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RESEARCH PAPER

The Analysis of the Economic Effects of Investment in the Tourism Industry of Razavi Khorasan Province: An Application of the Two-Region Input-Output Model

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Abstract

This research investigated the direct and indirect effects of an investment in tourism sub-sectors in Razavi Khorasan Province on the value added of other economic sectors of Razavi Khorasan Province and other provinces by the input-output approach. Therefore, the FLQ-RAS method was developed to prepare the two-region input-output table of Razavi Khorasan Province and other national economies based on the input-output table of 2016. We used a non-statistical method to prepare the input-output coefficients and the two-region model. The results indicate that the simultaneous increase of 700 billion riyals in tourism-related sectors in the Razavi Khorasan province directly affects wholesale and retail activities, other ground transportation, and governmental human health activities. Also, in terms of increasing investment in every tourism activity, government human health creates the most significant overall effect compared to other activities, wholesale and retail activities, as well as administrative activities, and support services, have the second and third ranks of influence from the increase in investment. Also, the actions of government human health, Accommodation and Wholesale, and retail, except motor vehicles and motorcycles have experienced the most direct effects from investment.

Keywords: Investment in Tourism, Razavi Khorasan Province, Tourism Sector, Two-Region Input-Output Model, Value-Added.
JEL Classification: O11, P45, Z32.

1. Introduction

Tourism plays an essential role in the economic growth of many countries, and its development leads to the progress and prosperity of the national economy. This industry has taken a share of the world's economic activities, including exports, generating income, creating jobs, and exchanging cultures. The tourism sector has a high potential to stimulate other economic sectors through backward and forward

linkages. Tourism goods and services spending leads to a chain of transactions that increases the need to supply goods and services from other sectors. Tourism Consumption demand also creates more employment and affects the economy (Prasad and Kulshrestha, 2015).

Tourism is a means to transfer income resources from countries or regions of origin to the country or region of destination receptive to tourism. One of the essential economic characteristics of tourism is the consumption of income from tourism areas in the same places. Tourism causes direct revenue and indirect money cycle but also causes the growth of handicrafts and other industrial products. Tourism can become the most crucial source of income in the case of proper and comprehensive planning along with foresight for the areas with tourist attractions.

In this regard, Iran is considered one of the top ten tourist countries in the world in terms of the richness of historical and natural monuments, which can be used for sustainability in the country's oil-dependent economy. However, only 0.06% of the world's tourism income is allocated to this country (Bahmani and Namamian, 2018), which requires proper planning, especially in the field of investment in the development of infrastructure and practical factors in attracting tourism. Also, Razavi Khorasan province is one of the most important provinces in the country in attracting tourists, especially domestic tourists, which has impacted the growth of production and employment. This province is one of the tourism hubs in Iran with significant cultural, religious, natural, handicrafts, Etc. Features. The existence of the holy shrine of Imam Reza (a.s.) in this province has made it one of the essential religious bases of the Shiite world and the first pilgrimage center in Iran, which has tourism capabilities with valuable religious-cultural functions at the national and international level (Bazzazan et al., 2019). This province has a great capacity in the tourism sector, with 1859 registered national monuments, 246 hotels, and 4277 beds (total) for ecotourism and traditional accommodation (Razavi Khorasan Provincial Cultural Heritage Statistical Yearbook, 2019).

According to the Iranian Statistics Center report, the gross domestic product of this province in 2019 was 2489 thousand billion rials, which accounted for 5% of the country's gross domestic product. The investigation of the value added of different economic sectors of the province during the years 2011 to 2018 indicates that the service activity related to the provision of food and accommodation, with an average growth of 18.83, ranks fifth in the increase of value added in the

investigated years in Razavi Khorasan province. So, investing in this industry can create significant direct and indirect effects in the province.

