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ANALYSIS OF EFFECTIVE TAX RATE BASED ON IDX INDUSTRY CLASSIFICATION (IDX-IC) FOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR 2019-2021

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ABSTRACT

The point of this inquiry about is to analyze related to the effective tax rate of companies for each classification sector based on the IDX-IC, to analyze the effect of the COVID-19 pandemic on corporate profits and tax burden, and to determine whether the factors used in this research influence the effective tax rate of companies. A purposive sampling technique was used to determine the research sample, which consisted of companies listed on the Indonesia Stock Exchange classified based on the IDX-IC. The research approach used a quantitative methods approach. The research found that the average effective tax rate of the sample companies in 2019-2021, respectively 26,87%, 24,51%, and 23,83%, with transportation and logistics sector having the highest effective tax rate than other sectors. The COVID-19 pandemic has had varying impacts depending on the type of industry. Only the healthcare and infrastructure sector performed better than others during the COVID-19 pandemic. Apart from the COVID-19 pandemic variable, group company variables are also used in researching the factors that affect the effective tax rate. The research results show that the COVID-19 pandemic variable positively affects the effective tax rate. Meanwhile, group company variables harm the effective tax rate. The influence of subsidiary company losses on consolidated profits causes the ratio of the effective tax rate to be smaller than the effective tax rate if it comes from the parent company.

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INTRODUCTION

Tax revenue is the most critical component of the State Revenue and Expenditure Budget (APBN) (Ningrum, E. M. et al., 2019). As stated in the 2022 Revised State Budget, tax revenue is the state's largest source, amounting to IDR 1,784.2 trillion of the total target state revenue of IDR 2,266 trillion (Kemenkeu, 2022). Based on the planned APBN revenues from the taxation sector, the tax revenue target that the Directorate General of Taxest must earn is IDR 1,485 trillion. Of this target, 24.56% is the target that must be collected from corporate taxpayers and permanent establishments (BUT).

Global economic conditions fluctuate over time. 2020 was a challenging year for most companies worldwide, including Indonesia. The rise of Corona Virus Disease 2019 (COVID-19), which has infected the whole world, is a hard blow to the country economy, including Indonesia. In unusual conditions like this, many companies experience a decline in revenue. At the same time, operational expenses are still fixed by the company, which automatically reduces revenue due to operating expenses. As a result of a decrease in corporate income, it will also impact reducing state tax revenues. It is proven that in 2020 tax revenues only reached IDR 1,070 trillion, a decrease of 19.7% compared to 2019, which reached Rp 1,332 trillion (Kemenkeu, 2022).

To mitigate the economic impact and anticipate the large number of companies that have laid off their employees, the government issued a financial sector policy to reduce the pandemic's effect. Shortly after the COVID-19 pandemic occurred, the Minister of Finance issued Regulation No. 23 of 2020 about Tax Incentives for Taxpayers Affected by the COVID-19 Pandemic. This incentive is given as government action to increase industrial productivity. It revives the economy, which has significantly declined due to the COVID-19 pandemic. Incentives offered to involve income tax article No. 21, which the government bears, payment of exempted import tax article No.

22, instalments of income tax article No. 25 reduced by 30%, ease of value-added tax refunds and reduced corporate tax rates.

The existence of incentives provided by the government will also affect the effective tax rate for each company. By knowing the ratio of the effective tax rate of each company, stakeholders can make decisions that should be taken. If the company takes tax management measures, then the effective tax rate ratio will have an anomaly compared to similar companies in the industry. This anomaly can be seen if similar companies have substantial differences in their industrial sector.

In previous research, the factors that influence the effective tax rates or cause the variation among the ratio of the practical and corporate income tax rates are analyzed using certain variables. According to Noor et al. (2022), which was carried out on the Malaysia Stock Exchange (KLSE) on listed companies using independent variables, with company size, inventory intensity ratio, profitability, capital intensity ratio, and leverage. This research found that profitability, leverage, and capital intensity ratio negatively affected the effective tax rate. In contrast, company size and inventory intensity ratio positively impact the effective tax rate. According to Wulandari et al. (2021), corporate planning is good if it has an effective tax rate more minor than the corporate income tax rate.

To calculate the effective tax rate, the researchers used a sample from the Indonesian Stock Exchange based on Jakarta Stock Industrial Classification (JASICA). However, the Classification of companies on the Indonesia Stock Exchange has now been grouped based on the IDX Industrial Classification (IDX-IC), which has replaced the JASICA. Implementing the latest Classification follows common practices on stock exchanges worldwide, accommodates the latest developments in economic sectors, and enables a more accurate risk assessment for policymakers.

