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ARTICLE

Influence of Investment on Economic Growth, Human Development, Poverty and Unemployment in Bangka Belitung Island Province in the 2018–2023 Period

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Abstract: Investment is one of the key factors that affect economic dynamics. This research focuses on the Bangka Belitung Islands Province, specifically its investment in the tin and non-tin sectors, as the largest tin-producing area in the world. Investment is an important component in capital formation; investment has great potential to spur economic growth, improve people's quality of life, and reduce social problems such as poverty and unemployment. The aim of this research is to determine the effect of investment in the tin and non-tin sectors on economic growth, the Human Development Index, poverty levels, and unemployment rates in the Bangka Belitung Islands Province from 2018 to 2023. Associative quantitative research type, with multiple regression analysis tools. The research results indicate that investment in the tin sector has a positive impact, while investment in the non-tin sector has a negative impact on economic growth; however, this effect is not statistically significant. Tin sector investment and non-tin sector investment have a negative impact on the Human Development Index, although it is not statistically significant. Tin sector investment has a positive and significant effect, while non-tin sector investment has a negative effect on poverty levels, but this effect is not statistically significant. Investment in the tin sector and non-tin investment have a negative effect on the unemployment rate, but this effect is not significant. The conclusion from research over the last six years is that investment conditions have decreased significantly. This decline began with the COVID-19 incident in 2019, and that had an impact on economic and social development. The solution needs to be more proactive in both the government and private sectors to increase investment from investors, both domestic and foreign. Apart from that, there is a need to set a quality investment strategy so that the investment can be beneficial for increasing socio-economic development, especially in the Bangka Belitung Islands Province.

Keywords: Investment; Economic Growth; Human Development; Poverty; Unemployment.

1. Introduction

Investment plays a crucial role in a country's economic development. Generally, investment serves to increase production capacity, create jobs, and enhance per capita income. Investment can be in the form of physical investments, such as infrastructure and factory development, as well as investment in the form of human resource development through education and training. Through efficient capital allocation, investment supports increased productivity and innovation, which in turn can accelerate economic growth. Additionally, foreign direct investment (FDI) often introduces new technologies and skills, enhancing the competitiveness of the domestic economy. Therefore, with investment, both domestic and foreign, a country's economy can develop faster and more sustainably.

In macroeconomic theory, national income or regional income is described by the equation $Y=C+I+G+(X-M)$, which means that income is generated both nationally and regionally through a combination of consumption, investment, government spending, and net exports. Investment, as stated by Paul M. Jhonson in Ambo (2018), is all income spent by companies or government institutions on capital goods for productive activities. Investment can be used as an instrument or stimulant in production, trade, export, and community economic activities. The impact of increasing investment linearly is to increase economic growth and community welfare. The level of human development, poverty and unemployment measures the welfare of the community in question. Ideally, both the central government and local governments should compete to prioritize policies that are friendly to the attractive business world, thereby attracting capital. In addition, Hulman Panjaitan stated that an investment project is a plan to invest resources in a project or activity to obtain benefits in the form of monetary value in the future (Ambo, 2018).

According to Harrod-Domar, as cited in Ambo (2018), the investment will not only create new jobs but also increase production, thereby facilitating economic growth. Investment in education and healthcare facilities will have a direct, positive impact, making a significant contribution to increasing the human development index. Human development is directly related to improving the quality of human resources, which is a vital investment necessary for a nation's progress. This progress is to provide each individual with broader life opportunities, knowledge, and economic aspects. Herawati et al. stated that evaluating the success of development is not only in terms of economic growth but also from the community's capacity to obtain resources to meet basic needs (Rahajeng Neysa Alifia & Moh. Khusaini, 2024).

The tin mining sector has a very vital role in the economic development of the Bangka Belitung Islands Province. As one of the largest tin producers in the world, this sector is a key driver of regional economic growth, contributing a significant portion of the Gross Regional Domestic Product (GRDP). The tin produced from this province is exported to various countries and used in the electronics, manufacturing, and automotive industries, thus contributing significantly to the country's foreign exchange and the growth of the industrial sector. In addition, the tin mining sector plays a crucial role in economic growth and job creation, both directly within the mining sector and indirectly through supporting sectors such as transportation, logistics, and trade.

The economy of the Bangka Belitung Islands Province in 2024 is projected to grow positively, albeit at a slower pace compared to 2023. In general, the economy of the Bangka Belitung Islands Province in 2024 is expected to be hindered by the sluggish performance of tin commodities. As a leading commodity, the inhibition of tin performance also has an impact on the decline in the performance of key sectors (Bank Indonesia, 2024).

Table 1. Development of Investment, Economic Growth, Human Development Index, Poverty Rate and Unemployment Rate in Bangka Belitung in 2018–2023

The development of investment conditions, economic growth, human development index, poverty level, and unemployment rate in Bangka Belitung in 2018-2023 is shown in [Table 1](#).

Year	Tin Sector Investment (Rp)	Non-tin Sector Investment (Rp)	Economic Growth (%)	HDI	Poverty Rate (%)	Unemployment Rate (%)
2018	16172801144467	132376010000	4,45	70,67	5,25	3,65
2019	903110466430	1222535580209	3,32	71,30	4,62	3,62
2020	825393340480	732184013200	-2,29	71,47	4,89	5,25
2021	240573530967	188979000000	5,05	71,69	4,67	5,03
2022	782372753643	296801502003	4,40	72,24	4,61	4,77
2023	54437000000	70747200002	4,38	72,85	4,52	4,56

Source: Department of Investment and one-stop integrated services, BPS Bangka Belitung.