The cross-sectoral analysis is one of the best options for evaluating the contribution of tourism to the development of each economic sector from the point of view of macroeconomics. In recent years, many researchers have studied the importance of tourism on local economies (Daye et al., 2020; Nguyen, 2021; Mamirlulova et al., 2020; Wang et al., 2020). One of the unique approaches is the top-down approach, which includes the input-output (I-O) model and the computable general equilibrium (CGE) model in different areas (Saayman and Rossouw, 2010; Metilainen et al., 2016; Tohmo 2018; Lin et al., 2020). In general, the input-output tables published by the statistics center have made calculations more manageable. Studies in the field of tourism using the input-output approach in Iran are less widespread, but they have a long history. One of the reasons for its lack of expansion is the need for satellite statistics related to tourism. In using the general balance and input-output methods, access to one of the satellite statistics related to the expenditures of foreign tourists by economic sectors is necessary. However, researchers are forced to use other unofficial sources and individual studies or integrate all tourism-related sectors due to the need for more preparation of satellite accounts of tourism in Iran by statistical institutions (Bazzazan et al., 2020). Therefore, in this research, the direct and indirect effects of an investment in tourism sub-sectors in Razavi Khorasan Province on the value added of other economic sectors of Razavi Khorasan Province and other national economies using input-output. For this purpose, first, the FLQ-RAS method was developed to prepare the two-region input-output table of Razavi Khorasan Province and other national economies based on the input-output table of 2016.

2. Literature Review

Investing in the tourism industry means creating capital or products that can be produced or other goods or services in the tourism industry to obtain more profit in the private sector or regional revitalization and economic growth for public purposes (Zaree Mirkabad, 2016). Areas of investment in tourism sectors such as hotels, health, and treatment centers (health tourism), commercial tourism, adventure tours, sports tourism, museums, and parks, training of employees working in the tourism sector, and renovation of airports and roads. The expansion of the tourism sector requires significant investment in its various sub-sectors to achieve the goals of attracting tourists to the countries. In general, investing in the

tourism industry increases the security and development of countries' political relations, and it will have positive effects from the cultural, social, and environmental aspects. It is one of the fast-yielding industries that is considered one of the critical economic resources (Momoni & Homayounifar, 2014).

It is necessary to pay attention to some features of this industry to invest in the tourism industry:

1. Non-economic factors strongly influence the demand side in this industry.
2. Produced goods and services are primarily non-storable.
3. Industrial tourism is seasonal.
4. Umbrella nature of the tourism industry: There needs to be more provision of tourism goods and services to create more demand for other goods and services of this industry.
5. The strong impact of the transportation system on the tourism industry
6. Long-term return on investment
7. An Increasing number of large multinational companies (Moallem, 2018).

Tourism infrastructure is one of the most critical sectors in tourism that requires investment. Building and creating a hotel, restaurant, camping, etc., are among these things that require much investment and therefore require the use of different methods and tools in the field of attracting domestic and foreign capital. Tourism is a suitable platform for investment due to the characteristic of early returns. Unlike other investments, such investments remain in countries because hotels cannot move like consumer goods. The factors that cause the growth and development of tourism include improving income and wealth, traffic, entertainment spaces, globalization, immigration, special events, education, information, communication technology, marketing, and other infrastructure in general—and tourism infrastructure in particular (Matias et al., 2007). In recent years, the economic potential of the tourism industry has increased as one of the fastest-growing industries in many developing countries and other regions. However, the truth is that tourists travel to a country where tourism services and related infrastructure are available. Therefore, improving tourism services helps to attract more tourists.

Therefore, improving tourism infrastructure to increase the destination's attractiveness is the main factor in attracting tourists. In addition, recent studies have shown that tourism infrastructure, directly and indirectly, has a positive effect on the quality of life of residents through the development of sustainable tourism (Mamirkulova et al., 2020). Wang et al. (2020) believe that developing

infrastructure in developing countries has promoted cultural tourism activities and international sports events, which will attract the flow of tourists and increase economic benefits. Prioritizing the development of infrastructure to realize the vision of the tourism business has an impact on improving the experiences of tourists, improving the living standards of residents, increasing job opportunities, and protecting cultural and historical values and natural landscapes (Bi et al., 2020; Kanwal et al., 2020 and Shafiee et al., 2019). Daye et al. (2020) have also identified various benefits of improving tourism infrastructure. The results of this study have shown that tourism workers, the public sector, and other commercial organizations claim that tourism infrastructure improvement projects have beneficial effects on communities. According to Oh (2005), the first reason for developing the tourism industry in most countries is the exploitation of its economic benefits. The tourism industry can significantly impact increasing employment, income related to accommodation and hotels, expansion of various services, and development of infrastructure, which can even ultimately lead to an increase in foreign investment.

