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Macroeconomics As A Determinant Of Demand For Oil And Gas Exports And Non-Oil And Gas In East Nusa Tenggara Region By Timor Leste

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ABSTRACT

International trade is a key component in enhancing welfare and economic growth, as well as generating foreign exchange needed for development. East Nusa Tenggara (NTT), with its significant potential in the oil and gas, as well as non-oil and gas sectors, has considerable export opportunities to Timor Leste. However, the effectiveness of NTT's exports is heavily influenced by various macroeconomic factors, such as exchange rates, per capita income, and government spending in both Indonesia and Timor Leste. The variation in resources and production capacity in NTT offers opportunities to meet Timor Leste's demand, but changes in macroeconomic conditions play a critical role in determining the competitiveness of NTT's export products. This study employs a quantitative approach with multiple linear regression analysis to examine the impact of macroeconomic variables on the demand for oil and gas, as well as non-oil and gas exports from NTT to Timor Leste. The sample used consists of annual time series data from 2021 to 2023, including the Rupiah exchange rate against the US Dollar, Timor Leste's per capita income, and government spending in Timor Leste. The results show that the exchange rate has a significant negative impact on export demand, while government spending has a positive effect. Timor Leste's per capita income does not significantly affect export demand. These findings are expected to contribute to policymakers in improving NTT's export competitiveness and volume, ultimately having a positive impact on the region's economic welfare.

Keywords: Exports, Oil and Gas, Non Oil and Gas, Exchange Rate, Per Capita Income, Government Expenditure

INTRODUCTION

International trade is a crucial activity for enhancing welfare and economic growth, as well as generating the foreign exchange needed for financing development. Therefore, international trade plays a significant role in a country's economy (Tubagus et al., 2023). The existence of international trade arises from the variation in resources and the capacity of a country to produce commodities or services to meet demand (Nauli et al., 2024). The driving force behind a nation's economy is largely determined by export activities. As is known, Indonesia is continuously engaged in international trade due to its abundant agricultural products, oil, and gas (Ginting, 2017).

Exports are a vital part of a region's economy, especially for those located on borders with other countries, such as East Nusa Tenggara (NTT). NTT has considerable potential in exporting both oil and gas (migas) and non-oil and gas products to neighboring Timor-Leste. However, the effectiveness of these exports is significantly affected by various macroeconomic factors, which are crucial in shaping the demand for exports from NTT to Timor-Leste (Nauli et al., 2024).

In this study, macroeconomic theory serves as the foundation for understanding how macroeconomic variables impact export demand. These theories aid in analyzing the dynamics between economic factors such as exchange rates, per capita income, and government expenditure with regard to

international trade activities, specifically the export demand for oil, gas, and non-oil and gas products from the Nusa Tenggara Timur (NTT) province (Nauli et al., 2024).

Exchange rates or currency values are macroeconomic factors that have a direct impact on international trade. According to foreign exchange theory, fluctuations in exchange rates can affect the price competitiveness of export products in the global market. When the domestic currency depreciates against foreign currencies, domestic products become cheaper for international buyers, which increases export demand (Krugman, R Paul & Obstfeld, 2017). In the context of NTT, when the rupiah weakens against the US dollar or Timor Leste's currency, both oil and non-oil products from NTT become more competitive in the Timor Leste market, thus boosting export demand. Conversely, if the rupiah strengthens, export prices become higher, potentially reducing demand in Timor Leste. These exchange rate fluctuations are crucial to monitor, as even small changes can significantly impact the volume and value of exports from NTT (Afifah; et al., 2023).

Additionally, per capita income reflects the purchasing power of consumers in Timor Leste. According to demand and supply theory in international trade, a higher per capita income in a country tends to increase demand for imported goods, including both oil and gas (migas) and non-oil and gas products from NTT (Ajija et al., 2021). As per capita income rises, consumers in Timor Leste are likely to buy more foreign goods, which in turn boosts export demand from NTT. This relationship is based on income elasticity, where an increase in income typically leads to a higher demand for imported consumption goods. Therefore, economic growth in Timor Leste, reflected in rising per capita income, will be a key driver for exports from NTT (Habanabakize, 2020).

In addition to exchange rates and per capita income, government spending in Timor Leste also influences export demand. Government spending is a significant macroeconomic factor that impacts a country's economic activities, including export demand (Nåbo et al., 2021). In the context of trade relations between NTT and Timor Leste, government spending by Timor Leste can directly affect the volume of demand for oil, gas, and non-oil and gas products imported from NTT. The theory related to this variable is the Keynesian theory (Alfonso, Antonio;Alves, Jose; and Jalle, 2021).

