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CEO overconfidence, investment decisions and firm value in Indonesia

Abstract. This study examines the effect of CEO overconfident behaviour on investment decisions with a behavioural finance theory-based approach, then, examines the effect of investment decisions on firm value with a traditional finance theory approach. Managers who are overconfident are the cause of investment deviations, investment sensitivity, and overestimated project returns that actually affect the value of the company. This study uses 175 non-financial companies on the Indonesia Stock Exchange led by the same CEO during the 2015-2019 period. Data analysis in this study was carried out using the Partial Least Square (PLS) method. PLS is a method of solving structural equation modelling (SEM) which in this case (according to the research objectives) is more precise than other SEM techniques.
The results showed that the CEO's overconfident behaviour had a significant effect on firm value with investment decisions as a mediating variable. This means that the CEO's overconfident behaviour is able to increase firm value through investment decisions as a mediating variable.
Keywords: Overconfident CEO; Firm Value; Investment Decisions; Investment
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Самовпевненість генерального директора, інвестиційні рішення та вартість компанії в Індонезії

Анотація. У цьому дослідженні розглядається вплив самовпевненої поведінки генерального директора на інвестиційні рішення за допомогою підходу, що базується на поведінковій теорії фінансів, а потім досліджується вплив інвестиційних рішень на вартість фірми з використанням традиційного підходу теорії фінансів. Надмірно самовпевнені менеджери є причиною інвестиційних відхилень, інвестиційної чутливості та завищеної прибутковості проектів, які насправді впливають на вартість компанії. У цьому дослідженні використовуються 175 нефінансових компаній на фондовій біржі Індонезії, які очолює один і той же генеральний директор у період 2015–2019 років.
Аналіз даних дослідження проводився за допомогою методу часткових найменших квадратів (PLS). Результати показали, що самовпевненість генерального директора справила значний вплив на вартість компанії, а інвестиційні рішення виступали як проміжна змінна. Це означає, що самовпевнена поведінка генерального директора здатна збільшити вартість фірми за рахунок інвестиційних рішень.
Ключові слова: самовпевнений генеральний директор; вартість фірми; інвестиційні рішення; інвестиції.

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Самоуверенность генерального директора, инвестиционные решения и стоимость компании в Индонезии

Аннотация. В этом исследовании рассматривается влияние самоуверенного поведения генерального директора на инвестиционные решения с помощью подхода, основанного на поведенческой теории финансов, а затем исследуется влияние инвестиционных решений на стоимость фирмы с использованием традиционного подхода теории финансов. Излишне самоуверенные менеджеры являются причиной инвестиционных отклонений, инвестиционной чувствительности и завышенной доходности проектов, которые на самом деле влияют на стоимость компании. В этом исследовании используются 175 нефинансовых компаний на фондовой бирже Индонезии, возглавляемых одним и тем же генеральным директором в период 2015–2019 годов.
Анализ данных в этом исследовании проводился с использованием метода частичных наименьших квадратов (PLS). Результаты показали, что самоуверенность генерального директора оказала значительное влияние на стоимость компании, а инвестиционные решения выступали в качестве промежуточной переменной. Это означает, что самонадеянное поведение генерального директора способно увеличить стоимость фирмы за счет инвестиционных решений в качестве опосредующей переменной.
Ключевые слова: самоуверенный генеральный директор; стоимость фирмы; инвестиционные решения; инвестиции.

1. Introduction

Leadership is one of the factors that influence the success of an organization in achieving its goals. Likewise in the business world, a CEO (Chief Executive Officer) has a role in determining the direction of business development in order to achieve company goals. The role of the CEO is very crucial, namely as a leader who is responsible for the failure or success of a company. The decision taken by the CEO is not an operational decision, but rather a strategic decision, which is very difficult to analyze and predict the results (Ben-David et al., 2013). The existence and role of the CEO are very important for the sustainability of the company in the capital market, what the CEO does will have an economic impact on the company. CEO behaviour has information value that can cause reactions to the public and investors, both related to company policies and outside company policies, for example in relation to the social, ethical, moral environment and others.