3. Input-output Model of Tourism

The tourism input model is a cognitive method for estimating the share of the tourism sector and specific products in the tourism market. Standard data collection techniques are used widely to analyze tourism's contribution to a particular economy, and ad hoc multipliers are abandoned. At the local scale, many data-generating studies have been conducted to analyze the economic effects of tourism in areas such as islands and cities, including the studies of Chang et al. (2016) in South Korea and Ribeiro et al. (2017). In the north of Brazil, Faturay et al. (2017) in 8 regions of Indonesia, Artal-Tur et al. (2019) in the region of Mauritius, Spain, Kronenberg et al. (2018) in Sweden, and Yang et al. (2018) in Chinese provinces. The input-output model is still widely used in academic and non-academic circles due to its relative simplicity in calculating and visible results for tourism management issues.

These facts explain why the resulting input-output analysis, as expressed in the related literature published in recent years, is still a modern approach to studying the economic effects of tourism (Artal Tur et al., 2020). Of course, new studies and perspectives have combined and modified several aspects of the original input-output model to solve some problems related to the original model. Cai et al. (2006) developed a method to calculate tourism's posterior and anterior links and proposed to supplement and analyze tourism's impact with links analysis.

In fact, by using the previous and previous links of different economic sectors along with the input-output tables, various angles of the tourism sector and the effects of other economic sectors and their impact on the tourism sector are investigated. For example, the building sector is one of the sectors that impact hotel management as a previous sector.

Fletcher (1989) recommends input-output analysis to analyze tourism artifacts. In calculating the economic effects of tourism, he claims that the input-derived approach is handy for calculating the economic effects of tourism. He has shown that compared to the cost-benefit analysis, the input-output model is a general equilibrium approach that focuses attention on the interdependencies of the sector based on the input-output table. The structural nature of the input-output table allows researchers to calculate the direct, indirect, and induced economic effects of tourism and provide policymakers with a comprehensive view of the tourism economy. After that, Archer (1995) measured the relative share of tourism in exports, income, employment, and public sector income in Bermuda based on the input-output table of 1985, 1987, and 1995 and showed that compared to other export sectors; tourism has played a significant role in Bermuda's economy. Regarding integrating tourism expenditures in the input-output framework, these tables provide a suitable division nationally and regionally to facilitate tourism studies. Of course, less attention is paid to modeled import leakages in the existing literature. For example, Oosterhaven and Fan (2006) set the consumption coefficients, but they need to mention the tourism demand vector and coefficient matrix. Archer and Fletcher (1996) showed that a large amount of additional input related to imports is needed to obtain an accurate disaggregation of consumption between domestic and imported components.

So far, many studies have tried on the effects of an investment in tourism and economic growth and development, as well as input-output models in tourism. The table below presents a summary of the most important and latest studies in the field of research. The studies reviewed in this section are divided into several categories. In some of these studies, investment opportunities in tourism have been identified in different regions. Some others studied the relationship between investment and tourism.

In some cases, this relationship has been two-way, and in other cases, there has been a one-way relationship from tourism to investment or vice versa. The results of studies related to the effects of an investment in tourism and economic development show that in most of the studies, investment in tourism has had

positive effects on the economic growth and development of countries, creating employment and income in countries. Significantly, investment in tourism infrastructure has had many positive effects on the economy of destination countries and their residents.

