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Short-Term and Long-Term Causality of the Tourism Sector on Economic Growth During the Covid-19 of OIC Member Countries

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Abstract

Tourism is one of the sectors affected by the Covid-19 pandemic, due to the implementation of lockdowns and social distancing in various countries around the world. Likewise with the countries that are members of the OIC. The pandemic that has hit since the end of 2019 has reduced the number of domestic and foreign tourists traveling to various tourist attractions, both domestically and abroad. This of course has an impact on slower economic growth. Therefore, using the variables of the tourism sector, inflation, foreign direct investment, and economic growth, this study aims to explain the causality of the Covid-19 pandemic on the tourism sector and the economic growth of OIC member countries. This study uses the P-VECM analysis technique to determine the short-term and long-term effects of the variables used. The results of this study reveal that the tourism sector, inflation, and foreign direct investment have short-term and long-term effects on economic growth.

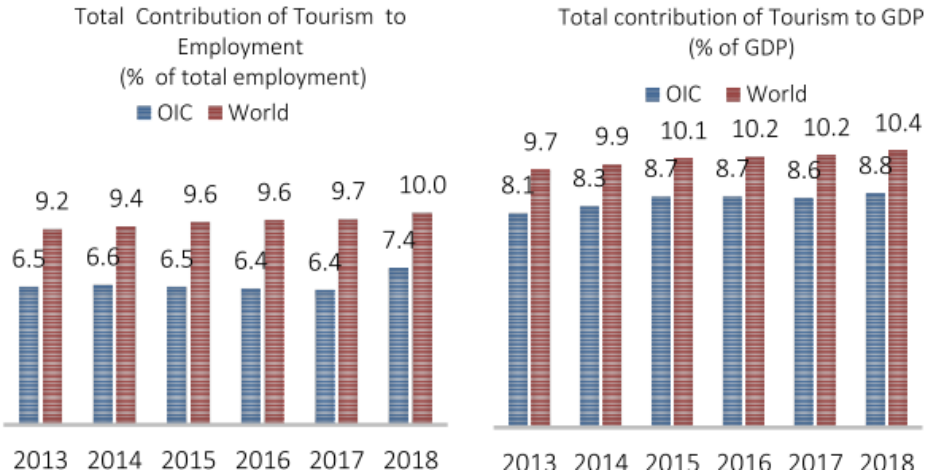
Keywords: *covid-19; economic growth; tourism; oic*

A. INTRODUCTION

Covid-19 stands for Corona Virus Disease of 2019 which was officially announced by the World Health Organization in February 2020 (WHO, 2020). As it is known that the spread of Covid-19 began in Wuhan, China at the end of 2019 and then quickly spread to 200 countries in the world. The impact caused by the spread of Covid-19 not only claimed thousands of lives around the world but also had an impact on the paralysis of the global economic growth system over the past year (Blake et.al., 2020). Efforts are being made to contain the spread of the virus and reduce the burden on healthcare systems, governments around the world have implemented lockdowns, restrictions on travel and public gatherings, lockdowns, and quarantines that currently affect more than 90% of the global population (Gössling et al., 2020). However, these physical distancing measures have also raised concerns about the adverse effects on the economy and people's well-being.

The Tourism Council (WTTC) estimates that the economy of the travel and tourism sector around the world will receive a five times greater impact than the global financial crisis in 2008 (WTTC, 2020). To reduce the negative impact of the implementation of social restrictions on the economic sector and public welfare, the government responded by forming various policies, such as steps in fiscal, monetary, and financial policies for related institutions. The policies carried out also vary and are adapted to the conditions and scope of each country (Elgin et al., 2020). The wide differences and scope of the economic response to the COVID-19 pandemic between countries raise the question of whether the size of the tourism industry in the destination country is related to the extent to which economic policy measures are being taken by governments around the world to mitigate the effects of the pandemic. This is an important issue considering that the tourism sector is one of the sectors worst affected by the COVID-19 pandemic, both in terms of demand and supply of tourism services (Nicola et al., 2020).