The data in [Table 1](#) show non-linear relationships between the development of investment in the tin and non-tin sectors and socio-economic development in the Bangka Belitung Islands province. Over the last six years, investment in the tin sector has experienced a drastic decline, specifically from a value of \$16 trillion to only \$54 billion, representing a sharp or extreme decline similar to the decline in non-tin investment. The real impact of the decline in investment led to Bangka Belitung's economic growth experiencing stagnation or a pattern of fluctuations during the 2018-2023 period. The effect of investment on human development is somewhat different from a decrease in investment; in fact, human development increases slowly. The effect of investment on poverty levels, as seen in the data above, is also not significant. One of the causes of the problems is inadequate investment, seen in terms of quantity and quality of utilization.

2. Methods

The research location is in the Bangka Belitung Islands Province with a research schedule from January to February 2025. The type of research used is associative quantitative research. Population is data for 2018–2023, for variable X_1 ; tin sector investment data, variable X_2 ; non-tin sector investment data, Variable Y_1 ; economic growth data, Y_2 ; human development index, variable Y_3 ; poverty level data, variable Y_4 ; unemployment rate data. Sample selection for variables X_1 , X_2 and variables Y_1 , Y_2 , Y_3 , Y_4 were carried out using a purposive random sampling system for the last 6 years of the 2018–2023 data series.

Descriptive data analysis using tables and graphs. Inferential analysis using the classic assumption test was conducted to ensure that the data used in this study were normally distributed and that there were no signs of heteroscedasticity, autocorrelation, or multicollinearity. Multiple regression analysis is used to determine the nature of positive or negative influences, as indicated by regression coefficients, and predict to predict the dependent variable (Y). The magnitude of the influence of the independent variable on the dependent variable uses the coefficient of determination analysis.

There are 4 multiple regression equations in this research, namely:

$$1. Y_1 = a + b_1X_1 + b_2X_2.$$

$$2. Y_2 = a + b_1X_1 + b_2X_2$$

$$3. Y_3 = a + b_1X_1 + b_2X_2$$

$$4. Y_4 = a + b_1X_1 + b_2X_2$$

Note: a : constanta, b : regression coefficient

X_1 ; tin sector investment, X_2 ; non-tin sector investment,
 Y_1 ; economic growth, Y_2 ; human development index,
 Y_3 ; poverty rate, Y_4 ; unemployment rate.

Hypothesis testing is carried out simultaneously and partially. Simultaneous hypothesis testing aims to determine whether an investment in the tin and non-tin sectors simultaneously (together) has a significant effect on economic growth, human development index, poverty level, and unemployment rate. Meanwhile, the partial hypothesis test aims to find out whether an investment in the tin and non-tin sectors partially (individually) has a significant effect on economic growth, human development index, poverty level, and the unemployment rate.

3. Results and Discussion

3.1. Research Results

Table 2. Data Normality Test

Variable	Sig Value	Data Distribution
Tin sector investment	0,096	Normal
Non-Tin sector investment	0,443	Normal
Economic Growth	0,373	Normal
Human Development Index	0,977	Normal
Poverty Level	0,573	Normal
Unemployment Rate	0,883	Normal

Source: SPSS output, Monte Carlo model

Table 2 Normality Test results show that all data distribution variables are normal, so this research can be continued.

Table 3. Multicollinearity Test

Variable	VIF Value	Symptoms of Multicollinearity
Tin sector investment	1,148	did not occur
Non-Tin sector investment	1,148	did not occur
Economic Growth	1,148	did not occur
Human Development Index	1,148	did not occur

Source: SPSS output

Table 3 Multicollinearity Test Results show that all regression equations have no relationship between independent variables, so this research can be continued.

Table 4. Heteroscedasticity Test

Variable	Sig Value Tin Sector	Sig. Value Non-tin Sector	Symptoms of Heteroscedasticity
Economic Growth	1,148	1,148	did not occur
Human Development Index	1,148	1,148	did not occur
Poverty Level	1,148	1,148	did not occur
Unemployment Rate	1,148	1,148	did not occur

Source: SPSS output

Table 4 Heteroscedasticity Test Results show that in all regression equations there are no symptoms of heteroscedasticity between the observation data and the absolute residual values, so this research can be continued.

Table 5 Autocorrelation Test Results show that all variables studied do not have a correlation between observation data in a period of year t and the previous year period, so this research can be continued.

Table 5. Autocorrelation Test

Variable	DW Value	Symptoms of Autocorrelation
Economic Growth	2,979	did not occur
Human Development Index	1,195	did not occur
Poverty Level	2,070	did not occur
Unemployment Rate	2,375	did not occur

Source: SPSS output

Table 6. Correlation Coefficient and Determination Coefficient Values

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,469 ^a	,220	-,300	3,14193

a. Predictors: Non-Tin sector investment , Tin sector investment, Economic Growth

Source: SPSS output

Table 6, the determination coefficient value of 0.22 or 22 percent is in the weak influence category, meaning that the influence of investment in the tin sector and investment in the non-tin sector simultaneously on economic growth is only 22 percent, the remaining 78 percent is influenced by other variables.

Table 7. Constant Values, Regression Coefficients for Investment in the Tin Sector and Investment in the Non-tin Sector on Economic Growth

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,594	2,437		1,885	,156
	Tin sector investment	0.00000000000001189	,000	,028	,050	,963
	Non-Tin sector investment	-0.0000000000002982	,000	-,458	-,839	,463

Dependent variable: Economic Growth

Source: SPSS output

From Table 7, a multiple regression equation can be prepared as follows:

$Y = 4.594 + 0.00000000000001189 (1,000,000,000,000) = 0.01189$ percent (very small). On the other hand, if investment in the non-tin sector increases by 1,000,000,000,000 (1 trillion) then economic growth will be predicted to fall by 2.982 percent.