Also, some studies have used multi-regional methods to investigate the effects of factors such as tourism expenditures and the growth of the tourism sector on employment and production in some provinces along with other regions.

Despite that, the effect of change in marginal demand and changes on employment in the tourism sector has been examined in previous studies, but we have tried to examine the effects of change in tourism as part of marginal demand. Indeed, all the sectors that are directly and indirectly related to tourism are considered as tourism sectors by the application of coefficients related to the contribution of the sector in tourism, while, the only sectors directly related to tourism have been investigated in previous studies.

Also, most of the internal studies that have been done specifically on tourism examined from the perspective of national tourism, and the tourism capacities of the regions are not taken into consideration. There needs to be more focus on the effects of an investment in this industry on other economic sectors.

Table1. Summary of Literature Review

Researchers	Year	Research Title	Country (Region)	Research Method	Results
Lee and Hlee	2021	The Intra-and Inter-Regional Economic Effects of Smart Tourism in Seoul	Seoul	I-o	Inside the city, it creates high-income effects, added value, and a lot of employment and helps to provide tax revenues. Outside the city, it is expected that the smart tourism city will create high production effects.
Anter and Almaghraby	2021	Tourism Value Chain in the Egyptian National Economy	Egypt	I-o	The reverse link of the tourism industry in the region with agriculture, wholesale and retail, mining, transportation and support, and other business support activities.
Artal-Tur et al.	2020	Measuring the economic contribution of tourism to	Spain	I-o	Important differences in the number of economic effects calculated between national and regional approaches

		destinations within an input-output framework			
Artal-Tur et al.	2019	Estimating the impact of cruise tourism through regional input-output tables	Spain	I-o	The general effects of increasing employment, wages, gross production and value-added
Ivandić and Šutalo	2019	An integrated TSA and IO model for the estimation of the overall contribution of tourism	Croatia	I-o	There is a very strong impact of tourism on other economic sectors
Kronenberg et al.	2018	A multi-period perspective on tourism's economic contribution–a regional input-output analysis for Sweden	Sweden	I-o	On the one hand, economic links have been strengthened, especially for the user sectors. On the other hand, sectorial recessions in 2012 and 2014 led to a reduction in indirect effects on the entire economy, although the consumption of tourists continued to increase.
Tohmo	2018	The economic impact of tourism in Central Finland	Finland	I-o	Tourism has a significant impact on production, which includes the direct and indirect effects of consumption by tourists in different sectors.
Ribeiro et al.	2017	Tourism and Regional Development in the Brazilian Northeast	Brazil	I-o	Tourism expenses in Northeast Brazil have caused a 3.9% increase in GDP. Furthermore, the sectorial analysis showed significant spillover effects in Certa Serta Brazil, especially for manufacturing industries. On the other hand, tourists' expenses have played a role in reducing regional inequalities.
Fauzel et al.	2016	Analyzing the Impact of Tourism Foreign Direct Investment on Economic Growth	Mauritius Island	VECM	Tourism FDI has helped boost economic growth

Banerjee et al.	2015	Reconciliation once and for all economic impact evaluation and social cost-benefit analysis	Haiti	Rcge-Ms	The investment has helped to reduce regional poverty and reduce the poor population by 1.6 percent and the positive effects of this investment will be 182 percent by 2040 in the hotel and restaurant sector and 2 percent in the regional gross product.
Ghorbani et al.	2021	Evaluating the effects of tourism on the development of the urban economy	Ardebil	Factor Analysis	The factors of economic prosperity, economic stability, and economic justice have had the greatest impact on tourism, respectively.
Bazazan et al.	2020	The economic effects of the arrival of domestic tourists in Razavi Khorasan Province	Razavi Khorasan	I-o	The sectors of industry, transportation, warehousing, wholesale, and retail have been most affected by tourism, respectively.
Bazazan and Azad dana	2018	The economic effects of the arrival of domestic tourists in Qom	Qom	I-o	The production of the province increased by 5.16% and the employment of the province increased by 8.08% with the arrival of domestic tourists to Qom province in 2013
Farahani	2017	Evaluating the impact of international tourism on Iran's economy	Iran	SEM	The increase in income from foreign tourism has led to an increase in the production of all economic sectors. The upper deciles of urban households have benefited more from the expansion of foreign tourism than the lower deciles of urban households.

