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Economic Growth, Investment and Employment in the Border Province of Indonesia-Malaysia

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Abstract. This research examines the effect of employment and investment on economic growth in West Kalimantan, sharing a land border with Sarawak, Malaysia. The study used secondary data covering 14 districts/cities for ten years (2013-2022). The data were analysed by employing the static linear panel data model. The research reveals that investment and employment positively and significantly affect economic growth; the increase in investment and employment will increase economic growth, or vice versa.

Keywords. Economic Growth, Investment, Employment

Introduction

Economic growth is one of the indicators of economic development, reflecting changes in the production of goods and services every year. The growth is important to improve people's welfare and living standards, but it should be equally distributed and environmentally friendly to ensure comprehensive and sustainable development. This aligns with one of the Sustainable Development Goal (SDG) objectives: to encourage sustainable economic growth for all people and regions.

According to Solow's growth model (1956), labour and capital are determinants of economic growth [1]. Moreover, Lucas (1988) distinguishes between physical and human capital [2]. Physical capital involves spending on new capital goods or increasing capital reserves. Meanwhile, the human capital acquired by learning higher skills will increase productivity, knowledge of technology, and economic innovation, stimulating efficient production, which contributes to economic growth [3].

West Kalimantan is one of 34 provinces in Indonesia. This province shares a land border with Sarawak, Malaysia. West Kalimantan is less developed than Sarawak and some other regions in Indonesia, especially Java. In 2023, the contribution of West Kalimantan to Indonesia's Gross Domestic Product (GDP) was 1.34%. Meanwhile, its Gross Regional Domestic Product (GRDP) per capita (Rp27.6 million) was below the national GRDP (Rp37.04 million). In the same year, the GDP per capita of Sarawak (RM72,411) [4] was two times higher than the GRDP per capita of West Kalimantan (RM31,147) [5]. These conditions cannot be ignored since West Kalimantan can more easily integrate socially and economically with

Malaysia than other parts of Indonesia. Many labour migrants from West Kalimantan work in Malaysia, especially in Sarawak. Many of them are working illegally. Nevertheless, the integration of West Kalimantan with Sarawak will occur as long as they have complementary economic and market structures, as suggested for European integration [6].

The relationship between economic growth, employment, and investment in West Kalimantan is unclear. Investment and employment tend to increase while economic growth tends to decrease. From 2013 to 2022, investment, reflected by Gross Fixed Capital Formation, increased from Rp33.0 to Rp43.2 trillion (Figure 1), while employment increased from 2.0 to 2.5 million (Figure 2). On the other hand, economic growth declined from 6.05% to 5.07% in the years (Figure 3). West Kalimantan's economy experienced a contraction from 2019 to 2020 (-1.82%) due to the COVID-19 pandemic. Hence, this research attempts to validate the theory in a region sharing a border with a more prosperous neighbouring country by examining the effect of investment and employment on economic growth.

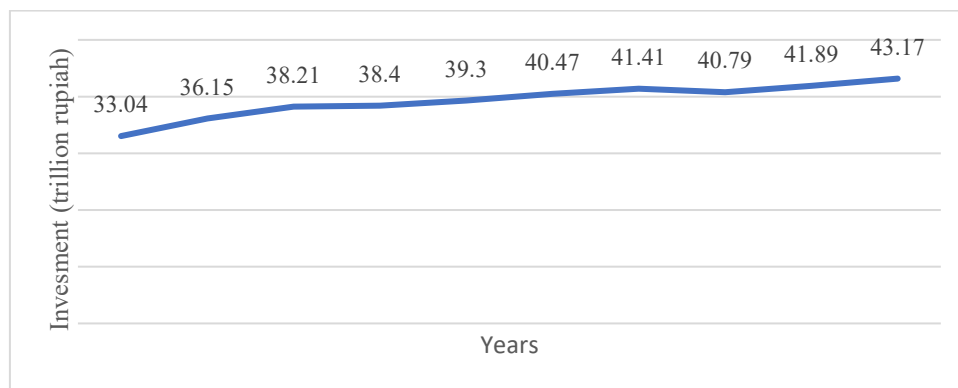


Figure 1. Gross Fixed Capital Formation by Districts, West Kalimantan, 2013-2022
Source: Statistics Indonesia, 2023 [7].

