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COMPARATIVE STUDY OF ECONOMIC GROWTH, POVERTY RATE AND UNEMPLOYMENT RATE IN SUMATRA

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ABSTRACT

This study aims to determine and analyse the effects of capital expenditure, education, investment, and net exports on economic growth and poverty rates in Sumatra for the 2019-2023 period. Then the analysis tool used is panel data regression. A comparative analysis of economic indicators in the provinces of Sumatra from 2019 to 2023 reveals significant variations in capital expenditure, education, investment, net exports, economic growth, and poverty rates. The trend of capital expenditure in North Sumatra and Riau shows stable growth. Education has increased across provinces, but there are still gaps, with the Riau Islands having the highest rate and the Bangka Belitung Islands having the lowest. PMDN investment is highest in Riau, while Lampung recorded the highest growth. The highest net exports were in Riau, while several provinces experienced high volatility. Economic growth experienced a post-pandemic recovery, with Jambi recording the highest average. Poverty rates tended to decline but were still high in Aceh, while the highest poverty rates were in the Riau Islands and Aceh. Factors such as capital expenditure, education, investment, and net exports have been shown to have a positive effect on economic growth and contribute to reducing poverty. However, investment has no significant impact on poverty.

Keywords: Capital Expenditure, Education, Investment, Net Exports, Economic Growth, Poverty Rate, Unemployment Rate

1.0 INTRODUCTION

The island of Sumatra is a strategically important area in Indonesia, comprising several provinces with significant economic potential. The region is rich in natural resources, including oil, gas, coal, and palm oil. Economic growth in Sumatra has shown varying dynamics between provinces in recent years. Provinces such as Riau and South Sumatra tend to experience higher growth rates due to the presence of industrial and mining sectors. Meanwhile, provinces such as Aceh and Bengkulu face their challenges in increasing economic growth. Differences in economic structure and regional policies also affect the growth rate in each region (Todaro & Smith, 2013). Additionally, investment, infrastructure, and regional political stability also play significant roles. Therefore, it is essential to conduct comparative studies to identify the potential and challenges of each province. That way, the right development policy can be implemented according to regional characteristics (Mankiw, 2013). This study will compare economic growth, poverty rates, and unemployment rates in several provinces in Sumatra.

Economic growth is a key indicator for assessing the progress of a region (Ernawati, 2024). Riau Province, for example, has recorded high economic growth in the last five years, especially from the oil and gas sector and the processing industry. On the other hand, Aceh experienced slower growth due to low private sector contributions and high dependence on special autonomy funds. North Sumatra, which boasts major cities like Medan, exhibits stable growth due to its robust service and trade sectors. However, provinces in the southern part, such as Lampung and Bengkulu, still face obstacles in industrialisation. High economic growth does not necessarily mean an equitable distribution of welfare, especially if an equitable distribution of income does not follow it. Therefore, the analysis of economic growth must be accompanied by an evaluation of the poverty and unemployment rates. By understanding the relationship between these three variables, development policies will become more effective and on target. Comparisons between provinces enable us to identify the factors that drive better growth. Furthermore, learning from successful provinces can be applied to other regions that are still lagging.

The poverty rate in Sumatra shows significant inequality between provinces (Astuti & Mispiyanti, 2019). Provinces such as West Sumatra and the Riau Islands have relatively low poverty rates compared to Aceh and Bengkulu. This difference is caused by several factors, including the quality of education, access to healthcare services, and employment opportunities. Provinces that have industrial centres and urban areas tend to have lower poverty rates (Kuncoro, 2012). On the other hand, provinces with a dominant agricultural sector and limited access to infrastructure tend to have higher poverty rates (Adawiyah, 2020). Local governments need to implement data-driven interventions to reduce poverty rates, particularly in rural areas (Prawoto, 2021). Social assistance programs, community empowerment, and improving the quality of education are the primary keys (Yunanto, 2015). However, short-term assistance must be accompanied by long-term economic development policies. In this study, the comparison of poverty rates will be analysed from BPS data in the last five years. The goal is to assess the trends and effectiveness of policies implemented by each provincial government.