Figure 1. Contribution of International Tourism in the Economy

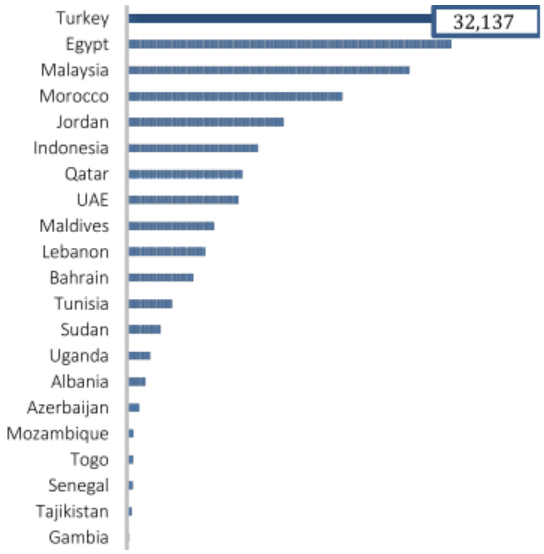


(Source: World Travel and Tourism Council (WTTC))

Based on Figure 1 above, it is known that the tourism sector has an important role in the growth of the world economy, both directly (direct contribution) and contribution to the employment sector (contribution to employment). The total contribution of international tourism to employment in OIC member countries increased on average from 6.5% in 2013 to 7.4% in 2018. Globally it also increased from 9.2% in 2013 to 10, 0% in 2018. In other words, the contribution of the tourism sector to employment is still below its potential in the OIC group compared to the world average. The total contribution of tourism to GDP (including direct and indirect contributions) recorded an increase in the OIC group and the world during the 2013-2018 period. The total contribution of tourism to GDP in OIC member countries on average increased from 8.1% in 2013 to 8.8% in 2018, where the world average also increased from 9.7% to 10.4 % in the same period (SESRIC, 2020).

Through Figure 2 below, it can be seen that the OIC member countries also have considerable potential in contributing to the economy from their tourism sector. Like Turkey, which recorded a tourism surplus of more than USD 32 billion in 2018. Other countries such as Egypt, Malaysia, Morocco, Jordan, Indonesia, Qatar, UAE to Tajikistan still experience a tourism surplus for their country's economic growth. However, in other OIC member countries such as Gambia, Mali, Niger, and Suriname (not listed in the picture) the tourism sector in these countries does not make a significant contribution to the country's economy. Iran, Iraq, and Kuwait are the 3 countries with a deficit in the tourism balance (SESRIC, 2020).

Figure 2. Tourism Accounts in OIC Member Countries (Millions USD in 2018)



(Sumber: World Tourism Organization (UNWTO) dan OICStat)

The Covid-19 break out in the world also affects the international tourism sector as well as in OIC member countries. According to UNWTO (2020a), globally around 80% of all tourism businesses are small and medium enterprises (SMEs) that have limited resources to survive in the event of an economic shock like the current one due to the COVID-19 outbreak. The tourism sector not only creates millions of jobs but also provides opportunities for some vulnerable groups such as women, youth, and rural communities in many developing and developed countries (UNWTO, 2020b). In this case, a recession or crisis in this sector could lead to the loss of millions of jobs due to COVID-19. As a result, disruption to the activities of this sector can hit all tourism stakeholders at large and, thereby, trigger levels of unemployment and poverty.

The COVID-19 outbreak is also expected to weaken intra-OIC tourism activities in 2020. Intra-OIC tourist visits are projected to be recorded at 68.2 million in scenario 1 and 59.7 million, these figures are much lower than in 2020. Several member countries The OIC with relatively more developed tourism sectors such as the United Arab Emirates,

Turkey, and Morocco will also be affected by restrictions on international travel and transportation. However, these countries have a greater ability to generate foreign exchange earnings through alternative channels such as trade and investment thanks to their diverse economic structures (SESRIC, 2020). Meanwhile, other developing countries need assistance and a large enough capital injection to maintain the existence of the tourism sector amid the Covid-19 pandemic. Therefore, foreign direct investment (FDI) has a very important role as capital for the tourism sector, especially for developing countries such as Indonesia, Malaysia, Lebanon, Tunisia, and several other OIC member countries.

Based on the explanation above, it is known that the tourism sector has also been affected by the Covid-19 pandemic. This also has a domino effect on the long-term and short-term economic growth of Indonesia. Therefore, the author tries to explain the long-term and short-term effects of the tourism sector on economic growth in OIC member countries caused by the Covid-19 pandemic and determine steps that the government can take in restoring the tourism sector.

B. LITERATURE STUDIES

1. Crisis Management in the Tourism Sector

The main challenge in crisis management is finding experts who have experience or knowledge in quickly managing a particular crisis. However, when organizations collect such knowledge, they do not always have the right mechanisms to implement it. Meanwhile, crisis management consists of three main stages as listed below (Jia et al., 2012):

a. Pre-crisis stage, which involves identifying potential crises and developing a crisis plan.
b. Crisis stage, which involves managing the actual ongoing crisis itself.
c. Post-crisis stage, which includes corrective and recovery actions to restore public confidence.

