

## Does Executive Compensation Reinforce the Influence of Political Connection and Investment Opportunity Set on Firm Value?

Arif Wahyu Nur Kholid<sup>1</sup> ✉ and Evi Rahmawati<sup>2</sup>

<sup>1,2</sup>Universitas Muhammadiyah Yogyakarta, Jl. Brawijaya Geblagan, Tamantirto, Kec. Kasihan, Kabupaten Bantul, Daerah Istimewa Yogyakarta 55183

DOI: <http://dx.doi.org/10.15294/jda.v15i2.44081>

Submitted: April 30<sup>th</sup>, 2023 Revised: May 24<sup>th</sup>, 2023 Accepted: June 15<sup>th</sup>, 2023 Published: July 25<sup>th</sup>, 2023

---

### Abstract

**Purposes:** Executives may be crucial in managing the political connection and investment opportunity set (IOS). Compensations are given to motivate executives to enhance their performance to manage it. Therefore, this study examined the moderation of executive compensation in the influence of political connections and IOS on the firm value.

**Methods:** The study used samples of all listed companies in IDX and applied a quantitative approach from 2015 to 2020. Research data were obtained from [www.idx.co.id](http://www.idx.co.id) and OSIRIS. This research employed a purposive sampling method, with a firm year of 1,242 observations. Hypothesis testing was carried out utilizing multivariate regression using panel data. This research used the Fixed Effect Model to process the data and employed the different proxies for measuring IOS to examine the robustness model.

**Findings:** This study discovered that IOS positively affected firm value. Furthermore, using different measurements of IOS, this study consistently found that IOS positively affected firm value. Moreover, when IOS was measured by MVBV, the moderating variable of executive compensation provided significant results because there was a wedge of measurement between the MVBV and Tobin's Q. However, this study could not find that executive compensation had a moderate effect. It indicated that the executive compensation could not reinforce the interaction between IOS and political connections on firm value. In addition, political connections did not influence the firm's value. On the other hand, the IOS positively affected firm value. Even though IOS was regressed using another proxy, i.e., MVBV and Net PPE, the result was still reliable that IOS positively affected firm value.

**Novelty:** This study was developed from previous research by considering executive compensation as a moderating variable and examined two proxies to measure the IOS and developed one proxy, i.e., net PPE ratio, to measure IOS. Furthermore, this study used the balance panel method, with an observation period of six years.

**Keywords:** *Executive Compensation, Firm Value, Investment Opportunity Set (IOS), Political Connection.*

### How to cite (APA 7th Style)

Kholid, A. W. N. & Rahmawati, E. (2023). Does Executive Compensation Reinforce the Influence of Political Connection and Investment Opportunity Set on Firm Value?. *Jurnal Dinamika Akuntansi*, 15(2), 139-152.

---

## INTRODUCTION

In 2022, the Indonesia Stock Exchange (IDX) noted that 11 issuers had the potential to be delisted and had previously been temporarily suspended or suspended for a long time (Nurhaliza,

author (✉)

E-mail: [arifwahyu277@gmail.com](mailto:arifwahyu277@gmail.com)

2022). IDX can delist shares from a listed company if the company experiences conditions or events with a material adverse impact on the company's operational implementation, both financially and legally, or on the continuation of the company's status as a public company and the listed company cannot show adequate indications of recovery (Sitorus, 2019). Therefore, the firm value is essential because it is the investor's assessment of how well the firm's current and future condition is (Kholid & Prayoga, 2022). Firm value is also noteworthy since high stockholder wealth will admire the tremendous corporate value (Sudiyatno et al., 2020) and describes how well management controls their assets, which can be observed from financial performance (Fama, 1998; Seth & Mahenthiran, 2022). Firm value gains the economic worth of a company based on its assets, operations, and prospects. Hence, it will be an important metric for investors, shareholders, and other stakeholders to evaluate a company's financial health, competitiveness, and growth potential (Fang et al., 2009; Madden, 2017). Firm value also reflects the ability of a company to generate profits, create value for its shareholders, and compete in the marketplace (Barney, 2018). The market will believe that if the company has enormous value, the current performance and the prospects in the future will be convincing. Thus, the study of firm value still matters to be observed.

In Indonesia, many government officials, legislators, and political party activists become the directors or commissioners of companies (Kholid et al., 2022). Moreover, Kholid et al. (2022) imply that political connections refer to the relationship between a company and government officials, giving firms access to resources and information that can give them a competitive advantage. Benefits for politically engaged companies can include privileged treatment from the government, tax breaks, leniency of supervision, special treatment in government contract competition, and many other forms (Faccio, 2006a). Therefore, political connections can provide firms with many benefits; when the company can take advantage of them, it can increase its profitability and market share (Aldhamari et al., 2020; Bencheikh & Taktak, 2017). Furthermore, Hadley (2016) discovered that companies that run or obtain projects from the government have more bargaining power and a strong market. Suppose the executive board's political connections could be advantageous for innocuous reasons, such as providing knowledge about the government bureaucracy (Goldman, 2009). In that case, management will quickly know how to face the problem of business licensing, tax trouble, and the other problems of government bureaucracy.

Additionally, Dicko (2017) emphasized that companies with political connections tend not to strive to enhance the quality of corporate governance. Based on agency theory, political connections can also cost companies when politically connected managers seek profits or funds for political parties (Nguyen & van Dijk, 2012), even though political connections provide many advantages to firms. Furthermore, Kholid et al. (2022) imply that politicians would use ineffective political connections as "extortion cows," i.e., utilizing company resources to benefit political parties. Therefore, companies with bad political connections with the government, such as corruption and abuse of authority, or companies owned by members of political parties can cause the market to view these political connections as unfavorable, which can cause stock values to fall. Investors will consider the company a political tool, such as using company assets for political gain. Supported by Liu et al. (2018), a negative effect was discovered between political connections and market reaction. In addition, Chaney et al. (2011) emphasized that companies with political connections show more aggressive earnings management than those without it.

Next, the investment opportunity set (IOS) refers to a firm's range of options, including existing and potential investment opportunities. The IOS concept is based on the idea that firms can invest in various projects, such as new product lines, research, development, or capital expenditures, to generate cash flows and profits (Suartawan & Yasa, 2017). The IOS of a firm is determined by various factors, such as market conditions, industry trends, and the firm's capabilities and resources (Hasanah et al., 2023; Myers, 1977). A more extensive and diverse IOS offers the firm more investment options and can increase its flexibility in responding to market changes or the internal environment (Kallapur & Trombley, 2001). For example, if a firm has a

large and diverse IOS, it may have the option to invest in multiple projects with varying risk and return potential. It can help the firm to balance its risk exposure and optimize its portfolio of investments to maximize overall returns.

