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Impact of Domestic Tourist Spending on the Economy of West Java Province, Indonesia

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Input-output model, Economy impact, Tourism industry, Multiplier, Domestic tourist spending.

Abstract.
The development of tourism in West Java in recent years has shown an increasing trend in domestic tourists until 2021. The increased number of domestic tourists has had an impact on West Java's economic activity. However, the tourism sector itself is not defined as a distinct sector in economic statistics, and as a result, the economic impact from tourism contributions is not quite noticeable, especially in West Java Province. This study aims to highlight the impact of tourism on the economy of West Java by examining domestic tourist spending in 2021 and its effect on the economy. The study estimates the multiplier effect of domestic tourists' spending on production, income, gross value added, and employment, to determine the economic impact of tourism. The results of this study indicate that tourism has a significant impact and plays a significant role in the West Java economy, contributing 9.28% to GRDP and 12.39% of the total working population in West Java in 2021.

Kata Kunci:
Model Input-Output, Dampak perekonomian, Industri pariwisata, Pengganda, Belanja wisatawan domestik.

Abstrak.
Perkembangan pariwisata di Jawa Barat beberapa tahun terakhir menunjukkan tren peningkatan wisatawan nusantara hingga tahun 2021. Meningkatnya jumlah wisatawan nusantara berdampak pada aktivitas perekonomian Jawa Barat. Namun, sektor pariwisata sendiri tidak didefinisikan sebagai sektor tersendiri dalam statistik perekonomian, sehingga dampak ekonomi dari kontribusi pariwisata tidak terlalu terasa, khususnya di Provinsi Jawa Barat. Penelitian ini bertujuan untuk menyoroti dampak pariwisata terhadap perekonomian Jawa Barat dengan mengkaji pengeluaran wisatawan domestik pada tahun 2021 dan pengaruhnya terhadap perekonomian. Studi ini memperkirakan efek pengganda pengeluaran wisatawan domestik terhadap produksi, pendapatan, nilai tambah bruto, dan lapangan kerja, untuk menentukan dampak ekonomi dari pariwisata. Hasil penelitian ini menunjukkan bahwa pariwisata mempunyai pengaruh dan peranan yang cukup besar terhadap perekonomian Jawa Barat dengan memberikan kontribusi sebesar 9,28% terhadap PDRB dan 12,39% terhadap total penduduk bekerja di Jawa Barat pada tahun 2021.

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1. Introduction

Over the past few years, the tourism industry has become one of the important sectors that has experienced rapid development in the West Java economy. The development of this tourism industry, of course, cannot be separated from the increasing number of tourist visits, especially domestic tourists to West Java. Graph 1 shows data on the number of tourist trips made by domestic tourists to West Java where the number of tourists continues to increase almost every year. In 2021 alone, the number of domestic tourists to West Java is at 95 million visits, when compared to the total number of domestic tourist visits throughout Indonesia (603 million visits), West Java contributes 15.79% or is ranked third after East Java and Central Java as the most visited province in Indonesia

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(BPS, 2022b). The increase in domestic tourist visits to West Java is also accompanied by the development of various tourism businesses and services that serve all the needs of these tourists. The growth of domestic tourists and the development of the tourism industry in West Java show that tourism has a significant impact on the regional economy.

Tourism is a sector that is not defined as a distinct industry in either the regional or national economic system, making it difficult to determine its economic value or impact (Waluyo, 2016). This is also the case in the West Java economy, where the contribution of the tourism sector is not specifically shown in the West Java GRDP. Based on data from the Central Bureau of Statistics (BPS, 2022a), the GRDP of accommodation and food and beverage industries, which are part of tourism activities, only contributed 2.92% in 2020 and 2.83% in 2021. From this perspective, the tourism sector does not seem to make a significant contribution to the West Java economy. Therefore, the tourism industry faces a lack of data to demonstrate its overall economic impact. Typically, all funds spent on tourism activities affect GRDP in other economic sectors. Thus, research is needed to demonstrate that the economic impact of tourism on the entire economy is much greater than the size of the industry itself. From the issue above, this study aims to assess the impact of tourism on the economy of West Java by analyzing domestic tourist spending in 2021. The findings of this research can provide valuable insights to support the development of effective policies by the provincial government, highlighting the positive role of the tourism sector in contributing to the regional economy.