Unemployment is another challenge that is closely related to economic growth and poverty. In several provinces of Sumatra, the unemployment rate remains relatively high, particularly among high school and college graduates. North Sumatra and Riau, for example, despite experiencing good economic growth, still face relatively high unemployment rates. This indicates a mismatch between the labour market's needs and the workforce's competence. On the other hand, provinces such as Jambi and West Sumatra show lower unemployment rates, although their economic growth is not as rapid as Riau's. This condition can occur due to the high level of informal sector and family farming, which absorb a significant amount of labour. The main challenge for the government is to improve the quality of vocational education and job training. In addition, an investment climate is needed that encourages the creation of new jobs. The study will also highlight how unemployment impacts poverty rates in each region. That way, the resulting analysis can provide more comprehensive recommendations.

Based on the description above, the problems in this study can be formulated, namely (1) How do Economic Growth, Inflation, UMP, HDI and Population Growth Affect Poverty in Jambi City simultaneously? (2) How do Economic Growth, Inflation, UMP, HDI and Population Growth Affect Poverty in Jambi City in Particular?

Based on previous research, economic growth is influenced by capital expenditure, education, investment and net exports. According to research conducted by Pangestu (2019), capital expenditure has a positive and significant impact on economic growth. Then research conducted by (Hanifah et al., 2023) that education has a positive and significant effect on economic growth. Furthermore, research conducted by (Apriliansah, 2024) shows that investment has a positive and significant effect on economic growth. Meanwhile, research conducted by (Permatasari et al., 2024) shows that net exports have a positive and significant effect on economic growth.

Furthermore, several previous studies have suggested that poverty levels are influenced by capital expenditure, education, investment, and net exports. Based on research conducted by Amami and Asmara (2022), capital expenditure has a significant effect on the poverty rate. Research conducted by Ayu and Faisal (2021) found that education has a significant impact on poverty levels. Furthermore, research conducted by Nisa et al. (2023) shows that investment has a significant effect on poverty levels. Meanwhile, research conducted by Adisti (2010) shows that net exports have a significant effect on poverty levels.

Furthermore, several previous studies have found that the unemployment rate is influenced by capital expenditure, education, investment, and net exports. Based on research conducted by Fahira et al. (2023), capital expenditure has a significant effect on the unemployment rate. Research conducted by Saputra et al. (2023) found that education has a significant impact on the unemployment rate. Furthermore, research conducted by Sinha (2022) shows that investment has a significant effect on the unemployment rate. Meanwhile, research conducted by Pramesti (2023) shows that net exports have a significant effect on the unemployment rate.

From this phenomenon, low economic growth, high poverty rates and high unemployment evidence the poor macro conditions in the Sumatra region. Meanwhile, the roles of capital expenditure, investment, education, and net exports, when viewed in terms of their contribution to regional revenue and expenditure, are also not significant. For this reason, the researcher wants to find out more about the influence of capital expenditure, net exports, education and investment on economic growth, poverty rates and unemployment rates in provinces in Sumatra in the form of a thesis entitled: "A Comparative Study of Economic Growth, Poverty Rates and Unemployment Rates in Sumatra".

The objectives of this study are (1) to identify and analyse the comparison of capital expenditure, education, investment, net exports, economic growth, poverty rates, and unemployment rates between the Sumatra region for the 2019-2023 period. (2) To know and analyse the influence of capital expenditure, education, investment and net exports on economic growth, poverty rate and unemployment rate in Sumatra for the 2019-2023 period.

2.0 LITERATURE REVIEW

Economic Growth

Regional economic growth, according to Todaro, Michael & Smith (2013), "Economic growth is an increase in production activities in real terms (excluding price increases), both in the form of goods and services, in a certain period." Therefore, the measurement of regional economic growth can be determined by calculating the increase in the value of GDP from one year to the next. Decentralisation has a significant impact on the economic growth of a region. This supports the synthesis that states the granting of greater autonomy will have a greater impact on economic growth, encouraging regions to allocate their various local potentials more efficiently for the benefit of public services.

Poverty

According to Haughton & Khander (2012), poverty is often linked to inequality and vulnerability, as individuals who are not considered poor can become impoverished at any time due to financial crises or declines in agricultural product prices. Vulnerability is a key dimension of well-being because it affects the behaviour of everyone in terms of investment, production patterns, and appropriate strategies and perceptions of their situation.

Unemployed

An unemployed person is someone who does not engage in hobbies or work, is actively seeking a job, works for less than two days a week, or is in the process of trying to secure a decent job (Prawoto, 2021).

