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## DETERMINANT ANALYSIS OF THE TOURISM SECTOR'S INFLUENCE ON LABOR ABSORPTION IN EAST JAVA



**Cindy Ashilah Prameswari<sup>1</sup>**

**Universitas Pembangunan Nasional “Veteran” Jawa Timur, Surabaya, Indonesia**  
[21011010071@student.upnjatim.ac.id](mailto:21011010071@student.upnjatim.ac.id)

**Ririt Iriani Sri Setiawati<sup>2</sup>**

**Universitas Pembangunan Nasional “Veteran” Jawa Timur, Surabaya, Indonesia**  
[ririt.iriani.ep@upnjatim.ac.id](mailto:ririt.iriani.ep@upnjatim.ac.id)  
Corresponding Author

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### Abstract

East Java Province constitutes the second-largest economic hub in Indonesia, supported by a substantial population base. Despite this advantage, the region's labor absorption remains suboptimal. Addressing this challenge requires the optimization of key economic sectors with high potential for employment generation. The tourism sector emerges as one of the leading sectors capable of contributing significantly to labor market expansion. This study aims to examine the determinants of the tourism sector that influence labor absorption in East Java. Employing a quantitative research design, the study utilizes panel data regression analysis. This study examines the relationship between the number of tourist attractions, restaurants, and hotels and the level of labor absorption in the tourism sector. The empirical findings demonstrate that all three variables have a statistically significant effect on labor absorption. These results underscore the strategic role of tourism development as an effective instrument for enhancing employment opportunities and supporting regional economic growth.

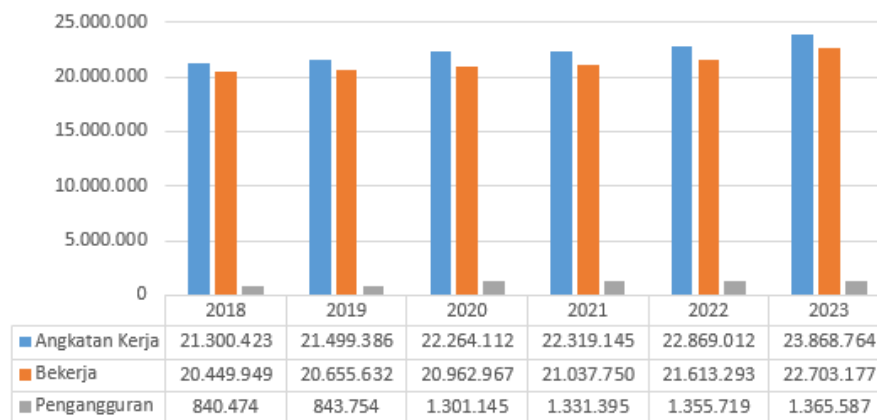
**Keywords:** Labor Absorption, Tourism Sector, Unemployment Rate

**INTRODUCTION**

Indonesia is a developing country that continues to face various economic challenges, despite having a large population and abundant natural resources. Economic development in developing countries such as Indonesia must continue to be pursued in order to accelerate economic growth, expand employment opportunities, and promote income distribution. Successful economic development can be observed through the availability and expansion of job opportunities within the country. The greater the number of available jobs, the higher the potential for increased labor absorption. Successful economic development in developing countries can be observed through the availability and expansion of employment opportunities.

According to (Badan Pusat Statistik Jawa Timur Dalam Angka, 2023), East Java covers an area of 48,033 square kilometers and has a population of 41,644,099 people. Located in the easternmost part of Java Island, this province holds the position as the second-largest economy on the island. However, despite its vast territory and large population, labor absorption in East Java remains suboptimal.

**Figure 1.**  
**Working-Age Population in East Java by Main Activity,**  
**2018 - 2023**



Source: Badan Pusat Statistik Jawa Timur

As illustrated in Figure 1.1, the labor force in East Java has experienced a steady annual increase. However, this growth has been accompanied by a significant rise in the number of unemployed individuals, with a particularly sharp increase of 54.21% recorded in 2020. This phenomenon highlights the persistent challenge of suboptimal labor absorption in the province. To address this issue, it is imperative to enhance the development of productive economic sectors that can serve as a catalyst for expanding employment opportunities across Indonesia.

