The International Journal of Business Management and Technology, Volume 7 Issue 1 January-February 2023
ISSN: 2581-3889

Research Article Open Access

The Effect of Regency Minimum Wage, Investment, Number of Companies, and Economic Growth on Labor Absorption in Bali Province in 2013-2020

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Abstract: *The absorption of labor is one indicator to see the level of economic growth in the area. The higher the level of economic growth, the lower the unemployment rate and the higher the rate of employment. This study aims to analyze the influence of district minimum wages, investment, number of companies, and economic growth on employment absorption in the district/city industrial sector in Bali Province. The data used is secondary data from 2013 – 2020 using the panel data regression analysis method using the fixed effect model approach. The results of the study show that the district minimum wage and the number of companies have a positive and significant effect on employment in the industrial sector. However, investment and economic growth have no effect on employment in the industrial sector.*

Keywords: Absorption of labor, regency minimum wage, investment, number of companies, economic growth

I. INTRODUCTION

Development, if viewed broadly, means a process toward change from an unfavorable life order to a better direction. The purpose of this process is to improve the demographic conditions of a city, state or country (Hasan & Aziz, 2018). The progress to be achieved by development is more interpreted as progress in the material sector. Therefore, the term development has narrowed its meaning to become progress in the economic field, so that the term economic development appears. Todaro (2015) also agrees that economic development is part of construction because construction is a process that takes into account changes in social, mental, and organizational systems.

Economic development is essential for any country to increase its competitiveness by providing more job opportunities, higher wages, higher standards of goods and services and the latest production technologies. However, the current problem is that modern economic, technological, industrial and infrastructure facilities have not been built in several areas, so that many people have to travel from their homes to cities to work. Another problem is that some regions have high levels of inequality. In many countries, economic growth is actively pursued by economic sectorsexpected to increase the availability of jobs. High employment absorption will reduce poverty and increase economic growth (Maryati et al., 2021).

The province of Bali is the only place where the general public chooses to migrate and live in cities because it is easily accessible from a transportation point of view. This situation can exacerbate the kingdom, which can result in the ineffectiveness of the population of productive age. Each country's economy is affected by several factors, which contribute to its economic growth. Economic growth in these countries has been very clearly affected by the Covid-19 pandemic in 2019 to date. The pandemic has started to worsen or may threaten the economic health of several countries (Amrita et al., 2021).

Based on information obtained from BPS Bali Province regarding the working age population in 2013-2020, it is known that the highest number of working people was in 2018, namely 2.525484 people with a Labor Force Participation Rate (TPAK) of 76.56%. The Covid-19 pandemic that occurred in 2020 caused labor conditions in Bali to be quite affected, this can be seen in the unemployment rate in February of 1.25%, but in August it increased to 5.63%. There are still many problems that need to be resolved, such as the number of workforce, wages, quality and distribution of labor that has not been evenly spread to remote areas in Bali.

Absorption of labor itself is influenced by two factors, namely external factors and internal factors. These external factors include economic growth rates, inflation rates, unemployment and interest rates. While the internal factors are

the level of wages, labor productivity, capital, and expenditure of non-wage labor. According to Todaro & Smith (2006), employment is disrupted by minimum investment and minimum wages. Absorption of labor is a critical issue in the economic development of every country. Employment opportunities are used as the single most reliable indicator of economic growth. The incentives related to the work mentioned above will motivate the community to carry out economic initiatives which are the pillars supporting the fulfillment of their needs.

The industrial sector can help improve people's welfare to obtain sufficient income, and industrial development can also create jobs for those who are unemployed or looking for work. Absorption of labor in the industry is supported by several factors, one of which is the District Minimum Wage (UMK). Some people choose to work in high paying areas because they think they can live out of it with high levels of income, so they don't have to leave town to find work.According to (Sukirno, 2006), economic growth means economic development activities that lead to an increase in goods and services produced by the community and an increase in people's wealth. To determine the achieved economic growth, it is necessary to calculate real national income at constant prices, namely the price of the selected base year.

II. LITERATURE REVIEWS

2.1 Regency Minimum Wage

The district minimum wage is the lowest wage that is used as a standard by employers to determine wages for living expenses for workers who work in their company. An increase in the minimum wage will increase production costs because workers are encouraged to produce more, so that the company's production costs are high and with this increase in costs, the price of goods and services produced will increase by one unit.