2. Literature Review

Numerous studies have shown that tourism has a significant impact on the economic conditions of tourist areas (Zhang et al, 2015; Torre and Scarborough, 2017; Habib et al, 2018). As such, it can be said that tourism is a sector of the economy that contributes to a country's national development. Hrubcova et al, (2016) concluded that tourism is a relevant national economic sector for many less developed countries and can be seen as a viable and sustainable economic development option. This is further supported by McIntosh et al, (2000), who revealed that the tourism industry has long been recognized as part of the economic activity that brings in tourists, meets their needs, and rapidly grows into one of the largest industries in the world, surpassing other major industries such as steel, agriculture, and automobiles. Therefore, the economic impact of tourism must be taken into account, regardless of its development stages in the region.

Several methods have been developed to measure the impact of tourism on the economy of a region or country, including the input-output model (IO), social accounting matrix (SAM), computer general equilibrium (CGE), and dynamic stochastic general equilibrium (DSGE). Miller and Blair (2009) found that some of these methodologies incorporate inter-sectoral linkages, allowing for the estimation of the direct, indirect, and induced effects of tourism demand on other economic sectors. The IO model is the most widely used method for assessing the impact of tourism on national and regional economies, as well as specific sectors (Liu, Kim, and Song, 2022). This highlights the importance of the IO model in assessing the impact of tourism on various economic sectors, and its widespread use in measuring the economic impact of tourism on a region or country.

The IO model is developed based on the input-output table used in the national accounts, It combines several industries, including accommodation, restaurants, transportation, services, and entertainment, to represent the tourism industry (Liu, Kim, and Song, 2022). This is because tourism is not separately defined as an economic sector in the national accounts (Dwyer et al., 2007). Although many tourism components are included in the national accounts, tourism is defined based on the characteristics of the consumption or demand of its products, making it not clearly illustrated. Unlike other economic sectors that are calculated based on the supply side, tourism is a demand-side activity defined based on tourist consumption. Generally, the output value of a sector is measured as the total production or total supply of the sector. However, in the context of tourism, the total output value

is the value of demand by consumers or tourists (BPS, 2022c). Therefore, the incorporation of several industries in the tourism sector in the IO model is based on the goods and services used and consumed by tourists during tourism activities.

According to Frechtling (1994), analyzing economic impact involves tracing the movement of tourist expenditures in an area to determine the changes in sales, taxes, income, and employment that result from tourism activities. Therefore, the spending made by tourists in tourist areas can be considered the starting point of the impact of tourism on the local economy, both directly and indirectly through the circulation of money in the economy resulting from tourist spending. Daniel et al. (2000) classified the economic impacts of tourism into direct effects, indirect effects, and induced effects. Other studies have also estimated the direct economic effects of visitor spending on various goods and services used during tourism and used multipliers in input-output (IO) tables to estimate the indirect and induced effects of tourism activities (Liu, Kim, and Song, 2022).

Adyaharjanti and Hartono (2020) conducted a study on the economic impact of foreign tourist spending on the Indonesian economy using input-output analysis with the Miyazawa model. The results of this study concluded that the expenditure of foreign tourists could increase not only the income of the whole community but also the income of Indonesian households. In Indonesia, spending by foreign tourists is most concentrated in the hotel sector, which is non-poor households' input providers. The study found that foreign tourist expenditure not only increased the income of the entire community but also boosted the income of Indonesian households. However, the concentration of foreign tourist spending in the hotel sector, which is dominated by non-poor households, contributes to income inequality as poor communities' participation in the tourism industry is limited. Though tourism has the potential to increase income and employment opportunities, its benefits are not equally distributed. Economic impact analysis such as input-output analysis can provide insights into the direct, indirect, and induced effects of tourism on the economy, including changes in sales, taxes, and employment.

Several studies have also employed the input-output model to analyze tourism's economic impact on different regions. For example, Guo et al, (2017) used the IMPLAN input-output model to study the economic impacts of visitor spending on the Mississippi and Alabama Gulf Coast, which generated sales revenue, value-added, labor income, and employment in five coastal regions. Jannah and Tasriah (2022) focused on West Sumatra's tourism-related industries and found that certain sectors, such as land transportation, air transportation, business services, and other services, were key to enhancing economic growth and improving the well-being of the local population. In another study by Tiku and Shimizu, the contribution of visitor spending to West Papua's regional economy was analyzed. Their results revealed that tourism has a significant impact on the region's economy, as evidenced by the higher output multiplier for tourist spending compared to the regional output multiplier. Additionally, foreign tourists had a higher output multiplier expenditure than domestic tourists. Overall, these studies demonstrate that the input-output model is a useful tool for evaluating the economic impact of tourism on a region. It can help identify which sectors benefit the most from tourism and provide insights into the extent of its impact. Consequently, policymakers can leverage these findings to promote sustainable tourism development.

