MULTIPLE
Journal of Global and Multidisciplinary
https://journal.institercom-edu.org/index.php/multiple
Volume 1 Issue 3 (2023) E-ISSN 2988-7828
INSTITERCOM PUBLISHER

Analysis of the Influence of Gross Regional Domestic Product (GRDP), Minimum Wage, Population, Education, and Unemployment on Labor Force Absorption in Districts/Cities of Central Java Province, 2017-2021

Nabila Ayu Atikasari[1*], Rifki Khoirudin[2], Rahmat Saleh[3]
[1-3]Universitas Ahmad Dahlan, Indonesia

Article Info:

Submitted:	Accepted:	Approve:	Published:
16 August 2023	27 August 2023	18 September 2023	24 September 2023

Correspondence Author:
Nabila Ayu Atikasari,
Universitas Ahmad Dahlan, Indonesia.
Jl. Kapas No.9, Semaki, Kec. Umbulharjo, Kota Yogyakarta, Daerah Istimewa Yogyakarta 55166

Email: *rifki.khoirudin@ep.uad.ac.id*

Abstrack. Labor is an object of development which has a very important aim in increasing production output. The employment problem currently being faced is the rapid increase in the number of workers which cannot be balanced with the available job opportunities. This research aims to analyze the influence of Gross Regional Domestic Product, Regency/City Minimum Wage, Population, Education and Unemployment on labor absorotion in Central Java in 2017-2021. This data was obtained from the Central Java Statistics Agency. Quantitative Analysis is this research uses the Fixed Effect Model. The estimation result is this study show that Gross Regional Domestic Product has a positive ans not significant effect, Regency Minimum Wage has a negative relationship and has no significant effect, Education has a positive relationship and has no significant effect, Population has a negative and not significant effect and Unemployment has negative relationship and has a significant effect on labor absorption in Central Java in 2017-2021. Together, all variables have an influence on labor absorption in Central Java.

Keywords: GRDP, Retail Sector, Position, Embezzlement.

This is an open access article under the CC BY SA license.

1. INTRODUCTION

Agar mempercepat pertumbuhan, mengurangi ketimpangan, dan memberantas kemiskinan, pembangunan ekonomi memerlukan perubahan mendasar dalam struktur sosial, kelembagaan nasional, dan pola piker masyarakat. Peningkatan kesehatan penduduk, lebih banyak pekerjaan yang tersedia dan perspektif yang lebih seimbang merupakan tujuan dari pertumbuhan ekonomi (Puspita et al., 2021).

Pertumbuhan ekonomi yang tinggi dan lapangan pekerjaan yang lebih banyak merupakan indicator kemajuan ekonomi di negara-negara miskin. Indonesia mempunyai pertumbuhan penduduk yang cukup pesat sebagai negara berkembang. Pernyataan tersebut menjadikan Indonesia negara yang memiliki populasi penduduk terbanyak Kesempatan kerja harus menambah di tingkat yang sama seperti kerja, karena perluasan populasi meningkatkan kumpulan pekerja potensial, dan penyerapan pekerja yang ada agar masalah pengangguran menurun (Widyapangesti & Soelistyo, 2022). Lapangan kerja meningkat sebab banyak daerah yang menerapkan startegi pertumbuhan

ekonomi melalui pengembangan sektor ekonomi daerah. Kurangnya keseimbangan yang sehat antara pekerjaan lapangan dan tingkat pertumbuhan produksi perusahaan menjadi inti dari masalah ketenagakerjaan, jika tingkat pengangguran meningkat maka semakin banyaknya warga miskin dan ketidakseimbangnya sosial ekonomi dimasyarakat. Perluasan penyerapan tenaga kerja perlu di seimbangkan dengan pertumbuhan masyarakat sebab peningkatan populasi yang cepat tanpa peningkatan lapangan kerja yang sesuai akan memberikan tekanan yang tidak semestinya pada sumber daya masyarakat.

