the sample are more than 50% owned by a family. The *Govt* variable shows the percentage of government ownership of the company. The mean value of this variable indicates that, on average, the government owns 2.9% of each firm in the research sample. The variable *Ins* shows the percentage of

institutional ownership of the firm. The mean value of this variable is 12.03, which illustrates that on average, 12% of each firm in the sample is owned by institutional investors.

Public is the last independent variable in this study. This variable shows the total public ownership of the company, defined as ownership by any individual or entity of less than 5%. The mean value of this variable is 29.87, which indicates that the average company in the sample is 29% owned by the public.

Lev, TA, Npm, and *Mtbv* are the control variables of this study. *Lev* has a mean of 78.75 with a standard deviation of 117.57. The standard deviation of this variable is quite high, which indicates the data is not normally distributed. This can also be seen from the large difference between the median value of 49.11 and the mean value of 78.75. *TA* is total company assets. The mean of this variables is 7.67 billion, with a standard deviation of 12 billion. This variable has a fairly low standard deviation, which indicates a fairly normal distribution. We also note the difference in median and mean value is relatively small, 3.2 billion versus 7.67 billion.

The *Npm* variable has a mean of 10.42 and a standard deviation of 48.7. This variable's high standard deviation indicates the data is not normally distributed. This is also suggested by the large difference between the median value of 4.47 and the mean value of 10.42. The range of minimum and maximum values is also high, at 496.32. The last control variable is *Mtbv*. This variable has a mean of 2.63, with a high standard deviation of 8.55. This indicates the data for this variable is not normally distributed. The range of min/max values for this variable is also high, at 136.73.

C. Results

The results of our hypotheses testing are shown in Table 4 below.

TABLE 4 REGRESSION RESULTS

Research Model:
$$Tnl = \alpha_0 + \beta_1 Kel_{i,t} + \beta_2 Pem_{i,t} + \beta_3 Ins_{i,t} + \beta_4 Mng_{i,t} + \beta_5 Publik_{i,t} + \beta_6 Lev_{i,t} + \beta_7 LogTA_{i,t} + \beta_8 Npm_{i,t} + \beta_9 Mtbv_{i,t} + \varepsilon_{i,t}$$

Variable	Expected	Coefficient	p-value	Significance
Fam	+	0.01013030	0.052	*
Govt	+	-0.27971100	0.001	***
Ins	-	-0.00050890	0.080	*
Public	-	-0.00049850	0.043	**
Lev	-	-0.0000906	0.031	**
TA	+	-0.03382730	0.100	
Npm	-	0.00003910	0.309	
Mtbv	-	-0.00139910	0.000	***
_cons		1.65536600	0.044	
R squared	0.1016			
Fstat	0.0016			
***significant at 1%, **significant at 5%, *significant at 10%				

Based on the table, the F-stat is smaller than α = 1%. This shows that all independent variables and control variables in this study together and significantly reflect a company's tunneling activities with a confidence level of 99%. The R-squared value of this research model is 0.1016. This result can be interpreted that 10,16% variance of the dependent variable, which equates to tunneling activity in company, can be explained by variance of independent variables.

The result of hypothesis testing for H1a can be seen from the *Fam* variable in Table 4 above. The variable shows the positive coefficient of 0.0101303 with a p-value of 0.052. These figures illustrate that family variables have a positive relationship with tunneling and is significant at the 10% level. Hence, hypothesis 1a is accepted. This is in line with previous studies that found a strong positive relationship between family ownership and the level of expropriation within the company [11-13, 22].

The result of hypothesis testing for H1b is shown by the *Govt* variable in the table above. This variable has a negative coefficient of 0.279711 with p-value of 0.001. This value indicates that government ownership limit the tunneling activity. Hence, hypothesis 1b is not supported. These results are in line with Gao and Kling [9], that the government promote good corporate governance.

The results of hypothesis testing for H1c are described by the *Ins* variable in Table 4. The results show a negative coefficient of 0.0005089 with p-value 0.08. The value indicates a negative correlation between institutional ownership and tunneling activity in companies, and is also significant at the 10% level.

Hence, hypothesis 1c is accepted. These results support previous studies, which suggest that better corporate oversight can be achieved through increasing institutional ownership [16]. The role of institutional investors has also been described in the principles of corporate governance by the OECD, further indicating that institutional ownership improves corporate governance practices and can therefore reduce the potential for tunneling.

The test results for Hypothesis 2 are shown by the *public* variable in Table 4. *Public* has a negative coefficient of 0.00049850 with a p-value of 0.043. These results suggest that public ownership has a negative correlation with firm tunneling activities, at a 5% significant level. This is in line with research by Roche [5], which states that this ownership model eliminates type two agency problem between majority and minority shareholders. In addition, this ownership model is considered more accountable and less prone to corruption.