Capital Expenditure

Dewi (2006) and Syaiful (2008) stated that capital expenditure is an expenditure made in the context of capital formation, which is like adding fixed assets/inventory that provide benefits for more than one accounting period, including expenditure on maintenance costs that maintain or increase the useful life, increase capacity and asset quality.

Education

Tjiptoherijanto (2002) stated that the aspect of education significantly impacts the poverty level of the community. He said that the basis for improving the level of community welfare began with improving their quality. The factors that affect the quality of society at large include income, education, and health factors.

Investment

Investment is also defined as spending a certain amount of money on investors or entrepreneurs to raise money for productive activities to generate profits in the future. Investment is generated from income and investments that are directly or indirectly saved by many parties to increase production and future income. Investment refers to business expansion or spending on new equipment, as well as increasing inventory (Mankiw, 2013).

Net Exports

Net exports are the difference between the value of a country's exports and imports, commonly referred to as net exports (Ibrahim, 2016). Net export is the value of goods and services exported to other countries minus the value of goods and services imported from other countries (Mankiw, 2013).

3.0 METHODOLOGY

The research method used in this study is a secondary data analysis method. The analysis method employed in this study is a descriptive approach that combines qualitative and quantitative methods. According to (Ghozali, 2013), panel data is a combination of periodic data (time series) and individual data (cross-section). Time series data is data collected over time on an individual. Meanwhile, cross-sectional data is data collected at one time on many individuals.

The panel data regression model, which is used to find out the results of the research on the research objectives of the influence of capital expenditure, education, investment, and net exports on economic growth, namely using the following panel data regression equation:

$$PE_{it} = \beta_0 + \beta_1 BM_{it} + \beta_2 PD_{it} + \beta_3 I_{it} + \beta_4 EN_{it} + \varepsilon_{it}$$

To find out the results of the research on the research objectives of the influence of capital expenditure, education, investment and net exports on the poverty level, namely using the regression equation of the following panel data:

$$TK_{it} = \beta_0 + \beta_1 BM_{it} + \beta_2 PD_{it} + \beta_3 I_{it} + \beta_4 EN_{it} + \varepsilon_{it}$$

To find out the results of the research on the effect of capital expenditure, education, investment and net exports on the unemployment rate, namely using the following panel data regression equation:

$$TP_{it} = \beta_0 + \beta_1 BM_{it} + \beta_2 PD_{it} + \beta_3 I_{it} + \beta_4 EN_{it} + \varepsilon_{it}$$

dimana :

β_0 = intersep,
β_1 dan β_4 = Regression Coefficients,
ε_{it} = Error Term,
PE_{it} = Economic Growth in Province i Period t,
TK_{it} = Poverty Rate in Province i Period t,
TP_{it} = Unemployment Rate in Province i Period t,
BM_{it} = Government Capital Expenditure in Province i Period t,
PD_{it} = Education in the province i period t,
I_{it} = Investment in the province i period t,
EN_{it} = Net exports in provinces in the period t.

4.0 FINDINGS AND DISCUSSION

The Influence of Capital Expenditure, Education, Investment, and Net Exports on Economic Growth in Sumatra
Statistical F Test

It can be seen that the value of Prob (f Statistic) is 0.000000 > 0.05, so it means that Ho is accepted. Ha is rejected, which means that the test together shows that capital expenditure, education, investment and net exports simultaneously have a significant effect on economic growth in the provinces in Sumatra.

Coefficient of Determination (R^2)

It can be seen that the R-squared value is 0.533522, meaning that the economic growth variable can be explained by the independent variable at its correlation rate of 53.35 percent.

Statistical t-test

To test the significance of the influence of capital expenditure, education, investment, and net exports on economic growth in provinces in Sumatra, a statistical t-test was used. The statistical t-test is useful to see the magnitude of the influence of each independent variable on the dependent variable, partially. 95 percent confidence level.

Table 1 Statistical t-values in the REM Method

Variable	t statistic	Prob.	Information
BM?	3.460850	0.0012	Significant
PD?	2.577839	0.0133	Significant
I?	2.930093	0.0053	Significant
EN?	3.565423	0.0009	Significant

Source: Data Processing, Eviews 09 (2025)

Based on Table 1, the results of the statistical t-test can be explained as follows: It is known that the p-value of the capital expenditure is 0.0012, as $p < 0.05$; therefore, H0 is rejected and H1 is accepted. This shows that capital expenditure has a positive and significant effect on economic growth in the provinces on the island of Sumatra. It is known that the Prob value of education is 0.0133 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This shows that education has a positive and significant effect on economic growth in the provinces on the island of Sumatra. It is known that the Prob value of the investment is 0.0053 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This shows that investment has a positive and significant effect on economic growth in the provinces on the island of Sumatra. It is known that the Prob value of net exports is 0.0009 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This indicates that net exports have a positive and statistically significant impact on economic growth in the provinces on the island of Sumatra.

