http://ejournal.seaninstitute.or.id/index.php/Ekonomi
Jurnal Ekonomi, Volume 12, No 04 2023
ISSN: 2301-6280 (print) ISSN: 2721-9879 (online)

DEMOGRAPHIC, ECONOMIC, AND HUMAN WELL-BEING: THEIR INFLUENCE ON UNEMPLOYMENT RATE OF 34 PROVINCES IN INDONESIA

Defriani Yolanda Utami[1], Armelly[2]
[1,2]Development Economics, University of Bengkulu, Indonesia

ARTICLE INFO

Keywords:
Demographic Dividend, Dependency Ratio, Economic Growth, Human Development Index, Open Unemployment Rate

ABSTRACT

The main objective of this research is to examine the influence of Demographic Dividend, Economic Growth, and Human Development Index on Unemployment Rate in Indonesia. This study utilized a quantitative approach and a descriptive research method. It focused on 34 Indonesian provinces over a 5-year period (2018-2022). Open unemployment rate is the dependent variable, while the three independent variables consist of demographic dividend (proxied by the dependency ratio), economic growth (proxied by the GRDP growth rate), and the Human Development Index. To address the research objectives and test the hypotheses, a panel data regression analysis method is used. The results revealed that all variables had a significant impact on the open unemployment rate. Demographic dividend and economic growth had a significant negative impact, while the Human Development Index had a significant positive impact. This research can assist the government and relevant organizations in crafting more effective economic and employment policies. For instance, understanding the positive impact of the Human Development Index can aid the government in enhancing the quality of life for the population, while grasping the negative impact of the demographic dividend (dependency ratio) on unemployment can aid in workforce training and job creation planning.

E-mail:
defrianiyolanda2802@gmail.com

1. INTRODUCTION

Amidst the complexity of economic and demographic dynamics, a delicate balance exists among three elements influencing a nation's well-being: demographic dividend, economic growth, and the human development index. Indonesia, as one of the world's most populous countries, is currently grappling with crucial challenges in managing the intricate interplay of these three factors, especially in the context of open unemployment rates. Unemployment in a country can arise when the number of job opportunities in a region is insufficient to accommodate the available workforce, or when job demand is not in equilibrium with job supply. Such circumstances can escalate the open unemployment rate (Hikmah et al., 2021).

When discussing the issue of unemployment, we must acknowledge that Indonesia has made significant progress in recent decades. Based on data sourced from Badan Pusat Statistik Indonesia, the unemployment rate continued to decrease from August 2011 to 2019, then experienced an increase in 2020 due to the presence of COVID-19. The open unemployment rate managed to decrease again by 1.21% in August 2022 to 5.86%, compared to August 2020 (Badan Pusat Statistik, n.d.). Nevertheless, the unemployment rate remains a primary concern and should not be overlooked. While the formal sector continues to grow, the majority of jobs are still located in the informal sector, which is often less stable and less profitable.

Sustained unemployment rates remain a major concern amidst the various development potentials offered by the demographic dividend, economic growth, and Human Development Index. Although the positive potential of these three factors can be promising, the problem of unemployment remains a crucial focal point, especially in Indonesia, which has a continuously growing population. A large and growing population is two sides of the coin for Indonesia. On the one hand, a large population, if accompanied by adequate population quality, will be a driver for economic growth. However, on the other hand, a large population combined with low quality makes that population a burden on national

development. One of the roles of population in national development is as a source of capital (Sukirno, 1994).

Indonesia, being one of the world's largest archipelagic nations with more than 270 million inhabitants, is experiencing a demographic dividend. According to Wongboonsin (2003), the demographic dividend is an economic benefit caused by a decline in the population dependency ratio, as a result of long-term fertility rate. The demographic dividend is a condition where the proportion of the population of productive age (15-64 years) is more than the population of non-productive age (<14 years and >65 years).

Indonesia is estimated to have entered a demographic dividend period since 2012 with the peak period estimated to occur in the 2020-2035 period, where the birth rate will decline, resulting in the percentage of the population aged 0-14 years and the dependency ratio decreasing (Badan Pusat Statistik, 2022). The demographic dividend could be a threat to Indonesia because it has the potential to increase unemployment if an increase in the quality of the workforce and job creation does not accompany it. However, on the other hand, the demographic dividend also has a good impact on Indonesia because it has the opportunity to become a driver of accelerated economic growth. This situation creates great opportunities for Indonesia, especially when supported by human resource development policies in sectors such as health, education and employment (Samosir, 2019).

