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Political connections, overinvestment and governance mechanism in Indonesia

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Abstract: The purpose of this study is to investigate the association between political connections and overinvestment in Indonesia as a democratic, multi-party and developing country. This study uses sample of 1,044 and 543 firm-year observations from listed firms on the Indonesian Stock Exchange from 2012 to 2017. A two-stage model is used to address overinvestment, which used two different measurements, then continued by ordinary least square regression to establish the main analysis result. This study finds that political connection is negatively associated with overinvestment in Indonesia. We also find that this negative association is increasing due to the existence of governance mechanism from both external and internal parties of the firm. Our results indicate that the significant negative associations between political connections with overinvestment, which later is strengthen by governance mechanism might be caused by several differences in institutional setting and/or political connections benefits between the previous research in China and with the place where this research is taken. This paper could give insights in decision-making for stakeholders to anticipate certain harmful

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PUBLIC INTEREST STATEMENT

This paper analyses the association between political connections and overinvestment in Indonesia as a democratic, multi-party and developing country. This study finds that political connection is negatively associated with overinvestment in Indonesia. We also find that this negative association is increasing due to the existence of governance mechanism from both external and internal parties of the firm. Our results indicate that the significant negative associations between political connections with overinvestment, which later is strengthen by governance mechanism might be caused by several differences in institutional setting and/or political connections benefits between the previous research in China and with the place where this research is taken. This paper could give insights in decision-making for stakeholders to anticipate certain harmful
issues to the companies that might be occurred by their politically connected top management like directors and commissioners.

**Subjects:** Political Economy; Finance; Business, Management and Accounting

**Keywords:** overinvestment; political connections; government mechanism

**Subjects:** M40; M41; M48

1. Introduction

Political connection is one of prevalent phenomenon in the world, whether it is in a developed, developing or even underdeveloped country. Not to mention Indonesia that once ever led by the same president for more than 30 years straight, since then political connections started to be a hot issue within the country and remained until today. There is no widely accepted definition of political connections, since each researcher has their own but similar definition. Faccio (2006) considered politically connected firms when their executives, boards of directors, businessmen friends or family are politicians. While Fisman (2001) valued political connection in Indonesia as the closeness relationship with Soeharto and his family. Prior studies find that political connections can add values and derive significant benefits which can be vary for each company, such as earlier supports from government during certain crisis, valuable insider information offerings like future policies, lighter tax, approachable financial resources like low interest rates on long-term debt, and accessible governmental contracts (Blau et al., 2013; Faccio, 2010; Goldman et al., 2011; Khwaja & Mian, 2005; Li et al., 2008; Niessen & Ruenzi, 2010; Yeh et al., 2013). Because of those advantages, many firms tend to misused political connections for their own sake and harmed other party. The types of political connections misuses are vary; it can be related to preferential bank loans (Yeh et al., 2013), firm performance (Wong & Hooy, 2018), earning quality (Harymawan & Nowland, 2016), investment efficiency (Ling et al., 2016) and managerial overconfidence (He et al., 2018).

Although extensive researches have been done between the links of political connection with other factors, very few studies have addressed the link between political connection and its effect to overinvestment. As far as the writer’s knowledge, there are only two recent researches done in this topic. First, it is a study done by Su et al. (2013) about the relationship between political connections and overinvestment moderated with the related party transactions. Second, research by Ling et al. (2016) which aims to find the relationship between political connections and several independent variables; overinvestment, firm performance and loans in real estate firms. Both studies happen to use sample from China, and most of the studies related to political connections usually taken from there. We hardly find similar studies in other country, which have different characteristics from China. As far as we know there are only research from Saeed et al. (2016) in developing country using sample from Pakistan, and research taken from democratic country of Tunisia by Bencheikh and Taktak (2017), which mainly talked about political connections and firm performance. So we address this research gap to examine the relationship between political connections and overinvestment in a developing, democratic and multi-party country.

This paper will examine whether or not the association of political connections and overinvestment in Indonesia will achieve significant positive result like the prior research (Su et al., 2013) taken in China. While apparently, both China and Indonesia have critical difference in governmental nature. Since this study mainly talks about political connections, a great different on governmental issue will likely to precede different research result as government and politics are two inseparable issues. China adopts communism system where Communist Party of China (CPC) is the sole party in power in the country who has both central and local organizations of the government (China Internet Information Center, n.d.). While Indonesia adopt presidential and democratic system with multi-party, where President as the head of state and the head of government is elected by the people through general elections, assisted by ministers to runs the government, and supervised by the parliament (Kementerian Komunikasi dan Informatika Republik
Indonesia, 2017). Due to high number of political parties, Indonesia tends to have high political turnover. It showed by the phenomenon where whenever there is a new presidential election, there will be a new political coalition made among the parties; the members of a coalition for current presidential election usually will be different with the future presidential election. Normally, the member of coalition parties of the elected president will be chosen to be seated as ministers, directors of state owned enterprises, or other top political positions. With this phenomenon, there is a high probability where political connections would not provide stable benefits to those who owned them. It is because this current presidential era would give them great advantages, but in the contrary different presidential era in the future could be a boomerang to them, or otherwise. Thus, this is why Indonesia is a particularly interesting case for this study.

As mentioned by Su et al. (2013) that the political connections of top-ranking government officials have a significant positive effect on corporate overinvestment which confirms that economic expectations and growth in China are based on the relationship that known as guanxi, among Chinese companies where investment is largely driven by government policy. These results may not be valid in Indonesia because of differences in political conditions that are far different from China. The impact of political connections is also known to be more visible in less developed countries and have high levels of corruption (Faccio, 2010, 2006). Furthermore, the effect of the political connection is found in jurisdictions where the level corruption is high (Chen et al., 2010). This was also supported by Boubakri et al. (2012), who found that companies with political connections will have lower capital costs in countries with higher levels of corruption, lower levels of democracy, less stock market liquidity, and lower press freedom. From these explanations, we predict that political connection in Indonesia will have a negative association with the overinvestment.

To investigate this study, we use data from listed firms in Indonesia Stock Exchange (IDX) for years 2012–2017. Data is gathered through OSIRIS, financial statements, and annual reports. The financial industry (SIC 6) is excluded from this sample due to different nature of reporting. We use two-stage regression model for this study; the first stage is to estimate the overinvestment variable, then the second stage is to see the association between political connections and overinvestment. We incorporate two different overinvestment measurements by Richardson (2006) and Su et al. (2013). The sample for this research differs from each overinvestment measurement; after excluding missing data, there are 1,044 and 543 firms from Su et al. and Richardson, respectively.

As expected, our finding indicates a negative significant association between political connections and overinvestment in Indonesia. Additional tests using interaction with some control variables such as ratio of independent director, audited by big 4 auditors, and number of subsidiaries are applied to see whether or not any changes would made. These additional tests discover that firms will underinvest more than they would have, if they were controlled and monitored by both external and internal parties. Overinvestment can be pushed by great governance mechanism, because when the firm is being controlled and monitored it will become more cautious with its decision making.

