

FACTORS AFFECTING LABOUR ABSORPTION IN BANYUMAS REGENCY

Lisa Widiyana^{1*}, Bambang², Arintoko³, Fahrizya Indra Suksmana⁴

¹⁻³ Development Economics, Jenderal Soedirman University, Indonesia

⁴ Bappedalitbang of Banyumas Regency, Indonesia

*Email corresponding author: lisawidiyana03@gmail.com

Abstract

Unemployment is one of the serious challenges experienced by all countries, including Indonesia as a developing country. Some cities or regencies in each province have unemployment rates that are higher than the provincial and Indonesian levels, one of which is Banyumas Regency. Therefore, the purpose of this study is to determine the effect of human development index, gross regional domestic product, regency minimum wage and investment on labour absorption in Banyumas Regency. This research uses secondary data from the Central Statistics Agency. The model uses is a time series analysis model with the data used is data in 2004 - 2023. The time series data processing technique in this study uses the help of Eviews 10 software. The result of this study shows that human development index has a positive and significant effect on labour absorption in banyumas regency. Gross regional domestic product and regency minimum wage have a negative and significant effect on labour absorption in banyumas regency. Lastly, investment has a positive but insignificant effect on labour absorption in banyumas regency. The implication of this research is that policies that can be considered by the Banyumas Regency government to increase labour absorption are inclusive economic growth, quality of life improvement, productivity improvement and wage policy. In addition, policies for investment are creating a conducive investment climate, developing MSMEs and increasing labour productivity.

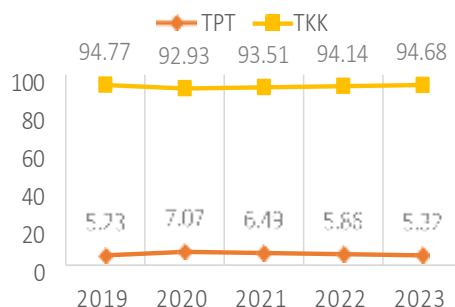
Keywords: Human Development Index, Gross Regional Domestic Product, Regency Minimum Wage, Investment, Labour Absorption

INTRODUCTION

Indonesia is the fourth most populous country in the world with 278,26 million people after India, China and the United States. This large population provides a global demographic influence while presenting challenges in the management of Human Resources (HR). The increasing number of labourers requires the provision of adequate employment both in quantity and quality (Ramadhan dan Setyowati, 2023). Without fulfilment of basic needs and employment various economic and social problems such as unemployment may arise (Adriyanto et al., 2020).

Unemployment is defined as an individual in the working age between 16 - 65 years old who is looking for employment, preparing a business, an individual who is working but the productivity level is low and has a job but hasn't started it (Soleh, 2017). In the end, unemployment can cause economic instability, which in turn affects various aspects of life (Pangastuti, 2015). One of them is the increase in crime because people don't work and have income so they can't fulfil their basic needs (Sujatna and Istimal, 2018).

Labour absorption is the ability of employment to accommodate a large proportion of the labour force in need of work, reflected by the working and contributing population in various sectors of the economy (Pangastuti, 2015). The term is often interpreted as labour demand that reflects the needs of businesses, industries, or organisations to meet productivity in certain sectors (Tasyim et al., 2021).



Source: Central Statistics Agency 2024, processed

Figure 1. Open Unemployment Rate and Employment Opportunity Rate in Indonesia

In Figure 1., the Open Unemployment Rate in Indonesia tends to decrease but in 2023 it is still higher than in 2019 despite the economic recovery and the Employment Opportunity Rate in 2023 is still lower than in 2019. This shows that despite the abundance of available jobs, it is still not enough to accommodate more labour, which causes the unemployment rate not to decrease significantly.

Table 1. Open Unemployment Rate & Employment Opportunity Rate of Provinces in Indonesia

No.	Province	2021		2022		2023	
		TPT	TKK	TPT	TKK	TPT	TKK
1.	Banten	8,98	91,02	8,09	91,91	7,52	92,48
2.	West Java	9,82	90,18	8,31	91,69	7,44	92,56
3.	Riau Islands	9,91	90,09	8,23	91,77	6,8	93,2
4.	Special Region of Jakarta	8,5	91,5	7,18	92,82	6,53	93,47
5.	Maluku	6,93	93,07	6,88	93,12	6,31	93,69
6.	North Sulawesi	7,06	92,94	6,61	93,39	6,1	93,9
7.	Aceh	6,3	93,7	6,17	93,83	6,03	93,97
8.	West Sumatera	6,52	93,48	6,28	93,72	5,94	94,06
9.	North Sumatera	6,33	93,67	6,16	93,84	5,89	94,11
10.	West Papua	5,84	94,16	5,37	94,63	5,38	94,62
11.	East Kalimantan	6,83	93,17	5,71	94,29	5,31	94,69
12.	Central Java	5,95	94,05	5,57	94,43	5,13	94,87
13.	West Kalimantan	5,82	94,18	5,11	94,89	5,05	94,95
14.	East Java	5,74	94,26	5,49	94,51	4,88	95,12
15.	Bangka Belitung Islands	5,03	94,97	4,77	95,23	4,56	95,44
16.	Jambi	5,09	94,91	4,59	95,41	4,53	95,47
17.	South Sulawesi	5,72	94,28	4,51	95,49	4,33	95,67
18.	South Kalimantan	4,95	95,05	4,74	95,26	4,31	95,69
19.	North Maluku	4,71	95,29	3,98	96,02	4,31	95,69
20.	Lampung	4,69	95,31	4,52	95,48	4,23	95,77
21.	Riau	4,42	95,58	4,37	95,63	4,23	95,77
22.	South Sumatera	4,98	95,02	4,63	95,37	4,11	95,89
23.	Central Kalimantan	4,53	95,47	4,26	95,74	4,1	95,9
24.	North Kalimantan	4,58	95,42	4,33	95,67	4,01	95,99

No.	Province	2021		2022		2023	
		TPT	TKK	TPT	TKK	TPT	TKK
25.	Special Region of Yogyakarta	4,56	95,44	4,06	95,94	3,69	96,31
26.	Bengkulu	3,65	96,35	3,59	96,41	3,42	96,58
27.	Southeast Sulawesi	3,92	96,08	3,36	96,64	3,15	96,85
28.	East Nusa Tenggara	3,77	96,23	3,54	96,46	3,14	96,86
29.	Gorontalo	3,01	96,99	2,58	97,42	3,06	96,94
30.	Sulawesi Sulawesi	3,75	96,25	3	97	2,95	97,05
31.	West Nusa Tenggara	3,01	96,99	2,89	97,11	2,8	97,2
32.	Bali	5,37	94,63	4,8	95,2	2,69	97,31
33.	Papua	3,33	96,67	2,83	97,17	2,67	97,33
34.	West Sulawesi	3,13	96,87	2,34	97,66	2,27	97,73

Source: Central Statistics Agency 2024, processed

The current problem in Central Java is the provision of employment. In Table 1, it can be seen that the unemployment rate in Central Java continues to decline from 2021 to 2023, which shows that the level of employment opportunities is increasing. However, Central Java's unemployment rate remains in the high category when compared to other provinces in Indonesia where Central Java is ranked 12th.