The conclusion from the results of the table above is as follows:

- Tin sector investment has a positive effect on economic growth, but it is not significant
- Non-tin sector investment has a negative effect on economic growth and is not significant

Table 8, the determination coefficient value of 0.717 or 72 percent is in the moderate influence category, meaning that the influence of investment in the tin sector and investment in the non-tin sector simultaneously on the human development index is 72 percent, the remaining 28 percent is influenced by other variables.

Table 8. Correlation Coefficient and Determination Coefficient Values

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,847a	,717	,529	,52155

a. Predictors: Non-Tin sector investment, Tin sector investment, HDI

Source: SPSS output

Table 9. Constant Values, Regression Coefficients for Investment in the Tin Sector and Investment in the Non-tin Sector on the Human Development Index

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	72,479		179,166	,000
	Tin sector investment	,0000000000001048 -1,048E-13	,000 -,880	-2,676	,075
	Non-Tin sector investment	- 0.0000000000009380 -9,380E-13	,000 -,523	-1,590	,210

a. Dependent Variable: Human Development Index

Source: SPSS output

From Table 9, a multiple regression equation can be prepared as follows:

$Y = 72.479 - 0.0000000000001048 \times 1,000,000,000,000 = 0.1048$ percent. On the other hand, if investment in the non-tin sector increases by 1,000,000,000,000 (1 trillion) then the human development index will be predicted to be 0.9380 percent.

The conclusion from the results of the table above is as follows:

- Tin sector investment has a negative effect on the Human Development Index, but it is not significant
- Non-tin sector investment has a negative effect on the Human Development Index, but it is not significant

Table 10. Correlation Coefficient and Determination Coefficient Values

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,904 ^a	,817	,695	,14926

Predictors: Non-Tin sector investment, Tin sector investment, Poverty rate

Source: SPSS output

Table 10, the determination coefficient value of 0.817 or 82 percent is in the strong influence category, meaning that the influence Tin sector investment and investment in the non-tin sector simultaneously on the poverty level is 82 percent, the remaining 18 percent is influenced by other variables.

Table 11. Constant Values, Regression Coefficients for Investment in the Tin Sector and Investment in the Non-tin Sector on Poverty Levels Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1	(Constant)	4,607		39,789	,000
	Tin sector investment	0.00000000000003950 3,950E-14	,000 ,933	3,525	,039
	Non-Tin sector investment	0.00000000000006024 6,024E-14	,000 ,094	,357	,745

Dependent Variable: Poverty rate

Source: SPSS output

From Table 11, a multiple regression equation can be prepared as follows:

$Y = 4.607 + 0.00000000000003950 \times 1,000,000,000,000 = 0.03950$ percent (very small). On the other hand, if investment in the non-tin sector increases by 1,000,000,000,000 (1 trillion) then the poverty level is predicted to increase by 0.06024 percent.

The conclusion from the results of the table above is as follows:

- Tin sector investment has a positive and significant effect on poverty levels.

- b. Non-tin sector investment has a negative effect on poverty levels, but it is not significant

Table 12. Correlation Coefficient and Determination Coefficient Values

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,784 ^a	,614	,357	,55730

a. Predictors: Non-Tin sector investment, Tin sector investment, unemployment rate

Source: SPSS output

Table 12, the determination coefficient value of 0.614 or 61 percent is in the moderate influence category, meaning that the influence of investment in the tin sector and investment in the non-tin sector simultaneously on the unemployment rate is 61 percent, the remaining 39 percent is influenced by other variables.

Table 13. Constant Values, Regression Coefficients for Investment in the Tin Sector and Investment in the Non-tin Sector on the Unemployment Rate

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	5,177	,432		11,976	,001
Tin sector investment	- 0.00000000000008614 -8,614E-14	,000	-,791	-2,059	,132
Non-Tin sector investment	0.00000000000008955 -8,955E-13	,000	-,546	-1,421	,250

Dependent Variable: Unemployment rate

Source: SPSS output

From Table 13, a multiple regression equation can be prepared as follows:

$Y = 5.177 - 0.00000000000008614 \times 1,000,000,000,000 = 0.08614$ percent (very small). On the other hand, if investment in the non-tin sector increases by 1,000,000,000,000 (1 trillion) then the unemployment rate is predicted to fall by 0.8955 percent.

The conclusion from the results of the table above is as follows:

- Tin sector investment has a negative effect on the unemployment rate, but it is not significant
- Non-tin investment has a negative effect on the unemployment rate, but it is not significant

3.2. Discussion

The division of economic sectors consists of three groups: primary, secondary, and tertiary sectors. The primary sector consists of four sectors: Food Crops, Plantations and Livestock, Forestry, Mining, and Fisheries. The secondary sector consists of 6 sectors, namely: the food industry, chemical and pharmaceutical industry, non-metallic mineral industry, motor vehicle and other means of transportation industry, basic metal industry, metal goods, non-metallic machinery and equipment, and other industries. The Tertiary Sector consists of 6 sectors, namely: Electricity, Gas and Water, Trade and Repairs, Hotels and Restaurants, Transportation, Warehouses and Telecommunications, Housing, Industrial and Office Areas, and Other Services.

In this research, the investment category in the tin sector includes the special tin mining sector and the tin industrial sector, while the non-tin sector category consists of food crops, plantations and animal husbandry, forestry, non-tin mining and fisheries, the food industry sector, the chemical and pharmaceutical industry, the non-metallic

mineral industry, the motor vehicle industry and other means of transportation, the non-tin base metal industry, metal goods, non-machinery and equipment and other industries, electricity, gas and water, trade and repairs, hotels and restaurants, transportation, Warehouses and Telecommunications, Housing, Industrial and Office Areas, and Other Services.