The parameter used to assess the phenomenon of the demographic dividend is the dependency ratio, which is a ratio that represent the comparison between the number of non-productive age population and the productive age population. When the dependency ratio is low, it indicates that the productive age population bears a smaller burden of non-productive age population. Conversely, when the dependency ratio is high, it indicates that the productive age population bears a larger burden of non-productive age population.

Several empirical studies examined the relationship between demographic dividend (using the dependency ratio as a parameter) and unemployment rate. Previous research revealed that the demographic dividend had a negative and significant impact on the open unemployment rate in Indonesia (Gerta, 2017). Another study found that the demographic dividend had a positive and significant impact on unemployment in lower middle-income countries in ASEAN (Sari & Aimon, 2019). There was even a study that had concluded that the demographic dividend did not have a significant impact on the open unemployment rate in Mimika (Apriyono & Nusa, 2021).

Apart from the demographic dividend, economic growth and Human Development Index are additional factors that can influence the open unemployment rate. Economic growth is a key driver of a nation's economic well-being. However, sustainable growth is not just about increasing Gross Domestic Product (GDP), it also involves the equitable and inclusive distribution of the economic gains. If economic growth does not coincide with the generation of an adequate number of jobs, the unemployment rate can persist at high levels.

The primary factor causing unemployment is a lack of aggregate demand. The higher the demand, the more goods and services will be produced. This increased production contributes to increased labor utilization (Sukirno, 1994). Thus, there is a close relationship between the level of national income achieved and the labor utilization. As national income increasing, thereby enhancing economic growth, there is a greater utilization of labor within the economy, subsequently leading to a decrease in the unemployment rate.

Several empirical studies examined the relationship between the economic growth and the open unemployment rate. Previous research revealed that the economic growth had a significant negative impact on the open unemployment rate in West Java (Baihawafi & Sebayang, 2023), Indonesia (Alrakhman et al., 2022), Jordan (Freijat & Hammouri, 2022). Another study found that the economic growth had a significant positive impact on the open unemployment rate in North Sumatra (Purba et al., 2022). There was even the study that had concluded that the economic growth did not have significant impact on the open unemployment rate in Indonesia (Ardian et al., 2022), OIC Countries in the Asian Region (Umam & Wardhana, 2020).

The Human Development Index (HDI) measures human well-being holistically, encompassing education, health, and income. How a country performs in terms of HDI can also affect the unemployment rate because these factors are closely related to the skills and competitiveness of the workforce. An increase in HDI is believed to reduce the unemployment rate. The rise in HDI reflects improvements in regional autonomy. The increase in HDI can be attributed to factors such as better education and

improved well-being of the population. When these factors continue to improve, the quality and capabilities of the population will significantly increase, which, in turn, will reduce the unemployment rate.

Several empirical studies examined the relationship between the Human Development Index (HDI) and the open unemployment rate. Previous research revealed that the HDI had a significant negative impact on the open unemployment rate in Indonesia (Soekapdjo & Oktavia, 2021). Another study found that the HDI had a significant positive impact on the open unemployment rate in West Sumatra (Arizal & Marwan, 2019). There was even the study that had concluded that the HDI did not have significant impact on the open unemployment rate in Manado (Lamatenggo et al., 2019).

It is important to explore how the interaction between these three explained factors can affect the unemployment rate in Indonesia. How the utilization of the demographic dividend can create job opportunities, how inclusive economic growth can stimulate job creation, and how the improvement of HDI can enhance the workforce's capacity to compete in the labor market. Therefore, this research aims to analyze the influence of the demographic dividend, economic growth, and the Human Development Index on the open unemployment rate in Indonesia.