Table 2. Regency with the Highest Open Unemployment Rate in Central Java

Regency	2021		2022		2023	
	TPT	TKK	TPT	TKK	TPT	TKK
Brebes Regency	9,78	90,22	9,48	90,52	8,98	91,02
Tegal Regency	9,97	90,03	9,64	90,36	8,6	91,4
Cilacap Regency	9,97	90,03	9,62	90,38	8,74	91,26
Pemalang Regency	6,71	93,29	6,63	93,37	6,55	93,45
Banyumas Regency	6,05	93,95	6,05	93,95	6,35	93,65

Source: BPS Central Java Province 2024, processed

Banyumas regency has the fifth highest unemployment rate in Central Java. The open unemployment rate (TPT) in this regency continues to increase every year, even exceeding the average TPT in Central Java province and nationally.

The trend in the number of unemployed people in Kabupaten Banyumas has tended to increase over the past three years with a total of 52,390 people in 2021, a slight increase in the following year with a total of 52,713 people, and a significant increase in 2023 with 58,727 people (Badan Pusat Statistik, 2024). This shows that the level of employment opportunities in Kabupaten Banyumas still needs to be optimised by increasing employment opportunities.

Labour absorption is an important indicator of the success of a region's economic development. High labour absorption reflects the effectiveness of local government policies. Factors that influence it include the quality of human resources (HDI), regional economic capacity (GRDP), wage levels, and the amount of incoming investment (Safitri and Desmintari, 2022).

Table 3. HDI, GRDP, Wage and Investment Data in Banyumas Regency

Year	HDI	GRDP	Wage	Invesment (million rupiah)
2019	71,96	39.779.320,86	1.750.000	761.621,38
2020	71,98	39.121.623,57	1.900.000	1.077.955,78

Year	HDI	GRDP	Wage	Invesment (million rupiah)
2021	72,44	40.686.808,02	1.970.000	1.021.561,27
2022	73,17	43.069.504,38	1.983.261	1.637.794,41
2023	73,86	45.396.301,96	2.118.124	1.993.592,12

Source: BPS Central Java Province 2023 and 2024, BPS Kabupaten Banyumas 2024, processed

Table 3, shows that HDI, GRDP, wage and investment in Banyumas Regency for the last 5 years tend to increase every year. The decline only occurred in GDRP in 2020 and investment in 2021. This shows a good condition but the absorption of labour in Banyumas Regency is still not optimal.

Various studies have analysed the relationship between HDI, GRDP, wage and investment on absorption of labour but the results are inconsistent. The findings of these studies vary and haven't reached a clear conclusion or consensus.

Research conducted in Gorontalo Regency revealed a positive relationship between the Human Development Index (HDI) and labour absorption in the region (Gani et al., 2023). However, this finding contradicts the findings of another study conducted by Silvia and Susilowati (2023) which shows that HDI has a significant negative effect on labour absorption in the region they studied.

Based on research findings conducted by Indradewa and Natha (2015), Gross Regional Domestic Product (GRDP) shows a significant positive influence on labour absorption. However, this finding contradicts the research conducted by Patriansyah (2018) who found that GRDP has an insignificant negative effect on labour absorption.

In their research, Rusniati et al. (2018) revealed that the Regency Minimum Wage (UMK) does not reflect a significant influence and there is even a negative influence on labour absorption. In contrast, Agustin (2020) in his research findings revealed that MSEs actually have a positive influence on labour absorption.

In their research, Kario et al. (2021) stated that investment has a positive influence on labour absorption. On the other hand, the findings in research by Ali et al. (2020) imply that investment actually has a significant negative effect on labour absorption.

This research gives a new contribution to the previous literature with different locations and sectors in previous studies. The data applied in this study is time series data which this type of data has dynamic variable characteristics so that the time series model used is the Vector Auto-Regression (VAR) / Vector Error Correct Model (VECM) with the independent variables used HDI, GRDP, MSEs and investment.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

1) Labor Force

Labour is the working-age population (15-64 years old) that contributes to the provision of goods or services through work effort or ability, both in the production stage and economic activities that are important to the economy of a region or country (Pratama dan Hadiyanti, 2020).

Labour Demand and Supply

The labour market functions similar to other economic markets in that it is an interaction between the demand and supply of labour at a given level of income. Labour supply refers to the number of individuals available to work at a set wage rate. The demand for labour comes from the corporate and government sectors that require labour to run their operations (Arida et al., 2015). The Human Development Index

The Human Development Index (HDI) is an indicator used to identify the level of human achievement based on various basic components that reflect overall living conditions. The HDI is calculated using data that reflects four main components there are life expectancy, years of schooling, average years of schooling and average expenditure per capita (Badan Pusat Statistik, 2020).

Research findings conducted by Pratama et al. (2022) proves that improving the level of life through the level of education, health and decent living standards can improve the quality of human resources, this is also reinforced by the results of Prayoga's research (2023) HDI has a significant positive effect on labor absorption, which means that the better the quality of human beings, it will encourage someone to be more easily absorbed by the world of work.

Gani et al. (2023) obtained the same results as previous research, namely stating that the Human Development Index (HDI) and employment are directly proportional, which means that if there is an increase in HDI, employment will also increase. Improving the quality of life will have an impact on expanding employment opportunities for the community so that researchers suggest it as a strategic plan in development with proper planning in the fields of education, health and other fields (Randa and Fani, 2023).

H1: HDI has a positive effect on Labor Absorption

2) Gross Regional Domestic Product

The net value of finished goods and services produced by various economic activities in a region over time is measured by Gross Regional Domestic Product (GRDP). In compiling or calculating GRDP there are 3 (three) commonly applied approaches namely the production, expenditure and income approaches each of which provides a different perspective in analysing the economic performance of a region (Badan Pusat Statistik, 2024).

Research findings conducted by Prawoto (2018) reveal that the level of productivity is one of the crucial factors during development where if the level of productivity is high, there will be an increase in the goods and services produced, indicating that when GRDP increases, economic growth will also increase which will require additional labor. Supported by the results of research by Hafiz and Haryatiningsih (2021), it is stated that increasing GRDP will allow more industries to create new employment opportunities.

Nurhardiansyah et al. (2017) obtained results in the same direction as the findings of previous research which revealed that the increase in GRDP indicates an increase in the added value of output or sales for the economy in an area, so that companies immediately increase the demand for workers to be able to increase their production, the workers needed will increase. The same finding from Widyapangesti and Soelistyo's research (2022) states that the labor market goes hand in hand with the goods market where an increase in output produced by a company will be directly proportional to the increase in demand for workers. This condition can be related to the idea of the production function which states that if the input, in this case labor, increases, the output will also increase.

