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ANALYSIS OF THE EFFECT OF MARKET STRUCTURE AND FIRM'S CONDUCT ON THE FINANCIAL PERFORMANCE OF CIGARETTE COMPANIES IN INDONESIA 2010-2019 PERIOD (CASE STUDY ON CIGARETTE COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE)

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ABSTRACT

The cigarette industry sector is the leading actor of the most significant excise contributor. The potential of this industry experiences several obstacles that cause issues due to the policies set by the Government to maintain public health. These government policies generally affect a firm's profitability due to the changing in market structure and the firm's behavior. In knowing its effect on profitability in more depth, the structure-conduct-performance (SCP) paradigm can be applied in this case. This paradigm emphasizes that changes in market structure and a firm's conduct could later affect the firm's financial performance. Based on this statement, this study aims to analyze the market structure and firm's behavior on the financial performance of cigarette companies listed on the IDX (Indonesian Stock Exchange) during the 2010-2019 period. The independent variables used in this study are the Market Share (MS) and Concentration Ratio (CR4) variables as proxies for the market structure, and the Advertisement to Sales Ratio (ASR) and Capital to Labor Ratio (CLR) variables as proxies for the firm's conduct. The dependent variable used is the firm's financial performance proxied by the Return on Assets (ROA) variable. The analytical method used is the fixed effect model (FEM). FEM select as the analytical method based on the results of the Chow test. The research results in the regression analysis show that the industrial structure proxied by the Market Share (MS) variable has a positive and significant effect on the Return on Assets (ROA) variable. In contrast, the Concentration Ratio (CR4) variable has a negative and significant impact on the Return on Assets (ROA) variable. In contrast, the conduct of the firms, which is proxied by the Advertisement to Sales Ratio (ASR) and Capital to Labor Ratio (CLR) variables, has an insignificant effect on the Return on Assets (ROA) variable.

Keywords: *Market Share (MS), Concentration Ratio (CR4), Advertisement to Sales Ratio (ASR), Capital to Labor Ratio (CLR), Return on Asset (ROA)*

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ABSTRAK

Sektor industri rokok merupakan pelaku utama yang mempunyai peran sebagai penyumbang cukai terbesar, akan tetapi potensi di industri ini mengalami beberapa kendala yang mendorong timbulnya masalah akibat dari kebijakan yang ditetapkan Pemerintah demi menjaga kesehatan masyarakat. Kebijakan-kebijakan Pemerintah tersebut pada umumnya mempengaruhi profitabilitas sebagai akibat dari perubahan pada struktur pasar dan perilaku perusahaan. Dalam mengetahui pengaruhnya terhadap profitabilitas secara lebih mendalam, maka dapat ditinjau melalui paradigma structure-conduct-performance (SCP). Paradigma ini menekankan bahwa perubahan pada struktur pasar dan perilaku perusahaan nantinya dapat mempengaruhi kinerja pada perusahaan tersebut. Berdasarkan pernyataan tersebut maka penelitian ini bertujuan untuk menganalisis pengaruh struktur pasar dan perilaku perusahaan terhadap kinerja keuangan perusahaan rokok yang terdaftar di BEI (Bursa Efek Indonesia) selama periode 2010-2019. Variabel independen yang digunakan dalam penelitian yaitu variabel Market Share (MS) dan Concentration Ratio (CR4) sebagai proksi dari struktur pasar, serta variabel Advertisement to Sales Ratio (ASR) dan Capital to Labor Ratio (CLR) sebagai proksi dari perilaku perusahaan. Variabel dependen yang digunakan adalah kinerja keuangan perusahaan diproksikan dengan variabel Return on Asset (ROA). Metode analisis yang digunakan adalah fixed effect model (FEM) yang dipilih berdasarkan hasil uji-chow. Hasil penelitian dalam analisis regresi yang dilakukan menggunakan sampel ke-4 perusahaan rokok yang terdaftar di Bursa Efek Indonesia selama periode 2010-2019, menunjukkan bahwa struktur industri yang diproksikan dengan variabel Market Share (MS) mempunyai pengaruh yang positif dan signifikan terhadap variabel Return on Asset (ROA), dan variabel Concentration Ratio (CR4) mempunyai pengaruh yang negatif dan signifikan terhadap variabel Return on Asset (ROA); sementara perilaku perusahaan yang diproksikan dengan variabel Advertisement to Sales Ratio (ASR) dan Capital to Labor Ratio (CLR) mempunyai pengaruh yang tidak signifikan terhadap variabel Return on Asset (ROA).

Kata Kunci: *Market Share (MS), Concentration Ratio (CR4), Advertisement to Sales Ratio (ASR), Capital to Labor Ratio (CLR), Return on Asset (ROA)*

JEL: D21; L11

Introduction

Tobacco companies utilize funding from the capital market, where the capital market is one of the instruments for companies to obtain financing. In terms of sales volume, the seven largest cigarette companies dominate the domestic market share, and four of these seven companies are listed on the Indonesia Stock Exchange (IDX). Manufacturing companies in the cigarette sub-sector listed on the IDX are Gudang Garam Tbk (GGRM), Handjaya Mandala Sampoerna Tbk (HMSP), Bantoel International Investma Tbk (RMBA), and Wismilak Inti Makmur (WIIM).

