Jurnal Ekonomi dan Studi Pembangunan, 17 (1), 2025
ISSN 2086-1575 E-ISSN 2502-7115

The Role of Tourism Sector on Central Java Economy

Sotya Fevriera[1], Agatta Shelly Septya Agni[2]

[1,2] Economics Department, Satya Wacana Christian University, Indonesia

E-mail: sotya.fevriera@uksw.edu

Received: June 26, 2024; Accepted: April 14, 2025; Published: April 25, 2025
Permalink/DOI: http://dx.doi.org/10.17977/um002v17i12025p082

Abstract

The purpose of this research is to analyze the effect of the tourism sector on the economy of Central Java province. The analysis method is a random effect model (REM), which is estimated using data from 35 regencies/cities in Central Java during some periods between 2001 and 2023. The result shows that the number of tourists, the number of tourism objects, the number of lodgings, the number of restaurants, and the number of workers on the tourist object, each have a positive and significant effect on the real GRDP. Moreover, this research also found that there is a random effect on the regression coefficient of the number of tourists, the number of tourism objects, and the number of lodgings among regencies/cities in Central Java.

Keywords: *Gross Regional Domestic Product, Tourism Sector, Random Effect Model*
JEL Classification: R11, C23, O18

INTRODUCTION

Tourism is activities done by people who travel to visit different geographic areas from their residence, in less than one year, for a certain purpose such as business, fill leisure time (vacation/recreation), or other personal objective such as visiting friends/relatives, join an education/training or medical/maintenance intention (UNWTO, 2024b). The tourism sector has various scopes and includes some economics sectors or sub-sectors, viz. travel services (transportation, ecotourism), lodging (hotel, guest house, etc.), event organizer (conference, music concert, etc.), restaurants and recreation (tourism site, attraction/game on the tourist site, etc.) (Nancy, 2023).

According to the theory of tourism-led economic growth, the tourism sector can become the key actor that moves the economy holistically over a long period (Anggraeni, 2017; Brida et al., 2020; Raifu & Afolabi, 2024). We can expect the tourism sector to boost the economy of a region because it can be continuously developed while being adjusted to the needs and characteristics of that area so that it can increase competitiveness and finally grow the economy of that region. The more it grows, the bigger the GRDP of the tourism sector and the higher the overall GRDP of that region.

Indonesia is among the countries that keep innovating in the tourism sector through the development of nature and culture-based tourism. In 2011, the Ministry of Tourism and Creative Economy started to campaign for Indonesia's tourism

using the branding "Wonderful Indonesia" (Hanun, 2021), especially for superior tourism objects, to introduce the uniqueness of Indonesia's tourist attractions and the richness of its culture to the world. On a regional scale, the government also encourages the creation of tourism villages with the concept of sustainable tourism (Kemenparekraf, 2021a, 2021b) and tourism based on gastronomy (Kemenparekraf, 2023b). Behind the foods, gastronomy also reflects culture, inheritance, tradition, and sense from different communities (UNWTO, 2024a) and contains deep history and philosophy (Kemenparekraf, 2023a).

World Trade and Tourism Council (WTTC) predicted that from 2022 to 2032, Indonesia's tourism sector will grow 10% per year, while overall, the economy will only grow 5.1%. The contribution of the tourism sector to the gross domestic product (GDP) will be almost $118.4 trillion (5.7% of the total economy). The tourism sector will also be expected to open 500,000 new job fields per year so that it will be able to employ 16 million people by 2032 (WTTC, 2022). If there is a productivity increase, then the rise of the number of workers in the tourism sector will be able to increase output in the tourism sector. It will contribute to the GRDP in total.

The tourism attraction object plays a central role in the tourism sector. Based on Constitution number 10 in 2009, the tourism attraction object is the characteristics, the beauty, the variety of natural wealth and culture, and also the human creation that can make an object become a tourism target or destination. (BPS, 2022). The term tourism attraction object has been used by BPS since 2013 (BPS Jateng, 2013). Before that, BPS called it a tourism object or a recreational park (BPS Jateng, 2012). During the development, the tourism attraction is often combined with an event that involves aspects such as culture, art, heritage, and other empirical activities (Enzenbacher, 2020). Therefore, since 2021, BPS has been using the terms tourism attraction and *event* (BPS Jateng, 2021b). Further, for the simplification of pronunciation, this paper will only use the term tourism object.

Moreover, tourists also become an important factor in the tourism sector because their visit can create income for producers whose business is in the tourism sector, such as restaurants, hotels, and other tourism service providers.

Table 1 shows that one of the three provinces in Indonesia in which commercial tourism attraction objects have the most visitors is Central Java Province. Despite that its national rank in 2021 and 2022 decreased, but the number of tourists who visit the commercial tourism attraction object increased by 13.86%.

Table 1. Three Provinces with Largest Visitors to Commercial Tourism Attraction Object

2021		2022	
Province	**Visitor (Million People)**	**Province**	**Visitor (Million People)**
Central Java	36.59	West Java	63.71
West Java	10.71	Central Java	41.66
East Java	9.99	East Java	17.58

Note: Visitors consist of domestic and foreign tourists.
Source: BPS (2023)

According to Figure 1, the growth trend of Central Java's gross regional domestic product (GRDP) tourism sector increased during 2016-2022. The decrease only happened in 2020 due to the Covid-19 pandemic. Likewise, the

Central Java GRDP contribution trend of the tourism sector also shows an increase during 2016-2022. The contribution in 2020 and 2021 that is lower than the contribution in 2019 is because of the Covid-19 pandemic. Despite the contribution in 2021 being lower than the contribution in 2019, however, compared to 2020, the contribution in 2021 increased, and during the pandemic period, that is, during 2020-2021, the growth of the Central Java tourism sector GDP increased. It indicates that the Central Java tourism sector can recover immediately from the impact of the Covid-19 pandemic.

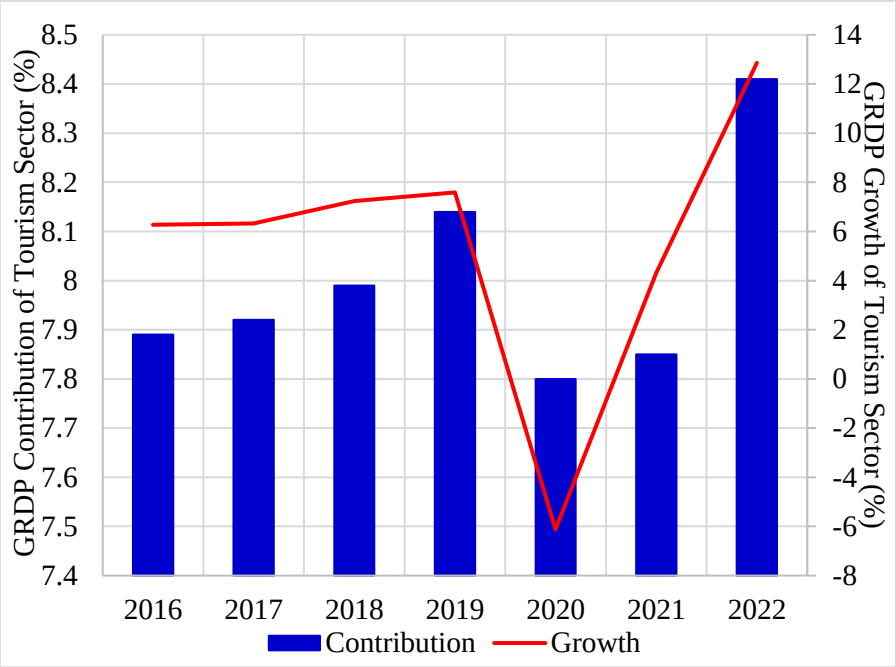

Figure 1. The Growth and Contribution Central Java GRDP Tourism Sector (%)
Source: BPS Jateng (2021a, 2022, 2023)

In the last 8 years, there have been many studies that use a quantitative approach that investigate the effect of tourism sector indicators on Central Java economics (Andriyani & Salam, 2022; Anggrismono & Aviva, 2023; Arifin, 2021; Ayu & Destiningsih, 2022; Dewi et al., 2020; Habsari et al., 2023; Laut et al., 2021; Mubarok, 2022; Mustofa, 2022; Nilam, 2020; Priambodo et al., 2022; Setiarini & Destiningsih, 2022; Syafii, 2021; Yusroni & Chadhiq, 2021). Similar studies were carried out in Indonesia or other areas within Indonesia (Antara & Sumarniasih, 2017; Hakim et al., 2021; Hariyani, 2018; Mahadevan et al., 2016; Purnomo, 2022; Rahmayani et al., 2022; Suhel & Bashir, 2018; Susanto & Hutabarat, 2024; Wahyuni et al., 2018).

