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**Transfer Pricing and Tunneling: Moderating Role of Female
Directors in Indonesian Perspective**

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Abstract: This study aims to examine the effect of transfer pricing on tunneling practices by considering the role of female directors as a moderating variable. Using a quantitative approach with a sample of 265 observations of non-financial companies listed on the Indonesia Stock Exchange for the 2019–2023 period, this study applies linear regression analysis and Moderated Regression Analysis (MRA). The results show that transfer pricing has no significant effect on tunneling. However, female directors have been shown to significantly moderate the relationship by strengthening oversight mechanisms, thereby suppressing the potential for tunneling. This study's contribution lies in integrating agency theory and gender diversity to explain companies' opportunistic behavior in developing countries. In practice, these findings emphasize the importance of gender diversity in strengthening corporate governance and reducing the risk of financial policy abuse.

Keywords: Transfer Pricing, Tunneling, Female Director

Introduction

In the era of globalization and increasingly rapid international economic integration, cross-border business practices not only create opportunities for economic growth but also pose new challenges for corporate oversight and governance. One crucial issue of concern to regulators, academics, and global stakeholders is transfer pricing, or the pricing of transactions between related entities within a single multinational corporate group. Transfer pricing is a complex topic because this practice can be used legally for tax efficiency, but is also often abused to shift profits to low-tax jurisdictions, thus giving rise to problems of tax avoidance and unequal tax distribution between countries (Jannah et al., 2023).

As a developing country with an increasingly open economy to foreign investment and business globalization, transfer pricing in Indonesia has become a key focus of tax oversight. This aligns with the increasing volume of intra-group transactions. According to a report

from the DDTCNews Editorial Team in 2024, the transaction value between companies within a group (intracompany transactions) increased sharply, from IDR 6,248 trillion in 2021 to IDR 10,360 trillion in 2022. This surge was accompanied by an increase in the value of tax corrections from transfer pricing audits, exceeding IDR 6 trillion. In response, the Directorate General of Taxes (DGT) designated transfer pricing as a strategic issue in its 2022–2024 work plan, with a focus on policy refinements and accelerating the resolution of tax disputes (*DDTCNews*, 2023).

Unfair transfer pricing practices are not only related to tax avoidance but can also be a means of tunneling, a practice whereby controlling shareholders transfer company assets or profits to other entities they still control for personal gain. This practice directly harms minority shareholders and threatens the integrity of the company's ownership structure (Johnson et al., 2000; Rossa et al., 2023). In Indonesia, this phenomenon is particularly relevant given the company's concentrated ownership structure, in which controlling shareholders have significant power in strategic decision-making, creating the potential for agency conflicts between their interests and those of minority shareholders (Saifudin & Septiani Putri, 2018).

A number of studies have highlighted the relationship between tunneling incentives and transfer pricing decisions. A study by Harahap & Winingrum W A (2024), Baviga & Desiyanti (2024), and Taqi et al (2025) concluded that the incentive to tunnel can encourage companies to set unfair transfer prices as a strategy to shift profits to other entities. However, results from other studies, such as those by Mulyani et al (2020) and Rifqiyati et al (2021), showed that tunneling incentives did not significantly influence transfer pricing decisions. This difference in results suggests that other contextual variables may moderate the relationship between transfer pricing and tunneling.

One potential moderator is the presence of female directors on boards. In recent years, gender diversity at the managerial and board levels has become a key focus in discussions of effective corporate governance. Women on boards are believed to bring a different perspective, prioritize prudence, and increase ethical sensitivity in strategic corporate decision-making (Tang & Suwarsini, 2021; Welsh, 1992). The studies by Calvin et al., (2024) and Prestiani et al (2024) show that gender diversity positively impacts company performance.

According to Welsh (1992) theory of gender diversity, women tend to adopt a more collaborative, transparent, and ethically considerate approach to leadership than men. These characteristics enable them to play a more effective oversight role, particularly in decision-making contexts that pose a high risk to the company's integrity (Wijaya & Memarista, 2024). Sabovchyk (2023) shows that gender diversity on boards leads to improved governance and financial performance, as women bring unique perspectives that contribute to better decision-making and risk management, so that the presence of women on corporate boards significantly increases inclusivity, encourages open discussion, and strengthens internal controls over strategic financial decisions, including transfer pricing practices.