3.2.1. Influence of Investment in the Tin and Non-tin Sectors on Economic Growth

The influence of investment in the tin sector and investment in the non-tin sector simultaneously on economic growth is in the weak category because the influence only reaches 22 percent. It is predicted that a 1 trillion rupiah increase in investment in the tin sector will only be able to increase economic growth by 0.01189 percent. Likewise, with a 1 trillion increase in non-tin sector investment, economic growth is predicted to decrease by 2.982 percent.

Although investment in the Tin sector has a positive effect on Economic Growth, the effect is not significant. When compared with investment in the non-tin sector, investment in the tin sector is more profitable because investment in the non-tin industry has a negative effect on economic growth.

In fact, we can see the argument for why tin and non-tin investments have no significant influence in Figure 1.

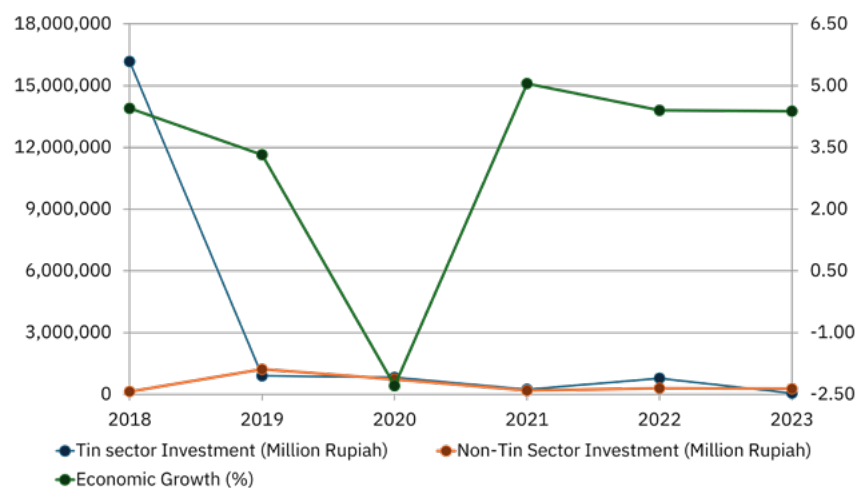


Figure 1. Development of Tin and Non-tin Sector Investment on Economic Growth Bangka Belitung Island Province 2018–2023

Source: Department of Investment and one-stop integrated services, BPS Bangka Belitung.

From Figure 1, it can be explained that the investment trend in the tin and non-tin sectors with economic growth over the last 6 years is not in the same direction. Simultaneously, investment in the tin and non-tin sectors experienced a very significant decline in value. On the other hand, economic growth initially decreased in 2019 and 2020, after which it increased in 2021 - 2023, a decline in the investment value of the tin and non-tin sectors, and one of the causes of economic growth was Covid-19.

The results of this study show the same findings as several previous studies. Garcia, P., & Vidal, P. (2020) that the mining sector significantly contributes to GDP growth, particularly in resource-rich countries. Furthermore, the study highlights that effective management of mining resources can lead to long-term economic benefits. This paper investigates the role of mining in promoting economic growth and reducing poverty in Sub-Saharan Africa. The findings suggest that mining activities have a positive impact on the regional economy, with increased revenues leading to improvements in infrastructure and poverty alleviation programs. Okoro, E., & Kanu, A.

(2019). This paper investigates the role of mining in promoting economic growth and reducing poverty in Sub-Saharan Africa. The findings suggest that mining activities have a positive impact on the regional economy, with increased revenues leading to improvements in infrastructure and poverty alleviation programs. [Díaz, S., & López, M. \(2021\)](#) uses panel data analysis to evaluate the effect of the mining sector on economic growth in Latin American countries from 1995 to 2018. The results suggest a robust positive relationship between mining production and GDP growth, with countries like Chile and Peru showing the highest gains. [Zhang, X., & Wang, S. \(2022\)](#), This study examines the mining sector's contribution to economic growth in the BRICS countries (Brazil, Russia, India, China, and South Africa). The findings confirm that mining plays a critical role in driving economic expansion, particularly in China and Russia, where raw material exports are central to economic development. [Tan, C., & Lim, K. \(2023\)](#) conducted research to explore how mining industries in Southeast Asia impact national economies, with particular focus on Indonesia and the Philippines. The study finds that, when managed effectively, the mining sector can drive significant economic growth through job creation, infrastructure development, and export revenues.

Several research findings related to the mining sector have a negative effect on economic growth. These studies reveal the negative impact of the mining sector on the economy, both through dependence on this sector, environmental impacts, and other socio-economic problems that can hinder long-term economic growth. [Ross, M. \(2018\)](#) investigates the “resource curse” phenomenon, where countries rich in natural resources, particularly mining, experience slower economic growth. The study finds that while mining generates immediate wealth, over-reliance on natural resources causes economic volatility and inhibits diversification, thereby hindering long-term economic stability and growth. [Zhang, Y., & Wu, L. \(2020\)](#) examine how the mining sector affects economic growth in developing nations, specifically focusing on issues like income inequality, inflation, and environmental degradation. The findings suggest that the short-term economic benefits of mining often mask the long-term negative impacts on economic development, including reduced diversification and over-dependence on volatile markets. [García, J., & Pérez, A. \(2021\)](#) critiques the role of mining in the economic growth of Latin American countries, finding that although mining has contributed to GDP growth, it has not led to sustainable development. The study identifies issues such as environmental degradation and a lack of investment in human capital, which contribute to the limited impact of mining on broader economic growth. [Tan, W., & Li, Q. \(2022\)](#) examines the negative economic impacts of mining in Asia, specifically in countries like India and Indonesia. It argues that mining activities, particularly in rural areas, lead to environmental degradation and resource depletion, which ultimately undermine economic growth by reducing agricultural productivity and increasing poverty levels.