2. METHOD

This research is a descriptive study with a quantity approach. The unit of analysis in this study is the 34 provinces of Indonesia, observed over a 5-year period (2018-2022). Research data, consisting of secondary data, were obtained from the Badan Pusat Statistik Indonesia (BPS). The open unemployment rate is utilized as the dependent variable. This study incorporates three distinct factors as independent variables: demographic dividend (proxied by the dependency ratio), economic growth (proxied by the GDP growth rate), and the Human Development Index (HDI). To address the research objectives and test the research hypotheses, a panel data regression analysis method is applied, with the regression model as follows:

$$UNEMP_{it} = \beta 0 + \beta 1 DD_{it} + \beta 2 EG_{it} + \beta 3 HDI_{it} + \varepsilon$$

In the provided information, the variables and parameters are defined as follows:

- UNEMP : Open Unemployment Rate (%)
- DD : Demographic Dividend (%)
- EG : Economic Growth (%)
- HDI : Human Development Index (index number)
- β0 : Constant
- β1-β3 : Regression Coefficients
- ε : Error Term
- i : Cross Section (34 Provinces in Indonesia)
- t : Time Series (2018-2022)

The model used in the research is Panel Least Square, and prior to that, the Chow test, Hausman test, and Lagrange Multiplier test were conducted to determine the best estimation model. Subsequently, hypothesis testing is performed, including the simultan test (F-statistic) and partial test (t-statistic), with a significance level (α) of 5%.

Hypotheses Development

a. Demographic Dividend and Open Unemployment Rate

The Demographic Dividend theory essentially connects population dynamics with the economy. It suggests that a lower burden of non-productive age groups on the working-age population can have a positive impact on the economy. Ideally, the Dependency Ratio should be below 50. This scenario is often referred to as the "window of opportunity" (KOMINFO, 2015).

Changes in demographic dynamics, particularly a significant increase in the working-age population, will influence a country's Gross National Product per capita. This, in turn, affects the number of working-age individuals who can be absorbed by the job market, leading to increased overall output and the availability of human resources for economic development (Adioetomo & Moertiningsih, 2005).

This situation will exclusively transpire, and the complete utilization of the demographic dividend can be realized when the expansion of the productive-age population coincides with an improvement in the quality of human capital, encompassing aspects such as health, education, and the development of skills, rendering them globally competitive. It also relies on the job market's capacity to absorb the

working-age population, along with sufficient employment opportunities to accommodate the available workforce.

If these prerequisites are not met, the opposite of the demographic dividend will occur, which is the demographic burden. In this case, there will be a large number of productive-age people who cannot find employment in the job market, leading to an economic burden for the country. In this scenario, the unemployment rate will be high, and the working-age population without jobs will become a burden to the working population.

Therefore, the researchers proposed the following hypothesis:

H1a : Demographic dividend has a positive and significant impact on open unemployment rate

H1b : Demographic dividend has a negative and significant impact on open unemployment rate

b. Economic Growth and Open Unemployment Rate

According to the Classical Economic Theory by Adam Smith, the essential elements of the production system are natural resources, human resources (both in terms of quantity and quality of the population), and capital stock. According to this theory, available natural resources represent the maximum limit to economic growth. The second element of production is the population size. According to this theory, the population size is passive and will adjust to the labor requirements. Population growth will lead to job specialization, ultimately increasing productivity. Smith places a central role on the third element, which is the growth of capital stock or capital accumulation in the process of output growth. According to Smith, capital stock has two influences on total output: a direct impact through the addition of capital and an indirect impact through increased productivity. A larger capital stock leads to greater potential for specialization and division of labor, resulting in higher productivity per worker.

Rapid and high economic growth can reduce existing unemployment in a region, so economic growth and the unemployment rate have a negative relationship, meaning that if economic growth increases, the unemployment rate decreases. This occurs because when economic growth in a region rises, production also increases. This, in turn, creates a demand for a significant amount of labor to produce the required output, which can reduce unemployment (Sukirno, 1994).

Therefore, the researchers proposed the following hypothesis:

H2 : Economic growth has a negative and significant impact on open unemployment rate

c. Human Development Index and Open Unemployment Rate

The Human Development Index (HDI) reflects the true wealth of a nation in its people, with humans being the ultimate goal of development rather than a means to an end. Indonesia is one of the countries that has adopted the Sustainable Development Goals (SDGs). Support for the implementation of SDGs in Indonesia is realized through Presidential Regulation (Perpres) Number 59 of 2017 concerning the Achievement of Sustainable Development Goals. Among the 17 SDGs, three targets are related to human development, namely: (1) ensure healthy lives and promote well-being for all at all ages, (2) ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, and (3) promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all. These three SDGs related to human development align with the three dimensions of the HDI (United Nations, n.d.).

A high Human Development Index can reduce unemployment in a region, so there is a negative relationship between the Human Development Index and the unemployment rate, meaning that if the HDI increases, the unemployment rate decreases. This is based on Okun's Law, which states that increased productivity resulting from an increase in the Human Development Index (HDI) can lead to expected economic growth that will create more job opportunities and increase labor demand, thus helping to reduce the unemployment rate.