This study is important because it seeks to fill a gap in the literature by explicitly linking transfer pricing and tunneling, while considering the moderating role of female directors. Although each variable has been extensively studied individually, integrating all three within a single empirical framework remains rare, particularly in developing countries like Indonesia, which have complex ownership structures and varying levels of tax compliance compared to

developed countries. This study uses quantitative data from non-financial companies listed on the Indonesia Stock Exchange (IDX) for the period 2019 to 2023, excluding the financial sector (banking and insurance) due to regulatory differences. This period also reflects important developments in transfer pricing regulation and in corporate governance awareness following tax reform.

The study finds that transfer pricing has a significant positive effect on tunneling, suggesting that companies with more aggressive transfer pricing practices are more likely to engage in asset tunneling. However, this effect is significantly reduced in companies with a higher proportion of female directors. This suggests that the presence of women on boards of directors can act as an effective monitor, helping suppress opportunistic practices by controlling shareholders.

The contribution of this research can be explained in three main aspects. First, theoretically, this study broadens the understanding of the dynamics of the relationship between transfer pricing and tunneling by introducing female directors as a relevant moderating variable grounded in gender diversity theory. Second, practically, the results of this study provide input for regulators to consider strengthening the role of women in board structures as part of corporate governance and tax oversight reforms. Third, from a policy perspective, these findings are relevant to encourage the development of affirmative action policies that support women's representation at strategic leadership levels, thereby creating a more ethical, transparent, and equitable business system. Therefore, this research is expected to make a tangible contribution to efforts to build a strong and accountable corporate governance ecosystem in Indonesia and serve as a reference for further research.

Although the relationship between transfer pricing and tunneling has been extensively researched, inconsistent empirical results indicate a research gap (research gap) that has not been comprehensively answered. Some studies found a significant relationship, while others did not, suggesting the presence of unconsidered contingency variables. Furthermore, previous research generally examined these two variables separately without integrating the role of corporate governance, particularly gender diversity, as a monitoring mechanism. Therefore, this study fills this gap by examining the role of female directors as a moderating variable in the relationship between transfer pricing and tunneling. The novelty of this study lies in integrating three main variables into a single empirical model and in using a developing-country context characterized by concentrated ownership, such as Indonesia.

Literature Review

The Effect of Transfer Pricing on Tunneling

The relationship between transfer pricing and tunneling within the agency theory framework creates complex dynamics, reflected in empirical research findings that are mixed. The primary hypothesis is that transfer pricing practices increase the risk of tunneling through information asymmetry, in which controlling shareholders manipulate transaction prices between entities to shift control to related parties. (Jensen & Meckling, 1976) explains the potential conflict of interest between the agent and the principal, where, in this study, the controlling shareholder acts as the agent and the minority shareholder as the principal (type II agency theory). The conflict arises as a form of moral hazard, in which dominant control over corporate decisions enables the seizure or expropriation of minority shareholders'

wealth through profit manipulation and unfair resource allocation (Ratnawati et al., 2016). Transfer pricing is a company's policy for determining the prices of transactions with other companies with which it has special relationships (Shalsabila Herman et al., 2023). This practice is commonly used by companies to minimize corporate taxes, but many abuse it for tax avoidance, which is certainly illegal. Several previous studies have shown that transfer pricing has both positive and negative effects. A study of companies in the consumer cyclical sector of the Indonesian Stock Exchange (BEI) (2019-2021) showed a significant influence between transfer pricing intensity and tunneling (Lubis et al., 2024). In the context of agency theory, this creates a conflict of interest between controlling and minority shareholders, in which the controlling shareholder seeks to benefit himself by manipulating transfer prices.

Hariyani & Ayem (2021) state that tunneling incentives have a positive effect on transfer pricing, indicating that firms engaging in tunneling are more likely to set transfer prices that benefit controlling shareholders. This is in line with previous research that found that increased tunneling incentives can reduce a firm's propensity to engage in fair transfer pricing transactions (Kurniawan et al., 2018). (Ubaidillah, 2023) he stated that transfer pricing practices, which involve shifting profits to minimize tax burdens, significantly contribute to tunneling. Furthermore, tunneling, or the extraction of resources from minority shareholders, can be exacerbated by aggressive transfer pricing strategies. (Aditya & Sri Lastanti, 2024) also stated that tunneling incentives can encourage transfer pricing practices, suggesting a direct relationship between tunneling and transfer pricing. Companies may engage in transfer pricing to shift profits and minimize tax liabilities, thereby facilitating tunneling by allowing controlling shareholders to extract value at the expense of minority shareholders. Therefore, the hypothesis based on the theory used and supported by previous research in this study is:

