



The Role of Agency Cost as a Mediator in the Effect of Capital Structure on Company Financial Performance

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ABSTRACT: *The objective of this study is to examine the impact of capital structure on agency cost, the impact of agency cost on corporate financial performance, and to assess the indirect impact of capital structure on corporate financial performance through agency cost acting as an intervening variable. The subjects of this study are the cement sub-sector companies publicly traded on the Indonesia Stock Exchange (IDX) during the years 2014 and 2018. This study employed a saturated sampling technique, specifically census sampling, which resulted in a sample of 30 enterprises. In this study, the capital structure is measured using the debt-equity ratio (DER), while the company's financial performance is measured using return on equity (ROE). This research employed SmartPLS 3.0 software for testing purposes. The findings of this study suggest that the capital structure, represented by the debt-to-equity ratio (DER), has a detrimental impact on agency costs. Additionally, agency cost negatively influences corporate financial performance, as measured by return on equity (ROE). However, the study did not find any indirect effect of capital structure on financial performance through agency cost as an intervening variable.*

Keywords: Agency cost, capital structure, cement industries, financial performance.

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INTRODUCTION

Every company is built and formed with certain goals. According to (Putri, 2017), the goal of a company is to maximize its value. In the current economic era, companies must continue to innovate to increase profits and achieve company targets. By continuing to innovate, companies can attract investors to invest their funds in the company.

Investors' consideration in investing their funds is to look at the company's financial reports. Investors are very interested in dividend distribution in financial reports. According to Hery (2015, p. 4), financial reports provide useful information for investors and creditors in making investment and credit decisions. According to Hery (2015, p. 3) the final product of a series of processes for recording and summarizing business transaction data is a financial report. Financial reports result from the accounting process, which can be used to communicate financial data or company activities to interested parties. Company management is responsible for the preparation and presentation of financial reports.

According to Hery (2015, p. 5) the specific objective of financial reports is to present financial position, business results, and other financial position changes fairly and follow generally accepted accounting principles. According to Financial Accounting Standards (IAI, 2014) in PSAK No.1, it is explained that the purpose of financial reports is to provide information concerning the financial position, performance, and changes in the financial position of a company, which is useful for a large number of users in making decisions.

According to Financial Accounting Standards (IAI, 2014), PSAK No. 1 explains that financial reports are part of the financial reporting process. Complete financial reports include balance sheets, profit and loss reports, reports on changes in financial position, notes, and other reports, as well as explanatory material, which is an integral part of financial reports. A financial report is a record of a company's financial information in an accounting period, which is very important to use to describe the company's performance. Through financial reports, the company will be able to assess its ability to fulfill all obligations, both short- and long-term, as well as the company's capital structure, distribution of its assets, and effectiveness. from the use of assets, income, or business results achieved, expenses that the company must pay, and the book values of each share of the company concerned. This is related to the analysis of financial reports to understand the various financial ratios and formulas and is closely related to measuring financial performance in a company.

Company financial performance is a description of the company's financial condition, which is analyzed using financial analysis tools to see whether a company's financial condition is good or bad, reflecting work performance in a certain period (Ayu, 2017; Hardiyanti & Suryaningrum, 2023). Assessment of a company's financial performance is one way that management can fulfill its obligations to funders and achieve the goals set by the company (Malik & Handono, 2019; Putri & Jayanti, 2023).

Performance assessments can be seen and identified by analyzing financial reports. Financial report analysis is financial analysis, which consists of reviewing or studying relationships or trends to determine a company's financial position and results of operations and development (Alipudin, 2016; Yulianto & Suryaningrum, 2019). The financial report analysis is carried out using ratios finance, which consists of liquidity ratios, solvency ratios, profitability ratios, and activity ratios (Rustiani & Wiyani, 2017).

This research uses Return on Equity (ROE) to measure the company's financial performance. ROE shows the extent to which investments made by investors in a company can provide returns under the level desired by investors (Alipudin, 2016). This ratio is important for shareholders to know the effectiveness and efficiency of capital management alone, which is conducted by management companies. Seed it up to this ratio so the company can provide large income for shareholders. Capital structure is an explanatory variable for ROE. It reflects the composition of debt and equity use (Aprilianti & Hidayat, 2016). Capital structure shows the proportion of debt used to finance investments so investors can determine the balance between risk and return on their investments (Sitompul et al., 2022).

According to Fachrudin (2011) and Dahlia (2019), the capital structure has an agency relationship between costs and debt. Using debt in the capital structure can prevent unimportant company expenses and encourage managers to carry out company activities more efficiently. Using debt in the capital structure can affect the manager's behavior; if conditions are good, the manager uses cash flow for bonuses or unnecessary expenses, called *agency costs*.

Jensen and Meckling in Fachrudin (2011) say that the separation of management functions and ownership functions is very close to conflicts of interest (*agency conflict*). *Agency conflict* occurs when managers tend to make decisions that benefit themselves rather than the interests of shareholders. *Agency conflict* can increase *agency costs* by providing appropriate incentives to managers and

monitoring costs. *Agency costs* may occur between holder share controller and holder share minorities, shareholders and creditors, and shareholders and *stakeholders*. When investing, investors need to have information related to the company's financial performance in order to make decisions. Financial ratios are important information that can be used to assess a company's financial performance. This is useful for investors to know the company's condition to determine which is more profitable (Mubyarto, 2020). To improve a company's financial performance, such as achieving high profits, a capital structure is needed to make it easier for the company to achieve this. A strong capital structure can show the company's financial performance (Alfisah et al., 2022; Martini et al., 2019). There is a relationship between *agency costs* and debt in the capital structure. Using debt in the capital structure can prevent unnecessary expenses in a company and encourage managers to run the company more efficiently. Debt gives rise to interest expenses, which can save taxes, this can reduce *agency costs*, and can improve the company's financial performance (Yamasitha, 2020).