Furthermore, Kallapur & Trombley (2001) stated that assets-in-place with ultimate value has independent of future discretionary investment by managers, and past investments in PPE could be distinguished as assets-in-place. Then, an IOS refers to the range of potential investment options available to a firm, which can influence its ability to generate profits and increase firm value. Supported by the resulting study, Alamsyah & Malanua (2021), Hamidah & Umdiana (2017), Kebon & Suryanawa (2017), and Wulanningsih & Agustin (2020) revealed that IOS has a positive effect on firm value.

In making strategic decisions and managing the company's resources, executives are essential (Jensen & Meckling, 1976). Thus, executives ensure that the company runs efficiently and effectively, manages possible risks, and establishes stakeholder relationships. Therefore, the role of the executive is crucial in determining the direction and success of the company. In this regard, executive compensation is the compensation for services provided by company owners in financial and non-financial to company executives for the resulting performance, which can be interpreted as executive compensation (Kholid et al., 2022). The compensation can be in the form of salaries, bonuses, and *tantiem*. Compensation policies align the executive's behavior with the stockholders' s interests (Fama dan Jensen, 2019).

Further, Eisdorfer et al. (2013) stated that incentive contracts, such as performance bonuses, are the optimal mechanism to align managers with shareholders' inefficient investment policies in corporate governance practices. Agency theory is proposed to analyze and explain how compensation plans should be designed to minimize agency problems that will harm shareholders (Eisdorfer, Giaccotto dan White, 2013). Therefore, executive compensation is one way to reduce agency problems (Braendle dan Rahdari, 2016), so executive compensation should be set in such a way as to offer sufficient incentives according to the executive dedication that has been given.

This study wants to answer the argumentation from Habib et al. (2017) and Leuz & Oberholzer-Gee (2006) that convincing political connections are instruments to form firm value in Indonesia. Besides, there is still a debate about political connections and firm values. Political connections provide various benefits to the company (Aldhamari et al., 2020; Bencheikh & Taktak, 2017; Goldman, 2009; Hadley, 2016); as a result, the company having a close relationship with the government will provide a high value to the shareholder. Conversely, the company has political connections and tendencies to have bad corporate governance (Dicko, 2017) and do bad management, such as immensely earning management (Chaney et al., 2011). Thus, agency issues and feeble governance ascending from the political connection of corporate management allow political links to take political benefit at the expense of other shareholders, increasing their incentives, expropriating corporate resources, and overlooking shareholders' welfare (García-Meca, 2016).

Furthermore, this study considered the role of the executive who manages and leads the company. Compensations given to executives can reduce the agency problem and make the executives manage all resources, including political connections and IOS, to maximize the prosperity of shareholders. Therefore, this research has both theoretical and practical contributions. The findings of this study can later explain how the role of compensation as moderating variable and provide empirical evidence relating the agency, resource dependency, and legitimacy theory on firm value. In addition, this research can answer arguments and debates about political connections as instruments to create values. The results of this study can also be considered for shareholders to pay attention to how compensation is designed. With the package compensation already given, does it enable the executive to manage and utilize existing political connections and IOS to maximize shareholder value?

Agency theory by Jensen & Meckling (1976) explains that the manager or executive is the

agent, and the shareholders are the principal. Executives are essential in a company because they manage the resources and hold the most power to lead it. Political connection is a company's resources that should be managed well. The previous explanation is that political connections provide many benefits to the company (Faccio, 2006b), giving the company having strong market (Hadley, 2016) and the ability to generate more profitability in the future (Aldhamari et al., 2020).

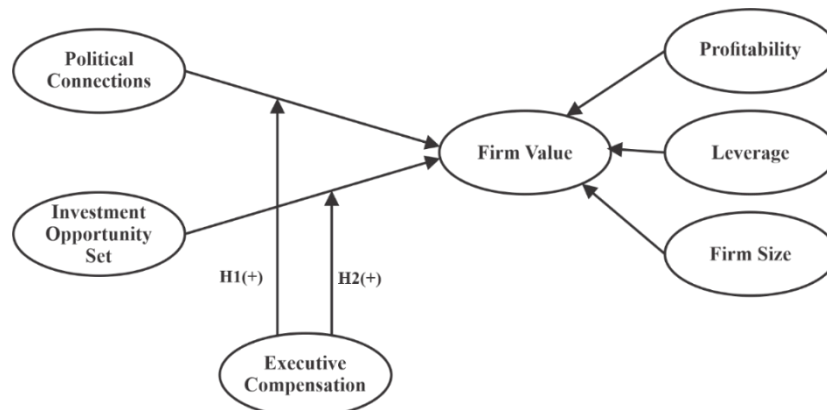
The resource dependency theory by Hillman et al. (2009) also elucidates that a company should connect with other players and companies in its environment to obtain resources. Hence, companies with political connections will find it easier to build and engage with the government or other actors to obtain more resources. It is supported by previous research by Joseline et al. (2021) and Nugrahanti & Nurfitri (2022), which found that political connection positively affects firm value. Strong political connections can improve companies in raising more accessible access to crucial resources, such as land, infrastructure, permits, or government contracts. It can improve a company's operational efficiency, expand business opportunities, and provide a competitive advantage (Faccio, 2006b; Kholid et al., 2022).

Thus, the company requires executives who can lead and manage political connections. If the company can take advantage of the political connection, it will benefit greatly. This compensation is made to reduce agent problems and provide motivation to increase executives' productivity and performance. In this case, the shareholders must compensate for the workload and job complexity the executive receives. Fairness in providing compensation makes the executive satisfied with what is done to advance the company. As a result, when executives are offered big salaries, incentives, and others, they will enhance and motivate to take advantage of political connections towards the prosperity of shareholders.

**H<sub>1</sub>: Executive compensation reinforces the influence of political connections on firm value.**

Next, the influence of IOS on firm value can be explained by signaling theory. The company will give an optimistic signal to investors so that investors will positively respond to the company having high IOS (Smith & Watts, 1992). Furthermore, IOS is an abundance of upcoming investment opportunities that impact the growth of enterprise assets or firm value (Agustina et al., 2023). High IOS will promise higher returns in the future. A more extensive and diverse IOS offers the firm more investment options and can increase its flexibility in responding to market changes or the internal environment (Kallapur & Trombley, 2001). IOS also can predict the ability of a company to generate profits and create value for its shareholders in the future. Thus, the company requires executives to manage this opportunity to realize it. Based on agency theory, IOS can minimize the problems in agency relationships (Agustina et al., 2023; Sholikhah & Baroroh, 2021a).