The Effect of Capital Expenditure, Education, Investment, and Net Exports on Poverty Levels in Sumatra
Statistical F Test

It can be seen that the Prob value (f Statistic) is 0.00000 < 0.05, so it means that Ho is rejected. Ha is accepted, which means that the test together shows that capital expenditure, education, investment and net exports simultaneously have a significant effect on the poverty level in the provinces in Sumatra.

Coefficient of Determination (R^2)

It can be seen that the R-squared value is 0.596486, indicating that the free variable can explain the poverty level variable at a correlation level of 59.65%.

Statistical t-test

To test the significance of the influence of capital expenditure, education, investment and net exports on the poverty level in provinces in Sumatra, a statistical t-test was used. The Statistical t-test helps assess the magnitude of the influence of each independent variable on the dependent variable, albeit partially. 95 per cent confidence level.

Table 2. Statistical t-values in the REM Method

Variable	t statistic	Prob.	Information
BM?	-7.738765	0.0000	Significant
PD?	-2.999512	0.0044	Significant
I?	-2.410139	0.0201	Significant
EN?	-4.671553	0.0000	Significant

Source: Data Processing, Eviews 09 (2025)

Based on Table 2, the results of the statistical t-test can be explained as follows:

It is known that the Prob value of the capital expenditure is 0.0000 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This shows that capital expenditure has a negative and significant effect on the poverty level in the provinces on the island of Sumatra. It is known that the Prob of education is 0.0044 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This indicates that education has a negative and significant impact on the poverty rate in the provinces of Sumatra. It is known that the Prob of the investment is 0.0201 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This indicates that investment has a negative and significant impact on the poverty rate in the provinces of Sumatra. It is known that the Prob of net exports is 0.0000 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This indicates that net exports have a negative and statistically significant impact on the poverty rate in the provinces of Sumatra.

The Influence of Capital Expenditure, Education, Investment and Net Exports on the Unemployment Rate in Sumatra
Statistical F Test

It can be seen that the Prob (f Statistic) value of 0.00000 < 0.05, which means that Ho is rejected and Ha is accepted, which means that the test together shows that capital expenditure, education, investment and net exports simultaneously have a significant effect on the unemployment rate in the provinces in Sumatra.

Coefficient of Determination (R^2)

It can be seen that the R-Squared value is 0.597809, which means that the unemployment rate variable can be explained by the independent variable at its correlation rate of 59.78 per cent.

Statistical t-test

To test the significance of the influence of capital expenditure, education, investment and net exports on the unemployment rate in provinces in Sumatra partially, a statistical t-test was used. The Statistical t-test is useful to see the magnitude of the influence of each independent variable on the dependent variable partially. 95 percent confidence level.

Table 3 Statistical t-values in the REM Method

Variable	t statistic	Prob.	Information
BM?	-2.528232	0.0150	Significant
PD?	-4.570330	0.0000	Significant
I?	-1.366249	0.1786	Insignificant
EN?	-2.328561	0.0244	Significant

Source: Data Processing, Eviews 09 (2025)

Based on Table 3, the results of the statistical t-test can be explained as follows:

It is known that the Prob value of the capital expenditure is 0.0150 because the Prob < 0.05, H0 is rejected and Ha is accepted. This shows that capital expenditure has a negative and significant effect on the unemployment rate in the provinces on the island of Sumatra. It is known that the Prob of education is 0.0000 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This shows that education has a negative and significant effect on the unemployment rate in the provinces of Sumatra. It is known that the Prob of the investment is 0.1786 because the Prob > 0.05, then H0 is accepted and Ha is rejected. This shows that investment does not have a significant effect on the unemployment rate in the provinces of Sumatra. It is known that the Prob of net exports is 0.0244 because the Prob < 0.05, then H0 is rejected and Ha is accepted. This shows that net exports have a negative and significant effect on the unemployment rate in the provinces in Sumatra.

