

# HOW DO DOMESTIC TOURISTS, UNEMPLOYMENT RATE, AND EXPORT VALUES AFFECT GROSS REGIONAL DOMESTIC INCOME FACING COVID-19?

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**Abstract:** The purpose of this study is to examine the impact of the number of domestic tourists, the unemployment rate, the value of exports, and cases of COVID-19 on the gross regional domestic product (GRDP) in DKI Jakarta during the face of COVID-19. The researchers used secondary data analysis and reviewed relevant literature studies. This study applied quantitative methods and used secondary data. The data were obtained from the websites of the DKI Jakarta Central Statistics Agency and the DKI Jakarta COVID-19 Task Force. The data obtained were time-series data types in 2019-2020. Data analysis employed EViews9, and data were analyzed utilizing a regression estimation model of time series with a quantitative approach. The results showed that during COVID-19, domestic tourist visits had a positive and insignificant effect on GRDP with a probability value of 0.2286. The unemployment rate and COVID-19 cases had a significant negative effect on GRDP with a probability value of -0.0003 and -0.0143, respectively. Meanwhile, exports had a significant positive effect on GRDP with a probability value of 0.0049. Besides, this research paper highlights an empirical analysis based on real data of tourism and socio-economics in DKI Jakarta.

**Keywords:** Tourism sector, COVID-19, gross regional domestic income, Jakarta

## INTRODUCTION

This study was conducted to determine the impact of the COVID-19 pandemic on tourism and socio-economic mobility in DKI Jakarta, Indonesia. This study illustrates that the impact of the pandemic is very much felt on mobility in the tourism and socio-economic sectors due to the very quick spread of this virus and the high mobility of humans, especially in tourism activities (Sharma et al., 2021). Moreover, the new type of Coronavirus (SARS-CoV-2), better known as COVID-19, originated from Wuhan, China, then spread to various countries worldwide (Ali & Alharbi, 2020). In this regard, the term pandemic is not to indicate the severity of a disease but to indicate the extent to which it has spread, and therefore, the World Health Organization (WHO) has designated COVID-19 as a global pandemic (Jain & Lakhwinder, 2020).

Indonesia is one of the countries whose active cases of COVID-19 continue to increase until now, namely October 2021, so it has a very bad impact on tourism and socio-economy activities (Purnomo et al., 2021). The outbreak of the COVID-19 virus has also caused a global health crisis, so many countries have implemented several policies, such as closing tourist sites, schools, restaurants, maintaining distance, wearing masks, and limiting community activities (Bélanda & Marier, 2020). Furthermore, the tourism sector is the main sector for national and regional economic growth (Bellina, 2020). Besides, economic activity is a form of human effort in the context of meeting needs, especially those who depend on economic activity in the tourism sector, in this case (Marome & Shaw, 2021).

Several regions in Indonesia have taken several steps in dealing with COVID-19, and the government centralizes to the regions to carry out several policies to reduce the spread of COVID-19, including Large-Scale Social Restrictions (PSBB 1-2-3 and Transition) and Enforcement of Restrictions on Community Activities (Emergency, Level 1-4) (Barrios et al., 2021). With this implementation, many hotels, inns, and tourist attractions have to be temporarily closed, with many companies taking layoffs as an effective measure (Torrell et al., 2020). The policy of temporarily closing tourist attractions and public spaces also has a negative impact on the performance of tourism employees, making termination of employment and cuts in salaries or incentives, which are considered ineffective decisions (Rajabimajid et al., 2021).

Further, the COVID-19 pandemic not only has a negative impact on tourism but also has a significant economic and social impact (Zeebaree et al., 2020). The isolation measures implemented have significantly impacted almost every economy in both developed and developing countries (Ash et al., 2021). Besides, government restrictions on commercial activity much greater affect financial markets (Baker et al., 2020).