Keynesian theory states that government spending, particularly in the form of state expenditures, can influence a country's aggregate demand. Government spending in Timor-Leste, focused on infrastructure development, healthcare, and other strategic sectors, can increase the demand for goods that cannot be produced locally. In this context, high government spending can drive an increase in demand for imported goods from NTT, including both oil and gas (migas) and non-oil and gas (non-migas) products. For example, infrastructure development in Timor-Leste may require fuel or construction materials that are not available locally, necessitating imports from NTT (Abderahmane, 2023); (Daoudi, 2023). Therefore, increased government spending will boost the demand for exports from NTT to Timor-Leste.

This study aims to deepen the understanding of how macroeconomic factors influence the demand for oil and gas, as well as non-oil and gas exports from NTT to Timor Leste. By gaining a better understanding of these relationships, it is hoped that policies can be formulated to support the increase in export volumes from NTT, ultimately contributing to the economic well-being of the region. The importance of exports for the economy of East Nusa Tenggara is also highlighted. East Nusa Tenggara is known as one of the provinces in Indonesia with significant potential in the oil and gas, as well as non-oil and gas sectors. The oil and gas sector in NTT is supported by abundant natural resources such as oil and gas. Meanwhile, the non-oil and gas sector includes agricultural products, livestock, and handicrafts, which are the main export commodities from NTT.

Exports play a crucial role in the economy of East Nusa Tenggara (NTT) for several reasons. First, exports open up new markets for

local products, which in turn can increase income for the community and reduce poverty. Second, with an increase in exports, NTT can attract more foreign investment, which will support infrastructure development and improve economic conditions in the region. However, the demand for exports from NTT to Timor-Leste is influenced by various macroeconomic factors. For instance, exchange rate fluctuations can directly impact export prices and the competitiveness of NTT's products in the Timor-Leste market. Additionally, the per capita income in Timor-Leste affects the purchasing power of its citizens for products imported from NTT. Government spending in Timor-Leste can also influence the demand for imported goods, including those from NTT. Previous research by (Rahmawati et al., 2020) found that exchange rates and per capita income significantly affect export volumes in Indonesia, with exchange rates showing a negative relationship, while per capita income shows a positive relationship with exports. This research is relevant in the context of trade relations between NTT and Timor-Leste, as changes in the exchange rate of the rupiah against the US dollar or Timor-Leste's currency will impact the competitiveness of NTT's products in the Timor-Leste market (Raysharie et al., 2024).

O. P. Putri & Jayadi (2023) studied the impact of government spending and exchange rates on non-oil and gas exports in Indonesia. They found that government spending has a significant positive effect on non-oil and gas exports. This finding is important because government spending in Timor Leste, particularly in infrastructure development and sectors dependent on imports, can affect the demand for exports from NTT. M. Putri et al (2024) also analyzed the macroeconomic determinants of oil and gas and non-oil and gas exports in Indonesia. Their research revealed that exchange rates, per capita income, and government spending all have significant effects on exports. They found that exchange rates have a negative impact on both oil and gas and non-oil and gas exports, indicating that currency fluctuations can reduce export competitiveness (Bulan, 2024).

Rezandy (2021); (Celebi et al., 2019) also contribute valuable insights into the impact of macroeconomic factors on exports. They investigated the effects of exchange rates, per capita income, and government spending on Indonesia's exports to ASEAN countries, including Timor Leste, finding that all three variables significantly affect exports. These results are highly relevant to the context of NTT. M. Putri et al (2024) focused on Eastern Indonesia, including NTT, and found that exchange rates, per capita income, and government spending have significant effects on non-oil and gas exports. This research is particularly relevant as it provides a more specific regional analysis, offering a clearer picture of economic dynamics in NTT. Finally, Hodijah & Angelina (2021) found that exchange rates and government spending significantly influence the performance of the oil and gas export sector in Indonesia, which is pertinent to NTT given that the oil and gas sector is a key export commodity for the region.

Based on the theoretical explanations, the issues faced by NTT and Timor Leste regarding the demand for oil and gas (migas) and non-oil and gas (non-migas) exports, and previous research findings, the objectives of this study are: 1) To analyze the impact of exchange rates on the demand for oil and gas and non-oil and gas exports from NTT to Timor Leste. 2) To assess the effect of per capita income in Timor Leste on the demand for oil and gas and non-oil and gas exports from NTT. 3) To examine the impact of government expenditure in Timor Leste on the demand for oil and gas and non-oil and gas exports from NTT.

