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THE IMPACT OF TOURISM SPECIAL ECONOMIC ZONES (SEZS) IN ENCOURAGING REGIONAL ECONOMIC GROWTH

ABSTRACT

This paper analyzes the impact of Tourism SEZs in encouraging regional economic growth as measured through GDP. Indonesia has advantages in terms of economy and geography, this advantage makes Indonesia have tourism potential in each region. However, there is a gap in infrastructure and supporting facilities, so the Government of Indonesia through the RPJMN established a Tourism SEZ through collaboration with private companies to encourage economic growth in the area. In addition, this program is expected to measure the impact of Tourism SEZs on regional economic growth and how the gap between regions is. This study uses the *Difference in Difference* method with *Staggered Treatment Timing,* with a time period of 2010-2022. The results of the estimate found that the Tourism SEZ did not have a positive and significant influence on regional economic growth. The impact on regional economic growth will only be seen in the long term. In addition, control variables such as population and regional expenditure showed a positive influence, while population density variables had a negative influence on regional economic growth.

Keywords: *Tourism SEZ; GDP; Diffrence in Difference (DiD)*

JEL Classification: O18, L83, L88

INTRODUCTION

Special Economic Zones (SEZs) are development programs in areas that have advantages, both geo-economic and geo-strategic advantages that function as centers for the industrial and economic sectors. According to Law No. 39 of 2009 concerning Special Economic Zones, SEZs are determined to carry out or provide economic functions and obtain certain facilities. In the study, there are several important findings related to the influence of SEZs on regional economic growth. First, the SEZ program has a positive impact on investment. Second, the SEZ program produces significant agglomeration, one of which can increase technological advancements. Third, the average wage of the workforce has increased by 5%. Fourth, an increase in investment, the total growth of production factors, and price factors. (Alder et al., 2013)

The concept of economic growth is one of the government's responses in efforts to distribute development equally. In the National Medium-Term Development Plan (RPJMN), it is stated that efforts to distribute development equitably are due to inequality between regions because the regional growth centers have not been evenly distributed. Therefore, the government focuses on building a strong economic structure by utilizing superior and quality resources so as to accelerate the corridor of economic growth.

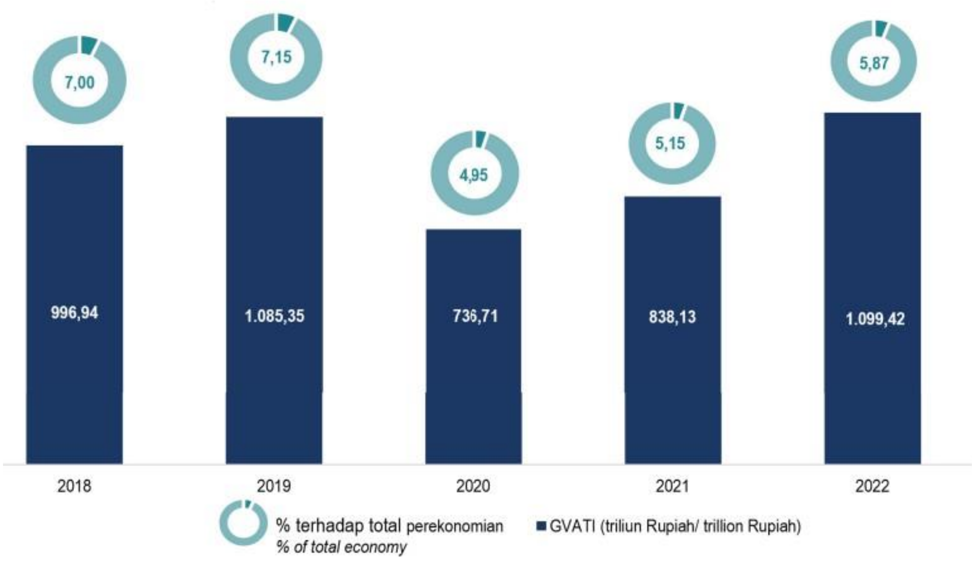
When viewed in relation to economic growth, the tourism sector is one of the important factors in economic growth, with many countries, such as China, Indonesia, the Maldives, and Spain, making it a key to development. . Indonesia, with its tourism advantages, has established a tourism special economic zone (SEZ) in the 2015-2019 National Medium-Term Development Plan (RPJMN). Tourism SEZs are the government's strategy to stimulate economic growth, especially in the tourism and creative economy sectors, with the aim of increasing income, community welfare, and tax contributions from tourists and social facilities in tourist areas. (C. Wang & Xu, 2011)

The development of this tourism SEZ is not only on the initiative of the government but also in collaboration with the private sector. Such as the development of the Mandalika SEZ carried out by PT Pengembbagan Pariwisata Indonesia (Persero), the Likupang SEZ developed by PT Minahasa Permai Resort Development, and the Tanjung Kelayang SEZ by the Development and Management Business Entity (BUPP) of the Tanjung Kelayang SEZ. With good collaboration between the government and the private sector, the potential of tourism can be maximized to support economic growth and community welfare.

This collaboration makes the development of Tourism SEZs a center of economic activities that have the potential to be used in various businesses, such as recreation, entertainment, exhibitions, and meetings. The main goal is to attract investors, create new jobs and provide direct benefits to the local community. In addition, according to the Ministry of Tourism and Creative Economy, the tourism sector is estimated to absorb up to 13 million workers by 2024. The government also provides incentives to attract more investment. According to data from the Ministry of Tourism and Creative Economy, the tourism sector has experienced an average investment growth of 10% per year in the last five years, which shows the increasing interest of domestic and foreign investors.