2.2 Investments

Investments are made to provide capital goods such as machinery and production equipment to increase production output, which increases employment because these goods require human labor to operate (Wihastuti & Rahmatullah, 2018). According to (Awandari & Indrajaya, 2016) investment has a positive and significant impact on people's welfare. Based on the investment source, there are two sources, namely public investment and private investment. Private investment can come from the domestic private sector and from the foreign private sector. Investment from within the country is called domestic investment (PMDN) and foreign investment from abroad is called foreign investment (PMA). Both are equally important and affect the country's economic growth.

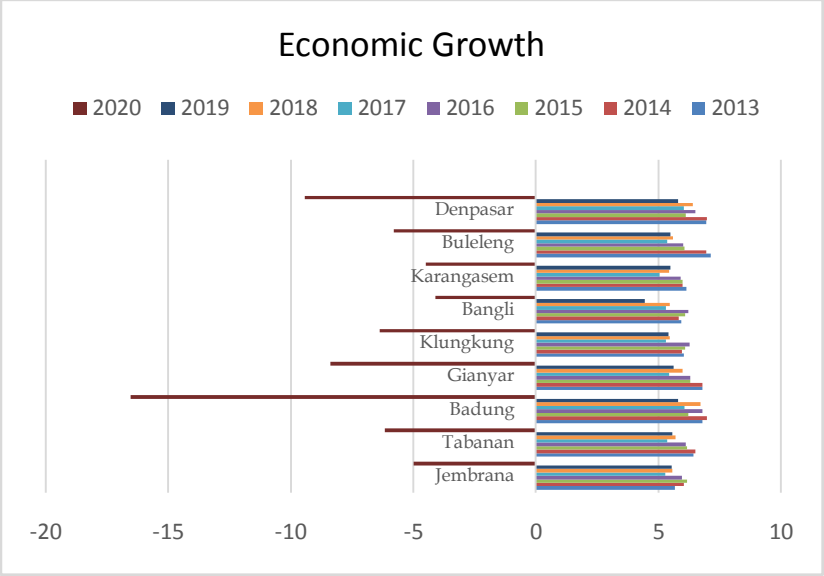
2.3 Number of Companies

The industrial sector is very important because it is seen as a driver or driver of the economy. A developing country like Indonesia has abundant natural resources, but Indonesia also has a very high population. The manufacturing industry sector is a means for managing and utilizing natural resources and the process of absorbing a large workforce. The industrial sector plays an important role as a provider of employment, meeting the basic needs of the people, driving the creation of added value in the economy, increasing and equalizing people's incomes, as well as a source of foreign exchange. The number of companies has a positive effect on employment, meaning that if industrial companies are added, employment will also increase. The larger a company is established in an area, the greater the level of employment that occurs in that area.

2.4 Economic Growth

The growth of the industrial sector refers to the theory of regional economic growth which involves development with a single dimension and is measured by increased production (output) and income. According to (Sukirno, 2006), economic growth means economic development activities that lead to an increase in goods and services produced by the community and an increase in people's wealth. To determine the achieved economic growth, it is necessary to calculate real national income at constant prices, namely the price of the selected base year.

Chart 1. Economic Growth by Regency/City in Bali Province in 2013-2020 (%)



Source: Central Bureau of Statistics for Bali Province

Based on Graph 1, the development of the economic growth rate by Regency/City of Bali Province in 2013-2020 has fluctuated every year. The highest rate of economic growth each year was shown by Buleleng Regency, namely in 2013 it was 7.15 percent, then in 2019 it experienced a very drastic contraction of -5.80 percent. 2020 was the year that the growth rate contracted evenly due to the impact of the Covid-19 pandemic which greatly affected the Indonesian economy and even almost had a recession, Badung Regency experienced the highest contraction in its economic growth rate, namely -16.55 percent.

2.5 The Population of Labor Force

The labor force is divided into two groups, employed and unemployed. An increase in the labor force that is not matched by an increase in employment opportunities will put its own pressure on the economy thereby affecting employment. The size of the workforce in the region is expected to increase economic activity and improve people's welfare. Industry can be said as the application of advanced production methods, where the use of machines increases the quantity and quality of production. Advanced industries use tools and machines that are more complex and sophisticated than traditional tools and require humans to operate them.