H2: GRDP has a positive effect on Labor Absorption

3) Minimum Wage

The Regional Minimum Wage is the lowest income limit set by the government and

must be applied by industry players or employers in providing income or wages for employees or employees in their companies (Maghfirah dan Zulham, 2016).

The findings of research conducted by Wasilaputri (2016) state that an increase in income can lead to a decrease in the number of workers requested due to the relatively higher price if not offset by an increase in the price of other inputs so that the company will replace the relatively expensive labor price with other inputs that are more affordable in price just to maintain profits and make the company increase the price per unit of product which causes consumers to tend to reduce the level of consumption of the product and to avoid large losses, producers are forced to reduce the amount of production which has an impact on the number of workers needed.

Patriansyah (2018) obtained the same results as previous research, namely that if the wage value is high, the company will reduce the demand or acceptance of labor so as not to increase production costs and human workers in certain jobs can be replaced by machines so as to stabilize the production costs incurred, this is done because the salary or wages of workers is a burden that must be paid by the company. The increase in the minimum wage results in a reduction in the number of workers as a result of reduced employment which causes unemployment to increase (Ardiansyah et al., 2018).

H3: MSE has a negative effect on Labor Absorption

4) Investment

Investment can be understood as expenditure made by companies with the intention of investing capital, which is usually in the form of purchasing capital goods and production equipment. The purpose of this investment is to increase production capacity both in terms of quantity and quality of goods and services available in an economy.

The results of research conducted by Widyapangesti and Soelistyo (2022) state that to increase output can be done by using capital accumulation or investment in which there is a relationship between employment provision and GNP growth where if you want to maximize GNP growth, employment must be increased. This statement is also reinforced by the findings of research conducted by Romdhoni (2017) which reveals that investment has a positive influence on labor absorption. Therefore, when investment increases, it will cause labor absorption to tend to increase and vice versa, a decrease in investment can result in a decrease in labor absorption.

Silalahi et al. (2023) The greater the value of incoming investment, the greater the opportunity for available employment so that researchers suggest that the government be more active in building infrastructure, improving the quality of education and health to attract investors. It is intended that investors invest their capital so that it can generate a lot of jobs that are needed by the unemployed labor force so as to provide opportunities for them to be involved in the world of work.

H4: Investment has a positive effect on Labor Absorption

RESEARCH METHODS

This research uses a quantitative approach with the data analysis technique used is time series modelling VAR / VECM. Quantitative research method is a research approach that utilizes the use of data in the form of numbers or numbers that can be measured and analysed statistically to obtain objective and measurable results (Sugiyono, 2018). This research uses secondary data as the main source obtained from the Central Statistics Agency. This research was conducted in the Banyumas Regency area with the variables used, namely employment, human development index, gross regional domestic product, district minimum wage and investment with a 20-year period from 2004- 2023.

VAR/VECM test stages are :

1. Stationarity Test
2. Optimum Lag Test
3. Stability Test
4. Cointegration Test
5. Causality Test
6. VAR/VECM Test
7. Classic Assumption Test (Autocorrelation Test, Multicollinearity Test and Heteroscedasticity Test)
8. Impulse Response Function (IRF) Test
9. Variance Decomposition Test

RESULTS AND DISCUSSION

A. Result

1) Stationarity Test

The Augmented Dickey-Fuller (ADF) test is used in this study to determine whether the variables are stationary or not. A variable is said to be stationary if the probability value is $< 5\%$ or < 0.05 .

Table 4. Unit Root Test Results

Variable	Root Test			
	Level		1 st Difference	
	ADF	Prob.	ADF	Prob.
Labor Absorption	-1,613331	0,4568	-3,608501	0,0165
Human Development Index	1,93E-13	0,9474	-4,000000	0,0075
Gross Regional Domestic Product	-0,500866	0,8708	-3,828841	0,0106
District Minimum Wage	-0,462454	0,8786	-4,535574	0,0025
Investment	-1,615250	0,4558	-5,784624	0,0002

Source: Data processed with Eviews 10, 2024

Based on the results of stationarity testing in Table 4, it is known that HDI, GRDP, MSEs, investment and labour absorption are stationary in the first difference as evidenced by all p-values < 0.05 . So that there are 2 possible models used, namely VAR with differentiated data and VECM which is determined by the presence or absence of cointegration. The first test analysis carried out next is the determination of the optimum lag aims to determine the best lag duration in the model while the stability test is used to ascertain whether the model is stable.

2) Determination of Optimum Lag

The second step in estimating the VAR/VECM model is to determine the optimum lag or lag level. This is important because using the optimum lag value can be useful for eliminating problems in one of the classical assumption tests, namely autocorrelation.

Table 5. Optimum Lag Test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	28,45342	NA	5,08e-08	-2,605935	-2,358610	-2,571832
1	96,32544	90,49603*	4,95e-10*	-7,369493	-5,885541*	-7,164876*
2	122,6811	20,49885	1,01e-09	-7,520123*	-4,799543	-7,144992

Source: Data processed with Eviews 10, 2024

Based on Table 5, the lag test results show that the optimum lag reference by LR test statistic, Final Prediction Error (FPE), Schwarz Information Criterion (SC) and Hannan- Quinn Information Criterion (HQ) criteria is at lag 1 while Akaike Information Criterion (AIC) is at lag 2.

There are differences in the selection of the optimum lag from several criteria above, so to determine the most optimum lag is by comparing the adjusted R-Squared value of each lag candidate. The lag that produces a higher adjusted R-Squared value will be selected as the optimum lag.

Table 6.		Adjusted R-Squared Value			
Lag	LN1	LN2	LN3	LN4	LN5
Lag 1	0,561313	0.991494	0.995621	0.776023	0.784163
Lag 2	0,689727	0.990564	0.992624	0.621815	0.696800

Source: Estimation Results Eviews 10. (processed)

Based on Table 6, it shows that the adjusted R-Squared value of lag 1 is higher than lag 2, so the optimum lag selection is at lag 1. This lag determination is then used for stability tests, VAR / VECM tests, Impulse Response Function (IRF) and Variant Decomposition (VD).

3) Stability Test

The lag selected in the lag optimum test is lag 1. The next test conducted is the stability test which is analysed based on the value of the inverse root characteristic AR polynomial. A VAR model is considered stable if the modulus value is in the radius < 1 or all the inverse root characteristic polynomial points are located inside the circle.

In the optimal lag test in Figure 1, lag 1 is the chosen lag. The stability test is the next test performed, checked using the value of the inverse roots characteristic polynomial. If all the inverse roots characteristic polynomial points are inside the circle or the modulus value is within the radius < 1 , then the VAR model is said to be stable.