Almost all of the research employed panel data, except for Susanto & Hutabarat (2024), Hariyani (2018), Antara & Sumarniasih (2017), which employed time series data, and Subanti et al. (2016), Nilam (2020), and Yusroni & Chadhiq (2021) which use input-output data or social accounting matrix. Not all of those studies analyze the effect of tourism sector indicators on GRDP (Andriyani & Salam, 2022; Habsari et al., 2023; Priambodo, 2015; Priambodo et al., 2022) or economic growth (Andriyani & Salam, 2022; Anggrismono & Aviva, 2023; Ayu & Destiningsih, 2022; Mubarok, 2022; Syafii, 2021) but some researches study its

effects on the regional original income (*PAD*) (Anggrismono & Aviva, 2023; Dewi et al., 2020; Mustofa, 2022; Wahyuni et al., 2018) and the tourism sector retribution (Setiarini & Destiningsih, 2022; Yusroni & Chadhiq, 2021).

All studies which utilize panel data employ the regression analysis method, but Mahadevan et al. (2016), Subanti et al. (2016), Nilam (2020), and Yusroni & Chadhiq (2021) use an input-output or social accounting matrix approach, whereas Antara & Sumarniasih (2017) applies qualitative descriptive analysis.

Indicators of the tourism sector that had been studied vary, that is number of tourist attractions, number of domestic tourists, number of foreign tourists, number of total tourists (domestic and foreign), number of restaurants, number of hotels and accommodations, the occupancy rate of the hotel room, the tourist length of stay, number of workers in the tourism sector and ecotourism, consumption in tourism, investment in tourism, and government expenditure in tourism. Besides those tourism indicators, some of those researchers also investigated variables of population size, capital, investment, value-added, regional government expenditures, number of workers, unemployment, non-productive age residents, mean years of schooling, and health (Anggrismono & Aviva, 2023; Arifin, 2021; Dewi et al., 2020; Hariyani, 2018; Laut et al., 2021; Mubarok, 2022; Mustofa, 2022; Purnomo, 2022; Rahmayani et al., 2022; Suhel & Bashir, 2018).

This study also aims to investigate the effect of the number of tourist attraction objects, the number of tourists (domestic and foreign), the number of lodgings (star hotels, non-star hotels, and other accommodations), the number of restaurants, and the number of workers at tourism attraction objects. This study differs from those similar studies in Central Java mentioned previously in several ways. First, none of the previous research has studied those five variables together. Second, previous researches in Central Java were done using data in a 2-10 year period of time, while this study uses data within a range of 8-23 years period of time. Third, none of the previous research in Central Java utilized a fixed effect model (FEM) or random effect model (REM) approach that estimates the random effect of the constant and/or regression coefficient of the model. Whereas this study will estimate the random effect of the model.

This research is expected to be able to enrich the literature the research on the role of the tourism sector in the economy, particularly in Central Java, which hopefully can be utilized as a discussion matter or a consideration in the tourism sector policy formulation to improve the Central Java economy.

METHOD

Data Source and Type

Data that is applied in this research is panel data from 35 regencies/cities in Central Java, where the period of real GDRP in 2010 (*GRDP*), number of tourists (*Tourist*) and number of tourism objects (*Object*) is 2001-2023 (used for Model A), the period of a number of lodgings (*Hotel*) is 2003-2023 (used for Model B), the period of a number of restaurants (*Rest*) is 2012-2023 (used for Model C) and the period of a number of labors at tourism objects (*Labor*) is 2015-2022 (used for Model D).

The real GRDP 2000 in 2001-2009 was changed into real GDRP 2010 using deflator GDRP in 2010, which is calculated using real GRDP 2000 in 2010 and nominal GRDP in 2010. Tourist data consists of domestic and foreign tourists. The

lodging data includes star hotels, non-star hotels, and other accommodations. The four missing *Rest* data points were estimated using the geometric average of the two available data points over the period between the missing data. For each period, this research looked for the best model and that is why, several variables in the chosen model were transformed into the form of a natural logarithm because it can yield a better model (the model can estimate the relationship pattern among variables better, which shown by the highest coefficient of determination or the R^2, and the model assumptions can be fulfilled).

Those data were collected from the website of Central Java BPS, both data that can be downloaded directly and data from the publication series of Central Java Province in Figures) (BPS Jateng, 2024), and from the Book Series of Central Java Tourism Statistics from the Central Java Youth, Sport and Tourism Office (Disporapar Jateng, 2024).

Analysis Technique

Stationary Test for Panel Data

Since the analysis in this research is at the macro level where the number of panels (*n*) is constant, i.e., 35 regencies/cities, while the number of periods (*t*) is assumed to go to infinity, then the stationarity test was carried out using the Levin-Lin-Chu test, which assumes that $\frac{n}{t} \to \infty$ (StataCorp, 2023). The null hypothesis (H_0) of this test is that the data contains a unit root (not stationary). Table 2 shows that all variables have been stationer.

Table 2. The Results of the Stationarity Test

Variables	*p-value*			
	Model A	**Model B**	**Model C**	**Model D**
LnGRDP	0.0000[a]	0.0003[a]	0.0000[a]	0.0000[a]
Tourist	0.0076[a]	0.0025[a]	0.0000[a]	
LnTourist				0.0000[a]
LnObject	0.0224[b]	0.0078[a]	0.0000[a]	0.0000[a]
LnHotel		0.0000[a]	0.0000[a]	0.0000[a]
LnRest			0.0000[a]	
Rest				0.0000[a]
Labor				0.0000[a]

Notes: (1) *Ln* = symbol for the form of the *natural logarithm*, (2) [a], [b], and [c] successively means significance at α = 1%, 5%, and 10%.

The Choice of The Best Model for Panel Data

Table 3 shows the results of the tests to choose the best model.

Table 3. The Results of Model Choice

Test	*p-value*			
	Model A	**Model B**	**Model C**	**Model D**
Chow	0,0000[a]	0,0000[a]	0,0000[a]	0,0000[a]
Hausman	0,1146	0,1712	0,0816	0,1101
Breusch-Pagan *LM*	0,0000[a]	0,0000[a]	0,0000[a]	0,0000[a]
The best model	REM	REM	REM	REM

Note: [a], [b], and [c] consecutively mean significance at α = 1%, 5%, and 10%.

The best model for panel data was chosen by doing the Chow test with H_0: common effect model (CEM) is better than FEM, the Hausman test with H_0: REM is better than FEM, and the Breusch-Pagan Lagrange multiplier (LM) test with H_0: CEM is better than REM. Based on Table 3, it can be concluded that the best model to estimate the panel data is REM (Model A–D).

