

The Mediation Role of the Human Development Index in Economic Growth and Labor Force Participation in Unemployment: Evidence from East Java Province Data

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Abstract

Every developed and developing country is experiencing economic problems. The good and bad of a country's economy, one of which can be seen from the unemployment rate. The research methodology used is associative and explanatory research with a quantitative approach. This study consists of the independent variables in the form of Economic Growth and Labor Force Participation Rate, the dependent variable is in the form of unemployment, while the intervening variable is in the form of the Human Development Index (IPM). The object of this research is 38 regencies/cities in East Java Province. With a period from 2017 to 2022. The type of data used is in the form of secondary data which includes journals and websites such as the Central Bureau of Statistics or BPS Statistik Indonesia. The data analysis method used is PLS-SEM (Partial Least Square Path Modeling) with the help of SmartPLS 3.0.

Based on the data and results of research that has been done, it was found that economic growth has a positive and significant effect on HDI (Human Development Index), economic growth has a significant positive effect on unemployment, the labor force participation rate has a negative and insignificant effect on HDI (development index). Man). The labor force participation rate has a negative and significant effect on unemployment, and the HDI (Human Development Index) has a negative and significant effect on unemployment.

Keywords: *Economic Growth, HDI (Human Development Index), Labor Force. Unemployment*

A. INTRODUCTION

Every developed and developing country is experiencing economic problems. Such as the problem of falling exchange rates, poverty, distribution gaps, unemployment, and other economic problems. The good and bad of a country's economy, one of which can be seen from the unemployment rate. The economic indicators that affect the unemployment rate are the prevailing wage rate, the inflation rate, and the country's economic growth. The problem of high unemployment causes inequality among people (WEF, 2017)

Indonesia is the fourth most populous country in the world in 2021 based on databoks.katadata.co.id , namely 276.4 million people after China with 1.4 billion people, India with 1.39 billion people, and the United States as many as 331.9 million people. In line with the improvement in the Indonesian economy, employment has also continued to improve. This can be seen from the increase in TPT in 2022. In 2022, data from the Central Statistics Agency (BPS) released that the open unemployment rate in Indonesia fell to 5.86 percent in August 2022 from August 2021 of 6.49 percent. In addition, there are 415 million people of working age who are affected by Covid-19, or around 1.98 percent.

An indicator of the size of the workforce that is not absorbed by the labor market and illustrates the lack of utilization of the supply of labor, namely through TPT or the open unemployment rate. The TPT percentage value is 5.86, meaning that out of 100 people in the work force, there are around six people who are unemployed. A high TPT indicates that the labor force is not absorbed in the labor market.

In research conducted by (Kumar & Kumar, 2020) states that with an increase in the skill development level of the unemployed, the number of unemployed people will decrease and the number of people employed will increase. However, this has been refuted by research (Parveen, 2022) , (Kumari, 2018) , (Nemore et al., 2021) , (Saner, 2019) , and (Olishevych, 2019) which state that the labor force participation rate has an effect on unemployment.

The government as the executor of development really needs quality human capital so that it can be used as the basic capital. Quality human beings will also produce a quality workforce so that they can easily not be unemployed.

The large number of unemployed results in poor socio-economic conditions of the community. This is in line with research (Sahnoun, 2019) , (Louail & Benarous, 2021) , (Hasan & Sasana, 2020) , (Union, 2013) , (Rachmaning et al., 2022) , (Tiwari et al., 2017) , and (Hjazeen et al., 2021) . In addition, unemployment also causes the level of community prosperity is also bad. If the unemployment rate is high in an area, it will hinder the achievement of economic development (Baeti et al., 2013) .

In Figure 1 below, the open unemployment rate in East Java Province from 2019 to 2022. The graphic image has fluctuated.

Figure 1. East Java Open Unemployment Rate 2019-2022



The development of all sectors of a country depends on the labor force. If workers are successful in the production and service sectors, then there will be an increase in all sectors as well (Nodira & Nodir, 2022) . This is also in line with (Xia, 2021) that the challenge of a lack of employment in India is affected by unemployment not contributing to the production sector.

Economic growth on unemployment refers to research (Abada et al., 2021) , (Bayrak & Tatli, 2014) , (Salama, 2019) , (Misini & Mustafa, 2022) , and (Binet, ME, & Facchini, 2013) . Besides affecting unemployment, economic growth also has a negative effect on the Human Development Index (IPM) according to research (Ridwan Maulana, 2013). However, economic growth also has a positive effect on the Human Development Index (IPM), according to research (Damanik et al., 2019) .