Proses pembangunan sangat bergantung pada upaya peningkatan kualitas sumber daya manusia salah satunya adalah pendidikan. Karena pendidikan adalah sarana untuk memperoleh informasi yang paling berguna maka pertumbuhan sumber daya manusia harus mengarah pada kondisi masyarakat yang lebih baik secara keseluruhan sehingga mampu meningkatkan kemampuan dalam meningkatkan kreativitas dalam cara berfikir. Rata-rata total tahun yang dihabiskan di sekolah penduduk Provinsi Jawa Tengah tahun 2017-2021 terus meningkat selama beberapa tahun terakhir. Rata-rata penduduk Provinsi Jawa Tengah telah menempuh pendidikan selama 7,27 tahun per tahun 2017. Selanjutnya pada tahun 2018 yaitu selama 7,35 tahun. Pada tahun berikutnya terus mengalami peningkatan desetiap tahunnya. Angka ini menjadi 7,53 tahun 2019. Pada tahun 2020 naik menjadi 7,69 dan pada tahun 2021 menjai 7,74 tahun. Peningkatan tersebut dapat dikaitkan dengan fakta bahwa semakin banyak orang yang menyadari nniali pendidikan dan memanfaatkan insiatif pemerintah seperti wajib belajar 12 tahun. Karena dari situlah masyarakat akan banyak mengetahui berbagai informasi

2. THEORETICAL STUDIES

The Analysis of the Influence of Gross Regional Domestic Product (GRDP), Minimum Wage, Population, Education, and Unemployment on Employment Absorption aims to evaluate the impact of several factors on employment absorption in a region, in this case, Central Java Province. The observed factors include Gross Regional Domestic Product (GRDP), Minimum Wage, Population, Education, and the Unemployment Rate.

Firstly, GRDP is a measure of the economic value added by all productive activities in a specific regional economy. This analysis will examine whether GRDP growth has a significant impact on employment absorption. An increase in GRDP can create more job opportunities, which, in turn, can contribute to an increase in the employment absorption rate (Darma, 2020).

Secondly, the Minimum Wage in a region can influence the extent to which companies are willing to hire new employees. This analysis will test whether the minimum wage level has an impact on employment absorption (Fone et al., 2023).

Thirdly, the Population size in a region can also affect employment absorption. A larger population may require more job opportunities to meet their needs. Fourthly, Education is a crucial factor in increasing labor productivity. This analysis will assess whether the level of education has an impact on better employment absorption. Fifthly, the Unemployment Rate can also influence employment absorption. An increase in the unemployment rate can trigger changes in the economic structure and labor demand.

By combining the analysis of these factors, we can understand how economic, social, and policy factors affect employment absorption in Central Java Province. This analysis will provide valuable insights for decision-makers at the regional level to optimize employment absorption and support sustainable economic growth.

3. METHOD

In this research, a case study strategy is employed. This strategy is a type of investigation used in this research, which focuses on problem-solving by following steps to identify one or more problems. Furthermore, the data obtained and processed will be explained through a quantitative method. According to Sugiyono (2014), the quantitative approach is a scientific method that can classify a concrete reality that can be observed and measured. The relationship between variables is causative. Research data consists of numbers, and its analysis uses statistics. The unit of analysis is the source of information about the variables to be processed in the study (Zulganef, 2008). In determining specific sources of information that can be used to process the variables in the study, the unit of analysis is a crucial consideration. Labor force in Central Java is the main subject of this study. GDP, minimum wages in districts/cities, education, population, and unemployment are independent variables considered in this analysis. The goal is to evaluate the influence of these variables on the dependent variable, particularly regarding labor force absorption in Central Java.

This study investigates 35 districts/cities in the Province of Central Java, and data is collected from 2017 to 2021. The Central Bureau of Statistics (BPS) provides quantitative data for generating these variables. This data is cross-sectional because it is collected at a specific time and place. GDP is a measure of the total value added by commodities and services in a specific geographic area over a specific time period. The GDP used is at constant prices in Central Java from 2017 to 2021. The GDP values are displayed in millions of rupiah. Minimum wage serves as a benchmark for employers to set applicable rates for their employees. Minimum wages in Central Java from 2017 to 2021 are measured in thousands of rupiah.

Average years of education aim to improve skills, self-awareness, and foster independence in individual development. It indicates that the unit of measurement used to calculate the average years of schooling is years. The data used in this study includes the population categorized by gender in districts/cities in the Province of Central Java from 2017 to 2021, expressed in thousands of people.

According to Hasranda et al. (2022), unemployment occurs when a member of the labor force does not have a job and is not actively seeking employment. In this study, percentages are used to measure the unemployment rate. The method used is documentation. According to Sugiyono (2015), documentation is a way to obtain data and information in the form of books, archives, documents, numerical and graphical writings, whether in the form of reports or information to support research.