The results of this study are supported by research ([Sulistiawati, 2012](#)), whose findings state that investment has a negative and insignificant effect on provincial economic growth in Indonesia. What this means is that the influence of investment on economic growth moves not in the same direction, meaning that an increase in investment is followed by a decrease in economic growth, or vice versa. The factors causing investment to have a negative and insignificant effect on economic growth, firstly, are natural disasters in several regions in Indonesia (especially in the provinces of Aceh and Papua), which have resulted in disruption of the national and provincial economies. Secondly, the impact of the global economic crisis on the national economy has resulted in decreased economic growth in most provinces in Indonesia (26 provinces), except in the provinces of Bengkulu, West Nusa Tenggara, West Kalimantan, Maluku, North Maluku, Southeast Sulawesi, and Papua. On the other hand,

investment developments in all provinces in Indonesia do show an increase. However, investment's ability to increase economic growth is very weak. Third, the distribution of investment is not evenly distributed across provinces. Fourth, the average use of GRDP for investment is lower than expenditure for consumption. Fifth, the average investment growth is not comparable to the average economic growth.

This is different from research (Prambudi Bono, 2018) which states that investment in the processing industry business sector that is rolling out in Jepara Regency has a positive and significant effect on economic growth. Likewise, investment has a positive and significant effect on economic growth in Indonesia (Simarmata & Dinar Iskandar, 2022). This means that when investment increases, economic growth will also increase. In accordance with the Harrod-Domar growth theory (Todaro, 2004), every economy will grow by saving and investing. Sayekti (2009), investment has a positive and significant effect on economic growth; increasing foreign investment shows the trust of other countries to help implement development.

The solution for the Provincial Government of the Bangka Belitung Islands, if it wants to increase its overall economic activity, must be to attract investors from abroad and within the country to work in the mining and tin processing industry sectors, as well as the non-tin sector. By simplifying the regulations for establishing a business, providing loan assistance to small and medium businesses, as well as opening up the relevant education sector to create ready-to-use experts.

3.2.2. Influence of Investment in the Tin and Non-tin Sectors on the Human Development Index

The influence of investment in the tin sector and investment in the non-tin sector on the human development index is 72 percent, which falls within the moderate category. Investment in the Tin and Non-Tin sectors both have a negative effect on the Human Development Index, but not significantly. The prediction is that the human development index will decrease by 0.1048 points if investment in the tin sector increases by \$ 1 trillion. Likewise, the same thing will happen to the human development index, which will decrease by 0.9380 if investment in the non-tin sector is increased by 1 trillion.

The argument for why tin and non-tin investments have a negative and insignificant effect can be seen in Figure 2.

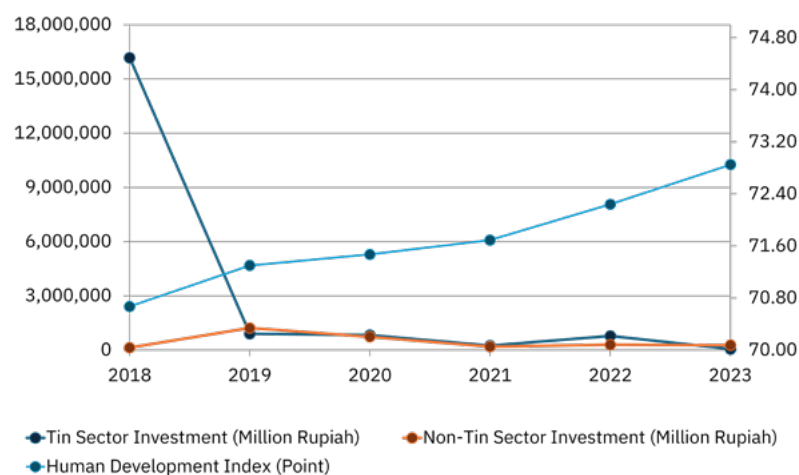


Figure 2. Development of Tin and Non-tin Sector Investment on Human Development Index Bangka Belitung Island Province 2018–2023

Source: Department of Investment and one-stop integrated services, BPS Bangka Belitung.

Figure 2 illustrates that the trend or trend in the relationship between investment in the tin and non-tin sectors and the human development index is in the opposite direction. Empirical data proves that investment in the tin and non-tin sectors does not affect increasing the human development index. This means that the increase in the Human Development Index (HDI) in the Bangka Belitung Islands Province is more influenced by factors other than those specific to the province. Conditions in Bangka Belitung turned out to be different from events nationally (Simarmata & Dinar Iskandar, 2022). Their findings were that in Indonesia, the influence of investment on HDI was positive for the 2013-2018 period. This means that when investment increases, the HDI in Indonesia also increases. According to Harrod-Domar, investment activities are closely related to the creation of new jobs. People who are absorbed will, of course, get income. With increasing income, people's purchasing power will also increase, and this will have an impact on the HDI component, which will also increase.