This research uses cement subsector companies listed on the Indonesia Stock Exchange (BEI) from 2014 to 2018. The reason for choosing a cement subsector company is related to the increasing infrastructure development, whether by the government or private individuals (Mahmudah & Suwitho, 2016). Hence, the cement industry is very important and can increase economic growth. The increasing demand for cement can give rise to competition between similar companies, so each company needs to pay attention to its financial performance.

Companies must improve their financial performance to meet rapid growth and competition. Table 1 shows the calculation of the financial performance of cement subsector companies listed on the Indonesia Stock Exchange (BEI) proxied by ROE in 2014-2018.

Table 1. Calculation ROE Company Cement Registered in BEI

No	Code	Year				
		2014	2015	2016	2017	2018
1	INTP	0.203	0.173	0.138	0.066	0.039
2	SMBR	0.111	0.110	0.073	0.033	0.012
3	SMCB	0.068	0.014	- 0.045	- 0.115	- 0.119
4	SMGR	0.164	0.035	0.138	0.045	0.084
5	WSBP	0.166	0.118	0.118	0.127	0.130
6	WTON	0.135	0.066	0.103	0.114	0.145
	Average	0.141	0.083	0.084	0.045	0.045

Source: Data Processed

Table 1 shows that the INTP, SMBR, and SMCB companies experienced a decrease in ROE values from 2014 to 2018. Meanwhile, SMGR experienced a decrease in ROE values in 2015 and 2017 by 0.119 and 0.133 but increased in 2016 and 2018 by 0.113. and 0.034. The WSBP company experienced a decline in mark ROE from 2014 until 2018; however, in 2016, the ROE value did not increase or decrease. Meanwhile, WTON experienced a decrease in ROE value in 2015, amounting to 0.069, but experienced an increase from 2016 to 2018.

Based on Table 1, in 2014, the INTP company had the highest ROE value of 0.203, while the SMCB company had the lowest value at 0.078. In 2015, the INTP company owned the highest ROE value at 0.173, while the lowest value was owned by SMCB at 0.014. In 2016, the INTP and SMGR companies had the highest ROE values, with an ROE value of 0.138, while the lowest was the SMCB company of -0.045. In 2017, the highest ROE value was owned by the WSBP company at 0.127, and the lowest was owned by SMCB at -0.115. In 2018, the WTON company had the highest ROE value of 0.145, while SMCB had the lowest value of -0.119. From Table 1, the average ROE value in 2014 was 0.141; in 2015, it was 0.083; in 2016, it was 0.084; in 2017, it was 0.045; and in 2018, it was 0.045.

Based on the problem That has been outlined, this research aims to analyze and prove the effect of capital structure on agency costs, the effect of agency costs on company performance, and the role of agency costs as a mediator in the relationship between capital structure and company performance. This research is expected to provide theoretical contributions, especially in supporting agency theory. Apart from that, it is hoped that companies can use this research to improve their financial performance. It is useful for the general public as information that can be used to increase knowledge or even as research material for those who conducted similar research.

LITERATURE REVIEW

Theory Signals (*Signaling theory*)

Every party with a relationship with the company is very interested in the company's performance. The importance of measuring company performance can be explained by signaling theory. Signal theory states how a company signals to consumers by analyzing financial reports. The signal theory explains the importance of information released by companies to investors who want to invest in their shares; the information published can be in the form of financial reports for the company public, or an announcement can provide a signal about the condition of the company, which is beneficial for investors in making investment decisions (Puspita et al., 2023).

Signaling Theory is a company's encouragement to provide information to external parties (Darussalam & Herawaty, 2019). This encouragement is caused by asymmetric information between management and external parties. To reduce asymmetric information, companies must disclose their information, both financial and non-financial. Companies can increase their value by reducing asymmetric information by providing signals to outside parties in the form of reliable financial information to reduce company uncertainty in the future.

According to Miller and Whiting (Connelly et al., 2011; Doukas & Zhang, 2020), the Signaling Theory indicates that companies will seek to show signals of positive information to potential investors through disclosures in financial reports. It was concluded that the Signaling Theory encourages conveying information that interested parties can capture, where companies create and convey information in the form of financial reports that external parties can capture, analyze, and use in making investment decisions.

Capital Structure

Capital structure is a comparison or reward for long-term funding of a company, which is reflected in the comparison of long-term debt and own capital (Siliwadi & Muliawani, 2019). Capital structure is an important aspect of a business company. If something happens, managing the capital structure will affect the company. Managing the capital structure is difficult because it relates to policies in choosing the use of debt and capital in a company (Dwidjaja et al., 2018; Khumairoh & Suprihadi, 2021). Capital structure theory explains that in making decisions regarding the use of capital, a company must consider the risk factors and profits obtained because a good capital structure can provide benefits and improve company performance (Himelda & Imelda, 2021; Sitompul et al., 2022). Based on this understanding, it can be concluded that structure capital is part of the financial structure, which compares permanent short-term debt, long-term debt, preferred shares, and ordinary shares used by the company with its own capital. According to Ayu (2017) and Sari & Pratiwi (2023), the solvency ratio can be used to analyze capital structure.