H1: Transfer Pricing Affects Tunneling

Female Directors Moderate the Effect of Transfer Pricing on Tunneling

The presence of female directors in a company can influence strategic decisions, including in the setting of transfer prices. Research by Ali et al (2023) has shown that gender diversity on boards of directors can contribute to more ethical and transparent decision-making. With women in leadership positions, companies are more likely to consider the interests of all shareholders in transfer pricing. A study by Syahfitri et al (2022) shows that the presence of female directors can help reduce agency problems in the company. Likewise, Nuraina et al., (2025) state that the presence of female directors has been shown to strengthen institutional investors' ability to mitigate agency costs. Furthermore, female leadership plays a crucial role in promoting prosperity and balancing economic growth. The presence of women on boards of directors can also strengthen corporate governance mechanisms through diverse perspectives and more efficient oversight. Empirical evidence from Purkayastha & Pattnaik (2025) indicates that female directors strategically emphasize the monitoring function within board committees, thereby strengthening governance and oversight of broader stakeholder interests. In the multinational context, aggressive transfer pricing for tunneling purposes often compromises the rights of minority shareholders Purwanto & Tumewu (2018); Refgia et al (2017). The latest study on board gender diversity by (Chang et al., 2024) found that female directors help maintain stakeholder strategy consistency, even in complex and uncertain conditions, demonstrating their ability to prioritize long-term sustainability. A study was also conducted by Krisyadi et al., (2024). A study of 58 banking and insurance

companies listed on the Indonesia Stock Exchange (IDX) found that gender diversity on boards of directors has a positive, significant impact on company value.

In contrast to Sohdi (2024) findings, this study found that State-Owned Enterprises (BUMN) in Indonesia experienced a negative impact of gender diversity on the board of directors on the company's financial performance. This indicates that the presence of female directors who synergize with male directors does not improve performance. The impact of gender diversity can vary depending on the organizational structure and company situation. Because previous studies have shown differences in results, it is suspected that certain factors are influencing the results. Therefore, this study uses female directors as a moderating factor. A high composition of female directors will strengthen the moderating function by shifting the focus of transfer pricing policy from the interests of dominant shareholders to considerations of business sustainability and corporate reputation, thereby reducing the intensity of tunneling. Based on this, the hypothesis developed is:

H2: Female Directors Moderate the Effect of Transfer Pricing on Tunneling

Methods

This study uses a quantitative approach. Data collection was conducted by downloading annual reports and financial reports of public companies www.idx.co.id and directly on the company's website. Researchers used a population of all public companies that reported their annual financial reports to the IDX for five years, from 2019 to 2023. Data collection criteria: Companies listed and reporting their annual reports to the IDX in 2019-2023, companies with female directors or at least one woman on their board of directors.

Table 1. **Sampling Criteria**

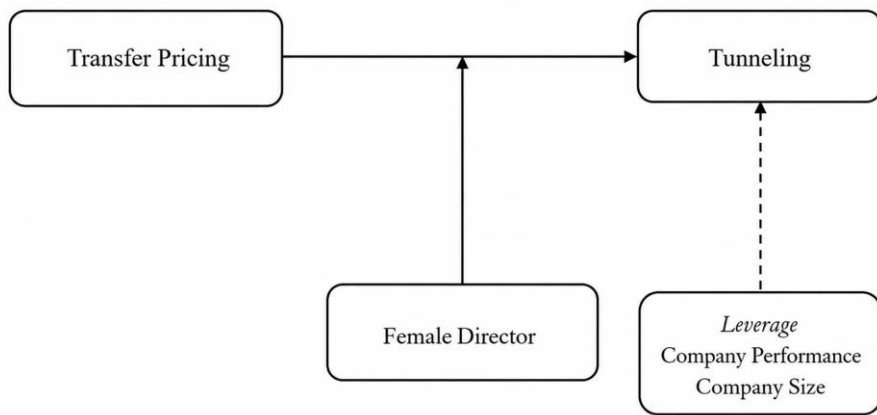
No.	Information	Amount
1.	Companies listed on the Indonesia Stock Exchange during the 2019-2022 period	907
2.	Companies that do not provide complete annual financial reports for the 2019-2023 period	(362)
3.	Companies excluded from the sample (Financial sector)	(105)
4.	Companies that do not disclose the variables studied in their financial reports	(303)
5.	Companies that do not have female directors	(84)

The researchers used linear regression and moderation tests to test the hypotheses, treating transfer pricing as an exogenous variable, tunneling as an endogenous variable, and female directors as a moderating variable. They also added several control variables: leverage, company performance, and company size. The purpose of using control variables in this study was to avoid bias and external factors that might influence the variables. The operational definitions of the variables and their measurement methods are shown in Table 2.