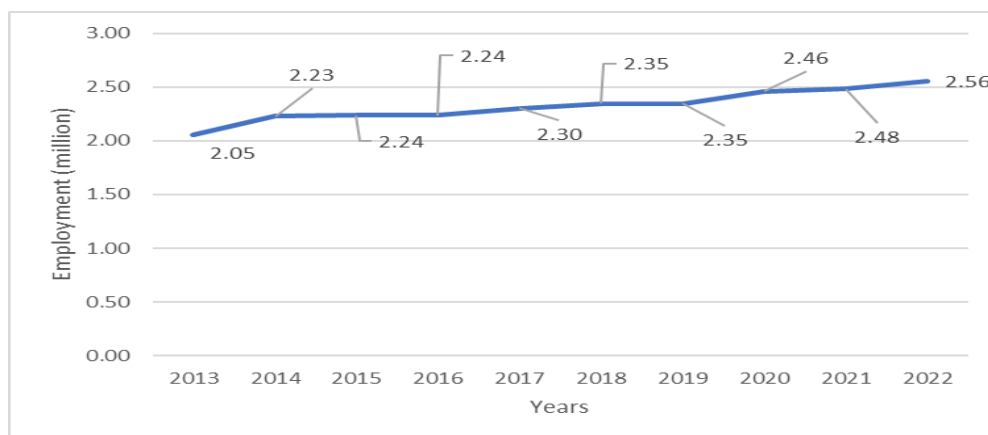


Figure 2. Employment, West Kalimantan, 2013-2022
Source: Statistics Indonesia, 2023 [7].



Figure 3. Economic Growth, West Kalimantan, 2013-2022
Source: Statistics Indonesia, 2023 [7].

Methodology

This research used secondary panel data published by Statistics Indonesia. The panel data cover 14 regencies/cities in West Kalimantan for 10 years (2013-2022). The model in this research is economic growth as a function of employment and investment. The variables in the model consist of economic growth (EG), employment (EMP) and investment (INV). EG is the change in the value of all goods and services produced between years; EMP is the number of workers; INV refers to Gross Fixed Capital Formation (GFCF). The GFCF is expenditure on capital goods that have more than a year of useful life. GFCF includes buildings, such as private residential dwellings, commercial and industrial buildings, schools, offices, and hospitals, and non-buildings, such as roads, plants, machinery, equipment and intellectual property products [7].

The static linear panel data model is as follows:

$$EG_{it} = \alpha + \beta_1 EMP_{it} + \beta_2 INV_{it} + e_{it}$$

Where EG, EMP, and INV represent economic growth (%), employment (in person) and investment (in billion rupiahs). Employment and investment are both transferred into log form. The i is province, t is period, α is a constant, β is a coefficient and ε is an error term. For selecting the best model, this study used the Chow test (Ho: Common Effect Model; H₁: Fixed Effect Model) and the Hausman test (Ho: Random Effect Model; H₁: Fixed Effect Model). Since Chow and Hausman test results were contradictory, the Lagrange Multiplier (LM) test was used (Ho: Common Effect Model; H_a: Random Effect Model). For all the tests, Ho is rejected if the p-value is less than α [8].

Results and Discussion

This study selects a random effects regression model based on the LM test results. The use of the LM test is due to contradictory results whereby the Chow test results reject Ho while the Hausman test results accept Ho. The results of the regression are as follows:

$$EG_{it} = 4.29 + 0.67EMP_{it} + 0.77INV_{it} + e_{it}$$

p-value

0.0618** 0.0158*

Note: * significant at the 5%; ** significant at the 10 %.

The regression results show that employment positively and significantly influences economic growth. Similar findings are found in Romania [9], Pakistan [10] and Africa [11]. There has been a structural employment shift from the primary to the tertiary sector in West Kalimantan. From 2013 to 2022, the share of employment in the primary sector decreased from 57.57% to 48.37%, compensated by increased employment in the tertiary sector from 29.45% to 37.6% (Table 1).