The United Nations Development Program (UNDP) is of the view that human development is an effort to increase opportunities for human resources to obtain good education, excellent health services, as well as earn and get decent jobs. One indicator of the success of human development itself is whether the conditions for successful development are good or not, in this case in the form of the Human Development Index (IPM) or the Human Development Index (HDI). Human Development Index (IPM) or Human Development Index (HDI) in research (Hasan & Sasana, 2020) that the HDI has a positive effect on unemployment.

Good economic growth, then good is the development of a country. The high rate of economic growth is the target of all countries in the world. The large Gross Domestic Product (GDP) is an indicator of economic growth. East Java Island has contributed to the national GDP after DKI Jakarta.

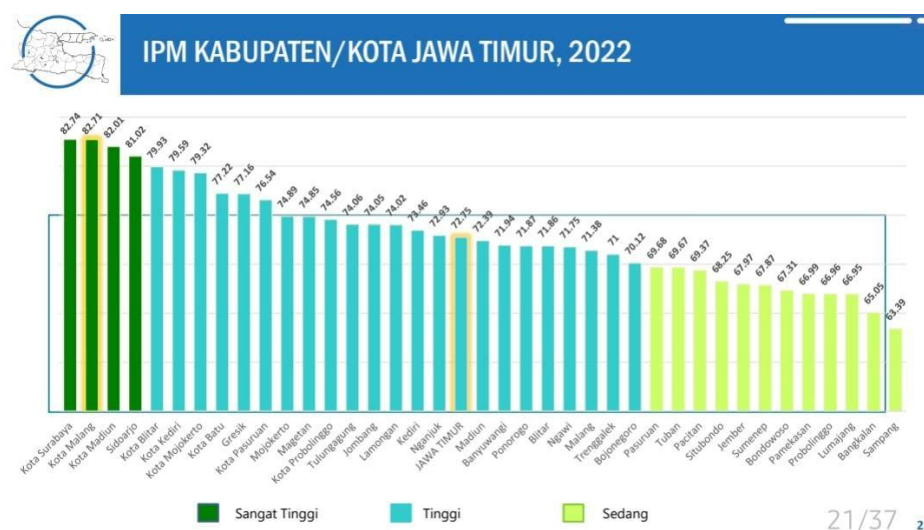
Based on the following figure, it shows that economic growth in East Java during 2019 to 2021 has experienced fluctuating developments. Meanwhile, the value of GRDP in East Java has increased. Often the amount of domestic income that also increases, is offset in line with human development. While the existence of HDI does not shift the role of GRDP as an indicator of the success of a country's or regional development.

Figure 2. East Java Economic Growth for 2021.



Based on the figure below, it shows that from 2019 to 2022 the districts/cities of East Java have positive HDI developments, as indicated by the average value of the HDI in East Java Province. There are 12 regions with the Human Development Index (IPM) while the lowest position is Samapang Regency. There are 23 areas with a high Human Development Index (IPM), and 4 areas with a very high Human Development Index (IPM), including Sidoarjo, Madiun City, Malang City, and the highest HDI was achieved by the Surabaya region.

Figure 3. East Java Regency/City HDI 2021



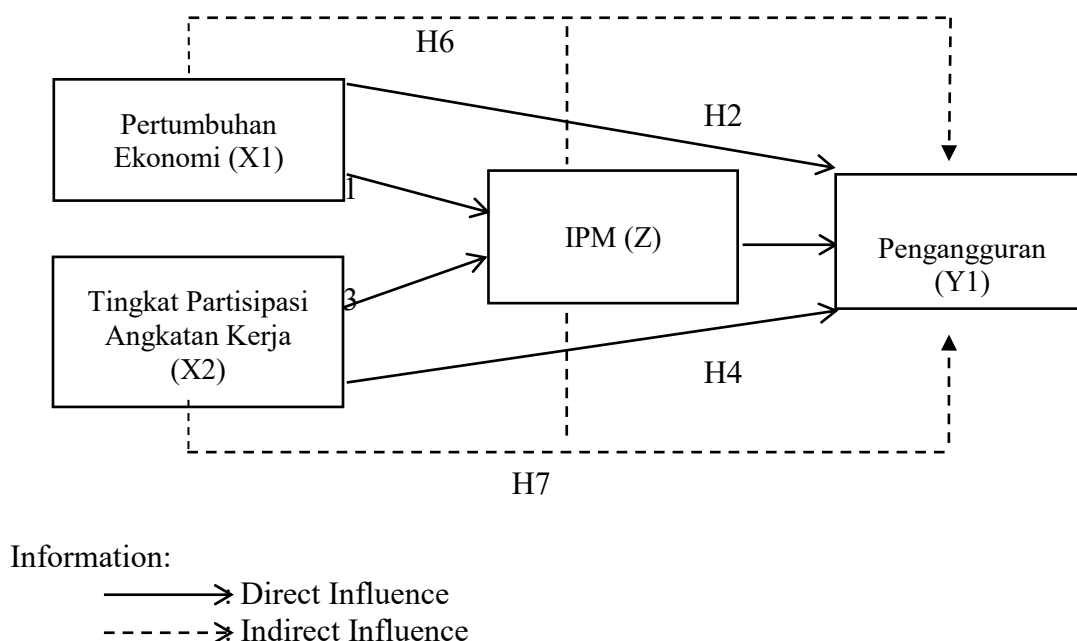
Based on the data and results of previous research that has been explained, to find out each of the factors that influence the open unemployment rate through the Human Development Index (IPM) in districts/cities. The purpose of this study was to analyze and determine the effect of economic growth and labor participation rates on the open unemployment rate through the Human Development Index (IPM) from 2019 to 2021 in East Java Province.