Inverse Roots of AR Characteristic Polynomial

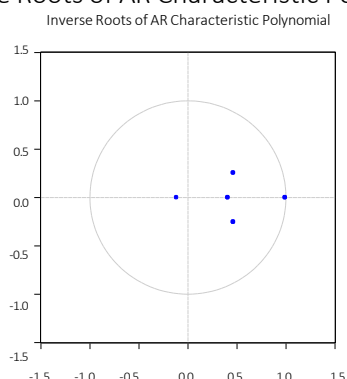


Figure 1. Inverse Root Characteristic Polynomial lag 1

Source: Eviews 10 Estimation Results (processed)

4) Cointegration Test

The next test carried out is the cointegration test which is useful in order to

find out whether there is a possibility of cointegration in the Vector Auto-Regression (VAR) model or not. The VAR model with differentiated data is used if the cointegration test results do not reflect the presence of cointegration, while the Vector Error Correct Model will be used if there are indications of cointegration.

Table 7. Johansen Cointegration Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.852215	75.67515	60.06141	0.0014
At most 1 *	0.754268	41.25920	40.17493	0.0387
At most 2	0.407761	15.99598	24.27596	0.3799
At most 3	0.184882	6.566777	12.32090	0.3704
At most 4	0.148196	2.887171	4.129906	0.1056

Source: Eviews 10 Estimation Results (processed)

Based on Table 7, the Johansen cointegration test results show that the probability value in row none and At most 1 is 0.0014 and 0.0387 at <0.05. This indicates that in this VAR model there is a cointegration equation which means it has a long-term balance. So that the analysis model used in this study is to use the Vector Error Correct Model.

5) Causality Test

The causality test in this study uses the Granger test. A variable can be said to have a causal relationship if the probability value is < 5% or 0.05. Likewise, on the contrary, if the probability value > 0.05 then no causality relationship is detected. This causality relationship can occur in only one direction and two directions.

Table 8. Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
LNx1 does not Granger Cause LNPTK	19	1.64686	0.2177
LNPTK does not Granger Cause LNx1		0.02831	0.8685
LNx2 does not Granger Cause LNPTK	19	2.17213	0.1599
LNPTK does not Granger Cause LNx2		0.93060	0.3491
LNx3 does not Granger Cause LNPTK	19	2.25098	0.1530
LNPTK does not Granger Cause LNx3		0.36763	0.5528
LNx4 does not Granger Cause LNPTK	19	1.77303	0.2017
LNPTK does not Granger Cause LNx4		0.53930	0.4734
LNx2 does not Granger Cause LNx1	19	11.0376	0.0043
LNx1 does not Granger Cause LNx2		0.50760	0.4864
LNx3 does not Granger Cause LNx1	19	3.82617	0.0681
LNx1 does not Granger Cause LNx3		2.47157	0.1355
LNx4 does not Granger Cause LNx1	19	0.04746	0.8303
LNx1 does not Granger Cause LNx4		7.73112	0.0134
LNx3 does not Granger Cause LNx2	19	0.51098	0.4850
LNx2 does not Granger Cause LNx3		3.84959	0.0674
LNx4 does not Granger Cause LNx2	19	1.45979	0.2445
LNx2 does not Granger Cause LNx4		8.53859	0.0100

LNx4 does not Granger Cause LNx3	19	0.14556	0.7078
LNx3 does not Granger Cause LNx4		27.9868	7.E-05

Source: Eviews 10 Estimation Results (processed)

Based on the Granger Causality test results in Table 8, it shows that:

- a. It is known that HDI does not significantly affect labour absorption with a probability value of $0.2177 > 0.05$, and labour absorption also does not significantly affect HDI with a probability value of $0.8685 > 0.05$. So it can be concluded that there is no causality between labour absorption and HDI.
- b. It is known that GRDP does not significantly affect labour absorption with a probability value of $0.1599 > 0.05$, and labour absorption also does not significantly affect GRDP with a probability value of $0.3491 > 0.05$. So it can be concluded that there is no causality between labour absorption and GRDP.
- c. It is known that MSE does not significantly affect the absorption of labour with a probability value of $0.1530 > 0.05$, and the absorption of labour also does not significantly affect MSE with a probability value of $0.5528 > 0.05$. So it can be concluded that there is no causality between labour absorption and MSEs.
- d. It is known that investment does not significantly affect labour absorption with a probability value of $0.2017 > 0.05$, and labour absorption also does not significantly affect investment with a probability value of $0.4734 > 0.05$. So it can be concluded that there is no causality between labour absorption and investment.
- e. It is known that GRDP significantly affects HDI with a probability value of $0.0043 < 0.05$, but HDI does not significantly affect GRDP with a probability value of $0.4864 > 0.05$. So it can be concluded that there is one-way causality between GRDP and HDI, namely only GRDP affects HDI.
- f. It is known that MSEs do not significantly affect HDI with a probability value of $0.0681 > 0.05$, and also HDI does not significantly affect MSEs with a probability value of $0.1355 > 0.05$. So it can be concluded that there is no two-way causality between MSEs and HDI.
- g. It is known that investment does not significantly affect HDI with a probability value of $0.8303 > 0.05$, but HDI significantly affects investment with a probability value of $0.0134 < 0.05$. So it can be concluded that there is a one-way causality between investment and HDI, namely only HDI affects investment.
- h. It is known that MSEs do not significantly affect GRDP with a probability value of $0.4850 > 0.05$, and GRDP also does not significantly affect MSEs with a probability value of $0.0674 > 0.05$. So it can be concluded that there is no two-way causality between MSEs and GRDP.
- i. It is known that investment does not significantly affect GRDP with a probability value of $0.2445 > 0.05$, but GRDP significantly affects investment with a probability value of $0.0100 < 0.05$. So it can be concluded that there is one-way causality between investment and GRDP, namely only GRDP affects investment.
- j. It is known that investment does not significantly affect MSEs with a probability value of $0.7078 > 0.05$, but MSEs significantly affect investment with a probability value of $7.E-05 (0.00007) < 0.05$. So it can be concluded that there is one-way causality between investment and MSEs, namely only MSEs affect investment.