Employment contributes to economic growth through the quality of labour reflected by the level of education. Higher education will increase labour productivity, which in turn will increase economic growth. Overall, labour quality in West Kalimantan has been increasing (Table 2). The share of labour having completed elementary education or lower was still the largest, but the share decreased from 57.75% (2013) to 45.56% (2022). The decrease was compensated by an increased labour share, having completed upper secondary education from 26.75% (2013) to 37.43% (2022). The labour quality in Pontianak is the highest in West Kalimantan. This city had the highest labour share, having completed upper secondary education or above (68.11%), followed by Singkawang (48.66%). The condition in West Kalimantan is similar to that of the Department of Accounting, Makassar State University, whereby their graduates generally are interested in working as public servants and in state enterprises. However, most are private employees [12].

Table 1. Employment by Main Sectors and Districts,
West Kalimantan, 2013 and 2022

Districts/Cities	2013				2022			
	Share (%)				Share (%)			
	Primary	Secondary	Tertiary	Total	Primary	Secondary	Tertiary	Total
Sambas	73.12	7.96	18.92	100	57.98	10.2	31.81	100
Bengkayang	69.3	14.88	15.82	100	53.77	17.41	28.82	100
Landak	76.77	5.82	17.42	100	67.19	9.5	23.31	100
Mempawah	54.09	14.35	31.56	100	40.53	20.85	38.61	100
Sanggau	77.54	6.05	16.41	100	62.7	9.7	27.6	100
Ketapang	54.52	17.46	28.02	100	58.66	10.67	30.67	100
Sintang	72.18	13	14.83	100	62.35	10.71	26.95	100
Kapuas Hulu	69.68	12.42	17.9	100	57.11	17.77	25.12	100
Sekadau	80.96	6.41	12.62	100	69.15	11.44	19.4	100
Melawi	74.92	9.72	15.36	100	47.48	20.31	32.21	100
Kayong Utara	46.68	15.95	37.37	100	50.98	13.89	35.13	100
Kubu Raya	39.03	17.87	43.1	100	40.94	16.6	42.47	100
Pontianak City	5.37	21.99	72.65	100	2.9	17.5	79.6	100
Singkawang City	26.39	16.14	57.47	100	18.22	19.2	62.58	100
West Kalimantan	57.57	12.98	29.45	100	48.37	14.03	37.6	100

Source: Statistic Indonesia, 2014 [13] and 2023 [7]

Employment contributes to economic growth through the quality of labour reflected by the level of education. Higher education will increase labour productivity, which in turn will increase economic growth. Overall, labour quality in West Kalimantan has been increasing (Table 2). The share of labour having completed elementary education or lower was still the largest, but the share decreased from 57.75% (2013) to 45.56% (2022). The decrease was compensated by an increased labour share, having completed upper secondary education from 26.75% (2013) to 37.43% (2022). The labour quality in Pontianak is the highest in West Kalimantan. Pontianak had the highest labour share, having completed upper secondary education or above (68.11%), followed by Singkawang (48.66%). The condition in West Kalimantan is similar to that of the Department of Accounting, Makassar State University graduates, who are interested in working as public servants and in state enterprises. However, most are private employees [12].

Investment has a positive and significant effect on economic growth in West Kalimantan. This result is supported by the findings in Africa [14], Sub-Saharan Africa [15], and Nigeria [16]. Decreasing economic growth in West Kalimantan occurs only in the primary and secondary sectors (Table 3). The economic growth decreased from 4.32% to 2.23% for the primary sector and from 7.49% to 2.79% for the secondary sector. In contrast, the tertiary sector growth increased from 6.30% to 8.43%. The growth in seven out of 14 districts/cities in West Kalimantan is due to several factors, such as industrial development in services, tourism, and trade. The growth has transformed West Kalimantan's economy from agricultural to non-agricultural sectors. The declining growth in the primary sector occurred in seven districts/cities, while in the secondary sector it occurred in 11 districts/cities. In contrast, the rest of the districts experienced an increase in either the primary or secondary sector or both.