The cigarette industry's development can significantly move the national economy because it provides a multiplier effect. The cigarette industry's multiplier effect can be seen in terms of the output value and the creation of its workforce. Apart from the value of output and the product of labor, the result of this multiplier effect can be viewed from other sectors outside the cigarette industry. Other sectors outside the cigarette industry include the trade sector, the paper industry sector, the financial institution sector, the clove agriculture sector, the tobacco agricultural sector, and the land transportation sector. And other sectors.

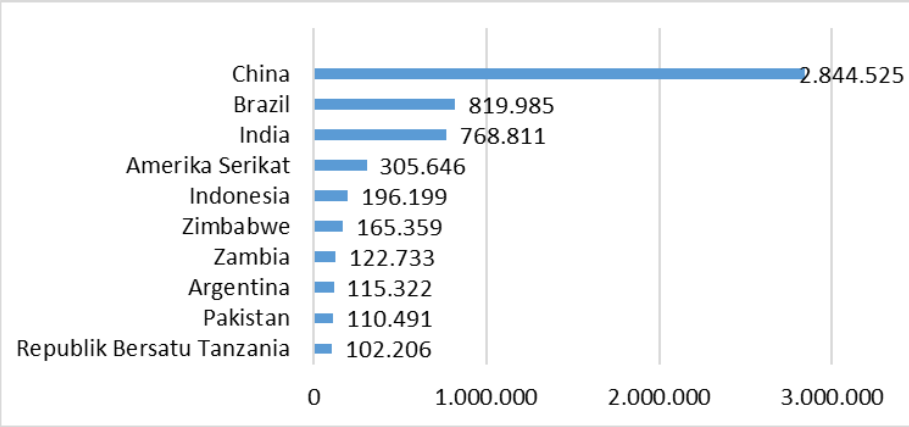
Based on Government Regulation of the Republic of Indonesia Number 81 of 1999 concerning Safeguarding Cigarettes for Health, Article 1 Paragraph (1) states that cigarettes are processed products of packaged tobacco, including cigars or other forms produced from the plant's Nicotiana tabacum, Nicotiana rustica, and other species or their synthetics containing nicotine and tar with or without additives. It concludes that the availability of tobacco is the main component in the cigarette production process so that the level of development of a cigarette company can be reviewed through the potential of the tobacco industry.

Table 1: Contribution of Tobacco Excise Revenue in Indonesia 2010-2019

Tahun	Pendapatan Cukai (Triliun Rupiah)	Pendapatan Cukai Hasil Tembakau (Triliun Rupiah)	Kontribusi Pendapatan Cukai Hasil Tembakau (%)
2010	63,30	66,17	95,7
2011	77,01	73,25	95,1
2012	95,03	90,55	95,3
2013	108,45	103,56	95,5
2014	118,09	112,54	95,3
2015	144,64	139,52	96,5
2016	143,53	137,97	96,1
2017	153,29	147,72	96,4
2018	159,59	152,94	95,8
2019	172,42	164,87	95,6

Source: Central Government Financial Report 2010-2019

Table 1 shows that the Tobacco Excise (CHT) contribution to excise income reaches 95-96 percent annually and has increased CHT income by 149% from 2010 to 2019. When observed again, although the contribution of tobacco excise revenue tends to fluctuate, excise income from tobacco products in the last three years has increased in value, which means that productivity in the industry is expanding. The highest contribution of CHT to excise tax revenue was in 2019, where this growth was driven by the absence of a policy of increasing CHT rates.



Source: *Food and Agriculture Organization* (FAO), 2010-2019

Figure 1: Total World Tobacco Production Average 2010-2019 (in tons)

Capital in the tobacco sector in Indonesia is supported by its enormous production potential so that it can compete with world tobacco producers. When viewed from the data

on world tobacco production, which is processed into an average number in the last ten years, Indonesia appears to be ranked 5th globally (Figure 1). Indonesia's total production is below China, the highest producer, and the United States, ranked 4th with an average production difference of 100,490 tons.

The potential and obstacles faced by the tobacco processing industry in Indonesia cause fluctuations in performance results in the sector. The results of this industry's performance, when viewed from the value of output and export value, have fluctuating values, whereas when viewed from the potential through the contribution of excise revenues and the number of tobacco products, this industry has the potential to be a source of high state revenue. One of the obstacles to increasing tobacco production in Indonesia is caused by the dilemma of the existence of the cigarette industry (Wardhani, 2014). This dilemma is because tobacco is considered harmful to public health, so a policy is formed to reduce cigarette consumption to maintain the level of fitness in the community. These policies include excise and cigarette tax rates and advertising restrictions.