3. Methods

This study employed a quantitative approach using the input-output (IO) model to assess the impact of industries related to tourism activities in West Java. The objective was to determine the extent of the multipliers associated with tourist spending on the West Java economy, focusing particularly on the impact of domestic tourism on sales/production, household income, gross value added, and employment. The study results are presented in numerical format and explained descriptively.

The analysis using the IO model involves using the IO table, which is a statistical matrix that represents the economic transactions occurring between industries in a region. The IO table provides insight into the inter-sectoral connections and transactional flows between different economic sectors (BPS, 2010). The IO table also records various types of transactions, including imports of goods and services. The Leontief inverse matrix is derived from the IO model and is represented as $(I-A)^{-1}$. This matrix helps to understand the impact of increased production in one sector on the growth of other sectors. The multiplier number, which is a coefficient in the Leontief inverse matrix, summarizes the effects of changes in one sector's output on the total output of other sectors (Kurniawan & Kristiarini, 2022). This analysis provides valuable information on the economic impact of tourism on a region, particularly in terms of sales/production, household income, gross value added, and employment.

Hara (2008) categorized multipliers into two types: type I and type II. Type I multiplier is obtained from the open model Leontief inverse matrix, while type II multiplier is obtained from the closed model Leontief inverse matrix, where households are considered an endogenous variable in the transaction model (Hafizh & Imansyah, 2021). The open IO model only considers production sectors as endogenous factors. Primary input and final demand components are considered exogenous factors, whose values are determined outside the equation system (Nazara, 2005). On the other hand, a closed IO model includes primary input and final demand components as endogenous factors. For this study, the final demand component considered is household consumption, and labor compensation is considered as a primary input component. The change in economic activity resulting from household expenditure is called the induced effect.

The study's data is gathered from secondary sources, specifically the publications of the Central Bureau of Statistics (BPS) of Indonesia and West Java. The data utilized for the IO method is sourced from the 2016 West Java Province IO Table (BPS, 2018b), which is the most recent IO table issued by BPS of West Java, and it is based on 17 main business fields. Additionally, data from the 2021 Domestic Tourist Statistics (BPS, 2022b) will be used to determine the number of domestic tourist visits and expenditures in 2021, and the average expenditure per trip of domestic tourists will be based on the destination province, which in this case is West Java.

Products and services that were used by domestic tourists in the 2021 Domestic Tourist Statistics data will be categorized based on the industries in the IO table. This is necessary to ensure that the multipliers used are aligned with the types of goods and services consumed by tourists, thereby providing a clearer calculation of the economic impact of tourism. Table 1 presents the products of domestic tourist expenditure and their classifications into the production sectors in the IO table. The grouping of types of tourist expenditure according to the production sector is based on the Indonesian Standard Industrial Classification (KBLI) in 2015.

Table 1. Grouping of Domestic Tourist Spending by Production Sector

Type of Domestic Tourist Spending	Production Sectors
Accommodation	Accommodation, Food and Beverage provider
Food and Beverage	Food and Beverage provider
Transportation	Transportation and Warehousing
Tour package	Service based company
Entertainment and Recreation Service	Other services
Souvenir	Wholesale and Retail Trade; Car and Motorcycle Repair
Shopping	Wholesale and Retail Trade; Car and Motorcycle Repair
Tour guide	Service based company
Covid cost	Health Services and Social Activities
Others	Service based company

4. Result and Discussion

4.1. Domestic Tourist Spending

Tourism is a highly complex economic sector that involves various industries in its activities. This complexity results in tourism development having a broad impact on the economy of a region. As Goeldner et al, (2000) revealed, tourism is a potential economic venture that can generate revenue for districts, cities, provinces, and tourist areas through tourist spending. Therefore, when tourists visit a destination, the funds they spend on travel and activities while in the area can significantly impact the local economy. In other words, all costs incurred by tourists in tourist areas are the starting point of the economic impact of tourism in the region.