Unlike several previous studies, this research will use the IDX-IC Classification. IDX-IC is considered more useful for investors in conducting top-down analysis. Investors can narrow the scope of analysis based on the new sector classification. Conversely, the new Classification can make it easier for investors to do peer pairing of company performance in one industry. Meanwhile, the benefit for listed companies is that they can compare their performance with other increasingly homogeneous companies. In addition, this Classification can also improve opportunities for investment managers to create new products, such as sector-based mutual funds and exchange-traded funds. Ultimately, this can also broaden the investor base in the Indonesian capital market.

Unlike previous studies that used the financial aspect to ascertain the effect on the effective tax rate, this research attempted to relate the influence of non-financial aspects of the COVID-19 pandemic and group company factors. Apart from the COVID-19 pandemic, there is a factor that has rarely been studied concerning the effective tax rate. For the group companies factor, there had a problem if several companies had different results in achieving these shared goals. This difference can be interpreted if the subsidiary company suffers a loss while the parent company gains in its business activities or vice versa. So the losses or profits experienced by subsidiaries have implications for consolidated income.

Issues related to effective tax rates are attractive, will continue to develop and are worthy of researching deeply. This research would conclusions can be drawn from these factors. On the other hand, decision-making for all stakeholders is expected to be accommodated using the IDX-IC Classification. Furthermore, IDX-IC classification already follows the standard practices used on stock exchanges worldwide, accommodates the latest developments in economic sectors, and enables a more accurate risk assessment for policymakers. Finally, this research aims to analyze the comparison companies' average effective tax rates based on the IDX-IC industry classification on the Indonesia Stock Exchange.

Literature Review

Agency Theory

In agency theory, it describes contradictory economic actors, such as management as an agent and shareholders as principals. Agency theory is a theory that results from conflicts of interest that occur among agents and principals (Sumarno, 2017). Management plays a direct role in the company's running. At the same time, shareholders are observers of the company, while shareholders always want the principal's interests fulfilled. Still, in the field, management can act following their interests because agents have their interests beyond the interests of shareholders (Brian, 2014). This conflict occurs because the agent does not act to maximize the principal's welfare but tends to benefit the agent's interests at the expense of the agent's interests (Winanto & Widayat, 2013). During the COVID-19 pandemic, agents are not too selfish in managing their profits. During a pandemic, agents use COVID-19 incentives from the government as incentives for agents if agents are successfully maintaining the business continuity of the company during a pandemic.

Tax Management

Tax management is one of the efforts that can be made to reduce the tax burden. According to Pohan (2013), one of the efforts that companies can make is to reduce the tax burden within limits that do not violate the rules because tax is one of the profit deduction factors. This tax burden efficiency effort is carried out in various ways so that the tax imposition gets a lower rate. Jonathan & Tandean's (2016) arrangement of financial transactions in a manner in such a way that aims to reduce the amount of tax that must be paid regularly under tax laws.

Tax Incentives during the COVID-19 Pandemic

Tax incentives are facilities provided to investors to a certain extent, region, or country for an activity. For example, while the COVID-19 pandemic occurred, the Minister of Finance issued law No. 23 of 2020 about Tax Incentives for Taxpayers Affected by the COVID-19 Pandemic. This incentive is given as a government action for reduced industrial productivity and to revive the economy, which has significantly declined due to the COVID-19 pandemic. The incentives offered to involve income tax article No. 21, which the government bears, payment of exempted import tax article No. 22, instalments of income tax article No. 25 reduced by 30%, ease of value-added tax refunds and a reduction in the corporate tax rate from previously 25% to 22%. The decline in corporate income tax rates is presented in the following table:

Table 1. Change in Corporate Income Tax Rates in Indonesia

Criteria	Tax Law No. 36, 2008	Act No 7, 2021
Corporate and BUT Taxpayers	Tax rates are 28% and 25% starting in 2010	Tax rates were 22% starting in 2020
Corporate taxpayers in the form of public companies, at least 40% of the total number of shares traded on the stock exchange	The tax rate with specific criteria is 5% lower than corporate taxpayers who are not in the form of a public company (20%)	The tax rate with specific criteria is 3% lower than corporate taxpayers who are not in the form of a public company (17%)

IDX-IC (Industrial Classification)

Industry classification is a grouping of companies based on certain similarities. Industry classification is examined through data research related to capital, regulation, innovation, market capitalization, the main types of products produced, and so on. The main products made by the company and market capitalization can be used as a basis for determining the Classification of an industry (Sembiring, 2012). The industry classification used on the Indonesian stock exchange now uses the IDX Industrial Classification (IDX-IC). IDX-IC has replaced the old Jakarta Stock Industrial Classification (JASICA), which has lasted for 25 years. IDX-IC emphasizes market capitalization by determining the Classification using each company's largest source of income. The IDX-IC has four more detailed classification levels involving 12 sectors, 35 sub-sectors, 69 industries, and 130 sub-industries.