When viewed from the Structure-Conduct-Performance (SCP) paradigm, the existence of several policies set by the Government will affect the company's performance due to changes in market structure and company behavior. Lipczynski et al. (2005) stated that Government policies such as tax collection and the imposition of quotas could cause transaction costs for companies, where the transaction costs that arise can impact the total cost for producers. Both advertising (advertising) and total cost allocation are components of SCP, which are analyzed through a corporate behavior approach. Company behavior can include promotional strategies, pricing strategies, capital intensive or labor-intensive behavior of companies as measured by the Capital to Labor Ratio (CLR), product differentiation, etc. In general, the behavior of this company is influenced by the market structure, which will later affect the company's performance. It concludes that their performance can not separate market structure and company behavior, where market structure and company behavior will affect company performance. To measure market structure, it can use several variables such as Market Share (MS), Minimum Efficiency Scale (MES), and Concentration Ratio (CR). The financial performance or the level of profitability is used to measure a company's performance, which is reflected through the Return on Assets (ROA). ROA describes the company's ability to earn earnings from the company's operations.

When viewed from several previous studies, there is a research gap in the form of results from research. It shows a different SCP relationship with the hypothesis formed between concentration and profitability variables and a phenomenon opposite to what generally occurs in company behavior in carrying out advertising activities, thus making there is an aspect of the gap in previous research. Moreover, considering the great potential possessed by the cigarette industry accompanied by obstacles that encourage fluctuations in performance results in the sector. The authors want to analyze how market mechanisms and company behavior affect the financial performance of cigarette companies listed on the Stock Exchange using the SCP approach. The formation of the interaction between structure and behavior in the cigarette industry will lead to the performance's construction of the industrial company.

Literature Review

Structure-Conduct-Performance

The Structure-Conduct-Performance approach is a method that was first proposed by Mason (1939). Mason (1939) revealed that the structure of the industry would determine

how industry players behave (conduct), which ultimately determines the performance of the sector, where the market structure is an illustration of the size of the market share (Market Share). The number of sellers and buyers, market behavior as an illustration of the company's behavior on the level of competition between producers or adjustment of the market structure in the industry, and performance is an indicator of the success of the actions of producers who carry out their company strategies.

It should note that the Government also regulates the structure, behavior, and performance through the form of its policies. Lipczynki et al. (2005) state that government policies can be competition, tax and subsidy, labor, macroeconomic, trade, environmental, and wage and price controls.

Structure

According to Dumairy (2000), market structure is a relatively permanent strategic element of the corporate environment that influences and is influenced by behavior and performance in the market. In simple terms, the type of market can be seen through two primary components of the market structure, namely the level of concentration and barriers to entering the market. Barriers to entering the market will be even more significant if there is high competition. Lowering the level of new competitors and the number of existing competitors in the market will encourage the level of concentration on large companies involved in the industry. In microeconomics, the types of markets are divided into 4, namely perfect competition, monopolistic markets (monopolistic), oligopoly markets (oligopoly), and monopoly markets (monopoly).

Conduct

Behavior is the actions taken by the company to compete with other companies in the market. In other words, behavior is the company's efforts to achieve the company's objectives (firm objectives) in controlling the market. Hasibuan (1993) states that behavior is a pattern of responses and adjustments of an industry in the market to achieve its goals. In other words, the company's behavior is influenced by the market structure in the industry. The behavior of companies in each industry is different; this is because each industry has a different market structure.

Company behavior can be analyzed through several variables. These variables can be in the form of pricing strategies (pricing), advertising (advertising), collusion (collusion), mergers, as well as through the variable capital to labor ratio (Capital Labor Ratio / CLR).

Performance

In general, performance can be interpreted as achieving a business carried out. Meanwhile, in the SCP paradigm, performance is an indicator of the success of the company's behavior. Jaya (2001) argues that industrial performance results from performance influenced by the industry's structure and behavior. Lipczynki et al. (2005) divide performance indicators into five elements. The five elements are profit or profitability (profitability), growth (growth), technological progress (technology), production efficiency, and allocation (efficiency and distribution).

Research Method

The data used in this research is secondary data. Secondary data is data obtained indirectly or from the results of literature studies through notes, literature, and other relevant

sources. In this study, data sources were obtained from various sources, such as the publication of each company's financial statements, the local research institute of the Central Statistics Agency (BPS), previous journals, and others.

The sampling method used in this research is the purposive sampling method. The purposive sampling method is a sampling technique using specific criteria (Sugiyono, 2008). Specific criteria contained in the sampling in this study are:

1. The selected cigarette companies are cigarette companies listed on the Indonesia Stock Exchange (IDX).

2. Availability of complete data in annual financial reports for the 2010-2019 period for cigarette companies listed on the Indonesia Stock Exchange (IDX).

This study uses multiple linear regression analysis models, which is a linear regression to analyze the magnitude of the relationship and the effect of more than two independent variables. The regression model used in this study is a panel data regression model, where this model is a combination of time series and cross-section data. The time-series data used in this study are from 2010–to 2019. Meanwhile, the cross-section data used in this study are data from the four publicly traded companies or companies listed on the Indonesia Stock Exchange (IDX), namely Handjaya Mandala Sampoerna Tbk, Gudang Garam Tbk, Bantoel International Investma Tbk, and Wismilak Inti Makmur.