Debt to Total Assets Ratio (DAR)

This Ratio measures how much of a company's assets are financed with debt. The higher this ratio, the greater the amount of loan capital used to invest in assets and produce profit for the company.

$$DAR = \frac{\text{Total liabilities}}{\text{Total assets}} \times 100\% \dots\dots\dots (1)$$

Debt to Equity Ratio (DER)

This ratio measures the balance between a company's liabilities and its own capital. It can also be interpreted as the company's ability to fulfill its obligations to pay debts with the guarantee of its own capital.

$$DER = \frac{\text{Total liabilities}}{\text{Total Equity}} \times 100\% \dots\dots\dots (2)$$

Long-Term Debt to Equity Ratio (LDER)

This ratio shows the relationship between the amount of long-term loans provided by creditors and the amount of capital provided by the company owner. It is also used to measure the size of the comparison between long-term debt and own capital or how long capital Alone guarantees the debt period.

$$LDER = \frac{\text{Total long term liabilities}}{\text{Total equity}} \times 100\% \dots\dots\dots (3)$$

Agency Cost

According to Rohmaniyah et al. (2018), agency theory emerges when there is a cooperation contract between the manager (agent) and the shareholder (principal). According to Sumiati & Indrawati (2019, p. 7) the concept of agency theory is a relationship or contract between the company owner (principal) and manager (agent), where the principal employs an agent to carry out tasks in order to fulfill the interests of the principal. So, connection agencies appear when the principal employs an agent to manage the company and then gives decision-making authority to agents. In agency theory, there is a cooperative contractual relationship between managers (agents) and shareholders (principals), where the cooperative contractual relationship is the granting of authority by the principal to the agent to work and achieve the principal's goals. This is done because the principal has limitations in managing the company. The problem in this relationship is agency conflict, where there are differences in management and ownership functions.

According to Sumiati & Indrawati (2019, p. 7), there are two agency-type conflicts between principal and agents and between principal and creditor. Conflict between the principal and the agent arises when the agent does not always make decisions to fulfill the principal's interests, which is to maximize the wealth or welfare of shareholders. However, the agent tends to pursue his personal goals by taking on large projects that will bring high profits in the short term. The conflict between principal and creditors arises when discussing the rules of debt contracts, where managers are assumed to be the owners of the company interests, which aligned with the interests of the owner of the company, and the principal is a creditor who provides debt to the company, represented by a manager who acts on behalf of the company owner.

Agency costs arise when the interests of the company manager or agent do not match the interests of the company owner or principal. These costs will influence the manager's choice of duties, omissions, and decisions based on his own interests or entrenchment, which will reduce the welfare of the principal (Putri, 2017). According to Yamasitha (2020), agency cost means using Genere cash for bonuses or expenses that do not need to be paid by managers for cash flow fees (free cash flow).

According to Sumiati & Indrawati (2019, p. 9), there are three types of Agency Costs: monitoring cost and cost issued for supervising, measuring, observing, and controlling agent behavior. Bonding cost is the cost of management (agent) complying with and establishing mechanisms to show that the agent has behaved according to the principal's interests. Residual Loss is a cost in the form of a decrease in the principal's welfare due to differences between the agent's and principal's decisions.

In this research, agency costs are measured by discretionary expenses. According to Aprilianti & Hidayat (2016), discretionary expenses are incurred based on a person's discretion manager.

$$\text{Agency Cost} = \frac{\text{Discretionary Expense}}{\text{Sales}} \times 100\% \dots\dots\dots (4)$$

The discretionary expense ratio presents costs related to management functions and product sales, including expenses related to operations, non-operation charge, and interest expenses, as well as salaries and wages.

Financial Performance

According to Puspita et al. (2023), a company's financial performance reflects the financial reports published by a company. Another definition by Darussalam & Herawaty (2019) is company financial performance is the work performance achieved by the company over a certain period, as stated in the company's financial report. From this understanding, it can be concluded that a company's financial performance is a description of its achievements, as seen in the company's financial reports.

According to Aini et al. (2017), the purpose of assessing company performance is that performance is an achievement of something measured using various measuring tools to increase the company's effectiveness and efficiency in generating profits for the company's survival. From this understanding, it can be concluded that the purpose of a company's financial performance is to measure the extent to which the company has experienced improvements, which can be done through various measuring tools so that it can meet the interests of investors, creditors, and shareholders.

According to Rustiani & Wiyani (2017), one tool for measuring a company's financial performance is financial report analysis, which can be done using financial ratios. Liquidity ratios determine the company's ability to fulfill its short-term obligations. The solvency ratio shows how much a company

uses funds from its loans. Profitability ratios show a company's ability to profit from the use of capital. The activity ratio measures a company's effectiveness in using capital.

Previous Studies

Apart from referring to theory, previous research findings obtained from the results of previous research are needed. Research relevant to the discussed problem should be supported when conducting further research. Table 2 shows previous research before this research was carried out and is the rationale for this research.

Table 2. Research Previous

No	Title and Author	Variable	Results
1	The Influence of Capital Structure and Managerial Ownership on Company Performance through Agency Cost as Intervening Variables (Yamasitha, 2020).	- Capital Structure (X1) - Managerial Ownership (X2) - Company Performance (Y) - Agency Cost (Z)	- Capital structure has a negative effect on firm performance, and capital structure has a negative indirect effect on firm performance through agency cost. - Managerial ownership does not affect firm performance, but it negatively affects firm performance through agency cost. - Agency cost does not affect the firm performance.
2.	Analysis of the Influence of Capital Structure, Company Size, and Agency Cost Against Company Performance (Fachrudin, 2011).	- Capital Structure (X1) - Company Size (X2) - Agency Cost (Y1) - Company Performance (Y2)	- Capital structure has a positive effect on agency costs. - Company size has a negative effect on agency costs. - Structure capital, company size, and agency costs do not affect company performance. - There is no indirect influence of capital structure and company size on company performance through agency costs
3..	Analysis of the Effects of Structure Capital and Company Size on Company Performance with Agency Costs as an Intervening Variable in LQ45 Companies 2012-2016 (Rohmaniyah et al., 2018).	- Capital Structure (X1) - Company Size (X2) - Company Performance (Y1) - Agency Cost (Y2)	- Capital structure has a positive effect on agency costs. - Company size does not influence agency costs. - Capital structure and size of the company do not significantly influence company performance. - Agency costs have no significant effect on company performance.
4.	The Effect of Capital Structure on Company Performance with Investment Decisions as a Mediating Variable (Himelda & Imelda, 2021).	- Capital Structure (X1) - Company Performance (Y) - Investment Decisions (Z)	- Capital structure has a negative effect on firm performance. - Investment decisions have a positive effect on firm performance. - Investment decisions can mediate the effect of capital structure on firm performance.