Several studies show similar results to the findings of this study. Johnson, S., & Clark, A. (2020), this paper discusses how mining activities in resource-rich countries can shift governmental priorities away from sectors like education and healthcare, negatively affecting human capital development. The study reveals that regions heavily dependent on mining experience reduced investment in education, resulting in lower Human Development Index (HDI) scores. Mbabazi, D., & Nsengiyumva, B. (2021). This research examines the public health risks associated with mining in Sub-Saharan Africa, focusing on how these risks detract from human capital development. It finds that exposure to mining-related pollution causes chronic illnesses, which in turn affects workers' health, productivity, and education outcomes. Hernandez, R., & Silva, P. (2022) explores the prevalence of child labor in mining communities in Latin America and its detrimental effect on education and human development. It concludes that the mining sector's reliance on low-cost labor forces many children out of school, leading to long-term negative consequences for human capital. Lee, Y., & Park, H. (2023), Lee, Y., & Park, H. (2023) analyze the impact of mining on socioeconomic inequality and human capital development in developing nations. It reveals that mining-induced inequality exacerbates poverty, restricts access to education, and limits the opportunities for skill development, negatively affecting long-term human capital accumulation.

Research related to the mining sector has a positive effect on human resource development. This research shows how the mining sector can improve the quality of human resources through education, skills training, and empowerment of local communities. Akinmoladun, O., & Okafor, C. (2019) explores the role of the mining sector in human capital development in Sub-Saharan Africa. It finds that mining companies invest in skills development programs, education, and healthcare for local communities, which enhances human capital and improves long-term economic prospects for the region. Torres, M., & García, R. (2020) investigates how mining activities in developing countries contribute to human development. The research indicates that mining companies, through corporate social responsibility (CSR) initiatives, provide education, vocational training, and healthcare services to local communities, thereby significantly enhancing human capital development. Rodríguez, J., & Castro, M. (2021) focuses on the impact of mining in Chile, specifically how the sector contributes to human capital development through education, skills training, and community engagement. The findings suggest that mining has played a critical role in improving human capital by supporting education systems and providing specialized training for the workforce. Gupta, R., & Sharma, P. (2021) examine the impact of mining activities on human resource development in rural India. The study reveals that mining companies have implemented numerous programs to improve the

skills and education of the local workforce, contributing to the overall development of human resources in mining-dependent areas. [Lang, J., & Roberts, A. \(2022\)](#) examine how mining companies' corporate social responsibility (CSR) activities positively impact human development, focusing on education, healthcare, and infrastructure. The study highlights that CSR initiatives in mining regions lead to significant improvements in the local human capital, particularly through skills training and access to educational resources.

3.2.3. Effect of Investment in the Tin and Non-tin Sectors on Poverty

The influence of investment in the tin sector and investment in the non-tin sector on the poverty level is in a strong category due to its high level of influence, specifically 82 percent. It turns out that both types of investment in the tin and non-tin sectors have a positive effect on poverty levels. If investment in the tin and non-tin sectors increases by 1 trillion each, then non-tin investment is predicted to decrease the poverty rate by 0.06024 percent. In contrast, investment in the tin sector is predicted to increase poverty by 0.03950 percent. The conclusion is that investment in the tin sector has a positive and significant effect. In contrast, non-tin investment has a positive but non-significant effect on poverty levels in the Bangka Belitung Islands Province.

This fact is supported by empirical data on investment in the tin and non-tin sectors over the last 6 years in [Figure 3](#).

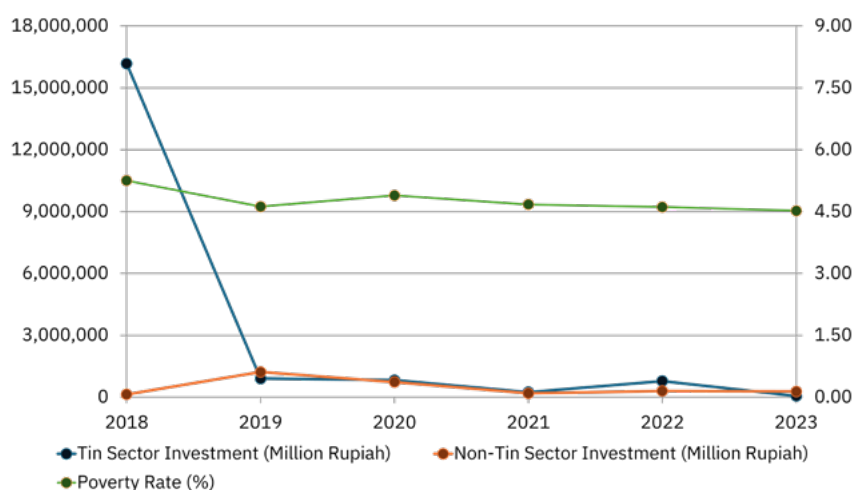


Figure 3. Development of Tin and Non-tin Sector Investment on Poverty Rate Bangka Belitung Tahun 2018–2023

Source: Department of Investment and one-stop integrated services, BPS Bangka Belitung.

[Figure 3](#) shows that the pattern of investment development in the non-tin sector is in line with the poverty level. The decline in investment value was followed by a decline in poverty levels in the Bangka Belitung Islands Province. Research with the same results was conducted by [\(Bayu et al., 2023\)](#) with the finding that in the long term, incoming foreign direct investment did not have a significant effect on poverty levels in Indonesia.