The impact of the tourism sector will also cause other sectors to be disrupted; the effects of the COVID-19 pandemic directly or indirectly impact tourism in Indonesia (Desbiolles, 2021). Tourism also has direct implications for the economy,

the natural environment, residents of the destination area, and tourists themselves (Spalding et al., 2020). In addition, human existence cannot be separated from nature to try to maintain survival. Often, the measurement of the welfare of human life is measured by the standard of economic satisfaction that can be achieved through economic activities contained in production, distribution, and consumption activities (Gunes, 2021)

In addition, COVID-19 is referred to as the "black swan effect," the unpredictable spread of the outbreak, which wreaks havoc on economies around the world (Mulugeta, 2021). Economic impacts also occur in supply and demand activities. Obstacles in developing countries, such as Indonesia, are caused by the country's dependence on goods produced in China, so that import activities experience delays; as a result, the manufacturing, electronics, and clothing industries experience disruptions (Liu et al., 2020). Self-isolation and "stay at home" measures also result in reduced stock and decreased sales (Miyar et al., 2021). Besides, people are stocking up on essentials like hand sanitizer and face masks (Schwartz & Ayalon, 2021). It resulted in a supply shortage for these products since producers could not meet consumer demand due to panic buying (Hall et al., 2021).

As a result of the pandemic, consumer goods activities have also occurred, affected by quarantine declarations and "stay at home" restrictions imposed by countries. The Indonesian government has declared a state of emergency and has sought to keep people away from public gatherings. Also, due to the pandemic, all concerts, sporting events, and public events have been canceled or postponed. The aviation industry, the hotel and leisure industry, and other service sectors have also experienced a significant economic slowdown (Djalante et al., 2020).

Further, the COVID-19 pandemic is increasingly affecting the decline in tourist revenue because the income indicator for entertainment and tourism is dominated by the amount of local revenue from the tourism and entertainment tax sector, meaning that the COVID-19 pandemic can reduce tax revenue for tourists and entertainment venues (Rastegar et al., 2021). Thus, this study looks at and analyzes the impact of the COVID-19 pandemic on three sectors, namely the tourism and socio-economic sectors. Moreover, the policy on social distancing has an impact on production decline, and this is a challenge for the government to be able to make policies that aim to minimize the impact on the tourism and socio-economic sectors because these two sectors are the most vulnerable to the impact of the pandemic (Tran et al., 2020).

## **LITERATURE REVIEW**

### ***COVID-19 and Tourism Industry***

The World Tourism and Travel Council (WTCC, 2020) explained that tourism is all activities of people who travel to and live in places outside their daily environment for no more than a year for leisure, business, and others. Tourism is also a social, cultural, and economic phenomenon that entails the movement of people to countries or places outside their usual environment for personal or business professional purposes (UNWTO, 2007). Since the emergence of COVID-19, the tourism sector has experienced serious disruptions due to the global disruption of human mobility (Gössling et al., 2020)

World Health Organization (WHO, 2019) stated that Coronavirus is a combination of viruses that can cause disease in humans and animals that bring about infections in the human respiratory tract, such as colds and coughs, to more serious ones, such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) (Choe et al., 2020). COVID-19 was first discovered in Wuhan, China, in December 2019 (Velavan & Meyer, 2020), and until now, COVID-19 is a disease that not only occurs in Wuhan, China but also spreads all over the world (Li et al., 2020). Since the WHO announced COVID-19 for the first time, this pandemic has become so scary for all countries because of its fast spread that many countries have finally taken measures to prevent the spread and reduce the number of COVID-19 victims (Wang et al., 2020).

In Indonesia, the existence of a large-scale social restriction policy (PSBB), the imposition of Community Activity Restrictions (PPKM), and the closure of recreational and entertainment venues aimed at suppressing the spread of COVID-19 caused people's mobility to decline; this had a considerable economic impact on the tourism sectors (Napitu et al., 2021). To avoid Indonesia's economic conditions becoming increasingly unfavorable, the government has begun to pay attention to the opportunities to relax social restrictions on the community by creating a new order or can be called a new normal; the existence of this new order still pays attention to the health protocols recommended by the government, namely washing hands, maintaining distance, staying at home, and wearing a mask (Zeegen et al., 2020). The government also provides five recommendations for a faster, more effective, and comprehensive response: (1) responsive, (2) proactive, (3) multi-disciplinary, (4) inclusive promotion, and (5) economic resilience. In addition, the Survey on Community Behavior in the COVID-19 Pandemic Period by the Central Statistics Agency showed that people have gradually followed the government's recommendations to make changes in behavior and pay attention to health protocols, such as wearing masks, washing hands, and staying away from crowds (Uno, 2020).