6) Vector Error Correct Model (VECM) Estimation

Table 9. VECM Model	
Cointegrating Eq:	CointEq1
LN _Y (-1)	1.000000
LN _{X1} (-1)	-1.756057 (0.24705) [-7.10799]
LN _{X2} (-1)	0.001129 (0.00061) [1.85945]
LN _{X3} (-1)	0.095011 (0.04093) [2.32132]
LN _{X4} (-1)	-0.020403 (0.01250) [-1.63185]

Source: Eviews 10 Estimation Results (processed)

The VECM equation obtained is as follows:

$$\text{LNPTK}_t - 1 = 1.756057 \text{ LNIPM}_t - 1 - 0.001129 \text{ LNPDRB}_t - 1 - 0.09501 \text{ LNUMK}_t - 1 + 0.020403$$

$$\text{LNINV}_t - 1$$

Based on the results of the VECM model in Table 9, the long-term relationship between the five variables is as follows:

- In the long run, HDI has a significant influence on labour absorption with a statistical value of $t \text{ } |-7.10799| > t \text{ table } |1.729|$. So it means that if HDI in 1 year ago increases by 1%, it can cause changes in labour absorption at this time to increase by 1.756057.
- In the long run, GRDP has a significant influence on labour absorption with statistical value $|1.85945| > t \text{ table } |1.729|$. So it means that if GRDP in the past 1 year increases by 1%, it can cause a change in current labour absorption to decrease by - 0.001129.
- In the long run, MSE has a significant influence on labour absorption with a statistical value of $t \text{ } |2.32132| > t \text{ table } |1.729|$. So it means that if the MSE in 1 year ago increases by 1%, it can cause the current labour absorption to decrease by - 0.095011.
- In the long run, investment has no significant effect on labour absorption with statistical value $|-1.63185| < t \text{ table } |1.729|$. So it means that if the investment in 1 year ago increases by 1%, it can cause the current labour absorption to increase by 0.020403 but it is not significant.

7) Classical Assumption Test

a. Multicollinearity Test

The multicollinearity test in this study was carried out by measuring the correlation between variables. Based on the general rule of thumb of 0.8 where if the correlation value exceeds this number, it can be concluded that

multicollinearity is detected (Gujarati, 2015). However, if the correlation value is less than 0.8, it can be concluded that there is no multicollinearity detected.

Table 10. Multicollinearity Test

	LNPTK	LN1	LN2	LN3	LN4
LNPTK	1.000000	0.193754	0.149967	0.065629	0.578999
LN1	0.193754	1.000000	0.367986	0.328388	0.127028
LN2	0.149967	0.367986	1.000000	0.346560	-0.275028
LN3	0.065629	0.328388	0.346560	1.000000	0.107296
LN4	0.578999	0.127028	-0.275028	0.107296	1.000000

Source: Eviews 10 Estimation Results (processed)

The highest correlation value as shown in Table 4.10, is 0.578999 which is less than the threshold of 0.8. Therefore, it can be said that this equation shows no signs of multicollinearity.

b. Heteroscedasticity Test

The heteroscedasticity test in this study uses the White Heteroscedasticity test. The equation model can indicate the presence of heteroscedasticity if the probability value is below the error rate of 0.05 or 5%. Conversely, it can be said that there is no heteroscedasticity if the probability value is higher than 0.05.

Table 11. Heteroscedasticity Test

Chi-sq	df	Prob.
162.1002	150	0.2361

Source: Eviews 10 Estimation Results (processed)

Table 4.11, shows that the probability value of 0.2361 is greater than the degree of error of 0.05. Therefore, there is no heteroscedasticity detected in this equation.

c. Autocorrelation Test

One of the autocorrelation tests can be seen from the correlation LM tests. The model can be said to be detected in the presence of autocorrelation, namely if the probability value is less than the error degree of 5% or 0.05. However, if the probability value exceeds the error degree of 0.05, it means that no autocorrelation is detected.

Table 12. Autocorrelation Test

Lag	LRE* stat	Probabilitas
1	20.54156	0.7179
2	19.61303	0.7668

Source: Eviews 10 Estimation Results (processed)

The results of estimating autocorrelation using the LM test up to lag 2 are shown in Table 12, lag 2 has the highest likelihood number of 0.7668, while lag 1 has the lowest likelihood number of 0.7179. It can be concluded that there is no autocorrelation because both values are greater than the degree of error 0.05.

8) VECM Test

a. Impulse Response Function (IRF)

1. Human Development Index

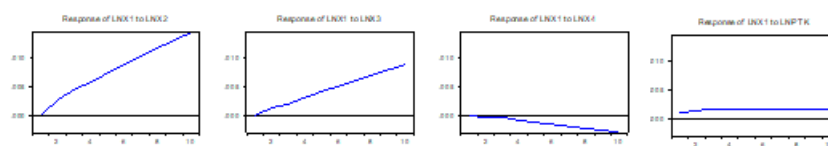


Figure 2. Impulse Response Function Results of HDI
 Variables Source: Eviews 10 Estimation Results
 (processed)

In Figure 2, it can be seen that the HDI response tends to continue to increase if there is a shock from GRDP, MSEs and employment from the beginning of the period to the 10th period. Meanwhile, when there is a shock to investment, it causes a negative response to HDI from the beginning to the end of the period.

2. Gross Regional Domestic Product

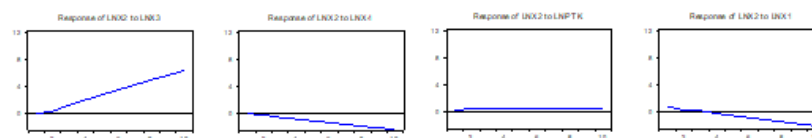


Figure 3. Impulse Response Function Results of GRDP
 Variables Source: Eviews 10 Estimation Results
 (processed)

In Figure 3, it can be seen that the response of GRDP to MSE and labour absorption shocks tends to increase in each period. Meanwhile, when there is a shock to HDI, it causes a negative response to GRDP from the beginning to the end of the period where the value in the first period is 0.832689 until the last period is -2.006063. A shock to investment also gives a negative response to GRDP starting from the second to the last period.

3. Regency Minimum Wage

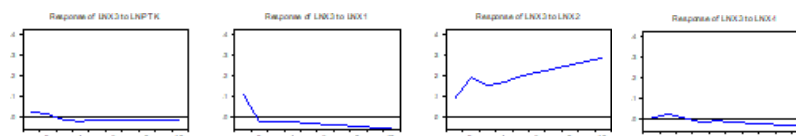


Figure 4. Impulse Response Function Results of MSE
 Variables Source: Eviews 10 Estimation Results
 (processed)

Figure 4, shows that shocks to HDI cause a negative response to MSEs where the value in the first period is 0.109676 and continues to decline until the last period with a value of -0.060234. The shock to GRDP tends to respond positively to MSEs although in the third period

it decreases to 0.15223 but afterwards it continues to increase. Shocks to investment and labour absorption give a negative response to MSEs.

4. Investment

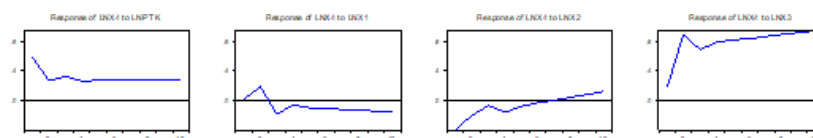


Figure 5. Investment Variable Impulse Response Function Results Source: Eviews 10 Estimation Results (processed)

Figure 5, shows that shocks to HDI and labour absorption cause a negative response to investment. Meanwhile, the impact of shocks to GRDP and MSE on investment tends to be positive where in the first to the last period it continues to increase except for GRDP in the 4th period and MSE in the 3rd period.