Source: Research finding.

4. Method

The essential purpose of preparing regional input-output tables is to analyze the dependence of regional economic sectors can be divided into two general forms. First is the dependence on the existing economic sectors in each region, and second, the dependence between the existing sectors in the region and the sectors

of other regions. The second dependence type includes intra-country and inter-country trade exchanges (Shadab Far, 2017).

In the upcoming study, to investigate the effect of investment in tourism in Razavi Khorasan Province on other economic sectors of Razavi Khorasan Province and other national economies, the input-output model of two regions has been used. The structure of the mentioned model is in the format of the Razavi Khorasan-province region with index (1) and other regions of the national economy with index (2) in a table, and the following signs show the matrices and vectors of the table. First, the structure of the two-region input-output table is in the following table.

Z11: Square matrix of inter-sectoral (intra-regional) trade exchanges in Razavi Khorasan Province

Z12: Matrix of exchanges (trade) between Razavi Khorasan province and other regions of the national economy, the origin of which is Razavi Khorasan province, and the destination is other regions of the national economy.

Z21: Matrix of exchanges (trade) between other regions of the national economy and Razavi Khorasan province, the origin of which is other regions of the national economy, and the destination is Razavi Khorasan province.

Z22: Square matrix of inter-sectoral (intra-regional) intermediary exchanges in other regions of the national economy (provinces)

Y11: Column vector of the final demand of Razavi Khorasan Province, which represents the flow of goods from the parts of Razavi Khorasan Province to the final demanders in the province, which includes private consumption, government consumption, capital formation, and inventory changes.

Y12: Column vector of the flow of goods and services from Razavi Khorasan province to final consumers in other provinces

Y21: Column vector of the flow of goods and services from other provinces to the final consumers in Razavi Khorasan province.

Y22: Column vector of final demand (flow of goods and services) from other national regions (provinces) to final demanders in other provinces.

E1: Column vector of the export flow of goods and services from Razavi Khorasan Province to abroad

E2: Column vector of the flow of exports of goods and services from other regions of the national economy to abroad

M1: Row vector of partial imports of Fars province from the outside world

M2: Line vector of imports of part of other national regions (provinces) from the outside world V^1: a line vector containing the value added of a part of Razavi Khorasan province
V2: Line vector containing the value added of part of other regions of the national economy.
X1: Column vector containing the partial output of Razavi Khorasan province
X2: Column vector containing the output of other regions of the national economy (provinces) Therefore, the structure and components of the two-region input-output table for Razavi Khorasan province can be considered as follows.

Table 2. The Structure of the Two-Region Table of Razavi Khorasan Province and Other Regions of the National Economy

total output	**Final demand**			**intermediate demand**		**buyers**	
	Overseas export	Other regions of the national economy	Razavi Khorasan	Sectors of other regions of the national economy	Sectors of Razavi Khorasan		Sellers
X^1	E^1	Y^{12}	Y^{11}	Z^{12}	Z^{11}	Sectors of Razavi Khorasan	Intermediary costs
X^2	E^2	Y^{22}	Y^{21}	Z^{22}	Z^{21}	Sectors of other regions of the national economy	
				V^2	V^1	Value added	
				M^2	M^1	Overseas import	
				X_2^1	X_1^1	total input	

Source: Research finding.

Two inter-regional exchange matrices are calculated to carry out the studies, one matrix for Razavi Khorasan Province's exchanges with other national economies and the other for the exchanges of other national economies with Razavi Khorasan Province. For this purpose, the diagonal matrix of Razavi's Khorasan imports from other national economies and the diagonal matrix of other provinces' imports from Razavi Khorasan province were used. Therefore, in this way, two matrices of inter-regional exchanges can also be calculated. The final demand

vector of the two regions is calculated as a residual by aligning the table of the two regions.