By referring to how to construct the REM (Field, 2018) then we can arrange the following regression model:

$$LnGRDP_{jt} = \beta_{0j} + \sum_i \beta_{ij} X_{ijt} + \varepsilon_{jt} \quad (1)$$

with:

$$\beta_{0j} = \beta_{0m} + u_{0j} \quad (2)$$
$$\beta_{ij} = \beta_i + u_{ij} \quad (3)$$

where: *Ln* = symbol of natural logarithm, *GRDP* = real GRDP (in million IDR), X_i = i^{th} independent variable, β_0 = model constant, β_i = i^{th} regression coefficient, j = index for regencies/cities in Central Java, ε = overall error model as and u_j = error model within j^{th} regency/city, i = {*Turis*, *LnObyek*} and t = {2001, …, 2023} for model A, i = {*Turis*, *LnObyek*, *LnHotel*} and t = {2003, …, 2023} for model B, i = {*Turis*, *LnObyek*, *LnHotel*, *LnResto*} and t = {2012, …, 2023} for model C, i = {*LnTuris*, *LnObyek*, *LnHotel*, *Resto*, *Labor*} and t = {2015, …, 2022} for model D.

Further, model (1) will be estimated using the generalized least squares (GLS) method and Driscoll and Kraay standard error to make sure that the model fulfills the assumption of homoscedasticity and no autocorrelation or there is no cross-sectional dependence or contemporaneous correlation (Beylik et al., 2022). To obtain the random effect from each regency/city, model (1) will be estimated using the mixed effect model, which is estimated by the maximum likelihood method and robust standard error to make sure that the model fulfills the homoscedasticity assumption. Both models should result in a similar estimation as long as the normality assumption is fulfilled (Wooldridge, 2020).

Testing the Model Assumptions

The Normality Test

Since the models have been estimated using Driscoll and Kraays standard error, then no need to test the assumptions of homoscedasticity and no autocorrelation problem. The assumption will be fulfilled if the H_0 of this test, that is, that the error model is normally distributed, is not rejected. Table 4 shows that the error models have been normally distributed, both the overall error model (e) and the error model within the group of regencies/cities (u).

Table 4. Results of the Normality Test

Test	*p-value*			
	Model A	**Model B**	**Model C**	**Model D**
Joint test for Normality on e	0.7564	0.4545	0.1758	0.4568
Joint test for Normality on u	0.0806[c]	0.2373	0.0580[c]	0.0225[b]

Note: [a], [b], and [c] mean significant at α = 1%, 5%, and 10% respectively.

Multicollinearity Test

Table 5 reveals that there is no high correlation between the two independent variables in all models. Thus, there is no multicollinearity problem in model A–D.

Table 5. Pearson Correlation Coefficient

Model A		**Model B**		
R	***Tourist***	**R**	***Tourist***	***LnObject***
LnObject	0.4659	***LnObject***	0.4604	
		LnHotel	0.4290	0.4568

Model C			
r	***Tourist***	***LnObject***	***LnHotel***
LnObject	0.3788		
LnHotel	0.4775	0.2779	
LnRest	0.3315	0.1375	0.5167

Model D				
R	***LnTourist***	***LnObject***	***LnHotel***	***Rest***
LnObyek	0.3697			
LnHotel	0.4011	0.2144		
Rest	0.2675	0.1333	0.5144	
Labor	0.3380	0.3212	0.3428	0.0736

Note: *r* = Pearson linear correlation coefficient

RESULTS AND DISCUSSION (Capital, 12 pts, bold)

Estimation Results of the Models

Table 6 presents the estimation results of all models. The results of the Wald test show that all indicators of the tourism sector together affect the real GRDP (*LnGRDP*) and can explain its variation of about 29.58%-37.92%, so about 62.08%-70.42% of its variation is explained by other things outside the tourism sector. The contribution of the model constant, which indicates the magnitude effect of other independent variables on *LnGRDP*, that are not investigated in this research, viz. about IDR 15.2224-16.2147 million (equal to real GRDP about IDR 4.0830–11.0146 trillion), is significant.

The results of the test effect of the independent variables individually show that all of the independent variables in models A-C have a positive and significant effect. It means a rise in the number of tourism objects (number of tourism attraction objects and events), number of lodgings (number of star hotels, non-star hotels, and other accommodations), and number of restaurants will increase the real GRDP significantly. Whereas in model D, only the number of tourism objects, the number of lodgings, and the number of workers at tourism objects have a positive significant effect, but the number of tourists and the number of restaurants do not have a significant effect. It means the increase in the number of tourism objects, the number of lodgings, and the number of workers at tourism objects can increase the real GRDP significantly.

The regression coefficients in models A-C indicate that every increase in the number of tourists by 1 million has the potency to increase the real GRDP by about 2.08%-10.7%. This positive finding from number of tourists supports the findings by Anggrismono & Aviva (2023), Habsari et al. (2023), Mubarok (2022), Hakim et al. (2021), Dewi et al. (2020), Rahmayani et al. (2022), Suhel & Bashir (2018) and Wahyuni et al. (2018) but it does not support the findings by Susanto & Hutabarat

(2024), Andriyani & Salam (2022), Ayu & Destiningsih (2022), Priambodo et al. (2022), Purnomo (2022), Setiarini & Destiningsih (2022), Arifin (2021), Laut et al. (2021), and Syafii (2021).

Moreover, the regression coefficient in model A-D shows that every increase in the tourist objects by 1%, will increase the real GRDRP by about 9.45%-29.44%. The positive effect of the number of tourism objects is in line with the result of research by Susanto & Hutabarat (2024), Habsari et al. (2023), Andriyani & Salam (2022), Setiarini & Destiningsih (2022), and Syafii (2021), but not in line with the results of research by Ayu & Destiningsih (2022), Arifin (2021), Laut et al. (2021), and Dewi et al. (2020).

Table 6. The Estimation Results of Model A-D

Model	**Model A**	**Model B**	**Model C**	**Model D**
Dependent Var. / **Independent Var.**	*LnGRDP*	*LnGRDP*	*LnGRDP*	*LnGRDP*
Tourist	1.07e-07 (0.000)[a]	7.63e-08 (0.004)[a]	2.08e-08 (0.031)[b]	
LnTourist				−0.0075 (0.342)
LnObject	0.2944 (0.000)[a]	0.1810 (0.000)[a]	0.1435 (0.000)[a]	0.0945 (0.001)[a]
LnHotel		0.2764 (0.000)[a]	0.2100 (0.001)[a]	0.1313 (0.000)[a]
LnRest			0.0238 (0.057)[c]	
Rest				1.60e-05 (0.712)
Labor				2.96e-05 (0.003)[a]
Constant	15.7954 (0.000)[a]	15.2224 (0.000)[a]	15.5770 (0.000)[a]	16.2147 (0.000)[a]
σ_u	0.5294	0.5287	0.5058	0.5321
σ_e	0.1888	0.1484	0.0937	0.0632
ρ	0.8872	0.9269	0.9668	0.9861
Wald	102.79	684.44	988.77	94.40
p-value	0.0000[a]	0.0000[a]	0.0000[a]	0.0000[a]
R^2 *overall*	0.3789	0.3792	0.3522	0.2958
R^2 *within*	0.6478	0.7455	0.6572	0.5860
R^2 *between*	0.3431	0.3038	0.3400	0.3059
n (panel)	35	35	35	35
t (period)	2001-2023	2003-2023	2012-2023	2015-2022
N (sample size)	805	735	420	280

Notes: (1) model is estimated with Driskoll Kraays standard error, (2) value in the bracket is the p-value for the two-tails test, (3) [a], [b], and [c] consecutively means significant at α = 1%, 5%, and 10%, (4) σ = standard deviation, (5) ρ = fraction of variance due to u_i.

Next, the regression coefficient in model B-D refers to every rise in the number of lodgings by 1%, then it will raise the real GRDP by about 13.13%–27.64%. The positive effect of the number of lodgings is the same as the

conclusions of Anggrismono & Aviva (2023), Andriyani & Salam (2022), Ayu & Destiningsih (2022), Arifin (2021), and Syafii (2021), however, it differs from the conclusion of Susanto & Hutabarat (2024), Setiarini & Destiningsih (2022), and Dewi et al. (2020).