Table 2. **Operational Definition of Variables and Their Measurement**

No	Variables	Definition	Measurement
1	Transfer Pricing	Ratio of related party receivables to total receivables.	Related Party Receivable/Total Receivable (Yusmanianti et al., 2021)
2	Tunneling	The ratio of other receivables to the company's total assets.	Total Other Receivables/Total Assets (Nuraina et al., 2022)
3	Female Director	Female directors is the division of the number of female directors by the total number of directors in a company.	Female directors/Company board of directors (Gunawan & Wijaya, 2021)
4	Leverage	Leverage is the total debt of a company on the assets it owns.	Total Debt/Total Assets (Made et al., 2020)
5	Company performance	Company performance is the efficiency of company activities to measure profitability against total assets owned.	Profit after tax/Total Assets (Strouhal et al., 2018)
6	Company Size	Company size is a measure that shows the size of a company	$\ln(\text{Total Asset})$ (Haryadi et al., 2025)

This study developed a research design as shown in Figure 1

Figure 1. **Research Design**

Referring to the hypothesis, this study develops two research models as stated in equations (1) and (2).

$$Tun = \beta_0 + \beta_1 TP + \beta_2 Lev + \beta_3 ROA + \beta_4 Size + \varepsilon \dots \dots \dots (1)$$

$$Tun = \beta_0 + \beta_1 TP + \beta_2 FD + \beta_3 TP * FD + \beta_4 Lev + \beta_5 ROA + \beta_6 Size + \varepsilon \dots (2)$$

Information:

Tun : Tunneling

β_0 : Coefficient

β : Variable Coefficient

TP	: Transfer Pricing
FD	: Female Director
TP * FD	: Interaction of Transfer Pricing and Female Directors
Lev	: Leverage
ROA	: Company performance
Size	: Company Size
ε	: Standard error

Findings

Pearson's correlation coefficient is used to measure the strength and direction of the linear relationship between variables at significance levels of 1% and 5%.

Table 3. **Pearson Correlation Test Results**

		TP	TUN	FD	LEV	ROA	SIZE
TP	Pearson Correlation	1	,068	,038	-,160**	-,060	,018
	Sig. (2-tailed)		,268	,538	,009	,332	,765
	N	265	265	265	265	265	265
TUN	Pearson Correlation	,068	1	-,105	,023	,098	-,120
	Sig. (2-tailed)	,268		,087	,712	,110	,051
	N	265	265	265	265	265	265
FD	Pearson Correlation	,038	-,105	1	-,135*	-,004	,000
	Sig. (2-tailed)	,538	,087		,028	,947	,996
	N	265	265	265	265	265	265
LEV	Pearson Correlation	-,160**	,023	-,135*	1	-,116	-,023
	Sig. (2-tailed)	,009	,712	,028		,058	,706
	N	265	265	265	265	265	265
ROA	Pearson Correlation	-,060	,098	-,004	-,116	1	-,047
	Sig. (2-tailed)	,332	,110	,947	,058		,442
	N	265	265	265	265	265	265
SIZE	Pearson Correlation	,018	-,120	,000	-,023	-,047	1
	Sig. (2-tailed)	,765	,051	,996	,706	,442	
	N	265	265	265	265	265	265

**. Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

The Pearson correlation value of 0.068 indicates a very weak positive relationship between TP and TUN. However, this relationship is not statistically significant ($p = 0.268 > 0.05$), indicating that transfer pricing does not directly have a strong linear relationship with tunneling practices. The correlation coefficient of 0.038 also indicates a very weak and insignificant relationship ($p = 0.538$). This indicates that the proportion of female directors does not directly correlate with transfer pricing practices. A significant negative correlation was found between TP and LEV, with a correlation value of -0.160 at the 1% significance level ($p = 0.009 < 0.01$). These results indicate that the higher a company's leverage, the lower its tendency to engage in transfer pricing. This suggests that companies with high debt