4. RESULTS AND DISCUSSION

4.1 Results

The regression data model is used to determine which model among the three equation models, namely the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM), should be tested using the panel data regression model. Panel data regression is used to examine the influence of the Gross Regional Domestic Product (GDP), Minimum Wage in districts/cities, Population, Education, and Unemployment rates.

$$LOG\_Employmentit = \beta0 + \beta1LOG\_PDRBit + \beta2LOG\_UMKit + \beta3LOG\_Educationit + \beta4LOG\_JPit + \beta5Unemploymentit + \varepsilon it$$

Information:

LOG_Labour = Number of labour absorbed
β0 = Intercept coefficient
β1, β2, β3, β4, β5 = Independent variable regression coefficient

LOG_PDRB = Log Gross Regional Domestic Product

Tabel 1 Common Effect Model

Variabel	Coefficient	Prob
LOG(PDRB?)	0.046070	0.0001
LOG(UMK?)	-0.042433	0.0015
LOG(Education?)	0.007137	0.6190
LOG(JP?)	0.931369	0.0000
Unemployment	-0.029288	0.0000

Based on the result of common effect test, it shows that Gross Regional Domestic Product (GRDP), Minimum Wage, Population and Unemployment have significant effect on labour absorption, while Education variable has no significant effect on labour absorption. The R-Squared value of 0.988240 means that the independent variables, namely GRDP, MSE, JP, Education and Unemployment, affect labour absorption by 98.8240% and 1.5974% is influenced by other factors on the condition that other variables are considered constant.

Tabel 2 Fixed Effect Model

Variables	Coefficient	Prob
LOG(PDRB?)	0.218789	0.0226
LOG(UMK?)	0.055215	0.2678
LOG(Education?)	0.000441	0.9552
LOG(JP?)	-0.005757	0.9323
Unemployment	-0.004917	0.0721

translate Based on the fixed effect test results, it shows that Gross Regional Domestic Product (GRDP) has a significant effect on labour absorption, while the Minimum Wage, Education, Population and Unemployment variables have no significant effect on labour absorption. R-Squared value of 0.997810.

Tabel 3 Random Effect Model

Variables	Coefficient	Prob
LOG(PDRB?)	0.069366	0.0000
LOG(UMK?)	-0.024628	0.3353
LOG(Education?)	0.004382	0.5675
LOG(JP?)	0.903933	0.0000
Unemployment	-0.017944	0.0000

Based on the random effect test result, it shows that Gross Regional Domestic Product (GRDP), Total Population and Unemployment significantly affect labour absorption, while Minimum Wage and Education variables do not significantly affect labour absorption. The R-Squared value is 0.9957736.

Furthermore, determining the Penel Data Estimation Model, in knowing the appropriate model in this study, it is necessary to test the panel data regression model, namely:

Tabel 4 Uji Chow

Effect Test	Statistic	Prob
Cross-section F	15.753367	0.0000
Cross-section Chi-Square	280.510935	0.0000

The Chow test is used to choose the best estimation model between the common effect or fixed effect model. Then the Chow test is carried out with a probability of 0.05. Based on the table above, the results of the chow test using the fixed effect model in this study show that the cross-section F probability value of 0.0000 is smaller than the significant level of 0.05 (0.0000 <0.05). This means that in this study the fixed effect estimation model is better than the common effect model. Next conduct the Hausman test.

Tabel 5 Uji Hausman

Test Summary	Chi-Sq.Statistic	Prob
Cross-section	266.768641	0.0000

The Hausman test is used to select the best estimation model between fixed effect and random effect using a significant level of 0.05. Based on the table above, the probability value is smaller than the significant level of 0.05 (0.0000 <0.05) which means that the fixed effect model results are suitable for the Hausman test.

Furthermore, the Simultaneous Test (F Test), the Coefficient of Determination Test (R2), and the Partial Test (T Test). first Simultaneous Test (F Test), this test is used to determine whether all independent variables together (simultaneously) can affect the dependent variable. Based on table 1.2, the F-statistic value is 1577.179 which basically has a value greater (>) than the f table value of 2.267299. So it can be concluded that the independent variables contained in the research model simultaneously affect the dependent variable. Gross Regional Domestic Product, District/City Minimum Wage, Education, Population, and Unemployment are all considered as variables in this study. All factors affect the dependent variable, namely Labour Absorption.

Second Test Coefficient of Determination (R^2), Based on table 2, the estimation results of the model selection process show that the fixed effect model chosen as the best model produces a coefficient of determination of 0.997810 or a percentage of 99.7810%. Variation in the dependent variable can be attributed to factors that are not taken into account in the model used in this study.