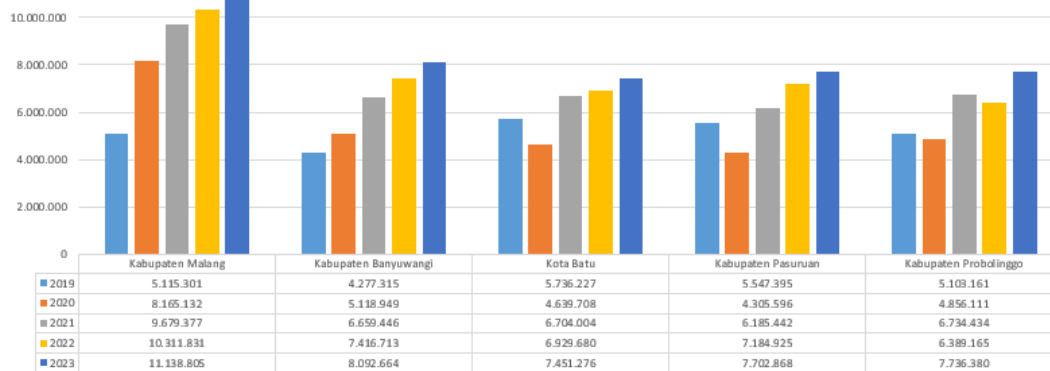
The business sector plays a vital role in labor absorption and serves as a key driver of a country's economic growth. One such sector is tourism. The tourism industry in East Java has the potential to become a leading economic sector if managed sustainably. The increasing trend of tourism activities stimulates demand for services related to the tourism industry. In addition, tourism generates multiplier effects across other economic sectors, contributing to job creation and improving community income (Yanto & Ammaru, 2024). The development of the tourism sector is influenced by several factors, including the number of tourist

attractions in each region, the availability of restaurants or dining facilities for tourists, and accommodation services such as hotels. Consequently, there are three primary determinants of the tourism sector's impact on employment absorption: the number of tourist attractions, the number of restaurants, and the number of hotels.

The success of the tourism sector in a particular region can be observed through the volume of tourist visits it receives. A year-on-year increase in tourist arrivals serves as a key indicator of a destination's appeal, reflecting various contributing factors such as natural beauty, cultural richness, infrastructure quality, and the effectiveness of promotional efforts undertaken by local governments. A rising number of tourist arrivals in a region reflects the effectiveness of government efforts in creating a supportive tourism environment and developing a compelling destination image in the public perception. This situation ultimately drives the expansion of local economic activities, fosters the emergence of new business opportunities, and increases the demand for labor, particularly within tourism-supporting subsectors such as hospitality, restaurants, transportation, tour guiding, and locally based creative industries.

On the other hand, the successful attraction of tourists is closely linked to a region's ability to manage its tourism potential sustainably. This involves appropriate spatial planning, provision of adequate public facilities, environmental conservation, and active participation of the local community in tourism-related economic activities. Consequently, tourism serves not only as a source of foreign exchange but also as a key driver in labor absorption and unemployment reduction within the region.

**Figure 2.**  
**The Five Regencies/Cities with the Highest Number of Tourist Arrivals in Jawa Timur, 2019 - 2023**



Source: Badan Pusat Statistik Kabupaten/Kota, various years (processed data)

Based on Figure 2, five regions recorded the highest average number of tourist arrivals between 2019 and 2023 among the regencies and cities in East Java, namely Malang Regency, Banyuwangi Regency, Batu City, Pasuruan Regency, and Probolinggo Regency. These five areas are selected as the focus of this study.

## REVIEW OF LITERATURE

### Theory Of Employment

The theory of employment serves as a fundamental framework for understanding labor-related issues. Adam Smith emphasized that the primary function of the labor theory

of value lies in the role of human resources during productive activities. This theory highlights that labor is a key determinant in measuring the value of goods. (Suparman, 2022).

### **Human Resources**

Human Resources (HR) or human resources is someone who is able to work to produce goods or services. In the success of economic development in Indonesia, human resources, which are part of the factors used as benchmarks. Labor is a population that is working, already working, or looking for work (Muda, 2018). According to (Sukirno, 2019), labor is divided into three classifications, namely :

- a. Based on work limits, it is divided into labor force and non-labor force.
- b. Based on the population, it is divided into labor and non-labor.
- c. Based on its quality, it is divided into educated, trained, and neither educated nor trained.

### **Labor Absorption**

Labor absorption refers to the number of individuals successfully accommodated in the workforce by a sector or business unit in a certain period (Suparman, 2022). Workers who have worked will contribute to the production process of goods and services, thus having a direct impact on economic activity. Labor absorption includes labor demand and labor supply. Demand for inputs arises because producers have the desire to carry out the process of producing certain products. The demand for labor is derivative, which depends on the goods and services produced. If the demand for products or services increases, the need for labor also increases (Try Wahyu Utami et al., 2023). Meanwhile, labor supply refers to the number of people who are ready to work, both in terms of quantity, as well as the quality of their efforts (Dr. Madris, 2021).