Not only that, according to data from the Central Statistics Agency (BPS), the contribution of the tourism sector to the national Gross Domestic Product (GDP) reached around 5.87% in 2022, with significant growth projections due to increasing interest in domestic and international tourists. This makes tourism one of the driving sectors of the economy, taking advantage of natural and cultural resources. Natural tourism locations that are far from urban areas also contribute to the creation of jobs and wages between cities and villages. (Mitchell, 2007). If reviewed in detail, the contribution of the tourism sector to GDP can be seen from the graph below.

Graph 1. 1 Tourism Contribution to the Indonesian Economy, 2018-2022



Source *:* BPS (2024)

From the graph above, it can be seen that the contribution of tourism to the economy before the Covid-19 pandemic was in the range of 7%. However, after the Covid-19 pandemic, the contribution of tourism to the economy decreased significantly to 4.95%. This is due to travel restrictions and a decrease in the number of tourists in 2020 (*BPS, 2024, p. 17*). However, in 2021-2022 it has shown a recovery in the tourism sector, which is marked by an increase in contribution to 5.87% in 2022. Although the increase in 2022 has not reached the same level before the pandemic, from 2021-2022 it has shown a positive trend from the tourism sector.

The increase in 2022 indicates the potential for further recovery from the tourism industry, which shows positive indications in several sectors of the tourism industry. Although in some sectors it still has not reached the same level of growth as before the pandemic, such as air transportation services, sports and recreation, and other tourism services. Therefore, a specific policy and strategy is needed to support the recovery of these sectors, including perhaps special incentives and policy support to help these sectors.

The Tourism SEZ program is the government's strategy to encourage regional economic growth, restore the tourism sector after the Covid-19 pandemic, and reduce the development gap in the tourism sector. This program involves optimizing natural resources, infrastructure development, and developing supporting facilities. In addition, this program also aims to increase regional managerial capacity by utilizing decentralized funds more effectively, where the managerial capacity of local governments is a crucial factor in the success of SEZs. Research by indicates that many regions do not have experience in planning and executing large projects. This limited managerial capacity can hinder the effective use of funds and resources, thereby reducing the expected positive impact of SEZs. (Siregar et al., 2022)

In addition, although tourism SEZs promise various benefits, in the development of tourism SEZs face challenges, such as unequal resources and regional potential, where some regions have a comparative advantage while others do not. A World Bank report states that 60% of tourism destinations in Indonesia have inadequate infrastructure, hindering the growth of this sector. This challenge encourages an in-depth analysis of regional characteristics and development potential to reduce disparities and encourage integrated infrastructure for the success of tourism SEZs.

Although there is a lot of research on the impact of tourism on economic growth, there is still a lack of research that focuses on the specific impacts of Tourism SEZs. Most previous studies have placed more emphasis on the impact of the tourism sector in general, without considering unique factors related to SEZs and government programs. The research conducted by also highlighted the importance of infrastructure for tourist attractions, but did not directly link it to the success of SEZs. In addition, research by shows that SEZs can contribute significantly to economic growth, although the mechanisms and factors influencing these impacts still need to be further explored. Dalimunthe et al. (2020) Widianto (2021)

Therefore, it is important to conduct more in-depth research on how Tourism SEZs can affect regional economic growth, as well as the challenges and opportunities that exist. This study aims to analyze the impact of Tourism SEZs on regional economic growth, identify factors that affect their effectiveness, and provide recommendations for better policy development.

In conclusion, this study aims to deepen the understanding of the influence of tourism special economic zone (SEZ) development on economic growth in the region. In the context of this study, according to data from the Ministry of Tourism and Creative Economy (2023), there are 6 tourism SEZs that are the focus of this study, namely: Mandalika (NTB), Tanjung Kelayang (Bangka Belitung), Likupang (North Sulawesi), Tanjung Lesung (Banten), Singhasari (East Java), Morotai (North Maluku).

This study uses the Difference in

Difference (DiD) method with Staggered Treatment Timing, analyzing annual data for 12 years (2010-2022). The data is divided into three periods: before the tourism SEZ policy (2010-2012), during the phased implementation (2012-2019), and after the policy is implemented (2020- 2022). This study aims to measure the impact of tourism SEZ development on regional economic growth and provide policy recommendations for sustainable regional and tourism sector development.

Referring to the background of this study, the formulation of the problem to be researched is how the impact of tourism SEZs in encouraging regional economic growth. Do areas with tourism SEZs have a higher GDP than other regions? The purpose of this study is to find out the impact of tourism SEZs on regional GDP.

LITERATURE REVIEW

1. Endogenous Growth Theory

Endogenous growth theory offers a more comprehensive perspective than previous growth theories. The previous theory only focused on the importance of capital accumulation in economic growth,

while this theory explains that to achieve a high rate of economic growth, a country also needs to make large investments. The funds used to finance investments are obtained from domestic savings. However, in developing countries, there is a gap between investment needs and the amount of accumulated domestic savings. This problem is traditionally overcome by making loans or foreign investment assistance (Arsyad, 2019)

The model in the endogenous economic growth theory does not rely on the assumption of decreasing marginal returns from capital investment, but uses the assumption of an increase in yield as it scales on its aggregate function. This model highlights the importance of externalities in determining the rate of return on capital investments. The production function in the endogenous growth model can be described by the following formula: (Arsyad, 2019) Y = f (Kt, At, Lt) .... (1)

Where Y refers to total output, Kt is the accumulation of physical capital, At is the research and development (R&D) carried out by every company in the economy, and Lt is the accumulation of human capital (Arsyad, 2019)

2. Special Economic Zone (SEZ)

According to Law No. 39 of 2009 concerning Special Economic Zones (SEZs), SEZs are areas designated by the government to develop certain economic activities by providing facilities and facilities, as well as fiscal and non-fiscal incentives. So, SEZs are a form of government intervention in the economic sector that aims to increase investment and encourage economic growth in the regions. When viewed geographically, SEZs are a limited geographical area, regulated by specific regulations and laws with the aim of attracting investment, both domestic and foreign investment (Walsh, 2013; Shah, 2012 ; Mines & Varshney, 2012)

According to article 7 of Law No. 39 of 2009, districts appointed as SEZs must meet the following economic criteria:

1. In accordance with the Regional Spatial Plan and not disturbing the protected area;
2. Receiving support from the provincial government and/or the relevant regency/city government;
3. Located close to international trade routes, international shipping routes in Indonesia, or located in areas of potential superior resources; and
4. It has clear territorial boundaries.