Third Partial Test (T Test), In variable X1 (GRDP) with significant assumption of 0.05, it is proven that the probability value of Gross Regional Domestic Product (GRDP) variable is smaller than 0.0226. The coefficient value of 0.218789 shows that this variable significantly affects labour absorption. The t-count value of 2.305901 exceeds the t-table value of 1.97402. while Variable X2 (MSE) based on the results of the fixed effect model can be interpreted as a positive coefficient of 0.055215 with a t-count value of 1.112745 smaller than the t table value of 1.97402 and an alpha probability value of 0.2678> 0.05, so there is no positive statistical relationship between MSE and employment.

While in Variable X3 (Total Population), the probability value of 0.9323 exceeds the significant level of 0.05. and the t-count value of 0.56249 is smaller than the t-table of 1.97402 which indicates that the coefficient value of 0.000441 is negative on the dependent variable, namely employment. if on Variable X4 (Education), the probability value of 0.9552 is greater than the significant level of 0.05,

meaning that there is no significant relationship between the education variable and labour absorption. while on variable X5 (Unemployment), from the results obtained by the fixed effect estimation model, the value of t < t table is -0.8812544 < 1.97402. The probability value of 0.0721 is greater than the significant level of 0.05. From this result, it can be interpreted that the independent variable of unemployment does not have a significant impact on the employment variable.

4.2 Discussions

Based on the results from Table 41.2, it is shown that the regression coefficient value for the Gross Regional Domestic Product (GDP) variable is 0.218789 with a probability value of 0.0226. This indicates that the GDP variable has a positive and significant impact on labor force absorption in Central Java, meaning that a 1% increase in GDP will result in a 0.2187 increase in labor force absorption. GDP is a measure of the economic value added by all productive activities in a specific geographic area. It represents the value contributed by products and services from various production units or sectors within a specific geographical region over a specific time period. GDP can have an impact on the number of workers, as it is correlated with economic growth and production readiness variables, including economic growth, labor absorption, and labor force absorption.

Based on the results from Table 1.2, the regression coefficient value for the Minimum Wage in districts/cities variable is 0.055215 with a probability value of 0.2678. This indicates that the Minimum Wage variable has a positive but not significant impact on labor force absorption in Central Java, meaning that a 1% increase in the minimum wage will result in a 0.0552 increase in labor force absorption. This finding is consistent with a study conducted by Izzah (2021), which found that the Minimum Wage in districts/cities does not significantly affect labor force absorption. When workers receive high wages, it can lead to increased purchasing power for goods and services, subsequently increasing aggregate demand. This increase in demand for goods or services indirectly leads to companies needing to hire more workers to meet that demand, thus increasing the absorbed labor force.

Based on the results from Table 1.2, the regression coefficient value for the Population variable is (-0.005757) with a probability value of 0.9323. This indicates that the Population variable has a negative and not significant impact on labor force absorption in Central Java, meaning that a 1% increase in the average population will decrease labor force absorption by 0.057% with other variables held constant. This finding is in line with a study conducted by Ratnasari Program Studi et al. (2021), which showed that the Population variable does not significantly affect labor force absorption in cities and districts in Central Java. The low quality of the population can reduce labor force absorption, and during the period from 2014 to 2019, almost all cities/districts in Central Java experienced population growth, including a 0.68% increase in 2017-2018 (BPS, 2019).

Based on the results from Table 1.2, the regression coefficient value for the Education variable is 0.000441 with a probability value of 0.9552. This indicates that the Education variable has a positive but not significant impact on labor force absorption in Central Java, meaning that a 1% increase in education will result in a 0.044 increase in labor force absorption. This result is consistent with a study conducted by Ganie (2017), which found that the Level of Education variable does not significantly affect labor force absorption. Education plays a crucial role in capitalist development, and one of the driving factors for absorbed labor is the improvement of technical skills, expertise, and professional competence. This aligns with the human capital theory that suggests education can yield positive results (Izzah, 2021).

Based on the results from Table 1.2, the regression coefficient value for the Unemployment variable is (-0.004917) with a probability value of 0.0721. This indicates that the Unemployment variable has a negative but not significant impact on labor force absorption in Central Java, meaning that a 1% increase in unemployment will decrease labor force absorption by 0.049% with other variables held constant. Considering the level of unemployment in Indonesia, there are many causes of unemployment, such as a lack of formal job opportunities and increased competition. Due to the limited formal sector job opportunities, unemployed individuals may seek ways to start their own businesses or work together with others. Starting small businesses, such as working for others, can be done without meeting many requirements needed by the informal sector. In this way, individuals can still earn income, although the amount they earn may be relatively small.