The results of this study are expected to provide a deeper understanding of the factors affecting export demand from NTT to Timor Leste and to offer effective policy recommendations for enhancing the competitiveness of NTT's products in the international market, particularly in Timor Leste.

METHOD

This study employs a quantitative approach with multiple linear regression analysis to examine the impact of macroeconomic variables on the demand for oil and gas as well

as non-oil and gas exports from the Nusa Tenggara Timur region to Timor-Leste. A quantitative approach is chosen because the study aims to measure the relationships between variables using numerical and statistical data. The population of this study consists of macroeconomic data and export demand data from the Nusa Tenggara Timur region to Timor-Leste. The sample used comprises annual time series data from 2021 to 2023, covering macroeconomic variables such as the Rupiah exchange rate against the US Dollar, Timor-Leste's per capita income, and Timor-Leste's government spending, along with export data for the same period.

The data used in this study are secondary data obtained from official sources such as the Central Bureau of Statistics (BPS), Bank Indonesia (BI), as well as publications from international institutions such as the World Bank, Asian Development Bank, the Government of Timor-Leste, and the National Institute of Statistics Timor-Leste. The data include exchange rates measured using the middle rate, per capita income measured in US Dollars, government expenditure measured in US Dollars, and export data also measured in US Dollars. Data collection was conducted through documentation methods by downloading datasets from the official websites of the relevant institutions. The data were then processed and adjusted to be ready for further analysis.

The data analysis was conducted using multiple linear regression to examine the impact of exchange rates, per capita income, and government expenditure on exports. The regression model applied in this study is:

$$Y = \alpha + \beta 1X1_{\beta 2X2} + \beta 3X3 + \epsilon$$

Where:

Y is the dependent variable (exports),

X1 is the independent variable for the exchange rate,

X2 is the independent variable for per capita income,

X3 is the independent variable for government expenditure,

α is the constant,

β1, β2, β3 are the regression coefficients,

ϵ is the error term.

The statistical tests conducted include the t-test to examine the partial significance of the regression coefficients and the F-test to assess the overall significance of the model. Additionally, classical assumption tests such as normality, heteroscedasticity, multicollinearity, and autocorrelation tests were also performed to ensure that the regression model meets the BLUE (Best Linear Unbiased Estimator) criteria..

RESULT and DICUSSION

Overview of Export Demand, Exchange Rate, Per Capita Income, and Government Expenditure Variables.

Trends in Export Demand Early 2000s (2001-2008), export values fluctuate significantly. The export figures start at 17,045,416 in 2001, decrease to a low of 7,413,531 in 2004, and then rise again to 8,824,174 in 2008. This period shows substantial variability in export performance. Exports rose sharply to 28,214,994 in 2009, reaching 43,038,517 by 2012. This surge indicates a strong growth trend in demand. The export values fluctuate again, with a peak in 2013 at 19,873,983 and a subsequent decline to 15,865,544 in 2015. A general upward trend resumes. Exports increase from 16,279,934 in 2016 to a significant high of 59,544,504 in 2023. The last few years show a remarkable growth in export demand. Factors Influencing Export Demand: Economic Growth, Regional Economic Development As East Nusa Tenggara develops economically, its production capacity and export potential may increase, driving up export values. Timor Leste's Economic Conditions: Economic growth or changes in Timor Leste's economy can influence its demand for exports from East Nusa Tenggara. Trade Policies and Agreements, Bilateral Agreements, Trade agreements between East Nusa Tenggara and Timor Leste could facilitate increased exports. Changes in tariffs or trade barriers can impact export volumes. Shifts in consumer preferences in Timor Leste can lead to fluctuations in export demand. Improvements in product quality or competitive pricing can enhance export appeal.

Global economic conditions, such as recessions or booms, can affect international trade patterns and demand. Changes in global commodity prices can impact the export values of goods. Improved infrastructure and logistics can facilitate better trade routes and increase export efficiency. Political stability in both East Nusa Tenggara and Timor Leste affects trade relationships and export activities.