Our research contributes in a few different ways. First, unlike other research which only focus on the political backgrounds of CEO or chairman to measure political connections of a firm, our research emphasis on overall political backgrounds of top management such as board of directors, board of commissioners, board of audit committees and corporate secretary then classify them into several types of political connections according to the categories of Politically Exposed Person regulated in Bank Indonesia Regulation Number 12/3/PBI/2010. Second, our paper is the first research to document the association between political connections and overinvestment in Indonesia.

The remainder of this paper is structured as follows: Section 2 lays out the research hypotheses and discusses related literature; Section 3 describes data, sample and variables; Section 4 specifies the empirical models, presents the main results and discusses the findings; Section 5 concludes.
2. Literature review and hypotheses

According to free cash flow overinvestment theory, when a company’s internal financing is abundant, excess free cash flow is generated, and then companies can take advantage of excess internal funds for investment. Investment can be interpreted as a decision to spend current funds for assets in order to gain income (Aulia & Siregar, 2018). Investment plays a critical role inside and outside the company. In the inside, it is ensuring companies’ sustainable development in market competition and creating new value for shareholders. In the outside, it is one of the essential factors in macroeconomic output growth (Wang et al., 2016).

Firms may suffer from underinvestment or overinvestment in managing their investment expenditure (Myers, 1977). Richardson (2006:160) said, “Overinvestment is defined as investment expenditure beyond that required to maintain assets in place and to finance expected new investments in positive net present value (NPV) projects”. At the contrary, underinvestment is when the investment expenditure of a company is less than its expected amount. Study by Jensen (1986) implies that an overinvested firm will more likely to invest in low-benefit or even value destruction projects. It is expected that those investment inefficiency conditions happened due to agency problem, since management may see this opportunity to expropriate the available resources (Doukas, 1995; Officer, 2011).

There are some definitions of political connections from previous research. A firm is defined as politically connected firm if “at least one of its large shareholders (anyone controlling at least 10 percent of voting shares) or one of its top officers (CEO, president, vice-president, chairman, or secretary) is a member of parliament, a minister, or is closely related to a top politician or party (Faccio, 2006). Boubaki et al. (2012) and Harymawan and Nowland (2016) relied on the definition from Faccio (2006) which only delineate political connections when a top officer or shareholders with more than 10 percent shares in the firm is a member of parliament, a minister or someone who closely related to top politicians. Then, Wong and Hooy (2018) valued political connections quite much the same, but then classify them into four types: government-linked companies (GLCs, interchangeably called as SOEs), the board of directors, business owners, and family members.

There are some unique reasons why Indonesia is an ideal setting to examine this research. Firstly, as for today Indonesia regulation regarding investment decision only concentrate on individual investor which stated on Law of Republic Indonesia Number 25 year 2007 concerning Investment. Unfortunately, this existing regulation itself is overlapping with other level of regulations in Indonesia; there are local government regulation, central government regulation, president regulation and so on. There is still no available significant regulation, which manages investment decision for a firm in Indonesia. While in China, study by (Su et al., 2013) showed that political connections have a significant positive effect on corporate overinvestment because of a common relationship called guanxi among corporations where investment is largely directed by the government policy.

Secondly, Indonesia is a democratic developing country that adopts presidential government system with a strong history of political connections. This fact might be the reason that existed political connections benefit in Indonesia will be different with the benefit in autocratic country. At this moment, we have not found any prior research yet that discloses the benefit of political ties directly to overinvestment. Mobarak and Purbasari (2006) reveal that political benefits back in Soeharto’s era are easier access to cut-rate credit, limited import license, verifiable tariff rates which subject to international trade agreement conditions and protection from domestic and foreign competitors within the same industry. These benefits only granted to the relatives of Soeharto through a special license. This license created a monopolistic market by making other competitors in the same industry only rely on the license holder. Evidence from Leuz and Oberholzer-Gee (2006) stated that a strong politically connected firm in Indonesia will get benefit in form of the unlikeliness to have publicly traded securities abroad. There is still no evidence that benefit of political connections in Indonesia is directly related to overinvestment.
Thirdly, Indonesia is a mixed economy country where both the private sector and government play significant roles (UK Essays, 2018). At the contrary, China is a capitalism country where the state is the only one who plays a major role in supporting or directing companies in accordance with the central government policy (Su et al., 2013). This significant economy difference could lead them to different result of political ties. In sum, it seems reasonable enough to conjecture that the political connections in Indonesia are negatively associated with overinvestment. Hence, the testable hypothesis is as follows:

**Hypothesis 1: political connections are negatively associated with overinvestment.**

Heaton (2002) found that outsiders of the firms capable to realize the probability of a wrong managerial information from current management’s view, since they see things with different perspectives. Likewise, a study from Australia by Brown and Sarmo (2007) indicates that having an independent board of directors can mitigate the destructive effects made by internal management. Moreover, governance mechanisms may affect the investment activity level of a firm in which is mitigating the over-investment of free cash flow (Huang et al., 2015). Thus, stronger governance mechanism from both external and internal parties will more likely to push harmful managerial problem, which in this research will be focused on overinvestment due to high intensive control and monitor. We propose our second hypothesis as follows:

**Hypothesis 2: governance mechanism will strengthen the negative association between political connections and overinvestment.**

3. Data and variable measurement

3.1. Sample and data sources
The initial sample consists of all firms listed on the IDX (Indonesia Stock Exchange) that are hand-collected and available on the OSIRIS database for the period 2012–2017, then we merge them into one data collection. The hand-collected method only used for political connections data, we used Microsoft excel to manually input and classify data of the past work experiences from board of commissioners, board of directors, board of audit committees and corporate secretaries of listed firms. All firms in financial industries (SIC 6) are excluded due to the different nature of financial statements.

3.2. Dependent variable: measurement of overinvestment
The dependent variable in this study is overinvestment. In our main analysis we incorporate two measurement models to estimate expected investment. The first measure of overinvestment is based on Su et al. (2013) where all the residual value whether it is negative or positive are considered as overinvestment. The second measure is based on the Richardson (2006) where a positive residual would indicates overinvestment, and negative residual would indicate underinvestment.

3.3. Independent variable: measurement of political connection
The independent variable in this study is political connections. There are plenty but similar definitions of political connections from former researchers. Faccio (2010) considered political connections as the link made up between politicians and business elites. Boubakri et al. (2012) relied on the definition from Faccio (2006) which only delineate political connections when top officer or shareholders with more than 10 percent shares in the firm is a member of parliament, a minister or someone who closely related to top politicians. Then, Wong and Hooy (2018) valued political connections quite much the same, but then classify them into four types: government linked companies (GLCs, interchangeably called as SOEs), board of directors, business owners, and family
members. Our definition includes those used in prior literatures but accommodates Indonesian's special regulation stated on Bank Indonesia Regulation Number 12/3/PBI/2010 article 11 about Politically Exposed Person (PEP) which classified into these following categories: (1) head of state or head of government, (2) deputy head of state or head of government, (3) officials of the ministerial level, (4) senior executives of state enterprises, (5) director of State Owned Enterprises (SOEs), (6) executive and chair of political parties, (7) senior military and/or police officers, (8) senior officials within the supreme court and attorney general's office, (9) officials appointed by presidential decree, (10) family members (spouse, parent, sibling, child, in-law, grandchild) of above categories and (11) anyone who does not belong to above categories but due to his/her high position/significant influence/celebrity status in the community and/or the combinations of them may put the financial services provider in highly risky position (Bank Indonesia, 2012). PCON is measured by a dummy variable defined by Bank Indonesia Regulation Number 12/3/PBI/2010 article 11, coded 1 if match the definition and 0 otherwise. This dummy variable is valid both when the company falls into one or more categories without rating based on ranking. In Su et al. sample, we match 784 firms with those measurements and leave 260 firms to be classified as non-politically connected firms. While in Richardson’s, 404 and 139 firms are politically and non-politically connected firms, respectively.