V. CONCLUSION

This study shows that concentrated family ownership affects tunneling practices positively, while government and institutional ownership influence tunneling negatively. This study also finds that more dispersed ownership of a company affects tunneling practices negatively.

A limitation of this study is that it does not trace the corporate ownership structure to the ultimate owner. The study only assesses ownership structure based on disclosure in the financial statements and the company's annual report. In addition, there are many ways to identify tunneling practices, but this study only uses the proxy of related-party transactions of assets and liabilities as an indication of tunneling. The implication of this research for investors is to provide a framework to assess the potential for company fraud that is harmful to investors. In addition, the implication for regulators is that this research can provide evaluation material for regulations related to related-party transactions and disclosure of ownership by the company.

VI. REFERENCES

[1] E. A. Gordon, E. Henry and D. Palia, "Related Party transaction and corporate governance," Advan. Financ. Econ, pp. 1-27, 2004.

[2] E. Friedman, S. Johnson and T. Mitton, "Propping and tunneling," J. Comp. Econ. vol. 31(4), pp. 732-750, 2003.

[3] Y. E. Riyanto and L. A. Toolsema, "Tunneling and propping: A justification for pyramidal ownership," J. Banking Fin. vol. 32(10), pp. 2178-2187, 2008.

[4] J. Armour, H. Hansmann and R. Kraakman, Agency Problems, Legal Strategies and Enforcement. Cambridge, MA: Harvard Law School, 2009.

[5] Roche, Corporate Governance in Asia. Oxon: Routledge, 2005.

[6] R. La Porta, F. L. de Silanes and A. Shleifer, Corporate Ownership Aroung the World. Cambridge, MA: National Bureau of Economic Research, 1998.

[7] Yeh, et. al. "Functional evidence that a recently evolved drosophila sperm-specific gene boosts sperm competition," Proc. Natl. Acad. Sci. U.S.A. vol. 109(6), pp. 2043-2048, 2012.

[8] H. Berkman, R. A. Cole and L. J. Fu. "Expropriation Through loan guarantees to Related Parties: evidence from China," J. Banking Fin. vol. 33, pp. 141-156, 2009.

[9] L. Gao and G. Kling. "Corporate governance and tunneling: empirical evidence from China," Pacific-Basin Fin. J. vol. 16, pp. 591-605, 2008.

[10] S. Claessens, S. Djankov and L. H. Lang. "The separation of ownership and Conrol in East Asian corporations," J. Financ. Econ. vol. 58, pp. 81-112, 2000.

[11] Sumiati and D. Agustia, "The influence of ownership structure concentration to operational performance on go public company in Indonesia," J. Econ. Engine, vol. 2, pp. 70-73, 2011.

[12] S. J. Chang, "Ownership structure, expropriation, and performance of group-affiliated companies in Korea," Acad. Manag. J. vol. 46, pp. 238-253, 2003

[13] S. Dow and J. McGuire, "Propping and tunneling: empirical evidence from Japanese keiretsu," J. Banking Fin. vol. 33, pp. 1817-1828, 2009.

[14] R. Nurazi, F. Santi and B. Usman. "Tunneling: evidence from Indonesia Stock Exchange," Asian Academic Manag. J. Accounting Financ, pp. 127-150, 2015.

[15] A. H. Habib, Muhammadi and H. Jiang. "Political connections and related party transactions: evidence from Indonesia," Int. J. Acc. Vol. 52, pp. 45-63, 2017.

[16] N. Anggarini and C. Srimindarti, "Pengaruh kepemilikan saham institusional dan kebijakan hutang terhadap kepemilikan manajerial," Kajian Akuntansi, vol. 1(2), pp. 133-152, 2009.

[17] N. K. Sari and I. G. Budiasih, "Pengaruh kepemilikan managerial, kepemiikan institusional, free cash flow dan profitabilitas pada kebijakan dividen," E-Jurnal Akuntansi Universitas Udayana, pp. 2439-2466, 2016.

[18] P. E. Prasetyo, Fundamental Makro Ekonomi. Yogyakarta: Beta Offset, 2009.

[19] A. Widyastuti, Teori Belajar Bruner dan Dienes [Online]. 2012. Tersedia: http://blog.unsri.ac.id/download3/14369.pdf.[23 Desember 2012].

[20] M. Faccio and L. H. P. Lang, "The ultimate ownership of Western European corporations," J. Financ. Econ. vol. 65, pp. 365-395, 2002.

[21] M. S. Castro and C. J. Brown, "Corporate governance, expropriation of minority shareholders' rights, and performance of Latin American enterprises," Ann. Fin. vol. 7, pp. 429-447, 2011.

[22] N. Fitri, G. Irianto and E. Mardiati, "The effect of ownership structure on the expropriation risk," Int. Bus. Manag. vol. 11(2), pp. 392-396, 2017.