Meanwhile, the physical requirements that must be met by a SEZ according to article 4 of Law No. 6 of 2003 concerning Job Creation and article 5 No. 40 of 2021 concerning SEZ Organizers are as follows:

1. It is a superior area that has a high relationship with other superior areas and its surroundings.
2. Have a land transportation network with a travel time to the port or airport of no more than 3 hours.
3. Provide infrastructure for water resources, electricity supply, and telecommunications with adequate international capacity.
4. Not included in the protected area.
5. Located near or having good access to the city which has the status of a national activity center (PKN).

3. Tourism SEZ

Tourism SEZs according to Law No. 39 of 2009 are areas developed for tourism activities by providing facilities and incentives to investors and tourism industry players with the aim of increasing tourism competitiveness, creating jobs, and developing supporting infrastructure in the tourism sector.

The Tourism Special Economic Zone (SEZ) was established by the Indonesian government through the Ministry of Tourism and Creative Economy to stimulate economic growth, especially in the tourism and creative economy sectors. Tourism SEZs are intended for business activities related to recreation, entertainment, exhibitions, meetings, and similar activities. The potential of natural resources in Indonesia is considered very large to be developed through integrated tourism development.

According to data from the Ministry of Tourism and Creative Economy (2023), the Indonesian government has established 6 tourism SEZs in Indonesia, namely: (1) Tanjung Kelayang SEZ, Belitung Regency, Bangka Belitung; (2) Tanjung Lesung SEZ, Pandeglang Regency, Banten; (3) Singhasari SEZ, Malang Regency, East Java; (4) Mandalika SEZ, Central Lombok Regency, NTB; (5) Morotai SEZ, Morotai Island Regency, North Maluku; (6) Likupang SEZ, North Minahasa Regency, North Sulawesi.

The tourism SEZ formed by the Ministry of Tourism and Creative Economy is designed to support the development of the tourism sector through special facilities and incentives to attract investment, improve infrastructure, and encourage local economic growth. Of the 6 tourism SEZs, there are 4 tourism SEZ areas that are included in the 10 priority tourist destinations, namely the Mandalika SEZ, Morotai SEZ, Tanjung Lesung SEZ and Tanjung Kelayang SEZ. These four SEZs are designed to develop the tourism sector on a large scale through infrastructure development, ecotourism development, and the organization of international events. Tourism SEZs in priority areas can have an economic impact on the surrounding area through job creation, increased community income, and local investment.

3. Previous Research

In this literature review, several previous studies were found that became references and comparisons to clarify research concepts and also *research gaps* that became the focus of this research. Some from previous research (Lee & Chang, 2008; Yakup & Haryanto, 2019; Pratiwi, 2024 ; Alejandro et al., 2024) found that the tourism sector has a positive impact on regional economic growth. The study looked at the influence of tourism on economic growth from various aspects such as: 1) the average length of stay; 2) room occupancy rate; 3) the number of tourists;
4) The average length of stay is proven to have a positive impact on economic growth in Bali Province. Prativi (2024)

Not only that, in a study that reviews the influence of tourism on economic growth, it is also stated that in non-OECD countries actually have a greater influence than OECD countries. This is because there is a causal relationship between tourism development and economic growth, so greater policy implications are needed to see how the tourism sector works on economic growth in the country. Lee & Chang (2008)

Different results are seen from the study conducted by , where this study shows that tourism does not have a significant impact on economic growth in both the short and long term. However, some aspects of the economy used such as trade volume, and consumption ratios have a positive relationship with economic growth in Nepal. In the context of tourism and economic growth, the results of this study show insignificant results for Nepal. Bhattarai (2021)

In terms of SEZ development, several studies have been conducted such as a study in China and which show that SEZs have a positive impact on economic growth. This relationship is reviewed from several aspects where it can be seen that the impact of SEZs on foreign investment and domestic investment is positive so that an economic agglomeration is achieved that results in an increase in wages for workers rather than an increase in the cost of living. These studies used the J. Wang (2013) Arboline (2022) *Difference in Difference (DiD with staggered treatment timing*) method to compare *the outcomes* between the *treatment* group (areas within the scope of the KEK) and the control group (areas outside the scope of the KEK) before and after the SEZ policy was implemented at different stages of time.

The difference in the results of studies and policies related to tourism in a certain country and regions is the basis for the need for further review to be carried out by the author. This study links the development of SEZ areas in areas that have tourism advantages to economic growth in the area. Not only that, quoting from research conducted by, this study also aims to measure the impact of Tourism Special Economic Zones (SEZs) on regional economic growth. Arboline (2022)

4. Conceptual Framework

The conceptual framework describes how the author builds a hypothesis and explains the theory to answer the hypothesis constructed. The hypothesis formed by the author is based on several theories and previous studies that have been studied by the previous author. There are several reasons for the development of the hypothesis formed by the author, namely the issue of economic equity gap in tourism areas such as inadequate infrastructure and facilities in tourist areas and so on will be associated with government programs related to tourism SEZs. This connection is to review how effective the government's intervention is in achieving higher regional economic growth compared to other areas that are Tourism SEZ areas. In addition, as explained in the endogenous growth theory, there are several other factors that affect regional economic growth which will later be used as control variables in this study such as: Number of population, population density and regional spending.