The regression coefficient in model C indicates that for every growth in the number of restaurants by 1%, then it will grow the real GRDPBY will grow by 2.38%. The positive effect of the number of restaurants parallels the findings by Hakim et al. (2021) and Laut et al. (2021), but it does not parallel the findings by Anggrismono & Aviva (2023), and Andriyani & Salam (2022).

Table 7. The Random Effects of Variable *Tourist*, *LnObject* and *LnHotel*

Regencies/ Cities	*Tourist*	Regencies/ Cities	*LnObject*	Regencies/ Cities	*LnHotel*
Magelang City	0.4394	Surakarta	0.8341	Kudus	2.1950
Semarang City	0.2048	Pekalongan City	0.6704	Pekalongan Reg.	2.1691
Semarang Reg.	0.1919	Klaten	0.6094	Demak	2.0572
Karanganyar	0.1372	Tegal Reg.	0.5275	Sukoharjo	1.8356
Banjarnegara	0.0914	Kendal	0.5024	Brebes	1.7620
Pemalang	0.0842	Pati	0.4739	Sragen	1.7517
Surakarta	0.0799	Kebumen	0.4603	Banjarnegara	1.6180
Jepara	0.0675	Rembang	0.4509	Jepara	1.6013
Banyumas	0.0623	Wonogiri	0.4422	Semarang City	1.5999
Pati	0.0481	Banyumas	0.3786	Grobogan	1.5531
Rembang	0.0400	Cilacap	0.3713	Boyolali	1.5462
Tegal City	0.0389	Blora	0.2158	Purworejo	1.5107
Tegal Reg.	0.0330	Purbalingga	0.1947	Wonosobo	1.3586
Grobogan	0.0128	Temanggung	0.1847	Batang	1.2640
Blora	0.0105	Brebes	0.1818	Magelang Reg.	1.1775
Purworejo	0.0015	Salatiga	0.1622	Cilacap	1.1658
Sragen	–0.0189	Karanganyar	0.1472	Purbalingga	1.1523
Kendal	–0.0240	Sukoharjo	0.1409	Pemalang	1.1154
Pekalongan City	–0.0246	Kudus	0.1364	Temanggung	0.9716
Cilacap	–0.0299	Tegal City	0.1290	Salatiga City	0.4446
Wonogiri	–0.0342	Batang	0.0993	Tegal City	0.2680
Magelang Reg.	–0.0345	Sragen	0.0919	Blora	0.1265
Wonosobo	–0.0393	Magelang City	0.0811	Kendal	0.0919
Pekalongan Reg.	–0.0399	Semarang Reg.	0.0580	Wonogiri	–0.0618
Demak	–0.0481	Boyolali	0.0250	Pati	–0.2442
Kudus	–0.0668	Magelang Reg.	–0.0234	Semarang Reg.	–0.2785
Boyolali	–0.0683	Semarang City	–0.0333	Kebumen	–0.4025
Batang	–0.0774	Pemalang	–0.0579	Rembang	–0.4124
Brebes	–0.0778	Grobogan	–0.0582	Karanganyar	–0.5057
Kebumen	–0.0905	Demak	–0.1073	Tegal Reg.	–0.5714
Temanggung	–0.1120	Wonosobo	–0.2011	Klaten	–0.7942
Purbalingga	–0.1512	Jepara	–0.2333	Magelang City	–0.9225
Klaten	–0.1560	Purworejo	–0.2531	Banyumas	–1.3506
Salatiga	–0.1873	Pekalongan Reg.	–0.3043	Pekalongan City	–1.9546
Sukoharjo	–0.2627	Banjarnegara	–0.3234	Surakarta	–3.4994

The regression coefficient in model D denotes that every enhancement of the number of workers of tourism objects by one thousand people, then it enhances the real GDRP by 2.96%. The positive effect on the number of workers in tourism objects strengthens the result of the research by Syafii (2021), but it does not strengthen the result by Arifin (2021).

Last, from model B[1] which is estimated using the mixed effect model, it can be said that the random effect of variables of *Tourist*, *LnObject*, and *LnHotel*, yet there is no random effect for the constant model. Table 7 displays the random effect of those three variables and it shows that there are some regencies/cities whose regression coefficient value (its random effect) is negative. Two cities whose regression coefficient value is positive for those three variables are Tegal City and Blora Regency.

DISCUSSION

According to Comerio & Strozzi (2019), the positive effect of the number of tourists on real GDRP can be explained in 3 ways. First, through the direct multiplier effect, that is, through the direct expenditure from tourist visits. The GRDP value can be calculated from the output (goods/services) value that is produced or from the consumption level of the economic actors. During their visits, the tourists must spend money to consume some goods/services such as the entrance ticket to the tourism object, the service of tourism ride/entertainment utilization on the tourism objects, souvenirs, foods/beverages, transportation, lodgings, and so on. Those tourist consumptions will directly increase the goods/service production in the tourism sector.

Second, through the indirect multiplier effect, viz., the expenditures by those who receive money from the tourist expenditure transaction directly. For example, the expenditure by businessmen in the tourism sector to pay for labor wages, buy raw materials and energies that are needed to produce goods/services, the cost of capital purchasing/renting, and so on. Third, through the induced multiplier effect, i.e., through the purchasing of goods and services by the receivers of the direct and indirect effects. Through those three methods, the demand increase for goods and services will stimulate production activities not only in the tourism sector but also in other sectors so which can drive the job creation. It will eventually increase the Central Java GDRP. Thus, the development of the tourism industry can be the key to increasing Central Java's GRDP.

Moreover, to understand what might make differences in the regression coefficient values (caused the random effects) among regencies/cities from the *Tourist* variable (see Table 7), we calculated the correlation between those regression coefficients and some variables based on the reliable data availability, and found that there is a positive moderate correlation between the regression coefficient (the random effect) of *Tourist* variable with the average number of lodgings (0.42) during the period of 2003-2023 (the period of Model B). It means regencies/cities that have more lodgings, its increase on the number of tourists tends to be able to increase higher real GRDP.

[1] Model C could not estimate the random effects because convergence was not achieved during the estimation process of the mixed effect model, whereas Model D did not estimate the random effects because it represents the model with the shortest time period.

The regression coefficients of the *Tourist* variable also have a moderate positive correlation (0.43) with the average number of lodging workers during the period of 2007-2015. It means regencies/cities that have more workers in the lodgings, their rise in the number of tourists tends to be able to raise higher real GDP. It supports the interpretation that has been mentioned before, that the number of tourists can influence the real GRDP higher through their expenditure for lodging service (direct multiplier effect) and the expenditure from workers in the lodging (indirect multiplier effect).

Because the number of tourists is proven to significantly affect the real GRDP, then to attract the attention of potential tourists to be willing to visit, the government can apply the sustainability tourism concept (British Council, 2015; Kemenparekraf, 2021c) by coordinating with the tourism businessmen in its region to make a tourism activity, such as a festival or other events by digging the local culture to demonstrate the uniqueness of the local area. For example, gastronomy tourism, tourism based on art and culture exhibitions, and so forth, and then help to promote those activities, not only in the domestic area but up to abroad. The distribution of information and exposure about those events can encourage people to visit.

To bolster the convenience for foreign tourists who want to visit Central Java, the policy about the optimization of tourist relaxation, which was released on October 3, 2022, such as through the assessment of regulation improvement related to visas (Bank Indonesia, 2022), can still be continued and developed. The visa program for tourist relaxation, such as the availability of Molina (Foreigners Traffic Module) which allows foreigners to apply for visas without the need for a guarantor (Menpan, 2023), the policy of a five-year multiple-entry visa is to make it easier for foreigners with business and tourism purposes (Kemenkumham, 2023), the extension of the visa on arrival in the Borobudur Temple (E. Susanto, 2023), pick up the ball of visa extension for foreigners at the Wonosobo immigration office (Wiedyas, 2023) and the government plan to give a free visa to 20 countries (Prakoso, 2023b). The government must find a solution for the constraint of applying for free visas for 20 countries, that is, there is no direct flight to Semarang and Solo (Prakoso, 2023a).

