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COMPARATIVE ANALYSIS OF OIL AND GAS AND NON-OIL AND GAS EXPORT PERFORMANCE: TOWARDS DIVERSIFICATION OF THE INDONESIAN ECONOMY

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Abstract *– This study conducts a comparative analysis of the export performance of oil and gas versus non-oil and gas sectors within the framework of Indonesia's economic diversification. Exports play a crucial role in driving economic growth, with both oil and gas and non-oil and gas exports significantly contributing to Indonesia's economic development. The research employs methods such as the normality test and the T-test. Descriptive statistical analysis is used to compare the export data of oil and gas and non-oil and gas by gathering and presenting data from the Central Statistics Agency (BPS) as a secondary data source. A comparative analysis is performed to determine which category has the highest export rate. The study also uses multiple linear regression analysis to assess the relationship between oil and gas exports and non-oil and gas exports. The findings indicate that there is no correlation between oil and gas exports and non-oil and gas exports, suggesting that diversifying exports could promote more sustainable economic growth.*
Keywords*: Oil Exports, Non Oil and Indonesia Economy.*

INTRODUCTION

Indonesia, a country rich in natural resources, has historically depended on its export sector, particularly oil and gas, as a cornerstone of its economy. However, this heavy reliance on the oil and gas sector introduces significant risks to economic stability. Thus, economic diversification is crucial to mitigate these risks and ensure sustainable economic growth. The measure of a country's success can be observed through its economic growth, which reflects the nation's productivity level. As economic development becomes increasingly dynamic, both developed and developing countries recognize exports as a vital component for achieving economic growth. Exports serve as a primary source of foreign exchange for a country.

In general, Indonesia's export commodities are divided into two categories: oil and gas exports, and non-oil and gas exports. Fluctuations in export values to destination countries are influenced by export volumes and the prices of the commodities themselves. Export volumes tend to rise with increased production of the exported goods. Export commodities, whether final goods or intermediate goods, have higher value compared to raw materials. Therefore, developing industries that process raw materials into finished or semi-finished goods is essential. Non-oil and gas exports are broadly categorized into three sectors: agriculture, industry, and mining and others.

The value of Indonesia's non-oil and gas exports to ASEAN countries and other major trading partners significantly exceeds that of oil and gas exports. Consequently, the Indonesian government prioritizes exports as a key driver of economic growth. Data from Statistics Indonesia indicates that exports of goods and services are the second-largest contributor to economic growth, after private consumption, contributing between 8% and 15% during the period from 2004 to 2007. Each year, the government sets export growth

targets to support economic growth and job creation. For instance, in 2007, to achieve an economic growth target of 6.3%, the government aimed for a 13.1% growth in non-oil and gas exports. In 2008, with a target of 6.4% economic growth, the export growth target was set at 11.2%.

In international trade, exports are categorized into oil and gas (commonly known as oil and gas) and non-oil and gas exports. Indonesia's international trade landscape has shifted since the 1980s. Previously, the country's exports were predominantly oil and gas commodities, but by 1987, non-oil and gas commodities began to dominate. This shift was driven by the sharp decline in global oil prices in the 1980s, prompting the government to introduce policies and deregulations in the export sector, such as export tax exemptions for various commodities, enabling producers to boost non-oil and gas exports. These policy changes significantly impacted the development of non-oil and gas export commodities, making them the predominant export goods (Statistics Indonesia, 2009).

Both oil and gas and non-oil and gas sectors significantly contribute to Indonesia's economic growth. Therefore, the government faces the challenge of promoting both sectors effectively. Given this context, I am particularly interested in researching the "Comparative Analysis of Oil and Gas Export Performance and Non-Oil and Gas: Towards Diversification of the Indonesian Economy."

METHODS

This study was conducted in Indonesia, focusing on analyzing export data related to Indonesian oil and gas as well as non-oil and gas sectors. All data used in this research were sourced from the Indonesian Central Statistics Agency. The research period spanned one month, from May to June 2024.

Data Collection Methods

Data collection can be approached through primary or secondary sources. Primary sources involve direct provision of data to collectors, whereas secondary sources rely on intermediaries like documents or literature reviews (Sugiyono, 2011:137). This study utilized two methods for data collection: the documentation method, which involves observing, reading, and recording written data related to exports, particularly focusing on oil and gas and non-oil and gas exports in the 2023 period; and the literature study method, which involved gathering theoretical literature and related documents to support the study.

To compare the two sets of data collected, descriptive statistics were employed. Descriptive statistics are concerned with the collection and presentation of data in a manner that facilitates understanding. They provide a straightforward depiction of data or a situation without making inferences or generalizations beyond the data at hand (Hasan, 2001). In this analysis, I conducted a comparative evaluation of Oil and Gas Export data against Non-Oil and Gas Export data to determine which category exhibited higher figures and significance in relation to the study's objectives.

Types and sources of data

In this research, secondary data was utilized, sourced from various relevant agencies such as the BPS (Central Statistics Agency). The data comprises information on Indonesia's exports of both oil and gas and non-oil and gas for the year 2023.