This study's panel data regression test was used to determine the relationship between the independent variables of MS, CR4, ASR, and CLR on the dependent variable, namely the ROA of cigarette companies listed on the IDX in 2010-2019 period. To answer the objectives of this study, the general panel regression model is:

$$ROA_{it} = \alpha + \beta_1 MS_{it} + \beta_2 CR4_{it} + \beta_3 ASR_{it} + \beta_4 CLR_{it} + \varepsilon_{it} \quad (1)$$

Keterangan:

ROA = *Return on Asset*

MS = *Market Share*

CR4 = *Concentration Ratio*

ASR = *Advertisement to Sales Ratio*

CLR = *Capital to Labor Ratio*

α = intersep

β1, β2, β3, β4 = regression coefficient

i = object type

t = time

ε = *error term*

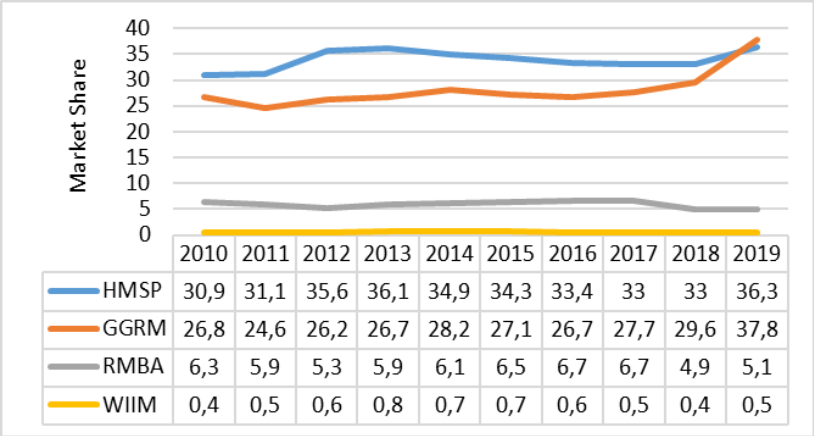
In Equation 1, i indicates the type of object (cigarette company), a unit from the cross-section, and t shows the time (year), the time series unit. Equation 1 illustrates how changes in profit are generated due to changes in market share, level of concentration, the ratio of advertising to sales, or the ratio of capital to labor.

There are three approaches to panel data regression technique, namely Common Effect Model (Pooled Ordinary Least Square), Fixed Effect Model (Least Square Dummy Variable), and Random Effect Model (Generalized Least Square). The Chow test was carried out to determine the model to be used. The results of the chow test showed the prob value. Cross-Section F is 0.0057; this value is smaller than (0.05). Then the result of 0.0000 < 0.05 indicates that H1 is accepted and H0 is rejected, so the Fixed Effect Model (FEM) is more appropriate. The FEM model used in this study is the FEM model using the Seemingly Uncorrelated Regression (SUR) method, the SUR cross-section (PCSE) standard errors & covariance method, and the SUR cross-section weighting.

Results and Discussion

Descriptive Analysis

Analysis of the market structure of the cigarette industry in this study was carried out through the Market Share (MS), and Concentration Ratio (CR) approaches. This MS & CR analyzes how significant the role of market share and market share control of several large companies are.



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
HMSP	30,9	31,1	35,6	36,1	34,9	34,3	33,4	33	33	36,3
GGRM	26,8	24,6	26,2	26,7	28,2	27,1	26,7	27,7	29,6	37,8
RMBA	6,3	5,9	5,3	5,9	6,1	6,5	6,7	6,7	4,9	5,1
WIIM	0,4	0,5	0,6	0,8	0,7	0,7	0,6	0,5	0,4	0,5

Figure 2: Data on the Market Share of Go Public Cigarette Companies in Indonesia in 2010-2019 (in percent)

Source: Company Financial Statements Period 2010-2019

The market share of the four companies, although varied, shows the ratings of each company which tends to be stable. It is followed by PT Gudang Garam Tbk, PT Bantoel Internasional Investama Tbk, and PT Wismilak Inti Makmur Tbk, respectively. In Figure 2, it can be seen that the highest market share is at 36.3% market share in 2019, and the lowest is at 0.4% in 2018. The highest market share from 2010-2019 is led by PT H.M. Sampoerna Tbk, which controls more than 30% of the national market share. From the Market Share calculation above, the concentration ratio is calculated using the Concentration Ratio (CR) formula which is simply calculated by adding up the market share values of companies that dominate an industry. PT H.M. Sampoerna Tbk, PT Gudang Garam, PT Bantoel Internasional Investama Tbk, and PT Wismilak Inti Tbk, which control the domestic market share, controlled the cigarette industry market share of more than 60% in 2010-2019.