The Central Java government and the governments of regencies/cities in Central Java also need to seriously realize inclusive tourism (Lantara, 2023) not only for people with disabilities but also to open a market for people with disabilities group. Therefore, the government should ensure the availability of facilities for the disabled in various businesses in the tourism industry.

Furthermore, the positive significant influence of the number of tourism objects on the real GRDP shows that although the positive correlation between the number of tourism objects and the number of tourists is not high enough (see Table 5), the increase in number of tourism objects seems to be able to increase quite enough number of tourists. It will enhance the income of businessmen in the tourism sector through the selling of entrance tickets to the tourism object, the tariff of using rides in the tourism object, souvenirs, parking tariffs, toilet utilization, and tourist expenditures for transportation, foods, beverages, lodgings, and so on. The high demand for goods/services in the tourism sector will also push the demand of other sectors which provide inputs for the tourism sector. For example, the demand for agriculture products or processing industry by hotels and restaurants. The high

production of goods/services in the tourism sector will also increase the demand for other sectors that need inputs from the tourism sector. For example, the demand for money exchange services by foreigners, the demand for internet quota or transportation services by tourists, and so forth. Therefore, the advances in the tourism sector will also attract or encourage the progress of other economic sectors.

To understand what might cause differences in the regression coefficient value (make the random effect) among regencies/cities from the *LnObject* variable (see Table 7), we count the correlation between the regression coefficient values with some available data that is reliable and found that there is a quite strong negative correlation (-0.45) between regression coefficient (the random effect) of *LnObject* variable with the average number of processing industries during the period of 2019-2022. It means regencies/cities that have fewer processing industries tend to show that an increase in the number of tourism objects can increase a higher real GRDP. It indicates that regencies/cities that have many processing industries tend to have more tourism attractions to strengthen their economies.

The positive significant effect of the number of tourism objects on real GRDP shows that tourism objects in Central Java can attract tourists to visit. To increase the potency of tourist attractions in Central Java, the government can do several things, such as diversification of the available tourist attraction objects, such as creating festivals or events related to the tourism area, to give various experiences for the visitors. In other words, it can be promoting tools to drive more tourists to come.

The program of the Ministry of Tourism and Creative Economy to develop Borobudur Temple, which is one of the five Super Priority Tourism Destinations (Kemenparekraf, 2024), has to be utilized by the Central Java Tourism Office by making promotion not only for Borobudur Temple but also to make Borobudur Temple visitors want to visit other tourism objects. The local Tourism Office must also ensure good supervision of the supporting facilities of tourism objects, such as clean toilet facilities, Islamic prayer rooms, lodgings, and restaurants. The Tourism Office also needs to well coordinate with the Transportation Office to guarantee the easiness transportation to the tourist areas and the Public Works Office to ensure the fluency of road access, etc. so that tourists will get a good experience during their visit and finally, it will encourage other tourists to visit through mouth-to-mouth promotion.

Lodging is not always located in a tourist attraction. Nonetheless, it is usually located around a tourist attraction. The lodging is often used by tourists to stay longer to enjoy the tourist attractions offered by the local area. The positive significant impact of the number of lodgings on the real GDRP happens through the direct and indirect effects. The direct effects happen through tourist expenditures to enjoy the main product of lodging service, viz., room, restaurant, laundry service, and so on.

The lodging can influence the real GRDP through the indirect effect too. The lodging service usually also offers a spa service, fitness center, swimming pool, restaurant, meeting, and exhibition room which can be enjoyed by non-tourist consumers. Thus, the lodging service is related to other sectors, such as the agricultural sector to provide raw materials for foods; processing industries that supply processed foods/beverages, towels, slippers, bath equipment (soap and

shampoo), and so forth; the transportation sector to provide transportation service for the lodging guests.

The lodging in an area is often used for events such as marriages or exhibitions, for a place to stay for an athlete contingent or a delegation from other areas when there is a sports competition, a meeting, or a conference in that area, etc. The surge of guests who spend a night in the hotel when there are certain events usually also drives the increase in the number of tourist visits to tourism objects, restaurants, or souvenir centers around the lodging.

To understand what might make differences in the regression coefficient values (make random effect) among regencies/cities from the *LnHotel* variable (see Table 7), we also compute the correlation between the regression coefficient values and some variables based on the data availability that is reliable and discovered that there is a quite strong negative correlation (-0.50) between the regression coefficient (random effect) of *LnHotel* variable and the average number of restaurants from 2012 to 2023. It means regencies/cities that have more restaurants, their increase in the number of lodgings tends to increase real GRDP in smaller amounts. The lodging, especially the hotel type, usually has a restaurant that can also be accessed by those other than hotel guests. Hence, if in a regency/city, there are many restaurants, there is a possibility that in that regency/city, there are many lodgings so an increase in lodgings such as hotels, which also means an increase in the number of restaurants, will make the lodging business competition, including restaurant service, becomes tighter. If it is not compensated by consumer demand in a significant amount, then it might have an impact on the smaller effect of the number of lodgings on the real GRDP.

Besides that, we found a quite strong negative correlation (-0,43) between the regression coefficient (random effect) of the *LnHotel* variable with the average number of workers at the lodge from 2007 to 2015. It means a regency/city which have more workers at the lodges, its rise in the number of lodgings tends to increase the real GRDP in a smaller value. A regency/city that has many workers at the lodging indicates that the regency/city has many lodgings. Therefore, if there is a rise in the number of lodgings, then the competition for lodging services becomes harder. It might have an impact on the lower effect of an increase in the number of lodgings on the real GRDP.

Since the number of lodgings has a significant positive influence on the real GDRP, then the government needs to reinforce the business chain in the lodging industry, that is, sectors that become a supplier of raw materials to produce and a consumer of the output of lodging service. For instance, the agricultural sector (agriculture, plantation, farming, fishing), the transportation sector, restaurants, gift shops, entertainment services like recreation gardens, etc. The government must ensure that if there is an increase in the number of lodgings, then the supporting sectors must be ready with additional supply, and sectors that get benefits from the staying guests also must be ready to accept additional demand, because excess demand (shortage of supply) can trigger a price spike.

Despite the number of lodgings having a positive significant effect on the real GRDP, the local government also has to be careful in permitting lodging business, that is so that an increase in the number of lodgings does not disturb the stock of underground water which is needed not only by the lodging industry but also by the society in the neighborhood. The uncontrolled growth of lodging can create a

conflict between the lodging industry and society like the case that happened in Yogyakarta (Tempo, 2022).

Next, the positive significant effect of restaurants on the real GDRP can be explained as follows. A restaurant is one of the food and beverage providers. Restaurants are not always located in the tourism sites, but usually around the tourism sites, where there are many restaurants. Restaurants in the tourism sector become a place where economic transaction happens through tourist expenditure in the form of food/drink consumption. Restaurants that are not in the tourism objects also often become places where tourists look for typical food while satisfying their basic needs (eating).

The low correlation between the number of restaurants and the number of tourists (see Table 5) indicates that a greater number of tourists does not promote a great increase in the number of restaurants, but it might increase the sales transactions of food/drink in the restaurants. Restaurants can also affect the real GDRP not only by selling their food to tourists but also to non-tourist consumers.

Restaurants are related to other sectors. Restaurants are consumers of the agricultural sector and food/beverage processing industry because they need inputs from outputs produced by those sectors. That is why the productivity of restaurants will also push the productivity of their supplier sectors. Moreover, the revenue obtained by restaurant owners, which later is distributed to their employees, will be used to fulfill their living needs. Thus, with an increase in the number of restaurants, assuming that their business is doing well, there will be an increase in the outputs of other sectors that are consumed by the restaurant owners and their workers.

To drive consumers to spend more money in the restaurants, the owners, especially those who develop typical/unique foods in that area, can use promoting media to highlight the food so that the visitors know about that food and during their visit, they do not only have the desire to try it but also to encourage them to buy more. They can use promotional media such as social media, YouTube, or hire influencers to promote their local food. The government can help restaurant owners by setting up training on how to create good promotional content on social media.