Source: Previous Studies

Based on the results of previous research in Table 2, the variables of capital structure, company financial performance, and agency costs are similar between this research and previous research. The difference lies in the fact that there is still a research gap, where research on the types of industrial manufacturing companies, especially those that produce cement, is still needed. Therefore, apart from differences in industry types, the research years are also different, namely the observation period 2015-2018.

The Influence Structure Capital on Company Financial Performance

In research, Yamasitha (2020) states that using debt in the capital structure can prevent unnecessary expenses and encourage managers to operate their companies. with more efficiency, the use of High levels of capital structure can threaten bankruptcy, thereby reducing agency costs.

In Aprilianti & Hidayat (2016) research, capital structure influences agency costs. There is a relationship between agency costs and debt in the capital structure. Using debt in the capital structure can prevent unnecessary expenses and encourage managers to operate the company more efficiently, thereby reducing agency costs.

Signal theory is related to providing signals or information (Doukas & Zhang, 2020), where the use of debt is a signal that managers convey to outside parties. When the manager has confidence that the company's prospects are good, the manager will communicate this to investors. If a company that increases debt can be seen as having good prospects in the future, it will signal good company performance. However, high debt can increase the risk of bankruptcy problems if management cannot manage debt effectively and efficiently. Poor debt management will ultimately reduce company performance.

H1: Capital structure has a negative effect on company performance.

The Influence Structure Capital to Agency Cost

In research, Yamasitha (2020) states that using debt in the capital structure can prevent unnecessary expenses and encourage managers to operate their companies with more efficiency, high levels of capital structure can pose a threat of bankruptcy, thereby reducing agency costs.

In research by Aprilianti & Hidayat (2016), capital structure influences agency costs. There is a relationship between agency costs and debt in the capital structure. Using debt in the capital structure can prevent unnecessary expenses and encourage managers to operate the company more efficiently, thereby reducing agency costs.

Signal theory is related to providing signals or information, where the use of debt is a signal that managers convey to outside parties (Omran & El-Galfy, 2014). When the manager has confidence that the company's prospects are good, the manager will communicate this to investors. If a company increases debt, it can be seen as having good prospects in the future. High debt can make managers run the company more efficiently because of the fear of bankruptcy by reducing unnecessary costs.

H2: Capital structure has a negative effect on agency costs.

The Influence Agency Cost to Company Financial Performance

In Aprilianti & Hidayat (2016) research, agency costs do not influence the company's financial performance. Not caring about agency costs means letting them go. Unnecessary expenses occur continuously, reducing profits and negatively impacting the company's financial performance.

This research is also in line with Fachrudin (2011) research, which states that an attitude of not caring about the agency's costs can reduce the achievement of competitive advantage, which has a negative impact on the company's financial performance. In agency theory, there is a relationship between the company and managers, where the company employs agents to carry out tasks that fulfill the company's interests. When the company incurs agency costs to supervise managers to act to benefit the company, if the costs incurred are higher, it will reduce the company's profits, ultimately reducing its financial performance.

H3: Agency costs have a negative effect on company performance.

The Indirect Influence of Capital Structure on Company Financial Performance through Agency Cost as an Intervening Variable

Aprilianti & Hidayat (2016) research shows that the increasing use of debt in the capital structure causes interest expenses to be bigger; if the burden is very flowery, and if the operating profit is not large enough, financial problems will arise, which will cause performance to decline. The higher the debt, the more the interest expense will increase, so discretionary expense will increase, but increasing discretionary expense does not improve financial performance. In research, Yamasitha (2020) states that the higher the debt, the higher the interest expense, which in turn increases discretionary expense, but increasing discretionary expense improves financial performance.

Signal theory explains that companies must send signals in the form of financial reports to external parties. Financial reports showing good financial performance signal that the company is operating well. Using debt in the capital structure can prevent unnecessary expenses, and reducing these expenses can increase profits, and company performance also increases.

H4: Agency costs mediate the relationship between capital structure and financial performance.

Figure 1 shows a research framework chart from the explanation introduction and literature review.

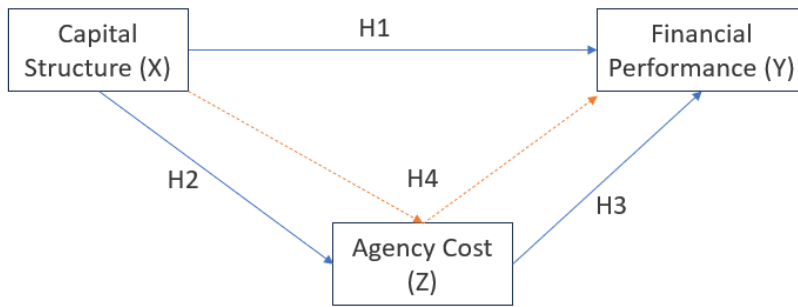


Figure 1. Research Framework

RESEARCH METHOD

Operational Definition and Measurement Variable

Definitions of research variables must be formulated to avoid errors in collecting data. In this research, variables consisting of variables are used: independent (X) Capital Structure, dependent variable (Y) company financial performance, and intervening variable (Z) agency cost.