Crisis management in the tourism sector aims to develop integrated plans that will enable (include organizations) to reduce the impact of local and regional crisis events on the region's tourism industry over the short, medium, and long term, and to restore tourism activities to pre-crisis levels (Tourism Victoria, 2013). Based on the guidebook published by Tourism Victoria (2013), there are 3 stages in carrying out crisis management in the tourism sector, namely:

a. Identify risks by conducting a SWOT analysis of the crisis at hand. A SWOT analysis to identify crises is carried out by considering the conditions, risks, and socio-political potentials that arise.

b. Assess the risk to make a decision. Assessment is done by assessing the consequences of events in a particular area, whether they occur at extreme, very high, moderate, or low levels.

There have been many global crises in the tourism sector in the past, such as the impact of the political crisis on September 11, 2011, terrorist attacks that destroyed the WTC building in the United States, or the Bali Bombing terror in 2001 and 2005 in Indonesia. The economic and financial crisis was due to the bubble economy that occurred in 2008, as well as the health crisis due to the MERS and bird flu that spread in 2003. All of the crises that occurred in the past turned out to have a bad impact on the tourism sector. However, at that time research that revealed the role of the government in determining policy directions to save the tourism sector from the crisis was still rare. The previous literature discusses the impact of the tourism sector due to natural disasters (Ritchie & Jiang, 2019).

Ghaderi, Mat Som dan Wang (2014) introduce the fundamental success factors for effective crisis management drawn from a case study in Malaysia. In their study, they outline the importance of organizational knowledge and learning. Starting with knowledge acquisition, tourism organizations constantly need to scan their environment and gather as much information as possible. This information is then shared within the organization to spread knowledge among all parties involved. Once all business entities are informed, this knowledge can be applied to overcome the negative impacts of the crisis.

Different policies were taken in the tourism crisis due to the Bali Bombing terror in 2001 and 2005 in Indonesia. The government prefers to handle this impact by actively promoting tourism in Bali through a public relations strategy. This is evidenced by the various special events held, both domestic and international, to restore the trust issue of tourists by ensuring that Bali is safe again. This step was taken by the Indonesian government, to increase the number of tourists coming to Bali (Kurniasari, 2017; Lumaksono & Priyarsono, 2012; Murdiastuti et al., 2014).

2. Crisis related to health and tourism industry

Long before the Covid-19 pandemic spread to almost all corners of the world, several previous disease outbreaks had also shocked the world. Such as Middle East Severe Acute Respiratory Syndrome (SARS) in China in 2002 ago and Respiratory Syndrome (MERS) which was first discovered in Saudi Arabia in 2012. Another study that reveals that disease outbreaks can affect the tourism sector is a study belonging to Page (2012), which stated that the Swine Flu epidemic and foot-and-mouth disease in the UK had a significant adverse effect on tourism demand and tourism spending.

The most recent case of health-related crisis events was the Ebola outbreak in 2014 and 2015. The outbreak affected the African tourism industry with a 5% reduction in revenue in 2015 (Novelli et al., 2018). Maphanga dan Henama (2019) in their research also argue about the Ebola outbreak that hit West Africa in the 2015s, that to increase multilateral collaboration and development of an early warning system for infectious diseases that extends from the community level to the community level to ensure a rapid response to the outbreak. in the future. Lyme disease is studied from a tourism management perspective (Donohoe et al., 2015). The impact of the 2016 Zika outbreak in Latin America and the Caribbean caused a loss of US$3.5 billion in the tourism industry; and no vaccine is available (World Bank, 2016). In the same year, the global outbreak of dengue caused a severe economic impact of even US$8.9 billion (Shepard et al., 2016).

The recent global outbreak of COVID-19 in 2020 is undeniably a highly developed research focus. An overview of health-related events has been presented by Hall, Scott and G¨ossling (2020). Another study by Yang, Zhang and Chen (2020) found a model of how the Covid-19 pandemic would affect the tourism sector, and the results questioned the effectiveness of policies that only support the tourism sector. In contrast, Yang, Zhang and Chen (2020) simulations show that more comprehensive policies, including subsidies to the tourism and health sectors, will yield greater general welfare benefits than responses that focus solely on tourism subsidies. Through an analysis of surveys conducted in Hong Kong, Guangzhou, and Wuhan, Qiu et al., (2020) found that residents would be willing to pay an average of 300 in their local currency to reduce the social costs of tourism in their community during the Covid-19 outbreak. . Based on their findings, the authors suggest that, given the high social costs of tourism, government aid packages should be designed to benefit society at large.