Effective Tax Rate

Richardson and Lani's (2013) definition of the effective tax rate is the ratio of the actual tax burden that the company pays divided by the commercial income before tax. Management usually uses the ratio of the effective tax rate to assess the effect of changes in tax policy on company tax costs. Effective tax rates by stakeholders can be used in making policies by examining how much corporate tax is remitted to the state treasury. As well as, with this effective tax rate, company management can see how much tax is deposited by the company to the state treasury.

Effective tax rates aim to determine the percentage change in the corporate tax burden on the commercial profit earned. Through these objectives, it can be concluded that the effective tax rate measures the company's tax performance. In research related to effective tax rates, the use of GAAP ETR means Generally Accepted Accounting Principles. Effective Tax Rate is often used as a tool for measuring the ratio of effective tax rates. Richardson and Lanis (2013) state that the GAAP ETR is the most frequently used representation in the previous research. Using the GAAP ETR is more accessible than other methods of calculating the effective tax rate because the critical data is available directly in the company's income statement.

Factors Affecting Effective Tax Rates in Prior Research

Some of the variables used by previous research in analyzing the relationship between effective tax rates and independent variables include leverage, capital intensity ratio, managerial ownership, profitability, inventory intensity ratio, and company size, which are widely used in previous studies. So to this research, leverage, managerial ownership, capital intensity ratio, inventory intensity ratio, profitability, and company size variables will be used as control variables in this research. In addition, this research developed independent variables rarely used in previous research, namely those related to the COVID-19 pandemic and group companies. So, this research will be new and different from other studies.

COVID-19 Pandemic

At the end of 2019, the world faced a new threat with the virus outbreak, nearly a new type of coronavirus known as Corona Virus Disease 2019 (COVID-19), which began to spread worldwide in early 2020. During the COVID-19 pandemic, the economic climate conditions were increasingly not conducive to the government's demand to issue various policies. However, the emergence of an outbreak of COVID-19 caused by a coronavirus is not a phenomenon that has occurred for the first time around the world. The proof in 2002 that SARS-CoV caused SARS and MERS disease in 2012 was caused by MERS-CoV (Temsah et al., 2020). According to Ciotti et al. (2020), SARS-CoV, SARS-CoV2, and MERS-CoV cause severe pneumonia with 9.6%, 2.9%, and 36% mortality rates, respectively.

There were differences in economic conditions throughout the COVID-19 pandemic and before the COVID-19 pandemic. The decline in profits generated by the company affected the payment of taxes to the state treasury. The COVID-19 pandemic has reduced the company’s sales, and it has to pay fixed costs. With reduced sales, the profits created by the firm will also decrease. So that the corporate tax burden will be lower, the low corporate tax burden will affect firms' effective tax rates during the pandemic. During the COVID-19 pandemic, agents are not too selfish in managing their profits. During the pandemic, agents use COVID-19 incentives from the government as incentives for agents if agents are successfully maintaining the company's business continuity during a pandemic.

Group Company

Act No. 40, 2007, about Limited Liability Companies, no longer regulates the definition of group companies. The definition of a group company itself is regulated as stated in Act No. 1, 1995 about Limited Liability Companies (Limited Liability Company Old Law). The previous Limited

Liability Company Law stated that the companies' combined financial statements were merged into one group. Meanwhile, the latest Limited Liability Company Law only focuses on the company's legal basis. One of the objectives of forming a group company is to reduce the burden by transferring it to a subsidiary company. (Kamaludin et al. 2017). There is a problem if several companies in one group have different results in achieving common goals. This difference can be interpreted if the subsidiary company suffers a loss. In contrast, the parent company earns profits in its business activities, so the consolidated profit will decrease from the subsidiary's losses or increase from the subsidiary's profit. So that the parent company's profit is not yet reflected in the consolidated profit if many subsidiary companies actively contribute to the consolidated profit.