Table 2. Employment by the Highest Completed Education and Districts, West Kalimantan, 2013 and 2022

Districts/Cities	2013				2022			
	Share (%)				Share (%)			
	≤ Primary	Lower secondary	Upper secondary or higher	Total	≤ Primary	Lower secondary	Upper secondary or higher	Total
Sambas	68.13	15.08	16.8	100	57.14	16.59	26.28	100
Bengkayang	61.61	16.99	21.4	100	49.48	17.00	33.52	100
Landak	50.27	25.21	24.51	100	42.12	21.54	36.33	100
Mempawah	60.22	14.38	25.4	100	46.12	17.69	36.18	100
Sanggau	65.54	14.98	19.48	100	49.65	19.25	31.1	100
Ketapang	63.55	12.89	23.56	100	47.95	18.27	33.79	100
Sintang	63.47	23.08	13.45	100	53.31	14.00	32.68	100
Kapuas Hulu	67.09	11.48	21.43	100	51.96	19.17	28.88	100
Sekadau	65.80	15.07	19.13	100	56.56	15.85	27.6	100
Melawi	64.55	18.18	17.27	100	47.48	18.29	34.23	100
Kayong Utara	59.46	11.95	28.59	100	58.13	10.20	31.66	100
Kubu Raya	56.71	14.55	28.74	100	43.94	18.25	37.82	100
Pontianak City	27.44	14.90	57.66	100	18.78	13.11	68.11	100

Districts/Cities	2013				2022			
	Share (%)				Share (%)			
	≤ Primary	Lower secondary	Upper secondary or higher	Total	≤ Primary	Lower secondary	Upper secondary or higher	Total
Singkawang City	45.59	14.68	39.72	100	35.62	15.73	48.66	100
West Kalimantan	57.75	16.21	26.04	100	45.56	17.01	37.43	100

Source: Statistic Indonesia, 2014 [13] and 2023 [7]

Table 3. Gross Regional Domestic Product by Main Sectors and Districts, West Kalimantan, 2013 and 2022

Districts/Cities	2013			2022		
	Growth (%)			Growth (%)		
	Primary	Secondary	Tertiary	Primary	Secondary	Tertiary
Sambas	9.76	13.86	12.06	8.39	9.67	10.38
Bengkayang	6.10	5.79	5.76	9.98	13.91	9.96
Landak	5.18	5.46	5.09	5.04	5.64	4.35
Mempawah	5.83	4.02	5.95	6.88	11.53	9.98
Sanggau	6.07	4.87	6.74	3.65	3.02	7.06
Ketapang	2.21	6.21	7.54	3.16	10.99	5.28
Sintang	5.27	7.34	7.06	3.00	-5.80	-4.12
Kapuas Hulu	5.27	4.74	5.36	3.98	3.90	5.73
Sekadau	5.82	7.88	6.70	4.82	4.00	5.86
Melawi	5.87	11.96	11.62	7.45	11.38	10.28
Kayong Utara	4.83	5.55	5.48	3.46	2.68	7.40
Kubu Raya	6.55	6.32	6.67	3.09	-0.25	-7.56
Pontianak City	4.38	9.78	6.96	-1.13	0.86	7.18
Singkawang City	6.17	8.10	5.75	3.73	3.08	6.57
West Kalimantan	4.32	7.49	6.30	2.23	2.79	8.43

Source: Statistic Indonesia, 2014 [13] and 2023 [7]

Conclusions

This study examines the effect of employment and investment on economic growth in West Kalimantan. The results of the data analysis show that employment and investment positively and significantly influence economic growth. This study's findings align with the Solow model, emphasising the importance of employment and investment in economic growth. Above all, the study has some limitations. For instance, the employment variable cannot reflect labour quality and productivity directly, while the investment variable cannot indicate the level of utilisation of the physical capital. The government needs to increase job creation and investment to push economic growth, since economic growth has declined in recent years.

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