Moreover, Agustina et al. (2023) explain that variations would affect the manager's role in



**Figure 1. Research Model**

**Table 1.** The Definition of Operational and Measurement Variables

Code	Variable	Definition	Measurement	Source
TOBINQ	Firm Value	It is the prospective growth firm and the capability of a company to create earnings and create value for its shareholders. The market value of a company is divided by the replacement value of the company's assets.	Tobin's-Q (Market value assets to replacement cost)	(Seth & Mahenthiran, 2022; Xie et al., 2022)
POLCON	Political Connections	At least one board member, majority shareholder, controlling shareholder, or close relative of the above parties is currently or has served as a member of parliament, state official, or party administrator; or State-Owned-Enterprise.	The dummy variable: 1 for having political connections and 0 if otherwise	(Chaney et al., 2011; Faccio, 2006b; Kholid et al., 2022)
IOS	Investment Opportunity Set	The choice of future investment opportunities, reflected by capital expenditure, impacts the growth of company assets and a combination of assets in place and investment options in the future.	Capital Expenditure (CAPEX) to Total Assets	(Agustina et al., 2023; Sholikhah & Baroroh, 2021b)
COMP	Executive Compensation	The company's resources are given to executives, such as wages and salary, bonuses, stock options, retirement pensions, and other benefits.	Ln (Total compensation)	(Braendle & Rahdari, 2016; Liang et al., 2016; Kholid et al., 2022)
ROA	Profitability	Profitability reflects a company's capability to generate income from its operational activities. The profits can be used to finance business development, pay dividends to shareholders, pay interest on debt, or be used for other purposes related to business activities.	Earnings Before Taxes to Total Assets	(Eisenberg et al., 1998; Sucuahi & Cambarihan, 2016; Kholid et al., 2022)
DER	Leverage	The high long-term debt means that companies tend to use debt financing so that the company will pay interest expenses and gain the risk of bankruptcy.	Total Liabilities to Total Equities	(Boubaker et al., 2018; Eisdorfer et al., 2013; Kholid et al., 2022)
SIZE	Size	Size measures the scale and scope of business operations, including people, assets, investments, and organizational capabilities. Big firm size indicates the company has a strong market and many recourses.	Ln (Total Sales)	(Dalbor et al., 2004; Zhang et al., 2019)
Robustness Test				
MVBV	IOS	The choice of future investment opportunities reflects in market values relative to assets in place that impact the growth of company assets and a combination of assets in place and investment options in the future.	Market Value Equity to Book Value Equity (MVBV)	(Chung & Charoenwong, 1991; Kallapur & Trombley, 2001)
NPPE	IOS	The choice of future investment opportunities reflected by net PPE belongs to the company that impacts the growth of company assets and a combination of assets in place and investment options in the future.	Total Net PPE (Gross PPE – Accumulate Depreciation of PPE) to Total Assets	Developed from (Mouritsen et al., 2001; Skinner, 1993)

overcoming agency relationships in internal managers to determine the IOS constantly. Variations of investment decisions made by managers can provide an overview of the firm's value, which can indirectly affect a company's stock price. Supported by prior research by Alamsyah & Malanua (2021), Hamidah & Umdiana (2017), Kebon & Suryanawa (2017), and Wulanningsih & Agustin (2020), IOS has a positive effect on firm value. Executives will become more motivated to improve their performance when offered considerable compensation. As a result, when executives are paid big compensations, they will enhance to utilize IOS to create stockholders' value.

**H<sub>2</sub>: Executive compensation reinforces the influence of IOS on firm value.**

According to the theoretical framework and hypothesis developed above, the research model is illustrated in Figure 1.

**METHODS**

This research used a quantitative approach with secondary data. The data of this study were obtained from the firm annual reports, which could be accessed through the official website of the Indonesia Stock Exchange, the website of the company, the Osiris database, and other publication sources related to this research. The population of this study was all companies listed on the Indonesia Stock Exchange from 2015 to 2020. Sample selection in this study employed purposive sampling to obtain samples representing predetermined criteria. The criteria of sampling to be used included companies that were not categorized in the financial sector because the approach to liabilities and equity in the financial sector is different from other sectors; companies that consistently provided compensation and/or presentation of financial information using currencies other than rupiah; companies that did not listing or/and desilting from IDX between period observation (2015 – 2020) and got suspended by IDX a year or more; and companies that did not have negative equities. Based on the purposive sampling technique, 1,242 observations were attained.

Meanwhile, the sampling of this research can be seen in Table 2. This study used balance panel regression to test the data. Panel data combined time series and cross-section; the same cross-section unit was measured separately. Therefore, balance panels were employed to observe phenomena between cross-section analysis units during the observation period. Consequently, balance panel regression has a high predicting and forecasting ability (Diani & Rustam, 2019; Timmermann & Zhu, 2019).

To examine executive compensation as a moderation variable, this study used moderated and multiple linear regression analyses for panel data. The model to be developed through this study follows the formulated hypotheses:

$$TOBINQ = \alpha + \beta_1 POLCON + \beta_2 IOS + \beta_3 COMP + \beta_4 ROA + \beta_5 DER + \epsilon \dots \dots \dots (1)$$

$$TOBINQ = \alpha + \beta_7 POLCON + \beta_8 IOS + \beta_9 COMP + \beta_{10} POLCON * COMP + \beta_{11} IOS * COMP + \beta_{12} ROA + \beta_{13} DER + \epsilon \dots \dots \dots (2)$$

**Robustness Test:**

$$TOBINQ = \alpha + \beta_{14} POLCON + \beta_{15} MVBV + \beta_{16} COMP + \beta_{17} ROA + \beta_{18} DER + \epsilon \dots \dots \dots (3)$$

$$TOBINQ = \alpha + \beta_{19} POLCON + \beta_{20} MVBV + \beta_{21} COMP + \beta_{22} POLCON * COMP + \beta_{23} MVBV * COMP + \beta_{24} ROA + \beta_{25} DER + \epsilon \dots \dots \dots (4)$$

$$TOBINQ = \alpha + \beta_{26} POLCON + \beta_{27} NPPE + \beta_{28} COMP + \beta_{29} ROA + \beta_{30} DER + \epsilon \dots \dots \dots (5)$$

$$TOBINQ = \alpha + \beta_{31} POLCON + \beta_{32} NPPE + \beta_{33} COMP + \beta_{34} POLCON * COMP + \beta_{35} NPPE * COMP + \beta_{36} ROA + \beta_{37} DER + \epsilon \dots \dots \dots (6)$$