Figure 1. Export Value (USD) East Nusa Tenggara Region to Timor Leste 2001-2023

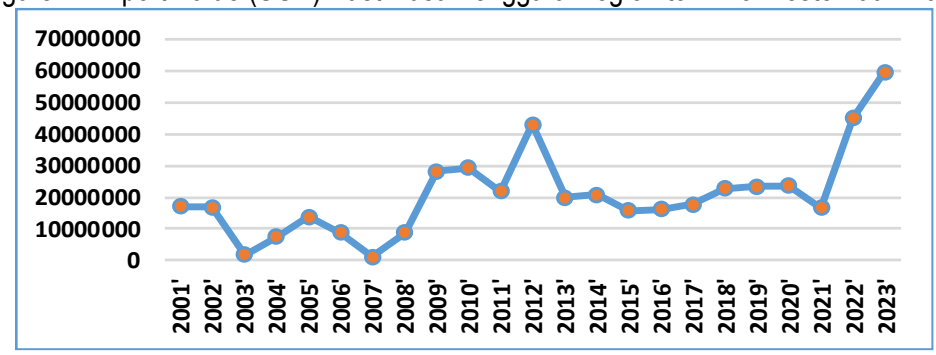
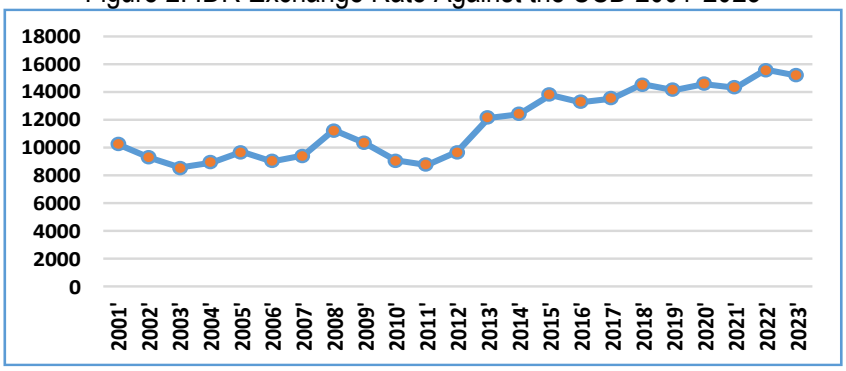


Figure 2 shows the trend of the Rupiah exchange rate against the USD over the years. In 2001, 1 USD was worth 10,265 IDR, but by 2004, this had decreased to 8,938 IDR. This decline indicates that the Rupiah was strengthening against the Dollar during this period. By 2008, 1 USD was worth 11,239 IDR. This increase reflect a combination of global economic pressures and domestic factors influencing the currency. The exchange rate experienced a drop in 2009, where 1 USD was worth 10,356 IDR. However, the Rupiah weakened significantly in the subsequent years, reaching 12,170 IDR by 2013. The global financial crisis of 2008 likely contributed to the initial depreciation, and subsequent recovery and market conditions could explain the further weakening. A significant rise in the exchange rate continued, peaking at 13,795 IDR in 2015. This period saw heightened volatility due to various factors, including the tapering of the US Federal Reserve's quantitative easing, which influenced capital flows and exchange rates globally. The Rupiah continued to weaken, reaching 15,592 IDR per USD by 2022. This trend reflects a period of high inflation, domestic economic challenges, and potentially fluctuating international commodity prices. There was a slight decrease to 15,200 IDR Per USD by 2023, indicating some stabilization but still reflecting a generally weaker Rupiah compared to earlier years.

Figure 2. IDR Exchange Rate Against the USD 2001-2023



From 2001 to 2007, there is a notable increase in per capita income. The peak in per capita income occurs around 2010, representing the highest point on the graph. After reaching its peak in 2010, per capita income begins to decline gradually, continuing this downward trend until approximately 2017. From 2017 onwards, per capita income appears to stabilize at a lower level compared to its peak in the early 2010s. Although there are minor fluctuations, there is no significant increase, and the income remains relatively low through 2023. The initial rise in per capita income reflect a period of rapid economic growth in Timor Leste,

possibly driven by factors like resource exploitation or increased investment. The sharp decline after the peak suggests economic challenges, such as falling commodity prices, changes in economic policies, or decreased investment. The stability at a lower level from 2017 to 2023 indicates that Timor Leste may have struggled to regain its previous income levels. This graph provides insight into the economic trajectory of Timor Leste over more than two decades, showing a phase of rapid growth followed by a significant decline, and eventual stabilization at a lower income level.