5. Labour Absorption

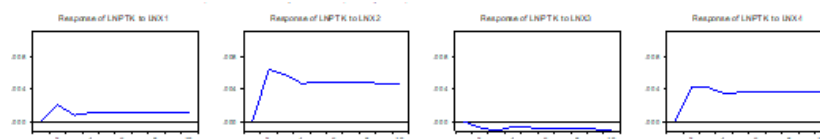


Figure 6. Impulse Response Function Results of Labour Absorption Variables Source: Eviews 10 Estimation Results (processed)

Figure 6, shows that the shock to HDI gives a positive response to labour absorption from the beginning to the end of the period tends to increase except in the 3rd period. Shocks to GRDP and MSEs give a negative response, while investment tends to give a positive response.

b. Variance Decomposition (VD)

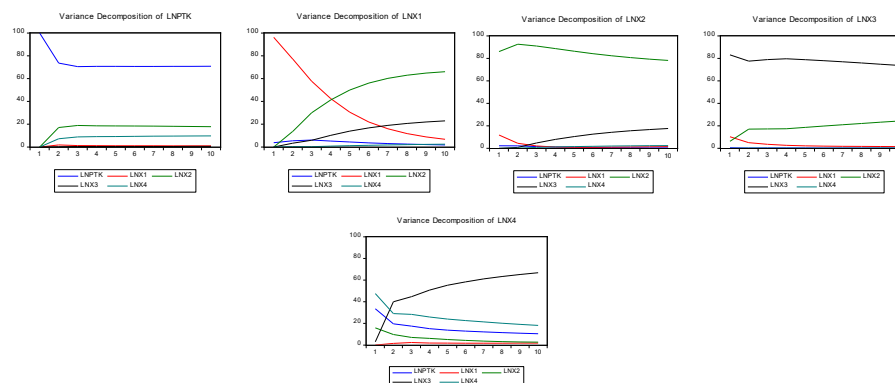


Figure 7. Variance Decomposition Source: Eviews 10 Estimation Results (processed)

1. The variable with the largest contribution to labour absorption is the labour absorption variable itself with an annual average of 73.93% with a contribution value in the first year of 100% but in the following year it always decreases. Then followed by GRDP with an average contribution value of 16.39%. MSEs and investment tend to have contributions that increase every year with an average of 0.39% and 8.23%. Finally, there is HDI with a contribution that tends to be negative with an average value of 1.07%.
2. VD analysis of the Human Development Index (HDI) variable shows that the variable is estimated to have the largest contribution to HDI. In the first period, it is influenced by the HDI variable itself by 96.24%, but in the next period it decreases. Meanwhile, the contribution of GRDP, MSEs, investment and labour absorption always increases. In the next 10 years, the average variable that has the largest contribution to HDI is GRDP by 44.53%, followed by the contribution of HDI by 36.91%, MSE by 13.47%, labour absorption by 3.81% and investment by 1.27%.
3. VD of the Gross Regional Domestic Product (GRDP) variable. In the next 10 years, the largest contribution of GRDP is the GRDP variable itself, which in the second year has increased but in subsequent years has decreased. The contribution of HDI and labour absorption tends to decrease, while the contribution of MSEs, investment tends to increase every year. The average contribution of GRDP each year is 84.94%, followed by the contribution of MSEs by 10.04%, HDI by 2.6%, the two variables with the lowest contribution are investment and employment with a contribution of 1.4% and 1.03% respectively.
4. During the next 10 years, the largest contribution of the District Minimum Wage (UMK) is influenced by its own variable, namely UMK, which in the second period experienced a decrease but in the following year experienced fluctuations with an average contribution of 77.72%. The contribution of GRDP and investment tends to increase every year with an average of 18.67% and 0.17% respectively. Meanwhile, the contribution of HDI and labour absorption tends to decrease with an average of 3.19% and 0.25%.
5. In the next 10 years, the variable that has the largest contribution to investment is MSE, which increases every year with an average annual contribution of 50.87%, while the contribution of investment to its own variable is 25.63% per year. Followed by HDI, GRDP and labour absorption variables whose contributions tend to decrease over the next 10 years with each average contribution of 1.65%, 6.08% and 15.76%.

B) Discussion

a. The Effect of Human Development Index (HDI) on Labour Absorption

The Human Development Index (HDI) has a significant positive effect on labour absorption. HDI and labour absorption are equal so it can be concluded that if HDI increases then absorption will also increase and vice versa.

Human resources or human capital is one of the most important factors in order to get employment opportunities. In the world of work, individual skills and quality become the main requirement to be able to compete and adapt to the development of the labour market. Therefore, in order to obtain quality human resources, adequate access to

education and health services is needed that can support the development of individual skills and well-being so that people are ready to face challenges in the world of work.

For companies, human resources are considered a very crucial asset because the success of a company depends on the abilities, skills and productivity of employees. Qualified human resources can improve the operational efficiency, innovation and competitiveness of the company in the market. The higher the quality of human resources, the greater the potential for company progress, which in turn will increase output and provide profit. This success can encourage companies to open new branches so that they can absorb more labour. The findings of this study are in line with the research findings of Hafiz and Haryatiningsih (2021), Pratama et al. (2022) and Prayoga (2023) state that HDI has a significant positive effect on labour absorption.

b. The Effect of Gross Regional Domestic Product (GRDP) on Labour Absorption

Gross Regional Domestic Product (GRDP) has a significant negative effect on labour absorption. It can be concluded that if GRDP increases, labour absorption will decrease, and vice versa.

The GRDP of Kabupaten Banyumas tends to increase every year, but its labour absorption decreases. This can occur due to the shift from labour-intensive to capital-intensive, where industries begin to adopt technology and machinery to increase productivity and be more efficient. Thus, although output or production increases, the use of labour becomes less because the production process relies more on automation and technology, which in turn reduces the need for labour. The findings of this study are consistent with the results of research conducted by Putri and Soelistyo (2018), Patriansyah (2018) and Putri et al. (2022) which states that GRDP has a significant negative effect on labour absorption.

c. The Effect of Regency Minimum Wage on Labour Absorption

Regency Minimum Wage has a significant negative effect on labour absorption. It can be concluded that if the MSE increases, labour absorption will decrease and vice versa. The MSE of Banyumas Regency increases every year, which means that the labour cost burden that must be accepted by the company increases. An increase in wages will cause firms to reduce their demand for labour because firms must adjust their expenditure to the higher cost. In addition, the development of increasingly sophisticated and modern technology also contributes to the reduced need for labour because many production processes can now be done automatically using machines and technological devices that increase efficiency and reduce dependence on labour. This finding is in line with the research results of Sabihi et al. (2021), Wasilaputri (2016) and Patriansyah (2018) which reveal that MSEs have a negative effect on labour absorption.

d. The Effect of Investment on Labour Absorption

Investment has a positive but insignificant influence on labour absorption. Therefore, it can be concluded that if investment increases, labour absorption will increase but not significantly.