3.4. Control variables
We incorporate some firms characteristics from prior literatures as control variables. For convenience, definitions of all variables are summarized in Table 1. LEV implies monitoring efforts by creditors, then it suppose to negatively related to overinvestment. INDIRECT is expected to have a negative relationship with overinvestment because of the possible greater monitoring efforts by independent directors will reduce excessive investment (Su et al., 2013). BIG4 is predicted to be negatively related, since these auditors will put so much effort to review a firm who hire them.

TOBINSQ is a proxy of future investment, we expect it is positively related to overinvestment according to (Su et al., 2013). SIZE is defined as firm size, larger firm more likely to have greater overinvestment than otherwise (Lei et al., 2014). SUBS is expected to be positively related to overinvest, since firm with more subsidiaries equal to firm with large size that surely has more available cash flow that will lead to overinvest. ROA is the variable of profitability, so we predict it will be positively related to overinvestment (Wang et al., 2016). CASH indicates the probability to overinvest, firm with more cash tends to overinvest. LNSALES is expected to be positively related to the overinvestment (Cutillas Gomariz & Sánchez Ballesta, 2014). AGE is one of the investment decision determinants since it stated how long a firm has listed on exchange (OVERI2, S, 2006), we expect firm with the longer listing period will have positive relation toward overinvestment.

4. Empirical analysis and result

4.1. Descriptive statistics
Basically, we classify our overall samples into two sub-samples based on the degree of overinvestment measurement, OVERI1 for Su et al.’s and OVERI2 for Richardson’s. Table 2 presents the sample distribution by year, industry, and types of political connections. 75.10 percent of the 1,044 sample observations from OVERI1 are politically connected firms (Panel A), and from OVERI2 similar percentage of 74.40 percent of the 543 sample are generated to be politically connected firms. The high number of politically connected firms in the sample of this study sample may be caused by several reasons. First, is the political history in Indonesia during the Soeharto’s period. Those who helped with the security of his feared leadership in the task of intimidating opponents and maintaining order did not stop at that era. They have sought new, stronger positions in politics, as well as new social status and prestige. A number of them are now political parties or their paramilitary wing, and local assemblies or executive bodies (Hadiz, 2003). Second, the PCON measurement in this study includes criteria based on Bank Indonesia Regulation Number 12/3/PBI/2010 article 11 about Politically Exposed Persons (PEPs), which are classified into 11 categories. We found firms with that category at 75.10 percent of the samples.
The proportion of sample firms with political connections decreases from 81.19 percent in 2012 to 69.92 percent in 2017. Despite this downward trend, the samples of politically connected firms always manage to get around threequarter of the observations each year. Panel B provides a breakdown of politically connected firms by industry. Among the eight industries represented in the sample, health, legal, and educational services and consulting (93.33 percent and 92.86 percent), mining (85.92 percent and 85.14 percent), and communications, and utilities (83.33 percent and 80.81 percent) have the highest level of political connections, measured by OVERI1 and OVERI2, respectively. Whereas the lowest level of political connections from OVERI1 is in agriculture, forestry and fisheries (67.27 percent) and from OVERI2 is in manufacturing (58.93 percent). In Panel C we classify type of political connections in accordance with the politically exposed person categories from Bank Indonesia Regulation Number 12/3/PBI/2010. We have six types of political connection, the highest is political connection in association with ministry (71.46 percent and 70.53 percent), while the lowest one is in association with People’s Consultative Assembly (33.81 percent and 32.04 percent), measured by overinvestment method from OVERI1 and OVERI2, respectively.

### Table 1. Variable definitions

| Variable                     | Definition                                                                 | Data Source                                                      |
|------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------|
| Dependent Overinvestment (OVERI) |                                                                         | OVERI1 = the higher the positive residual, the higher the overinvestment (Su et al., 2013). OVERI2 = the overinvestment is residual with value more than 0 (OVERI2, Richardson (2006)) |
| OSIRIS                       |                                                                         |                                                                  |
| Independent Political Connections (OVERI) | A dummy variable defined by Bank Indonesia Regulation Number 12/3/PBI/2010 article 11, coded 1 if match the definition, 0 otherwise. | Annual report |
| Control                      |                                                                         |                                                                  |
| INDIRCTOR                    | The ratio of a firm’s independent directors to total directors.          | OSIRIS                                                           |
| SUBS                         | The natural logarithm of number of subsidiaries.                         | OSIRIS                                                           |
| BIG4                         | A dummy variable, coded 1 for firm who hire one of the Big 4 auditors (Deloitte, PwC, Ernest&Young, and KPMG), and 0 for otherwise. | OSIRIS                                                           |
| SIZE                         | The natural logarithm of the company’s total assets at the end of the fiscal year. | OSIRIS                                                           |
| AGE                          | The number of years the firms has been listed.                          | OSIRIS                                                           |
| TOBINSQ                      | The ratio between the firm’s market value of equity and debt over its total assets. | OSIRIS                                                           |
| LEV                          | Total liability divided by total assets at the end of the year.         | OSIRIS                                                           |
| ROA                          | Income before extraordinary items (net profit after tax) divided by total assets. | OSIRIS                                                           |
| CASH                         | The balance of cash deflated by total assets.                           | OSIRIS                                                           |
| LNSALES                      | The natural logarithm of sales.                                         | OSIRIS                                                           |
| INDUSTRY                     | A vector of indicator variables to capture industry fixed effects.      | OSIRIS                                                           |
| YEAR                         | A vector of indicator variables to capture year fixed effects.          | OSIRIS                                                           |
### Table 2. Sample distribution

#### Panel A: sample breakdown by year

| Year | N   | %   | N   | %   | N   | %   | N   | %   | N   | %   |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|      | OVERI1 |     | OVERI2 |     | Total |     |      |     |     |     |
|      | Politically Connected | Non-politically Connected | Total | Politically Connected | Non-politically Connected | Total |
| 2012 | 82  | 81.19 | 19  | 18.81 | 101 | 100 | 45  | 84.91 | 8   | 15.09 | 53  | 100 |
| 2013 | 91  | 79.82 | 23  | 20.18 | 114 | 100 | 50  | 81.97 | 11  | 18.03 | 61  | 100 |
| 2014 | 101 | 78.29 | 28  | 21.71 | 129 | 100 | 55  | 78.57 | 15  | 21.43 | 70  | 100 |
| 2015 | 108 | 78.26 | 30  | 21.74 | 138 | 100 | 49  | 75.38 | 16  | 24.62 | 65  | 100 |
| 2016 | 216 | 72.97 | 80  | 27.03 | 296 | 100 | 107 | 69.48 | 47  | 30.52 | 154 | 100 |
| 2017 | 186 | 69.92 | 80  | 30.08 | 266 | 100 | 98  | 70.00 | 42  | 30.00 | 140 | 100 |
|      | 784 | 75.10 | 260 | 24.90 | 1,044 | 100 | 404 | 74.40 | 139 | 25.60 | 543 | 100 |