**Table 2. Research Sampling**

No	Description	Total
1	Companies listed on the IDX, according to the 2019 Factbook	634
2	Companies categorized in the finance sector	(91)
3	Companies that did not consistently provide compensation and/or presentation of financial information using currencies other than rupiah; companies listing or/and desilting from IDX between period observation (2015 – 2020) and got suspended by IDX a year or more; and companies with negative equities	(338)
4	The number of companies used as the sample	205
5	X6 period observation 2015 – 2020	1,230

Source: Primary Data Processed (2023)

## RESULTS AND DISCUSSION

According to Table 3, the descriptive statistics showed that the maximum firm values (6.4366) were owned by PT Industri Jamu dan Farmasi Sido Muncul Tbk. (SIDO) in 2020, while the minimum firm value (0.1228) was possessed by PT Indonesia Prima Property Tbk (MORE) in 2016. Meanwhile, the mean firm value in this study was 1.2469, indicating that the average firm value of all observations was 1.2469. In this study, the political connection was measured by a dummy variable, where 1 was for companies with political connections and 0 for companies without political connections. Its mean value of 0.2300, or 23.00%, denotes that this study's observation with political connections was 23.00%, or 283 observations had political connections. Furthermore, the maximum IOS (0.78244) was obtained by PT Indonesia Prima Property (OMRE) in 2016, but the minimum IOS (-0.6302) was PT First Media Tbk (KBLV) in 2018. Meanwhile, the mean of the IOS in this study was 0.0372, suggesting that the average IOS of all observations was 0.0372. Next, the maximum executive compensation (24.9678) was gained by PT Telekomunikasi Indonesia Tbk (TLKM) in 2015, but the minimum executive compensation (11.6788) was PT Gudang Garam Tbk (GGRM) in 2017. Meanwhile, the mean of executive compensation in this study was 16.4860, denoting that the average executive compensation of all observations was 16.4860.

Then, the descriptive statistics of the control variable revealed that the maximum firm size (33.1212) was at PT Astra International Tbk (ASII) in 2018, and the minimum firm size (0.1228) was by PT Central Omega Resources Tbk (DKFT) in 2016. In addition, the mean firm size in this study was 28.2061. It indicated that the average firm value of all observations was 28.2061. Next, the maximum profitability (72.790) was attained by PT Multi Prima Sejahtera Tbk (LPIN) in 2017, which meant that every IDR 1 asset could provide earnings of IDR 0.7279. On the other hand, the minimum profitability (-50.390) was gained by PT First Media Tbk (KBLV) in 2018, which meant that every IDR 1 asset could bear a loss of IDR 0.5039. In addition, the mean profitability in this study was 4.2009. It indicated that the average profitability of all observations

**Table 3. Descriptive Statistical Test**

	TOBINQ	POLCON	IOS	COMP	SIZE	ROA	DER	NPPE	MVBV
Mean	1.2469	0.2300	0.0372	16.4988	28.2061	4.2009	1.2462	0.3146	1.4459
Median	1.0088	0.0000	0.0224	16.4790	28.3149	3.6350	0.8283	0.2819	1.0165
Maximum	6.4366	1.0000	0.7844	24.9678	33.1212	72.790	35.466	0.9227	8.7250
Minimum	0.1228	0.0000	-0.6302	11.6788	20.6353	-50.390	0.0035	0.0002	0.0230
Std. Dev.	0.7982	0.4211	0.1047	1.4711	1.7858	9.2817	1.7883	0.2371	1.2825
Observations	1,230	1,230	1,230	1,230	1,230	1,230	1,230	1,230	1,230

Source: Primary Data Processed (2023)

**Table 4.** The Moderated Regression Analysis

	Model 1	Model 2
C	1.844535***	1.630312***
POLCON	-0.028912	0.136867
IOS	0.358173***	1.398350
COMP	0.012703	0.019782
POLCON*COMP		-0.010003
IOS* COMP		-0.107904
Control Variable		
DER	0.006253	0.006451
ROA	0.011044***	0.011076***
SIZE	-0.029831	-0.026325
Adjusted R-squared	0.785881	0.785820
F-statistic	22.47996***	22.26961***
Method	Fixed General Least Squares – FEM	
Observations	1,242	

Notes: \*\*\*, \*\*, \*: sig. at the 1%, 5%, and 10%, (one-tailed).

Source: Primary Data Processed (2023)

was 4.2009. Furthermore, the maximum leverage (35.466) was PT Acset Indonusa Tbk (ACST) in 2019, which meant that the ACST had liabilities of 35.466 times its equities. The minimum leverage (0.0035) was PT Buana Artha Anugerah (STAR) in 2020, which meant that STAR only had liabilities of 0.0035 times its equities. In addition, the mean leverage in this study was 1.2462. It denoted that the average leverage of all observations was 1.2462.

Furthermore, while the maximum Net PPE Ratio (0.9227) was PT Sarana Meditama Metropolitan Tbk (SAME) in 2019, the minimum Net PPE Ratio (0.0002) was PT Sumi Indo Kabel Tbk (IKBI) in 2015. In addition, this study's mean Net PPE Ratio was 0.3146, implying that the average Net PPE Ratio of all observations was 0.3146. Then, the maximum MVBV (8.7250) was PT Acset Indonusa Tbk (ACST) in 2020, whereas the minimum MVBV (0.0230) was PT Sumi Indo Ka Bakrieland Development Tbk (ELTY) in 2018. In addition, the mean MVBV in this study was 1.4459, indicating that the average MVBV of all observations was 1.4459.