From the following CR4 calculation (Figure 3), viewed from the industrial classification based on the level of its concentration ratio, based on the market classification proposed by Jaya (2001), it can be concluded that from 2010-2019 the market type in the cigarette industry is a strict oligopoly as indicated by the level of Its CR4 value is between 60%-100%, with

the highest market share of 79.71% in 2019. Some of the characteristics possessed by the oligopoly market type are that the products are sold homogeneously, and it is difficult for new producers to enter the market. Competition in this type of market emphasizes marketing strategies and product differentiation rather than pricing strategies. This way is due to pricing in companies in this industry being at almost the same level and being limited so that they are considered ineffective. Hence, the level of advertising intensity is high in this market structure.

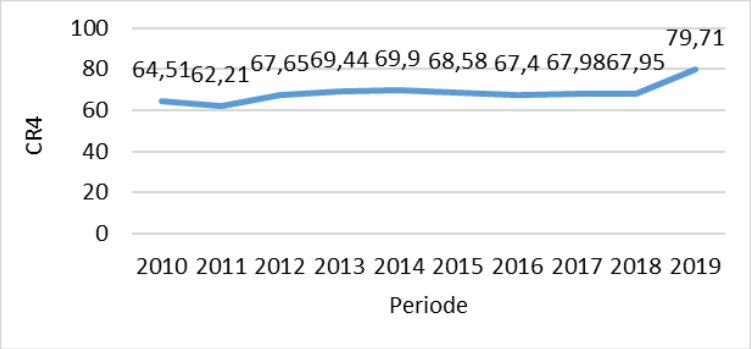


Figure 3: CR4 Data for the Cigarette Industry in Indonesia in 2010-2019 (in percent)

Source: Company Financial Statements Period 2010-2019

The company behavior approach is measured by using Advertisement to Sales Ratio (ASR) and Capital to Labor Ratio (CLR) variables. These two variables reflect the company's behavior to obtain the maximum possible profit. The ASR variable is a tool to measure how effective the company's income is from the advertising costs incurred. In contrast, the CLR variable compares the company's prices for capital and labor costs.

Table 2: Advertisement to Sales Ratio Data for Go Public Cigarette Companies in Indonesia 2010-2019 (in percent)

Tahun	Perusahaan				
	HMSP	GGRM	RMBA	WIIM	Rata-rata
2010	2,7	3,7	5,1	1,5	3,4
2011	2,4	3,4	7,0	2,2	3,8
2012	2,4	2,2	8,0	2,1	3,7
2013	2,1	2,8	11,2	5,1	5,3
2014	3,1	2,1	6,9	3,5	3,9
2015	3,2	2,6	4,9	3,2	3,5
2016	2,9	2,9	6,5	4,4	4,2
2017	2,7	2,8	4,1	4,7	3,6
2018	2,3	2,6	5,2	5,9	4,0
2019	2,4	2,4	6,4	5,3	4,1
Rata-rata	2,6	2,8	6,5	3,8	3,9

Source: Company Financial Statements Period 2010-2019

The results of the calculation of the ASR data shown in Table 2 above show the fluctuating level of the ratio of each company during the 2010-2019 period. The table above shows that the highest percentage of advertising costs to company sales was obtained by PT Bantoel Internasional Investama Tbk, which was above the average of other companies in 2013 by 11.9%, while the lowest ratio was at PT Wismilak Inti Makmur Tbk in 2013. 2010 by 1.5%. On

average, PT Bantoel Internasional Investama Tbk has the highest ratio value compared to the three other companies and is above the average of the four companies during the 2010-2019 period with a value of 6.5% that 6.5% of sales are used for advertising activities. The lowest average ratio value is in PT H.M. Sampoerna Tbk, with a discount of 2.6%. From these findings, it can be concluded that the company PT H.M. Sampoerna Tbk is considered the most efficient company in managing its advertising funds. In contrast, PT Bantoel Internasional Investama Tbk is the most inefficient company operating its funds.

Table 3: Data on Capital to Labor Ratio of Go Public Cigarette Companies in Indonesia 2010-2019 (in percent)

Tahun	Perusahaan			
	HMSP	GGRM	RMBA	WIIM
2010	5.4	11.5	6.2	4.7
2011	4.2	11.7	7.3	4.9
2012	4.0	12.5	6.6	7.0
2013	4.1	12.1	4.2	5.9
2014	4.0	9.7	4.3	4.8
2015	3.9	10.0	4.8	5.0
2016	3.4	8.2	4.8	4.7
2017	3.3	7.3	5.5	4.0
2018	3.4	7.0	6.3	4.3
2019	3.4	7.4	7.7	3.8

Source: Company Financial Statements Period 2010-2019

The following calculation results are related to the CLR variable, shown in Table 3. This variable is measured to determine the capital intensity of a company. According to Wuryanto (2007), CLR is the correct variable to assess behavior in an industry. In Table 3, it is shown that the CLR ratio of the four companies in the cigarette industry is worth more than 1, which reflects that capital is more significant than labor and indicates that the companies are capital intensive or capital intensive. Capital intensive means that the company is built with substantial capital and is supported by high technology. The company with the highest CLR ratio was PT Gudang Garam Tbk in 2012, with a ratio value of 12.5%, and the lowest ratio was PT H.M. Sampoerna Tbk in 2017 with a ratio value of 3.3%.