#### Panel B: sample breakdown by industry

| Industry | N   | %   | N   | %   | N   | %   | N   | %   | N   | %   |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|          | OVERI1 |     | OVERI2 |     | Total |     |      |     |     |     |
|          | Politically Connected | Non-politically Connected | Total | Politically Connected | Non-politically Connected | Total |
| (SIC 0) Agriculture, Forestry and Fisheries | 37  | 67.27 | 18  | 32.73 | 55  | 100 | 28  | 68.29 | 13  | 31.71 | 41  | 100 |
| (SIC 1) Mining | 183 | 85.92 | 30  | 14.08 | 213 | 100 | 126 | 85.14 | 22  | 14.86 | 148 | 100 |
| (SIC 2) Construction Industries | 178 | 69.53 | 78  | 30.47 | 256 | 100 | 55  | 63.95 | 31  | 36.05 | 86  | 100 |
| (SIC 3) Manufacturing | 93  | 69.92 | 40  | 30.08 | 133 | 100 | 33  | 58.93 | 23  | 41.07 | 56  | 100 |
| (SIC 4) Transportations, Communications and Utilities | 135 | 83.33 | 27  | 16.67 | 162 | 100 | 80  | 80.81 | 19  | 19.19 | 99  | 100 |
| (SIC 5) Wholesale & Retail Trade | 80  | 68.38 | 37  | 31.18 | 117 | 100 | 40  | 65.57 | 21  | 34.43 | 61  | 100 |

(Continued)
Table 2. (Continued)

Panel A: sample breakdown by year

| Year                  | Politically Connected | Non-politically Connected | Total |   | Politically Connected | Non-politically Connected | Total |
|-----------------------|-----------------------|----------------------------|-------|---|-----------------------|----------------------------|-------|
|                       | N        | %   | N        | %   | N        | %   | N        | %   |
| (SIC 7) Service Industries | 64   | 68.82 | 29 | 31.18 | 93 | 100 | 29 | 76.32 | 9 | 23.68 | 38 | 100 |
| (SIC 8) Health, Legal, and Educational Services and Consulting | 14 | 93.33 | 1 | 6.67 | 15 | 100 | 13 | 92.86 | 1 | 7.14 | 14 | 100 |
| Total                 | 784 | 75.10 | 260 | 24.90 | 1,044 | 100 | 404 | 74.40 | 139 | 25.60 | 543 | 100 |

Panel C: sample breakdown by types of political connections

| Types of Political Connections | Politically Connected | Non-politically Connected | Total |   | Politically Connected | Non-politically Connected | Total |
|--------------------------------|-----------------------|----------------------------|-------|---|-----------------------|----------------------------|-------|
| MINISTRY (Menteri/ Kementrian) | 746 | 71.46 | 298 | 28.54 | 1,044 | 100 | 383 | 70.53 | 160 | 29.47 | 543 | 100 |
| ORGANIZATION                  | 516 | 49.43 | 528 | 50.57 | 1,044 | 100 | 261 | 48.07 | 282 | 51.93 | 543 | 100 |
| MILITARY                      | 467 | 44.73 | 577 | 55.27 | 1,044 | 100 | 257 | 47.33 | 286 | 52.67 | 543 | 100 |
| SOE (BUMN-Badan Usaha Milik Negara) | 454 | 43.49 | 590 | 56.51 | 1,044 | 100 | 237 | 43.65 | 306 | 56.35 | 543 | 100 |
| DPR (Dewan Perwakilan Rakyat) | 361 | 34.58 | 683 | 65.42 | 1,044 | 100 | 186 | 34.25 | 357 | 65.75 | 543 | 100 |
| MPR (Majelis Permusyawaratan Rakyat) | 353 | 33.81 | 691 | 66.19 | 1,044 | 100 | 174 | 32.04 | 369 | 67.96 | 543 | 100 |

All the panels above display the sample distribution of 1,044 and 543 companies that have political and non-political connections listed on the IDX in 2012-2017.
Panel A displays the sample distribution breakdown by year.
Panel B displays the sample distribution breakdown by industry.
Panel C displays the sample distribution breakdown by types of political connections.
Table 3. Descriptive Statistics

| Panel A: Descriptive Statistics Measured by Overinvestment from Su et al. Method |
|-----------------------------|----------------|----------------|----------------|----------------|
| OVERI1                     | 0.014          | -0.009         | -0.147         | 0.307          |
| PCON                       | 0.751          | 1.000          | 0.000          | 1.000          |
| INDIRECTOR                 | 0.114          | 0.125          | 0.000          | 0.333          |
| SUBS                       | 1.866          | 1.946          | 0.000          | 5.124          |
| BIG4                       | 0.451          | 0.000          | 0.000          | 1.000          |
| SIZE                       | 29.030         | 29.070         | 24.952         | 32.344         |
| AGE                        | 14.545         | 14.000         | 2.000          | 32.000         |
| TOBINSQ                    | 0.517          | 0.490          | 0.069          | 1.924          |
| LEV                        | 0.516          | 0.489          | 0.069          | 1.923          |
| ROA                        | 2.969          | 2.640          | -32.110        | 39.160         |
| CASH                       | 0.097          | 0.066          | 0.001          | 0.497          |
| LNSALES                    | 21.473         | 21.643         | 16.138         | 25.069         |

| Panel B: Descriptive Statistics Measured by Overinvestment from Richardson Method |
|-----------------------------|----------------|----------------|----------------|----------------|
| OVERI2                     | 0.071          | 0.059          | 0.000          | 0.257          |
| PCON                       | 0.744          | 1.000          | 0.000          | 1.000          |
| INDIRECTOR                 | 0.124          | 0.143          | 0.000          | 0.333          |
| SUBS                       | 1.917          | 1.946          | 0.000          | 5.124          |
| BIG4                       | 0.368          | 0.000          | 0.000          | 1.000          |
| SIZE                       | 29.021         | 29.107         | 24.952         | 32.344         |
| AGE                        | 8.910          | 7.000          | 2.000          | 28.000         |
| TOBINSQ                    | 0.540          | 0.526          | 0.069          | 1.924          |
| LEV                        | 0.539          | 0.525          | 0.069          | 1.923          |
| ROA                        | 2.154          | 2.460          | -32.110        | 39.160         |
| CASH                       | 0.090          | 0.062          | 0.001          | 0.497          |
| LNSALES                    | 21.238         | 21.486         | 16.138         | 25.069         |

Panel A shows descriptive statistics for all the variables used in this study. The sample used in this study amounted to 1,044 companies listed on the IDX in 2012–2017.

Panel B shows descriptive statistics for all the variables used in this study. The sample used in this study amounted to 543 companies listed on the IDX in 2012–2017.