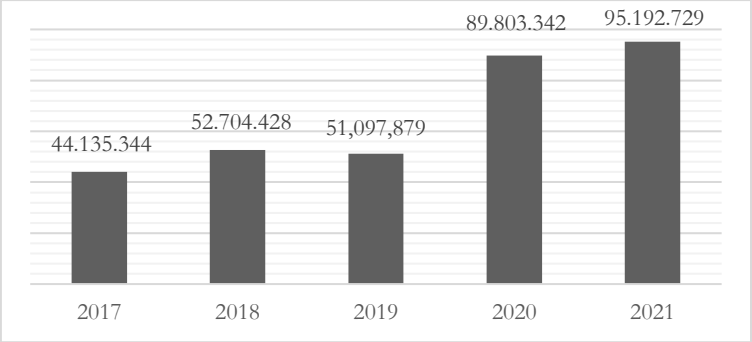

Figure 1. The number of domestic tourists visiting West Java Province
Source : Central Bureau of Statistics (2022)

Table 2. Domestic Tourist Spending in West Java in 2021

Type of Domestic Tourist Spending	Average Spending (in thousands of rupiah)	Number of Domestic Tourists	Total Expenses (in thousands of rupiah)	Percentage (%)
Accommodation	481.29	95,192,729	45,815,308,540.41	24.63
Food and Beverage	358.02		34,080,900,836.58	18.32
Transportation	322.34		30,684,424,265.86	16.50
Tour package	14.55		1,385,054,206.95	0.74
Entertainment and Recreation Service	140.42		13,366,963,006.18	7.19
Souvenir	104.94		9,989,524,981.26	5.37
Shopping	242.51		23,085,188,709.79	12.41
Tour guide	35.33		3,363,159,115.57	1.81
Covid cost	119.78		11,402,185,079.62	6.13
Others	134.65		12,817,700,959.85	6.89
Total	**1,953.82**		**185,990,409,702.07**	**100**

The overall spending of domestic tourists in West Java in 2021 amounted to 185.99 trillion rupiahs, with accommodation, food and beverage, transportation, and shopping as the most significant expenses. The lodging expenses reflect that the majority of domestic tourists spend more than one

day on their trip, necessitating accommodation facilities. This is aligned with the average duration of domestic tourist visits to West Java, which is 3.39 nights (BPS, 2022b). The amount of spending for food and beverage, as well as shopping, signifies that these activities have become significant tourist attractions (culinary tourism and shopping tourism) that appeal to domestic tourists visiting West Java. Meanwhile, transportation costs contributed 16.50% of total expenses, which is reasonable since most of the West Java tourism market comprises domestic tourists from the Jakarta area and neighboring regions of West Java, where the distance between tourist attractions and facilities is not too far and mobility is not too challenging. Private land transportation is the primary mode of transportation for domestic tourists visiting West Java, accounting for 65.35% (BPS, 2022b) of total domestic tourist trips,

Tour packages and guide services make up a very small percentage of domestic tourist expenditure, with only 0.74% and 1.81%, respectively. This indicates that only a small fraction of domestic tourists make use of these services. Despite the diversity and appeal of tourist attractions in West Java, this suggests that there is significant untapped potential in the business of offering tour packages to the region. On the other hand, souvenir expenses, entertainment and recreation services, and other expenditures account for between 5 and 7% of domestic tourist spending. The other types of expenditures are for various products and services, such as beauty treatments, haircuts, massages, saunas, laundry, and other services.

The 2021 data on domestic tourist spending reveals an intriguing figure: the COVID cost, which amounts to 6.13%. This refers to the expenses incurred by tourists due to the policy of implementing Restrictions on Community Activities (PPKM) in West Java, as mandated by the local Governor. The PPKM policy requires visitors arriving in West Java by land, sea, or air to present documents proving that they are free from COVID-19. This policy has been implemented in almost all regions of Indonesia as part of the government's efforts to suppress and limit the transmission of the Covid-19 virus. As a result, travelers must pay for RT-PCR or rapid antigen tests to demonstrate that they have tested negative for COVID-19, both prior to and after leaving the West Java region.

4.2. Multiplier Number

Multipliers, as coefficients, represent the direct and indirect consequences of an increase in the final demand of a sector on the total production of all sectors (Miller and Blair, 2009). According to Table 3, type II multipliers have a greater magnitude than type I multipliers. This indicates that considering household spending and labor compensation as endogenous factors leads to direct, indirect, and induced effects, resulting in significantly higher values. Hence, a type II multiplier is employed to assess the induced impact of changes in final demand. These three effects are employed to determine the economic value, which is subsequently utilized to evaluate the economic influence of tourism in a given region (Putra et al., 2017).