Traditional finance research on the effect of investment decisions on firm value has the same result that investment decisions have a significant negative effect on firm value. Drobetz & Momtaz (2020), conducted research on investment in global shipping companies, and the results confirmed previous research that investment had a significant negative effect on firm value. The same results were found in the research of Akhtaruddin & Hossain (2008); Hossain et al. (2005); and MacKay (2003). Research by Del Brio et al. (2003), in addition to measuring the effect of investment on firm value, also adds the free cash flow factor, the results show that the level of investment and free cash flow has a significant negative effect on firm value, these findings strengthen the theory of free cash flow, which there will be a decrease in the value of the company for investments with high free cash flows.

The financial theory emphasizes that the task of a manager is to maximize the value of the company through various policies and decisions he makes. In his position as an agent, the manager gets a mandate from the shareholders or company owners to always make the best policies so that the value of the company always increases and in the end will increase the welfare of the shareholders. A high company value will make the market believe not only in the company's current performance but also in the company's prospects in the future (Kang et al., 2017).

This paper is concerned with a case in overconfident CEO, investment policy and firm value. The paper is structured as follows. Following the introduction, the second section of the paper presents the conceptual framework which explains the theoretical foundations of firm value. The third section describes the research methodology and data used. Research results are presented and discussed in the fourth section, while the conclusions derived from the results are presented in the final, fifth section.

2. Method

2.1. Conceptual Framework

There is still little research on the effect of overconfident CEO behaviour on firm value. Bei Ye & Yuan (2008), published a paper that studied the effect of CEO overconfident behaviour on firm value and found a positive influence between CEO overconfident behaviour on firm value. If a company is high performing, CEOs attribute this success to their own performance and also become more confident about future success. In this study, it was also found that the effect of CEO overconfident behaviour on firm value was positive at first, and turned negative after reaching a certain point. This finding confirms previous studies because there is a U-shaped relationship between CEO overconfident behaviour and firm value, meaning that the optimal level of CEO overconfident can maximize firm value. Based on this explanation, the following hypotheses can be formulated:

H1: CEO overconfident behaviour has a significant positive effect on firm value.
H2: CEO overconfident behaviour has a significant positive effect on investment decisions.
H3: Investment has a significant positive effect on firm value.
H4: CEO overconfident behaviour has a significant effect on firm value with investment as a mediating variable.

2.2. Applied Methodology

Determination of the sample in this study is based on the purposive sampling method, namely the technique of determining the sample based on certain criteria. From the sample data, it can be explained that the number of companies listed on the Indonesia Stock Exchange in 2019 was 669 companies, with 466 non-financial companies. The number of non-financial companies that published complete annual reports during the 2015-2019 period was 295 companies and companies led by the same CEO during the 2015-2019 period were 174 companies and this number became research observation data. For the purposes of this study, this study used the model in Figure 1.

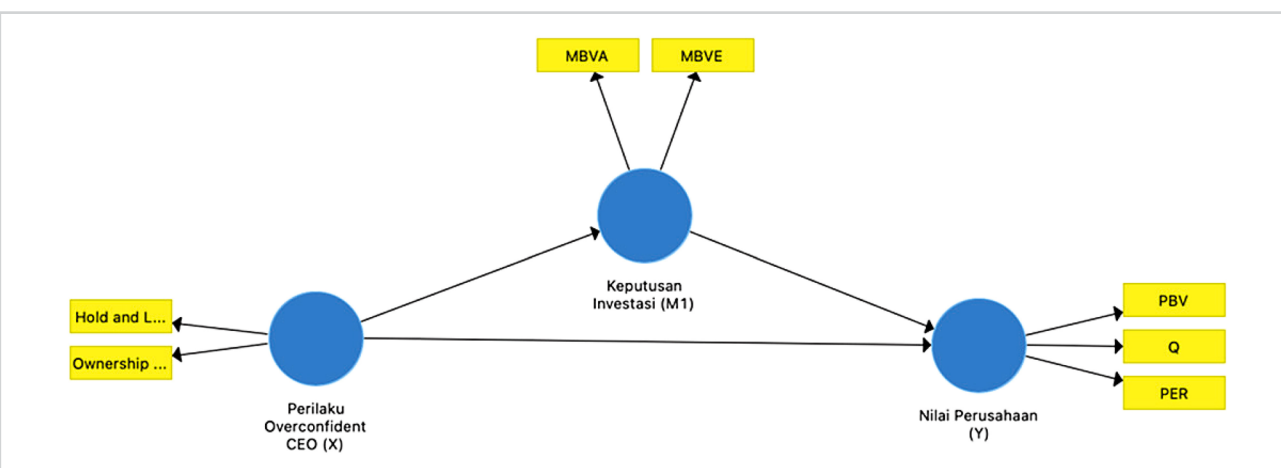

Figure 1:
Latent variable indicators and the relationship between variables
Source: Compiled by the authors