The data in this study were processed using panel data regression with EVIEWS 10 software. Before performing regression processing, a model test was conducted to select the best panel estimation model and continued with classical assumption tests to obtain the BLUE (Best Linear Unbiased Estimator) result. In the model test, i.e., Chow ( $\rho$ -value of 0.0000) and Hausman ( $\rho$ -value of 0.0000), the Fixed Effect Model (FEM) was chosen as the appropriate estimation model. After that, the classical assumption should be conducted to obtain the BLUE (Best Linear Unbiased Estimation). Firstly, the classical assumption of the heteroscedasticity test was tested using the Glejser test. All variables had  $\rho$ -value between 0.2876 – 0.9633 or above 0.05. As a result, the research data were not exposed to the assumption of heteroscedasticity. Next, the classical assumption of multicollinearity was performed through the value of collinearity between independent variables. The value of collinearity between independent variables was around -0.2595 until 0.6670 or below 0.8. According to the rule of thumb, multicollinearity occurs when the value of collinearity between independent variables is above 0.8 (Ghozali, 2013).



**Table 5. Robustness Test**

	Model 3	Model 4	Model 5	Model 6
C	0.512002***	1.144469***	1.874793***	1.844922***
POLCON	-0.013214	-0.316951	-0.020654	0.145608
MVBV	0.484557***	0.091615		
NPPE			0.382779***	0.384359
COMP	0.005492	-0.033432**	0.015543	0.017547
POLCON* COMP		0.018017		-0.009913
MVBV* COMP		0.024054***		
NPPE*COMP				0.000036
Dependent Variable		MVBV		NPPE
Control Variable				
DER	-0.040191	-0.037065	0.004984	0.005043
ROA	0.004010***	0.003903***	0.010360***	0.010346***
SIZE	-0.000710	-0.000846	-0.037216	-0.037375
Adjusted R-squared	0.950106	0.951280	0.785426	0.785021
F-statistic	112.4449***	114.1915***	22.42204***	22.16905***
Method		Panel Least Squares – FEM		
Observations		1,242		

Notes: \*\*\*, \*\*, \*: sig. at the 1%, 5%, and 10%, (one-tailed).

Source: Primary Data Processed (2023)

Besides, this research had a massive sample close to the population, and the cross-sectional of companies were more extensive than period observation, so the normality and autocorrelation assumption test was unnecessary (Ghozali, 2013; Verbeek, 2017). In conclusion, all the data in this study were assessed so that hypothesis testing could be conducted.

### The Role of Executive Compensation in the Influence of Political Connection on Firm Value

According to Table 4, assessing the first hypothesis ( $H_1$ ) revealed insignificant interaction of executive compensation in the association between political connection and firm value. Therefore, it showed that executive compensation could not moderate the influence of political connections on firm value. Besides, Table 4 likewise shows that political connections could not influence the firm value. As a result, this research could not answer the debate about whether political connections can increase or even reduce firm value. Nevertheless, this research answered the argument that political connections are instruments to establish firm value in Indonesia; thus, this result rejected the argument from Habib et al. (2017) and Leuz (2006).

The political connections could not affect the firm value, and maybe a variable is a mediation between political connections and firm value. Aldhamari et al. (2020), Bencheikh & Taktak (2017), Ling et al. (2016), Menozzi et al. (2012), Micco et al. (2007), and Muttakin et al. (2015) discovered that political connections positively affected firm performance. Thus, the company can use political connections to enhance its performance. Companies can also use it to lobby the government to obtain the government's project (Faccio, 2006b). As a result, the company can generate more profitability and provide more prosperity to shareholders. Moreover, the executive board's political connections could be advantageous for innocuous reasons, such as providing

knowledge about the government bureaucracy (Goldman, 2009). Consequently, the company will get the licensing from the government easier. Hence, future research should consider the mediation variable, such as profitability or company performance.

### **The Role of Executive Compensation in the Influence of Investment Opportunity Set on Firm Value**

According to Table 4, assessing the second hypothesis ( $H_2$ ) discovered insignificant positive interaction of executive compensation in the correlation between IOS and firm value. Thus, it showed that executive compensation could not reinforce the effect of IOS on firm value. Hence, executive compensation was not a moderation variable because it could not affect the firm value when it became an independent variable and moderated the IOS. Furthermore, Table 4 displays that IOS positively affected the firm value. It indicated that the higher IOS, the firm value will also increase.

Investment decisions managed by management will distress the perspective of investors and shareholders, affecting the company's value. IOS refers to the range of potential investment options available to a firm, which can influence its ability to generate profits and increase its value. High IOS will promise higher returns in the future. As risk seekers, investors have understood that high levels of risk will follow high returns. According to the measurement of IOS using CAPEX, this study implied that the company spent more resources on capital expenditure (CAPEX), which will provide investment opportunities to generate profit in the future. In addition, variations of investment decisions made by managers can provide an overview of the firm value, which can indirectly affect a company's stock price (Agustina et al., 2023). Supported by signaling theory (Smith & Watts, 1992), the company will give a positive signal to investors so that investors will positively respond to the company having high IOS. Consequently, the stock price will increase. It is reinforced by Kallapur & Trombley (2001), who stated that IOS represents firms with high firm value.

Furthermore, Table 4 reveals that the control variable could influence the firm value but only on profitability. Because profitability is the capability to generate earnings from its operational activities, the profits can be used to finance business development, pay dividends to shareholders, pay interest on debt, or be used for other purposes related to business activities (Eisenberg et al., 1998; Sucuahi & Cambarihan, 2016), so it can positively affect firm value. Moreover, leverage is an extent of long-term debt and shows the company's incline to use financing in the form of debt so that the company will pay interest expenses and increase the risk of bankruptcy (Boubaker et al., 2018; Eisdorfer et al., 2013), but if the company has big profit and can pay the debt, the debt does not matter to the firm. Thus, the leverage cannot affect firm value. Then, firm size cannot affect the firm value, and this result supported the descriptive statistics, stating that firm value that the company had maximum firm value did not have big firm size or sales. It indicated that the enormous size of the firm (sales) did not guarantee considerable firm value. According to Table 5, the coefficient of adjusted R-squared was 0.785021, meaning that the independent variables, control variables, and the interaction of moderating variables could explain the firm value of 78.50 %.

A robustness test is conducted to test a research model's sturdiness. The robustness test is crucial because it helps ensure that the research model used is reliable and accurate in producing the results. This research used Market Value to Book Value as a proxy of IOS to test the robustness of the research model. This step was taken because various research relating to IOS usually uses Market Value to Book Value as a proxy (see Frederica, 2019; Hasanah et al., 2023; Hasanuddin, 2021; Puspita et al., 2021). Further tests on MVBV and Firm Value were conducted to test the high probability that collinearity between MVBV and Firm Value might occur since the measurement of IOS using Market Value to Book Value and Firm Value using Tobin's Q would intersect. The collinearity test result showed that the value of collinearity between MVBV and firm value was

0.9282 or close to 1. It indicated that IOS using Market Value to Book Value and Firm Value had extreme collinearity. As a result, the researchers could show in Table 5 that the Adjusted R-squared and coefficient of IOS became so high.