Table 3 presents the descriptive statistics. The mean of political connection in OVERI1 is 0.751 (Panel A). The average independent director ratio is 0.114 percent, return on assets of 2.969 percent, leverage of 0.516 percent and growth using Tobin's Q of 0.517 percent. The average of cash and logarithm of sales are 0.097 and 21.473, respectively. Firm size of 29.030 shows that sales of firm is IDR29.030 million in average. Almost half of the sample 45.1 percent have appointed Big 4 auditors and have none to 5.124 subsidiaries at maximum. The listing age ranges from 2 to 32 years over the sample period, with a mean of 14.545. Panel B of Table 3 presents the descriptive statistic from OVERI2 that has political connection of 0.744 in average. The numbers of subsidiaries from this sample vary from none to 5.124 at the maximum, and only 36.8 percent of the sample hired Big 4 auditors. Averagely, independent director ratio in Indonesia is 0.124 percent, return on assets of 2.154 percent, leverage of 0.539 percent and growth using Tobin's Q of 0.540 percent. Firm size of 29.021 shows that sales of firm is IDR29.021 million in average. The average of cash and logarithm of sales are 0.090 and 21.238, respectively. The measures of listing age ranges from 2 to 28 years over the sample period, with a mean of 8.910.
Further details in t-test explained on Table 4. In measurement by Su et al. (Panel A) the value of politically connected firm is higher than non-politically connected firm. At the contrary, in measurement by Richardson’s (Panel B) the value of politically connected firm is lower than non-politically connected firm.

Table 5 reveals Pearson correlations matrix of overinvestment measured by Su et al. (Panel A) with the independent variables are neither high nor significant. But, there are two from 10 control variables that have significantly positive relationship with them; they are number of subsidiaries and firm size. Firms that hired big 4 auditors presents significant positive correlation with political connection, and as expected they have negative significant relationship with overinvestment, showing that a higher proportion of external control is associated with lower overinvestment. Meanwhile, as expected the OVERI2 measurement (Panel B) shows negative and significant correlations between overinvestment and political connection. As we predicted

### Table 4. T-Test

#### Panel A: t-Test Measured by Overinvestment from Su et al. Method (N = 1,044)

| Connected N = 260 | Politically Connected N = 784 | Non-politically | Coef | t value |
|-------------------|-------------------------------|----------------|------|--------|
| OVERI1            | 0.016                         | 0.009          | 0.007| −1.121 |
| INDIRECTOR        | 0.115                         | 0.112          | 0.003| −0.424 |
| SUBS              | 2.007                         | 1.442          | 0.565***| −7.567 |
| BIG4              | 0.473                         | 0.385          | 0.089**| −2.493 |
| SIZE              | 29.315                        | 28.172         | 1.143***| −10.587 |
| AGE               | 14.588                        | 14.415         | 0.173| −0.283 |
| TOBINSQ           | 0.531                         | 0.477          | 0.054***| −2.628 |
| LEV               | 0.529                         | 0.476          | 0.053***| −2.617 |
| ROA               | 3.175                         | 2.348          | 0.827| −1.159 |
| CASH              | 0.099                         | 0.092          | 0.007| −0.944 |
| LNSALES           | 21.772                        | 20.569         | 1.204***| −9.020 |

#### Panel B: t-Test Measured by Overinvestment from Richardson Method (N = 543)

| Connected N = 404 | Politically Connected N = 139 | Non-politically | Coef | t value |
|-------------------|-------------------------------|----------------|------|--------|
| OVERI2            | 0.068                         | 0.078          | −0.010*| 1.711 |
| INDIRECTOR        | 0.124                         | 0.126          | −0.002| 0.198 |
| SUBS              | 2.040                         | 1.558          | 0.482***| −6.659 |
| BIG4              | 0.391                         | 0.302          | 0.089*| −1.878 |
| SIZE              | 29.260                        | 28.325         | 0.936***| −6.622 |
| AGE               | 9.012                         | 8.612          | 0.401| −0.637 |
| TOBINSQ           | 0.555                         | 0.497          | 0.058**| −2.008 |
| LEV               | 0.554                         | 0.496          | 0.058**| −2.004 |
| ROA               | 2.430                         | 1.353          | 1.077| −1.191 |
| CASH              | 0.095                         | 0.074          | 0.021**| −2.231 |
| LNSALES           | 21.507                        | 20.458         | 1.048***| −5.802 |

Panel A shows the characteristics of companies that have political and non-political connections CEOs from 1,044 companies listed on the IDX in 2012-2017.

Panel B shows the characteristics of companies that have political and non-political connections CEOs from 543 companies listed on the IDX in 2012-2017.

The t-test results are displayed with significance at 10%, 5% and 1%.
|        | [1] | [2] | [3] | [4] | [5] | [6] | [7] | [8] | [9] | [10] | [11] | [12] |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| Panel A: Pearson's Correlation Measured by Overinvestment from Su et al. Method |
| [1] OVERII | 1.00 |     |     |     |     |     |     |     |     |      |      |      |
| [2] PCON   | 0.035 | 1.000 |     |     |     |     |     |     |     |      |      |      |
|           | (0.262) |     |     |     |     |     |     |     |     |      |      |      |
| [3] INDIRECTOR | -0.039 | 0.013 | 1.000 |     |     |     |     |     |     |      |      |      |
|           | (0.212) | (0.672) |     |     |     |     |     |     |     |      |      |      |
| [4] SUBS  | 0.185*** | 0.228*** | -0.076** | 1.000 |     |     |     |     |     |      |      |      |
|           | (0.000) | (0.000) | (0.014) |     |     |     |     |     |     |      |      |      |
| [5] BIG4  | -0.067** | 0.077** | -0.086*** | 0.231*** | 1.000 |     |     |     |     |      |      |      |
|           | (0.029) | (0.013) | (0.006) | (0.000) |     |     |     |     |     |      |      |      |
| [6] SIZE  | 0.082*** | 0.312*** | -0.184*** | 0.575*** | 0.364*** | 1.000 |     |     |     |      |      |      |
|           | (0.008) | (0.000) | (0.000) | (0.000) | (0.000) |     |     |     |     |      |      |      |
| [7] AGE   | -0.333*** | 0.009 | -0.147*** | 0.013 | 0.141*** | 0.053* | 1.000 |     |     |      |      |      |
|           | (0.000) | (0.777) | (0.000) | (0.664) | (0.000) | (0.086) |     |     |     |      |      |      |
| [8] TOBINSQ | -0.007 | 0.081*** | -0.007 | 0.035 | -0.081*** | 0.090*** | 0.058* | 1.000 |     |      |      |      |
|           | (0.824) | (0.009) | (0.827) | (0.262) | (0.009) | (0.003) | (0.061) |     |     |      |      |      |
| [9] LEV   | -0.007 | 0.081*** | -0.007 | 0.035 | -0.081*** | 0.090*** | 0.057* | 1.000*** | 1.000 |      |      |      |
|           | (0.830) | (0.009) | (0.826) | (0.262) | (0.009) | (0.003) | (0.064) | (0.000) |     |      |      |      |
| [10] ROA  | 0.009 | 0.036 | -0.043 | 0.017 | 0.225*** | 0.143*** | 0.082*** | -0.364*** | -0.366*** | 1.000 |     |
|           | (0.772) | (0.247) | (0.167) | (0.580) | (0.000) | (0.000) | (0.008) | (0.000) | (0.000) |     |     |
| [11] CASH | -0.091*** | 0.029 | -0.026 | 0.024 | 0.125*** | 0.039 | 0.022 | -0.291*** | -0.292*** | 0.369*** | 1.000 |
|           | (0.003) | (0.345) | (0.396) | (0.431) | (0.000) | (0.211) | (0.474) | (0.000) | (0.000) | (0.000) |     |
| [12] LNSALES | -0.010 | 0.269*** | -0.200*** | 0.475*** | 0.423*** | 0.803*** | 0.138*** | 0.113*** | 0.113*** | 0.310*** | 0.183*** | 1.000 |