The Influence of Capital Expenditure, Education, Investment and Net Exports on Economic Growth in Sumatra

Based on the study's results, capital expenditure has a positive and significant impact on economic growth in Sumatra. The results of this study align with the theory proposed by Rostow and Musgrave, which suggests that in the early stages of economic development, the government's capital expenditure model is characterised by a large percentage of government investment in total investment. This is because the government must provide facilities and infrastructure for education, health, and transportation to boost economic growth.

Capital expenditure has a significant influence on economic growth in Sumatra because the allocation of funds for infrastructure development, such as roads, bridges, ports, and other public facilities, can improve connectivity between regions. Adequate infrastructure facilitates the distribution of goods and services, reduces logistics costs, and attracts private investment. In addition, increased capital expenditure in the education and health sectors contributes to improving the quality of human resources, which ultimately boosts labour productivity. The construction sector has also had a positive impact with the increase in development projects, thereby creating new jobs and increasing people's purchasing power. With increasing consumption and investment, regional economic growth is also encouraged. Furthermore, capital expenditure allocated for industrial development and tourism in Sumatra can accelerate economic diversification, reducing dependence on the agricultural and mining sectors. Efficiency in capital expenditure management also determines the extent of its impact on economic growth. If the use of capital expenditure is ineffective or wasteful, then the positive impact will be less than optimal. Therefore, planning and supervision in budget realisation are very necessary so that capital expenditure really has a maximum impact on economic growth.

Based on the study's results, education has a positive and significant impact on economic growth in Sumatra. The results of this study agree with Johar (2023) who said that education improves the quality of human resources, which is one of the keys to sustainable economic growth. With a more skilled and educated workforce, productivity increases, innovation is enhanced, and adaptability to new technologies also improves.

The influence of education on economic growth in Sumatra is because education has an important role in encouraging economic growth in Sumatra because it improves the quality of human resources which are the driving force of development. With better education, the workforce has higher skills and knowledge, so productivity increases and the competitiveness of the workforce in the global market is stronger. In addition, good education also encourages innovation and entrepreneurship, which can create new jobs and drive strategic economic sectors. Equitable education throughout Sumatra also helps reduce economic disparities between regions, as people in remote areas have equal opportunities to get better jobs. Furthermore, higher education enables the faster adoption of technology in various industrial sectors, including agriculture, manufacturing, and services, which can enhance production efficiency and drive economic growth. Additionally, the increase in the average length of schooling in Sumatra contributes to the community's per capita income growth, as individuals with higher education tend to secure better-paying jobs. Education also plays a crucial role in shaping a more critical and adaptive mindset, enabling people to better prepare for global economic changes. Therefore, investment in education, whether through improving the quality of teachers, school facilities, or curricula relevant to the job market's needs, is essential to ensure that economic growth in Sumatra can be sustainable and inclusive.

Based on the study's results, investment has a positive and significant impact on economic growth in Sumatra. The results of this study align with Fatihudin (2016), who stated that Investment, both from domestic and foreign sectors (Foreign Direct Investment/FDI), is one of the primary engines of economic growth. Investment increases production capacity and creates jobs, which in turn increases overall economic output.

The effect of investment on economic growth in Sumatra can be caused by investment encouraging an increase in production activities, job creation, and capital flows to various economic sectors. Investment, both domestic and foreign, contributes to the development of infrastructure, such as roads, ports, and energy, which supports the efficient distribution of goods and services. With adequate infrastructure, production and transportation costs can be reduced, thereby increasing regional economic competitiveness. Additionally, investments in the industrial, agricultural, and tourism sectors can encourage economic diversification, reduce dependence on specific sectors, and increase the added value of local products. Investment also plays a crucial role in technology transfer and the upskilling of the workforce, ultimately increasing productivity. With new capital, companies can develop their businesses, create more job opportunities, and increase people's income. The increase in public consumption resulting from higher income also fosters sustainable economic growth. In addition, investments directed at the education and health sectors will strengthen the quality of human resources, which are a major factor in long-term economic growth. However, the effectiveness of investment is highly dependent on government policies in creating a conducive investment climate, including legal certainty, ease of licensing, and political and economic stability. Therefore, policies that support investment inflows will greatly determine Sumatra's success in achieving inclusive and sustainable economic growth.