Financial performance analysis was performed using the Return on Assets (ROA) variable. ROA is a measure of a company's ability to generate profits with all the assets owned by the company. Each publicly listed company attaches the ROA results to its financial statements to show investors the company's performance in generating profits.

Table 4: Data on Return on Assets of Go Public Cigarette Companies in Indonesia in 2010-2019 (in percent)

Tahun	Perusahaan				
	HMSP	GGRM	RMBA	WIIM	Rata-rata
2010	31.3	13.7	4.5	6.1	13.9
2011	41.6	12.7	5.5	21.4	20.3
2012	37.9	9.8	4.9	7.9	15.1
2013	39.5	8.6	12.9	10.9	18.0

Tahun	Perusahaan				
	HMSP	GGRM	RMBA	WIIM	Rata-rata
2014	35.9	9.3	22.2	8.8	19.1
2015	27.3	10.2	12.9	9.8	15.1
2016	30.0	10.6	15.5	7.9	16.0
2017	29.4	11.6	3.7	3.1	12.0
2018	29.1	11.3	4.1	4.1	12.2
2019	27.0	13.8	1.1	2.7	11.2

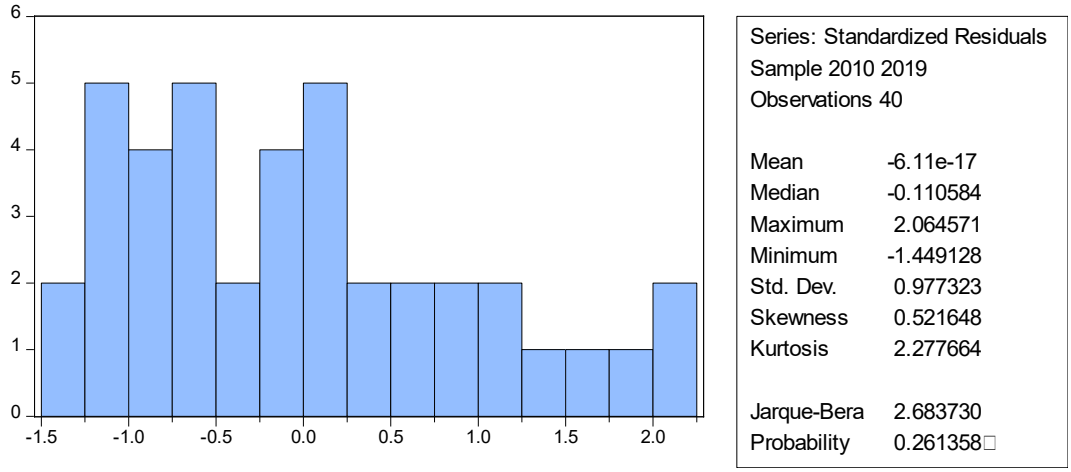
Source: Company Financial Statements Period 2010-2019

From Table 4, it can conclude that the average ROA of the four companies from year to year shows a fluctuating value. The average ROA value of the four companies in 2010-2019 is 15.3%, which means that every Rp. 1 asset used can generate a profit of Rp. 0.0153 or, in other words, the return on investment of cigarette companies is 15.3%. The ROA of a cigarette company that is consistently above the average value of the four companies during the 2010-2019 period is PT HM Sampoerna Tbk, even though this company can record a ROA value three times greater than its competitors. This condition makes PT HM Sampoerna Tbk the company that has the highest ROA value and has the most profitable asset utilization efficiency among the three other companies. The companies that recorded the most volatile ROA values were PT Bantoel Internasional Investama Tbk and PT Wismilak Inti Makmur Tbk. The company PT Gudang Garam Tbk, although experiencing fluctuations and its value, is also often below the average ROA of the four companies. Still, for the last four years, starting from 2019, this company has experienced an increasing trend in ROA value, indicating an increase in the efficiency of using company assets.

Analysis Results

Classic Assumption Detection

Classic Assumption Detection is carried out through the following detection:



Source: Eviews 10 calculation results

Figure 4: Normality Detection Results

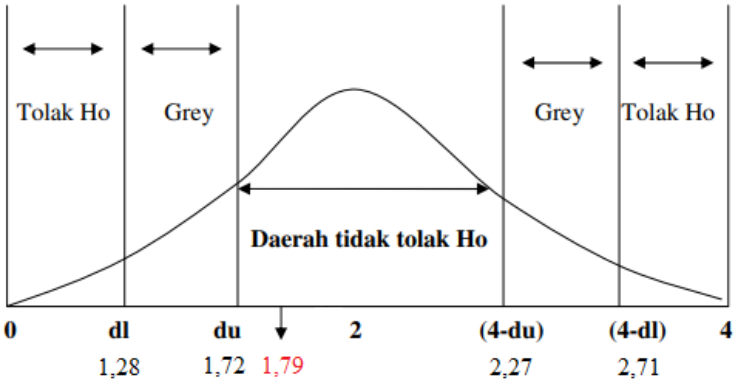
The results of data processing using the Eviews 10 program shown in Figure 4 show that the Jarque-Bera probability test used in this study has a value of 0.261358. This value means that the matter is > 0.05, which indicates the acceptance of H0 and H1 is rejected, so it can be reflected that the data for all variables are normally distributed.