(Continued)
|      | [1]  | [2]  | [3]  | [4]  | [5]  | [6]  | [7]  | [8]  | [9]  | [10] | [11] | [12] |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
|      | (0.737) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |

### Panel B: Pearson's Correlation Measured by Overinvestment from Richardson Method

|       | [1] OVERI2 | [2] PCON | [3] INDIRECTOR | [4] SUBS | [5] BIG4 | [6] SIZE | [7] AGE | [8] Tobinsq | [9] LEV | [10] ROA |
|-------|------------|---------|----------------|--------|--------|--------|--------|-----------|-------|--------|
| [1]   | 1.000      |         |                |        |        |        |        |            |       |        |
| [2]   | -0.073*    | 1.000   |                |        |        |        |        |            |       |        |
|       | (0.088)    |         |                |        |        |        |        |            |       |        |
| [3]   | 0.004      | 0.196** | -0.143***      | 1.000  |        |        |        |            |       |        |
|       | (0.933)    | (0.000) | (0.001)        |        |        |        |        |            |       |        |
| [4]   | -0.079*    | 0.080** | -0.090**       | 0.246***| 1.000  |        |        |            |       |        |
|       | (0.067)    | (0.061) | (0.037)        | (0.000) |        |        |        |            |       |        |
| [5]   | 0.058      | 0.274***| -0.189***      | 0.591***| 0.385***| 1.000  |        |            |       |        |
|       | (0.180)    | (0.000) | (0.000)        | (0.000) | (0.000) |        |        |            |       |        |
| [6]   | -0.431***  | 0.027   | -0.127***      | 0.201***| -0.007 | 0.064  | 1.000  |            |       |        |
|       | (0.000)    | (0.525) | (0.003)        | (0.000) | (0.879) | (0.139) |        |            |       |        |
| [7]   | -0.114***  | 0.086** | -0.048         | 0.109** | -0.013 | 0.168***| 0.322***| 1.000     |       |        |
|       | (0.008)    | (0.045) | (0.268)        | (0.011) | (0.756) | (0.000) | (0.000) | (0.000)   |       |        |
| [8]   | -0.114***  | 0.086** | -0.047         | 0.109** | -0.014 | 0.169***| 0.322***| 1.000***  | 1.000  |        |
|       | (0.008)    | (0.046) | (0.270)        | (0.011) | (0.749) | (0.000) | (0.000) | (0.000)   | (0.000)|        |
| [9]   | 0.022      | 0.051   | 0.051          | -0.029 | 0.198***| 0.135***| -0.168***| -0.408***  | -0.409***| 1.000  |
|       | (0.617)    | (0.234) | (0.231)        | (0.495) | (0.000) | (0.002) | (0.000) | (0.000)   | (0.000)|        |

(Continued)
## Table 5. (Continued)

|  | [1]  | [2]   | [3]   | [4]   | [5]   | [6]   | [7]   | [8]   | [9]   | [10]  | [11]  | [12]  |
|---|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| [11] CASH | -0.002 | 0.095** | 0.054 | 0.062 | 0.178*** | 0.098** | -0.173*** | -0.259*** | -0.260*** | 0.325*** | 1.000  |       |
|     | (0.962) | (0.026) | (0.206) | (0.148) | (0.000) | (0.023) | (0.000) | (0.000) | (0.000) | (0.000) |       |       |
| [12] LNSALES | -0.021 | 0.242*** | -0.176*** | 0.444*** | 0.419*** | 0.735*** | 0.012 | 0.168*** | 0.168*** | 0.366*** | 0.287*** | 1.000  |
|     | (0.628) | (0.000) | (0.000) | (0.000) | (0.000) | (0.781) | (0.000) | (0.000) | (0.000) | (0.000) |       |       |

Panel A shows the characteristics of companies that have political and non-political connections CEOs from 1,044 companies listed on the IDX in 2012–2017.

**Correlation is significant at the 1% level (two-tailed); **correlation is significant at the 5% level (two-tailed); *correlation is significant at the 10% level (two-tailed).

Panel B shows the characteristics of companies that have political and non-political connections CEOs from 543 companies listed on the IDX in 2012–2017.

**Correlation is significant at the 1% level (two-tailed); **correlation is significant at the 5% level (two-tailed); *correlation is significant at the 10% level (two-tailed).
before, external control has association with overinvestment is proven on this panel. Independent director ratio has significantly positive relationship, and firm that hired big 4 auditors has significantly negative relationship towards overinvestment. Which means, when a firm has higher number of independent director and hired big 4 auditor to control them, it will less likely to overinvest. This test is conducted to ensure there is no multicollinearity among variables.

4.2. Main analysis

4.2.1. First-stage regression: determinant of overinvestment

4.2.1.1. Overinvestment model 1 (OVERI1). This measurement from Su et al. (2013) generates overinvestment proxy from the entire unexplained portion (residual) of the following regression.

\[ \text{INEW}_{it} = \alpha + \beta_1 \text{TOBIN'SQ}_{it-1} + \beta_2 \text{LEV}_{it-1} + \beta_3 \text{CASH}_{it-1} + \beta_4 \text{AGE}_{it-1} + \beta_5 \text{SIZE}_{it-1} + \beta_6 \text{STOCKRETURN}_{it-1} + \beta_7 \text{INEW}_{it-1} + \sum \text{Year} + \sum\text{Industry} + \epsilon_{it} \]

4.2.1.2. Overinvestment model 2 (OVERI2). This measurement OVERI2 (Richardson, 2006) only generates overinvestment proxy from a positive residual, and leaves the negative residual as underinvestment.

\[ \text{INEW}_{it} = \alpha + \beta_1 \text{INEW}_{it-1} + \beta_2 \text{BM}_{it-1} + \beta_3 \text{LEV}_{it-1} + \beta_4 \text{CASH}_{it-1} + \beta_5 \text{AGE}_{it-1} + \beta_6 \text{SIZE}_{it-1} + \beta_7 \text{STOCKRETURN}_{it-1} + \sum \text{Year} + \sum\text{Industry} + \epsilon_{it} \]

4.2.2. Second-stage regression: overinvestment and political connection

We took the overinvestment proxy from first regression and generate it with several control variables as shown on the regression below to see the association between overinvestment and political connection in our sample.

\[ \text{OVERI}_{it} = \alpha + \beta_1 \text{PCON}_{it} + \beta_2 \text{TOBIN'SQ}_{it} + \beta_3 \text{SIZE}_{it} + \beta_4 \text{LEV}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{AGE}_{it} + \beta_7 \text{CASH}_{it} + \beta_8 \text{LNSALES}_{it} + \beta_9 \text{INDIRECTOR}_{it} + \beta_{10} \text{SUBS}_{it} + \beta_{11} \text{BIG4}_{it} + \sum \text{Year} + \sum\text{Industry} + \epsilon_{it} \]

Table 6 represents the robustness regression result of our main analysis which is the association between overinvestment and political connections. We found r-square difference in amount of 0.002 and 0.005, from OVERI1 and OVERI2, respectively. There is a significant associations generated from political connections with both overinvestments, OVERI1 and OVERI2 in Indonesia. But unlike prior research taken in China which is resulted to be positive, our finding reveals negative associations. Thus, the different natures of sample between these researches that taken in Indonesia, with the prior research done in China do make different research result. The firm size worked significantly positive on overall measurements. Likewise, number of subsidiaries has positively significant relationship toward overinvestment. This means the bigger the firm, the higher the probability to overinvest. Return on asset has positively significant relationship toward overinvestment by Su et al., but insignificant toward Richardson’s.