### ***COVID-19 and Socio-Economic Sector***

A pandemic is an infectious disease that can affect social and economic life in various ways (Ozili & Arun, 2020). The impact of the COVID-19 pandemic on the economy is not only felt in developing countries, such as in Asia and Africa but also in developed countries (Gharegozli et al., 2020). It turns out that the impact of the COVID-19 pandemic on the global social and economic components is considered to be faster to affect and is considered to have a high influence than the global financial crisis (Abodunrin & Oloye, 2020).

The pandemic has had a significant impact on workers' lives worldwide (Acikgoz & Günay, 2020). Besides, it impacts the price inflation of goods, food, and services, such as soaring transportation costs (Leandro & Jimeno, 2020). It also leads to other previously unwanted expenses, such as personal protective equipment (face masks), antiseptics (hand sanitizer), and the internet (Han et al., 2020). The pandemic itself has caused the collapse of the economy due to its unprecedented effect on various sectors of the global economy (Fetzer et al., 2020).

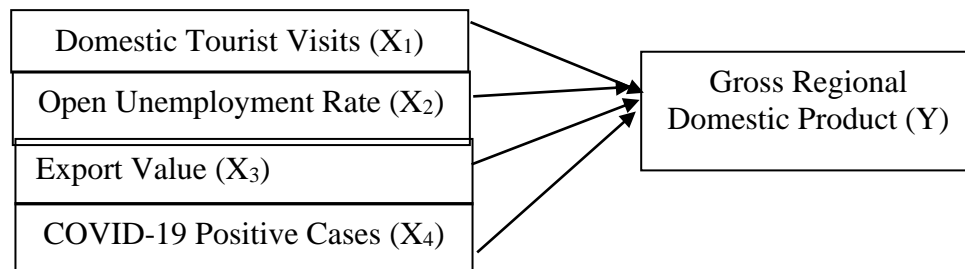
Moreover, alienating society due to the COVID-19 pandemic makes people unable to endure for long, and it is contrary to the characteristics of humans who blend in and have activities at certain times; staying at home that would otherwise contain the spread of the pandemic has also posed significant challenges, apart from the fact that there is no better alternative to prevent the spread of SARS COVID-19 (Bendavid et al., 2020).

**Hypothesis**

- H<sub>1</sub> = Domestic tourist visits have a significant positive effect on gross regional domestic product.
- H<sub>2</sub> = The open unemployment rate has a significant negative effect on gross regional domestic product.
- H<sub>3</sub> = Export value has a significant positive effect on gross regional domestic product.
- H<sub>4</sub> = Cumulative positive cases of COVID-19 have a significant negative impact on gross regional domestic product.

**Theoretical Framework**

**Figure 1. Theoretical Framework**



Source: Adopted from (Zheleva & Mutafov, 2021).

The research model is an effort to solve problems and find results (Keays et al., 2020). However, depending on the way of thinking and the procedures used to obtain the study results, research can be classified as scientific or non-scientific. Scientific research is defined as research centered on problem-solving activities based on scientific thinking and the use of scientific methods (Dehghanbanadaki et al., 2020).

According to the findings, there are two forms of research: pure research and applied research. Pure research involves development, testing, and hypotheses that might prompt the researcher to test hypotheses. The refinement of research methods, procedures, techniques, and tools to build a research framework is also referred to as pure research (Abadi et al., 2021). Examples of pure research include evaluating human stress levels and determining the best approach to measuring human attitudes. The results of this pure research will be used as a new knowledge base for future studies (Knight et al., 2020).

Meanwhile, applied research is to find and make a new contribution to science and solve the problem at hand. For example, if a company experiences a large decline in revenue over a while, irregular operating income earned during that period requires the company's knowledge of the cause (Rap et al., 2020).

In this study, the type of applied research model with a quantitative approach was used. As in this study, DKI Jakarta Province is experiencing problems, namely a significant decrease in independent variables, especially in 2020, where there was no significant decrease in the value of the variable in previous years, so it is necessary to find the cause of the decrease in the value of these variables. The variables in question comprised domestic tourist visits, open unemployment rate, export value, and cumulative positive cases of COVID-19 on the gross regional domestic product variable in DKI Jakarta Province.