Group companies and the effective tax rate have a very close relationship. This is because the practical tax rate ratio value for group companies can be affected by profits or losses from subsidiary companies. So, it is believed that subsidiary companies which are part of group companies, will affect the consolidated effective tax rate ratio.

HYPOTHESIS AND RESEARCH FRAMEWORK

1. COVID-19 Pandemic Against Effective Tax Rates

The COVID-19 pandemic is a factor causing reduced company revenue when companies must still incur fixed costs. With reduced sales, there will be less tax burden remitted to the state or federal, so the ratio of the effective tax rate will also decrease. In 2020, the government will also provide incentives for the reduced productivity of business actors to revive the taxpayer economy, which has dropped highly due to the COVID-19 pandemic. There were differences in economic conditions throughout the COVID-19 pandemic and earlier the COVID-19 pandemic. The decline in profits generated by the company affects tax payments.

According to Rombe (2017), the existence of tax incentives in the form of reduced corporate income tax rates allows companies to earnings management. Therefore, the government has implemented relaxation in the form of incentives in the field of taxation, one of which is by reducing the corporate income tax rate starting in 2020. The government's provision of tax incentives is intended so that companies can endure the COVID-19 pandemic. Then the hypothesis wished-for is as follows:

H1: The COVID-19 pandemic positively affects the effective tax rate.

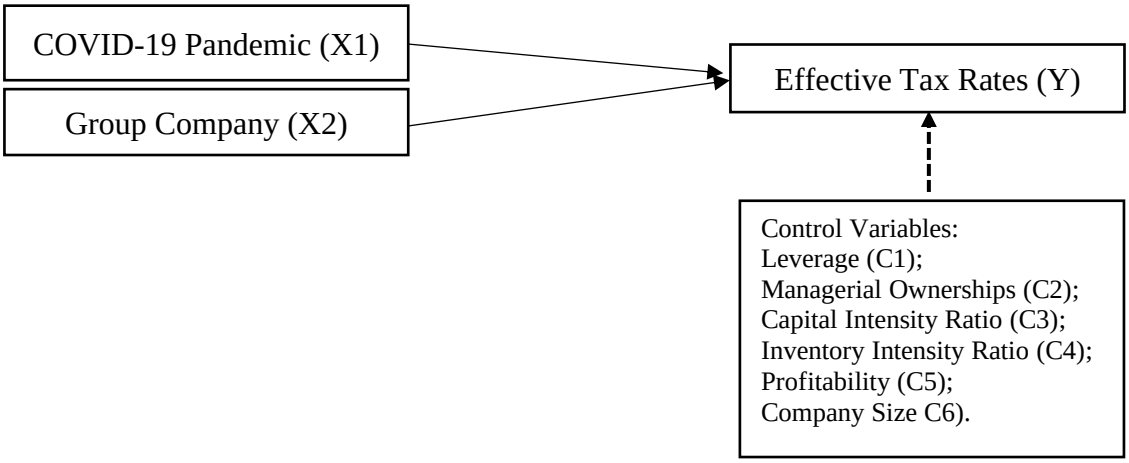
2. Group Companies Against Effective Tax Rates

A group company is a group of companies combined into one container under a parent company's auspices. Group companies generally have the same vision and mission as parent-subsidiary companies, resulting in common goals supporting each other in business. The purpose of forming a group company is to reduce the burden on the parent company through better supervision.

According to Beuselink and Deloof (2014), groups and non-group companies registered at Euronext Brussels, Belgium, conducted tests on tax management. The results of this study provide that group companies are more likely to do tax evasion than non-group companies. Group companies and the effective tax rate have a very close relationship. This is because the value of the effective tax rate ratio for group companies can be affected by the profit or loss of a subsidiary compared to the profit or loss that only comes from the parent company. Then the hypothesis wished-for is as follows:

H2: Group companies negatively affect the effective tax rate.

Figure 1
Research Framework



RESEARCH METHODS

Types and Research Samples

The first type of research is related to calculating the effective tax rate for each industrial sector based on IDX-IC using qualitative and quantitative approaches. Meanwhile, analyzing the factors affecting effective tax rates using a quantitative approach. Using a quantitative approach in this research will display comprehensive research data by collecting, analyzing, and presenting the data and the results of the research interpretation. In contrast, the qualitative approach is analyzed to dig deeper into the causes and effects of the research results. These variables can be assessed with instruments so that the numerical data obtained can be analyzed using statistical methods.

