Factors Affecting the Tourism Industry and Their Impact on Unemployment, Small and Medium Enterprises, Poverty, and the Human Development Index

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Abstract

The tourism industry is one of the main supporting factors for the economy in Indonesia. The purpose of this study is to analyze and examine the factors that influence the tourism industry and their impact on unemployment, Small and Medium Enterprises, Poverty, and Human Development Index. The research method used an explanatory research study, which aims to test hypotheses about the relationship between variables with ordinary least square, multiple and simple linear regression, statistical descriptive analysis, and classical assumption test. Data processing that used is secondary data, 2005 to 2020 (quarterly), using econometrics Eviews application, 10 version. The results of this study found that foreign tourist visits, rupiah exchange rate, infrastructure, inflation, and tourist destinations had a significant simultaneous effect to the tourism industry. Partially, negative and significant effects on the rupiah exchange rate, and inflation. The tourism industry has negative and significant effect on unemployment and poverty. Furthermore, Small and Medium Enterprises and the Human Development Index has positive and significant effect to tourism industry.

I. Introduction

The tourism industry is one of the main supporting factors for the economy in Indonesia. During the Covid-19 pandemic, the number of foreign tourists visiting Jakarta reached 2.6 million people, or decreased up to 30,1 percent from foreign tourist visits in the first quarter of 2019. Compared to the previous quarter, on 2020 decreased by 34 percent (Bappenas, 2020). The percentage of foreign tourists visiting Jakarta from year to year has increased from 2016, 2017, 2018. However, there are some decreasement in 2019. There are several problems that are being faced and need to be followed up, such as foreign tourist visits (tourists) are still not optimal, the achievement of small businesses has not been maximized, there are still limitation on tourist destinations, lack of infrastructure in terms of quality and quantity, fluctuation of inflation, the rupiah exchange rate fluctuates, the growth / decline of the tourism industry is not optimal, the poverty rate is still high, between the comparison of Jakarta and Indonesia, and also the unemployment rate is still high in Jakarta. When visiting Jakarta, foreign tourists prefer go to museums and the old city as destinations. Some tourist attractions that all travelers like Beautiful Indonesia Miniature Park. One stop destination, that cover completely, historical knowledge, games,

culinary, pubs, culture, religious tourism, historical building and many more. The World Economic Forum (WEF) issues indicators for assessing the performance of the tourism sector of each country or called the Travel and Tourism Competitiveness Index (TTIC). The TTIC index measures how the policies implemented by a country support equitable development and the sustainability of travel & tourism (T&T). To maintain the economy, efforts can be made through the tourism sector which sells Indonesian culture, cultural heritage, nature tourism, museums, the historical places, and the arts. Technological advances have made a lot of aspect in this world easier to find tourism information, through electronics and the internet (Mulyana, 2012), surfing on social media as determine tourist destinations (Nurjanah, 2018 p. 67). Social media can be used as a technological mediator in the creation and diffusion of tourist destination images (Latorre & Martínez, 2014 p. 71). According to the United Nations World Tourism Organization (UNWTO), the tourism sector plays an important role in contributing 19% of the total GDP. The tourism industry is caused by foreign tourist visits and many choices of tourist objects. The tourism sector will be aligned with other sectors in an effort to increase state income. Thus, tourism can be called the tourism industry sector (Kristin & Salam, 2019). This finding support Tourism is an industrial sector which is currently got a lot of attention from many countries in the world (Nasution, 2021). The tourism sector has become one of the leading sectors in various countries in the world, including Indonesia as one of the prima donna for foreign exchange earners (Hakim, 2021). Tourism is an industrial sector which is currently got a lot of attention from many countries in the world (Sinulingga, 2021). Furthermore, on 2017, unemployment at the Indonesian national level was still higher than in DKI Jakarta at 12.34%. The tourism industry is a collaboration of tourist destinations or attractions, infrastructure for local tourist visits, hotels and restaurants. The tourism industry has the most opportunity to absorb labor in handling unemployment. The high level of unemployment rate in Jakarta is one of the most crucial thing that need to be tackled. All of that problems contribute to increasing local revenue, taxes and levies. Industry and capabilties of generating large enough for the country, the largest foreign exchange earner, increasing regional income and employment, and overcoming poverty. The tourism industry helps encourage the process of protecting the physical environment and society. Therefore, the factors that influence the tourism industry and optimal collaboration must be synergized in tourism development.