Next, this study developed a measurement of IOS (Kallapur & Trombley, 2001; Skinner, 1993; Smith & Watts, 1992). Smith & Watts (1992) used total depreciation to total assets to measure the IOS. The decreased value of fixed assets is considered in this measurement because of utilizing the fixed assets. Thus, the company can operate and generate profit. In addition, Kallapur & Trombley (2001) and Skinner (1993) examined the IOS using plant, property, and equipment (PPE) to total value. Those studies still used the gross value of PPE. This measurement relied on the fixed assets belonging to the company. The company could take advantage of fixed assets to generate profit in the future. According to previous explanations, this study tried to determine the IOS using the net value of PPE to total assets. This measurement was based on the net value of fixed assets still owned. Because of utilizing fixed assets, their value would decrease. Hence, using the net value of PPE will be more relevant to the company to utilize the fixed assets to generate profit in the future. According to Table 5, IOS was measured by Net PPE, which showed that IOS could positively influence firm value. Then, the Adjusted R-squared value was almost the same as IOS using the CAPEX ratio.

## CONCLUSIONS

This study discovered that the IOS positively affected the firm value. Even though IOS was utilized using three proxies, the result was still consistent that IOS positively affected the firm value. Next, this study also found that IOS measured by MVBV had extreme collinearity. Consequently, the result would provide a highly adjusted R-squared, weakening the model. Moreover, this result provided empirical findings supporting agency and signaling theories relating to the relationship between IOS and firm value. Thus, executive compensation was not a moderation variable in the interaction between IOS and political connections on firm value. It indicated that executive compensation could not reinforce the influence of IOS on firm value and could not affect the firm value. In addition, political connections did not affect the firm's value.

This research has some implications, either practical or theoretical. Based on this study result, the shareholder must be aware of the compensation given to the executive. It is because executive compensation not only cannot reinforce both IOS and political connections but also impacts firm value. The theoretical implications of this study are that Net PPE Ratio can be considered an IOS proxy. In future research on IOS and firm value, it is suggested not to use MVBV to measure IOS due to extreme collinearity. Furthermore, this study could not find empirical evidence that resource dependency theory can explain the correlation between political connection and firm value.

Furthermore, this study used a dummy variable to determine the phenomena of political connections. Thus, it could not distinguish between a company with massive political connections and a small one. Nevertheless, it could raise a bias toward the result because the high or low political connection could not be determined. Therefore, future research can develop the measurement of political connection, i.e., ratio data. In addition, future research can consider the company's performance in mediating political connections and firm value.

## REFERENCES

- Agustina, L., Apriyanti, P., & Jati, K. W. (2023). The Influence of Managerial Ownership, Institutional Ownership, Investment Opportunity Set, and Capital Intensity on Accounting Conservatism with Political Connections as A Moderation Variable. *Accounting Analysis Journal*, 11(1), 64–74. <https://doi.org/10.15294/aaj.v11i1.63340>
- Alamsyah, M. F., & Malanua, W. (2021). Pengaruh Investment Opportunity Set, Corporate Social Responsibility, Dan Risiko Bisnis Terhadap Nilai Perusahaan. *Jurnal Fokus Manajemen Bisnis*, 11(2), 154–172. <https://doi.org/10.12928/fokus.v11i2.4228>
- Aldhamari, R., Mohamad Nor, M. N., Boudiab, M., & Mas'ud, A. (2020). The impact of political connection

- and risk committee on corporate financial performance: evidence from financial firms in Malaysia. *Corporate Governance (Bingley)*, 20(7), 1281–1305. <https://doi.org/10.1108/CG-04-2020-0122>
- Barney, J. B. (2018). Why resource-based theory's model of profit appropriation must incorporate a stakeholder perspective. *Strategic Management Journal*, 39(13), 3305–3325. <https://doi.org/10.1002/smj.2949>
- Bencheikh, F., & Taktak, N. B. (2017). The Effect of Political Connections on the Firm Performance in a Newly Democratized Country. *Mediterranean Journal of Social Sciences*, 8(4), 40–46. <https://doi.org/10.1515/mjss-2017-0004>
- Boubaker, S., Hamza, T., & Vidal-García, J. (2018). Financial distress and equity returns: A leverage-augmented three-factor model. *Research in International Business and Finance*, 46, 1–15. <https://doi.org/10.1016/J.RIBAF.2016.09.003>
- Braendle, U. C., & Rahdari, A. H. (2016). Corporate Governance and Remuneration. In *The Theory and Practice of Directors' Remuneration* (pp. 3–20). Emerald Group Publishing Limited. <https://doi.org/10.1108/978-1-78560-683-020151001>
- Chaney, P. K., Faccio, M., Parsley, D., Chaney, P. K., Faccio, M., & Parsley, D. (2011). The quality of accounting information in politically connected firms. *Journal of Accounting and Economics*, 51(1–2), 58–76. <https://econpapers.repec.org/RePEc:eee:jaecon:v:51:y:2011:i:1-2:p:58-76>
- Chung, K. H., & Charoenwong, C. (1991). Investment Options, Assets in Place, and the Risk of Stocks. *Financial Management*, 20(3), 21–33. <https://doi.org/10.2307/3665748>
- Dalbor, M. C., Kim, A., & Upneja, A. (2004). An Initial Investigation of Firm Size and Debt Use by Small Restaurant Firms. *The Journal of Hospitality Financial Management*, 12(1), 41–48. <https://doi.org/10.1080/10913211.2004.10653785>
- Diani, J., & Rustam, Z. (2019). Panel data regression and support vector regression for Indonesian private external debt analysis. *Business Innovation and Development in Emerging Economies*, 366–372. <https://doi.org/10.1201/9780429433382-35>
- Dicko, S. (2017). Political connections, ownership structure and quality of governance. *International Journal of Managerial Finance*, 13(4), 358–377. <https://doi.org/10.1108/IJMF-01-2017-0010>
- Eisdorfer, A., Giaccotto, C., & White, R. (2013). Capital structure, executive compensation, and investment efficiency. *Journal of Banking and Finance*, 37(2), 549–562. <https://doi.org/10.1016/j.jbankfin.2012.09.011>
- Eisenberg, T., Sundgren, S., & Wells, M. T. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics*, 48(1), 35–54. [https://doi.org/10.1016/S0304-405X\(98\)00003-8](https://doi.org/10.1016/S0304-405X(98)00003-8)
- Faccio. (2006a). American Economic Association Politically Connected Firms Author ( s ): Mara Faccio Source : The American Economic Review, Vol . 96, No. 1 (Mar ., 2006), pp. 369-386 Published by : American Economic Association Stable URL : <http://www.jstor.org/stab>. The American Economic Review, 96(1), 369–386.
- Faccio, M. (2006b). Politically Connected Firms. *The American Economic Review*, 96(1), 369–386. <http://www.jstor.org/stable/30034371>
- Fama, E. F. (1998). Market efficiency, long-term returns, and behavioral finance. *Journal of Financial Economics*, 49(3), 283–306. [https://doi.org/10.1016/S0304-405X\(98\)00026-9](https://doi.org/10.1016/S0304-405X(98)00026-9)
- Fama, E. F., & Jensen, M. C. (2019). Separation of ownership and control. In *Corporate Governance: Values, Ethics and Leadership* (pp. 163–188). Taylor and Francis. <https://doi.org/10.1086/467037>
- Fang, V. W., Noe, T. H., & Tice, S. (2009). Stock market liquidity and firm value. *Journal of Financial Economics*, 94(1), 150–169. <https://doi.org/10.1016/j.jfineco.2008.08.007>
- Frederica, D. (2019). The Impact Of Investment Opportunity Set And Cost Of Equity Toward Firm Value Moderated By Information Technology Governance. *International Journal of Contemporary Accounting*, 1(1), 1–12. <https://doi.org/10.25105/IJCA.V1I1.5181>
- Ghozali, I. (2013). Analisis Multivariat dan Ekonometrika, Teori, Konsep dan Aplikasi dengan Eviews 8. UNDIP.
- Goldman, E. (2009). Do Politically Connected Boards Affect Firm Value ? Author ( s ): Eitan Goldman, Jörg Rocholl and Jongil So Published by : Oxford University Press. Sponsor : The Society for Financial Studies. Stable URL : <https://www.jstor.org/stable/30225718> Do Polit. 22(6), 2331–2360.
- Habib, A., Muhammadi, A. H., & Jiang, H. (2017). Political Connections and Related Party Transactions: Evidence from Indonesia. *The International Journal of Accounting*, 52(1), 45–63. <https://doi.org/10.1016/j.intacc.2017.01.004>
- Hadley, B. (2016). Executive Compensation and Political Sensitivity: Evidence from Government