3. Direct Investment and the tourism sector

One of the first studies on this topic was conducted by Haley dan Haley (1997), showing empirically that FDI leads to the development of new tourist attractions and accommodation facilities which in turn encourage tourist arrivals in Vietnam. Interestingly, the authors also find that the causality between FDI and tourism can also have a relationship with FDI to tourism. Foreign direct investment (FDI) has an important role in tourism, helping developing countries to reduce the impact of the detrimental development gap between developed and developing countries. Based on the UNCTAD statement, documented that FDI played a major role in the tourism take-off in Tunisia in the 1970s, driving the country's economic growth (Samimi et al., 2013).

Using dynamic time series analysis, Katircioglu (2011) investigates the causal relationship between international tourism and FDI inflows in the case of Turkey.

Their findings suggest a unidirectional cause from the growth of international tourism to the growth of net FDI inflows in the country. Another study by Salleh et al (2011) in the context of East Asia reported that tourist arrivals affect FDI in Malaysia, Thailand, and Hong Kong. The author finds that in the case of Malaysia and Thailand, the number of tourist arrivals significantly affects FDI.

As for other studies that support the relationship between FDI and the tourism sector written by Işik (2015), the results of the study show that there is a significant relationship between foreign direct investment and tourism development (tourism development affects foreign direct investment) in D7 countries for the period 1980-2012. The author also provides input on the implementation of an ideal FDI policy that should be developed to improve tourism efficiency in line with the pace of economic growth in D7 countries. Since citizens living in these countries are often involved in tourism, they should invest in tourist destinations (infrastructure, technology, etc.) (Işik, 2015).

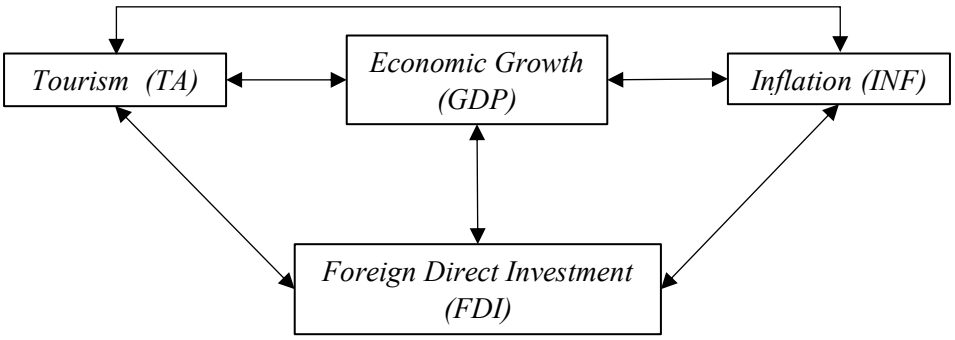
A recent study conducted by Adeola et al. (2020) found a significant positive relationship and two-way long-term causality between FDI inflows and tourism development. In addition, the results show a negative short-term relationship between exchange rates and tourism development. Furthermore, there is evidence that economic growth and political stability are important determinants of tourism development.

Meanwhile, not many studies have been developed that discuss the role of FDI in the tourism sector, especially in OIC member countries. Some of them were found by the authors, and research by Khoshnevis Yazdi et al (2017) reveals that there is a positive relationship between tourism expenditure (tourism expenditure) and economic growth (economic growth) in the long and short term. The results show that there is also a positive relationship between the real effective exchange rate (REER), foreign direct investment (FDI), and economic growth in Iran. However, the authors do not explain the long-term and short-term impacts of FDI on the tourism sector and economic growth directly. Similar research was also conducted by Siddiqui dan Siddiqui (2019) which stated that FDI has a positive relationship with the growth of the tourism sector in Pakistan. This is evidenced by the results of Granger's VECM causality test indicating a one-way short-term causality running from tourism to FDI, to FDI, from inflation to FDI, from trade openness to FDI, from GDP to tourism, from inflation to tourism, and from tourism.

So based on the literature review above, it can be described as an analytical model in the study that provides an overview of the relationship between the tourism sector (tourism), inflation (inflation), and foreign direct investment (FDI) on economic growth as measured by GDP. The relationship in the analytical model in Figure 2 aims

to reveal the long-term and short-term effects of the Covid-19 pandemic on the tourism sector on economic growth in OIC member countries.

Figure 3. Analytical Model



(Source: Authors, 2022.)

C. METHOD

This research is a quantitative study that uses secondary data obtained from the World Bank taken from 2000-2019. The research subjects used were OIC member countries grouped by developed countries and developing countries. This study uses a non-probability sampling technique with a purposive sampling method, where the sample used is selected based on certain criteria. The criteria for selecting samples in this research include:

1. Countries that are members of the OIC group.
2. OIC member countries that have information data on the rate of economic growth published in 2000-2019.
3. OIC member countries that have information data on the tourism sector consisting of Travel and tourism direct contributions, tourist arrivals, inflation, and foreign direct investment published in 2000-2019.