The population in this research are all companies listed on the Indonesia Stock Exchange from 2019 to 2021. Therefore, the total population of companies registered as of 31 December 2021 was 766 companies. This population will describe the effective tax rates for each company and will be the average for each industry classification based on IDX-IC. In this research, the sample selection method used purposive sampling, namely selecting samples according to specific criteria (Sugiyono, 2017).

This research uses a sample of companies listed on the Indonesia Stock Exchange for 2019 to 2021. The industrial sector grouping used in this research is based on the industry classification established by the Indonesia Stock Exchange, IDX-IC, which has now replaced the old group, namely the JASICA classification, which has lasted for 25 years. The IDX-IC has four more detailed classification levels, consisting of 12 sectors, 35 sub-sectors, 69 industries and 130 sub-industries.

Data Testing Techniques

The results of calculating the effective tax rates for each company will be explained through the outcomes of descriptive statistics. The Generally Accepted Accounting Principles Effective Tax Rate (GAAP ETR) approach would determine the effective tax rate. If the calculation results have been collected, the effective tax rates will be grouped based on the IDX-IC industry classification so that the value of the effective tax rates can be obtained in each industry classification. Based on Ambarukmi (2017), GAAP ETR is the total tax expenses divided by pretax income. Therefore, the formula for calculating the effective tax rate can be done by comparing the company's total tax expenses with pretax income. So the formula used is as follows:

$$\text{GAAP ETR} = \frac{\text{Total Tax Expense}}{\text{Pretax Income}}$$

Variable Operational Description

a. COVID-19 pandemic

This research will explain whether the COVID-19 pandemic influences the effective tax rate. The measurement is agreed upon by comparing the company's pre-pandemic profit before the pandemic compared to the pandemic period. The decline in income before tax that is greater than 50% reflects that the COVID-19 pandemic significantly influences the company's income. In this research, the COVID-19 pandemic was measured using a dummy variable with a value of 1 (one) if it influenced a dec in the pretax income of more than or equal to 50% and a value of 0 (zero) if the decline in pretax income was less than 50%. So the formula used is as follows:

Decline in company profits > 50% = 1
Decline in company profits =< 50% = 0

b. Group Company

If calculating the effective tax rates by the consolidated profit in the consolidated financial statements reported on the Indonesian Stock Exchange, it often does not imitate the effective tax rate ratio of the parent company itself. This is because, in the consolidated financial statements, there will be profits from the subsidiary that may be greater than the profits of the parent company or losses from the subsidiary that is greater than the earnings of the parent company, so it is necessary to calculate only the profits of the parent company so that the effective tax rate reflects the real ratio. Therefore, in calculating the ratio of group companies, the proxy for consolidated profits is used, so the formula used is as follows:

$$\text{Subsidiary Profit Ratio} = \frac{\text{Consolidated income} - \text{income for parent company}}{\text{Consolidated income}}$$

c. Leverage

According to Ambarukmi (2017), leverage is the use of funds with the aim that the company must cover fixed costs, meaning that payment of fixed costs is obligatory. This amount is measured by dividing the total debt by the percentage of capital (equity). Therefore, the use of debt to equity ratio (DER) to calculate a company's ability to meet its liabilities will be used in this research. According to Saragih (2018), DER is a ratio that can show how much a company uses debt, explains the size of the portion of short-term and long-term financing sources in company assets, and can demonstrate the ability to capitalize internally to fulfil all its liabilities. The following is a formula used to calculate leverage using DER is as follows:

$$\text{DER} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

d. Managerial ownership

The ratio of managerial ownership that actively participates in decision-making is measured by the percentage of stock owned by managers at the end of the year expressed as a percentage. Managerial ownership is the compensation companies pay to workers. Statistically, the worth of managerial ownership is the percentage of company stock owned by commissioners and directors. Shares held by management are expected to act on the wishes of the principals because managers are motivated to improve their performance. Therefore the size of the shares owned by the company's management shows the similarity of interests among managers and shareholders. In this research, managerial ownership is assessed using a dummy variable, which is 1 (one) if it has a managerial ownership proportion of more than or equal to 5%, and 0 (zero) if it has a managerial ownership proportion of less than 5% (Chen, S. et al., 2010). According to Riduwan and Sari (2013), the measurement of managerial ownership is as follows:

$$\text{Managerial Ownership} = \frac{\text{Number of shares owned by management}}{\text{Total shares}}$$

e. Capital intensity ratio

The capital intensity ratio explains how intensively the company invests their resources in fixed assets. Fixed assets owned allow the company to manage taxes due to the depreciation of fixed assets. This policy will enable companies with high fixed asset ratios to have less tax burden than companies with small fixed assets (Ambarukmi, 2017). The formula used to calculate the capital intensity ratio is as follows:

$$\text{Capital Intensity Ratio} = \frac{\text{Total Fixed Assets}}{\text{Total Assets}}$$

f. Inventory Intensity Ratio

The inventory intensity ratio shows the company’s efficiency and effectiveness in managing investment in inventory which is presented in the number of times the inventory is used for a certain period. This ratio describes the relationship between the number of goods sold and the inventory in the company's warehouse. Therefore, this can be used to measure company efficiency (Ambarukmi, 2017). The formula used is as follows:

$$\text{Inventory Intensity Ratio} = \frac{\text{Total Inventories}}{\text{Total Assets}}$$

g. Profitability

The profitability ratio is the ratio used by a firm to determine the level of effectiveness of the company with an indicator of the value of the resulting profit associated with sales or investment, for example, return on assets (ROA). As for this research, the ROA proxy was taken as an indicator of the level of company profitability because this ratio is the most widely used proxy in similar research. The profit and total assets used are the data listed in the

company's statement of financial position and income statement (Ambarukmi, 2017). The formula used is as follows:

$$ROA = \frac{\text{Income Before Tax}}{\text{Total Assets}}$$

h. Company size
Company size is a classification of company types calculated from the total value of company assets. This research used a proxy for the total assets presented in the company's financial statements. Calculating the overall value of company assets uses the natural logarithm value of all current and non-current assets in the sample company's statement of financial position. The formula used is as follows:

$$\text{Company size} = \text{Ln Total Assets}$$

This research will first determine the estimated model selected in the regression. After knowing the method used in the research on data panel regression, the classical assumption test was carried out. Based on Gujarati et al. (2015), the conventional assumption test is intended to ensure that the research is correct and that the data used is theoretically unbiased and consistent with estimating the regression coefficient. Data must not contain elements of multicollinearity, heteroscedasticity, outliers, or normally distributed data. Then the equation for testing, the model in general in this research is as follows:

$$ETR_{it} = \alpha + \beta_1 COV_{it} + \beta_2 GRP_{it} + \beta_3 LEV_{it} + \beta_4 MAN_{it} + \beta_5 CAP_{it} + \beta_6 INV_{it} + \beta_7 PRO_{it} + \beta_8 SIZ_{it} + \varepsilon_{it}$$

ETR_{it} = Effective Tax Rate
α = Constant
β_1-β_8 = Coeficient 1-8
COV_{it} = COVID-19 Pandemic
GRP_{it} = Group Company
LEV_{it} = Leverage
MAN_{it} = Managerial Ownerships
CAP_{it} = Capital Intensity Ratio
INV_{it} = Inventory Intensity Ratio
PRO_{it} = Profitability
SIZ_{it} = Company Size
ε_{it} = Error

RESULTS AND DISCUSSION

Overview and Research Object

The research objects used are firms listed on the Indonesia Stock Exchange from 2019 to 2021. The sample companies were selected from 12 (twelve) industry classifications based on the IDX-IC. In addition, this research uses annual data as secondary data from the financial statements of sample companies obtained from the Indonesian Stock Exchange database.

Table 1
Sample Research

No.	Sample Selection Criteria	Number of Companies
1	Total Number of Companies Listed on the Indonesia Stock Exchange	766
2	Companies listed on the Indonesia Stock Exchange after January 1st 2019	(151)
3	Companies that have a negative profit balance	(82)
4	Companies whose income is subject to final tax	(218)
5	Its financial reporting company does not use the financial year ending 31 December	(3)
6	Companies that do not publish complete financial statements for 2019-2021	(50)
7	Companies that do not issue audited financial statements for 2019-2021	(1)
	Number of Companies Observed	**261**

Research Result

After doing research, it is known that some companies have an effective tax rate that is too small. The effective tax rate is too large beyond the average effective tax rate of the industrial Classification. Therefore, eliminating data that deviates or outliers is done so that outliers are not included in the study sample. So that the total number of companies used as research samples from previously 261 samples became 230 sample companies, and N became 690 data for three years (2019-2021) and 460 data for two years (2020-2021).