Figur 3. Per Capita Income of Timor Leste 2001-2023

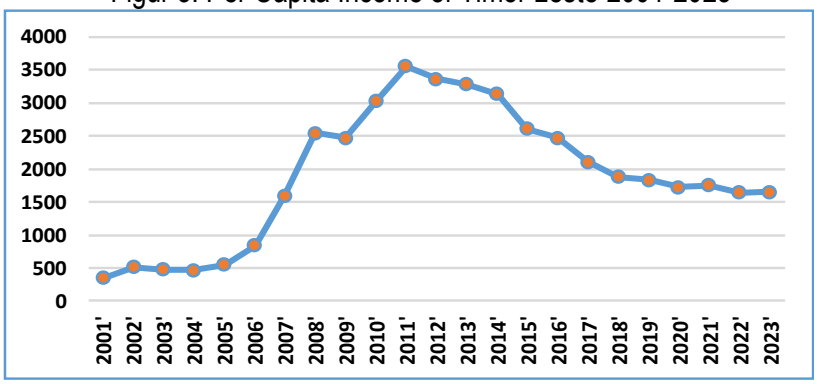
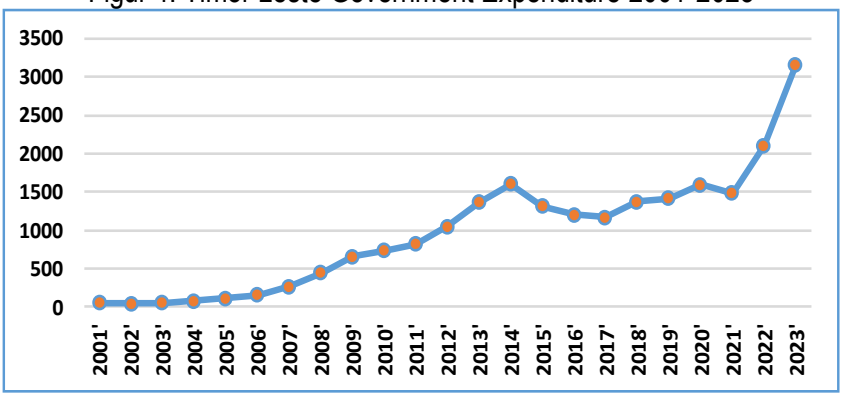


Figure 4. shows a general upward trend in government spending over the years. The expenditure starts at relatively low level in 2001 and increases gradually until around 2014. After 2014, the growth rate of government expenditure fluctuates slightly but remains generally stable until 2020. There is a sharp increase in government expenditure starting in 2021, continuing into 2022, and reaching a peak in 2023. The increase from 2020 to 2023 is particularly notable, indicating a significant rise in spending during these years. The steep rise in expenditure from 2021 to 2023 could indicate a response to external factors, such as economic challenges, social programs, or infrastructure investments. The trend suggest that Timor Leste's government prioritized increasing spending during these years, due to recovery efforts or other significant initiatives.

Figur 4. Timor Leste Government Expenditure 2001-2023



Results of Multiple Linear Regression Analysis

Analisis regresi linier berganda digunakan untuk mengetahui pengaruh dari kurs, pendapatan perkapita dan pengeluaran pemerintah terhadap permintaan ekspor migas dan non migas Daerah Nusa Tenggara Timur oleh Negara Timor Leste. Untuk memperoleh hasil dari persamaan regresi, data diolah menggunakan Eviews 10. Hasil olahan data disajikan dalam tabel berikut.

Table 1. Results of Multiple Linear Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	42235882	15026654	2.810731	0.0116
X1	-3540.487	1478.277	-2.395009	0.0277

X2	-1336.877	2065.27	-0.647313	0.5256
X3	23375.6	4899.199	4.771311	0.0002
R-squared	0.700362	Mean dependent var		21085418
Adjusted R-squared	0.650423	S.D. dependent var		13918847
S.E. of regression	8229528	Akaike info criterion		34.84732
Sum squared resid	1.22E+15	Schwarz criterion		35.04569
Log likelihood	-379.3205	Hannan-Quinn criter.		34.89405
F-statistic	14.02418	Durbin-Watson stat		1.981473
Prob(F-statistic)	0.000059			

Source: Processed secondary data, 2024

Based on the data analysis results, the multiple linear regression equation that illustrates the impact of the exchange rate, per capita income, and government expenditure on the demand for oil and gas, as well as non-oil and gas exports from the Nusa Tenggara Timur region to Timor-Leste, is formulated as follows: $Y = 42235882 - 3540.487X1 - 1336.877X2 + 23375.60X3$

The equation indicates that the exchange rate has a negative impact on the demand for oil and gas, as well as non-oil and gas exports from the Nusa Tenggara Timur region to Timor Leste. The regression coefficient of -3540.487 suggests that a 1% increase in the exchange rate (appreciation) would decrease exports by -3540.487%, assuming other factors remain constant (ceteris paribus). In other words, an appreciation in the exchange rate would reduce the demand for exports from the Nusa Tenggara Timur region to Timor Leste.

The per capita income of Timor Leste has a negative impact on the demand for oil and gas, as well as non-oil and gas exports from the Nusa Tenggara Timur region to Timor Leste. The regression coefficient of -1336.877 indicates that a 1% increase in per capita income would reduce the demand for exports by -1336.877%, assuming other factors remain constant (ceteris paribus).