Structure Capital (X)

Capital structure is a comparison or return on long-term funding to own capital (Siliwadi & Muliawani, 2019). This research uses the debt-equity ratio (DER), which can show the portion of each capital used as collateral for debt owned by the company (Alipudin, 2016). This variable is measured using a ratio scale.

$$DER = \frac{\text{Total liabilities}}{\text{Total Equity}} \times 100\% \dots\dots\dots (5)$$

Company Financial Performance (Y)

According to Malik & Handono (2019) and Putri & Jayanti (2023), a company's financial performance is a description of changing conditions, which include the financial position and results achieved by the company, which can be seen in the financial reports. This research uses return on equity (ROE) to measure the company's financial performance. According to Alipudin (2016), return on equity (ROE) is a ratio used to determine the extent of investment investors will make in a company. The company can give the lead back by following the level required by investors. This variable is measured using a ratio scale.

$$ROE = \frac{\text{Earning after interest and tax}}{\text{Total Equity}} \times 100\% \dots\dots\dots (6)$$

Agency Cost (Z)

According to Aprilianti & Hidayat (2016), Agency costs are an economic concept regarding the costs incurred by the owner when hiring an agent to act on his behalf. In this research, the author uses ratios of discretionary expense to measure agency costs. According to Rohmaniyah et al. (2018), discretionary expenses are burdens issued at a manager's discretion, such as operating, non-operating, interest, and salaries and wages. This variable is measured using a ratio scale.

$$\text{Agency Cost} = \frac{\text{Discretionary Expense}}{\text{Sales}} \times 100\% \dots\dots\dots (7)$$

Population and Sample

In this research, the population used is six cement sector manufacturing companies listed on the Indonesia Stock Exchange (BEI). The author uses a cement sector manufacturing company because it continues to increase along with economic growth and demand for cement, which can lead to competition between similar companies (Siliwadi & Muliawani, 2019).

The purposive sampling technique was used. According to Sugiyono (2018, p. 122), nonprobability sampling is a technique that does not provide an equal chance for each element or

member of the population to be selected as a sample.

Table 3. Sample Study

No	Name of the Company	Code
1	PT. Cement King stone (Persero), Tbk	SMBR
2	PT. Cement Indonesia (Persero), Tbk	SMGR
3	PT. Clairvoyant Concrete, Tbk	WSBP
4	PT. Holcim Indonesia, Tbk	SMCB
5	PT. Indocement Single Initiative, Tbk	INTP
6	PT. Wijaya Work Beton, Tbk	WTON

Source: Indonesian Stock Exchange, Cement Subsector Manufacturing Company. www.idx.co.id. Processed using purposive sampling.

Table 3 shows the number of samples used by 6 Cement sub-sector companies listed on the Indonesia Stock Exchange (BEI) from 2014 to 2018.

Statistics Descriptive

According to [Ghozali \(2018\)](#), descriptive statistics collect, process, analyze, and present data well. They can summarize research data using mean, median, maximum value, minimum value, and standard deviation.

Technique Data analysis

The data analysis technique used in this research is Partial Least Square (PLS) analysis with the SmartPLS 3.0 tool. According to [Irwan & Adam \(2015\)](#), PLS is a strong analytical method because it is not based on many assumptions. For example, the data does not have to be normally distributed, and the sample does not have to be large. PLS can be used to explain whether there is a relationship between latent variables. Besides that, it can simultaneously analyze constructs formed with reflective indicators and formative.

Outer Model (Model Measurement)

According to [Irwan & Adam \(2015\)](#), the outer or measurement model shows how the indicators present the latent variables to be measured. In this research, the outer model can be seen from several tests.

Convergent validity

According to [Irwan & Adam \(2015\)](#), convergent validity measures a strong correlation between construct and latent variables. The standardized loading factor can be used to evaluate the convergent validity of examining individual item reliability. The standardized loading factor describes the magnitude of the correlation between each measurement item (indicator) and its construct. A correlation can be said to be valid if it has a value >0.7 .

Discriminant Validity

Comparing discriminant validity and square of average variance extracted (AVE) values. According to [Irwan & Adam \(2015\)](#), the measurement model is assessed based on cross-loading measurements with a contract. If the correlation of a construct with each indicator is greater than the size of the other constructs, then the latent construct predicts the indicator better than the other constructs. If the AVE value is higher than the correlation value between contracts, the achieved validity discriminant Which Good.

Reliability

According to [Irwan & Adam \(2015\)](#), the reliability test is carried out by looking at the composite reliability of the construct indicators. Composite results reliability will show a value that is satisfying if ≥ 0.6 . The reliability test can also be strengthened with Cronbach's Alpha where the value is said to be good if ≥ 0.5 and said to be adequate if ≥ 0.3

Inner Model (Structural Model)

According to [Irwan & Adam \(2015\)](#), the inner or structural model aims to define the relationship between late variables. In this research, the inner model can be tested in several ways. R-Square. The R-Square value test is used to explain the relationship between the independent variable and the dependent variable ([Juliandi, 2018](#)). Variance Inflation Factor (VIF). The Variance Inflation Factor (VIF) test is a collinearity test used to prove the correlation between constructs; a strong correlation means there is a problem, or it is called collinearity. The VIF assessment criteria are if the VIF value is >5.00, there is a collinearity problem; if the VIF value is <5.00, there is no collinearity problem ([Juliandi, 2018](#)).

Hypothesis testing

Testing hypothesis in research is done by examining P-Values, where if the P-Values are >0.05, then the hypothesis is declared accepted ([Irwan & Adam, 2015](#)). Two tests are carried out in this research: direct effect testing and indirect effect testing. Direct effect testing aims to test the hypothesis of a direct influence between the independent and dependent variables. The indirect testing effect aims to test the hypothesis of indirect influence between the independent and dependent variables, which is mediated by variable intervening ([Juliandi, 2018](#)).

RESULT AND DISCUSSION

The Statistic Trend Analysis

This study's research objects are capital structure, company financial performance, and agency costs in six Cement subsector companies listed on the Indonesia Stock Exchange (BEI) from 2014 to 2018.