### **Tourism Sector**

Bank Indonesia stated that one of the drivers of foreign exchange is the tourism sector because the development of tourism in the country is very capable (Rahma, 2020). Economic activities are always closely related to the tourism sector, such as tourism areas, tourist transportation services, tourist attractions, food and beverage services, provision of accommodation, organizers of entertainment and recreation activities, incentive travel, exhibitions, tour guide services, and others.

### **Tourist Attraction**

A tourist attraction can be defined as a place that includes all aspects located in a tourist destination area that has a charm for people to come visit the area. Tourism objects that are developed will potentially be a source of income for an area. Tourism objects and attractions are the basis of tourism because without these attractions, the place will be difficult to develop (Lumansik et al., 2022).

### **Restaurant**

Restaurant or restaurant is a business in terms of providing food and beverage services that aims to gain profit and/or profit and provide satisfaction to its consumers. According to (Herianto et al., 2020), based on the processing system, restaurant serving can be classified into three, namely:

- a. Formal restaurant

Formal restaurants are industries with services that provide food and beverage services that are professionally managed using the exclusive services provided. Examples of formal restaurants are executive restaurant, gourmet, main dining room, and others.

b. Informal restaurant

Informal restaurants are industries with food and beverage service providers that are managed professionally and commercially. In fact, self service or counter service is also used in this type of restaurant. The menu served is limited and quick to cook. Examples of informal restaurants are cafe, cafeteria, fast food restaurant, coffee shop, bistro, etc.

c. Specialty restaurant

Specialty restaurants are food and beverage service industries. These restaurants are managed professionally and commercially with the provision of specialties from certain countries in terms of food types and serving systems. Examples of specialist restaurants include Italian restaurants, Thai restaurants, Korean restaurants, etc.

### Hotel

Hotels are accommodations that provide lodging services and also provide food and drinks for the general public as guests who come. These guests can be said to use hotel facilities not only when staying overnight but when using certain facility services owned by the hotel such as restaurants or swimming pools can also be said to be guests (Sanjaya, 2022).

## RESEARCH METHOD

The research method used for this research is a quantitative descriptive approach. According to (Ghozali, 2021), descriptive method is a method to explain and describe a phenomenon using data in the form of numbers that have previously been collected. The data used in this study consist of the number of tourist attractions, the number of restaurants, the number of hotels and the number of tourism sector workers in the five districts / cities with the largest number of tourist visits in East Java with time series for the last seven years from 2017 to 2023.

The analysis used is panel data regression analysis because this research involves a combination of time series data and cross-sectional data. With the object of research, five districts/cities in East Java, including Banyuwangi Regency, Pasuruan Regency, Probolinggo Regency, Malang Regency, and Batu City, and also a seven-year time frame, namely 2017-2023. This research is supported by the Eviews12 application.

## RESULTS AND DISCUSSION

### Estimation of Panel Data Regression Model

The panel data equation model, which is a combination of time series and cross-sectional data in this study, is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_{nit} + \mu$$

Keterangan:

- Y : dependent variable
- $\alpha$  : constanta
- $\beta$  : coefficient of the independent variable
- $X_{it}$  : independent variable
- i : i-th entity
- t : t period
- $\mu$  : confounding variable

There are two tests conducted to test the determination of the model to be used. The Chow test shows that H1 is accepted and H0 is rejected, so that it can be concluded that the best model from the Chow test that has been carried out is the Fixed Effect Model. Then, in the Hausman test that has been carried out, the results also show that H0 is rejected and H1 is accepted, which means that the selected model is the Fixed Effect Model. So the Lagrange Multiplier test does not need to be done because from these two tests, it can be concluded that the best model used in this study is the Fixed Effect Model.

**Hypothesis Test**

Hypothesis testing is done to find out how much the independent variable can affect the dependent variable. Hypothesis testing is carried out, including the coefficient of determination (R2) test, the T test, and the F test.

**Determination Coefficient Test (R2)**

The determinant coefficient test (R2) aims to find out the ability of the independent variables to explain the dependent variable in a model.

**Table 1.**  
**Determination Coefficient Test Results (R2)**

R-squared	0.964884
Adjusted R-squared	0.955780
S.E. of regression	13110.95
Sum squared resid	4.64E+09
Log likelihood	-376.9635
F-statistic	105.9842
Prob(F-statistic)	0.000000

Source: Results of Eviews Output

The coefficient of determination (R2) test results are at 0.955780 or 95.57%. This can be interpreted that the independent variables, which include the number of tourist attractions, the number of restaurants, and the number of hotels, can explain the dependent variable, namely employment of 95.57%, and the remaining 4.43% is influenced by other variables.