According to Dorsman et al. (2012), causality can be explained by the PVAR model at level I(1). Granger causality test can be carried out using the PVAR model by separating exogenous from the Wald test. The long-term relationship can be investigated using the Panel Vector Error Correction Model (PVECM) and the effect of the short-term relationship using the Wald Test. Use PVECM if the data form is not stationary at I(0) and cointegration occurs even though it is stationary at I(1). PVECM can restructure the long-term relationship of endogenous variables to remain convergent into their cointegration relationship. The PVECM equation can be formulated as follows:

$$\Delta \boldsymbol{y_{it}} = \boldsymbol{\delta d_{it}} + \boldsymbol{\alpha \beta_1 y_{it-1}} + \boldsymbol{\Gamma X_{it}} + \boldsymbol{\epsilon_{it}}, \boldsymbol{t} = \mathbf{1, 2, 3} \ldots . \boldsymbol{T}$$

Δy_{it} : difference matrix k variables observed

y_{it-1}: first lag matrix of observed variables

δ : the parameter matrix of the determinants of the model

d_{it} : determinant of vector to t

$\alpha\beta_1$: long term equation coefficient matrix

Γ: dynamic matrix of short term equations

X_{it}: matrix difference is observed at lag k

ϵ_{it}: error matrix conditions

This study will also examine the direction of the relationship between economic growth variables and interest variables, namely tax revenue, levy receipts, regional wealth receipts, other legitimate revenues, and PAD. stated that there are at least two methods to determine the direction of the relationship between variables. First, by testing causality statistically using the Granger Test. Second, by determining the direction of the relationship on an ad hoc basis based on the characteristics of the conditions formed, namely by looking at whether economic growth is often caused by changes in interest variables or interest variables are more often caused by economic growth.

D. CONTENT

1. Cointegration Test Results

Stationarity test results aim to determine the level of significance of each variable being tested. So based on the results of the stationarity test conducted by the author, the four research variables used have coefficient values above 5% (0.05) at the significance level. Therefore, the stationarity test was carried out again at the 1¬st Difference level on the variables of GDP, Travel and Tourism Contribution, Tourist Arrivals, and FDI. The results of the stationarity test at the 1st Difference level show that the four variables used are at a coefficient below 5%. Thus, the stationary degree of the variable in this study uses the highest degree for each variable, namely 1st Difference.

Table 1 Results of Augmented Dickey-Fuller Stationarity Test

Variabel	Significancy (Level)	Significancy (1st Difference)	Results
GDP	0.8762	0.0002	Stationary at 1st Difference
TA	0.9947	0.0000	Stationary at 1st Difference
INF	0.0003	0.0000	Stationary at 1st Difference
FDI	0.0898	0.0000	Stationary at 1st Difference

Source: Authors, 2022.

Then the optimal lag test analysis was carried out which aims to determine the length of the period that affects the independent variable on the other dependent variables. The results of the analysis of the optimal lag test are presented in table 2. LR test statistics choose the third order as the optimal lag length, namely the LR, FPE, and Akaike (AIC) information criteria. As for the information criteria, Schwarz (SC) and Hannan-Quinn (HQ) are in the order of VAR lag two. Thus the length of lag two will be used as the optimal lag in the econometric metrics used in this study. This result is different from the research conducted by Siddiqui dan Siddiqui (2019) which used a lag three VAR sequence with AIC information criteria.

Table 2 Lag Optimum Test Result

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-14935.98	NA	4.80e+58	1.464.704	1.465.355	1.464.967
1	-13865.88	2.087.756	1.56e+54	1.361.361	136.4614*	136.2676*
2	-13840.36	48.78740*	1.42e+54*	136.0427*	1.366.283	1.362.796
3	-13827.91	2.329.994	1.47e+54	1.360.776	1.369.234	1.364.197

Source: Authors, 2022.