The structural model equations in this study are as follows:

Structural Equation Model 1: $NP_{it} = \alpha_1 + \beta_1(OCC)_{it} + e_{it}$.
Structural Equation Model 2: $INV_{it} = \alpha_1 + \beta_1(OCC)_{it} + e_{it}$.
Structural Equation Model 3: $NP_{it} = \alpha + \beta_1(INV)_{it} + eit$.
Structural Equation Model 4: $NP_{it} = \alpha + \beta_1(OCC)_{it} + \beta_2(INV)_{it} + \beta_3(OCC * INV)_{it} + e_{it}$.

Endri & Fathony (2020) revealed that company value is an assessment of the performance of company shares that have been traded in the capital market (go public). The valuation ratio provides information on how much people value the company so that people are interested in buying shares at a higher price than the book value. The following are some of the methods used to measure firm value.

1 - Price earnings ratio

The price-earnings ratio (PER) shows how much money investors are willing to spend to pay for each reported profit. The formula used to measure the Price earning ratio (PER) is as follows:

$$PER = Market\ Price\ Per\ Share\ /\ Earning\ Per\ Share\ . \quad (1)$$

2 - Price book value

Price to Book Value (PBV) is a ratio that shows whether the price of the shares traded is over-valued (above) or undervalued (below) the book value of the shares. The formula used to measure Price to Book Value (PBV) is as follows:

$$PBV = Market\ Price\ Per\ Share\ /\ Book\ Value\ Per\ Share\ . \quad (2)$$

3 - Tobin's Q

Another alternative used in measuring firm value is using Tobin's Q method developed by Tobin (Dashtbayaz & Mohammadi, 2016). Tobin's Q is calculated by comparing the ratio of the market value of the company's stock to the book value of the company's equity. The Q ratio is superior to the market value to book value ratio because it focuses on what the company is worth today relative to how much it would cost to replace it today. Tobin's Q formula is as follows:

$$Q = (EMV + D)\ /\ (EBV + D)\ . \quad (3)$$

EMV is the market value of equity, EMV is the book value of total assets, and D is the book value of total debt.

EMV is obtained by multiplying the closing price at the end of the year (closing price) with the number of shares outstanding at the end of the year, while EMV is obtained from the difference between the company's total assets and its total liabilities.

Investment is a commitment to a number of funds or other resources made at this time, with the aim of obtaining a number of benefits in the future. There are several ratios used to measure investment including:

4 - Market to Book Value of Asset Ratio (MBVA)

According to Balachandran & Nguyen (2018); Hribar & Yang (2016), Deshmukh et al. (2013), the Market to Book Value of Asset Ratio ($MBVA$) is calculated to show the company's growth prospects expressed in market prices. This ratio describes the combination of on-site assets and investment opportunities. Therefore, the higher the $MBVA$ ratio, the higher the investment opportunity the company has in terms of on-site assets. The formula used to measure the Market to Book Value of Asset Ratio is as follows:

$$MBVA = \frac{(TA-TE)+(CS\ x\ CP)}{Total\ Aset}\ x\ 100\%\ , \quad (4)$$

where:
TA is total assets,
TE is total equity,

CS is outstanding shares,
CP is the closing price of shares.