The general steps for preparing the regional input-output table using the spatial contribution approach are as follows:

1. All statistical bases required for research are grouped into 71 economic sectors to harmonize and unify statistics and information,
2. The figures of both national and regional input-output tables are in terms of billions of Rials.
3. Choosing the right measure of space economy: In this study, the output is considered the space factor.
4. Estimation of imports of different sectors of the regions: due to the lack of statistics related to the number of imports and exports of a sector at the regional level, to calculate the cross-border imports of each sector at the regional level, it is assumed that the degree of dependence of each sector on the outside world is the same at the regional and national level. Therefore, the corresponding ratios at the national level have been used for regional levels, which is equal to the product of the ratio of national import to national output by regional output.
5. At this stage, the national input table for 2016 and the region accounts for 2015, the input table for both regions is estimated, and the statistical validity of the coefficients of both regions has been measured based on the minimum statistical errors.
6. Calculation of imports from other regions: to determine the scope of activities of each sector at the regional level and carefully examine the region's economic structure according to its spatial dimensions, imports from other regions for each sector at the regional level are intermediate costs.
7. One of the significant problems of location share methods is that using this approach makes it impossible to estimate cross-border exports and even exports to other regions. Under these conditions, export is considered as waste in the final demand. Therefore, in the spatial share approach, the final demand is a residual from the difference between the total demand and the intermediate demand.

5. Result and Discussion

The results of the two regions of Razavi Khorasan province and other national economies are shown separately in 71 economic sectors in Table 10. In this section, the economic structure of the regions, including the analysis of production, supplies based on consumption, value-added, and its results by sector for both

regions, have been evaluated, which helps to have a more appropriate view of the conditions of Razavi Khorasan Province and other national economies. Therefore, according to the results shown in the table below, it is possible to obtain a proper analysis of the economic structure of the two regions and understand the importance of economic sectors in terms of production share in each region. According to the results, the service sector of residential (private and rented) and non-residential units, with 11.56% of the total output of Razavi Khorasan province, is the most important among other sectors in the region and also compared to other national economies. The share of this sector in other national economies is 7.5%, and in the national economy is 7.7%. Also, wholesale, retail, except for motor vehicles and motorcycles, and production of food products are in second and third place of production in Razavi Khorasan Province. This is although the sectors of accommodation (residences) and service activities related to food and beverages (restaurants, etc..) account for a total of about 2.5% of the production share of the province, and the sector of activities related to food and Drinking is ranked higher than providing space. Also, the mentioned two sectors have a higher share than the national economies.

Regarding the share of the main activities in the two regions, the results show that agriculture, industry, mining, and services have 12.8, 34.83, and 52.2 percent of the total production of Razavi Khorasan province, respectively. While in other national economies, 9.48, 51.53, and 38.97 percent, and in the national economy, 9.66, 50.67, and 39.66 percent of the total production have been allocated to agriculture, industry, mining, and services, respectively. Therefore, the production structure of other national economies is more similar to the national economy because it forms a larger share of the country's total production. On the other hand, in Razavi Khorasan province, the service sector has taken a large share, which shows the importance of this sector in the province.

Table 3. Partial Income in Two Regions and the National Economy in 2015 (Billion Rials)

Economic sectors	country (national)		Other national economies		Khorasan Razavi	
	output	Ratio (%)	output	Ratio (%)	output	Ratio (%)
agriculture	2401218.44	9.664	2235023.054	9.488	166195.386	12.897
industry and Mining	12591736.5	50.677	12142233.37	51.539	449503.151	34.881
Other sectors of industry and mining	10698409.6	43.058	10335168.8	43.868	363240.787	28.187