- Contractors. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.2721129>
- Hamidah, G., & Umdiana, N. (2017). Pengaruh Profitabilitas dan Investment Opportunity Set (IOS) terhadap Nilai Perusahaan dengan Harga Saham sebagai Variabel Intervening. *JAK (Jurnal Akuntansi) Kajian Ilmiah Akuntansi*, 4(1). <https://doi.org/https://doi.org/10.30656/jak.v4i1.220>
- Hasanah, V., Hasanah, V. N., Nuraina, E., & Styaningrum, F. (2023). Sustainability Reporting, Foreign Ownership, Firm Value as a Function of Investment Opportunity Set. *Jurnal Dinamika Akuntansi*, 15(1), 13–23. <https://doi.org/10.15294/jda.v15i1.35793>
- HASANUDDIN, R. D. M. Y. A. M. A. H. P. K. (2021). The Effect of Firm Size, Debt, Current Ratio, and Investment Opportunity Set on Earnings Quality: An Empirical Study in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(6), 179–188. <https://doi.org/10.13106/JAFEB.2021.VOL8.NO6.0179>
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of Management*, 35(6), 1404–1427. <https://doi.org/10.1177/0149206309343469>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Joseline, J., Frandy, S., & Pangestu, S. (2021). Pengaruh Koneksi Politik terhadap Nilai Perusahaan Non-Kuangan. *Studi Akuntansi Dan Keuangan Indonesia*, 4(1), 68–77.
- Kallapur, S., & Trombley, M. A. (2001). The investment opportunity set: determinants, consequences and measurement. *Managerial Finance*, 27(3), 3–15. <https://doi.org/10.1108/03074350110767060>
- Kebon, S., & Suryanawa, I. K. (2017). Pengaruh Good Corporate Governance dan Investment Opportunity Set pada Nilai Perusahaan di Bursa Efek Indonesia. *E-Jurnal Akuntansi Universitas Udayana*, 20(2), 1534–1563.
- Kholid, A. W. N. (2023). Remunerasi Eksekutif Dan Nilai Perusahaan: Dampak Pandemi Covid-19. *JURNAL AKUNTANSI*; Volume 17, Nomor 2, November 2022. <https://jurnal.unsil.ac.id/index.php/jak/article/view/6748/2609>
- Kholid, A. W. N., Utami, E. R., & Kresnawati, E. (2022). Political Connections and Executive Remuneration in Indonesia: Does the Role of Institutional Ownership Matters? *Accounting Analysis Journal*, 11(2), 75–84. <https://doi.org/10.15294/AAJ.V11I2.59862>
- Leuz, C., & Oberholzer-Gee, F. (2006). Political relationships, global financing, and corporate transparency: Evidence from Indonesia. *Journal of Financial Economics*, 81(2), 411–439. <https://doi.org/https://doi.org/10.1016/j.jfineco.2005.06.006>
- Liang, H., Renneboog, L., & Sun, S. L. (2016). A state-stewardship view on executive compensation. *International Finance Review*, 17, 39–91. <https://doi.org/10.1108/S1569-376720160000017009>
- Ling, L., Zhou, X., Liang, Q., Song, P., & Zeng, H. (2016). Political connections, overinvestments and firm performance: Evidence from Chinese listed real estate firms. *Finance Research Letters*, 18, 328–333. <https://doi.org/10.1016/j.frl.2016.05.009>
- Liu, F., Lin, H., & Wu, H. (2018). Political connections and firm value in China: An event study. *Journal of Business Ethics*, 152(2), 551–571. <https://doi.org/10.1007/S10551-016-3316-2/METRICS>
- Madden, B. J. (2017). The purpose of the firm, valuation, and the management of intangibles. *Journal of Applied Corporate Finance*, 29(2), 76–86.
- Menozi, A., Urtiaga, M. G., & Vannoni, D. (2012). Board composition, political connections, and performance in state-owned enterprises. *Industrial and Corporate Change*, 21(3), 671–698. <https://doi.org/10.1093/icc/dtr055>
- Micco, A., Panizza, U., & Yañez, M. (2007). Bank ownership and performance. Does politics matter? *Journal of Banking and Finance*, 31(1), 219–241. <https://doi.org/10.1016/j.jbankfin.2006.02.007>
- Mouritsen, J., Larsen, H. T., & Bukh, P. N. D. (2001). Intellectual capital and the ‘capable firm’: narrating, visualising and numbering for managing knowledge. *Accounting, Organizations and Society*, 26(7–8), 735–762.
- Muttakin, M. B., Monem, R. M., Khan, A., & Subramaniam, N. (2015). Family firms, firm performance and political connections: Evidence from Bangladesh. *Journal of Contemporary Accounting & Economics*, 11(3), 215–230. <https://doi.org/10.1016/J.JCAE.2015.09.001>
- Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics*, 5(2), 147–175. [https://doi.org/10.1016/0304-405X\(77\)90015-0](https://doi.org/10.1016/0304-405X(77)90015-0)
- Nguyen, T. T., & van Dijk, M. A. (2012). Corruption, growth, and governance: Private vs. state-owned firms in Vietnam. *Journal of Banking & Finance*, 36(11), 2935–2948. <https://doi.org/https://doi.org/10.1016/j.jbankfin.2012.08.001>