5 - Market to Book Value of Equity (MBVE)

Balachandran & Nguyen (2018), Hribar & Yang (2016), Deshmukh et al. (2013), reveal that the Market to Book Value of Equity ($MBVE$) shows the company's investment opportunities. If the company can make good use of its capital, the more likely it is for the company to grow and reflect that the market assesses that the return on the company's investment in the future will be greater than the expected return on equity. The formula used to measure Market to Book Value of Equity is as follows:

$$MBVE = \frac{Total\ outstanding\ shares\ X\ closing\ price}{Total\ Equity}\ x\ 100\% \ . \quad (5)$$

Data analysis in this study was carried out using the Partial Least Square (PLS) method. PLS is a method of solving structural equation modelling (SEM) which in this case (according to the research objectives) is more precise than other SEM techniques. This study uses latent variables or unobserved variables, namely variables that cannot be measured directly, but through indicators (manifest variables) in the form of a set of questions or statements in an instrument (questionnaire/questionnaire) with a certain scale. In structural analysis, unobserved variables are often referred to as latent variables or unobserved variables. These variables cannot be measured directly so researchers must use several indicators (Hair et al., 2011). In addition, in the SEM model, the measured variable has at least an interval scale. In this study, the overconfident behaviour of the CEO uses an interval scale and the variables of capital structure, investment decisions, dividend policy, and firm value are measured by a ratio scale, so this research is feasible to use SEM.

3. Result

To provide an overview of the results of data processing that has been observed, in this subchapter descriptive statistics are presented. The number of observations in this study amounted to 860 observations using 7 research indicators. The descriptive analysis of the indicators used in this study is shown in Table 1.

Table 1:
Descriptive Statistical Test Results

Description	Minimum	Maximum	Mean	Std. Deviation	Valid N (listwise)
Ownership Score	1,000	4,000	1,976	1,400	860
Hold and Lose Score	1,000	4,000	2,051	1,273	860
Market to Book Value of Equity (MBVE)	-3,651	270,379	2,699	11,256	860
Market to Book Value of Asset Ratio (MBVA)	-3,920	53,842	1,584	2,612	860
Price Book Value (PBV)	-3,651	270,379	2,697	11,256	860
Price Earning Ratio (PER)	-1,518,541	7,786,431	39,538	310,757	860
Tobin's Q	0.001	53,842	1,740	2,959	860

Source: Compiled by the authors

Table 1 is the result of descriptive statistical testing. The test results above can be explained that the Ownership Score has a minimum value of 1 and a maximum value of 4, with a mean value of 1,976. Observation data with Ownership Score, namely PT. Ramayana Lestari Sentosa, Tbk., and 115 other companies, shows that PT. Ramayana Lestari Sentosa, Tbk., and 115 other companies have CEOs who behave in Low Overconfident. Companies with an Ownership Score of 4 or companies with CEOs who behave very highly overconfident, namely PT. Bisi International, Tbk., and 55 other companies. However, when viewed from the mean value, it can be concluded that the average CEO of the sample companies behaves in Overconfident Moderate.

The Hold and Lose Score has a minimum value of 1 and a maximum value of 4, with a mean value of 2,051. The minimum value of 1 indicates that the company is led by a CEO with Low Overconfident behaviour. Companies led by CEOs with Low Overconfident as many as 91 sample companies, including PT. Unilever Indonesia, Tbk., and others. Meanwhile, there are 44 companies led by CEOs with very high Overconfident behaviour, including PT. Saratoga Investama Sedaya, Tbk., PT. Ultrajaya Milk Industry & Trading Co., Tbk., PT. Indofood, Tbk., and others. If it is seen from the mean value, the CEO of the sample company behaves Overconfident Moderates.

Market to Book Value of Equity (MBVE) has a minimum value of -3,651, namely PT. SLJ Global, Tbk., in 2016. The low MBVE value indicates the company's low investment opportunities. Furthermore, the maximum value of 270,379 is PT. Atlas Resources, Tbk., in 2018. The high MBVE value indicates that the company's investment opportunities are high. If the company can make good use of its capital, the more likely it is for the company to grow and reflect that the market assesses that the return on the company's investment in the future will be greater than the expected return. The mean value is 2,699 and the standard deviation is 11,256. Market to Book Value of Asset Ratio (MBVA) has a minimum value of -3,920, namely PT. Resource Alam Indonesia, Tbk., in 2018. The low MBVA value indicates the company's low investment opportunities therefore the company's growth prospects expressed in market prices are low. Furthermore, the maximum value of 53,842 is PT. Chandra Asri Petrochemical, Tbk., in 2019. The higher the MBVA ratio, the higher the investment opportunity the company has in terms of company assets. The mean value is 1.584 and the standard deviation is 2,612.