In the field of tourism there are several previous studies have founded that there are a significant impact of tourism industry to unemployment, small and medium enterprises, poverty, and the human development index. To better understand the factors of tourism industry and the impact of unemployment, small and medium enterprises, poverty, and the human development index, some of the past empirical studies are presented in Table 1.

Table 1. Related Literature and Its Summary

Author(s)	Title	Methodology	Result
Nanthakumar, et al. (2019)	The Effects Of Exchange Rate, Price Competitiveness Indices And Taxation On International Tourism Demand In Malaysia	Bootstrap quantile regression model	The empirical results show that sales tax has a negative relationship with international inbound tourism demand, mainly at the middle quantile stages.

Raheema and Ajideb (2020)	The Journey towards Dollarization: The Role of the Tourism Industry	Tobit regression	Tourism positively affects dollarization
Ali, Zaman, and Islam (2018)	Macroeconomic Shocks and Malaysian Tourism Industry: Evidence from a Structural VAR Model	Structural vector autoregression (SVAR) model	Oil price shocks, economic growth, exchange rate, and exports have a contemporaneous inverse impact on tourism revenues except for consumer price index which has a positive impact
Samirkas (2016)	The Impact of Exchange Rate on Tourism Industry: The Case of Turkey	Johansen cointegration and Granger causality tests	Foreign exchange rate and changes in the value of various currencies can affect tourism, especially with regards to the demands of the tourists themselves
Lopes, A.S., Sargento, A. and Carreira, P. (2021)	Vulnerability to COVID-19 unemployment in the Portuguese tourism and hospitality industry	Extensive micro-level dataset of personal and job-related attributes	The most vulnerable workers to COVID-19 unemployment seem to be older, less educated, less qualified, women and residents in regions with a higher concentration of people and tourism activity. Moreover, the COVID-19 crisis is generating a new type of unemployment by also affecting those who were never unemployed before, with more stable jobs and more motivated at work, while reducing voluntary disruptions.
Riyanto, et al. (2020)	The Impact of Tourism on Poverty Alleviation and Income Distribution: Evidence from Indonesia	Miyazawa's input-output, econometrics, and micro simulation models.	Without tourism activity, Indonesia's poverty rate is expected to be 4% higher than the actuality. Further, domestic tourism activity offers a bigger contribution towards the lower income group when compared to their international counterparts.

II. Research Methods

2.1 Population and Sample

In this study, the population is all residents of DKI Jakarta Province. However, because this study used secondary data, no sampling was carried out.

2.2 Types and Sources of Data

The data in this research, when viewed from its nature is quantitative data is data in the form of numbers and can be measured as well as descriptive analysis. The secondary data used in the study is time series data for 16 years (2005-2020) consisting of 64 quarterly data with quarterly data every year, which have been compiled and published by related parties, namely from the Central of Statistics of DKI Jakarta, Indonesian Bank, Department of Manpower, Industry, Trade, cooperatives and SMEs, and also the Jakarta City Tourism Office, the Ministry of Tourism and the Ministry of Industry for Cooperatives and SMEs. In various editions as well as various other relevant sources such as national journals and international journals, internet, books and the results of previous research related to other interconnected tourism industries. The amount of data used in this study amounted to 64 categories with data processing using eviews version 10 software.

2.3 Research Design

The research design that used in this study is to analyze the time series data from 2005 to 2020 for the quarterly data of DKI Jakarta Province using quantitative inferential statistical analysis and explanatory research or hypothesis research through explanations.

2.4 Data Analysis Technique

The data analysis techniques used to solve the problems in this research are inferential statistics and regression analysis. The research method according to the level of explanation of this research is associative research. Explanatory research is an analytical tool to explain the causal relationship between variables X and Y and the impact of variable Z with hypothesis testing, normality test, auto correlation test, multiple correlation, multiple regression, T test, and F test.