From the conceptual framework and theoretical basis as well as previous research, the hypothesis that can be formed is to test the direct influence of SEZ indicators on regional economic growth by using GDP as a projection.

H1 : Areas with Tourism SEZs have higher

GDP growth than other regions

RESEARCH METHODS

The method used in this study is quantitative research. According to Malhotra (2009), quantitative research is a methodology that seeks to measure data and often involves various forms of statistical analysis that are causal. This type of research aims to understand the causal relationship and the relationship between variables (Malhotra, 2009), namely to find out the relationship and impact of the implementation of tourism SEZ on regional economic growth. Where, the data used in this study is secondary data obtained from pre-existing sources, both through literature studies and data from government agencies. This data includes several variables including:

1. Dependent Variables

A dependent variable is a variable that is influenced by another variable or is a factor that is influenced by one or several other variables. In this study, the dependent variable is Economic Growth, which is measured based on the value of regional GDP by including the accumulation of the transportation and warehousing sectors, the provision of accommodation and food and beverages, corporate services, and other services at the district/city level as *a proxy* for GDP in the tourism sector.

2. Independent Variables

Independent variables are variables that affect other variables. That is, this variable is the cause of the change in the dependent variable. The independent variable used in this study is tourism SEZ as a *dummy variable*. The KEK variable is a *dummy treatment* location, where it is valued at 1 if the tourism SEZ policy is implemented and 0 when the policy is not implemented.

3. Control Variables

Control variables are variables that are considered to affect the relationship between independent and dependent variables. This variable is used to determine whether a particular independent variable actually affects the dependent variable or if there are other factors at play. In this study, the control variables used are Population Number, Population Density, and Regional Expenditure.

4. Population and Sample

The sample in this study includes economic growth data in the form of accumulated transportation and warehousing, provision of accommodation and food and beverages, company services, and other services at the district/city level as *a proxy* for GDP in the tourism sector in 6 Parwisata SEZ areas in a period of 12 years from 2010-2022.

This study uses analysis units at the district/city level, namely districts/cities located in provinces that have tourism SEZs, including Bangka Belitung, Benten, East Java, West Nusa Tenggara, North Maluku, and North Sulawesi. The main dependent variables in this study are the accumulation of transportation and warehousing, the provision of accommodation and food and beverages, corporate services, and other services as *a proxy for* GDP in the tourism sector. Data for the control variable were obtained from the publication of BPS of each province and related districts/cities.

5. Data Analysis Methods

This study applies *the difference in difference (DiD)* estimation method with *Staggered treatment Timing*. The use of this method is based on seeing the impact of the tourism SEZ policy which will later be a *treatment* group compared to areas that are not SEZs as a *control group*. *Staggered Treatment Timing* is used when the intervention or policy to be evaluated is not applied simultaneously to the entire population sampled. This is what makes it possible to use *the event study* or DiD method with different policy setting times (Callaway & Sant'Anna, 2020; Abraham, 2021).

The expected result of the use of this method is a counterfactual effect to see that the causality between regions with tourism SEZs has better economic growth than regions without tourism SEZs. The model specifications for analysis can be seen in the equation below.

$$\mathbf{Ln\ (PDRB_{ijt}) = \sum_z \alpha_z KEK_{ijtz} + \beta_1 Ln\ PDRB_{ij,t-1} + \beta_2 Penduduk_{ijt} + \beta 3 Kepadatan_{ijt} + \beta 4 PBD_{ijt} + \eta_i + \gamma_t + \lambda_{jt} + \varepsilon_{ijt}}$$

Where the subscripts i, j, and t represent the district/city, sector, and year. The dependent variable used is ln GDP, while the main independent variable is the SEZ, in the form of a dummy value of 1 if the SEZ policy is implemented and 0 if not in sector j in a certain period of time z ((pre- treatment, during treatment, post-treatment, or other stages within the framework of the event study). Control variables include the number of population, population density, and regional expenditure. This model is designed to measure the influence of SEZs on regional economic growth based on GDP.

The coefficient α_z is a coefficient for the SEZ variable that will measure the impact of the SEZ on economic growth at various stages of time. The authors also include the fixed effect of the time invariant province denoted by η_i.. In addition, γ_t is a fixed effect of time to deal with general time trends, λ_{jt} fixed effect of a sector per time to capture the variation between sectors in the same time period εijt represents the error term. Before testing is carried out, there are several assumptions that must be met in order to obtain causal results:

1. Parralel Trand

This assumption explains that the control group and the treatment must have the same trend before the intervention.

2. Stable Unit Treatment

This assumption states that there is no impact from the treatment group received by the control group (spillover)

3. No exchange between groups

This assumption states that during the analysis period no treatment group changes to a control group.

Based on the presentation in chapters 1 and 2, the hypothesis that will be tested in this study is that "the development of tourism SEZs is significantly positively related to GDP". So the statistical hypothesis in this study can be formulated as follows:

H1: β1 > 0 (Areas with Tourism SEZs have higher GDP growth than other regions)

RESULTS AND DISCUSSION

a. Descriptive Analysis

The descriptive statistics of the variables presented in the study aim to expand the analysis and support the main findings. Where the main variable used in this study is the Gross Regional Dosmestic Product (GDP) which is used to measure economic growth in an area. According to Mankiw (2007), economic growth is an indicator that can measure the success rate of the development of a region and become the basis for determining future policies. The calculation of economic growth is seen from the Gross Regional Domestic Product (GDP) whose changes are macro indicators in measuring the success of regional development. The GDP used in this study is a constant price GDP used to determine real economic growth from year to year that is not affected by price factors. (Romhadhoni et al., 2018)

Table 4.1 presents data on the variables used in the study, such as GDP, *dummy variables* of SEZs, and several control variables such as population number, population density and regional spending. This research was conducted at the level of regional analysis (districts and cities). Where the sub-sample of this study consists of 6 provinces covering 87 districts/cities in the period from 2010 to 2022, so that the total sample is 1,131 observations. From the table below, it can be seen that the average economic growth rate from 2010 to 2022 is 18,726 with an average population of 557.09 and a population density of 436,803.