The Company Value variable which is proxied by Price Book Value (PBV) has a minimum value of -3,651, namely, PT. SLJ Global, Tbk., in 2016, the maximum score is 270,379 that is, PT. Atlas Resources, Tbk., in 2018, the mean is 2,697 and the standard deviation is 11,256. A low PBV value indicates low market confidence in the company's prospects. A PBV value above one indicates that the market value of the stock is greater than its book value. The greater the PBV ratio, the higher the company is assessed by investors relative to the funds that have been invested in the company. Price Earning Ratio (PER) has a minimum value of -1,518,541 that is, PT. XL Axiata Tbk, in 2015, the maximum value of 7,786,431 that is, PT. Chandra Asri Petrochemical Tbk., in 2019, the mean is 39,538 and the standard deviation is 310,757. A low PER value indicates the company's low earnings. Meanwhile, a high PER value indicates the company's high earnings from the company's investment results. Tobin's Q has a minimum value of 0.001, namely PT. Sitara Propertindo, Tbk., in 2018. The low value of Tobin's Q shows the low value of the company. Furthermore, the maximum value of 53,842 is PT. Chandra Asri Petrochemical, Tbk., in 2019. The high value of Tobin's Q indicates the high value of the company. The mean value is 1,740 and the standard deviation is 2,959.

3.1. Direct Effect Hypothesis Testing

The basis for testing the hypothesis in this study is the value contained in the output result for inner weight. The estimation output results for structural model testing can be seen in Table 2.

The results of the bootstrapping test in this study from the PLS analysis showed that the CEO's overconfident behaviour had no significant positive effect on firm value. The effect of CEO overconfident behaviour on firm value shows a coefficient value of 0.001 with a t-statistics value of 0.117. With a confidence level of 5%, this value is smaller than t-table (1.9627) which means that hypothesis 1 is not accepted. This means that the CEO's overconfident behaviour cannot be a contributing factor to the increase in firm value. The effect of CEO overconfident behaviour on investment decisions shows a coefficient value of 0.074 with a t-statistics value of 2.277. With a confidence level of 5%, this value is greater than t-table (1.9627) which means that hypothesis 2 is accepted. Based on these results, it can be interpreted that the CEO's overconfident behaviour has a significant positive effect on investment decisions. This means that the CEO's overconfident behaviour is a supporting factor for increasing the company's investment decisions. The effect of investment decisions on firm value shows a coefficient value of 0.951 with

Table 2:
Result For Inner Weights

Model	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	*P* Values
CEO Overconfident Behaviour (X) -> The value of the company (Y)	0.001	0.001	0.012	0.117	0.907
CEO Overconfident Behaviour (X) -> Investation Decision (M1)	0.074	0.071	0.032	2.277	0.023**
Investation Decision (M1) -> The value of the company (Y)	0.951	0.955	0.026	36.865	0.000**

Note: Robust standard errors are presented in the parentheses. ***, **, and * denote coefficients significant at 1%, 5%, and 10% significance levels, respectively.

Source: Compiled by the authors

a *t*-statistics value of 36.865. With a confidence level of 5%, this value is greater than *t*-table (1.9627), which means that hypothesis 3 is accepted. Based on these results, it can be interpreted that investment decisions have a significant positive effect on firm value. This means that investment decisions are a supporting factor for increasing firm value.

3.2. Indirect Effect Hypothesis Testing

The results of testing the indirect influence hypothesis through investment decisions as a mediating variable (intervening) can be presented in Table 3.

The results of the bootstrapping test in this study from the PLS analysis of indirect testing showed that the CEO's overconfident behaviour had a significant effect on firm value with investment policy as a mediating variable. The effect of CEO overconfident behaviour on firm value with investment decisions as a mediating variable shows a coefficient value of 0.070, with a *t*-statistics value of 2.233. With a confidence level of 5%, this value is greater than *t*-table (1.9627) which means that hypothesis 4 is accepted. Based on these results, it can be interpreted that the CEO's overconfident behaviour is able to increase firm value through investment decisions as a mediating variable.

Table 3:
Specific Indirect Effect

Model	Original Sample (O)	T Statistics (|O/STDEV|)	P Values
CEO Overconfident Behaviour (X) -> Investation Decision (M1) -> The Value of The Company (Y)	0.070	2.233	0.026**

Note: Robust standard errors are presented in the parentheses. ***, **, and * denote coefficients significant at 1%, 5%, and 10% significance levels, respectively.