III. Discussion

3.1 Descriptive Statistical Analysis of Variables

Table 2. Results of Descriptive Statistical

Date: 11/03/21   Time: 10:10
Sample: 1 64

	D(LN_Y)	D(Z1)	D(LN_Z2)	D(Z3)	D(Z4)
Mean	0.018473	-0.003968	0.012746	0.022698	0.321587
Median	0.030583	0.070000	0.008082	0.040000	0.150000
Maximum	0.157038	0.600000	0.117428	2.050000	7.670000
Minimum	-0.204615	-2.440000	-0.078628	-0.590000	-7.210000
Std. Dev.	0.066261	0.442699	0.030487	0.413464	1.876087
Skewness	-1.158065	-2.949175	0.324083	2.104790	0.155748
Kurtosis	5.271010	16.16779	6.112049	11.03187	11.14963
Jarque-Bera	27.62011	546.4759	26.52554	215.8577	174.5980
Probability	0.000001	0.000000	0.000002	0.000000	0.000000
Sum	1.163782	-0.250000	0.803025	1.430000	20.26000
Sum Sq. Dev.	0.272214	12.15091	0.057625	10.59904	218.2216
Observations	63	63	63	63	63
	D(LN_X1)	D(LN_X2)	D(LN_X3)	D(X4)	D(LN_X5)
Mean	0.001380	0.008167	0.005888	0.006032	0.017110
Median	0.007534	0.008788	0.010471	0.020000	0.015103
Maximum	1.231082	6.899686	0.255560	0.850000	0.559616
Minimum	-2.181834	-6.890359	-0.198322	-0.820000	-0.173769
Std. Dev.	0.338206	1.238793	0.082045	0.259550	0.088173
Skewness	-3.542935	-0.008574	0.060095	-0.329564	3.461480
Kurtosis	31.44811	31.45830	4.276361	5.401141	24.26344
Jarque-Bera	2256.199	2125.923	4.314298	16.27481	1312.661
Probability	0.000000	0.000000	0.115654	0.000292	0.000000
Sum	0.086953	0.514530	0.370971	0.380000	1.077960
Sum Sq. Dev.	7.091744	95.14574	0.417344	4.176708	0.482012
Observations	63	63	63	63	63

3.2 Classical Assumption Test

Classical assumption test is conducted to determine whether the data used is feasible for analysis because not all data can be analyzed by regression. Regression analysis performed using the Ordinary Least Square (OLS) method must meet the requirements of the classical assumption test consisting of normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test.

a. Normality Test

The normality test uses Jarque Bera (JB) with an error rate of = 5%, the results can be shown from the probability value of Jarque Bera as shown in Figure 1. The results of the normality test of model 1 above can be seen that the probability value of 0.241 is greater than the level of alpha (0.05) used (α = 5%) or JB = 281 is greater than alpha (0.05) so that (prob 0.241 > 0 0.05, it can be concluded that the data used is normally distributed or normal.
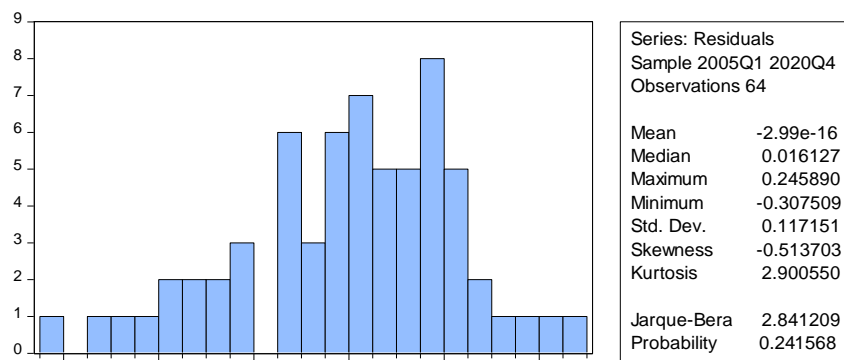