**RESEARCH METHOD**

This study used quantitative methods with secondary data. The data were obtained from the websites of the DKI Jakarta Central Statistics Agency and the DKI Jakarta COVID-19 Task Force. The data obtained were time-series data types in 2011-2020. Time series data is data from time to time, collected sequentially in each period (Torres et al., 2021). After the data were processed in the form of time series, the data were analyzed utilizing EViews 9 software. The variables used in this study consisted of the independent variables (X) and the dependent variable (Y). There were four independent variables in this study, including domestic tourism visits (X1), open unemployment rate (X2), export value (X3), and cumulative positive cases of COVID-19 (X4). Meanwhile, one dependent variable in this study was the gross regional domestic product (Y). The following is an explanation of the operational definition of variables in this study:

#### ***Domestic Tourist Visit***

Domestic tourist visits are the activities of individuals or groups who travel within the territory of a country, such as Indonesia, with a trip of fewer than six months and do not aim to earn income at the place to be visited or are not routine trips (work or school) (Calderón et al., 2021). This study used data on the number of domestic tourist visits to leading tourist attractions in DKI Jakarta Province from 2011-2020, expressed in million people. These data were obtained from the DKI Jakarta Provincial Tourism and Creative Economy Office.

#### ***Open Unemployment Rate***

The open unemployment rate is the number of unemployed to the total labor force expressed as a percentage (Kozicki et al., 2020). This study used data on the open unemployment rate in DKI Jakarta Province for the 2011-2020 data period expressed in percent, and this data was attained from the Central Statistics Agency of DKI Jakarta Province.

#### ***Export Value***

Export value is the entire value of services and goods traded and determined by foreign countries (Zhao et al., 2021). The export value data in this study was the export value by port of cargo in DKI Jakarta Province for the data period 2011-2020, expressed in US Dollars. These data were taken from the Central Statistics Agency of DKI Jakarta Province.

#### ***Positive Case of COVID-19 in DKI Jakarta***

In late December 2019, the first case of the COVID-19 pandemic was detected with pneumonia of unknown etiology in China (Lu et al., 2020). This virus probably originated in a seafood wholesale market in Wuhan, Hubei Province, where live animals are sold (Wang et al., 2020). In this study, positive cases of COVID-19 used cumulative data on positive cases of COVID-19 in DKI Jakarta Province for the 2020 period, expressed in thousands of people. This data was acquired from the COVID-19 Task Force of DKI Jakarta Province.

#### ***Gross Regional Domestic Product***

Gross Regional Domestic Product (GDP) is one of the macroeconomic indicators that can explain the picture of a region's state and economic condition (König & Winkler, 2021). This study used data on the growth rate of gross regional domestic product based on 2010 constant prices according to the field business, expressed in billion rupiahs, and this data was gained from the Central Statistics Agency of DKI Jakarta Province.

## **RESULTS**

This study employed two types of variables, namely independent and dependent variables. In this study, the independent variables were domestic tourist visits, open unemployment rates, export values, and cumulative positive cases of COVID-19, while the dependent variable was the gross regional domestic product. The data in this study used secondary data obtained from various sources, such as the Central Statistics Agency and the COVID-19 Task Force. The data obtained were then collected in Microsoft Excel. After the data were collected with other variables, the data were processed utilizing the EViews 9 application. After processing, the study results would be found. The following are the data processing results:

**Table 1.** Analysis Results of Time Series Regression Estimation Models During COVID-19

ndent Variable: Y

od: Least Squares

09/30/21 Time: 10:55

le: 2011 2020

led observations: 10

| ble               | icient | rror                 | istic |
|-------------------|--------|----------------------|-------|
|                   | .408   | .408                 | 836   |
|                   | 954    | 785                  | 320   |
|                   | 5365   | 3542                 | 5622  |
|                   | 938    | 264                  | 229   |
|                   | .464   | 299                  | 5507  |
| ared              | 744    | an dependent var     | .409  |
| sted R-squared    | 539    | . dependent var      | .408  |
| f regression      | 5886   | aikie info criterion | 271   |
| squared residuals | .415   | warz criterion       | 400   |
| ikelihood         | 3636   | nnan-Quinn criteria. | 674   |
| istic             | 499    | rbin-Watson stat     | 085   |
| F-statistic)      | 100    |                      |       |

Source:EVIEWS 9, processed by researchers.