Source: Compiled by the authors

4. Discussion

4.1. Effect of CEO overconfident behaviour on firm value

The results of testing the CEO's overconfident behaviour on firm value have a positive but not significant direct effect value. This shows that overconfident CEO behaviour has no significant effect on firm value, high CEO overconfident behaviour will not have a good impact on firm value, because overconfident CEO will not necessarily perform better to avoid losses. Thus, H1 which states that the CEO's overconfident behaviour has a significant positive effect on the 95% confidence level on firm value cannot be confirmed or not accepted.

The results of this hypothesis test do not support the research conducted by Shah et al. (2018) which shows that CEO overconfident behaviour has a positive and significant effect on firm value and most of the positive effects of high CEO overconfident behaviour on firm value are due to greater innovation. and lower costs of debt. Shah et al. (2018) used the model used by Fairchild (2009), with consistent results that CEO overconfident behaviour increases firm value. The same results were also found in the research of Kang et al. (2017). They draw the conclusion that CEO overconfident behaviour can lead to accurate and appropriate policies on investment decisions and increase company returns.

In this study, the CEO's overconfident behaviour showed an insignificant effect on firm value. Thus, there is insufficient evidence that the CEO's overconfident behaviour has a direct effect on firm value. This finding shows that the CEO's overconfident behaviour is not able to explain the variation of changes in the value of companies listed on the Indonesia Stock Exchange. This reflects that the higher the CEO's overconfident behaviour does not affect the increase in firm value.

4.2. The effect of CEO overconfident behaviour on the company's investment decisions

The results of testing the effect of CEO overconfident behaviour on the company's investment decisions have a positive and significant direct effect value. This shows that the CEO's overconfident behaviour is a factor supporting the increase in the company's investment decisions. Thus, H2 which states that the CEO's overconfident behaviour has a significant positive effect on the 95% confidence level on the company's investment decisions can be confirmed or accepted.

The results of this hypothesis test also support the research conducted by Gervais & Odean (2001) which revealed that the level of overconfidence can reduce the fear of underinvestment and avoid the cost of financial difficulties that are too high. Pikulina et al. (2017), revealed a positive and significant relationship between CEO overconfident behaviour and investment decisions. In the experimental method, Pikulina et al. (2017), divide the level of CEO overconfidence in investment decision making into several levels, including; higher overconfident (high) results in a higher level of investment, moderate overconfident (medium) is still profitable and leads to accurate investments, extreme overconfident (very high) and underconfident (low) incurs high costs for corporate decision making. Ben-David et al. (2013), tested the CEO's overconfident behaviour on the company's investment policies using a survey method. The results of the study found that the CEO's overconfident behaviour had a positive and significant effect on investment decisions. Companies led by overconfident managers will have high levels of investment, often making acquisitions.

The results of the hypothesis test of this study contradict Hackbarth (2009), revealing that overconfident CEOs tend to invest less because they avoid external financing and engage with more projects, as they overestimate future project returns and underestimate risk. Goel & Thakor (2008), said that there is an optimal point of being overconfident. Overconfident CEOs are more willing to engage in risky projects to reduce underinvestment problems, but overconfident behaviour causes them to take on too many projects with negative NPV. Overconfident CEOs have lower investment performance because they tend to make weak investment decisions into lower NPV projects (Eichholtz & Yönder, 2014).

4.3. Effect of investment decisions on firm value

The results of testing the effect of investment on firm value have a positive and significant direct effect value. This shows that investment decisions have a significant positive effect on firm value, which means that the results of this study support investment decisions as a factor causing the increase in firm value. Thus, H3 which states that investment decisions have a significant positive effect at the 95% confidence level on firm value can be confirmed or accepted.

This study supports the statement of Endri & Fathony (2020), that firm value is solely influenced by investment decisions. They explains that investment decisions are used to achieve company goals. Companies with large investment decisions show that the company has bright future prospects. Thus, the higher the investment decision, the higher the firm value.

Investment decisions at the corporate level vary by taking into account various issues that directly affect the company in the long run. There are three main problems namely agency costs, transaction costs and market values that can explain fluctuations in investment. The agency cost theory developed by Hsu et al. (2017) can address the problem of why firms facing higher interest rate costs do not try to get money from other sources (i.e., debt, equity markets). Agency problems arise when there is a conflict of interest between managers, creditors and shareholders due to different objectives.