The multipliers for production, income, and gross value added illustrate how a one rupiah increase in final demand affects the economy. Table 3 displays the highest type I multipliers for the electricity and gas supply industry (2.5159) for production, education services (0.5493) for income, and real estate (0.9659) for gross value added. For instance, the production multiplier of 2.5159 for the electricity and gas procurement industry suggests that a one rupiah increase in final demand in the sector will raise output in the sector and its supporting sectors by Rp, 2.5159- along with the multiplier's impact on income and gross value added. However, the employment multiplier uses a different approach, calculating the effect of a one million rupiah change in final demand on employment. As per Table 3, agriculture, forestry, and fisheries have the highest type I employment multiplier of 0.0205, indicating that a one hundred million rupiah increase in final demand in the sector will generate employment for 2.05 workers in the economy, including direct and indirect effects.

The electricity and gas procurement industry has the highest type II output multiplier of 3.1556. However, to identify the largest induction effect by comparing type I and type II multipliers on production, we find that the education services and government administration, defense and social security industries have the highest induction effect of 1.4805 and 1.4284, respectively. This implies that household spending from income earned in all sectors is mostly spent on these two industries. Additionally, the education services industry has the highest type II multipliers for income and gross value added, with values of 0.7087 and 1.3208, respectively. The agriculture, forestry, and fisheries industries still hold the highest type II employment multiplier of 0.0244, indicating that the impact of labor absorption due to the combination of direct, indirect, and induced effects mainly originates from the final demand in this industry.

Table 3. Multipliers for Production (Output), Gross Value Added, Income, and Employment in the 2016 West Java Input-Output Table for 17 Business Sectors

Business codes *	Type I Multiplier				Type II Multiplier			
	Production (Output)	Income	Gross Value Added	Jobs	Production (Output)	Income	Gross Value Added	Jobs
A	1.2095	0.4618	0.9324	0.0205	2.4541	0.5957	1.2955	0.0244
B	1.3050	0.2029	0.8165	0.0033	1.8518	0.2618	0.9761	0.0050
C	1.6911	0.3184	0.7744	0.0058	2.5491	0.4107	1.0248	0.0085
D	2.5159	0.2374	0.7166	0.0029	3.1556	0.3062	0.9033	0.0049
E	1.5127	0.2143	0.8573	0.0139	2.0902	0.2764	1.0259	0.0157
F	1.6621	0.2489	0.7756	0.0076	2.3329	0.3211	0.9713	0.0097
G	1.3460	0.3572	0.9025	0.0128	2.3085	0.4607	1.1833	0.0158
H	1.6437	0.2637	0.8396	0.0089	2.3545	0.3402	1.0470	0.0111
I	1.5507	0.3231	0.8112	0.0134	2.4215	0.4168	1.0653	0.0161
J	1.3995	0.3094	0.8802	0.0035	2.2333	0.3991	1.1235	0.0061
K	1.2413	0.3783	0.9320	0.0084	2.2607	0.4879	1.2295	0.0116
L	1.1701	0.0739	0.9659	0.0015	1.3693	0.0954	1.0240	0.0021
MN	1.5139	0.4355	0.8715	0.0079	2.6877	0.5618	1.2140	0.0115
O	1.4770	0.5300	0.8503	0.0164	2.9054	0.6837	1.2671	0.0209
P	1.3434	0.5493	0.8888	0.0128	2.8239	0.7087	1.3208	0.0174
Q	1.5265	0.3960	0.8286	0.0092	2.5937	0.5108	1.1400	0.0125
RSTU	1.3918	0.2447	0.8843	0.0183	2.0512	0.3156	1.0767	0.0203

Notes : A (Agriculture, Forestry and Fisheries); B (Mining and Quarrying); C (Processing Industry); D (Electricity and Gas Procurement); E (Water Supply, Waste Management, Waste and Recycling); F (Construction); G (Wholesale and Retail Trade, Auto and Motorcycle Repair); H (Transportation and Warehousing); I (Accommodation and Food and Beverages Provider); J (Information and Communication); K (Financial Services and Insurance); L (Real Estate); M,N (Company Services); O (Government Administration, Defense and Compulsory Social Security); P (Educational Services); Q (Health Services and Social Activities); R,S,T,U (Other Services).