Table 1. Population of the Labor Force by Regency/City in the Province of Bali in 2013-2020 (Person)

Regency/City	Population of the Labor Force							
	2013	2014	2015	2016	2017	2018	2019	2020
Jembrana	140,474	146,400	144,733	155,065	163,765	165,193	145,505	165,688
Tabanan	264,157	268,033	268,754	260,455	260,455	278,317	274,263	277,098
Badung	327,647	324,471	339,966	344,522	344,882	365,988	383,662	394,943
Gianyar	268,400	269,646	289,356	297,248	303,470	315,742	308,450	292,619
Klungkung	101530	102,801	105,601	106025	104,956	108,538	106,993	106,852
Bangli	141,205	144,833	138,082	140,503	143,245	149,640	146,585	146,377
arangasem	245,603	245,496	147,289	245,037	240,474	259,007	256,257	259,153
Buleleng	353,000	342,975	352,510	361,049	366,940	382,591	350,778	382,712
Denpasar	441,880	471,103	485,724	499,426	515,465	536,502	535,801	542,477
Province of Bali	2,283,896	2,315,758	2,272,015	2,409,330	2,443,652	2,561,518	2,508,294	2,567,919

Source: Central Bureau of Statistics for Bali Province

Based on Table 1, data on the labor force population in Bali Province for 2013-2020 tend to increase every year, with the highest population achievement for each region in Denpasar Regency and the lowest in Klungkung Regency. The development of the workforce population in 2013 to 2018 has fluctuated. In 2019 it decreased evenly across all

regencies/cities in Bali compared to the previous year and then experienced another increase in 2020. The lowest total workforce in Bali Province in 2013-202 was in 2020 of 2,283,896 people, and the total the highest workforce in 2013 amounted to 2,567,919 people.

Wiasih & Karmini (2021) analyzed the simultaneous and partial effects of economic growth, total workforce, and wage levels on district/city workforce absorption in Bali province in the 2010-2019 period using the panel data analysis method. The estimation results show that economic growth, total workforce, and wage levels simultaneously have a significant effect on labor absorption in the districts/cities of the province of Bali. Partially, economic growth has no effect on employment in districts/cities of Bali province, while the labor force and wage rates have a positive and significant effect on employment in districts/cities of Bali province with an empirical significance value of 0.514 (> 0.05); 0.027 (< 0.05); and 0.021 (<0.05).

Suryawan (2022)analyzed the effect of investment, average length of schooling, labor wages, number of micro and small industries, and GRDP on labor absorption in the manufacturing sector in Java during the 2008-2018 period. The analytical method used is panel data analysis, the results of the analysis show that investment, average length of schooling, and GRDP each have a positive effect on employment in the manufacturing sector with an empirical significance value of 0.0097 (<0.01); 0.0369 (< 0.05); and 0.0002 (<0.01). Labor wages have proven to have a negative effect on employment in the manufacturing sector with an empirical significance value of 0.0094 (<0.01). While the number of micro and small industries was found to have no effect on employment in the manufacturing sector with an empirical significance value of 0.9430 (> 0.10).

Pramesti (2021)in Central Java Province in the 2013-2018 period using the Fixed Effect Model (FEM) panel data analysis method, it can be seen that District/City Minimum Wages, Number of Large Industries, and Private Investment have a positive and significant effect on Labor Absorption in the Surakarta Residency with an empirical significance value of 0.0672 (<0.05); 0.0142 (< 0.05); and 0.0326 (< 0.05), while education has no effect on employment with an empirical significance value of 0.6672 (> 0.10).

Based on the background stated above, the writer is interested in conducting research on how the effect of district minimum wages, investment, number of companies, and economic growth on employment in Bali in 2013-2020.

III. INDENTATIONS AND EQUATIONS

Data Analysis Method

This study will observe the effect of District Minimum Wage, Investment, Number of Companies, and Economic Growth on Labor Absorption by District/City in Bali in 2013-2020 using a panel data analysis tool. The dependent variable in this study is labor absorption in percent units. The independent variables in this study are district minimum wages, investment, number of companies, and economic growth. The type of data used in this study is secondary data obtained through official reports from the Central Statistics Agency of Bali Province.