5. CONCLUSION

The results of the partial t-test for other variables such as Minimum Wage in districts/cities (UMK), Education, Population (JP), and Unemployment have insignificant probability values, which means that the Gross Regional Domestic Product (GDP) variable shows significant results regarding Labor Force Absorption. From 2017 to 2021, the GDP of Central Java Province grew, leading to job growth in the 35 cities and districts in the province. The increase in GDP resulted in more job opportunities, making it a measure of economic growth or increased production.

During the period of 2017–2021, the impact of Minimum Wage in districts/cities had no significant and negative effect on labor force absorption in the 35 districts/cities in Central Java Province. This is because when the wage level does not increase, workers will have the ability to meet higher living standards than the minimum standard. Therefore, when workers' needs are elevated, they become more productive, leading to increased output and companies hiring more workers.

Population size can influence labor force absorption. People living in an area also contribute to economic development. New issues arise when more working-age people are present but do not meet population standards. During the period of 2017–2021, the impact of education had a non-significant and negative effect on labor force absorption in the 35 districts/cities in Central Java Province. Education is provided to enhance the quality of employees. The higher the level of education, the greater the job opportunities and productivity.

During the period of 2017–2021, the unemployment rate had a non-significant and negative impact on labor force absorption in the 35 districts/cities in Central Java Province. Labor force absorption increases with increasing unemployment. This can happen due to changes in the economic structure. Unemployment rises due to a lack of job opportunities that meet job seekers' requirements.

REFERENCE

Darma, D. C. (2020). Determinants of the gross regional domestic product of east kalimantan province: Macroeconomic variable review. *Review of Integrative Business and Economics Research*, *9*, 232–241.

Fone, Z. S., Sabia, J. J., & Cesur, R. (2023). The unintended effects of minimum wage increases on crime. *Journal of Public Economics*, *219*, 104780.

Ganie, D. (2017) "Analisis Pengaruh Upah, Tingkat Pendidikan, Jumlah Penduduk Dan Pdrb Terhadap Penyerapan Tenaga Kerja Di Kabupaten Berau Kalimantan Timur," *Jurnal Eksekutif*, Volume 14(Nomor 2), hal. 332–354.

Hasranda, C. *et al.* (2022) "Pengaruh Upah Minimum Provinsi dan Tingkat Pengangguran terhadap Penyerapan Tenaga Kerja di Provinsi Aceh," *Jurnal humaniora*, 6(1), hal. 70–78. Tersedia pada: http://jurnal.abulyatama.ac.id/humaniora.

Izzah, C.I. (2021) "Analisis Faktor Faktor Yang Mempengaruhi Penyerapan Tenaga Kerja Di Wilayah

Solo Raya," *Equilibrium: Jurnal Penelitian Pendidikan dan Ekonomi*, 18(02), hal. 90–101. Tersedia pada: https://doi.org/10.25134/equi.v18i2.4322.

Puspita, S.N., Maryani, S. dan Purwantho, H. (2021) "Analisis Faktor-Faktor Yang Mempengaruhi Penyerapan Tenaga Kerja Di Provinsi Jawa Tengah," *Jurnal Ilmiah Matematika dan Pendidikan Matematika*, 13(2), hal. 141. Tersedia pada: https://doi.org/10.20884/1.jmp.2021.13.2.4546.

Ratnasari Program Studi, D.S. *et al.* (2021) "Pengaruh UMK, Pendidikan, Jumlah Penduduk Terhadap Penyerapan Tenaga Kerja Di Kota," *Journal Of Economics*, 1(2), hal. 16–32. Tersedia pada: https://journal.unesa.ac.id/index.php/independent.

Sugiyono (2014) *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D.* Bandung: Alfabeta.

Sugiyono (2015) *Metode Penelitian Kombinasi (Mix Methods)*. Bandung: Alfabeta.

Widyapangesti, D.I. dan Soelistyo, A. (2022) "Analisis Pengaruh PDRB, Investasi, Upah Minimum Provinsi Terhadap Penyerapan Tenaga Kerja Di Pulau Jawa," *Jurnal Ilmu Ekonomi JIE*, 6(1), hal. 123–133. Tersedia pada: https://doi.org/10.22219/jie.v6i1.19128.

Zulganef (2008) *Metode Penelitian Sosial dan Bisnis*. Yogyakarta: Cetakan Pertama, Graha Ilmu