These studies show how the mining sector can make a positive contribution to reducing poverty rates, both through job creation, additional income, and other socio-economic impacts. [Sarpong, D., & Anarfi, J. \(2019\)](#) explores how the mining sector can contribute to poverty alleviation in Sub-Saharan Africa by creating jobs and boosting local economies. The study finds that mining industries, especially in countries like Ghana and South Africa, have been instrumental in reducing poverty through direct and indirect employment opportunities, as well as through local infrastructure

development funded by mining revenues. Kumar, R., & Singh, M. (2020) examine the role of mining in poverty reduction in developing countries, focusing on the economic contributions of the sector in terms of employment and infrastructure. It finds that mining industries have helped reduce poverty by improving access to basic services, such as healthcare and education, through the revenues generated. Rodríguez, J., & González, L. (2021) investigates the impact of mining on poverty reduction in Latin American countries like Peru and Bolivia. The study shows that mining has played a critical role in reducing poverty by creating both direct jobs in mining operations and indirect employment in local businesses that support the industry, such as transport and services. Gupta, S., & Rani, P. (2022) evaluate the impact of the mining sector in rural India and its role in alleviating poverty. The study finds that, despite some negative social impacts, mining activities have contributed positively to poverty reduction by creating significant employment opportunities and providing additional income streams to local communities. Tan, J., & Lee, A. (2023) looks at the effects of mining activities on poverty reduction in Southeast Asia, particularly in Indonesia and the Philippines. The findings suggest that mining operations contribute to poverty reduction through the creation of jobs and local infrastructure development. The study highlights the importance of inclusive growth, where the benefits of mining are shared with surrounding communities.

Some studies related to the mining sector have a negative impact on poverty. These studies reveal that, although the mining sector can generate short-term economic benefits, it can also contribute to an increase in poverty in certain areas, particularly through adverse social and environmental impacts. Agyemang, F., & Boateng, J. (2019) examine how mining activities in Ghana affect poverty and inequality. The findings suggest that while mining generates significant revenue, it exacerbates poverty in surrounding communities due to poor income distribution and the environmental degradation caused by mining operations. The study highlights that local populations often remain impoverished despite the wealth generated by mining. Lopez, M., & Hernandez, A. (2020) investigate the relationship between mining activities and poverty in several developing countries. It finds that while mining can lead to economic growth, it often exacerbates poverty in areas without effective governance structures. The study identifies issues like displacement, environmental damage, and low wages, which contribute to persistent poverty despite the presence of mining. Marshall, J., & Perez, R. (2021) focuses on the link between resource extraction, poverty, and environmental degradation in mining regions. The study concludes that mining, particularly in rural and isolated areas, contributes to poverty by depleting natural resources, harming local ecosystems, and reducing agricultural productivity, thereby exacerbating poverty in the long term. Torres, C., & Gutierrez, S. (2021) analyze the impact of mining on poverty and social conflicts in Colombia. The study finds that mining activities have led to increased poverty in some regions, as local communities face displacement and social unrest. Additionally, mining often creates a cycle of poverty due to unequal wealth distribution and the environmental damage it causes. Kumar, R., & Sharma, V. (2022) investigate the negative effects of mining in South Asia, particularly in India and Bangladesh. The study highlights how mining has contributed to poverty in these regions by causing environmental damage that disrupts agriculture, leading to job loss and displacement of local populations. Furthermore, it points out that mining-related profits often fail to benefit the local poor, who remain trapped in poverty.

The same condition occurs in African countries; according to Koc's findings in 2012, investment has an effect on income levels. However, in reality, the allocation of investment is not evenly distributed to the lower middle class, so it has no effect on

reducing poverty levels. In the short term, incoming foreign direct investment has a significant negative effect on poverty. The findings that are different from this research are the findings of Uttama (2015), Dhrifi et al. (2020), Shamim et al. (2014), Oladele & Funmilola (2021), who state that incoming foreign direct investment has a significant negative effect on poverty. In this case, the Provincial Government of the Bangka Belitung Islands needs to strive to increase direct domestic and foreign investment in the tin and non-tin sectors, with appropriate allocation in order to increase income for groups of people with a lower middle economic level. In this way, both short and long-term impacts will be able to eradicate poverty, especially in Bangka Belitung.

3.2.4. Effect of Investment in the Tin and Non-tin Sectors on the Unemployment

The influence of investment in the tin and non-tin sectors simultaneously on the unemployment rate is categorized as moderate due to the determination coefficient value of 61 percent. Investment in the tin and non-tin sectors has a negative effect on the unemployment rate, so an increase in investment in the tin sector by 1 trillion is predicted to have an effect on reducing the unemployment rate by 0.08614 percent. Investment in the non-tin sector, increasing by 1 trillion, is predicted to reduce the unemployment rate by 0.8955 percent. The decline in the unemployment rate was due to investment in the tin and non-tin sectors having a negative effect on the unemployment rate.

The argument from the statement above is supported by empirical facts in the form of developments in investment data compared to the unemployment rate (Figure 4).

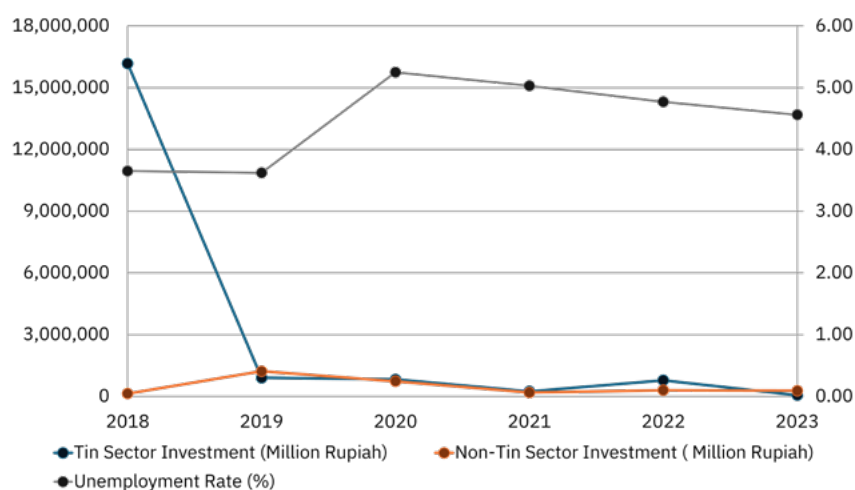


Figure 4. Development of Tin and Non-tin Sector Investment on Unemployment Bangka Belitung Islands Province 2018–2023

Source: Department of Investment and one-stop integrated services, BPS Bangka Belitung.