Analysis Methods

In the research, multiple linear regression analysis was employed to examine and assess the impact of oil and gas exports versus non-oil and gas exports on the diversification of the Indonesian economy.

Normality test

According to Ghozali (2016), the normality test is conducted to determine whether in a regression model, an independent variable and a dependent variable or both have a normal or abnormal distribution.

Descriptive statistics

Descriptive statistics are used to explain or provide an overview of the characteristics of a series of data without drawing general conclusions (Ghozali, 2016). Presentation of descriptive statistical data is usually in the form of diagrams or tables.

Test t (Regression Coefficient Test Individual)

The t-test is employed to assess the individual impact of an independent variable on the dependent variable within a regression model. This test involves comparing the calculated t-value with the critical t-value from a t-table to determine statistical significanc.

RESULTS AND DISCUSSION

The data used is sourced from links https://www.bps.go.id/id/statistics-table/2/MjE3MiMy/volume-ekspor-migas-nonmigas.html Based on two datasets, specifically Oil and Gas Exports and Non-Oil and Gas Exports, the following presents a descriptive statistical analysis of both categories.

Hypothesis

Ho : $\mu^1 = \mu^2$ (there are similarities between oil and gas exports and non-oil and gas)

H1 : $\mu^1 \neq \mu^2$ (there is no similarity between oil and gas exports and non-oil and gas)

Statistical Test: T test

Descriptive Statistical Analysis

Descriptives

			Statistics	Std. Error
OIL & GAS	Mean		2256.692	54.0990
	95% Confidence Interval for Mean	Lower Bound	2137.620	
		Upper Bound	2375.763	
	5% Trimmed Mean		2250.513	
	Median		2230.750	
	Variance		35120.466	
	Std. Deviation		187.4046	
	Minimum		1953.3	
	Maximum		2671.3	
	Range		718.0	

	Interquartile Range		206.9	
	Skewness		.592	.637
	Curtosis		1.241	1.232
NON_MIGAS	Mean		56239.625	1376.8654
	95% Confidence Interval for Mean	Lower Bound	53209.165	
		Upper Bound	59270.085	
	5% Trimmed Mean		56276.511	
	Median		55065.150	
	Variance		22749100.810	
	Std. Deviation		4769.6017	
	Minimum		49018.0	
	Maximum		62797.3	
	Range		13779.3	
	Interquartile Range		9314.6	
	Skewness		.206	.637
	Curtosis		-1.358	1.232

Analysis of the Normality Test

The normality test was conducted to determine whether the data followed a normal distribution, which is essential for performing parametric tests such as the paired sample t-test. Kolmogorov-Smirnov test was applied to the data using SPSS for analysis.

Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistics	Df	Sig.	Statistics	Df	Sig.
OIL & GAS	.148	12	.200*	.955	12	.704
NON_MIGAS	.199	12	.200*	.910	12	.212

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Based on the table provided, the significance values from the Kolmogorov-Smirnov test and Shapiro-Wilk test were found to be 0.200 (> 0.005) and 0.212 (> 0.05), respectively. These results indicate that the research data exhibits normal distribution

characteristics.

T test analysis

This test was employed to determine whether each independent variable in the regression model had a statistically significant effect on the dependent variable (Y). The results of the regression analysis output are summarized as follows:

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	OIL & GAS	2256.692	12	187.4046	54.0990
	NON_MIGAS	56239.625	12	4769.6017	1376.8654

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Oil & Gas & NON_MIGAS	12	.113	.726

Paired Samples Test

		Paired Differences			
					95% Confidence Interval of the Difference
		Mean	Std. Deviation	Std. Error Mean	Lower
Pair 1	OIL & GAS - NON_MIGAS	-53982.9333	4752.0628	1371.8024	-57002.2500

Paired Samples Test

		Paired Differences			
		95% Confidence Interval of the Difference			
		Upper	t	Df	Sig. (2-tailed)
Pair 1	OIL & GAS - NON_MIGAS	-50963.6167	-39.352	11	.000

Ho : Technically, there is a similarity between oil and gas exports and non-oil and gas exports

H1: Generally there is no similarity between oil and gas exports and non-oil and gas exports

Ho was rejected if sig. (2 tailed) < 0.05
Ho is accepted if sig. (2 tailed) > 0.05

CONCLUSION

Based on the test results comparing the performance of oil and gas versus non-oil and gas exports in diversifying the Indonesian economy, several conclusions can be drawn. The null hypothesis (Ho) was rejected, indicating that there is a significant difference between oil and gas exports and non-oil and gas exports. Therefore, the alternative hypothesis (H1) is accepted, confirming that there exists a distinction between these two types of exports.

To promote economic growth, enhancing non-oil and gas exports can be achieved through diversification strategies and expanding export markets. This approach supports the notion that exports, particularly non-oil and gas exports, play a pivotal role in driving economic development.

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