Therefore, the researchers proposed the following hypothesis:

H3 : Human development index has a negative and significant impact on open unemployment rate

3. RESULT AND DISCUSSION

Regression Model Selection Test

Panel data analysis included the use of three model selection tests: the Chow test, the Hausman test, and the Lagrange Multiplier test. These tests were applied to identify the most appropriate model among the Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM). The test outcomes demonstrate that the Random Effects Model (REM) is the most suitable model.

Table 1. Regression Model Selection Test Results

Testing	Chi-square	Probability
Chow Test	346.981808	0.0000
Hausman Test	1.468707	0.6895
Lagrange Multiplier	236.9809	0.0000

Based on the Chow test, the obtained probability value was 0.0000, which is less than the commonly used significance level of 0.05. This indicates that the Fixed Effects Model (FEM) is more appropriate for use compared to the Common Effects Model (CEM). After the Chow test, the next step involved determining the more suitable model between FEM and REM. To select the model, the Hausman test was performed. The probability value from the Hausman test was 0.6895, which is more than the 0.05 significance level. This indicates that the Random Effects Model (REM) is the most suitable model.

Following the Hausman test, the next step was to choose the best model between FEM and REM. To determine the model, the Lagrange Multiplier test was conducted. The Lagrange Multiplier test resulted in a probability value of 0.0000, which less than the 0.05 significance level. Thus, in this analysis, the best model selected is the Random Effects Model (REM).

The Influence of Independent Variables on the Dependent Variable

The results of the analysis and the regression equation are as follows:

UNEMP = -1.755129 - 0.028088DD - 0.105213EG + 0.122003HDI

With this, the interpretation of the regression results can be as follows:

a. The constant value (β0) = -1.755129. This means that when all factors are constant or equal to zero (in this model, these are demographic dividend, economic growth, and the Human Development Index), the open unemployment rate is -1.755129.
b. The coefficient of Demographic Dividend (β1) = -0.028088. This means that if there is an increase in the demographic dividend by 1 persent, the open unemployment rate will decrease by 0.028088 persent, assuming other variables remain constant.
c. The coefficient of Economic Growth (β2) = -0.105213. This means that if there is an increase in economic growth by 1 persent, the open unemployment rate will decrease by 0.105213 persent, assuming other variables remain constant.
d. The coefficient of the Human Development Index (β3) = 0.122003. This implies that if there is an increase in the human development index by 1 persent, the open unemployment rate will increase by 0.122003 persent, assuming other variables remain constant.

Table 2. Regression Testing Results

Variable	Coefficient	Probability
Constanta	-1.755129	0.6949
Demographic Dividend	-0.028088	0.0339
Economic Growth	-0.105213	0.0000
Human Development Index	0.122003	0.0411
R-squared	0.330445	
Adjusted R-squared	0.318345	
Prob(F-statistic)	0.000000	

Partial Test (t-Statistic)

The t-test is a commonly used statistical method to analyze the individual impact of independent variables on the dependent variable. In this Study, the researcher will examine the influence of three independent variables on the open unemployment rate:

a. Demographic Dividend
   The outcomes of the partial t-test reveal that the probability value for the demographic dividend is 0.0339, which is less than 0.05. This indicates that individually, the demographic dividend variable significantly affects the open unemployment rate in Indonesia.
b. Economic Growth
   The outcomes of the partial t-test reveal that the probability value for economic growth is 0.0000, which is less than 0.05. This indicates that individually, the economic growth variable significantly affects the open unemployment rate in Indonesia.
c. Human Development Index

The outcomes of the partial t-test reveal that the probability value for the Human Development Index is 0.0411, which is less than 0.05. This indicates that individually, the Human Development Index variable significantly affects the open unemployment rate in Indonesia.

Simultaneous Test (F-Statistic)

From the findings of the panel data regression analysis, it is evident that the combined influence of demographic dividend, economic growth, and the Human Development Index significant affects the open unemployment rate in Indonesia. This is indicated by the F-statistic probability value of 0.000000, which is less than 0.05, demonstrating that the independent variables significantly influence the dependent variable simultaneously.