The study shows that while the mining sector can provide many jobs, there are several aspects in which the sector can contribute to high unemployment rates, especially in terms of job uncertainty, inequality in job distribution, or environmental impacts that reduce employment opportunities in other sectors. Several research results show the same results. Asante, F., & Osei, P. (2019) explores the impact of mining operations in Sub-Saharan Africa on unemployment, specifically in rural areas. The research finds that while mining creates some employment opportunities, it also leads to environmental degradation, which negatively impacts agriculture and local industries, resulting in job losses in non-mining sectors. Salazar, L., & Mendoza, J. (2020) examine the effect of mining industries on unemployment rates in Latin American countries, specifically focusing on how mining, although providing direct jobs, can lead to job losses in other sectors due to resource dependency and economic volatility. The

study concludes that the mining sector often displaces jobs in agriculture and small-scale industries. Jones, R., & Harris, D. (2021) investigates the relationship between technological advancements in mining and unemployment rates in mining-dependent communities. The study finds that automation and technological improvements in mining have led to a reduction in the number of low-skilled jobs available, increasing the unemployment rate in mining regions. Akintoye, S., & Ijaiya, M. (2022) explores how mining can exacerbate unemployment in regions that are dependent on a single industry. It finds that mining creates initial employment opportunities but contributes to regional economic disparities when the industry faces downturns, leaving many workers unemployed with few alternative job opportunities in the local economy. Walker, J., & Lee, C. (2023) discusses the paradox of mining-driven economic growth that leads to unemployment in the long term once mining activities cease. It highlights case studies from post-mining economies where the cessation of mining operations leaves behind a high unemployment rate and little to no development in other sectors to absorb displaced workers.

Several different research findings related to the mining sector have a positive effect on unemployment. These studies reveal how the mining sector can create jobs, reduce unemployment, and increase job availability in various regions. Okafor, I., & Akinmoladun, O. (2019) explores the role of mining in job creation in developing countries, particularly in Africa and Latin America. It finds that the mining sector generates direct and indirect employment opportunities, contributing to a decrease in unemployment rates in mining-dependent regions. The research highlights the role of large mining operations in providing jobs for both skilled and unskilled labor. Afolabi, M., & Sulaimon, A. (2020) analyze the effects of mining on labor markets in Sub-Saharan Africa, emphasizing job creation in rural areas. The study reveals that mining has a significant positive impact on employment, particularly in remote regions, by creating both direct jobs in the mining sector and indirect jobs in sectors like services and transportation. Rodriguez, J., & Hernandez, E. (2021) examine the relationship between mining activities and unemployment rates in Latin America. It demonstrates that mining has significantly contributed to the reduction of unemployment by creating large numbers of jobs in mining operations and related industries such as construction and transportation. The study emphasizes the positive spillover effects on local employment opportunities. Singh, R., & Gupta, M. (2021) investigate how mining has contributed to employment growth in India, particularly in rural and underdeveloped regions. The findings show that mining activities have created thousands of jobs, especially for low-skilled workers in rural areas. Moreover, the growth of mining-related infrastructure and services further supports employment growth. Setiawan, S., & Wibowo, A. (2022) examines how mining has contributed to economic development and employment in Indonesia. It concludes that the mining sector has played a critical role in reducing unemployment by creating job opportunities not only in mining but also in sectors such as transportation, manufacturing, and retail. The paper highlights the importance of job creation in improving local economies.

Figure 4 shows that the trend of movement is the opposite pattern in the sense that investment levels are high, so the unemployment rate decreases at the beginning of the research year. However, in the following year, there was a pattern of a flat line towards a decline in both investment and the unemployment rate. This problem is one of the reasons why the influence of these two types of investment is not significant. In line with the findings of (Prayuda, 2015), it is stated that the effect of investment on unemployment is negative and significant on unemployment in Bali Province from 1994-2013. The difference only lies in the significance value; in Bangka Belitung, the influence is not significant, whereas in Bali, the influence is significant because

of the increase in the number of industries and companies. So, it will have an impact on employment opportunities for Balinese residents. Furthermore, research differs from Todaro's theory, which states that investment plays an important role in driving the economy because capital formation can form production capacity and create jobs. (Yanti, 2017) states that the effect of investment on unemployment is not significant and positive in the Sulawesi region.

4. Conclusion

During the last 6 years, 2018-2023, investment conditions have decreased quite drastically; this decline was initiated by the COVID-19 incident in 2019 and had an impact on economic and social development to date. From the research results, it was found that Investment in the Tin sector has a positive effect, and investment in the non-tin sector has a negative effect on Economic Growth, but it is not significant. Tin sector investment and non-tin sector investment have a negative effect on the Human Development Index but are not significant. Tin sector investment has a positive and significant effect, while non-tin sector investment has a negative effect on poverty levels but is not significant. Tin sector investment and non-tin investment have a negative effect on the unemployment rate, but it is not significant.

The unsatisfactory influence of tin and non-tin investment on socio-economic development has several causes, including the spread of COVID-19, which is starting to have an impact on decreasing investment. The solution to this condition is the need to be more proactive in both the government and private sectors in increasing investment from investors, both domestic and foreign. Apart from that, it is necessary to set a permanent investment strategy so that investment can be beneficial for increasing economic growth, human development index, and reducing poverty levels and unemployment rates, especially in the Bangka Belitung Islands Province.

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