B. METHODS

The research methodology used is associative and explanatory research (Ulum & Ahmad Juanda, 2016) with a quantitative approach. This study consists of several variables, including the independent variable in the form of Economic Growth and Labor Force Participation Rate, the dependent variable in the form of unemployment, while the intervening variable in the form of the Human Development Index (IPM). The scope of this research is one of the provinces in Indonesia, namely all cities and regencies in East Java Province, totaling 38 regions. The observation period starts from 2017 to 2022. The type of data used is secondary data which includes journals and websites such as the Central Statistics Agency or BPS Statistik Indonesia. The data analysis method used is PLS-SEM (*Partial Least Square Path Modeling*) with the help

of SmartPLS 3.0 which can automatically calculate the value of the direct or indirect effect of a variable.

Figure 4. Variable Operational Design



C. RESULTS AND DISCUSSION

East Java Province is located in the eastern part of Java Island. This area is located between 1110 - 114.40 east longitude and 70 12' – 80 48' south latitude. The southern part of East Java Province is bordered by the Indian Ocean, while the northern part is directly adjacent to the Java Sea. In the western region it is bordered by Central Java province and in the eastern region it is bordered by the Bali Strait. East Java Province has an area of 47,799.75 km². In its records, the administrative area of East Java is divided into 38 regencies or cities or consists of 29 regencies and 9 cities. The capital of East Java Province is Surabaya City. The natural wealth owned by the island of Java itself is located in East Java, namely the highest mountain named Mount Semeru and crossing two major rivers, namely the Brantas and Bengawan Solo rivers.

The regency area consists of Pacitan Regency, Ponorogo Regency, Trenggalek Regency, Tulungagung Regency, Blitar Regency, Kediri Regency, Malang Regency, Lumajang Regency, Jember Regency, Banyuwangi Regency, Bondowoso Regency, Situbondo Regency, Probolinggo Regency, Pasuruan Regency, Sidoarjo Regency, Mojokerto Regency, Jombang Regency, Nganjuk Regency, Madiun Regency, Magetan Regency, Ngawi Regency, Bojonegoro Regency, Tuban Regency, Lamongan Regency, Gresik Regency, Bangkalan Regency, Sampang Regency, Pamekasan Regency and Sumenep Regency. While urban areas include the City of Kediri, Blitar City, Probolinggo City, Pasuruan City, Mojokerto City, Madiun City, Surabaya City and Batu City.

Data analysis used *path analysis* to determine the effect of the independent variables on the independent variables, namely the direct effect and the indirect effect. Based on the results of the PLS test, the results of testing the influence of GRDP and the Labor Force Participation Rate on Unemployment in East Java Province with the Human Development Index (IPM) as an intervening variable can be seen in the image below:

Figure 5. Data Processing Model Output with SmartPLS

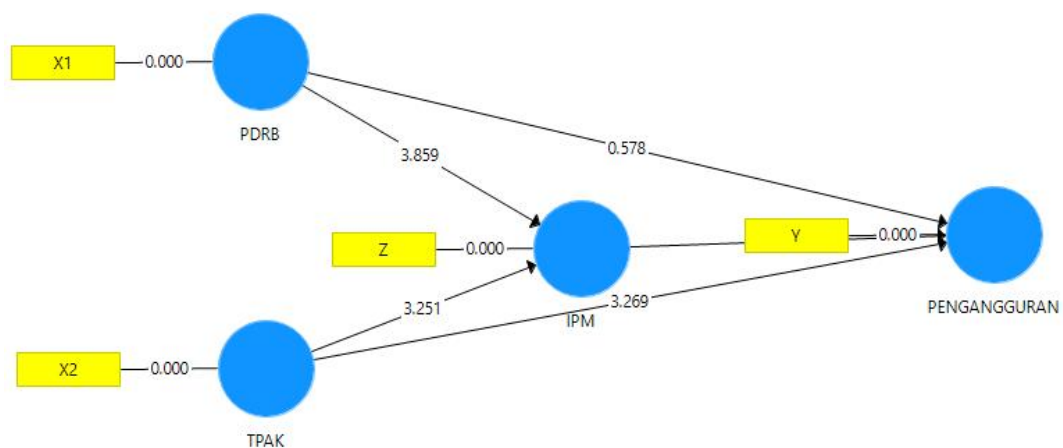


Table 1. R-Square Value (R^2)

Variable	R^2
Human Development Index (IPM)	0.389
Open Unemployment Rate (TPT)	.620

Source: Primary processed data (2022)

Looking at the table above it is found that the Effect of Economic Growth and Labor Force Participation Rate on the Human Development Index (IPM) contributes 0.389 which can then be interpreted that the construct variability of the Human Development Index (IPM) can be explained by the construct variability of Economic Growth and Labor Force Participation Rate only 38.9%, while the rest is explained by other variables outside of this study. Furthermore, in the influence model of Economic Growth and Labor Force Participation Rate on the Open Unemployment Rate (TPT) it contributes a value of 0.620, which means that the variability of the Open Unemployment Rate (TPT) construct can be explained by the variability of Economic Growth and the Labor Force Participation Rate of 62%. , while the rest is explained by other variables that do not appear in this study.

Test Path Coefficient

Table 2. SmartPLS outputs

	Original Sample (O)	Sample Means (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Economic Growth -> HDI	0.548	0.542	0.163	3,369	0.001
Economic Growth -> Unemployment	0.471	0.472	0.122	3,859	0.000
Labor Force Participation Rate -> HDI	-0.138	-0.105	0.239	0.578	0.564
Labor Force Participation Rate -> Unemployment	-0.372	-0.371	0.115	3,251	0.001
HDI -> Unemployment	-0.436	-0.419	0.133	3,269	0.001

Source: Analysis results

Significant values between constructs, t-statistics, and p-values can all be used to determine whether a hypothesis will be accepted or rejected. As a result, measurement estimates and standard errors are no longer based on assumptions, but on empirical observations. The hypothesis is accepted in this study using the bootstrap approach if the significance value of t-values > 1.645 and or p-values < 0.05 (Anugerah & Sutarmin, 2017)

H₁ : Effect of Economic Growth on HDI (Human Development Index).

Based on the results of the research analysis above, a *path coefficient value of 0.548 is obtained* and a *P- Value of 0.001* is smaller than 0.05. This proves that **H₁ is accepted** . So it can be said that there is a significant positive influence between Economic Growth on HDI (Human Development Index). So it can be explained that if economic growth increases by 1%, it will increase the Human Development Index in East Java by 0.548. The same is true of research conducted by (Ridwan Maulana, 2013) . However, these results are contrary to research (Damanik et al., 2019) .

H₂ : The Effect of Economic Growth on Unemployment.

The results of the H2 study in the direct influence table above, obtained a *path coefficient value of 0.471* and a *P- Value of 0.000* which is less than 0.05. This proves that

H₂ is accepted . So it can be said that there is a significant positive influence between Economic Growth on Unemployment. These results are in line with research (Abada et al., 2021) , (Bayrak & Tatli, 2014) , (Salama, 2019) , (Misini & Mustafa, 2022) , and (Binet, ME, & Facchini, 2013) . However, there are also studies that are not in line with these results, namely research (Sahnoun, 2019) , (Louail & Benarous, 2021) , (Hasan & Sasana, 2020) , (Union, 2013) , (Rachmaning et al., 2022) , (Tiwari et al., 2017) , and (Hjazeen et al., 2021) . It is different from research (Suleiman et al., 2017) where economic growth has no effect on unemployment.

A decrease in the unemployment rate accompanies every increase in the rate of economic growth (Louail & Benarous, 2021) . However, this statement is considered weak by research conducted by (Valadkhani, A., & Smyth, 2015) and (Binet, ME, & Facchini, 2013)

On research results . (Diraditsile & Ontetse, 2017) , it was found that the main factors causing unemployment are lack of job opportunities, limited skills (no relevant qualifications), and government failure to distribute resources and services fairly throughout the country.

However, the economic situation in 2022 is extraordinary, as the government's unprecedented direct intervention in the labor market through leave-type arrangements has allowed the employment rate and unemployment rate to recover quickly from the big downturn in 2020 (Blanchflower & Bryson, 2022).