Capital Structure

Capital structure is a comparison or balance between foreign capital and own capital. In this research, the Capital structure is shown by *the Debt Equity Ratio* (DER), which compares total debt to own capital ([Yamasitha, 2020](#)). Table 4 shows the calculation of the debt equity ratio (DER) in the company's cement sub-sector registered on the Indonesian Stock Exchange (BEI) from 2014 to 2018.

Table 4. Debt to Equity Ratio (DER)

No	Code	Year				
		2014	2015	2016	2017	2018
1	INTP	0.155	0.148	0.143	0.165	0.187
2	SMBR	0.067	0.118	0.410	0.473	0.584
3	SMCB	0.888	1,040	1,442	1,717	1,919
4	SMGR	0.371	0.353	0.437	0.623	0.553
5	WSBP	3,413	2,113	2,652	1,029	0.921
6	WTON	0.718	0.782	0.862	1,562	1,821
	Average	0.929	0.756	0.988	0.928	1,014

Source: Data Processed (2020)

Financial Performance

Financial performance is a description of a company's financial condition, which is analyzed using financial analysis tools to determine the company's financial condition. In this research, the company's financial performance is shown by Return on Equity (ROE), where this ratio measures company profitability to measure returns for shareholders ([Aprilianti & Hidayat, 2016](#)). Table 5 shows the Return on Equity (ROE) calculation for company sub-sector cement, registered on the Indonesian Stock Exchange (BEI) in 2014-2018.

Agency Cost

Agency Costs are costs incurred by a company to monitor management actions to act in accordance with the agreement with the company. In this research, Agency Cost is shown by discretionary expense, where this ratio is the burden issued based on a manager's policies, such as operating expenses, non-operating expenses, interest expenses, and salaries and wages ([Rohmaniyah et al., 2018](#)). Table 6 shows the calculation of Agency Costs for cement sub-sector companies listed on the Stock Exchange Indonesian Securities (BEI) in 2014-2018.

Table 5. Return on Equity (ROE)

No	Code	Year				
		2014	2015	2016	2017	2018
1	INTP	0.203	0.173	0.138	0.066	0.039
2	SMBR	0.111	0.110	0.073	0.033	0.012
3	SMCB	0.068	0.014	- 0.025	- 0.115	- 0.119
4	SMGR	0.164	0.035	0.138	0.045	0.084
5	WSBP	0.166	0.118	0.118	0.127	0.130
6	WTON	0.135	0.066	0.103	0.114	0.145
	Average	0.141	0.083	0.084	0.045	0.045

Source: Data Processed (2020)

Table 6. Agency Cost

No	Code	Year				
		2014	2015	2016	2017	2018
1	INTP	0.146	0.150	0.165	0.207	0.207
2	SMBR	0.116	0.107	0.110	0.171	0.220
3	SMCB	0.155	0.122	0.165	0.169	0.148
4	SMGR	0.158	0.159	0.167	0.174	0.135
5	WSBP	0.026	0.004	0.025	0.036	0.010
6	WTON	0.014	0.024	0.018	0.015	0.012
	Average	0.116	0.108	0.116	0.151	0.144

Source: Data Processed (2020)

Statistics Descriptive of Variables

Descriptive statistics can summarize research data, such as mean, median, maximum value, minimum value, and standard deviation. Table 7 shows the descriptive statistical values of capital structure, as shown by DER, agency costs, and company financial performance, as shown by ROE, in cement subsector companies listed on the Indonesian Stock Exchange from 2014 to 2018.

Table 7. Statistics Descriptive

	DER	ROE	Agency Costs
Mean	0.919	0.080	0.110
Median	0.661	0.118	0.140
Maximum	3,413	0.203	0.220
Minimum	0.067	- 0.119	0.004
Standard Deviation	0.814	0.069	0.062

Source: Data Processed (2020)

Table 7 shows that DER shows an average value of 0.919, a median value of 0.661, a maximum value of 3.413, a minimum value of 0.067, and a standard deviation value of 0.814. Meanwhile, ROE shows an average value of 0.080, a median value of 0.118, a maximum value of 0.203, a minimum value of - 0.119, and a standard deviation value of 0.069. Agency Cost has a mean value of 0.110, a median value of 0.140, a maximum value of 0.220, a minimum value of 0.004, and a standard deviation value of 0.062.

Analysis of Outer Model (Model Measurement)

Outer Model measurements in this research were carried out to measure the relationship between latent variables and their indicators.

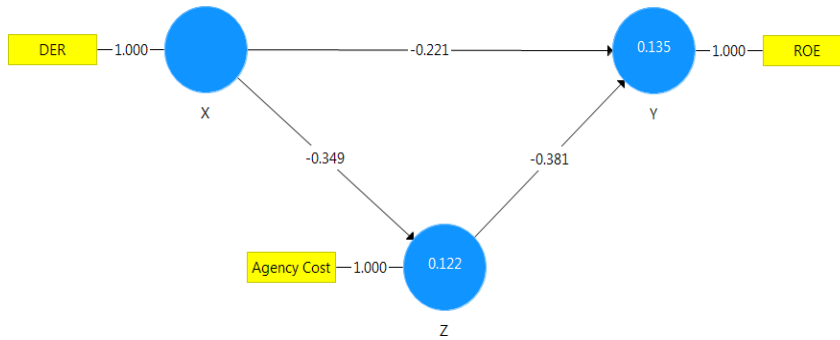


Figure 2. Outer Model Test Results

Source: Data Processed (2020)

Figure 2 shows that the correlation between each indicator is 1,000. A value of 0.122 shows the ability of variable X to explain variable Z. In contrast, a value of 0.135 shows the ability of the variable to explain variable Y. Influence direct X to Z of -0.349, and direct influence X to Y is -0.381.