Besides that, giving appreciation in the form of an award to a restaurant that succeeds in presenting certain unique features can also become a way for the chosen restaurant to be known by more people. For example, Cimory Restaurant in Bergas, Lohansung Restaurant by Griya Yodesia in Bergas, and Over O Resto in West Ungaran achieved the Adhikrisna Tourism award for the best restaurant category in 2023 (Pemprov Jateng, 2023) in which one of the winning criteria is a restaurant which pays tax regularly with the best service. The publication on the awarding to restaurants can help in encouraging the audience to travel and eat in those restaurants.

The positive influence of the number of workers at the tourism objects on the real GRDP shows the existence of traditional neo-classical growth theory, which states that output growth is always sourced from three factors, of which two of are the quality and quantity of labor (Todaro & Smith, 2020). It indicates that workers at the tourism objects can be said to be productive and get high remuneration, which later can be used for their household consumption, where those workers become members, so that it can contribute to a rise in the real GRDP. The government can increase the labor productivity in the tourism sector by increasing their quality, for instance, by facilitating training or a workshop about

the etiquette in the tourism service, knowledge about local history/culture, and the language and communication skills with the tourists, including foreign tourists.

CONCLUSION

This research aims to know how the effect of the number of tourists (domestic and foreign), number of tourism objects, number of lodgings (star hotels, non-star hotels, and other accommodations), number of restaurants, and number of workers at the tourism objects on the Central Java GDRP. The results of this research exhibit that (1) the number of tourists, (2) the number of tourism objects, (3) the number of lodgings, (4) the number of restaurants, and (5) the number of workers at the tourism objects, each has a positive significant effect on the real GRDP.

In addition to those conclusions, the research also provides additional information. First, in regencies/cities where labor absorption at the lodging is high, a rise in the number of tourists tends to be able to increase greater real GDRP which is caused by direct and indirect multiplier effects. Second, in regencies/cities that do not have many processing industries, the increase in the number of tourism objects tends to increase more real GRDP because it drives the development of the tourism sector to strengthen its economy. Third, in regencies/cities that have more restaurants, an enhancement of the number of lodgings will increase the real GDRP by a smaller amount. Third, in regencies/cities that have more restaurants, an increase in the number of lodgings will increase the real GDRP in lower value. Fourth, in regencies/cities that have higher labor working at the lodgings, a rise in the number of lodgings will also raise fewer real GDRP. That is because there have been many lodgings in that regency/city, probably so an increase in the number of lodgings will tighten the competition in lodging service.

Lodgings, in particular hotels, usually have a restaurant that can also be accessed by those other than hotel guests. Thus, if there are already many restaurants in a regency/city, then the additional lodgings, such as hotels, which also means additional restaurants, will make business restaurant competition harder. If it is not compensated with quite significant consumer demand, then it might also influence the low increase effect of the number of lodgings on the increase of real GDRP.

Because it is evident that the number of tourists has a positive significant effect on the real GRDP, then the government of Central Java province and the government of regencies/cities in Central Java must innovatively and creatively apply the sustainability tourism concept to lift the local culture and wisdom, such as in the form of gastronomy tourism or tourism based on local art and culture. Besides that, the government can also apply the inclusive tourism concept to widen the market from the group of disabled people, by making sure of the availability of facilities for those with disabilities in the tourism industry. To ease the foreign tourists' visit to Central Java, some breakthroughs in the visa application process also have to be developed.

Since the number of tourism objects has a positive significance on the real GRDP, then the government of Central Java province and especially the government of regencies/cities in Central Java which its processing industry less strength, need to push efforts to develop potential tourism objects so that it becomes worthy as a tourism visit object and to develop artificial tourism objects which can attract tourists’ interest to visit.

Further, because the number of lodgings has a significant positive effect on the real GRDP, the local government needs to ensure the readiness of industries that become suppliers and consumers of the lodging service when there is an increase in the number of lodgings. Besides that, the government also has to make sure that the growth of the number of lodgings does not cause a conflict between the need for clean water from underground, between the lodging service and the society's surroundings.

Since the number of restaurants has a significant positive effect on the real GRDP, the government of Central Java province and especially the government of regencies/cities can encourage tourists to spend more at the restaurants. It can be done through policies that manage the accessibility to the tourism areas, human resources management, and the utilization of digital technology to promote local tourism icons. Since the number of workers at the tourism objects has a significant positive effect on the real GDRP, the local government has to make some efforts to increase the productivity of workers who are working at the tourism object right now. Finally, because tourism variables in this research can only explain the variation of real GRDP by about 30%, researchers in future research can include other variables, adding variables from outside the tourism sector, into the regression model.

REFERENCES

Aji, H. N. (2021). *Analisis Pengaruh Sektor Pariwisata terhadap Produk Domestik Regional Bruto di Provinsi Jawa Tengah Tahun 2015-2020* [Universitas Islam Indonesia]. https://dspace.uii.ac.id/bitstream/handle/123456789/36619/17313042.pdf?sequence=1

Andriyani, N., & Salam, A. N. (2022). Analisis Pengaruh Industri Pariwisata terhadap PDRB Jawa Tengah Era Pandemi Covid-19. *Journal of Economics Research and Policy Studies*, *2*(1), 1–9. https://doi.org/10.53088/jerps.v2i1.376

Anggraeni, G. N. (2017). The Relationship Between Numbers of International Tourist Arrivals and Economic Growth in the ASEAN-8: Panel Data Approach. *Journal of Developing Economies*, *2*(1), 38–46. https://doi.org/10.20473/jde.v2i1.5118

Anggrismono, & Aviva, L. A. M. (2023). Dampak Sektor Pariwisata terhadap Pendapatan Asli Daerah Kabupaten/Kota di Jawa Tengah. *Jurnal Ekonomi Pembangunan*, *9*(1), 83–93. https://doi.org/10.35906/jep.v9i1.1437

Antara, M., & Sumarniasih, M. S. (2017). Role of Tourism in Economy of Bali and Indonesia. *Journal of Tourism and Hospitality Management* , *5*(2), 34–44. https://doi.org/10.15640/jthm.v5n2a4

Arifin, A. (2021). The Contribution of Tourism to Economic Growth: The Case of Central Java, Indonesia. *International Sustainable Competitiveness Advantage*. http://www.jp.feb.unsoed.ac.id/index.php/sca-1/article/view/2783

Ayu, K. M., & Destiningsih, R. (2022). Analisis Pengaruh Sektor Pariwisata terhadap Pertumbuhan Ekonomi di Provinsi Jawa Tengah. *Prima Ekonomika*, *13*(1), 1–16. https://doi.org/10.37330/prima.v13i1.117

Bank Indonesia. (2022, October 4). *Sepuluh Langkah Strategis Mempercepat Pemulihan dan Penguatan Pariwisata Nasional*. Bi.Go.Id. https://www.bi.go.id/id/publikasi/ruang-media/news-release/Pages/sp_2426322.aspx

Beylik, U., Cirakli, U., Cetin, M., Ecevit, E., & Senol, O. (2022). The Relationship between Health Expenditure Indicators and Economic Growth in OECD Countries: A Driscoll-Kraay Approach. *Frontiers in Public Healt*, *10*, 1–12. https://doi.org/10.3389/fpubh.2022.1050550

BPS. (2022). *Statistik Objek Daya Tarik Wisata 2020*. https://www.bps.go.id/id/publication/2022/06/13/74d583d2e42b165713b1c193/statistik-objek-daya-tarik-wisata-2020.html

BPS. (2023). *Statistik Obyek Daya Tarik Wisata 2022*. https://www.bps.go.id/id/publication/2023/12/22/df2bb63bb334eb21f3e2bc6f/statistik-obyek-daya-tarik-wisata-2022.html