The econometric model used in this study is the result of a modification by Setya & Aisyah (2022), Hafiz & Haryatiningsih (2021) and Wiasih & Karmini (2021). This research focuses on the government's role in increasing the absorption of labor in Bali. The regression equation used in this study is as follows.

$$PTK_{it} = \beta_0 + \beta_1 UMK_{it} + \beta_2 INV_{it} + \beta_3 JP_{it} + \beta_4 GROWTH_{it} + \varepsilon_{it}$$

Information:

PTK	: Labor Absorption (percent)
UMK	: Regency Minimum Wage (rupiah)
INV	: Investment (million rupiah)
JP	: Number of Companies (units)
GROWTH	: Economic Growth (percent)
β_0	: Constant
β_1 ….. β_4	: Regression coefficient of the independent variable
ε	: Error term (Error Factor)

i : Regency/City cross section data in Bali

t : time series data for 2013-2020

IV. FIGURES AND TABLES

4.1 Panel Data Regression Estimation Results

Table 2
Panel Data Regression Results

Variable	Regression Coefficient		
	CEM	FEM	BRAKE
C	133475.9	208234.5	202625.9
UMK	0.022592	0.024019	0.023180
INV	0.009337	0.001192	0.001756
JP	1944573	320.5834	486.9077
GROWTH	-92.31479	-263.8104	-298.8010
R^2	0.581826	0.984215	0.359692
adjustedR^2	0.556861	0.981005	0.321465
F statistics	23.30514	306.5671	9.409303
Prob. F statistics	0.000000	0.000000	0.000004

Source: Data processed using E-views 10

Table 3
Chow Test Results

Effect Test	Statistics	df	Prob.
Cross-section F	188.006403	(8.59)	0.0000
Chi-square cross-sections	235.933751	8	0.0000

Source: Data processed using E-views 10

Based on the Chow test above, it was found that the p-value or probability F test was 0.0000 and the Chi Square cross section probability value was 0.0000, both of which were significant to alpha 0.05, which means H0 was rejected. Thus it can be concluded that the model chosen is the Fixed Effect Model (FEM).

Table 4
Hausman Test Results

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Random cross-sections	26.125537	4	0.0000

Source: Data processed using E-views 10

Based on the Hausman test above, it was found that the random cross section probability value was 0.0000 < (0.05), which means H0 was rejected. Thus it can be concluded that the Fixed Effect Model (FEM) model is the best model that can be used in this study.

Table 5
Fixed Effect Model (FEM) Estimation Results

$$PTK_{it} = 208234.5 + 0.024019\ UMK_{it} + 0.001192\ INV_{it} + 320.5834\ JP_{it} - 263.8104 GROWTH_{it}$$
(0.0001)* (0.2057) (0.0323** (0.6299)

R^2= 0.984215; adj = 0.981005 R^2; F. Stat = 306.5671; Prob-F Stat = 0.0000

Description: *Significant at α = 0.01; ** Significant at α = 0.05; *** Significant at α = 0.10; The number in brackets is the probability of the t statistic.

4.2 Selected Model Goodness Test

a. Model Existence Test

The model can be said to exist to determine whether the independent variables affect the dependent variable simultaneously (simultaneously). The hypothesis in the F test is H0: β1= β2=β3= 0 (the model does not exist); HA: β1≠β2≠β3≠0 (existing model). H0 is rejected if the p-value (p-value), probability F statistic ≤ α and H0 is accepted if the p-value (p-value), probability F statistic > α. Based on Table 7, the statistical significance value of F is 0.0000 <0.05. Conclusion H_0 is rejected, then the estimated Fixed Effect Model (FEM) model used exists.

b. Determination Coefficient Test (R^2)

The coefficient of determination shows how much influence all the independent variables have on the dependent variable. Based on Table 5 the results of the Fixed Effect Model above obtained a value $R^2$of 0.984215 which means that 98.42% means that variations in Labor Absorption can be influenced by the District Minimum Wage variables, Investment, Number of Companies, and Economic Growth. Meanwhile, 1.58% is influenced by other variables outside the model.