In the cointegration test, it can be seen that three equations are cointegrated with each other. In the max eigenvalue test, three equations are cointegrated with each other. This study uses the Johansen cointegration test to investigate the long-term relationship between GDP, TA, INF, and FDI. Johansen's cointegration test results are presented in table 3. Trace statistics test the null hypothesis without cointegration, namely H0: r=0, against the alternative hypothesis of cointegration H1: r > 0 (Siddiqui dan Siddiqui, 2019). The probability value of the null hypothesis that there is no cointegrated equation is 0.0000, which is smaller than the 5% significance level, indicating the rejection of the null hypothesis. The probability value of at most one cointegrating equation is smaller than the significance level, indicating the rejection of the null hypothesis that there is at most one cointegrating equation. Similarly, the probability values of at most two and at most three cointegrated equations are less than the significance level, indicating the rejection of the null hypothesis, that there are at most two cointegrated equations. The trace test determines the existence of three cointegration equations at the significance level because the probability value is 12.9% greater than the significance level with the trace test result of 31.92. Thus, the null hypothesis can be accepted and it is known that there are 3 cointegrated equations.

Table 3 Cointegration Test Result

Hypothesized No. of CE(s)	Fisher Stat.* (from trace test)	Prob.	Fisher Stat.* (from max-eigen test)	Prob.
None	11.09	0.9884	1065.	0.0000

At most 1	187.0	0.0000	187.0	0.0000
At most 2	262.5	0.0000	115.0	0.0000
At most 3	26.61	0.3228	26.61	0.3228

Source: Authors, 2022.

Similarly, the results of the max Eigen statistic also show similar results. The null hypothesis that the condition, that there is no cointegration among the variables is rejected, indicating a long-term prevalence among the variables. The null hypothesis of at most one, two, and three cointegrated equations are also rejected because the probability value is lower than the 5% significance level. The Max Eigen test shows that there are 3 cointegration equations at 5% (table 3.), the probability value is 32.2% higher than the significance level, as well as the max-eigen test value is 26.61 which indicates the acceptance of the null hypothesis. The results show that GDP, TA, INF, and FDI are integrated. So, in the model, the relationship between variables is long-term, but the direction of causality needs to be identified.

2. Causality and P-VECM Results

Model yang disediakan oleh model PVECM adalah:

D(GDP,2)=C(1)*(D(GDP(-1))+10983.7674096*D(TA(-1))+34042382434.1*D(INF(-1)) + 2.29078549204*D(FDI(-1)) + 94960002.6725*@TREND(00) - 41508935923.7) + C(2)*D(GDP(-1),2) + C(3)*D(TA(-1),2) + C(4)*D(INF(-1),2) + C(5)*D(FDI(-1),2) + C(6)*D(GDP(-2),2) + C(7)*D(TA(-2),2) + C(8)*D(INF(-2),2) + C(9)*D(FDI(-2),2) + C(10)*D(GDP(-3),2) + C(11)*D(TA(-3),2) + C(12)*D(INF(-3),2) + C(13)*D(FDI(-3),2) + C(14)

C(1) is used to measure the speed of adjustment toward balance and is an error correction term (Kaushal & Pathak, 2015). The coefficient of cointegration equation C(1) is -0.079729 and the corresponding probability value is 0.0354. Thus, the probability value of C(1) is significant because it is less than 5%. This indicates the occurrence of long-term causality starting from GDP, TA, INF, and FDI. To see short-term causality, the Wald coefficient test was carried out (table 5). Based on the results of the Wald test, it is known that the Chi-Square result is 8.346 with a probability value of 0.0394 below 5%. Thus, the results of the Wald test indicate the occurrence of short-term causality between GDP, TA, INF, and FDI.

Tabel 5 Wald Coefient Test Results

Test Statistic	**Value**	**df**	**Probability**
Chi-square	8.346646	3	0.0394

Source: Authors, 2022.

Furthermore, table 5 will describe the absence of long-term causality from GDP, and TA to the endogenous FDI variable because the overall probability value of chi-square does not match significantly in the selected OIC countries. In table 5 only inflation (INF) has a long-term causality to FDI with a probability of 0.0208. Furthermore, Table 6 shows information that the overall chi-square probability value of TA is statistically significant at 5%, indicating a long-term Granger causality of GDP, INF, and FDI to TA in selected OIC countries.

Table 6 VEC Granger Causality (FDI)

Excluded	Chi-sq	df	Prob.
D(GDP,2)	3.496.523	2	0.1741
D(TA,2)	1.483.769	2	0.4762
D(INF,2)	7.744.655	2	0.0208
All	1.211.273	6	0.0595

Source: Authors, 2022.

Table 7 VEC Granger Causality (TA)

Excluded	Chi-sq	df	Prob.
D(FDI,2)	4.477.015	2	0.1066
D(GDP,2)	9.702.613	2	0.0078
D(INF,2)	1.893.117	2	0.3881
All	1.290.119	6	0.0446

Source: Authors, 2022.

In table 8 it can be seen that TA, INF and FDI do not form long-term causality to GDP. While the INF variable in table 9 shows the existence of long-term causality from other exogenous variables (GDP, TA and FDI).