Based on the results of the study, net exports have a positive and significant effect on economic growth in Sumatra. The results of this study agree with (Permatasari et al., 2024) who say that positive net exports contribute directly to economic growth. When a country increases exports, national revenues will increase, which can further encourage investment and consumption. Export-dependent sectors often grow faster than other sectors, improving overall economic performance.

The effect of net exports on economic growth in Sumatra because it reflects the competitiveness of the regional economy in international trade. If exports are greater than imports (trade surplus), then regional revenues increase, thus encouraging economic growth. Sumatra has great export potential, especially in the plantation sector such as oil palm, rubber, and coffee, as well as the mining sector such as coal and petroleum. As global demand for Sumatran's export commodities increases, domestic production is boosted, which ultimately creates more jobs and increases people's incomes. In addition, export surpluses can increase foreign exchange reserves, which are useful for maintaining economic stability and the rupiah exchange rate. But, If exports decline or imports are higher than exports (trade deficit), then economic growth can be hampered because more funds go out than come in. Therefore, policies that support increased exports, such as diversification of export products, improved product quality, and efficiency in the production and distribution process, are essential to ensure that net exports contribute positively to economic growth in Sumatra. In addition, the stability of commodity prices in the international market and trade agreements with other countries are also factors that affect the performance of net exports in driving economic growth.

Based on the results of the study, capital expenditure has a negative and significant effect on the poverty level in Sumatra. The results of this study agree with (Amami & Asmara, 2022) who say that capital expenditure, especially in infrastructure, opens access to basic services such as transportation, clean water, and electricity, which ultimately improves the quality of life of the poor. Good infrastructure also creates more jobs, providing opportunities for poor people to increase their incomes.

The effect of capital expenditure on the poverty level in Sumatra can encourage infrastructure development and create wider jobs. Government investment in infrastructure such as roads, bridges, electricity, and other public facilities can improve people's accessibility to basic services, such as education and health, ultimately improving their quality of life. In addition, capital expenditure allocated for the construction of education and health facilities can improve the quality of human resources, thereby increasing employment opportunities and people's income. Infrastructure development also attracts private investment, which contributes to increased economic activity and the creation of new jobs. With more job opportunities, people's incomes increase, so their purchasing power also improves and poverty rates can be reduced. In addition, capital expenditure allocated for the development of productive sectors, such as agriculture, industry, and MSMEs, can increase community productivity and encourage more inclusive economic growth. However, the effectiveness of capital expenditure in reducing poverty is highly dependent on proper policy planning and implementation. If capital expenditure is not on target or inefficient, its impact on poverty reduction can be less than optimal. Therefore, transparency, supervision, and evaluation of the use of capital expenditure are needed so that the benefits can be felt directly by the poor in Sumatra.

Based on the results of the study, education has a negative and significant effect on the poverty rate in Sumatra. The results of this study agree with (Eka Suputra & Martini Dewi, 2015) who say that education plays an important role in reducing long-term poverty. By improving access and quality of education, individuals from low-income groups can acquire the skills needed to get better jobs and improve their standard of living. Quality education also encourages social mobility and breaks the cycle of intergenerational poverty.

The effect of education on the poverty rate in Sumatra can be caused by several factors, namely higher education increases skills and productivity of the workforce, graduates with higher education have a greater chance of entering the formal sector which offers higher job stability and welfare than the informal sector, access to quality education provides entrepreneurial skills that enable individuals to Creating one's own jobs and reducing dependence on low-wage jobs, education also plays a role in improving financial literacy, So that people are able to manage their finances better and avoid the snare of poverty, education opens access to various training and skills certification programs that can increase the competitiveness of the workforce in the job market and an increase in the average length of schooling in an area correlates with more inclusive economic growth, so that more poor people can get out of poverty.

Based on the results of the study, investment has a significant negative effect on the poverty level in Sumatra. The results of this study agree with (Hodijah, 2017) who said that investment in the economy, both domestic and foreign, creates more jobs and expands opportunities for the poor to engage in more productive economic activities. Investment also drives growth in sectors such as manufacturing and services, which provide better-paying job opportunities.

The effect of investment on the poverty level in Sumatra is because investment can encourage local economic growth, create jobs, and increase people's income. Investment from domestic business actors, both by private companies and the government, is generally more directed towards sectors that are closely related to the socio-economic conditions of the community, such as agriculture, plantations, the manufacturing industry, and MSMEs. With the development of these sectors, job opportunities for the poor are becoming more open, so that their income increases and purchasing power also improves. In addition, investment is often focused on the development of basic infrastructure, such as roads, bridges, electricity, and education and health facilities. This development can increase people's access to better public services, so they have a greater chance of getting out of poverty.