Table 5: Multicollinearity Detection Results

	ROA	MS	CR4	ASR	CLR
ROA	1.000000	0.683212	-0.125860	-0.376965	-0.412211
MS	0.683212	1.000000	0.075602	-0.548789	0.146775
CR4	-0.125860	0.075602	1.000000	0.083782	-0.129554
ASR	-0.376965	-0.548789	0.083782	1.000000	-0.146135
CLR	-0.412211	0.146775	-0.129554	-0.146135	1.000000

Source: Eviews 10 calculation results

In the results of multicollinearity detection processed with the Eviews ten program (Table 5), it is shown that the correlation between the independent variables in each variable has a correlation coefficient value of less than 0.8. This means that if you adjust to the hypotheses, then H0 is accepted and H1 is rejected, so it can be stated that there is no multicollinearity.



Source: Eviews 10 calculation results

Figure 5: Autocorrelation Detection Results

Based on the results of autocorrelation detection processed with the Eviews ten program (Figure 5), the Durbin-Watson (DW) value is 1.794499. This shows that 1.7209 < 1.794477 < 2.2791, so that H0 is accepted, and there is no autocorrelation.

Table 6: Heteroscedasticity Detection Results

Test	Prob.
Breusch-Pagan LM	0.9293

Source: Eviews 10 calculation results

Based on the results of heteroscedasticity detection processing processed with the Eviews ten program (Table 6), the Breusch-Pagan test probability value results are more significant than 0.05, so there is no heteroscedasticity.

Statistical Test Results

Table 7: Fixed Effect Model Panel Data Regression Results

Variable	Coefficient	t-Statistic	Prob.
C	38.94010	4.534822	0.0001

Variable	Coefficient	t-Statistic	Prob.
MS	0.910426	4.327321	0.0001
CR4	-0.575383	-3.618477	0.0010
ASR	0.376042	0.793674	0.4332
CLR	-0.216802	-1.142090	0.2619

Source: Eviews 10 calculation results

Simultaneous Test (F-Test)

Based on the regression test results of the fixed-effect model used in the study (Table 7), the F-count value is 85.85846, and the probability value is 0.000000. The F-table used is based on a significance level of 5%, 2.87 with df1 (k-1) and df2 (n-k) worth 3 and 36. From the results obtained, it can be seen that F-count > F-table, namely with a value of 85.85846 > 2.87 and a probability value that is smaller than the significance level = 5%, namely with a value of 0.000000 <0.05. This concludes that the variables MS, CR4, ASR, and CLR simultaneously affect the ROA variable.

Partial Test (t-test)

The t-table value used is based on a significance level of 5%, 1.697, with df (n – k - 1) worth 35. Based on the results of the regression test (table 7), it can be seen that from each variable, the results are as follows:

1. Variable Market Share (MS)

The results of the MS variable test show that the t-count value is greater than the t-table, with a value of 4.327321 > 1.697. The probability value is smaller than the significance level of = 5% with a value of 0.0001 <0.05, so it concluded that the MS variable had a significant effect on the ROA variable.

2. Variable Concentration Ratio (CR4)

The test results for the CR4 variable indicate that the t-count value of the CR4 variable is greater than the t-table, with a value of 3.618477 > 1.697. The probability value is smaller than the significance level of = 5% with a value of 0.0010 < 0.05, so it can be concluded that the CR4 variable has a significant effect on the ROA variable.

3. Advertisement to Sales Ratio (ASR) variable

The results of the ASR variable test show that the t-count value of the ASR variable is smaller than the t-table, with a value of 0.793674 < 1.697. The probability value is greater than the significance level = 5%, namely with a value of 0.4332 > 0.05, so it can be concluded that the ASR variable has no significant effect on the ROA variable.

4. Variable Capital to Labor Ratio (CLR)

The results of the CLR variable test show that the t-count value of the CLR variable is smaller than the t-table, with a value of 1.142090 < 1.697. The probability value is greater than the significance level of = 5%, namely with a value of 0.2619 > 0.05, so it can be concluded that the CLR variable has no significant effect on the ROA variable.

Coefficient of Determination Test (R2)

The regression results (Table 7) show that the R2 value is 0.949448. This means that 94.9448% of performance on ROA can be explained by variables MS, CR4, ASR, and CLR, while other variables outside the study demonstrate the remaining 5.0552%.