**T test**

The t test aims to determine the effect of each independent variable individually on the dependent variable in a regression model.

**Table 2.**  
**T Test Results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10175.71	25910.27	0.392729	0.6976
X1	572.1012	88.36153	6.474550	0.0000
X2	-114.8891	50.89400	-2.257420	0.0323
X3	244.2659	93.23983	2.619759	0.0143

Source: Result of Eviews Output

In this study, the t test was conducted to determine the effect of each variable regression coefficient on the number of tourist attractions, the number of restaurants, and the number of hotels on the employment of the tourism sector in East Java. Based on the table

of t test results that have been done above, the effect of independent variables on the dependent variable is as follows:

a. Number of Tourism Objects

The t test results on the variable number of tourist attractions (X1) obtained a t value of  $6.474550 > t$  table, namely 2.034515 and a value of  $0.0000 < 0.05$ . Then  $H_a$  is accepted and  $H_0$  is rejected, meaning that the variable number of tourist objects has a significant and positive effect on employment in East Java.

That the number of tourist objects has a significant and positive effect on the employment of the tourism sector. This means that the number of tourist objects that has increased will encourage the absorption of labor that is also requested. This is because every tourist destination will need people to manage, serve, and maintain the sustainability of its services.

b. Number of restaurants

The t test results on the variable number of restaurants (X2) obtained a t value of  $2.257420 > t$  table, namely 2.034515 and a value of  $0.0323 < 0.05$ . Then  $H_a$  is accepted and  $H_0$  is rejected, meaning that the variable number of restaurants has a significant and negative effect on employment in East Java.

The results of this study are in line with tests conducted by (Salsabilla et al., 2022) that the number of restaurants has a negative and significant effect on the absorption of tourism sector labor. This can be interpreted that an increase in the number of restaurants will actually reduce the absorption of its workforce. The reason is that technological advances in the restaurant sector that are increasingly replacing labor, such as self-ordering using QR codes or automatic electronic payments, and delivery via applications without special waiters have the consequence of reducing the need for direct labor in accordance with the theory of labor-saving technology (Goerge J. Borjas, 2020).

c. Number of Hotel

The t test results on the variable number of tourist attractions (X1) obtained a t value of  $2.619759 > t$  table which is 2.034515 and a value of  $0.0143 < 0.05$ . Then  $H_a$  is accepted and  $H_0$  is rejected, meaning that the variable number of hotels has a significant effect on employment in East Java.

Supported by the results of research conducted by (Saputra et al., 2023) that the number of hotels has a significant and positive effect on employment in Batu City. The increasing number of hotels will increase labor demand because additional labor will be needed so that there are many workers who will be absorbed. This is also due to the complex operations of the hospitality sector, such as the need for reception staff, cleaning or housekeeping staff, security, and technicians. In addition, the presence of new hotels will encourage other supporting sectors such as transportation services, tour guides, laundry services. This creates a domino effect that results in more job opportunities.

**F test**

The F test is a statistical technique used to assess whether the regression model as a whole has significance. Specifically, this test serves to determine whether the independent variables collectively exert a meaningful influence on the dependent variable.

**Table 3.**  
**F Test Results**

R-squared	0.964884
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Adjusted R-squared	0.955780
S.E. of regression	13110.95
Sum squared resid	4.64E+09
Log likelihood	-376.9635
F-statistic	105.9842
Prob(F-statistic)	0.000000

Source: Result of Eviews Output

Based on the results of the f test above, the calculated F value was  $105.9842 > F$  table, which is 2.911334 and the sig. value was  $0.000000 < 0.05$ , so  $H_0$  was rejected and  $H_a$  was accepted, meaning that the variables of the number of tourist attractions, the number of restaurants, and the number of hotels had an effect on labor absorption.

## CONCLUSION

Based on the results of the panel data analysis that has been carried out, it is concluded that the number of tourist attractions and the number of hotels have a significant effect on the employment of the tourism sector in East Java. Meanwhile, the number of restaurants has a significant and negative effect on the employment of the tourism sector in East Java. Then, the number of tourist objects, the number of restaurants, and the number of hotels together have a significant effect on the employment of the tourism sector in East Java. The East Java Provincial Government, especially the five districts/cities with the highest number of tourist visits in the province, including Banyuwangi Regency, Malang Regency, Pasuruan Regency, Probolinggo Regency, and Batu City, are expected to continue to innovate in increasing the number of tourist attractions to help in the absorption of labor in East Java.

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