Transaction costs combined with debt and equity issues can increase the cost of external financing. Supposedly debt is the only channel of external funding available to the company. Debt financing allows creditors to be entitled to interest payments. Funding decisions are related to the company's decision to finance its investment and determine the composition of its funding sources. From a managerial perspective, the core of the funding function is how companies determine optimal funding sources to fund various investment alternatives, so as to maximize firm value. Investment is an action to invest current funds into current assets and fixed assets with the hope of obtaining profits in the future (Kang et al., 2017). Investment activities carried out by the company are expected to provide optimal returns which are reused for investment activities.

4.4. The effect of CEO overconfident behaviour on firm value with investment decisions as a mediating variable

The results of testing the indirect effect of CEO overconfident behaviour on firm value with investment decisions as a mediating variable have a positive and significant indirect effect value. Based on these results, it can be interpreted that the CEO's overconfident behaviour has a significant effect on firm value with investment decisions as a mediating variable. This means that the CEO's overconfident behaviour is able to increase firm value through investment decisions as a mediating variable. Thus, H4 in this study can be confirmed or accepted. The results of this study

indicate that the investment decision variable as a mediation of the influence of CEO overconfident behaviour on firm value has a significant effect with a positive coefficient value. Based on the description of the nature of the overconfident CEO behaviour variable, it is found that the investment decision variable is full mediation. This means that the indirect effect of the variable CEO overconfident behaviour on firm value through investment decisions provides evidence that the tendency to increase firm value through investment decisions. The positive direction reflects that if the investment made is greater, the value of the company will also increase.

Based on these facts, this research is able to prove that investment decisions are perfect intervening variables to increase the role of CEO overconfident behaviour in influencing firm value. The indirect effect of CEO overconfident behaviour on firm value through investment decisions is the result obtained from investment activities themselves through project selection or other policies such as creating new products, replacing more efficient machines, developing research & development, and mergers with other companies. Meanwhile, firm value is also influenced by investment opportunities and discretionary spending in the future.

The results of this study contradict Pikulina et al. (2017), who revealed that the CEO's overconfident behaviour shows high cash flow sensitivity, which can lead to either too much or too little investment. The most important is the excessive investment in connection with mergers and acquisitions which is very detrimental to the value of the company. In this case, the internal funds are not sufficient but the CEO who is overconfident continues to invest and has an impact on the decline in the value of the company. Campbell et al. (2011), in their research-tested and proved a statement which said that CEOs with high levels of overconfidence will have a high probability of being fired from their jobs because managers with these characteristics have a habit of exaggerating the quality of information.

5. Conclusion

CEO overconfident behaviour has no positive and significant effect on firm value. The high overconfident behaviour of the CEO cannot have a good impact on the value of the company, because the overconfident CEO does not necessarily perform better to avoid losses, but the overconfident behaviour of the CEO has a significant positive effect on investment decisions. This shows that the CEO's overconfident behaviour can be a supporting factor as a cause of increasing company investment decisions. Furthermore, investment decisions have a significant positive effect on firm value, which means that the results of this study support investment as a factor causing the increase in firm value. The results of this study indicate a positive direction on the effect of investment on the company, which means it supports and strengthens the signalling theory, that there will be an increase in the value of the company for high-value investments. When testing the effect of CEO overconfident behaviour on firm value with investment decisions being the mediating variable, the result is that CEO overconfident behaviour has a significant effect on firm value with investment decisions as a mediating variable. This means that the CEO's overconfident behaviour is able to increase firm value through investment decisions as a mediating variable. Overconfident CEOs are brave in making investment decisions, resulting in positive investments, and dare to make high-risk investments. The CEO has an important task in making company policies, so the selection of the CEO should be based on criteria that are in accordance with the company's goals and consider the overconfident characteristics possessed by the CEO so that it can be adjusted to the level of overconfident in accordance with the company's goals, vision and mission. This study provides results on the behavioural finance theory regarding the existence of an overconfident CEO in the company. Future research can examine the gender and background of the CEO who behaves overconfident and then assess its impact on firm value. Further research can also be done by comparing overconfident CEOs in various industries and their impact on company policies.

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