BPS Jateng. (2012). *Jawa Tengah Dalam Angka 2012*. https://jateng.bps.go.id/publication/2012/11/20/13398709358e0f0753bf5c23/jawa-tengah-dalam-angka-2012.html

BPS Jateng. (2013). *Jawa Tengah dalam Angka 2013*. https://jateng.bps.go.id/publication/2013/08/20/948e3567a2c1aaf49e841c82/jawa-tengah-dalam-angka-2013.html

BPS Jateng. (2021a). *Dampak Pariwisata Terhadap Perekonomian Provinsi Jawa Tengah 2020*. https://jateng.bps.go.id/publication/2021/12/29/0c02c7608a6c1e22b3b7cb4d/dampak-pariwisata-terhadap-perekonomian-provinsi-jawa-tengah-2020.html

BPS Jateng. (2021b). *Provinsi Jawa Tengah dalam Angka 2021*. https://jateng.bps.go.id/publication/2021/02/26/c5709cd0419788a55827d58f/provinsi-jawa-tengah-dalam-angka-2021.html

BPS Jateng. (2022). *Dampak Pariwisata Terhadap Perekonomian Provinsi Jawa Tengah 2021*. https://jateng.bps.go.id/publication/2022/09/05/e9e85b12bb5b08b8079be6d2/kajian-dampak-pariwisata-terhadap-perekonomian-provinsi-jawa-tengah-2021.html

BPS Jateng. (2023). *Kajian Dampak Pariwisata Terhadap Perekonomian Jawa Tengah 2022*. https://jateng.bps.go.id/publication/2023/11/13/961959fb9a21c3f38fb88bed/kajian-dampak-pariwisata-terhadap-perekonomian-jawa-tengah-2022-.html

BPS Jateng. (2024). *Badan Pusat Statistik Provinsi Jawa Tengah*. BPS Jateng. https://jateng.bps.go.id/

Brida, J. G., Gomez, D. M., & Segarra, V. (2020). On the Empirical Relationship Between Tourism and Economic Growth. *Tourism Management*, *81*(104131), 1–11. https://doi.org/10.1016/j.tourman.2020.104131

British Council. (2015, May 6). *Program Pariwisata Berkelanjutan Mandiri Bersama Mandiri*. British Council. https://www.britishcouncil.id/program/kemasyarakatan/kewirausahaan-sosial/mandiri-pariwisata-keberlanjutan

Comerio, N., & Strozzi, F. (2019). Tourism and Its Economic Impact: A Literature Review Using Bibliometric Tools. *Tourism Economics*, *25*(1). https://doi.org/10.1177/1354816618793762

Dewi, D. L., Indrawati, L. R., & Septiani, Y. (2020). Analisis Pengaruh Jumlah Kunjungan Wisatawan, Jumlah Objek Wisata, Jumlah Hotel, dan Jumlah Penduduk terhadap Pendapatan Asli Daerah (PAD) di Provinsi Jawa Tengah Tahun 2014-2018. *DINAMIC: Directory Journal of Economic*, *2*(3), 646–658. https://jom.untidar.ac.id/index.php/dinamic/article/view/1415

Disporapar Jateng. (2024). *STATISTIK*. Disporapar.Jatengprov.Go.Id. https://disporapar.jatengprov.go.id/content/ppid/438/STATISTIK

Enzenbacher, D. J. (2020). Exploring The Food Tourism Landscape and Sustainable Economic Development Goals in Dhofar Governorate, Oman: Maximizing Stakeholder Benefits in The Destination. *British Food Journal*, *122*(6), 1897–1918. https://doi.org/10.1108/BFJ-09-2018-0613

Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). SAGE Publication.

Habsari, H. N., Gravitiani, E., & Hutabarat, D. E. M. (2023). Analysis of the Tourism Sector Contribution to The Improvement Economic Growth in Central Java. *Journal of Applied Economics in Developing Countries*, *8*(2), 95–104. https://jurnal.uns.ac.id/jaedc/article/view/79835/42383

Hakim, M. A. A., Suryantoro, A., & Rahardjo, M. (2021). Analysis of the Influence of Tourism Growth on Economic Growth and Human Development Index in West Java Province 2012-2018. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *4*(1), 160–169. https://doi.org/10.33258/birci.v4i1.1561

Hanun, N. (2021, November 17). *Penggunaan "Wonderful Indonesia" Sebagai Instrumen Multitrack Diplomacy Indonesia Guna Meningkatkan Sektor Pariwisata*. TFR. https://tfr.news/opinionarticles/2021/11/12/penggunaan-wonderful-indonesia-sebagai-instrumen-multitrack-diplomacy-indonesia-guna-meningkatkan-sektor-pariwisata

Hariyani, H. F. (2018). Tourism Sector Performance on Indonesia's Economic Growth. *Jurnal Ekonomi Pembangunan*, *16*(1), 45–56. https://doi.org/10.22219/jep.v16i1.8184

Kemenkumham. (2023, December 27). *Ditjen Imigrasi Keluarkan Kebijakan Visa Multiple Entry 5 Tahun untuk Tujuan Bisnis dan Wisata*. Https://Kanimsemarang.Kemenkumham.Go.Id/. https://kanimsemarang.kemenkumham.go.id/archives/71651

Kemenparekraf. (2021a, September 29). *7 Desa Wisata yang Mengusung Konsep Sustainable Tourism*. Kemenparekraf.Go.Id. https://www.kemenparekraf.go.id/ragam-pariwisata/7-Desa-Wisata-yang-Mengusung-Konsep-Sustainable-Tourism

Kemenparekraf. (2021b, November 12). *Destinasi Wisata Berbasis Sustainable Tourism di Indonesia*. Kemenparekraf.Go.Id. https://kemenparekraf.go.id/ragam-pariwisata/Destinasi-Wisata-Berbasis-Sustainable-Tourism-di-Indonesia

Kemenparekraf. (2021c, November 12). *Destinasi Wisata Berbasis Sustainable Tourism di Indonesia*. Kemenparekraf.Go.Id.

https://kemenparekraf.go.id/ragam-pariwisata/Destinasi-Wisata-Berbasis-Sustainable-Tourism-di-Indonesia

Kemenparekraf. (2023a, July 11). *Mengenal Lebih Jauh Tentang Gastronomi Kuliner Indonesia*. Kemenparekraf.Go.Id. https://kemenparekraf.go.id/industri-parekraf/mengenal-lebih-jauh-tentang-gastronomi-kuliner-indonesia

Kemenparekraf. (2023b, December 12). *Kemenparekraf Terima Buku Panduan Pengembangan Destinasi Gastronomi dari UNWTO*. Kemenparekraf.Go.Id. https://kemenparekraf.go.id/berita/siaran-pers-kemenparekraf-terima-buku-panduan-pengembangan-destinasi-gastronomi-dari-unwto

Kemenparekraf. (2024). *5 Destinasi Super Prioritas Indonesia*. Kemenparekraf.Go.Id. https://info5dsp.kemenparekraf.go.id/

Lantara, F. (2023, February 22). Menparekraf Mendorong Kembangkan Pariwisata Inklusif dan Berkelanjutan. *Antara*. https://www.antaranews.com/berita/3408075/menparekraf-mendorong-kembangkan-pariwisata-inklusif-dan-berkelanjutan

Laut, L. T., Sugiharti, Rr. R., & Lukir, P. J. (2021). Does Tourism Sector Matter in Regional Economic Development. *GeoJournal of Tourism and Geosites*, *37*(3), 832–837. https://doi.org/10.30892/gtg.37313-715

Mahadevan, R., Amir, H., & Nugroho, A. (2016). Regional Impacts of Tourism-led Growth on Poverty and Income: Inequality: A Dynamic General Equilibrium Analysis for Indonesia. *Tourism Economics, The Business and Finance of Tourism and Recreation*, 1–18. https://doi.org/10.5367/te.2015.0534