Given the positive impact of growth on unemployment, it is suggested that sustainable growth strategies that increase employment are stimulated by decision makers to reduce youth unemployment (Bayrak & Tatli, 2014) .

H₃ : Effect of Labor Force Participation Rate on HDI (Human Development Index).

It is known that H₃ in the table of direct influence of the path coefficient value is -0.138 and the P-Values of 0.564 is greater than 0.05. This proves that H₃ **rejected** . then it can be explained that there is a negative and insignificant effect of the labor force participation rate on the HDI (Human Development Index). In this case, based on the limitations of the researchers, no previous studies have been found that discuss whether there is an influence of the labor force participation rate on the HDI (Human Development Index).

H₄ : Effect of Labor Force Participation Rate on Unemployment.

It is known that H₄ in the direct effect table is a path coefficient value of -0.372 and a P-Values of 0.001 is smaller than 0.05. This proves that H₄ **accepted**. it can be explained that there is a negative and significant influence between the labor force participation rate on unemployment. In this case, it is in line with research conducted by (Parveen, 2022) , (Kumari, 2018) , (Nemore et al., 2021) , (Saner, 2019) , and (Oliskevych, 2019) . However, this is contrary to research by (Kumar & Kumar, 2020) which states that the Labor Force Participation Rate on Unemployment has a positive effect.

H₅ : Influence on HDI (Human Development Index) on Unemployment.

It is known that H₅ in the table of direct influence, the path coefficient value is -0.436 and the P-Values 0.001 is smaller than 0.05. This proves that H₅ **accepted** . it can be explained that there is a negative and significant influence between the HDI (Human Development Index) on unemployment. In this case, supporting research by (Hasan & Sasana, 2020)

Mediation Effect Testing

The results of indirect impact calculations have been added to SmartPLS, which can be used to assess the strength of the relationship between the mediator variable and other variables. When a variable affects the relationship between the independent and dependent variables, this is known as mediation. Changes in the independent variables result in changes in the mediator variable, which then results in a change in the dependent variable. The author uses a simple mediation model in this study, with only one mediator variable. The writer uses Zhao, Lynch, and Chen's plot to assess this simple mediation model

Table 3. Mediation Results Test

		Original Sample (O)	P Values	Information
H ₆	GRDP -> HDI -> Unemployment	0.258	0.034	Accepted
H ₇	TPAK -> HDI -> Unemployment	-0.204	0.011	Accepted

Source: Analysis results

H₆ : The Effect of Economic Growth on Unemployment through the Human Development Index (IPM)

Regarding the results of the H₆ study on the indirect effect table above the path coefficient value of 0.258 and the P-Values of 0.034 is smaller than 0.05, these results prove that indirectly economic growth which is mediated by the Human Development Index (IPM) has a significant positive effect on unemployment. So it can be stated that **H₆ is accepted**. So it can be explained that there is a significant positive influence between economic growth on unemployment through the Human Development Index (IPM).

H₇ : Effect of Labor Force Participation Rate on Unemployment through the Human Development Index (IPM)

The results of the H₇ study based on the indirect effect table above the path coefficient - 0.204 and the P-Values of 0.011 are greater than 0.05. These results show indirectly the level of labor force participation mediated by the Human Development Index (IPM) has a significant negative effect against unemployment. So it can be stated that **H₇ is accepted**. So it can be explained that there is a significant negative effect between the Labor Force Participation Rate on unemployment through the Human Development Index (IPM).

C. CONCLUSION

Based on the data and research results that have been carried out, the results of the analysis and influence of economic growth and labor participation rates on the open unemployment rate were found through the Human Development Index (IPM) from 2019 to 2021 in East Java Province, namely, among others, economic growth has an effect on post positive and significant to HDI (Human Development Index), Economic Growth has a significant positive effect on unemployment, the labor force participation rate has a negative and insignificant effect on HDI (Human Development Index). The labor force participation rate has a negative and significant effect on unemployment, and the HDI (Human Development Index) has a negative and significant effect on unemployment.

By improving and developing the skills of unemployed people, the number of unemployed people will decrease and the number of people working will also increase (Kumar & Kumar, 2020). The solution to reducing unemployment is the government's efforts to formulate and implement national policies (Academy et al., 2018). It can also be done by specifying the labor market (Lukianenko, 2020) and expanding the scope of providing jobs, especially in employment specialization (Drake et al., 2021).

Meanwhile, in the mediation test, it was found that economic growth had a significant positive effect on unemployment through the Human Development Index (IPM). The Labor Force Participation Rate has a negative and significant effect on unemployment through the Human Development Index (IPM).

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