- org/10.1016/j.jbankfin.2012.03.027
- Nugrahanti, Y. W., & Nurfitri, I. (2022). Koneksi Politik dan Nilai Perusahaan: Apakah Mekanisme Corporate Governance Memiliki Peran? *AFRE (Accounting and Financial Review)*, 5(2), 106–116. <https://doi.org/10.26905/afr.v5i2.7762>
- Nurhaliza, S. (2022, February 19). 11 Emiten yang Terancam Delisting 2022, Yuk Dicek! *IDXChannel*. <https://www.idxchannel.com/market-news/11-emiten-yang-terancam-delisting-2022-yuk-dicek>
- Puspita, D. A., Murtiningtyas, T., & Saradewi, L. W. P. (2021). Moderating Effect Of Firm Size On Firm Value With Investment Opportunity Set And Intellectual Capital As Antecedent Variables. *Jurnal Ilmiah Manajemen, Ekonomi, & Akuntansi (MEA)*, 5(3), 2694–2707. <https://doi.org/10.31955/MEA.V5I3.1725>
- Seth, R., & Mahenthiran, S. (2022). Impact of dividend payouts and corporate social responsibility on firm value – Evidence from India. *Journal of Business Research*, 146, 571–581. <https://doi.org/10.1016/J.JBUSRES.2022.03.053>
- Sholikhah, Z., & Baroroh, N. (2021a). The Roles of Capital Intensity in Moderating Managerial Ownership and Investment Opportunity Set (IOS) on Accounting Conservatism. *Accounting Analysis Journal*, 10(1), 25–31. <https://doi.org/10.15294/aaj.v10i1.40114>
- Sholikhah, Z., & Baroroh, N. (2021b). The Roles of Capital Intensity in Moderating Managerial Ownership and Investment Opportunity Set (IOS) on Accounting Conservatism. *Accounting Analysis Journal*, 10(1), 25–31. <https://doi.org/10.15294/AAJ.V10I1.40114>
- Sitorus, L. R. (2019). Tinjauan Yuridis Tindakan Delisting Oleh Bursa Efek Indonesia Dan Perlindungan Pemegang Saham (Studi Kasus: Pt. Berau Coal Energy, Tbk.). *Dialogia Iuridica: Jurnal Hukum Bisnis Dan Investasi*, 10(2), 19–32. <https://doi.org/10.28932/di.v10i2.1131>
- Skinner, D. J. (1993). The investment opportunity set and accounting procedure choice: Preliminary evidence. *Journal of Accounting and Economics*, 16(4), 407–445. [https://doi.org/https://doi.org/10.1016/0165-4101\(93\)90034-D](https://doi.org/https://doi.org/10.1016/0165-4101(93)90034-D)
- Smith, C. W., & Watts, R. L. (1992). The investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Financial Economics*, 32(3), 263–292. [https://doi.org/10.1016/0304-405X\(92\)90029-W](https://doi.org/10.1016/0304-405X(92)90029-W)
- Suartawan, I. G. N. P. A., & Yasa, G. W. (2017). Pengaruh Investment Opportunity Set dan Free Cash Flow Pada Kebijakan Dividen dan Nilai Perusahaan. *Jurnal Ilmiah Akuntansi Dan Bisnis*, 11(2), 63–74. <https://doi.org/10.24843/JIAB.2016.V11.I02.P01>
- Sucuah, W., & Cambarihan, J. M. (2016). Influence of Profitability to the Firm Value of Diversified Companies in the Philippines. *Accounting and Finance Research*, 5(2). <https://doi.org/10.5430/afr.v5n2p149>
- Sudiyatno, B., Puspitasari, E., Suwanti, T., & Asyif, M. M. (2020). Determinants of Firm Value and Profitability: Evidence from Indonesia. *The Journal of Asian Finance, Economics and Business*, 7(11), 769–778. <https://doi.org/10.13106/JAFEB.2020.VOL7.NO11.769>
- Timmermann, A., & Zhu, Y. (2019). Comparing Forecasting Performance with Panel Data. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3380755>
- Verbeek, M. (2017). *A Guide to Modern Econometrics*. Applied Econometrics. John Wiley & Sons. <https://www.wiley.com/en-us/A+Guide+to+Modern+Econometrics%2C+5th+Edition-p-9781119401155>
- Wulanningsih, S., & Agustin, H. (2020). Pengaruh Investment Opportunity Set, Pertumbuhan Perusahaan Dan Profitabilitas Terhadap Nilai Perusahaan. *Jurnal Eksplorasi Akuntansi*, 2(3), 3107–3124.
- Xie, S., Lin, B., & Li, J. (2022). Political Control, Corporate Governance and Firm Value: The Case of China. *Journal of Corporate Finance*, 72, 102161. <https://doi.org/10.1016/J.JCORPFIN.2022.102161>
- Zhang, D., Rong, Z., & Ji, Q. (2019). Green innovation and firm performance: Evidence from listed companies in China. *Resources, Conservation and Recycling*, 144, 48–55. <https://doi.org/https://doi.org/10.1016/j.resconrec.2019.01.023>