Figure 1. *Results of Normality Test*

b. Multicollinearity Test

The multicollinearity test is to determine whether there is a high correlation between the independent variables in a multiple linear regression model. From Table 3, it can be explained that all independent variables there is one variable that reaches the value of 0.561, 06041, 0.5393, 0.6931, 0.6120, 0.6860 < 0.8. Thus, it can be stated that the research data did not experience symptoms of multicollinearity, because the result in the table of numbers is less than 0.8. (Wing and Wahyu 2013 p. 43)

Table 4. Multicollinearity Test Result

	LN_X1 tourism	LN_X2 kurs	LN_X3 infrastructure	X4 inflation	LN_X5 destination
LN_X1 tourism	1	0.5610	0.6041	0.5393	0.6931
LN_X2 kurs	0.0561	1	0.5104	0.6120	0.6849
LN_X3 infrastructure	0.6041	0.6304	1	0.5551	0.6587
X4 inflasion	0.5393	0.6120	0.5551	1	0.6860
LN_X5 destination	0.6931	0.7849	0.6587	0.6860	1

c. Autocorrelation Test

The autocorrelation test in this study was carried out using the serial Correlation LM Test, where if the probability value of obs*R-squared in the model is greater than the real level (α = 5%) used, it can be concluded that the model does not experience autocorrelation symptoms. On the other hand, if the probability value of obs*R-squared in the model is smaller than the significance level (α = 5%) used, it can be concluded that the equation model

has symptoms of autocorrelation. Based on the table 5, it can be seen that the probability value of obs*R-squared is 19.87889.> 0.07560. Based on the probability value of obs*R-squared obtained, it can be concluded that the model does not experience symptoms of autocorrelation with Prob chi square 0.0756 greater than 0.05 (Alpha).

Table 5. Reusch-Godfrey LMB Correlation
Autocorrelation Test Results

F-statistic	12.61547	Prob. F(2,56)	0.06500
Obs*R-squared	19.87889	Prob. Chi-Square(2)	0.07560

d. Heteroscedasticity Test

The regression equation must be free from heteroscedasticity problems. The Eviews program can detect the presence or absence of the problem. The data in table 6, it can be seen that the calculation results of the Eviews program obtained a prob chi square value = 0.083 then 0.083 > 0.05, it can be concluded that the data in the study did not have symptoms of heteroscedasticity because the chi square probability was greater than alpha.

Table 6. Heteroscedasticity Test Results

F-statistic	3.145200	Prob. F(19,44)	0.0009
Obs*R-squared	36.86013	Prob. Chi-Square(19)	0.083
Scaled explained SS	28.76750	Prob. Chi-Square(19)	0.0697

e. Regression Analysis

Model 1 of this study can be explained that simultaneously the influence of multiple independent variables (tourist visits, rupiah exchange rate, infrastructure, inflation, tourist destinations) on the tourism industry has a positive and significant effect. Partially, tourist visits to the tourism industry have a significant and positive effect, the rupiah exchange rate increases, so the tourism industry decreases, meaning that it has a significant and negative effect, which is in the opposite direction, the tourism infrastructure to the tourism industry has a significant and positive effect, the inflation variable has a significant and negative effect on the tourism industry, and also the destination has a significant and positive effect on the tourism industry. The specific numbers are listed in Table 7.

Table 7. Model 1. Multiple Linear Regression Equation

Dependent Variable: LN_Y
Method: Least Squares
Date: 03/17/21   Time: 20:20
Sample: 2005Q1 2020Q4
Included observations: 64

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.773102	1.674591	0.461666	0.0650
LN_X1	0.220961	0.044418	4.974633	0.0000

LN_X2	-0.155704	0.018215	-0.862159	0.3922
LN_X3	0.432123	0.117240	1.126941	0.2640
LN_X4	-0.315262	0.036076	-5.966986	0.0000
LN_X5	0.642214	0.067057	12.55970	0.0000