burdens may be more cautious about employing profit-shifting strategies through transfer pricing, given payment pressures and creditor oversight. TP has a negative correlation with ROA (-0.060) and a very weak positive correlation with SIZE (0.018), but both are insignificant ($p = 0.332$ and 0.765 , respectively). This means there is no significant linear relationship between transfer pricing practices and profitability or company size directly. A correlation coefficient of -0.105 indicates a negative relationship between female directors and tunneling practices, but it is not significant ($p = 0.087$). Although not significant, the direction of this relationship indicates that the higher the proportion of female directors, the lower the tendency (albeit weak) for tunneling practices. A significant negative correlation of -0.135 was found between FD and LEV at the 5% significance level ($p = 0.028 < 0.05$). This indicates that companies with a higher proportion of female directors tend to have a more conservative funding structure or use less debt, suggesting a more cautious approach to financial decision-making. The correlations between the control variables (LEV, ROA, SIZE) and the other main variables are generally weak and insignificant, except for the relationship between LEV and FD, as mentioned previously. This indicates relatively low multicollinearity among the model's variables, thereby strengthening the validity of the subsequent regression analysis.

Overall, the correlation results indicate that there is no strong direct relationship between transfer pricing and tunneling, nor between transfer pricing and female directors. However, there are significant relationships between leverage and transfer pricing, as well as between leverage and female directors. These findings support the use of moderation analysis in this study to further examine whether female directors can strengthen or weaken the relationship between transfer pricing and tunneling practices, given the relatively weak direct relationship between the main variables.

Table 4. **Descriptive Statistics Results**

	N	Minimum	Maximum	Mean	Std. Deviation
TP	265	-0,88	3,01	1,1050	0,53115
TUN	265	-0,19	2,04	0,7855	0,32624
FD	265	-0,12	1,61	0,5932	0,15735
LEV	265	0,36	4,17	2,4451	0,42464
ROA	265	-4,43	14,71	3,2978	2,69298
SIZE	265	1,36	2,84	2,0972	0,20290
Valid N (listwise)	265				

Descriptive statistical analysis was conducted with the aim of providing a general overview of the characteristics of the research data based on the average value (mean), median, minimum value, maximum value, and standard deviation of each variable used. Based on Table 4, it can be seen that Transfer Pricing (TP) has a minimum value of -0.88 for the AKRA company and a maximum of 3.01 for the AGII company, with an average of 1.1050 and a standard deviation of 0.53115. Tunneling (Tun) shows a minimum of -0.19 for the UCID company and a maximum of 2.04 for the IFSH company, with an average of 0.7855 and a standard deviation of 0.32624. Female Directors (FD) obtained a minimum value of -0.12 and a maximum of 1.61, with an average of 0.5932 and a standard deviation of 0.15735, all owned by the JECC company. Leverage (Lev) has a minimum value of 0.36 for the IPCM

company and a maximum of 4.17 for the DUTI company. Company Performance (ROA) has a minimum value of -4.43 for the IPOL and SKBM companies and a maximum of 14.71 for the UNVR company. Company Size (Size) ranges from 1.36 (owned by JECC and IPCM companies) to 2.84 (owned by HOPE).

Researchers used a linear regression statistical test to determine the effect of transfer pricing on tunneling. After conducting the regression analysis, it was determined that transfer pricing did not affect tunneling. The following table shows the results of the linear regression analysis.

Table 5. **Linear Regression Analysis Results**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,147	0,267		4,301	0,000
TP	0,053	0,038	0,086	1,383	0,168
FD	-0,215	0,127	-0,104	-1,691	0,092
LEV	0,024	0,048	0,032	0,503	0,615
ROA	0,012	0,007	0,101	1,645	0,101
SIZE	-0,187	0,098	-0,116	-1,907	0,058

Based on the results of the linear regression analysis presented in Table 5, the Transfer Pricing (TP) variable has no effect on Tunneling Practices (TUN), with a p-value of 0.168 ($p > 0.05$). This relationship is not statistically significant, so it can be concluded that transfer pricing does not affect tunneling in this study. Therefore, the first hypothesis (H1), which states that transfer pricing affects tunneling, is rejected.