Based on the results of the study, net exports have a negative and significant effect on the poverty level in Sumatra. The results of this study agree with (Ismi, 2019) who said that positive net exports, where the value of exports is greater than imports, contribute to economic growth which can reduce poverty rates. As the export sector grows, employment in related sectors increases, which in turn helps to reduce unemployment and increase people's incomes, especially in rural areas that often depend on the agricultural sector or export manufacturing industries. Overall, these four factors have an interrelated impact on increasing incomes, reducing inequality, and driving sustainable poverty reduction.

The effect of net exports on the poverty level in Sumatra can be caused by net exports affecting the poverty level in Sumatra because it reflects the balance between exports and imports which can affect economic growth, job creation, and increase people's income. If net exports are positive (trade surplus), it means that the value of exports is greater than imports, which indicates the strong competitiveness of Sumatra's economic sectors, such as plantations (oil palm, rubber, coffee), mining, and fisheries. With the increasing global demand for Sumatran's superior products, domestic production is increasing, creating more jobs and increasing people's incomes, especially for workers in the agricultural sector and export-based industries. Export surpluses can also increase the country's foreign exchange receipts, which can ultimately be used to support development and social welfare programs, such as infrastructure, education, and health. With better infrastructure, people's access to markets and public services increases, which contributes to poverty reduction. In addition, higher income from exports can increase people's purchasing power and encourage the growth of the MSME sector, which also plays a role in reducing poverty. However, if net exports are negative (trade deficit), more money goes out than comes in, which can slow economic growth and hinder job creation. In addition, high dependence on imports can make the price of consumer goods more expensive for the poor.

Based on the results of the study, capital expenditure has a negative and significant effect on the unemployment rate in Sumatra. The results of this study agree with (Fahira et al., 2023) who said that the causes of unemployment are related to the use of capital so that employment problems depend on the amount of expenditure (total expenditure). According to Keynes, unemployment cannot be eliminated but can be reduced. Reducing unemployment can be done by expanding employment opportunities and to expand employment opportunities capital is needed, capital required is capital expenditure.

Capital expenditure has an effect on the unemployment rate in Sumatra because it can encourage job creation, increase economic activity, and accelerate the growth of strategic sectors. Capital expenditure allocated for infrastructure development, such as roads, bridges, ports, and public facilities, will open up many job opportunities for local workers, both in the construction sector and other supporting sectors. With the existence of development projects, the demand for labor increases, so the unemployment rate can be suppressed. Capital expenditure directed at the development of industries and productive sectors, such as agriculture, manufacturing, and tourism, can also expand employment opportunities in various regions of Sumatra, especially for the young workforce and low-educated people. Furthermore, capital expenditure that supports the MSME sector will encourage the growth of small and medium-sized enterprises, which are the largest absorbers of labor in many regions. With increased investment in infrastructure and productive sectors, the attractiveness of private investment is also getting higher, which ultimately creates more job opportunities. However, the effectiveness of capital expenditure in reducing unemployment is highly dependent on proper planning and implementation. If capital expenditure is not directed or only focused on projects that absorb less labor, then the impact on the reduction of unemployment will be limited.

Based on the results of the study, education has a negative and significant effect on the unemployment rate in Sumatra. The results of this study agree with (Johar, 2023) who said that education also plays an important role in reducing unemployment, because the higher the level of education and skills of the workforce, the greater their chances of getting a job. Good education prepares individuals to meet the needs of an increasingly complex and dynamic labor market, thereby reducing structural unemployment due to the mismatch between workers' skills and industrial needs.

The effect of education on the unemployment rate in Sumatra can be caused by the existence of vocational education programs and job skills training to help create a workforce that is ready to use and in accordance with the needs of the industrial world, the government and the business world to further increase cooperation in industry-based education, such as internships and research cooperation, which facilitates the transition of graduates to the world of work. More educated people tend to have wider social networks, which can help them get better information and access to job opportunities and overall, education plays a role in creating a more dynamic and innovative economic ecosystem, which encourages the growth of the business sector and the absorption of labor in Sumatra.