R-squared	0.738853	Mean dependent var	5.991434
Adjusted R-squared	0.733582	S.D. dependent var	0.473759
S.E. of regression	0.122096	Akaike info criterion	1.278959
Sum squared resid	0.864630	Schwarz criterion	1.076564
Log likelihood	46.92669	Hannan-Quinn criter.	1.199225
F-statistic	178.1072	Durbin-Watson stat	1.907791
Prob(F-statistic)	0.000000		

On model 2, F-Statistic value is 51.5281 with a probability of 0.0000, which is below the confidence value of 0.05. Furthermore, from the results of the t-statistic value of -7.1783 with a probability value of 0.0000 it can be explained that the growth of the tourism industry has a significant and negative effect on unemployment or can be said to be in the opposite direction.

Table 8. Model 2. Simple Linear Regression Equation

Dependent Variable: Z1_unemployment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	142664	1.125982	13.70061	0.0000
LN_Y_PERT_IND_P AR	-1.344901	0.187356	-7.178311	0.0000

On model 3, F-Statistic value is 1445.939 with a probability of 0.0000, which is below the confidence value of 0.05. Furthermore, from the results of the t-statistic value of 38.0255 with a probability value of 0.0000, it can be explained that the growth of the tourism industry has a significant and positive effect on SMEs.

Table 9. Model 3. Simple Linear Regression Equation

Dependent variable: Z2_SME

Variable	Efficient	Std. Error	t-Statistic	Prob.
C	13.02771	0.118302	110.1220	0.0000
LN_Y_PERT_IND_P AR	0.748524	0.019685	38.02551	0.0000

On model 4, F-Statistic value of 0.997675 is above the confidence value of 0.05. Furthermore, from the results of the t-statistic value of -0.0029 with a probability value of 0.9977, it can be explained that the growth of the tourism industry on poverty has a significant and negative effect.

Table 10. Model 4. Simple Linear Regression Equation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Dependent variable: Z3_poverty				
C	7.278558	1.327071	5.484680	0.0000
LN_Y_PERT_IND_P ARW	-0.06467	0.220816	-0.002925	0.0000

On model 5, F-Statistic value is 135.5050 with a probability of 0.0000, which is below the confidence value of 0.05. Furthermore, from the results of the t-statistic value of 11.6407 with a probability value of 0.0000, it can be explained that the human development index has a significant and positive effect on the growth of the tourism industry.

Table 11. Model 5. Simple Linear Regression Equation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Dependent variable: Z4_HDI				
C	6.126471	5.801655	1.055987	0.0001
LN_Y_PERT_IND_ PAR	11.23741	0.965359	11.64066	0.0000

IV. Conclusion

Based on the results of the analysis that has been described, the conclusions in this study are as follows: Tourist visits, rupiah exchange rate, infrastructure, inflation, and tourist destinations simultaneously have a significant effect on the tourism industry. This means that the tourism industry is influenced by these five variables. Furthermore, Foreign tourist visits have a significant and positive effect on the tourism industry, which means that the higher the tourism industry, the higher the number of foreign tourists. However, the exchange rate has a significant and negative effect on the tourism industry, which means that the higher the tourism industry, the lower the exchange rate of a country. Moreover, Infrastructure has a significant and positive effect on the tourism industry, which means that the higher the tourism industry, the higher the amount of infrastructure. Besides, Inflation has a significant and negative effect on the tourism industry, which means that the higher the tourism industry, the lower the inflation of a country. Tourist destinations have a significant and positive effect on the tourism industry in Jakarta. Thus, the variable is a driving force in the process of developing the tourism industry. The tourism industry has a significant and negative impact on unemployment in Jakarta, which means that the higher the tourism industry, the lower the unemployment rate. Afterwards, the tourism industry has a positive and significant impact on MSMEs in Jakarta. Nevertheless, the tourism industry has a negative and significant effect on poverty in Jakarta. With the growth of the tourism industry, it is allowed the well-being of the community will increase, thereby reducing poverty. In Addition, The tourism industry has a positive and significant impact on the Human Development Index in Jakarta. With the growth of the tourism industry, the welfare of the society increases.

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