The positive effect of investment on labour absorption can occur because investment is used to increase output by purchasing the necessary production materials. Along with the increasing output, the company will need more workers. Therefore, the additional output can cause an increase in labour demand, which in turn can reduce the number of unemployment. This is consistent with the findings of research conducted by Putri and Soelistyo (2018), Dewi et al. (2016) and Silalahi et al. (2023) that investment has an insignificant positive effect on labour absorption.

CONCLUSION

Based on the results of the analysis that has been done, this study concludes that Human Development Index (HDI) variable has a significant positive effect on labour absorption in Banyumas Regency. The investment variable has a positive but insignificant effect on labour absorption in Banyumas Regency, while the Gross Regional Domestic Product (GRDP) and Regency Minimum Wage (UMK) variables have a significant negative effect on labour absorption in Banyumas Regency.

The implication of this research is that policies that can be considered by the Banyumas Regency government to increase labour absorption are inclusive economic growth, quality of life improvement, productivity improvement and wage policy. In addition, policies for investment include creating a conducive investment climate, developing MSMEs, and increasing labour productivity.

BIBLIOGRAPHY

- Dewi, R. F., Prihanto, P. H., & Edy, J. K. (2016). Analisis Penyerapan Tenaga Kerja pada Sektor Pertanian di Kabupaten Tanjung Jabung Barat. *Jurnal Ekonomi Sumberdaya dan Lingkungan*, 19-25. doi:10.22437/jels.v5i1.3925
- Adriyanto, Prasetyo, D., & Khodijah, R. (2020). Angkatan Kerja Dan Faktor Yang Mempengaruhi Pengangguran. *Jurnal Ilmu Ekonomi & Sosial*, 66-82. doi:10.35724/jies.v11i2.2965
- Agustin, E. (2020). Pengaruh Tingkat Pendidikan Dan UMK Terhadap Penyerapan Tenaga Kerja Di Kabupaten Mojokerto Tahun 2014 - 2018. *Jurnal Inovasi Penelitian*, 1341-1346. doi:10.47492/jip.v1i7.233
- Ali, G., Koleangan, R. A., & Siwu, H. F. (2020). Pengaruh Produk Domestik Regional Bruto (PDRB) dan Investasi Terhadap Penyerapan Tenaga Kerja di Kabupaten Minahasa Selatan. *Jurnal Berkala Ilmiah Efisiensi*, 1-11.
- Ardiansyah, M., Zuhroh, I., & Abdullah, M. F. (2018). Analisis Penyerapan Tenaga Kerja Sektors Industri Pengolahan Tahun 2001-2015 di Pasuruan Dan Sidoarjo. *Jurnal Ilmu Ekonomi*, 294-308. doi:10.22219/jie.v2i2.7032
- Arida, A., Zakiah, & Julaini. (2015). Analisis Permintaan dan Penawaran Tenaga Kerja Pada Sektor Pertanian di Provinsi Aceh. *Jurnal Agrisep*.
- Badan Pusat Statistik. (2020). Retrieved from Indeks Pembangunan Manusia 2019: <https://www.bps.go.id/id/publication/2020/08/28/a180fbf968ecf6fc9fde1d2a/indeks-pembangunan-manusia-2019.html>
- Badan Pusat Statistik. (2024). Retrieved from Tinjauan Regional berdasarkan PDRB Kabupaten/Kota 2019-2023 Buku 2 Pulau Jawa dan Bali: <https://www.bps.go.id/id/publication/2024/09/13/25bb9c6338fd35c1ac18048f/tinjauan-regional-berdasarkan-pdrb-kabupaten-kota-2019-2023--buku-2-pulau-jawa-bali.html>
- Badan Pusat Statistik. (2024). Retrieved from Laju Pertumbuhan PDRB Atas Dasar Harga Konstan 2010 Menurut Kabupaten-Kota di Provinsi Jawa Tengah: <https://jateng.bps.go.id/id/statistics-table/2/MTc0MyMy/-seri-2010-laju-pertumbuhan-pdrb-atas-dasar-harga-konstan-2010-menurut-kabupaten-kota-di-provinsi-jawa-tengah.html>
- Badan Pusat Statistik. (2024). Retrieved from Tingkat Pengangguran Terbuka Menurut Provinsi (Persen): <https://www.bps.go.id/id/statistics-table/2/NTQzIzI=/tingkat-pengangguran-terbuka--februari-2024.html>
- Badan Pusat Statistik Kabupaten Banyumas. (2024). Retrieved from PDRB Kabupaten Banyumas Atas Dasar Harga Konstan menurut Pengeluaran (Juta Rupiah):