4.3. Impact on Production (Output)

the quantity of goods and services produced by a company, industry, or country during a given time frame that are utilized or consumed in the subsequent production process. Hence, the impact on production (output) can be characterized as a rise in the quantity of goods and services produced in a region, resulting from tourism expenses made by government agencies, companies, the tourism sector, and other industries that serve as suppliers of goods and services for the tourism industry.

Table 4. The Impact of Domestic Tourist Spending on Production (Output) in West Java in 2021 (in billion rupiah)

Type of Domestic Tourist Spending	Impact on Production			
	Direct Effect	Indirect Effect	Induced Effect	Total
Accommodation	45,815.31	25,230.98	39,897.25	110,943.54
Food and Beverage	34,80.90	18,768.72	29,678.60	82,528.21
Transportation	30,684.42	19,752.50	21,808.78	72,245.71
Tour package	1,385.05	711.80	1,625.73	3,722.59
Entertainment and Recreation Service	13,366.96	5,236.92	8,814.09	27,417.97
Souvenir	9,989.52	3,455.92	9,615.75	23,061.19
Shopping	23,085.19	7,986.42	22,221.41	53,293.02
Tour guide	3,363.16	1,728.37	3,947.57	9,039.10
Covid cost	11,402.19	6,003.75	12,167.87	29,573.80
Others	12,817.70	6,587.19	15,045.02	34,449.91
Total Production	**185,990.41**	**95,462.56**	**164,822.07**	**446,275.04**

Table 4 indicates that domestic tourist expenditure in West Java in 2021 has generated a total production of 446,275 billion rupiah. This figure accounts for more than half of the indirect and induced effects of domestic tourist spending. It highlights that the demand for tourism consumption in West Java plays a significant role in the total production of other sectors that supply goods and services for tourism activities in the region. The induced effect on total production, which amounts to 164,822 billion rupiah, represents 36.93% of the total production impact of domestic tourist expenditure. This reflects the significant impact of changes in West Java's economy due to household expenditure from the income generated either from direct or indirect effects of domestic tourist expenditure. Therefore, it is imperative that the West Java government prioritizes the tourism sector's development and provides support through policies and government programs.

4.4. Impact on Household Income

According to Case and Fair (2007), household and individual income is the total amount of money earned from wages, salaries, profits, interest payments, rent, and other sources within a specific period. Therefore, the effect of tourism on income can be attributed to the wages, profits, rent, or other forms of income received by households as a result of their work in the tourism industry. In this research, the impact of increased income refers to the earnings generated by labor resulting from tourism expenditures in both the tourism industry and its associated sectors.

Table 5. Impact of Domestic Tourist Spending on Household Income in West Java in 2021 (in billions of rupiah)

Type of Domestic Tourist Spending	Impact on Household Income			
	Direct Effect	**Indirect Effect**	**Induced Effect**	**Total**
Accommodation	8,373.39	6,430.51	4,293.08	19,096.98
Food and Beverage	6,228.76	4,783.50	3,193.52	14,205.78
Transportation	4,340.07	3,752.09	2,346.70	10,438.86
Tour package	444.21	159.02	174.93	778.16
Entertainment and Recreation Service	2,226.18	1,044.29	948.43	4,218.90
Souvenir	2,854.76	713.17	1,034.69	4,602.62
Shopping	6,597.18	1,648.09	2,391.10	10,636.37
Tour guide	1,078.62	386.13	424.77	1,889.52
Covid cost	3,185.32	1,329.58	1,309.30	5,824.20
Others	4,110.83	1,471.63	1,618.89	7,201.36
Total Household Income	**39,439.32**	**21,718.02**	**17,735.41**	**78,892.75**

Table 5 illustrates that the household income generated from domestic tourist spending in West Java in 2021 amounts to 78.89 trillion rupiah. Accommodation services have the highest impact on income contribution, followed by food and beverage services, transportation, and shopping. Conversely, tour package services and guide services have the smallest contribution to income, which can be attributed to the relatively lower amount of domestic tourist spending on these two services. Additionally, it is noteworthy that the indirect and induced effects of domestic tourist spending also have a significant impact on household income. The indirect effects refer to the income generated by the suppliers of goods and services to the tourism industry, while the induced effects refer to the income generated by the spending of the employees of the tourism industry and its suppliers. These effects contribute to more than half of the total impact on household income, highlighting the importance of the tourism industry as a major contributor to the overall economy of West Java.