**DISCUSSION**

Table 1. above shows that the variable of domestic tourist visits (X1) had a probability value of 0.2286,greater than the value of 0.05 and had a positive value on the t-statistic at 1.371320. It indicates that the variable of domestic tourist visits (X1) had an insignificant positive effect on the GRDP variable (Y). The results of this analysis are different from the analysis results before the COVID-19 pandemic. Before a pandemic, the results revealed a significant positive effect, which had a consistent effect. Until the pandemic, the level of tourist visits decreased so that the effect was not significant given by the variable of domestic tourist visits on gross regional domestic product. In this regard, Cigdem (2020)identified a significant relationship between the level of foreign exchange reserves generated by the tourism sector and the COVID-19 pandemic. Itis also in line with the theory by Walt Whitman Rostow,explaining that economic growth will experience five stages:(1) traditional, (2) transition, (3) take-off, (4) towards maturity (labor and trade unions are more advanced, and (5) high consumption. From these stages, the fourth stage explains that economic growth must experience more advanced labor and trade unions to grow economic growth. In this study, the decline in tourism levels made the level of trade decline so that economic growth decreases (O'Reilly & Chambers, 2021)

The open unemployment rate variable (X2) had a probability value of 0.0003,smaller than 0.05, and had a negative value on the t-statistic at - 8.865622. It means that the open unemployment rate variable (X2) had a significant negative effect on the GRDPvariable(Y). Due to the COVID-19 pandemic, the number of unemployed has increased (Rigby, 2021). It aligns with Schumpeter's theory, which explains that economic growth is determined by entrepreneurial ability. Besides, a study (Buheji, 2021)identifies that if the unemployment rate increases, the level of ability possessed is small, thus worsening economic conditions.

The export value variable (X3) had a probability value of 0.0049,smaller than the value of 0.05, and had a positive value on the t-statistic at 4.800229. It signifies that the export value variable (X3) significantly positivelyimpacted the GRDP variable (Y). Itis supported by the research results(Matezo et al., 2021),which elucidates the significant influence of the export diversification construct on economic growth. Itcorroborates Keynes's theory, which states that one person's consumption will become income for others. In a study, if the demand for a foreign product has increased, the income of a country that exports will experience growth(Boug, 2021). In this case, export activity sends goods abroad, so a country gets foreign exchange, which means that a country's income will increase.

The cumulative variable of positive cases of COVID-19 (X4) had a probability value of 0.0143 and a negative sign on the t-statistic value of -3.676507. It denotes that the cumulative variable of positive cases of COVID-19 (X4) had a significant negative effecton the GRDP variable (Y). COVID-19 makes the population death rate increase compared to the birth rate, and this explains that the population rate will decrease. Italigns with Adam Smith's theory, which asserts that the economy will grow and develop with an increase in population (Mizaki, 2021). The results of this study are

reinforced by Ullah et al. (2020), who concluded that the COVID-19 pandemic has made the population level decrease, thus affecting economic growth in a region. The existence of the COVID-19 pandemic has also prompted the government to develop policies that can overcome the easing of the COVID-19 pandemic. This policy slows growth and development in many sectors. The policies in question include work from home, social distancing, and so on, thereby limiting the mobility of people, which then weakens economic growth.

## CONCLUSION

From the analysis results of time series regression, it can be concluded that before the COVID-19 pandemic, domestic tourism visits and export values had a significant positive effect on GRDP in DKI Jakarta with probability values of 0.0086 and 0.0021, respectively. Meanwhile, the open unemployment rate had a significant negative effect on GRDP in DKI Jakarta, with a probability value of -0.0020. On the other hand, during the COVID-19 pandemic, domestic tourist visits had an insignificant positive effect on GRDP with a probability value of 0.2286. However, the unemployment rate and COVID-19 cases had a significant negative effect on GRDP with a probability value of -0.0003 and -0.0143. Moreover, the export value significantly positively affected GRDP with a probability value of 0.0049.

## LIMITATION OF THE RESEARCH

The data of this study were only within the scope of DKI Jakarta, and the object of research was only focused on the tourism and socio-economic sectors. Therefore, future studies can expand empirical studies nationally or internationally and add further variables to amplify the geographical coverage.

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