Tabel 8 VEC Granger Causality (GDP)

Excluded	Chi-sq	df	Prob.
D(FDI,2)	2.995.560	2	0.2236
D(TA,2)	1.110.996	2	0.5738
D(INF,2)	2.220.263	2	0.3295
All	5.720.847	6	0.4552

Source: Authors, 2022.

Tabel 9 VEC Granger Causality (INF)

Excluded	Chi-sq	df	Prob.
D(FDI,2)	8.173.771	2	0.0168

D(GDP,2)	0.330506	2	0.8477
D(TA,2)	3.620.606	2	0.1636
All	1.318.355	6	0.0402

Source: Authors, 2022.

3. Discussion

The results of the Augmented Dickey-Fuller (ADF) test show that there is stationarity at the 1st Difference level, this proves that the data on economic growth (GDP), tourism (TA), inflation (INF), and foreign direct investment (FDI) are stationary and can be continued for the cointegration test. max-Eigen. The results of the cointegration test show that there is a long-term relationship between GDP, TA, INF, and FDI. The results of the two tests are in line with previous research (Khoshnevis Yazdi et al., 2017; Kyara et al., 2021; Siddiqui & Siddiqui, 2019).

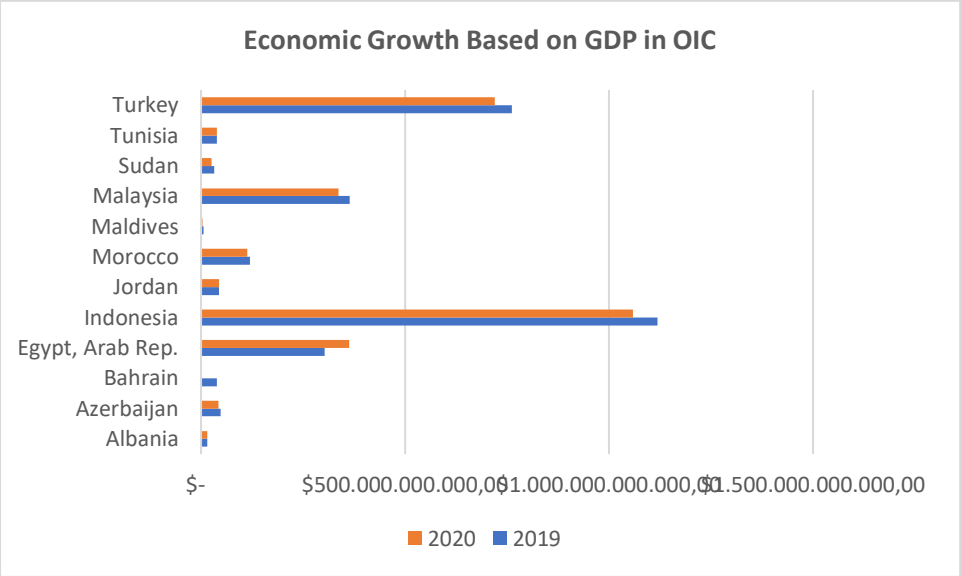
The results of the analysis resulting from the VEC model confirm that tourism using indicators of tourist arrivals (TA/number of tourist arrivals), inflation (INF), and foreign direct investment (FDI) have a long-term effect on economic growth (GDP). It is proven that the tourism sector has a significant influence on GDP in OIC member countries. When inflation is too high or too low, this will have an impact on public consumption, which if public consumption is low will cause people to tend not to travel or travel. If people's preferences decrease in tourism, of course, this will have an impact on state income which will affect its GDP.

During the Covid-19 pandemic, governments in various countries, especially the OIC, have implemented lockdowns and social distancing to suppress the spread of the virus. This has resulted in a decrease in the number of domestic and foreign tourists, thus causing a decline in GDP in the country. In Chart 1. It can be seen that GDP in several OIC member countries has decreased except for Egypt, which has increased from $303 billion to $363 billion, and Bahrain, for which GDP data is not yet known in 2020. Although tourism data (TA) at the World Bank in 2020 has not yet been published, it can be predicted that the decline in GDP in several OIC member countries is caused by a decrease in the number of tourists visiting Indonesia(Utami & Kafabih, 2021), Malaysia (Hamid et al., 2021), Albania (Burlea-Schiopoiu & Ozuni, 2021; Lazimi, 2021), Azerbaijan (Hajiyeva, 2021), Jordan (FAFO, 2021; Jordan Strategy Forum, 2021), Moroko (Cherkaoui et al., 2020), Maldives (Adam et al., 2020; UNDP, 2020), Sudan (Abbas et al., 2021; East African Community, 2021), Tunisia (Kokas et al., 2021; Mansour & Salem, 2020) and Turki (Karadas, 2020; Kervankıran & Bağmancı, 2021).