Table 4. 1 Overall Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
lnpdrb	1131	18.726	2.002	13.567	24.865
Cake	1131	.069	.254	0	1
Density	1131	436.803	236.544	1	819
Inhabitant	1131	557.092	321.481	2	1111
Pbd	1131	27.795	.656	25.72	29.877
Kabkot	1131	44.68966	25.49659	1	88

Source: Processed by the author

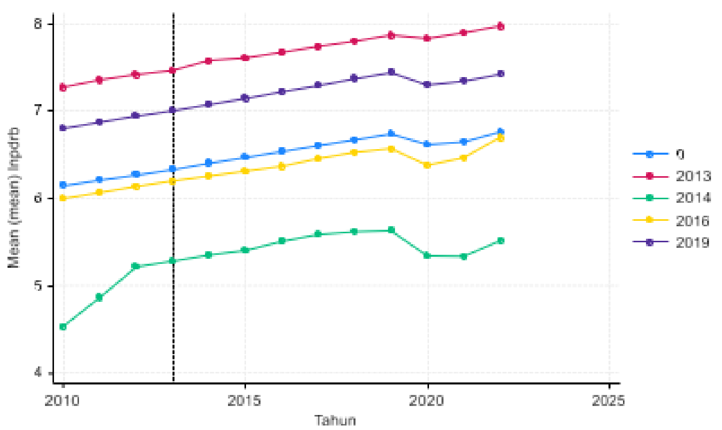
b. Parallel Trend Analysis of GDP Growth of Kota Regency Treatment Group and Control Group

Before conducting difference in difference regression, the *unit selected as the control group* must have a parallel trend outcome in the period before the treatment is carried out. The treatment period began in 2013, meaning that before 2013 both groups must have similar outcome trends over time.

This parallel trend assumption can be done bydiagnosing visual inspection, namely looking at the trend of the outcome of the control and treatment groups before the policy is set (Setya, 2022).

The parallel trend of GDP growth per capita from *the control and treatment groups* can be seen from the chart below.

Figure 4. 1 Parallel Growth trend of GDP treatment and control group before and after the establishment of the SEZ policy



Source: Processed by the author

From the graph above, it can be seen that the GDP growth trend shown by the

LNPDRB is shown, where the blue line represents the control area, the green line describes the condition of the Mandalika SEZ and Morotai SEZ areas, the yellow line for the Tanjung Kelayang area, the purple line for the Singhasari SEZ and Likupang SEZ, and the red line represents the Tanjung Lesung SEZ. From the graph, it can be seen that the *control* and *treatment* areas have a similar trend. Both before and after the policy, the GDP growth trend between *the treatment* and *control groups* looks the same. This means that the existence of SEZs does not show any influence on regional economic growth, nor does it seem that there is a difference between the trend of *treatment* areas and *control areas.* However, the *control* and *treatment* groups have a fairly substantial GDP gap. It can be seen that the GDP value for the Tanjung Kelayang SEZ has a similar value and is close to the same value as *the control* area, this proves that the existence of the Tanjung Kelayang SEZ in Belitung Regency does not show a significant influence on economic growth in the area. This means that economic growth in the area is the same as the surrounding areas even though the tourism SEZ has been implemented in Belitung Regency.

In addition, the Mandalika SEZ shows a gap in the value of GDP growth that is quite far below the control area. This means that the economic condition or GDP growth value in the Mandalika area, Central Lombok is still below the GDP value of its control areas such as: East Lombok, West Lombok, North Lombok and Mataram. However, it can be seen that after the SEZ policy is implemented, the Mandalika SEZ

shows an increase in which is quite significant compared to other treatment areas. This means that the existence of the Mandalika SEZ is able to increase the growth of the Central Lombok region's GDP.

Estimated Overall Impact

c.

Table 4. 2 Statistics on Regression of the Impact of SEZs on GDP

Regression results 1

lnpdrb	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]
Cake	-385.183	140.419	-2.74	.006	-660.399	-109.968
Treatment	.191	.07	2.74	.006	.054	.328
pdrb_1	.269	.014	18.68	0	.241	.298
Density	0	0	2.10	.035	0	0
Inhabitant	0	0	-2.25	.024	0	0
PBD	1.068	.062	17.18	0	.946	1.19
Constant	-15.747	1.61	-9.78	0	-18.902	-12.592
Mean dependent var	18.726	SD dependent var	2.003			
Overall r-squared	0.828	Number of obs	1130			
Chi-square	1709.027	Prob > chi2	0.000			
R-squared within	0.542	R-squared between	0.854			

Source : Processed by the Author

Regression results 2

lnpdrb	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]
Cake	-37.126	65.193	-0.57	.569	-164.903	90.65
Treatment	.018	.032	0.57	.57	-.045	.082
pdrb_1	.351	.016	22.52	0	.32	.381
Density	0	0	1.40	.16	0	0
PBD	.031	.018	1.73	.084	-.004	.067
Constant	10.934	.489	22.38	0	9.976	11.891
Mean dependent var	18.676	SD dependent var	2.013			
Overall r-squared	0.893	Number of obs	1054			
Chi-square	992.973	Prob > chi2	0.000			
R-squared within	0.523	R-squared between	0.991			