Convergent Validity

When conducting a convergent validity test, it can be seen from the loading factor value. Loading factor can describe the magnitude of the correlation between each indicator. Correlation can be said to be valid if it has an outer loading value >0.7.

Table 8. Convergent Validity Test Results

	X	Y	Z
Agency Cost			1,000
DER	1,000		
ROE		1,000	

Source: Data Processed – PLS Results (2020)

Based on Table 8, each research variable has an outer loading value greater than 0.7, so it can be said that each variable is suitable or valid for research, and further analysis can be carried out.

Discriminant Validity

When carrying out the discriminant validity test, it can be seen in the cross-loading. It is assessed by comparing the correlation of indicators of one construct with other constructs.

Table 9. Discriminant Validity Test Results

	X	Y	Z
Agency Cost	- 0.339	- 0.304	1,000
DER	1,000	- 0.088	- 0.339
ROE	- 0.088	1,000	- 0.304

Source: Data Processed – PLS Results (2020)

If the indicator correlation has a higher value compared to other constructs, then it can be said that the construct has high discriminant validity. Based on Table 9, the results of the discriminant validity test can be seen. On the first line, testing agency costs were tested, with X getting a value of -0.339, Y getting a value of -0.304, and Z getting a value of 1.000. The test results show that the agency cost construct is greater than the other constructs, which means the construct is sufficient for the next testing stage.

Reliability

Reliability testing is carried out by looking at the composite reliability of the indicator construct. If the composite results reliability is > 0.6, it will show a satisfactory value. The reliability test can also be

strengthened with Cronbach's Alpha, where the value is said to be good if ≥ 0.5 and sufficient if ≥ 0.3 .

Table 10. Reliability Test Results

	Cronbach's Alpha	Composite Reliability
X	1,000	1,000
Y	1,000	1,000
Z	1,000	1,000

Source: Data Processed – PLS Results (2020)

Based on Table 10 shows that Cronbach's alpha and composite reliability values for each indicator are ≥ 0.5 and ≥ 0.6 . Thus, each indicator is feasible or valid for research and can be further analyzed.

Analysis of Inner Model (Model Structural)

Inner model testing aims to define the relationship between latent variables. The following are the results of testing and analysis of the inner model used with the help of the SmartPLS software application.

R-Square

Based on the data processing that has been carried out, the R-Square value is in Table 11.

Table 11. R- Square Test Results

	R Square
Y	0.145
Z	0.132

Source: Data Processed – PLS Results (2020)

Based on Table 11, the R-Square test result for Y is 0.145, and for Z is 0.132. This means that the ability of the independent variable to explain the dependent variable Y is 14.5%, and the rest is explained by other variables not in the research model formulated in this study. Meanwhile, the ability of the independent variable to explain the dependent variable Z is 13.2%, and the rest is explained by other variables such as managerial share ownership, sales, and company size, which is in the Research Model formulated in the study.

Variance Inflation Factor (VIF) Test Results

The collinearity statistic (VIF) value is obtained based on the data processing that has been carried out.

Table 12. VIF Test Results

	VIF
Agency Cost	1,000
DER	1,000
ROE	1,000

Source: Data Processed – PLS Results (2020)

In Table 12, the VIF value for each indicator is where the VIF value is < 5.00 . Thus, it can be concluded that there is no collinearity problem for all indicators.

Hypothesis Testing Results

The tests carried out in this research consist of 2 categories, namely to test the direct influence of the independent variable on the dependent variable and to test the indirect influence of the independent variable on the dependent variable, which is mediated/mediated by the intervening variable. A hypothesis can be declared accepted if P-Values < 0.05 .

Direct Effect Results

The direct effect test is used to determine the direct influence between the independent variable and the dependent variable in Table 13.

Table 13. Direct Effect Test Results

	Original Sample (O)	Samples Mean (M)	Standard Deviation (STDEV)	Q Statistics (O/STDEV)	P Values	Decision
X→Y	- 0.211	- 0.212	0.210	1,014	0.306	H1 rejected
X→Z	- 0.339	- 0.330	0.136	2,384	0.016	H2 accepted
Z→Y	- 0.371	- 0.352	0.162	2,208	0.017	H3 accepted

Source: Data Processed – PLS Results (2020)

Based on Table 13, test results X (DER) to Z (agency cost) produce a P-value value of 0.016, where the value is <0.05. This shows that H 1 is accepted, so it can be concluded that DER affects agency costs. Test result Z (agency cost) to Y (ROE) produces a P-value value of 0.027 where the value is <0.05. This shows that H 2 accepted, so it can be concluded that agency costs affect ROE.

Indirect Effect Results

The indirect effect test determines the indirect influence between the independent and dependent variables, which is mediated by the intervening variable in Table 14.

Table 14. Indirect Effect Test Results

	Original Sample (O)	Samples Mean (M)	Standard Deviation (STDEV)	Q Statistics (O/STDEV)	P Values	Decision
X→Z→Y	0.133	0.119	0.083	1,593	0.113	H4 rejected

Source: Data Processed – PLS Results (2020)

Based on Table 14, testing X (DER) against Y (ROE) through Z (agency cost) produces a P-value of 0.113, where the value is >0.05. This shows that H 3 was rejected, so it can be concluded that DER does not influence ROE through agency costs.

Discussion

The Influence of Capital Structure on Company Financial Performance

The test results for the first hypothesis (H1) are accepted. Table 4.10 shows that the influence of capital structure as proxied by DER on agency costs has a negative effect, namely -0.349. This shows that DER has a relationship in the opposite direction. As DER increases, agency costs decrease. This research is not in line with research conducted by Fachrudin (2011), which found that capital structure has a positive and significant effect on agency costs.