- <https://banyumaskab.bps.go.id/id/statistics-table/2/MTA0Izl=/pdrb-kabupaten-banyumas-atas-dasar-harga-konstan-menurut-pengeluaran.html>
- Badan Pusat Statistik Kabupaten Banyumas. (2024). Retrieved from Nilai Investasi: <https://banyumaskab.bps.go.id/id/statistics-table/2/MTgwIzl=/nilai-investasi.html>
- Badan Pusat Statistik Provinsi Jawa Tengah. (2023). Retrieved from [Metode Baru] Indeks Pembangunan Manusia Menurut Kabupaten/Kota: <https://jateng.bps.go.id/id/statistics-table/2/ODMjMg==/-metode-baru--indeks-pembangunan-manusia-menurut-kabupaten-kota.html>
- Badan Pusat Statistik Provinsi Jawa Tengah. (2024). Retrieved from Tingkat Pengangguran Terbuka (TPT) di Provinsi Jawa Tengah: <https://jateng.bps.go.id/id/statistics-table/2/NjQjMg==/tingkat-pengangguran-terbuka-tpt-.html>
- Badan Pusat Statistik Provinsi Jawa Tengah. (2024). Retrieved from Upah Minimum Kabupaten/Kota di Provinsi Jawa Tengah: <https://jateng.bps.go.id/id/statistics-table/2/NzA4Izl=/upah-minimum-kabupaten-kota-di-provinsi-jawa-tengah.html>
- Badan Pusat Statistik. (2024). Retrieved from Jumlah Angkatan Kerja di Provinsi Jawa Tengah 2021-2023: <https://jateng.bps.go.id/id/statistics-table/2/ODIjMg==/jumlah-angkatan-kerja.html>
- Gani, H., Ibrahim, M., Novriansyah, M. A., & Yakup, A. P. (2023). Pengaruh Jumlah Angkatan Kerja dan Indeks Pembangunan Manusia Terhadap Penyerapan Tenaga Kerja. *JEMAI: Jurnal Ekonomi, Manajemen, dan Akuntansi*, 29-38.
- Hafiz, E. A., & Haryatiningsih, R. (2021). Pengaruh PDRB, UMK, IPM terhadap Penyerapan Tenaga Kerja di Kabupaten/Kota Jawa Barat 2010-2020. *Journal Riset Ilmu Ekonomi*, Hal: 55-65. doi:10.29313/jrieb.v1i1.174
- Indradewa, I. G., & Natha, K. S. (2015). Pengaruh Inflasi, PDRB dan Upah Minimum Terhadap Penyerapan Tenaga Kerja di Provinsi Bali. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 923-950.
- Kario, T., Lopian, A. L., & Sumual, J. I. (2021). Pengaruh Investasi Dan Tingkat Upah Terhadap Penyerapan Tenaga Kerja Di Provinsi Sulawesi Utara. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 83-91. doi:10.35794/emba.v9i2.33278
- Maghfirah, H., & Zulham, T. (2016). Faktor-Faktor Sosial Ekonomi yang Mempengaruhi Penawaran Tenaga Kerja Wanita di Aceh. *JURNAL EKONOMI DAN KEBIJAKAN PUBLIK*, 65-77.
- Nurhardiansyah, A., Istiyani, N., & P, F. W. (2017). Pengaruh IPM, PDRB, UMP dan Inflasi Terhadap Kesempatan Kerja di Pulau Jawa Tahun 2006-2015. *Journal Ekuilibrium*, 56- 61.
- Pangastuti, Y. (2015). Analisis Faktor-Faktor Yang Mempengaruhi Penyerapan Tenaga Kerja Di Provinsi Jawa Tengah. *Economics Development Analysis Journal*, 203-211. doi:10.15294/edaj.v4i2.14825
- Patriansyah, A. R. (2018). Analisis Pengaruh Jumlah Penduduk, UMR, PDRB DAN Inflasi terhadap Peyerapan Tenaga Kerja di Jawa Tengah Tahun 2011 - 2016. *Universitas Islam Indonesia*, 1-25.
- Pratama, D. R., & Hadiyanti, S. U. (2020). Pengaruh Produk Domestik Regional Bruto terhadap Kesempatan Kerja di Provinsi Kalimantan Timur. *Borneo Studies and Research*, 800- 805.
- Prawoto, D. A. (2018). Pengaruh IPM, Upah Minimum, PDRB dan Inflasi Terhadap Penyerapan Tenaga Kerja di Jawa Tengah Tahun 2011-2015. *Universitas Islam Indonesia*, 1-14.
- Prayoga, B. (2023). Pengaruh Pertumbuhan Ekonomi dan Indeks Pembangunan Manusia terhadap Penyerapan Tenaga Kerja Kota Medan. *JURNAL ECONOMIC AND STRATEGY (JES)*, 42-51. doi:10.36490/jes.v4i1.692
- Putri, E., Setyowati, E., & Rosyadi, I. (2022). Pengaruh Produk Domestik Bruto (PDRB), Upah Minimum Kota/Kabupaten (UMK) dan Indeks Pembangunan Manusia (IPM) terhadap Penyerapan Tenaga Kerja di Provinsi Jawa Tengah tahun 2016-2019. *Ekonomis: Journal of*

- Economics and Business*, 651-655. doi:10.33087/ekonomis.v6i2.594
- Putri, N. A., & Soelistyo, A. (2018). Analisis Pengaruh Upah, PDRB dan Investasi Terhadap Penyerapan Tenaga Kerja Dikawasan Gerbangkertasusila. *Jurnal Ilmu Ekonomi*, 357-371. doi:10.22219/jie.v2i3.7095
- Randa, F., & Fani, L. A. (2023). Pengaruh Infrastruktur dan Indeks Pembangunan Manusia terhadap Penyerapan Tenaga Kerja serta Implikasi Pertumbuhan Ekonomi. *Jurnal Informatika Ekonomi Bisnis*, 1405-1408. doi:10.37034/infec.v5i4.755
- Romdhoni, A. H. (2017). Pengaruh Investasi terhadap Penyerapan Tenaga Kerja. *Jurnal Ilmiah Ekonomi Islam*, 139-151. doi:10.29040/jiei.v3i02.107
- Rusniati, R., Sudarti, & Agustin, A. F. (2018). Analisis Pengaruh Pertumbuhan Ekonomi dan Upah Minimum terhadap Penyerapan Tenaga Kerja di Kabupaten Malang. *FALAH Jurnal Ekonomi Syariah*, 34-42. doi:10.22219/jes.v3i2.7232
- Sabihi, D. M., Kumenaung, A. G., & Niode, A. O. (2021). Pengaruh Upah Minimum Provinsi, Investasi dan Pertumbuhan Ekonomi terhadap Penyerapan Tenaga Kerja di Kota Manado. *Jurnal Berkala Ilmiah Efisiensi*, 25-36.
- Safitri, A. W., & Desmintari. (2022). Determinan Penyerapan Tenaga Kerja di Provinsi Jawa Timur. *Journal of Development Economic and Digitalization*, 51-61.
- Silalahi, R., Masinambow, V. A., & Maramis, M. T. (2023). Pengaruh Tingkat Pendidikan dan Investasi terhadap Penyerapan Tenaga Kerja di Provinsi Sulawesi Utara (Studi Pada Kota - Kota Di Provinsi Sulawesi Utara). *Jurnal Berkala Ilmiah Efisiensi*, 49-60.
- Silvia, A., & Susilowati, D. (2023). Faktor-Faktor Penyerapan Tenaga Kerja di Pulau Jawa. *Jurnal Ilmu Ekonomi*, 531-539. doi:10.22219/jie.v7i04.28107
- Soleh, A. (2017). Masalah Keteagakerjaan dan Pengangguran di Indonesia. *Jurnal Ilmiah Cano Ekonomos*, 83-92. doi:10.30606/cano.v6i2.629
- Sugiyono. (2018). *Metode Penelitian Kuantitatif*. Bandung: Alfabeta.
- Sujatna, Y., & Istimal, I. (2018). Pengentasan Pengangguran Bagi Pemuda Di Desa Cigudeg Melalui Kegiatan Budidaya Ikan Lele. *JPPM: Jurnal Pengabdian dan Pemberdayaan Masyarakat*, 349-356. doi:10.30595/jppm.v2i2.2443
- Tasyim, D. A., Kawung, G. M., & Siwu, H. F. (2021). Pengaruh Jumlah Unit Usaha UMKM dan PDRB Terhadap Penyerapan Tenaga Kerja di Sulawesi Utara. *Jurnal EMBA : Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi*, 391-400. doi:10.35794/emba.v9i3.34740
- Wasilaputri, F. R. (2016). Pengaruh Upah Minimum Provinsi, PDRB DAN Investasi terhadap Penyerapan Tenaga Kerja di Pulau Jawa Tahun 2010-2014. *Jurnal Pendidikan dan Ekonomi*, 243-250.
- Widyapangesti, D. I., & Soelistyo, A. (2022). Analisis Pengaruh PDRB, Investasi, Upah Minimum Provinsi Terhadap Penyerapan Tenaga Kerja Di Pulau Jawa. *Jurnal Ilmi Ekonomi*, 123-133. doi:10.22219/jie.v