Government expenditure in Timor-Leste has a positive impact on the demand for oil and gas, as well as non-oil and gas exports from the Nusa Tenggara Timur region to Timor-Leste. The regression coefficient of 23,375.60 indicates that a 1% increase in government expenditure would boost the demand for exports by 23,375.60%, assuming other factors remain constant (ceteris paribus).

Partial effect testing was conducted using the t-test at a 5% significance level. The results indicate that the exchange rate and government expenditure variables have a significant impact on export demand, with the probability value of the regression coefficient for the exchange rate being 0.0277 (< 0.05) and the probability value for government expenditure being 0.0002 < 0.05). In contrast, per capita income does not have a significant effect, as indicated by a regression coefficient probability value of 0.5256 > 0.05). Simultaneous effect testing was performed using the F-test at a 5% significance level. The F-test results show that the exchange rate, per capita income, and government expenditure variables have a significant simultaneous impact on export demand from the Nusa Tenggara Timur region to Timor-Leste, with a probability value of 0.000059 < 0.05).

An adjusted R-squared of 0.650423 indicates that approximately 65.04% of the variation in the dependent variable can be explained by the independent variables in this regression model, after accounting for the number of independent variables and the sample size. The remaining 35% of the variation in the dependent variable is not explained by this model, suggesting that other factors beyond the independent variables used also affect the dependent variable.

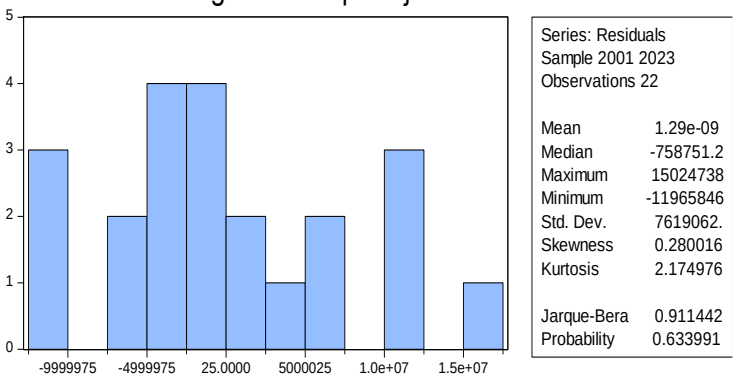
Classical Assumption Test Results

Normality Test

To determine whether the residuals are normally distributed, the Jarque-Bera (JB) statistic is compared with the X^2 table value. The criteria are as follows: a) If the probability of

Jarque-Bera (JB) > 0.05, the residuals are considered normally distributed; b) If the probability of Jarque-Bera (JB) < 0.05, the residuals are considered not normally distributed. The output analysis shows a Jarque-Bera (JB) probability of 0.63 > 0.05), indicating that the residuals are normally distributed.

Figure 5. Output Uji Normalitas



Source: Processed Secondary Data Using EViews 10

Linearity Test

To determine whether the model is linear or not, the F-statistic value is compared with the F-table value (or by comparing their probabilities). The criteria are as follows: a) If the probability of the F-statistic > 0.05, the hypothesis that the model is linear is accepted; b) If the probability of the F-statistic < 0.05, the hypothesis that the model is linear is rejected. The output analysis shows an F-statistic probability of 0.79 > 0.05, indicating that the hypothesis that the model is linear is accepted.

Table 2. Results of Linearity Test Using Ramsey RESET Test

	Value	df	Probability
t-statistic	0.270464	17	0.7901
F-statistic	0.073151	(1, 17)	0.7901
Likelihood ratio	0.094463	1	0.7586

Source: Processed Secondary Data Using Eviews 10

Autocorrelation Test

To detect the presence of serial correlation, the calculated X^2 value is compared with the table value (or its probability), as follows: a) If the probability of the F-statistic > 0.05, the hypothesis that the model is free from serial correlation is accepted; b) If the probability of the F-statistic < 0.05, the hypothesis that the model is free from serial correlation is rejected. The output analysis shows an F-statistic probability of 0.14 > 0.05, indicating that the hypothesis that the model is free from serial correlation is accepted.

Table 3. Results of Autocorrelation Test Using Breusch-Godfrey Serial Correlation LM Test

F-statistic	2.220954	Prob. F(2,16)	0.1409
Obs*R-squared	4.780473	Prob. Chi-Square(2)	0.0916

Source: Processed Secondary Data Using Eviews 10

Heteroskedasticity Test

If the calculated X^2 value (Obs* R squared) is greater than the X^2 table value at a 5% confidence level, for both cross terms and no cross terms, it can be concluded that the model passes the heteroskedasticity test. The output analysis shows that the Obs* R squared value is 9.22, and the X^2 probability is 0.41 > 0.05, indicating that the model passes the heteroskedasticity test.