Based on the results of the study, investment does not have a significant effect on the unemployment rate in Sumatra. The results of this study do not agree with (Hidayah & Aji, 2022) who say that investments aimed at infrastructure development, industrial sectors, and technology create new jobs, both in the construction process and operations. In addition, investments in education and job training improve the skills of the workforce, so they are better prepared to compete in the job market and meet the needs of an ever-growing workforce. On the other hand, investment in the entrepreneurial sector encourages the emergence of new businesses that not only create jobs for business owners but also for the surrounding community. Thus, the right and sustainable investment can be one of the main solutions to reduce unemployment and increase economic stability.

The lack of effect of investment on the unemployment rate in Sumatra can be caused by the investment that comes in more concentrated in capital-intensive sectors such as mining and large-scale plantations, which require more machinery and technology than human labor, investment is often not followed by an improvement in the quality of the local workforce, so many education graduates in Sumatra do not have the skills that suit the needs of the industry, The weak linkage between investment and the small and medium enterprises (SMEs) sector has led to investment benefits not spreading widely and creating significant jobs, with many investments focusing more on infrastructure development, such as roads and ports, which although important for the economy in the long term, does not necessarily create many jobs for local workers in the short term and lack of incentive for companies to absorb local workers, especially in industries that require specialized skills.

Based on the results of the study, net exports have a negative and significant effect on the unemployment rate in Sumatra. The results of this study agree with (Pramesti, 2023) who said that positive net exports, where the value of exports is greater than imports, indicates that domestic production is increasing to meet global demand. This encourages the expansion of production sectors, especially in the manufacturing and agricultural industries, which require more labor, thus helping to reduce unemployment. Overall, these four factors contribute significantly to reducing the unemployment rate by driving economic growth, creating jobs, and improving the skills of the workforce.

Net exports that affect the unemployment rate in Sumatra can be caused by several main factors. As net exports increase, which means exports are greater than imports, demand for domestic products also increases, driving industrial growth and creating more jobs. Conversely, if net exports decline or run a deficit, export-dependent industries may experience a decline in production, leading to layoffs and rising unemployment rates. In addition, Sumatra's economic structure, which relies heavily on the plantation, mining, and manufacturing sectors, makes it highly sensitive to fluctuations in international trade. If the prices of major commodities fall or trade barriers occur, exports may weaken, reducing investment and employment opportunities in related sectors. Thus, net exports play an important role in determining the stability of the labor market in Sumatra.

5.0 CONCLUSION

Analysis of factors affecting economic growth, poverty rates, and unemployment rates in Sumatra provinces shows that capital expenditure, education, investment, and net exports have a positive and significant effect on economic growth. Then the results of the study also show that capital expenditure, education, investment, and net exports have a negative and significant effect on the poverty rate. Meanwhile, the results of other studies show that capital expenditure, education and net exports have a negative and significant effect on the unemployment rate, while investment has no significant effect on the unemployment rate.

To increase economic growth in the provinces of Sumatra, local governments need to allocate capital expenditure more effectively and on target, especially in infrastructure development that can encourage community economic activities. The construction of roads, bridges, and other transportation facilities will facilitate the distribution of goods and services, thereby increasing regional competitiveness. In addition, the government needs to strengthen the education sector by improving access and quality of education in all regions, especially in remote areas. Vocational training and education programs should be developed to create a skilled workforce that aligns with the industry's needs. Ease of investment regulation must also be a significant concern, so that investors are more inclined to invest their capital in productive sectors, which have a direct impact on improving the local economy. Not only that, but the increase in net exports also needs to be supported by the diversification of superior products and an improvement in the competitiveness of regional commodities, in order to compete effectively in the global market. The government can also encourage the MSME sector to be export-oriented by providing training, mentoring, and access to adequate capital.

To reduce poverty and unemployment rates, the government must ensure that the policies implemented create wide and high-quality jobs. Labour-intensive programs can be a short-term solution for absorbing a workforce that lacks specialised skills. In addition, synergy between the government, the business world, and educational institutions needs to be strengthened so that education graduates possess skills that align with the job market's needs. Investment in labour-intensive industrial and technology-based sectors must be increased to create more sustainable jobs. Meanwhile, the development of the agriculture and fisheries sector must also be a priority, considering the large number of people in Sumatra who depend on this sector for their livelihood. The government needs to provide incentives for farmers and fishermen, such as business capital assistance, modern technology, and wider market access. With targeted and sustainable policies, it is hoped that high economic growth can be achieved while significantly reducing poverty and unemployment rates.

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