Although Egypt's GDP did not decline like other selected OIC member countries (chart 1), the Covid-19 pandemic also had a significant impact on the tourism sector in

Egypt (Breisinger et al., 2020; Hamdy Ayad et al., 2020). Likewise, Bahrain has experienced a significant impact on the tourism sector due to Covid-19, this is in line with research conducted by Vanzetti David dan Peters Ralf (2021) that a decrease in the number of tourist arrivals increases unemployment and causes Bahrain's GDP to decline.

Figure 4. Economic Growth by GDP in the OIC



(Source: World Bank Data 2021, data processed by authors)

However, the results of the VEC Granger Causality (table 8) state that TA does not have a causal relationship (unidirectionally) with GDP because the probability is 0.57 or above 5%. In the short term, based on the results of the Wald Coefficient Test (table 5) with a probability result of 0.039 which is below 5%, it shows that there is causality between TA, INF, and FDI that affect GDP. Thus it can be concluded that the tourism sector, inflation, and foreign direct investment have long and short-term effects on economic growth. However, both the tourism sector, inflation, and foreign direct investment do not have a relationship (unidirectionally) with economic growth.

The existence of an indirect relationship between each of the TA variables on GDP in the short term is evidenced by the decrease in the number of tourist arrivals in OIC countries during the Covid-19 pandemic. Declining tourist arrivals have an impact on business tourism, as tourists will spend more on foreign spending as recorded in visitor exports. In addition, the tourism industry is a source of foreign exchange for most OIC countries so in the short term, when there is a decrease in tourist arrivals, it will indirectly (unidirectionally) have a negative (decreasing) impact on the country's economic growth, while this is in line with the research of Brida et al

(2020), Florido-Benítez (2021), Khalid et al (2021) Siddiqui and Siddiqui (2019)). Therefore, avoiding a protracted crisis is important in creating jobs and income for many economic agents in both developing and developed countries and thereby contributing to driving economic growth in the long term.

The inflation variable also shows an indirect relationship to economic growth in the short and long term. This is evidenced by the economic conditions in OIC countries which experienced an increase in the percentage of inflation as a result of the economic wheel being hampered during the Covid-19 pandemic (Abbas et al., 2021). The high inflation in several OIC countries had an impact on decreasing the number of tourist arrivals so economic growth also experienced a decline. This is in line with Fauzel (2020) who states that if inflation tends to be low it will attract tourists to travel it can encourage economic growth. Thus, inflation, which then causes the price of necessities to soar, is also a reason for people to put aside their desire to travel, which is a tertiary need, and choose to fulfill their basic needs first.

Finally, the FDI variable also has an indirect causal relationship to economic growth in the short and long term. This is evidenced in the research of Siddiqui and Siddiqui (2019), that tourist arrivals greatly affect the amount of FDI invested in a country in building tourist sites. If the number of tourist arrivals decreases, it will indirectly be impacted the number of funds to be invested (FDI). Low FDI received by a country indicates low interest in the tourism sector in that country, as do several OIC countries such as Albania, Togo, Tajikistan, and Mozambique. Even though the tourism sector is only one sector of economic growth, a good tourism sector is also an opportunity for the country to get numerous FDI recovery so that it can help the country's economy well in the short and long term.

E. CONCLUSION

This quantitative empirical research aims to explain the long-term and short-term effects of the tourism sector on economic growth in OIC member countries caused by the Covid-19 pandemic and determine steps that the government can take in restoring the tourism sector. The twelve countries included in the purposive sampling criteria used by the researchers are Indonesia, Malaysia, Albania, Azerbaijan, Bahrain, Egypt, Turkey, Tunisia, Sudan, Morocco, Maldives, and Jordan. Through the variables of the tourism sector (tourist arrivals/TA), inflation (INF), foreign direct investment, and economic growth (GDP) this study uses VEC and Granger Causality analysis techniques to determine the short-term and long-term effects, as well as the relationship between the variables used.

Based on the results of the analysis above, it can be seen that the overall tourist arrivals (TA), inflation (INF), and foreign direct investment (FDI) variables have a causal effect on the economic growth variable (GDP) in the long and short term. However, both the tourism

sector, inflation, and foreign direct investment do not have a relationship (unidirectionally) with economic growth. The results of this study provide a new view on the differences in the variables used, namely in this study the author uses the inflation variable instead of the exchange rate variable because of the availability of more complete data and stationary on the inflation variable.

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