4.5. Impact on Gross Value Added

The Central Bureau of Statistics (BPS) defines gross value added as the additional value produced from combining production factors and raw materials used in the production process. This value is obtained by subtracting the production costs from the intermediate costs. Gross value added includes labor income or compensation, gross business surplus (including mixed income), and net tax subsidies on production. It is a crucial factor in calculating the GRDP of a region since it is used to calculate the gross value added of each sector, which is then added up to obtain the GRDP at current prices.

Table 6 displays the gross value added that resulted from domestic tourist spending in West Java in 2021. The total allocation of tourist spending generated a gross value added of 205,095 billion rupiah, This amount includes a direct effect of 103.27 trillion rupiah, an indirect effect of 53.73 trillion rupiah, and an induced effect of 48,09 trillion rupiah. Gross value added is a crucial component in calculating the regional GRDP, and its contribution can be determined based on the GRDP of a region. The gross value added as an allocation impact of domestic tourist spending contributed 9.28% to the West

Java GRDP in 2021 at current prices, which is greater than the contribution of the accommodation and food and beverage sector (2.83%) and the transportation and warehousing sector (4.99%). These two sectors represent the tourism industry in the West Java economy, and this suggests that the impact and contribution of tourism are much larger than previously thought, highlighting a lack of data regarding the tourism sector's contribution to the economy.

Table 6. Impact of Domestic Tourist Spending on Gross Value Added in West Java in 2021 (in billion of rupiah)

Type of Domestic Tourist Spending	Impact on Gross Value Added			
	Direct Effect	Indirect Effect	Induced Effect	Total
Accommodation	21,899.39	15,267.59	11,641.17	48,808.14
Food and Beverage	16,290.43	11,357.19	8,659.58	36,307.20
Transportation	15,782.07	9,981.43	6,363.34	32,126.83
Tour package	824.40	382.66	474.35	1,681.41
Entertainment and Recreation Service	9,071.90	2,748.13	2,571.76	14,391.79
Souvenir	7,133.07	1,882.19	2,805.67	11,820.94
Shopping	16,484.10	4,349.64	6,483.73	27,317.47
Tour guide	2,001.80	929.16	1,151.82	4,082.77
Covid cost	6,157.33	3,290.79	3,550.32	12,998.45
Others	7,629.27	3,541.21	4,389.82	15,560.30
Total Gross Value Added	**103,273.76**	**53,729.98**	**48,091.57**	**205,095.31**

4.6. Impact on Employment

The development of tourism in a region is a significant contributor to job creation due to the nature of tourism products as services, which heavily rely on human interaction during the production process. Consequently, the tourism industry offers a major source of employment compared to other sectors. Moreover, tourism is known for creating job opportunities across various skill levels, ranging from low to high-skilled jobs. These job opportunities extend not only to direct tourism-related areas such as accommodation, transportation, and attractions, but also to related sectors such as retail, food, and beverage. Additionally, the growth of tourism can stimulate the development of small and medium enterprises (SMEs) that cater to tourists, leading to more job creation. The positive impact of increased employment opportunities from tourism can enhance the standard of living and reduce poverty levels in the local economy.

Table 7 illustrates that domestic tourist spending in 2021 has significantly contributed to employment in West Java, creating 2,764,114 jobs. Direct effects of domestic tourist spending make up more than half (58%) of the total workforce, indicating the significant impact of the tourism sector on job creation in the province. Compared to the total workforce in West Java in 2021, which was 21.31 million people, the tourism sector through domestic tourist spending contributed 12.39% to overall employment. The labor-intensive nature of the tourism industry requires a large number of workers to cater to tourists' needs, making it an alternative solution to reduce the unemployment rate in West Java. Therefore, the development of the tourism sector can potentially boost job creation and have a positive impact on the local economy.

Table 7. Impact of Domestic Tourist Spending on Employment in West Java in 2021

Type of Domestic Tourist Spending	Impact on Employment			
	Direct Effect	Indirect Effect	Induced Effect	Total
Accommodation	384,753	227,192	124,575	736,520
Food and Beverage	286,209	169,002	92,668	547,879
Transportation	179,004	93,458	68,096	340,557
Tour package	7,382	3,501	5,076	15,959
Entertainment and Recreation Service	215,628	28,372	27,521	271,521
Souvenir	110,817	16,917	30,024	157,758
Shopping	256,091	39,095	69,384	364,570
Tour guide	17,925	8,501	12,326	38,752
Covid cost	70,399	34,513	37,993	142,905
Others	68,316	32,400	46,977	147,693
Total Employment	**1,596,524**	**652,950**	**514,640**	**2,764,114**