Source : Processed by the Author

Regression table 1 above shows the results using GDP data that includes food and beverage accommodation, with regional expenditure control variables per tourism function. Regression Table 2 shows the results of using GDP data which includes the accumulation of transportation and warehousing, the provision of accommodation and food and beverages, company services, and other services per district/city area, with the regional expenditure control variable, namely the total realization of regional expenditure per district/city. From the two tables above, it can be seen that the *treatment* variables both show a positive correlation, which is significant for regression 1 and not significant for regression 2. This means that regions that receive *treatment* related to the tourism SEZ policy as a whole tend to experience an increase in GDP growth of 19% for regression 1 and 0.18% for regression 2. Although it has a positive correlation, it is known that only a small part of the 6 tourism SEZs have actually had an impact on increasing regional GDP growth. Where, in the research conducted by showing that the Tanjung Lesung SEZ has a positive influence on increasing the growth of GDP in the Pandeglang area, Banten. In addition, according to the report of the SEZ Council (2020), it is stated that the only SEZs that have been successfully developed are the Mandalika Tourism SEZ and the Tanjung Lesung SEZ. However, the study supports this finding which shows that tourism SEZs have a positive and significant influence on regional economic growth compared to Manufacturing SEZs. Not only that, it is known that areas adjacent to the district/city are also affected by the policy ((Nadhir, 2018) Violita (2023) *spillover effect*).

As is the case in Central Lombok Regency, the existence of the Mandalika SEZ has a significant positive impact on increasing the GDP growth of the region and surrounding areas, such as East Lombok, West Lombok, and Mataram City. The SEZ policy encourages local economic growth and creates *a spillover effect*. This significant impact is also supported by the adaptation of local residents to tourism activities in the SEZ area. Residents in the area are often involved in economic sectors that support tourism, such as culinary businesses, handicrafts, and transportation services. Local communities are widely integrated into tourism activities through community-based training and programs (Suryade et al., 2022).

From the table above, it can also be seen that pdrb_1 (GDP in the previous period) has a positive and significant influence on the growth of regional GDP. These results show that there is no evidence of regional convergence, in fact, this study shows the occurrence of regional divergence. Where, regions with high GDP growth tend to maintain their advantages, especially with the tourism SEZ policy. This research

indicates the existence of economic divergence, where the gap between regions tends to remain or even increase over time.

d. Empirical Analysis

The first stage is to determine whether or not the growth trend of the treatment area (with SEZs) and the *control* region (without SEZs) is different before the intervention is carried out. This stage is important to see to ensure that the changes that occur after the intervention are actually caused by the intervention being tested, not by other factors that have occurred before. This means that without any intervention, the two groups should have similar growth patterns over time.

From table 4.3, it can be seen that the Pre_avg and Post_avg values show the average coefficients before and after the event/intervention. The coefficient value was not significant at the 95% confidence level, indicating that there was no significant difference between the mean before/after effects. Thus, it can be concluded that the two groups have the same trend, so that it meets the assumption of *parallel trends* and testing related to the effect of events on the main variables in the study can be continued.

Table 4. 3 Hasil Event Study dari Average Treatment Effect by Periods

Event Study:Dynamic effects

Event Study:Dynamic effects	Coefficient	Std.	err.	with	P>z	[95%
Pre_Avg	0.013	0.013	0.940	0.345	-0.014	0.039
Post_Avg	-0.040	0.021	-1.860	0.063	-0.082	0.002
Tm8	0.123	0.113	1.100	0.273	-0.097	0.344
Tm7	-0.026	0.027	-0.960	0.336	-0.080	0.027
Tm6	0.010	0.020	0.500	0.620	-0.029	0.048
Tm5	-0.004	0.012	-0.330	0.742	-0.027	0.019
Tm4	-0.000	0.009	-0.010	0.988	-0.018	0.018
Tm3	0.016	0.015	1.050	0.296	-0.014	0.045
Tm2	-0.015	0.032	-0.480	0.633	-0.078	0.047
Tm1	-0.002	0.009	-0.200	0.842	-0.020	0.016
Tp0	-0.011	0.008	-1.350	0.176	-0.028	0.005
TP1	-0.017	0.017	-1.030	0.301	-0.051	0.016
TP2	-0.020	0.015	-1.290	0.198	-0.050	0.010
TP3	-0.026	0.019	-1.370	0.170	-0.063	0.011
Tp4	-0.049	0.024	-2.040	0.041	-0.097	0.002
Tp5	-0.047	0.043	-1.120	0.265	-0.131	0.036
Tp6	-0.073	0.075	-0.970	0.330	-0.220	0.074
TP7	-0.119	0.079	-1.520	0.129	-0.273	0.035
TP8	-0.056	0.042	-1.330	0.182	-0.138	0.026
TP9	0.019	0.008	2.410	0.016	0.004	0.035

Based on the results of the *Staggered Timing Treatment* method with the event study in the table above, the p-value before and after the policy (*post average*) shows a value of more than 0.05 (with a confidence degree of 95%), so it can be concluded that