But unexpectedly, there are several variables that do not match with our predictions. The number of subsidiaries has positively significant relationship toward overinvestment. Leverage has significantly positive correlation with OVERI1 but insignificantly negative correlation with OVERI2. Then, natural logarithm of sales, cash and the listing period of a firm have negative relationship toward overinvestment. In respect to cash, Tobin’s Q also generates negative relationship with OVERI1 but muted in OVERI2.
Table 6. Political connection and overinvestment

| Prediction Sign | OVERI1 | OVERI2 | OVERI1 | OVERI2 |
|-----------------|--------|--------|--------|--------|
| PCON            | -      | -0.007*| -0.010*|        |
|                 |        | (-1.87)| (-1.75)|        |
| INDIRECTOR      | -/+    | -0.013 | 0.055**| -0.010 | 0.059**|
|                 |        | (-0.78)|(2.34)  | (-0.58)|(2.46)  |
| SUBS            | +      | 0.008***|0.004  | 0.009***|0.004 |
|                 |        | (4.25) | (1.51) | (4.32) | (1.52) |
| BIG4            | -      | -0.008***|0.012**|0.009***|0.012**|
|                 |        | (-2.67)| (-2.29)| (-2.75)|(2.34)  |
| SIZE            | +      | 0.011***|0.009***|0.011***|0.009***|
|                 |        | (5.76) | (3.37) | (5.93) | (3.60) |
| AGE             | -      | -0.002***|0.005***|0.002***|0.005***|
|                 |        | (-10.93)|(10.98)|(-10.66)|(10.88) |
| TOBINSQ         | -/+    | -2.656***|0.064  | -2.565***|0.202 |
|                 |        | (-3.84) |(0.03) | (-3.80)|(0.10)  |
| LEV             | -/+    | 2.651***|0.061  | 2.561***|0.199 |
|                 |        | (3.83) |(-0.03)| (3.79) |(-0.10) |
| ROA             | +      | 0.001***|0.000  | 0.001***|0.000 |
|                 |        | (3.10) |(0.21) | (3.03) |(0.15)  |
| CASH            | -      | -0.064***|0.027  | -0.064***|0.026 |
|                 |        | (-4.02) |(-1.03)|(-4.07) |(-0.98) |
| LNSALES         | -      | -0.010***|0.004**|0.010***|0.004**|
|                 |        | (-6.43) |(-2.36)|(-6.36) |(-2.15) |
| _cons           | ?      | 0.050  |0.047  |0.040   |0.060  |
|                 |        | (1.40) |(-0.80)|(1.13) |(-1.03) |

Industry Dummies  Yes  Yes  Yes  Yes
Year Dummies      Yes  Yes  Yes  Yes
\( r^2 \)          0.699 0.273 0.701 0.278
\( N \)            1044 543 1044 543

This table shows the results of ordinary least square regressions between overinvestment and politically connections with sample of 1,044 and 543 companies listed on the IDX 2012–2017 with significance at 10%, 5% and 1%.

4.2.3. Additional test
In Table 7 we do some additional interaction test to some control variables such as number of subsidiaries, ratio of independent directors, and audited by big 4 auditors. To see their impact, we performed additional test in STATA by multiplying political connections as our independent with the selected variable, which resulted: \( PCON\_SUBS, PCON\_INDIRECTOR, \) and \( PCON\_BIG4. \) In this study, we use \( PCON\_SUBS \) as the proxy for firm complexity, then \( PCON\_INDIRECTOR, \) and \( PCON\_BIG4 \) as the proxy for governance mechanism. After that we regressed each of them with the available dependent, independent and control variable in the equation below:

\[
OVERI_{1t} = \alpha + \beta_1PCON\_SUBS_{1t} + \beta_2PCON\_INDIRECTOR_{1t} + \beta_3PCON\_BIG4_{1t} + \beta_4INDIRECTOR_{1t} + \beta_5PCON\_SUBS_{1t} + \beta_6BIG4_{1t} + \beta_7SUBS_{1t} + \beta_8AGE_{1t} + \beta_9ROA_{1t} + \beta_{10}CASH_{1t} + \beta_{11}LNSALES_{1t} + \sum Year + \sum Industry + \epsilon_{1t}
\]
Table 7. Additional interaction test between political connection with number of subsidiaries, ratio of independent directors, audited by big 4 auditors and overinvestment

| Prediction Sign | OVERI1     | OVERI2     |
|----------------|------------|------------|
|                | [1]        | [2]        | [3]        |
| [1] PCON_INDIRECTOR | -0.082*    |            | -0.163***  |
|                  | (-1.94)    |            | (-2.75)    |
| [2] PCON_SUBS    | +          | 0.001      | 0.005      |
|                  | (0.20)     |            | (0.99)     |
| [3] PCON_BIG4    | -0.002     |            | -0.006     |
|                  | (-0.30)    |            | (-0.52)    |
| [4] PCON        | -0.003     | -0.008     | -0.006     |
|                  | (0.54)     | (-1.20)    | (-1.06)    |
| [5] INDIRECTOR  | 0.051      | -0.009     | -0.010     |
|                  | (1.30)     | (-0.58)    | (-0.61)    |
| [6] SUBS        | 0.008***   | 0.009**    | 0.003      |
|                  | (4.34)     | (1.88)     | (1.16)     |
| [7] BIG4        | 0.000      | -0.009***  | -0.007     |
|                  | (1)        | (-2.77)    | (-1.21)    |
| [8] SIZE        | 0.011***   | 0.011***   | 0.011***   |
|                  | (6.06)     | (5.91)     | (5.95)     |
| [9] AGE         | -0.002***  | -0.002***  | -0.002***  |
|                  | (-10.49)   | (-10.63)   | (-10.56)   |
| [10] TOBINSQ    | -2.712***  | -2.572***  | -2.550***  |
|                  | (-3.98)    | (-3.83)    | (-3.75)    |
| [11] LEV        | 2.708***   | 2.568***   | 2.546***   |
|                  | (3.97)     | (3.82)     | (3.74)     |