Discussion

Market share (MS), which acts as a proxy for market structure, significantly affects ROA, a representative of financial performance. This result is by the theory, which states that the maximum market share will increase sales volume, lower unit costs, and higher profit. MS has a positive effect on ROA, as indicated by the MS coefficient value of 0.910426. If MS increases by 1 percent and other variables are considered constant (ceteris paribus), the profitability will increase by 0.910426%. This means that the higher the company's market share, the higher the level of profits obtained. This influence is related to the relationship where companies with high market share are considered to meet customer needs better to encourage the company's profits (Mishra, 2010). The results of this study are in line with the results of research conducted by Firmansyah (2018) in a case study of the sharia life insurance industry, which states that the estimation results of the MS relationship have a significant positive effect on ROA.

The concentration (CR4), which acts as a proxy for market structure, has a significant effect on ROA, a proxy for financial performance. The results also show that CR4 harms ROA, as indicated by the CR4 coefficient value of -0.575383, which means that if CR4 decreases by 1%, the resulting profitability will increase by 0.575383%. This result is not by the results of research from Kaesti & Sugiyanto (2010), which states that the relationship between the level of concentration and profitability is positive and significant. Research that has produced a negative influence between the MS variable and ROA has happened before, such as the findings of Nufus & Muharam (2014), which have research results that state that the level of Concentration Ratio has a negative and significant effect on the level of ROA. This means that increased competition in the market does not always increase profitability and rejects the traditional hypothesis, where this hypothesis assumes that market concentration will encourage collusion to increase profitability.

Nugroho & Darwanto (2020) research has contradictory results to this study. The advertisement to Sales Ratio (ASR) variable shows insignificant results on Return on Assets (ROA) at a significance level of 5%. The ASR variable in the results of this study has a significant influence on ROA in the telecommunications industry. The result of this little influence can logically be explained by the effect of the policy on prohibiting advertising, promotion, and sponsorship of cigarettes set by the Government. Mishra (2010) states that advertising activities are expected to encourage the company's financial performance through the image and product differentiation presented, accompanied by creativity in marketing and distribution. With the obstacles in the manufacture of cigarette materials and policies requiring information on the dangers of smoking, it will be difficult for producers to provide information and attract consumers through marketed products, so advertising activities are considered ineffective and adequately.

The variable Capital to Labor Ratio (CLR) or the capital-labor ratio, which acts as a proxy for company behavior, has no significant effect on the Return on Assets (ROA) variable, a proxy for financial performance at a significance level of 5%. The results of this study contradict the initial hypothesis, which states that there is a significant effect of the CLR vari-

able and counter the results of research that has been carried out by Amalia & Firmansyah (2018), entitled Analysis of Cocoa Industry Performance in Indonesia (Structure-Conduct-Performance Approach) and study conducted by Fitriyanti (2015) in the Islamic banking industry. The results of this little influence are thought to be caused by the analysis results, which state that companies in the cigarette industry are more inclined toward capital-intensive sectors, causing the productivity relationship of these companies to be inseparable from the use of technology and machinery. A company that tends to lead to capital-intensive behavior will try to create new inventions or technologies to increase production factors towards efficiency. Achieving this goal requires research and development, which will incur costs. The costs incurred are called sunk costs, where sunk costs are costs that occurred in the past and cannot be changed in the present or future; even though the sunk costs incurred are aimed at providing the expected profitability, sunk costs are at risk of not providing a rate of return at all. So that costs incurred in research and technological discoveries can be forfeited and have no impact on company performance. So the higher the company's capital-intensive behavior, the higher the risk of loss of costs from the sunk costs that arise.

Conclusion

Based on the descriptive analysis of each variable, it found that the cigarette industry in Indonesia has an oligopoly market structure seen from the concentration level of the four largest companies that dominate the market and the CLR value, which shows a value of more than one which indicates that the cigarette industry companies that are the sample research are more directed to capital-intensive industries, where an industry places more emphasis on significant capital or capital and is supported by high technology,

The independent variables MS and CR4 partially have a significant effect at a significance level of 0.05 (α = 5%) on the dependent variable ROA, which means that each of these variables can influence changes in the ROA variable. In contrast, the independent variables ASR and CLR have no significant effect on the ROA variable. Based on the regression analysis of the selected model, at a significance level of 5%, the MS variable has a positive effect on the ROA variable, which means that an increase in MS will affect the increase in financial performance proxied by the ROA variable. Meanwhile, the CR4 variable harms the ROA variable.

Research Suggestions and Limitations

In making the company's decision to increase profits, the company should be able to take steps by considering the advertising variable on sales which does not have a significant impact on the company's financial performance, so that later the company can reduce the allocation of costs for advertising and diverted to finance production so as not to burden the company's output.

The study results found that the level of market concentration harmed performance, so the suggestion related to this finding is that the company should take a merger step. This will encourage an increase in assets owned and the achievement of more accessible economies of scale so that companies can create lower marginal costs, which will be able to offer lower prices to consumers; it will also encourage companies to expand their market share without having to be accompanied by reduced output.

The limitation of this study is the limited number of research samples for conducting data processing; this is due to the limitations of objects and the time of available research data.

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