Coefficient of Determination (R^2)

Based on the panel data regression analysis results, the obtained R^2 value is 0.318345. This outcome indicates that 31.83% of the variation in the dependent variable is caused by the influence of independent variables, while the remaining 68.17% represents the influence of other factors outside the model. The low coefficient of determination we obtained aligns with findings in earlier studies, where one of the variables included the demographic dividend (dependency ratio), as seen in research conducted by Apriyono & Nusa (2021) having an R-squared value at 25.7%.

The Influence of Demographic Dividend on the Open Unemployment Rate

Based on the testing results, it is shown that the demographic dividend has a negative and significant impact on open unemployment rate. This result is in line with the hypothesis (H1b) that when demographic dividend increases, the open unemployment rate decreases. This research result aligns with studies conducted in Indonesia (Gerta, 2017), which showed that the demographic dividend has a negative influence on unemployment, meaning that when the demographic dividend increases, unemployment rate decreases.

In this context, the demographic dividend refers to the dependency ratio. An increase in the dependency ratio indicates that the non-working age population is increasing compared to the working-age population. If the increase in the dependency ratio is accompanied by strong economic, the open unemployment rate may decrease. The increase in the dependency ratio leading to a decrease in the open unemployment rate can be attributed to several factors, such as:

a. Decreased Labor Force. When the dependency ratio increases, it means that a significant portion of the population consists of children and the elderly who are not working. This can reduce the labor force competing for jobs, reducing competition in the labor market.
b. Increased Care for Dependents. When the dependency ratio increases, there is often a greater need for caring for children and the elderly. This can create new job opportunities in the care sector, such as childcare, elderly care, or domestic work. This can help reduce the unemployment rate.

A decrease in the dependency ratio indicates that the working-age population is increasing compared to the non-working-age population. If a decrease in the dependency ratio is accompanied by weak economic, the open unemployment rate may increase. The decrease in the dependency ratio leading to an increase in the open unemployment rate can be attributed to several factors, such as:

a. Increased Labor Force. When the dependency ratio decreases, more people may join the labor force, which means there are more people competing for available jobs. This can increase competition in the labor market and trigger an increase in the unemployment rate if there are not enough job opportunities to absorb the growing workforce.
b. Decline in Jobs in the Care Sector. Conversely, if the dependency ratio decreases, there may be less need for caring for children and the elderly. This can have a negative impact on employment in the care sector, such as childcare, elderly care, or domestic work. Reduced demand in these sectors can increase the unemployment rate in those sectors.

However, it's important to remember that the relationship between open unemployment rate and demographic dividend (dependency ratio) is more complex than just the increase or decrease in the dependency ratio. Economic factors, demographics, government policies, and changes in the labor market structure also influence the unemployment rate.

The Influence of Economic Growth on the Open Unemployment Rate

Based on the testing results, it is shown that economic growth has a negative and significant impact on open unemployment rate. This result is in line with the hypothesis that when economic growth increases, the open unemployment rate decreases. This research result aligns with studies conducted in the case of West Java (Baihawafi & Sebayang, 2023), Indonesia (Alrakhman et al., 2022), Jordan (Freijat &

Hammouri, 2022), which showed that economic growth has a negative and significant impact on unemployment rate, meaning that when economic growth increases, unemployment rate decreases.

Economic growth has a negative relationship with unemployment. When economic growth is high, it can be expected that the unemployment rate will decrease. The flow is as follows: when the rate of economic growth increases, the economic activities that drive it also expand, resulting in increased output. Here, the role of the labor force becomes increasingly necessary, automatically the number is increasing, which means that the number of unemployed will decrease. Studies conducted by economist Arthur Okun (Okun's Law) indicated a negative relationship between economic growth and unemployment rate; the higher the economic growth rate, the lower the unemployment rate, and vice versa (Prawira, 2018).

A negative relationship between economic growth and open unemployment rate means that when a country's economy experiences strong growth, the open unemployment rate tends to decrease. This means that more job opportunities become available because economic growth increases the demand for labor.

There are several reasons why economic growth can reduce the open unemployment rate:

1. Demand for Labor. Economic growth often implies an increase in economic activities, such as production, investment, and consumption. This encourages businesses to hire more people to meet the rising demand, thereby reducing the unemployment rate.
2. Business Investment. Stable economic growth can stimulate business investments, leading to the creation of new job positions. Companies are more likely to employ more workers to operate new facilities, produce more goods, or provide additional services.
3. Increased Consumption. Economic growth can also boost the purchasing power of the population, resulting in higher demand for goods and services. Businesses that experience increased demand may hire more employees to cope with higher production levels.