Table 4. Results of Heteroskedasticity Test Using White Test

F-statistic	0.962228	Prob. F(9,12)	0.5120
Obs*R-squared	9.221716	Prob. Chi-Square(9)	0.4171
Scaled explained SS	3.626690	Prob. Chi-Square(9)	0.9342

Source: Processed Secondary Data Using Eviews 10

Multicollinearity Test

The decision rule for the multicollinearity test using the Variance Inflation Factor (VIF) for each independent variable is as follows:
If VIF < 10: There is no significant multicollinearity. The independent variables are not strongly correlated with each other. If VIF ≥ 10: There is high multicollinearity. The independent variables are strongly correlated, which may cause problems in regression model estimation.
Based on the VIF values in the table, there is no indication of significant multicollinearity among the independent variables in this model. All independent variables have VIF values below 10, indicating that there are no serious multicollinearity issues in this regression model.

Table 5. Results of Multicollinearity Test Using Variance Inflation Factor (VIF)

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	2.26E+14	73.34954	NA
X1	2185303.	98.87080	4.069000
X2	4265341.	6.275048	1.405814
X3	24002151	11.83525	4.758207

Source: Processed Secondary Data Using Eviews 10

DISCUSSION

The impact of exchange rates on the demand for oil and gas and non-oil and gas exports from Nusa Tenggara Timur to Timor-Leste. The negative and significant effect of the exchange rate on export demand identified in this study can be examined from various theoretical perspectives. Krugman & Maurice (2014) argues that changes in the exchange rate can affect the competitiveness of export prices. A higher exchange rate makes export products more expensive in foreign currency, thereby reducing foreign demand. Mehtiyev et al., (2021) emphasizes that exchange rate fluctuations have a direct impact on exporters' profits. A stronger exchange rate makes domestic products more expensive in international markets, which decreases export demand. Anindhita (2017) points out that exchange rate uncertainty can cause volatility in international trade, which in turn reduces export demand as business actors become more cautious about signing new contracts. Tiwari, (2019) underscores the importance of hedging in international trade but also notes that not all companies can hedge effectively, meaning that a strong exchange rate can still reduce export demand. Julian di et al., (2022) contends that global integration and global supply chains can amplify the impact of exchange rates on export demand. A stronger exchange rate can disrupt supply chains and increase costs, thereby reducing the competitiveness of export products.

The research by Fadillah et al., (2022) indicates that a strong exchange rate significantly reduces export demand in Indonesia's agricultural sector, primarily due to decreased price competitiveness in international markets. Arfiani (2019) the elasticity of export demand with respect to exchange rate fluctuations indicates that small changes in the exchange rate can have a significant impact on Indonesia's exports, reflecting the high sensitivity of export demand to these changes. Simanjuntak (2017) found that the appreciation of the rupiah against the US dollar reduces the volume of Indonesian fisheries exports due to higher commodity prices, which diminish competitiveness and demand in international markets. Sugiharti et al., (2020) found that unstable exchange rate fluctuations tend to reduce the confidence of international trade partners, significantly decreasing export demand.

Various theories and research findings on the impact of exchange rates on export demand for different products, in both developed and developing countries, highlight the importance of understanding exchange rate dynamics and their effects on international trade, especially in the context of exports. The combination of theoretical and empirical research indicates that exchange rate fluctuations can have significant

and potentially detrimental effects on export demand.

The impact of Per Capita Income on the Demand for Oil and Non-Oil Exports from Nusa Tenggara Timur to Timor Leste.

The effect of per capita income on export demand, both for oil and gas and non-oil and gas products, is often negative and insignificant. According to Vacu & Odhiambo (2020) an increase in per capita income in importing countries does not necessarily boost export demand if the goods are inferior or if there is a change in consumer preferences. Puri & Amaliah (2021) that rising income can shift consumption from imported goods to domestic goods, statistically reducing export demand. Mendoza and Rodriguez (2018) emphasize that this relationship is influenced by the income elasticity of export goods, so increasing income does not always enhance export demand if consumers switch to more expensive substitute goods. Kasnelly et al., (2023) add that strong substitutes for export goods in local markets diminish the positive impact of per capita income on export demand. Matondang et al., (2024) argue that globalization and rising income in developing countries do not always correspond with increased export demand from developed countries, often leading to increased local production and reduced import demand.