This finding is in line with the stewardship theory by Donaldson & Davis (1991) which states that agents prioritize the interests of the organization and its stakeholders over personal gain. Management theory (stewardship theory) is often considered to be in conflict with agency theory (agency theory), which is based on the assumption that there is a conflict of interest between the agent and the principal. Agency theory encourages the implementation of strict monitoring mechanisms, such as audits, performance-based incentives, and managerial controls, to reduce the risk of misconduct. In contrast, stewardship theory views agents as trusted to act in the organization's best interests, thereby placing greater emphasis on relationships built on trust, collaboration, and minimal structural intervention in decision-making. Research by Ahdiana & Yuniarti (2024) shows that agents prioritize organizational success and align their decisions with the principal's goals to protect the company's long-term interests, as evidenced by the significant effect of tax burdens on transfer pricing.

This study also aligns with the research by Rumengan et al (2024), which found that tunneling incentives do not significantly influence transfer pricing decisions. Anggraeni & Astuti, (2024) also revealed that tunneling incentives negatively influence transfer pricing practices, suggesting that, in certain situations, companies prefer not to engage in transfer pricing even when there is an incentive to tunnel. Putri & Evana, (2024) strengthen this finding by indicating that transfer pricing does not significantly influence tax avoidance practices, whereas tunneling incentives do have a significant negative impact.

Herlina & Murniati, (2023) also found that the effective tax rate has a greater influence on transfer pricing decisions than tunneling incentives. Overall, these findings indicate that the relationship between transfer pricing and tunneling is complex and context-dependent, and can be influenced by factors such as ownership structure, tax regulations, the quality of internal oversight, and specific managerial objectives. Therefore, the insignificant results in this study can be interpreted as an indication of the presence of an effective internal control system or external regulation that suppresses the potential for transfer pricing to be used for tunneling. Meanwhile, the three control variables, namely Leverage (LEV), Company Performance (ROA), and Company Size (SIZE), also have no significant effect on tunneling, with significance values of 0.615, 0.101, and 0.058, respectively. However, the company size variable shows a negative trend closest to the significance threshold, suggesting that larger companies are more controlled and less likely to tunnel.

Moderating Regression Analysis (MRA) was used to test whether the presence of female directors, as a moderating variable, strengthens or weakens the relationship between transfer pricing and tunneling. The results of the moderation analysis are shown in Table 6.

Table 6. MRA Moderation Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,545	0,307		5,031	0,000
TP	-0,283	0,137	-0,460	-2,056	0,041
FD	-0,812	0,267	-0,392	-3,041	0,003
LEV	-0,003	0,049	-0,004	-0,064	0,949
ROA	0,013	0,007	0,104	1,704	0,090
SIZE	-0,169	0,097	-0,105	-1,740	0,083
TP*FD	0,540	0,213	0,639	2,535	0,012

Based on the results of the moderated regression analysis presented in Table 6, it can be seen that the interaction between transfer pricing (TP) and female directors (FD), namely TP*FD, has a coefficient value of 0.540 with a significance value of 0.012 ($p < 0.05$). This result indicates that the female director variable moderates the effect of transfer pricing on tunneling. This means that the presence of female directors in the management structure can strengthen the relationship between transfer pricing practices and tunneling activities. This indicates that the presence of female directors further strengthens the prevention of tunneling-related transfer pricing.

Considering the coefficient values, which are insignificant and those that are significant, it can be concluded that this relationship is purely moderating. The presence of female directors does not moderate the relationship between transfer pricing and tunneling. Furthermore, the transfer pricing (TP) variable directly has a significant negative effect on tunneling, with a coefficient value of -0.283 and a significance value of 0.041. The positive and significant coefficient on the TP*FD interaction variable indicates that female directors act as moderators, strengthening the negative effect of transfer pricing on tunneling. In other words, the presence of female directors in a company's management structure strengthens the influence of transfer pricing on tunneling practices.

When there are female directors, this negative effect is reduced. This suggests that women tend to control or inhibit the use of transfer pricing to tunnel. This condition can be explained from the perspective of managerial behavior and business ethics. Female directors are known to be more cautious, ethical, and risk-averse than men and pay more attention to the interests of stakeholders across the board, not just controlling owners. These characteristics allow their presence on the board of directors to limit potential misconduct by controlling parties, including the aggressive use of transfer pricing to transfer wealth between entities within a business group.