The Influence of the Human Development Index on the Open Unemployment Rate

Based on the testing results, it is shown that the Human Development Index has a positive impact on open unemployment rate. This result is not in line with the hypothesis that when Human Development Index increases, the open unemployment rate decreases. This research result aligns with studies conducted in West Sumatra (Arizal & Marwan, 2019), which showed that the Human Development Index has a positive and significant influence on unemployment rate, meaning that when the Human Development Index increases, unemployment rate also increases.

When the Human Development Index (HDI) increases and, at the same time, the unemployment rate also increases, this can be a result contrary to expectations and may indicate issues in the economy or in data measurement. In general, HDI growth is a positive sign that reflects increased welfare and societal development, which should contribute to a decrease in the unemployment rate. However, several factors can explain scenarios in which HDI increases while the unemployment rate also increases:

1. Imbalance in Economic Growth. Increased HDI does not always mean that jobs and economic growth follow rapidly. Factors like income inequality, a lack of appropriate job training, or a mismatch between job qualifications and skills can affect the unemployment rate.
2. Demographic Changes. Sometimes, changes in the population structure, such as an increase in the number of job seekers, can lead to a temporary increase in the unemployment rate, even when HDI is rising. This may occur when many young people enter the labor market without suitable employment.
3. Qualification Mismatch. An increase in HDI may result from increased access to education. However, if the qualifications acquired by graduates do not match the job market's needs, the unemployment rate can rise due to difficulties in finding suitable employment.
4. More Selective Attitudes. People with higher levels of education may have higher salary expectations and job conditions, making them more likely to reject jobs that do not meet their expectations. This can slow down the job-finding process.

In most cases, an increase in HDI should have a positive impact on the unemployment rate. However, if an increase in the unemployment rate occurs while HDI is rising, it may indicate the need for further study of the economic dynamics and labor market in that region.

4. CONCLUSION

The result of this study show that all variables have a significant impact on the open unemployment rate. Demographic dividend and economic growth have a significant negative impact, while the Human Development Index has a significant positive impact. However, it is important to note that the model's precision is relatively low, as reflected in the R-squared (R^2) value, which is only 32%. This means that approximately 32% of the variation in the unemployment rate can be explained by these three variables, while other unaccounted factors also play a significant role in explaining unemployment. Therefore, this study provides insights into the impact of demographic, economic, and human well-being variables on the unemployment rate in the region. While significant effects have been identified, there are still other factors affecting unemployment that need to be considered, and the model's explanatory power of unemployment variation is limited. A deeper understanding may require the inclusion of additional variables and more in-depth analysis to identify other factors influencing a larger portion of the unemployment rate. This research can assist the government and relevant organizations in crafting more effective economic and employment policies. For instance, understanding the positive impact of the Human Development Index can aid the government in enhancing the quality of life for the population, while grasping the negative impact of the demographic dividend on unemployment can aid in workforce training and job creation planning.

REFERENCES

[1] Adioetomo, S., & Moertiningsih, S. (2005). *Bonus Demografi. Menjelaskan Hubungan Antara Pertumbuhan Penduduk Dengan Pertumbuhan Ekonomi. Pidato Disampaikan pada Upacara Pengukuhan Jabatan Guru Besar Tetap Dalam Bidang Ekonomi Kependudukan pada Fakultas Ekonomi Universitas Indonesia.*

[2] Alrakhman, D., Susetyo, D., Taufiq, & Azwardi. (2022). Effect of Economic Growth on Unemployment Rate in Indonesia. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *5*(2), 10132–10141. https://bircu-journal.com/index.php/birci/article/view/4811

[3] Apriyono, T., & Nusa, Y. (2021). Pengaruh Investasi dan Dependecy Ratio terhadap Pengangguran di Kabupaten Mimika. *Jurnal Kritis*, *5*(1), 81–94. http://ejournal.stiejb.ac.id/index.php/jurnal-kritis/article/view/156

[4] Ardian, R., Syahputra, M., & Dermawan, D. (2022). Pengaruh Pertumbuhan Ekonomi terhadap Tingkat Pengangguran di Indonesia. *EBISMEN Jurnal Ekonomi, Bisnis Dan Manajemen*, *1*(3), 190–198.