Menpan. (2023, March 14). *Begini Prosedur dan Syarat Penggunaan Visa Kunjungan Wisata dari Website Molina Imigrasi*. Sippn.Menpan.Go.Id. https://sippn.menpan.go.id/berita/43943/kantor-imigrasi-kelas-i-tpi-yogyakarta/begini-prosedur-dan-syarat-penggunaan-visa-kunjungan-wisata-dari-website-molina-imigrasi

Mubarok, M. S. (2022). The Effect of Tourist Visits and Investment on Economic Growth. *Efficient: Indonesian Journal of Development Economics*, *5*(3), 295–308. https://doi.org/10.15294/efficient.v5i3.51242

Mustofa, M. A. (2022, February 7). Analysis of the Influence of Islamic Philanthropy, Education and Eco-Tourism on GRDP in Central Java Period 2017 -2019 . *5th International Conference of Zakat (ICONZ) Proceedings*. https://doi.org/https://doi.org/10.37706/iconz.2021.256

Nancy, Y. (2023, September 1). Pengertian Industri Pariwisata dan Ruang Lingkupnya. *Tirto*. https://tirto.id/pengertian-industri-pariwisata-dan-ruang-lingkupnya-gPzv

Nilam, A. (2020). Analisis Peranan Sektor Pariwisata di Jawa Tengah (Pendekatan Input-Output). *Jurnal GeoEkonomi*, *11*(2), 202–212. https://doi.org/10.36277/geoekonomi.v11i2.121

Pemprov Jateng. (2023, November 9). *Enam Hotel Terbaik Terima Penghargaan Adhikarya Pariwisata*. Jatengprov.Go.Id. https://jatengprov.go.id/beritadaerah/enam-hotel-terbaik-terima-penghargaan-adhikarya-pariwisata/

Prakoso, W. (2023a, December 20). Bebas Visa 20 Negara Jadi Peluang Jateng, Namun Tak Ada Penerbangan Langsung. *Solopos.Com*. https://soloraya.solopos.com/bebas-visa-20-negara-jadi-peluang-jateng-namun-tak-ada-penerbangan-langsung-1824274

Prakoso, W. (2023b, December 20). Presiden Jokowi Rencanakan Bebas Visa 20 Negara, Jateng Tangkap Peluang Wisata. *Solopos.Com*. https://soloraya.solopos.com/presiden-jokowi-rencanakan-bebas-visa-20-negara-jateng-tangkap-peluang-wisata-1824214

Priambodo, A. (2015). Analisis Pengaruh Pendapatan Asli Daerah, Belanja Modal, Tenaga Kerja Terhadap Pertumbuhan Ekonomi. *Economics Development Analysis Journal*, *4*(1), 1–9. https://doi.org/10.15294/edaj.v4i1.14795

Priambodo, A., Savina, H. A., Ma'ruf, A. A., & Anshori, F. Al. (2022). Tourism and Human Development Index Impact on Gross Regional Domestic Product. *Perwira International Journal of Economics & Business*, *2*(1), 30–40. https://doi.org/10.54199/pijeb.v2i1.130

Purnomo, S. D. (2022). The Effect of Tourism on Economic Growth: Empirical Study in Eastern Indonesia. *E-Jurnal Ekonomi Dan Bisnis Universitas Udayana*, *11*(8), 959–968. https://doi.org/10.24843/EEB.2022.v11.i08

Rahmayani, D., Oktavilia, S., Suseno, D. A., Isnaini, E. L., & Supriyadi, A. (2022). Tourism Development and Economic Growth: An Empirical Investigation for Indonesia. *Economics Development Analysis Journal*, *11*(1), 1–11. https://doi.org/10.15294/edaj.v11i1.50009

Raifu, I. A., & Afolabi, J. A. (2024). Revisiting the Tourism-Led-Growth Hypothesis: Fresh Evidence From the World's Top Ten Tourist Destinations. *Asian Economics Letters*, *5*(1), 1–5. https://doi.org/10.46557/001c.91077

Setiarini, N., & Destiningsih, R. (2022). Analysis of Central Java Tourism Retribution in 2015-2019. *Marginal, Journal of Management, Accounting, General Finance and International Economic Issues*, *1*(2), 93–107. https://doi.org/10.55047/marginal.v1i2.138

StataCorp. (2023). *Stata Longitudinal-Data/Panel-Data Reference Manual Release 18*. Stata Press. https://www.stata.com/manuals/xt.pdf

Subanti, S., Mulyanto, Kurdi, N. A., & Hakim, A. R. (2016). The Economic Impact of Tourism Sector in Central Java Province : An Analysis of Social Accounting Matrix. *AIP Conference Proceedings of CONFAST 2016*, *1746*(1). https://doi.org/10.1063/1.4953978

Suhel, & Bashir, A. (2018). The Role of Tourism Toward Economic Growth in The Local Economy. *Economic Journal of Emerging Markets*, *10*(1), 32–39. https://doi.org/10.20885/ejem.vol10.iss1.art4

Susanto, E. (2023, July 26). Turis Asing Sekarang Bisa Perpanjang Visa on Arrival di Borobudur. *Detik.Com*. https://www.detik.com/jateng/wisata/d-6843146/turis-asing-kini-bisa-perpanjang-visa-on-arrival-di-candi-borobudur

Susanto, L. S. M. A., & Hutabarat, R. E. (2024). The Impact of The Tourism Sector and Original Regional Income on Gross Regional Domestic Product in East Java 1993-2022. *EKOMA : Jurnal Ekonomi, Manajemen, Akuntansi* , *3*(4), 1073–1080. https://doi.org/10.56799/ekoma.v3i4.3438

Syafii, I. (2021). *Pengaruh Sektor Pariwisa terhadap Pertumbuhan Ekonomi Daerah Provinsi Jawa Tengah Tahun 2016-2020* [Universitas Islam Negeri Sunan Kalijaga Yogyakarta]. https://digilib.uin-suka.ac.id/id/eprint/46981/1/19208010051_BAB-I_IV-atau-V_DAFTAR-PUSTAKA.pdf

Tempo. (2022, October 13). Konflik Air antara Warga dan Hotel di Yogyakarta. *Koran.Tempo.Co*. https://koran.tempo.co/read/metro/477172/konflik-air-tanah-antara-warga-dan-hotel-di-yogyakarta

Todaro, M. P., & Smith, S. C. (2020). *Economic Development* (Thirteenth). Pearson Education Limited.

UNWTO. (2024a, May 21). *Gastronomy*. UN Tourism. https://www.unwto.org/gastronomy

UNWTO. (2024b, May 21). *Glossary of Tourism Terms*. UN Tourism. https://www.unwto.org/glossary-tourism-terms

Wahyuni, E. T., Susilo, & Muljaningsih, S. (2018). Regional Economics: How does Tourism Influence Regional Revenue of Malang Raya? *Journal of Indonesian Tourism and Development Studies*, *6*(2), 93–102. https://doi.org/10.21776/ub.jitode.2018.006.02.04

Wiedyas. (2023, July 26). *Kantor Imigrasi Wonosobo "Jemput Bola" Perpanjangan Visa Wisman*. Rri.Co.Id. https://www.rri.co.id/semarang/daerah/298178/kantor-imigrasi-wonosobo-jemput-bola-perpanjangan-visa-wisman

Wooldridge, J. M. (2020). *Introductory Econometrics, A Modern Approach* (7th ed.). Cengage.

WTTC. (2022, July 4). *More Than Five Million New Travel & Tourism Jobs to Be Created in Indonesia Within the Next Decade*. WTTC. https://wttc.org/news-article/more-than-five-million-new-travel-and-tourism-jobs-to-be-created-in-indonesia-within-the-next-decade

Yusroni, N., & Chadhiq, U. (2021). Analysis of The Effect of The Tourism Sector on The Establishment of Multiplier Output and Multiplier Income During The Covid-19 Pandemic in Central Java. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, *5*(4), 580–585. https://jurnal.stie-aas.ac.id/index.php/IJEBAR/article/view/4095