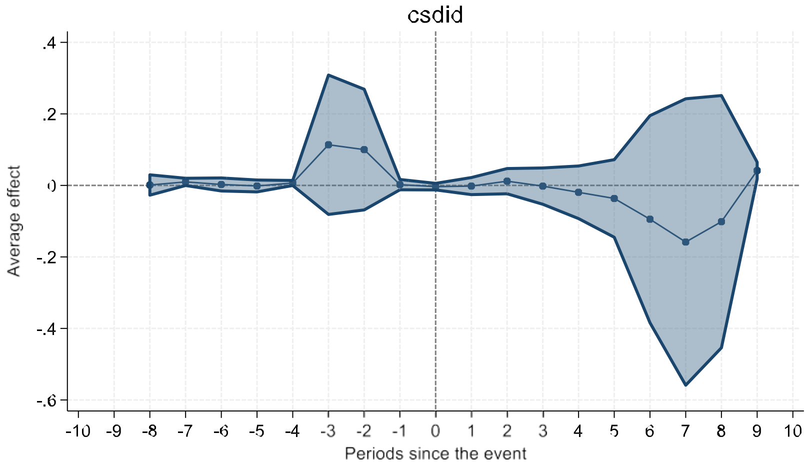
there is no significant influence of government policies related to tourism SEZs on GDP growth in the area. Not only that, the coefficient value on the *post average* shows a negative value. This means that the existence of tourism SEZs tends to reduce the growth of regional GDP, but this correlation is not statistically significant. So it can be said that the effect is weak or inconsistent, so we cannot conclude that the negative correlation between tourism SEZs and GDP growth is a real effect in that period (*post average*), even though there is a trend in a certain direction.

In the table above, it can also be seen that in the period Tm1 to Tm9, it shows the effects that occurred before the tourism SEZ policy was implemented (*Before Treatment*). In this period, it can be seen that there is no significant coefficient at the confidence level of 95% (α=5%), that is, it can be concluded that the effect *of the pre-treatment* of the tourism SEZ policy has no effect on the GDP of the region used as *a treatment.* This means that there are other factors that affect economic growth or GDP in *the treatment* area that are not explained in the model, such as investment, infrastructure, MSMEs, and government funding. (Suryade et al., 2022)

In addition, the Tp0 to Tp9 columns show the effect in the period after the tourism SEZ policy is implemented (*After Treatment*). In this period, it can be concluded that there is no significant coefficient at the confidence level of 95% (α=5%). In this period, it is seen only in the 9th period which shows significant results with a p-value of 0.016. It is also known that in the 9th determination period, there is a positive influence of the tourism SEZ *policy after treatment* on regional economic growth or the GDP of the *treatment* region of 0.0414. This shows that the impact after the policy intervention is carried out is only seen in the long-term period, namely the 9th period.

From the results of the study using *the Staggered treatment timing* method with an event study, it can be concluded that the H1 of this study is not met. Where the impact of the existence of tourism SEZs *before treatment* and *after treatment* does not have a significant positive impact on regional economic growth. This means that areas with tourism SEZs do not show that the area has higher GDP growth than other regions. This is because the existence of tourism SEZs actually reduces the growth of the region's GDP, and the positive effect of the policy only appears in the 9th period, which indicates that the influence of tourism SEZ interventions only appears in the long term after the intervention is carried out (*after treatment*). On average, the impact of the tourism SEZ policy cannot be seen on regional economic growth through increasing GDP growth in the short term. To see the impact of the tourism SEZ policy on economic growth clearly, it can be seen from the chart below.

Figure 4. 2 Results of the Analysis of the Impact of Tourism SEZ on GDP



Source: Processed by the author

From the graph above, it can be seen that before the government's intervention related to the determination of tourism SEZs as illustrated on the left side, it indicates that there is no significant effect between tourism SEZs (*before treatment*) on regional GDP growth. It can be proven that the average effect looks close to 0 and most of the confidence intervals depicted by the shadow line on the left side include zero. This means that before the government intervention, the growth of the region's GDP was caused by other factors that had occurred before the intervention was carried out.

For the horizon on the right, showing the impact of government intervention related to tourism SEZs (*after treatment*), it can be seen that since the establishment of the tourism SEZ in 2013 (period 1), its impact on GDP growth has only been slightly seen in the 2nd period. In fact, this growth did not last long, because the impact of tourism SEZs in the next period, namely periods 3 to 7, showed a negative influence. This means that the existence of SEZs in periods 3 to 7 actually reduces or reduces GDP growth in areas where there are tourism SEZs (*treatment groups*).

However, if viewed in the long term, such as periods 8 and 9, there has been an increasing movement towards GDP growth, this proves that the tourism SEZ policy (*after tretament*) is only visible in the long term. In addition, growth in this period shows a recovery in regional economic growth after a fairly drastic decline in periods 3 to 7.

e. Discussion

The development of tourism SEZs basically affects all aspects of space to support industrial and economic activities which ultimately affect many things, both in the area where the SEZ is located and around it. However, until 2020, the development of tourism SEZs can be said to still need a process to see the impact. (Amalia, 2019; Widianto et al., 2021)

Research shows that in aggregate, Tourism SEZs do not affect economic growth through increasing regional GDP growth. Although the regions that received *treatment* showed a significant positive impact on GDP growth, this result did not take into account the difference in the time for determining SEZs in each region. By using the *staggered treatment timing method*, the study can capture the difference in the time of determination of SEZs, provide a more causal analysis, and show that the impact of SEZs on GDP growth varies according to the time of its application.