[5] Arizal, M., & Marwan, M. (2019). Pengaruh Produk Domestik Regional Bruto dan Indeks Pembangunan Manusia terhadap Tingkat Pengangguran Terbuka di Provinsi Sumatera Barat. *Jurnal Ecogen*, *2*(3), 433. https://doi.org/10.24036/jmpe.v2i3.7414

[6] Badan Pusat Statistik. (n.d.). *Tingkat Pengangguran Terbuka Menurut Provinsi (Persen)*. BPS.

[7] Badan Pusat Statistik. (2022). *Analisis Profil Penduduk Indonesia*. BPS.

[8] Baihawafi, M., & Sebayang, A. F. (2023). Pengaruh Upah Minimum, Indeks Pembangunan Manusia dan Laju Pertumbuhan Ekonomi terhadap Pengangguran Terbuka. *Jurnal Riset Ilmu Ekonomi Dan Bisnis*, *3*(1), 39–44. https://doi.org/10.29313/jrieb.v3i1.1911

[9] Freijat, S. Y. al, & Hammouri, Q. (2022). The Impact of Economic Growth on Unemployment in Jordan during the period 1980-2022. *Central European Management Journal*, *30*(4), 1384–1391. https://doi.org/10.57030/23364890.cemj.30.4.139

[10] Gerta, M. D. (2017). *Analisis Pengaruh Inflasi, Pertumbuhan Ekonomi dan Dependency Ratio terhadap Pengangguran di Indonesia*. Universitas Andalas.

[11] Hikmah, L., Imamah, N., & Fattah, A. (2021). Pengaruh Pertumbuhan Ekonomi, Upah Minimum dan Pendidikan terhadap Tingkat Pengangguran di Kabupaten dan Kota Provinsi Jawa Timur Tahun 2015-2019. *Bharanomics*, *2*(1), 11–21. https://doi.org/10.46821/bharanomics.v2i1.187

[12] KOMINFO. (2015). Siapa Mau Bonus? Peluang Demografi Indonesia. *KOMINFO*.

[13] Lamatenggo, O. F., Walewangko, E. N., & Layuck, I. A. . (2019). Pengaruh Inflasi, Pertumbuhan Ekonomi dan Indeks Pembangunan Manusia terhadap Pengangguran di Kota Manado. *Jurnal Berkala Ilmiah Efisiensi*, *19*(02), 162–172.

[14] Prawira, S. (2018). Pengaruh Pertumbuhan Ekonomi, Upah Minimum Provinsi, dan Tingkat Pendidikan terhadap Pengangguran Terbuka di Indonesia. *Jurnal Ecogen*, *1*(4), 162.

https://doi.org/10.24036/jmpe.v1i1.4735
[15] Purba, W., Nainggolan, P., & Panjaitan, P. D. (2022). Analisis Pengaruh Inflasi dan Pertumbuhan Ekonomi Terhadap Pengangguran di Provinsi Sumatera Utara. *Jurnal Ekuilnomi*, *4*(1), 62–74. https://doi.org/10.36985/ekuilnomi.v4i1.336
[16] Samosir, O. B. (2019). Tipologi Bonus Demografi. *Fakultas Ekonomi dan Bisnis Universitas Indonesia*.
[17] Sari, Y. U., & Aimon, H. (2019). Determinan Pengangguran Gender pada Negara Lower Middle Income di Asean. *Jurnal Kajian Ekonomi Dan Pembangunan*, *1*(3), 494–958.
[18] Soekapdjo, S., & Oktavia, M. R. (2021). Pengaruh Inflasi, Indeks Pembangunan Manusia, dan Upah Minimum Provinsi terhadap Pengangguran di Indonesia. *Jurnal Ecodemica Jurnal Ekonomi Manajemen Dan Bisnis*, *5*(2), 94–102. https://doi.org/10.31294/eco.v5i2.10070
[19] Sukirno, S. (1994). *Makroekonomi Teori Pengantar*. RajaGrafindo Persada.
[20] Umam, A. K., & Wardhana, O. H. P. (2020). Investment, Debt Instruments and Economic Growth: Their Impact on the Unemployment Rate of OIC Countries in the Asian Region. *Journal of Islamic Economics Lariba*, *6*(2), 102–122. https://journal.uii.ac.id/JIELariba/article/view/15810
[21] United Nations. (n.d.). *The 17 Goals*. https://sdgs.un.org/goals