Table 2
Ratio Effective Tax Rate After Adjustment (in %)

Classification	2019				2020			2021		
	N	Mean	Min	Max	Mean	Min	Max	Mean	Min	Max
Energy	39	23,19	11,2	42,1	24.04	12,4	77.5	24.86	12,7	58,4
Basic Materials	162	29,28	14,4	65,3	23.60	14,6	69.8	25,26	14,9	54,2
Industrial	84	25,87	12,9	59,3	25,74	12.0	61,1	21.60	12,2	41.5
Consumer Non-Cyclical	144	27,34	13,3	63,1	25,81	15,9	60.0	23,10	16,9	51,1
Consumer Cyclical	123	25,56	10.5	49,1	20,40	11,3	64,3	23,24	10,9	50,8
Infrastructure	36	26,61	12.5	55,7	27,10	16.0	40,6	20.53	12,3	35,7
Healthcare	48	27,78	18,3	58.5	29,31	20,7	72,1	24,52	12,3	37,8
Technology	30	18.84	9,5	33,1	18.60	13,7	28.0	17,29	10,6	38,6
Transportation&Logistic	24	37,60	12,1	62,3	32,66	15,8	52,1	30,87	15,7	57.5
Sample Average	**690**	**26,87**	**9,5**	**65,3**	**24.51**	**11,3**	**77.5**	**23,83**	**10,6**	**58,4**
Corporate Tax Rate		**25%**			**22%**			**22%**		

Table 3
Statistical Description of Research Variable

Variable	Means	Median	Max	Min	Std. Dev	Obs.
Effective tax rates	0.252521	0.223795	0.787232	0.000261	0.448604	460
COVID-19 pandemic	0.263043	0	1	0	0.440765	460
Group company	0.010546	0	0.995174	-1.227362	0.127012	460
Leverage	0.241248	0.080521	2.643537	0	0.402358	460
Managerial ownership	0.152174	0	1	0	0.359580	460
Capital intensity ratio	0.367595	0.352505	0.946068	0	0.225602	460
Inventory intensity ratio	0.145405	0.119757	0.572838	0	0.129111	460
Profitability	0.081557	0.058941	0.536446	0.000042	0.081189	460
Company size	28.66499	28.63235	33.53723	24.57000	1.777697	460

Table 3 shows the analysis results descriptive with the mean, median, minimum, maximum, and standard deviation of each variable derived from the 460 observational data used in this research. The effective tax rates are the dependent variable, while the COVID-19 pandemic and

group companies are the independent variables. While leverage, managerial ownership, capital intensity ratio, inventory intensity ratio, profitability, and firm size are control variables.

$$\mathbf{ETR_{it}} = 0.2525 + 0.0545COV_{it} - 0.1676GRP_{it} + 0.0114LEV_{it} - 0.0018MAN_{it} - 0.0310CAP_{it} + 0.0422INV_{it} - 0.3455PRO_{it} - 0.0006SIZ_{it}$$

Table 5
Regression Result

Independent Variable: A effective tax rate
Model: Fixed Effects
Sample: 230 companies (Period 2020-2021)
Total Observations: 460

Variable	*Ho*	*Coef.*	*Std. Error*	*t-Statistics*	*Prob.*
Constant(C)		0.2525	0.1176	2.1466	0.0324
COVID-19 (COV) pandemic	+	0.0545	0.0162	3.3489	0.0009
Group company (GRP)	-	-0.1676	0.0528	-3.1720	0.0016
Leverage (LEV)	+	0.0114	0.0183	0.6298	0.5350
Managerial ownership (MAN)	-	-0.0018	0.0187	-0.1009	0.9196
Capital intensity ratio (CAP)	+	-0.0310	0.0332	-0.9339	0.3508
Inventory intensity ratio (INV)	+	0.0422	0.0553	0.7633	0.4456
Profitability (PRO)	+	-0.3455	0.0877	-3.9367	0.0001
Company size (SIZ)	+	0.0006	0.0040	0.1592	0.8735
R-Squared (R2)		**Prob (F-statistics)**			
0.2130		0.0000			
α		**0.05** or 5%			

Table 5 shows the result from the regression model used as a whole can see the effect of all variables on the effective tax rate. The regression model is accepted if the Prob (F-Statistic) is less than a significance value of 5% (0.05). In this research model, the Prob value shows 0.0000, less than a 5% significance level. Therefore, the value of R2 in this research is 0.2130, which means that there are 21.30% factors of all variables that affect the dependent variable of the effective tax rate.