Research findings indicate that increases in per capita income in various Indonesian trading partner countries often do not significantly impact the demand for Indonesian exports. Poppy et al., (2018)found that demand for Indonesian agricultural products did not rise due to a shift towards local products. Satrio & Jamli, (2013) noted that in ASEAN countries, per capita income does not affect the demand for Indonesian manufacturing exports due to a preference for more expensive products from other countries.. Soejachmoen (2016) found that in Japan and South Korea, increased per capita income had no significant effect on Indonesian automotive exports due to local production.. Aryudiawan & Suadi, (2022) found that in China, per capita income does not significantly influence Indonesian fishery exports due to a shift towards domestic products. Zuhdi & Anggraini (2020) found that the decline in the competitiveness of Indonesia's natural rubber exports was due to low product quality and the dominance of smallholder plantations. Meanwhile, in the United States, demand for natural rubber remained low despite rising per capita income, due to the substitution with cheaper synthetic materials. Zuhdi & Anggraini (2020)

This discussion reveals that increases in per capita income in importing countries, whether developed or developing, do not always significantly impact export demand. Factors such as product substitution, shifting consumer preferences, and increased local production in importing countries can diminish the positive effect of rising per capita income on export demand.

The impact of government expenditure on the demand for oil and gas and non-oil and gas exports from Nusa Tenggara Timur to Timor Leste.

The impact of government spending on export demand, both for oil and gas and non-oil and gas sectors, can be analyzed from various theoretical perspectives and recent empirical studies. According to Mushtaq et al., (2014) , increased government spending, particularly in infrastructure and development projects, can boost the demand for imported goods, including exports from other countries. This spending creates a multiplier effect that enhances economic activity and overall demand. Auerbach & Gorodnichenko, (2017) show that government spending directed toward strategic sectors, such as technology and defense, can stimulate export demand due to the need for raw materials and technology not produced domestically. Arfiani, (2019) note that appropriate government budget allocation, particularly for large projects and productive spending, plays a crucial role in driving economic growth by increasing the demand for imported goods and services, as well as creating significant export opportunities for countries with comparative advantages in those goods. Deepti & Deepak, (2020) note that government budget allocations for large projects can raise the demand for imported goods and

services, creating significant export opportunities for countries with a comparative advantage in those goods. Olivier J. & Leigh, (2013) emphasize that increased government spending can improve overall purchasing power, which, in turn, boosts consumption of imported goods and provides a positive spillover effect on exports. Davis et al., (2019)argue that in the era of globalization, government spending in both developed and developing countries can significantly affect global demand. Increased government expenditure, especially on large infrastructure projects, tends to raise the demand for commodities and intermediate goods exported by other countries.

Research findings indicate that increased government spending in various countries significantly impacts Indonesia's export demand. Ikhsan et al., (2020) The impact of the Fourth Industrial Revolution and digital economic liberalization on social classes in Indonesia is similar to how government spending in advanced economies influences the demand for Indonesian electronic products, demonstrating how international economic policies can affect domestic economies. Drelich-Skulska & Jankowiak, (2020) reported that China's infrastructure spending boosts the demand for raw materials and semi-finished products from Southeast Asia, including Indonesia. Muftiadi et al., (2021) showed that government spending in India on infrastructure increases the demand for Indonesian steel and construction materials. Wong et al., (2014) revealed that Japanese spending on green technology positively affects the demand for high-tech components from Indonesia. Gyamfi et al., (2023) reported that European Union spending on energy security strengthens the demand for Indonesian renewable energy products.

This discussion shows that government spending in importing countries can significantly boost export demand from other nations, especially when the spending is directed toward large and strategic projects. This is consistent with economic theory and supported by various empirical studies that affirm a positive relationship between government expenditure and export demand.

CONCLUSION

The exchange rate has a negative and significant impact on the export demand for oil and gas as well as non-oil and gas products from East Nusa Tenggara to Timor Leste. Understanding the dynamics of exchange rates and their impact on international trade, particularly exports, is crucial because exchange rate fluctuations can have significant and potentially detrimental effects on export demand. Per capita income in Timor Leste does not show a significant influence on the demand for oil and gas and non-oil and gas exports from East Nusa Tenggara. Increases in per capita income in importing countries, whether developed or developing, do not always significantly impact export demand due to factors such as the substitution of goods, changes in consumer preferences, and increased local production in importing countries. Meanwhile, government spending in Timor Leste positively affects the demand for oil and gas and non-oil and gas exports from East Nusa Tenggara. Government expenditure in importing countries can significantly boost export demand, especially when allocated to large and strategic projects.

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