The *staggered treatment timing* method shows that the development of Tourism SEZs has a small and insignificant impact on regional GDP growth in the short term. However, in the long term, the Tourism SEZ has proven to encourage regional economic growth, even after economic shocks. In the short term, the Tourism SEZ has the potential to become an economic agglomeration center that can provide a *spillover effect* for the surrounding area. However, as the impact of this development takes a long time, as per the findings that found that the improvement of tourism SEZ policies on GDP growth began to be seen after ten years and estimated a differential increase of around 20% in the long term. (Alder et al., 2016) Therefore, it can be said that tourism SEZs in Indonesia still need time to study the impact. The findings of this study support previous research where it was stated that SEZs have a positive influence on economic growth, but the impact is still small (Widianto et al., 2021 ; Syali et al., 2020;Amalia, 2019) . In addition, the study found that SEZs have failed to bring local socio-economic development and there is no spillover effect of development in the surrounding areas. Alkon (2018)

If reviewed from each tourism SEZ region, the study proves that the implementation of the Tanjung Lesung SEZ is still not optimal. The development of the Tanjung Lesung SEZ has not been in accordance with the action plan and the benefits have not been significantly felt by the community. Not only that, the development of the Morotai SEZ in North Maluku has also not had a positive impact and it can even be assumed that the current development of the SEZ actually has an impact on slowing economic growth in Morotai Island Regency by 9%. The development of the Tanjung Kelayang tourism SEZ also still needs the support of a competent workforce in accordance with the needs of this region. If you look at the impact on GDP as a whole, the contribution to the GDP of the tourism sector is also still relatively small compared to other sectors. Komala (2018) (Tukuboya & Sulistyaningrum, 2023)

Although several Tourism SEZs have a significant impact on economic growth, in aggregate the development of Tourism SEZs has not shown a significant impact in the short term. Although there has been a positive relationship since the implementation of the policy, the long-lasting development of SEZs and the impact of economic shocks due to the Covid-19 pandemic in 2019-2020 have reduced the effectiveness of the tourism sector, thus having a negative and insignificant impact on economic growth.

In responding to this and its effectiveness in the long term, local governments have adopted strategic steps that are in line with the priorities in the 2020-2024 RPJMN, namely:

1. Integration of RPJMD with RPJMN through adjustment and alignment of regional spatial plans with the infrastructure needs of Tourism SEZs.
2. The local government is accelerating the development of infrastructure and basic services in destinations such as

Mandalika and Likupang.

3. Utilizing the central government's program to attract investment in Tourism SEZs through fiscal and non-fiscal incentive schemes. In addition, the local government collaborates with SOEs, such as ITDC in Mandalika which can be a model for accelerating development in the region.
4. The local government together with the SEZ Management Agency set key performance indicators (KPIs) to measure the success of SEZs, according to the targets set in the RPJMN.

In addition, in responding to challenges and shocks that hinder the development of Tourism SEZs, local governments carry out a *Debottlenecking* system in SEZs. *Debottlenecking* is the process of identifying and removing obstacles that hinder the development or operation of SEZs to be more optimal in attracting investment, creating jobs, and improving the local economy. According to the Secretariat General of the National Council of Special Economic Zones, the development of SEZs can contribute to the regional economy in the long term through increasing investment and regional revenue, and the efforts that can be made by local governments (SEZ Regional Councils) are coordination *of debottlenecking* issues of SEZ development and management with relevant Ministries/Institutions as well as policy synchronization. The *debottlenecking* steps in the SEZ carried out are:

1. Local and central governments prioritize the construction of roads, airports, ports, and other public facilities. For example, the government has accelerated the construction of bypass roads in the Mandalika SEZ to support MotoGP.
2. Synchronization of rules between the central and regional governments through simplification of licensing or physical incentives for SEZs. For example, tax exemption and export-import facilitation, as well as the promotion of SEZs at the international level to attract strategic investors.
3. Community training to meet the needs of workers in the tourism sector, such as those carried out in the Likupang SEZ through skills training programs
4. Increase the involvement of SOEs and the private sector in building supporting facilities in Tourism SEZs, such as hotels, resorts, and recreational facilities.

This debottlenecking *system* has been implemented in several Tourism SEZs, such as: (1) Mandalika SEZ: overcoming accessibility barriers with a bypass construction program and utilizing MotoGP events to spur regional development; (2)

Likupang SEZ: the government focuses on building access roads and involving local communities in ecotourism projects to increase involvement in the development of the area; (3) Morotai SEZ: solving logistical and infrastructure barriers to attract investors in the maritime and tourism sectors.

With this *approach* from the local government, it is hoped that it can encourage the effectiveness of the development of Tourism SEZs and economic growth in the area. Not only that, socio-economic factors are also one of the important factors that can encourage regional economic growth. The study has considered these things, such as the relationship between the number of population, population density and the realization of regional spending.

The population and the increase in regional spending have a significant impact on GDP growth in areas with Tourism SEZs. The increase in regional spending is used for the development of facilities and infrastructure, encouraging tourist interest and tourism consumption. The high population also opens up economic opportunities for human resources through the existence of SEZs. These two factors contribute to economic growth by utilizing Tourism SEZs as a catalyst.

f. Conclusion and Advice

This study aims to examine the extent to which tourism Special Economic Zone (SEZ) policies can encourage economic growth in a region. Based on a theoretical model of economics with the *Differences in Diffenrence* method with *Staggered Treatment Timing*, it leads to see the influence of tourism SEZ policies *before* treatment and *after treatment* on regions that have tourism SEZs and regions that do not have tourism SEZs

This study concludes that Tourism SEZs in general do not have a significant impact on regional economic growth in the short term, influenced by factors such as infrastructure limitations, economic structure, and the impact of the COVID-19 pandemic. Positive impacts are starting to be seen in the long term, especially through spillover effects to surrounding areas. However, to achieve tangible results, it takes time, effort, and appropriate and integrated policies between the central and regional governments to maximize the benefits of Tourism SEZ development.

In addition, control variables such as population and regional spending also contribute to economic growth, showing an indirect influence from the existence of SEZs. However, if you look at economic convergence in each region, tourism SEZs have not been able to reduce the economic gap between regions. In fact, there is a tendency to increase the gap continuously. This study has limitations, such as a limited time frame to measure the long-term impact of Tourism SEZs and a lack of in-depth studies of government, economic, and other factors interactions. Policy recommendations include institutional development for cooperation with multinational companies, optimization of SEZs through infrastructure, research, and technology development, as well as increasing the role of local governments in spatial planning and local economic development.

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