Discussion

From the results of the first test, to know the effective tax rates ratio in each industrial Classification, it can be explained that the average effective tax rate for sample companies in 2019-2021 is 26.87%, 24.51% and 23.83%, respectively. The COVID-19 pandemic variable statistically significantly affects the effective tax rate. The p-value of 0.0009 or 0.09% means the relationship between the COVID-19 pandemic and the effective tax rate is solid. The industrial sector with the highest effective tax rate for the transportation & logistics sector, with an effective tax rate ratio of 37.60%. The high ratio of effective tax rates in the transportation & logistics sector was due to increased shipments of goods due to increased demand for shipments of goods or cargo due to a shift in consumer preferences that prefer shopping online rather than visiting shopping centres.

The COVID-19 pandemic statistics significantly influenced the effective tax rate. This can be seen from the p-value of 0.0009 or 0.09%, which means the relationship between the COVID-19 pandemic and the effective tax rate is solid. So that the COVID-19 pandemic has made this a factor causing reduced sales of companies that are still compulsory to pay the company's fixed costs. The impact of COVID-19 pandemic has affected almost all companies. The study's results also prove that the COVID-19 pandemic positively affects the value of the effective tax rate. So based on the results of testing the H1 hypothesis, the COVID-19 pandemic positively affects the accepted effective tax rate.

The research result shows that the group company variable statistically has a significant adverse effect on the effective tax rate. This situation can be seen from the negative coefficient value. As for the results of the study, it is also known that the p-value is 0.0016 or 0.16%, which means that the relationship among group companies that are portioned using the profits or losses of

subsidiaries with the effective tax rate is very strongly related. So based on the results of testing for the H2 hypothesis, group companies negatively affect the effective tax rates accepted.

Based on the empirical results of the research model testing conducted, from all the variables used, only the COVID-19 pandemic (COV), group company (GRP), and profitability (PRO) variables have probability values indicating a significant influence on the effective tax rates. At the same time, the variables leverage (LEV), capital intensity ratio (CAP), managerial ownership (MAN), company size (SIZ), and inventory intensity ratio (INV) do not significantly affect the effective tax rate of the sample companies.

CONCLUSIONS, IMPLICATIONS, LIMITATIONS AND SUGGESTION

Based on the result and discussion of the data above, research on the sample from the firms from 2019 to 2021 to determine the effective tax rates ratio based on the IDX-IC industry classification. The sample's average effective tax rate ratio from 2019 to 2021 is 26.87%, 24.51% and 23.83%, respectively. In 2019 the transportation & logistics sector had the highest effective tax rate ratio of 37.60%. In 2020 and 2021, the industrial sectors with the highest effective tax rate are the transportation & logistics and healthcare sectors.

Based on statistical tests carried out on a sample of companies in the 2020-2021 period, it is known that the COVID-19 pandemic and group companies together significantly affect the effective tax rate variable. The COVID-19 pandemic variable statistically significantly affects the effective tax rate. So, the first hypothesis that the COVID-19 pandemic positively affects the effective tax rate is accepted. On the other hand, the group company variable statistically significantly negatively affects the effective tax rate. So, the second hypothesis that group companies negatively affect the effective tax rate is accepted.

The results show that the COVID-19 pandemic and group companies significantly influence effective tax rates. Therefore, effective tax rates do not only project the ratio of the effective tax rates in each industry classification. This research implies that the government, as the authority and regulator, can implement policies related to maximizing income tax from companies and as a consideration in providing tax incentives to specific industrial sectors. In addition, there needs to be synergy with related agencies so that the policies taken do not distort the economy. This is because the effective tax rate for companies in Indonesia is still relatively high, influenced by management to minimize taxes to be paid, so management gets incentives for success in reducing the amount of taxes to be paid to the state.

Tax incentives that are managed effectively and efficiently help accelerate economic recovery and the sustainability of the budget going forward, especially after the economic slowdown. In addition, this research is expected to be used as reference material for further research related to effective tax rates so that this research can be perfect and produce more up-to-date information for future research.

The limitations of this research only take a limited sample of firms listed within 3 (three) years, from 2019 to 2021, so it is less comprehensive than if it took more than 3 (three) years. In addition, this research has not considered the weighted percentage of the same representation in each industry classification. Finally, the research variables only use the COVID-19 pandemic and group companies and only focus on the impact caused by the COVID-19 pandemic from 2020 to 2021.

Suggestions expected for further research are regression testing can be carried out with a long-time span for collecting financial report data, two years before and after the COVID-19 pandemic, from 2017 to 2022. For further research, the percentage of representation in each industry classification can also be weighted. For example, each industry must be represented 35% of the total in each Classification used as the research sample. It is intended that the test results are not unequal if further analysis is carried out. For further research, other variables can be used, such as market capitalization, company growth, and different tax incentives or facilities for each business sector.

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