(Continued)
### Table 7. (Continued)

| Prediction Sign | OVERI1 |  |  |  | OVERI2 |  |  |
|-----------------|--------|---|---|---|--------|---|---|
|                  | [1]    | [2] | [3] |   | [1]    | [2] | [3] |
| [12] ROA        |        |     |     |   |        |     |     |
| +               | 0.001*** | 0.001*** | 0.001*** |   | 0.000 | 0.000 | 0.000 |
|                 | (3.06)  | (3.04) | (3.03) |   | (0.12) | (0.25) | (0.13) |
| [13] CASH       |        |     |     |   |        |     |     |
| -               | -0.064*** | -0.064*** | -0.064*** | -0.027 | -0.024 | -0.025 |
|                 | (-4.06) | (-4.06) | (-4.06) | (-1.05) | (-0.92) | (-0.96) |
| [14] LNSALES    |        |     |     |   |        |     |     |
| -               | -0.010*** | -0.010*** | -0.010*** | -0.005** | -0.004** | -0.004** |
|                 | (-6.49) | (-6.35) | (-6.45) | (-2.47) | (-2.24) | (-2.20) |
| _cons           |        |     |     |   |        |     |     |
| ?               | 0.037  | 0.041  | 0.040  | -0.089 | -0.049 | -0.060 |
|                 | (1.05) | (1.15) | (1.11) | (-1.56) | (-0.85) | (-1.04) |
| Industry Dummies| Yes    | Yes    | Yes    | Yes    | Yes    | Yes    |
| Year Dummies    | Yes    | Yes    | Yes    | Yes    | Yes    | Yes    |
| r2              | 0.702  | 0.701  | 0.701  | 0.292  | 0.279  | 0.278  |
| N               | 1044   | 1044   | 1044   | 543    | 543    | 543    |

* t statistics in parentheses
* *p < 0.1, **p < 0.05, ***p < 0.01
First, interaction test with number of subsidiaries give positive and negative impact toward OVERI1 and OVERI2, respectively. Second, it proved that governance mechanism proxied by PCON_INDIRECTOR which has negative impact toward the relationship between political connections and overinvestment.

| PANEL A | PCON = 0 | PCON = 1 |
|---------|----------|----------|
| All     | 260      | 784      |
| Matched | 224      | 471      |
| Unmatched| 36       | 313      |

| PANEL B | PCON = 0 | PCON = 1 |
|---------|----------|----------|
| All     | 139      | 404      |
| Matched | 108      | 268      |
| Unmatched| 31       | 136      |

| PANEL C | Prediction Sign | OVERI1 | OVERI2 | OVERI1 | OVERI2 |
|---------|-----------------|--------|--------|--------|--------|
| PCON    | -               | -0.005 | -0.008*|
|         | (-1.27)         |        |        |
| INDIRECTOR | -/+            | -0.015 | 0.059**|
|         | (-0.74)         | (2.26) | (-0.62) | (2.31) |
| SUBS    | +               | 0.010***| 0.005*|
|         | (3.64)          | (1.78) | (3.65) | (1.71) |
| BIG4    | -               | -0.007* | -0.015***|
|         | (-1.89)         | (-2.70) | (-2.01) | (-2.82) |
| SIZE    | +               | 0.009***| 0.009***|
|         | (3.91)          | (4.03) | (3.95) | (4.07) |
| AGE     | -               | -0.002***| -0.002***|
|         | (-9.91)         | (-7.45) | (-9.65) | (-7.47) |
| TOBINSQ | -/+             | -2.005***| 0.228|
|         | (-3.18)         | (0.11) | (-3.02) | (0.25) |
| LEV     | -/+             | 1.996***| -0.234|
|         | (3.16)          | (-0.11) | (3.01) | (-0.25) |
| ROA     | +               | 0.001***| -0.000|
|         | (2.97)          | (-0.22) | (2.87) | (-0.38) |
| CASH    | -               | -0.087***| 0.007|
|         | (-3.24)         | (0.24) | (-3.21) | (0.22) |
| LNSALES | -               | -0.011***| -0.005**|
|         | (-5.43)         | (-2.47) | (-5.39) | (-2.20) |
| _cons   | ?                | 0.105** | 0.099**|
|         | (2.52)          | (-1.03) | (2.39) | (-1.16) |

Industry Dummies | Yes | Yes | Yes | Yes | Yes |
Year Dummies | Yes | Yes | Yes | Yes | Yes |
r2 | 0.626 | 0.349 | 0.627 | 0.354 |
N | 695 | 376 | 695 | 376 |

t statistics in parentheses
* p < 0.1, ** p < 0.05, *** p < 0.01

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with level of significance at 1% and 10% from OVERI1 and OVERI2, respectively. Third, interaction test with big 4 auditors is negatively insignificant with OVERI1, but gives negatively significant associations towards OVERI2. The last two additional tests are in accordance with prior research by Huang et al. (2015) that stated if the presence of governance mechanism is effective to mitigate overinvestment.

We add additional analysis in Table 8 using the coarsened exact matching (CEM) method. This method is used to ensure that the assignment of observations into the treatment group and the control group was random. We set each covariate into three equal bins or strata. Eleven covariates were input into the CEM model. Table 8, panel A presents the matching CEM summary for OVERI1. Out of a total of 205 strata generated by the CEM model, 78 strata contained both connected and unconnected observations. A total of 471 out of 784 connected observations were matched with 224 out of 260 unconnected observations. Table 8 panel B, also present the matching CEM summary but using OVERI2. Out of a total of 137 strata generated by the CEM model, 47 strata contained both connected and unconnected observations. A total of 268 out of 404 connected observations were matched with 108 out of 139 unconnected observations. Table 8, panel C presents the result of the replication of our first and second model by the CEM method. The table reveals only a consistent result with the OVERI2 result in Table 6, further supporting our hypothesis.

5. Conclusion
Prior literature indicates that the benefits that firms derive from their political connections in Indonesia essentially shield them from competitive market pressures such as special treatment in both foreign and domestic market (Leuz & Oberholzer-Gee, 2006). However, in this paper, we document that not all aspects of political connections have the same effect on this relationship.

This study uses panel data for over 1,044 and 543 observations for the period 2012–2017 to examine the association between political connections of the firm and overinvestment in Indonesia. Our study has two major findings. First, the results indicate that political connections have a significant negative associations on a firm’s overinvestment, confirming expectations of the different natures between prior research in China with Indonesia where this research taken place, and perhaps because the benefit by having political connections in Indonesia is not overinvestment, but it could be in the form of anything else. Second, governance mechanism from outside and inside the company do strengthen the negative association between political connections and overinvestment in Indonesia, confirming prior research by Huang et al. (2015) that stated if the presence of independent directors and big four auditors is effective to mitigate the detrimental impact of overinvestment.

It was particularly time-consuming to collect the political connections data since we have to manually hand collect the past work experiences of each member of board of commissioners, board of directors, board of audit committee and corporate secretary from each annual report of our samples. As our research only defines political connections through someone’s previous experience title, it may only capture the tip of the iceberg. Our study only follows the majority of preceding studies (Ling et al., 2016; Su et al., 2013) in using political connections as determiner of overinvestment but use different sample study which are Indonesian listed firm and limited to 2011–2017 periods, there is either periodical or cross-cultural comparison performed.

We suggest future researcher to invent more efficient and effective alternative method to collect political connections data, with shorter period of data collection process than ours. Future researcher should conduct further and deeper examination to catch full phenomenon of political connections and overinvestment, and then comprehend more features of the topic with more samples observations to create more specific research with greater impact to the literatures.
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