4.3 Test the Effect Validity of the Selected Model

Table 6

Influence Validity Test

Variable	t-statistics	Prob. t	Alpha	Conclusion
District Minimum Wage	4.078410	0.0001	< 0.05	Significant effect at α = 0.01
Investment	1.279562	0.2057	>0.05	No significant effect at α = 0.05
Number of Companies	2.192443	0.0323	< 0.05	Significant effect on α = 0.05
Economic growth	-0.484407	0.6299	>0.05	No significant effect at α = 0.05

Source: Data processed using E-views 10

Based on the data in Table 8, it can be concluded that the District/City Minimum Wage (UMK) and Number of Companies variables have an influence on Labor Absorption in Bali Province, while the Investment and Economic Growth variables have no effect on Labor Absorption in Bali Province.

The District Minimum Wage variable has a positive influence with a regression coefficient of 4.078410. The pattern of the relationship between the district minimum wage and employment in the industrial sector is linear, meaning that if the regency minimum wage increases by 1 rupiah, then employment will increase by 4.08%. And vice versa, if the district minimum wage drops by 1 rupiah, the industrial sector's employment will decrease by 4.08%.

The number of companies variable has a positive influence with a regression coefficient of 2.192443. The relationship pattern between the number of companies and employment in the industrial sector is linear, meaning that if the number of companies increases by 1 unit, then employment will increase by 2.19%. Vice versa, if the number of companies decreases by 1 unit, the industrial sector's employment will decrease by 2.19%.

V. CONCLUSION

The results of analysis in data processing show that district minimum wages and the number of companies have a significant effect on employment in the industrial sector, while investment and economic growth have no significant effect on employment in the industrial sector in Bali Province for the 2013-2020 period.

The minimum wage has a positive effect and is interrelated with employment in the Province of Bali, if there is an increase in the minimum wage it has the potential to increase employment and vice versa. Companies with large wages will absorb more labor so that the company's production activities produce more output as well. These results are supported by the research of Rochmani et al. (2016)which states that the effect of the UMK on Labor Absorption is positive. This means that an increase in the minimum wage will increase employment and vice versa, a decrease in the minimum wage will reduce the absorption of labor. The theory of the relationship between the minimum wage and employment according to Mankiw, N. Gregory. (2003) explained that setting minimum wages can cause unemployment. However, in some cases the implementation of minimum wages can cause companies to be able to increase employee motivation to increase production results and maximize labor.

Based on the results of data processing, it shows that the number of companies has a positive effect on employment in the Province of Bali. It can be interpreted that any increase in company units will have a direct positive effect on employment, as well as generate greater demand for new workers. These results are consistent with research conducted

by Zenda & Suparno 2017) where the number of industries has a positive and significant effect on employment.

The results of data processing in the panel data regression analysis show the influence of the Regency Minimum Wage, Investment, Number of Companies, and Economic Growth on Labor Absorption in the Province of Bali in 2013-2020, so the following conclusions can be drawn:

1. Based on the results of data processing, the selected regression model is the Fixed Effect Model (FEM).
2. Based on the results of the extension test (F Test) of the selected model, it can be seen that the Fixed Effect Model (FEM) exists. This means that the District Minimum Wage, Investment, Number of Companies, and Economic Growth variables affect the Absorption of Labor in the industrial sector in Bali Province in 2013-2020.
3. Influence validity test (T test) it can be seen that the District Minimum Wage and Number of Companies variables statistically have a significant and positive effect on Labor Absorption. While Investment and Economic Growth do not have a significant effect on Labor Absorption.
4. The results of the R^2determination coefficient test using the FEM selected model obtained a determination coefficient value of $R^2$of 0.984215 or 98.42%, the variation in labor absorption is influenced by the variable district minimum wage, investment, number of companies, and economic growth. Meanwhile, 1.58% is influenced by variables outside the model.
5. With the results of this analysis, it is hoped that the government will focus on making a more equitable wage policy in order to be able to increase employment and production growth as well as increase the income and welfare of workers. It is also hoped that the government will supervise companies that are established so that there is no excessive exploitation of labor even though they are paid below the minimum wage.