This finding is supported by the gender diversity theory, which states that women tend to be more ethical and cautious than men, thereby strengthening corporate governance. (Welsh, 1992). Behavioral and social theories suggest that women tend to be more committed to legal compliance and ethical values. Gender diversity in corporate leadership can improve the quality of corporate governance. Therefore, women on boards can provide a more conservative outlook and provide closer oversight of managerial behavior, including practices that could potentially harm controlling shareholders, such as tunneling. Female directors also tend to bring a broader social perspective and are more sensitive to reputational risk, thereby exerting pressure on companies to refrain from using manipulative strategies, such as transfer pricing, for internal-group gain. They act as ethical guardians in the decision-making process and as supervisors of strategic financial practices.

The results showing no significant effect of transfer pricing on tunneling can be explained by stewardship theory, which holds that management tends to act in the company's overall interest. Furthermore, increasingly stringent tax regulations in Indonesia may also limit the use of transfer pricing as a tunneling tool. The moderation findings indicate that female directors act as an effective governance mechanism. This aligns with gender diversity theory, which states that women tend to be more risk-averse and ethical in decision-making, thereby suppressing opportunistic behavior.

The results of this study are in line with Laili & Tjaraka (2024) which states that the presence of female directors is able to significantly suppress the relationship between transfer pricing and tax avoidance in manufacturing companies in Indonesia, indicating that supervision carried out by women on the board of directors contributes to more ethical corporate financial behavior. Haryadi et al (2025) also found that gender diversity in corporate governance structures weakens the positive relationship between transfer pricing and tax avoidance, suggesting that the presence of women on boards provides effective oversight of aggressive financial policies. Nuraina et al., (2025) revealed that gender diversity, with the presence of female directors, synergizes with male directors to mitigate agency costs.

Pratama et al (2025) Identifying gender diversity significantly reduces tax aggressiveness, including transfer pricing practices, in multinational manufacturing companies on the IDX during 2018–2022. (Tayu & Rustam (2024) This study states that gender diversity also provides decision-making authority and the ability to control opportunistic transfer pricing practices. Therefore, the hypothesis that female directors can moderate the effect of transfer pricing on tunneling is accepted (H2 Accepted). These results provide important implications: companies need to consider gender diversity in board composition as part of efforts to strengthen internal oversight systems and reduce the risk of financial policy abuse.

This model also uses three control variables: leverage (LEV), company performance (ROA), and company size (SIZE). The test results show that only company performance (ROA) approaches significance ($p = 0.090$), while leverage ($p = 0.949$) and company size ($p = 0.083$) do not significantly influence tunneling in this model. This indicates that the role of control variables in this model is relatively small compared to the main and moderating variables studied. Therefore, these results support the hypothesis that the presence of female directors can moderate the effect of transfer pricing on tunneling, thereby strengthening the assumption that women in strategic positions can enhance oversight in corporate financial management practices. Therefore, it can be concluded that H2 is accepted.

Conclusion

This study has shown that transfer pricing has no effect on tunneling practices. This indicates that transfer pricing practices have not been empirically shown to constitute tunneling among the sample companies, possibly due to internal oversight, effective regulations, or other influencing factors. However, the results of the moderation analysis indicate that the presence of female directors significantly moderates the relationship between transfer pricing and tunneling. This moderation is called pure moderation, where female directors can strengthen the findings to prevent tunneling by using transfer pricing tools. In accordance with the principle of women who have a cautious nature and are considered skilled in improving corporate governance. Women in board structures can provide a more conservative perspective and stricter oversight of managerial behavior, including practices that could harm controlling shareholders. Female directors also tend to bring a broader social perspective and are more sensitive to reputational risk, thereby pressuring companies to avoid manipulative strategies that benefit controlling shareholders. They act as ethical guardians in the decision-making process and as monitors of strategic financial practices. Theoretically, this study extends the literature by integrating agency theory and gender-diversity perspectives to explain tunneling practices. The main novelty lies in the role of female directors as a pure moderator in this relationship. Practically, these results provide empirical evidence that increasing gender diversity on boards of directors can be an effective strategy for strengthening corporate governance.

This study still has limitations; therefore, future researchers are advised to expand its scope to include industry sectors and other relevant moderating or mediating variables, such as ownership structure, audit quality, or audit committee effectiveness. They should also use different indicators to measure these variables. It is also recommended to use alternative statistical methods or robust regression to ensure the validity of the research results.

Based on the research results, several recommendations can be given: Regulators (OJK and DJP) are advised to promote policies that increase female representation on boards of directors as part of corporate governance reform. Companies need to consider gender diversity as a governance strategy to reduce the risk of opportunistic practices such as tunneling. Investors can use the gender composition of the board as an indicator of corporate governance quality.

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