4.7. Tourism Economic Impact Ratio from Direct, Indirect, and Induction Effects

The impact of domestic tourist spending is evaluated through four key indicators: production, income, gross value added, and employment. The study finds that the indirect and induced effects of tourism spending have a significant impact on these indicators. The induced effect, which refers to the secondary effects of tourism spending, is particularly noteworthy. This effect takes place when the income earned by workers in tourism-related sectors is spent on goods and services produced by other sectors, resulting in further economic activity and employment. The percentages of the induced effect on production, income, gross value added, and employment are 36.93%, 22.48%, 23.45%, and 37.13%, respectively.

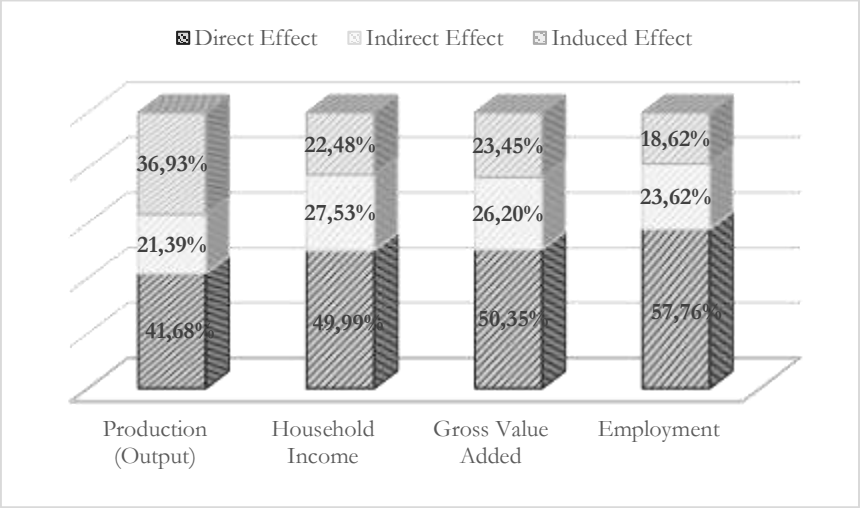

Figure 2. Percentage of Direct, Indirect, and Induced Effects of Domestic Tourist Spending Impact in West Java in 2021

Similarly, the indirect effects, which occur when tourism spending boosts economic activity in other sectors indirectly, are also relatively significant, with percentages of 21.39%, 27.53%, 26.20%, and 23.62%, respectively. These findings demonstrate the tourism industry's close connection to other sectors of the economy and the multiplier effect it can have on the local economy. The research highlights the significance of the tourism sector in driving economic growth and development in the region. The magnitude of the economic impact of tourism, as measured by indirect and induced effects, suggests that the tourism sector is multi-sectoral and has a greater impact on other industries than the tourism industry itself. Therefore, the size of the tourism industry is less significant compared to the effect of its activities on the economy as a whole.

5. Conclusion

According to the study, domestic tourists spent a total of 185.99 trillion rupiah in West Java in 2021, which had a positive economic impact in terms of production, household income, gross value added, and employment. Specifically, domestic tourist spending generated 446.27 billion rupiah in production and 78.89 billion rupiah in household income for West Java province. Additionally, the gross value added amounted to 205.09 billion rupiah, contributing 9.28% to the West Java GRDP in 2021. Moreover, the number of jobs created due to domestic tourist spending was 2.76 million, which represented 12.39% of the total working population of West Java in 2021. Based on the study's findings, it can be concluded that tourism is one of the primary economic drivers in West Java. Therefore, the province's economic development policy should focus more on maintaining the strategic position of the tourism industry and considering the industry's economic impact.

The tourism sector has grown significantly and has become intertwined with various other economic sectors, making it challenging to determine its economic impact as a distinct entity. This has created uncertainty regarding the contribution of the tourism sector to the West Java economy. To address this issue, the West Java government must establish a regional satellite account for the tourism sector to assess its impact on the overall economy. The availability of a tourism satellite account will enable the government to consider the importance of the tourism sector in shaping economic policies. The government should recognize that tourism is no longer a complementary industry but a key driver of the West Java economy. Consequently, all tourism planning and development initiatives must be aimed at increasing visitor numbers and spending levels to enhance the economic conditions in West Java.

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