REFERENCES

[1] Todaro, Michael P., and Stephen C. Smith (2015). Economic Development, 12th Edition. Pearson Education Limited. United Kingdom.

[2] Hasan, M., & Azis, M. (2018). Pembangunan Ekonomi dan Pemberdayaan Masyarakat. Makassar: CV. Nur Lina.

[3] Todaro, Michael P. (2006). Pemabangunan Ekonomi di Dunia Ketiga Edisi 9.Erlangga. Jakarta. UNDP.

[4] Mankiw, N. Gregory. (2003). Macroeconomics. New York: Worth Publishers

[5] Amrita, N. D. A., Handayani, M. M., & Erynayati, L. (2021). Pengaruh Pandemi Covid-19 Terhadap Pariwisata Bali. *Jurnal Manajemen Dan Bisnis Equilibrium*, *7*(2), 246–257. https://doi.org/10.47329/jurnal_mbe.v7i2.824

[6] Awandari, L. P. P., & Indrajaya, I. G. B. (2016). Pengaruh Infrastruktur, Investasi, Dan Pertumbuhan Ekonomi Terhadap Kesejahteraan Masyarakat Melalui Kesempatan Kerja. *E-Jurnal EP Unud*, *5*(12), 1435–1462.

[7] Hafiz, E. A., & Haryatiningsih, R. (2021). Pengaruh PDRB, UMK, IPM terhadap Penyerapan Tenaga Kerja Kabupaten/Kota Jawa Barat 2010-2020. *Jurnal Riset Ilmu Ekonomi Dan Bisnis*, *1*(1), 55–65. https://doi.org/10.29313/jrieb.v1i1.174

[8] Maryati, S., Handra, H., & Muslim, I. (2021). Penyerapan Tenaga Kerja dan Pertumbuhan Ekonomi Menuju Era Bonus Demografi di Sumatra Barat Labor Absorption and Economic Growth Towards the Demographic Bonus Era in West Sumatra. *Jurnal Ekonomi Dan Pembangunan Indonesia*, *21*(1), 95–107.

[9] Pramesti, B. A. (2021). *Analisis Pengaruh Umk, Jumlah Industri Besar Dan Sedang, Investasi Swasta, Dan Pendidikan Terhadap Penyerapan Tenaga Kerja Di Karesidenan Surakarta KARESIDENAN SURAKARTA*. 6.

[10] Rochmani, T. S., Purwaningsih, Y., & Suryantoro, A. (2016). ANALISIS PENYERAPAN TENAGA KERJA SEKTOR INDUSTRI DI PROVINSI JAWA TENGAH. *JIEP*, *16*(2), 138–146. http://eprints.umm.ac.id/26824/

[11] Setya, I. S. R., & Aisyah, S. (2022). *Determinan Penyerapan Tenaga Kerja Di Pulau Kalimantan*. http://eprints.ums.ac.id/id/eprint/98385

[12] Suryawan, H. (2022). *DETERMINAN PENYERAPAN TENAGA KERJA SEKTOR INDUSTRI MANUFAKTUR DI PULAU JAWA TAHUN 2008-2018*.

[13] Wiasih, N. K. P., & Karmini, N. L. (2021). Pengaruh Pertumbuhan Ekonomi, Jumlah Angkatan Kerja, Dan Tingkat Upah Terhadap Penyerapan Tenaga Kerja Provinsi Bali. *E-Jurnal Ekonomi Dan Bisnis Universitas Udayana*, *10*(12), 1097–1106. https://doi.org/10.24843/eeb.2021.v10.i12.p05

[14] Wihastuti, L., & Rahmatullah, H. (2018). Upah Minimum Provinsi (UMP) dan Penyerapan Tenaga Kerja di Pulau Jawa. *Jurnal Gama Societa*, *1*(1), 96–102. https://doi.org/10.22146/jgs.34054

[15] Zenda, R. H., & Suparno. (2017). Peranan Sektor Industri Terhadap Penyerapan Tenaga Kerja Di Kota Surabaya. *Jurnal Ekonomi & Bisnis*, *2*(1), 371–384.

[16] Badan Pusat Statistik Provinsi Bali 2022. Bali Dalam Angka. Bali: Badan Pusat Statistik.

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