The Influence of Capital Structure on Agency Cost

The test results for the first hypothesis (H1) are accepted. Table 4.10 shows that the influence of capital structure as proxied by DER on agency costs has a negative effect, namely -0.349. This shows that DER has a relationship in the opposite direction: as DER increases, agency costs decrease. This research is not in line with that conducted by Fachrudin (2011), which found that capital structure positively and significantly affects agency costs.

Debt Equity Ratio (DER) shows a company's ability to fulfill its obligation to pay debts with its own capital. In signal theory, debt use is a signal managers convey to external parties. High debt signals to investors that the company has good prospects. Agency costs arise when the interests of the company manager or agent do not match the interests of the company owner or principal (Putri, 2017).

Based on Tables 4 and 5, agency costs will increase when the capital structure proxied by DER decreases. This happens when managers cannot capture investment opportunities in new projects with large risks. The higher the risk, the more detrimental it will be to shareholders because the profit level does not affect shareholder income. For creditors, the most important thing is to obtain a steady income. Thus, increasing company risk can lead to high expenses and agency costs. The relationship between debt and capital structure can prevent unnecessary expenditure in a company, reducing agency costs. Apart from that, with high debt, managers will run the company more efficiently because managers are worried about the threat of bankruptcy.

The Influence of Agency Cost on Company Financial Performance

In this study, testing the second hypothesis (H2) was accepted. In Table 13, the influence of agency costs on the company's financial performance as proxied by ROE has a negative effect, namely -0.381. This shows that agency costs are inverse to the company's financial performance as proxied by ROE. This means that if agency costs improve, the company's financial performance will be lower, as proxied by ROE. Company expenses can affect the company's financial performance. One of the reasons why a company's expenses can decrease is the reduced tax burden due to debt funding. Companies can improve their performance by implementing good corporate governance.

This research is in line with that conducted by [Aprilianti & Hidayat \(2016\)](#), who found that agency costs have a negative effect on a company's financial performance as proxied by ROE. If agency costs increase, it can affect company profits, negatively impacting its financial performance. In Tables 4 and 5, when agency costs increase, the company's financial performance, as proxied by ROE, decreases. This follows research conducted where agency costs negatively influence the company's financial performance as proxied by ROE.

According to [Rohmaniyah et al. \(2018\)](#), in agency theory, there is a cooperative contractual relationship between managers (agents) and shareholders (principals) because the principal has limitations in managing the company. The company incurs agency costs so management can act or make decisions that benefit the company. The company's financial performance is a description of the company's condition, which can be seen in the company's financial reports. This research proxies the company's financial performance by Return on Equity (ROE).

The Indirect Effect of Capital Structure on Financial Performance Company with Agency Cost as Intervening Variables

Based on this research, testing the third hypothesis (H3) is rejected. Capital structure does not indirectly affect the company's financial performance in this research, with agency costs as an intervening variable. In this research, capital structure is proxied by the debt-equity ratio (DER), and company financial performance is proxied by return on equity (ROE). Based on Tables 3, 4, and 5, when the capital structure proxied by DER decreases, agency costs will increase, and the increase in agency costs reduces financial performance as proxied by ROE.

Signal theory explains that companies must provide information to external parties in the form of financial reports, where these financial reports can reflect the company's financial performance. and the use of high debt can prevent unnecessary expenses, so reducing expenses can increase profits and improve financial performance. This happens because financing with debt can incur interest costs that must still be paid, but using debt wisely or using it well can increase company profits ([Yamasitha, 2020](#)). This research aligns with that conducted by [Fachrudin \(2011\)](#), who found that capital structure had no indirect influence on company financial performance, with agency costs as an intervening variable.

CONCLUSION

Based on the results of the analysis and tests carried out, several conclusions can be drawn: the capital structure proxied by DER does not negatively affect company performance. However, it negatively affects agency costs, which negatively affect the company's financial performance as proxied by ROE. Lastly, capital structure does not indirectly influence the company's financial performance through agency costs as an intervening variable.

Based on the results of the research and discussions that have been carried out, there are research suggestions that can be developed in further research. First, future researchers should expand the research object to capital structure, company financial performance, and agency costs. For example, share prices, corporate governance, and company value. Second, it is recommended that future researchers add other indicators to each variable, for example, debt to assets (DAR), long-term debt equity (LDER), and return on assets (ROA). Finally, it is recommended that future researchers add research variables such as managerial share ownership, sales, and company size.

Based on the results of the tests that have been carried out, it can be shown that not all hypotheses are accepted. In this research, the capital structure proxied by DER has a negative effect on agency costs. Agency costs have a negative effect on the company's financial performance as proxied by ROE. Meanwhile, capital structure does not indirectly influence the company's financial performance through agency costs as an intervening variable. As a follow-up to the results of this research, it is following the

results of further research regarding managerial share ownership, sales, and company size, which are not discussed in this research. Especially for variables that are still inconsistent with previous research. Future researchers must also conduct research with different samples to produce new findings that enrich and complete the research results.

Researchers feel there are still shortcomings in preparing this research, including the limited research population. In this study, the population used is cement sector manufacturing companies listed on the Indonesia Stock Exchange (BEI), so the research results cannot be generalized to other companies' types of industries. Researchers only examined one independent variable, namely capital structure, which was proxied by DER. Hence, the research results were not strong enough to test the dependent variable, namely the company's financial performance, which was proxied by ROE.

Abbreviations

Indonesia Stock Exchange (BEI), debt to assets (DAR), long-term debt-equity ratio (LDER), return on assets (ROA), and return on equity (ROE).

Authors' contribution

AAH analyzed and interpreted the data. ES performed a statistical data analysis and helped create the final manuscript.

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The authors declare no competing interests.

Availability of data and materials

The data and materials should be easily accessed from the IDX.

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