Residential buildings	497281.4	2.001	474391.97	2.014	22889.428	1.776
Other buildings	1396045.5	5.618	1332672.6	5.657	63372.936	4.918
Services	9854695.94	39.66	9181772.529	38.974	672923.365	52.22
Other service sectors	5102880.23	20.536	4772938.093	20.259	329942.12	25.604
Wholesale, retail, except motor vehicles and motorcycles	2002420.7	8.059	1862433	7.905	139987.61	10.863
Transportation by intercity railway	43736.131	0.176	39707.335	0.169	4028.7957	0.313
Other ground transportation	1177706.3	4.74	1098958.5	4.665	78747.859	6.111
Water and air transportation	135117.2	0.544	123144.25	0.523	11972.952	0.929
Accommodation	36266.989	0.146	24878.181	0.106	11388.808	0.884
Service activities related to food and beverages	270665.62	1.089	249001.76	1.057	21663.861	1.681
Administrative activities and support services	117286.31	0.472	110297.31	0.468	6988.9995	0.542
Activities related to government human health	342937.1	1.38	319196.96	1.355	23740.137	1.842
Activities related to private human health	521553.3	2.099	491327.62	2.086	30225.687	2.346
Art, entertainment, and recreation	58829.047	0.237	49343.298	0.209	9485.7491	0.736
Religious organizations and membership organizations	45297.009	0.182	40546.222	0.172	4750.7863	0.369
Total	24847651	100	23559029	100	1288621.9	100
The share of the added value of tourism from the total	6645142.61	26.743	6215899.006	26.386	429243.609	33.31

Source: Iran Statistics Center (2020) and research finding.

Comparing the structure of the tourism sector's share in the value added of Razavi Khorasan Province and other national economies show that the tourism sector in Razavi Khorasan Province has a higher share than other national economies. Also, the two regions have a similar structure in terms of the share of

the sectors in tourism, with the difference that the accommodation sector in Razavi Khorasan province has a significant share of the value-added of this sector while providing space in other national economies does not take a high share. Therefore, tourism is more critical in Razavi Khorasan province's economy than in other national economies.

Table 4. Value-added Created by Economic Activities and Tourism Sector of Razavi Khorasan Province and Other National Economies in 2015 (Billion Rials)

Economic sectors	Khorasan Razavi Province			Other national economies		
	Total Value Added	value Adeed of the tourism sector	The share of the value Added of the whole tourism sector	Total Value Added	Value-added to the tourism sector	The share of the value Added of the whole tourism sector
Residential buildings	7442.5067	744.25	1.15	154248.74	15424.87	1.93
Other buildings	32253.55	4515.5	7	678261.48	94956.61	11.89
Wholesale, retail, except motor vehicles and motorcycles	107663.68	10766.37	16.7	1432386.7	143238.67	17.94
Transportation by intercity railway	1643.7217	1084.86	1.68	16200.327	10692.22	1.34
Other ground transportation	54315.06	27157.53	42.12	757988.79	378994.39	47.46
Water and air transportation	3993.4624	3993.46	6.19	41073.572	41073.57	5.14
Accommodation	9061.5027	9061.5	14.05	19794.32	19794.32	2.48
Service activities related to food and beverages	13556.664	1355.67	2.1	155818.62	15581.86	1.95
Administrative activities and support services	5138.0338	513.8	0.8	81086.189	8108.62	1.02
Activities related to government human health	20320.128	2032.01	3.15	273213.38	27321.34	3.42
Activities related to private human health	22944.253	2294.43	3.56	372965.73	37296.57	4.67
Art, entertainment, and recreation	6380.1181	638.01	0.99	33188.319	3318.83	0.42

Religious organizations and membership organizations	3247.2001	324.72	0.55	27713.665	2771.37	0.35
Total	788607066.7	64482.11	100	14162200068	798573.24	100

Source: Research finding.

The calculation results of the increasing coefficients of production and spillover effects show that the most significant increasing coefficient of production in Razavi Khorasan province is related to the production of food products in two regions. This means that applying the policies of increasing one investment unit in the production of food products in both regions will cause the most remarkable growth in that sector's production at the national level. The increasing coefficient of production of this sector in Razavi Khorasan province is lower than other national economies, which could be due to the need for this sector in the province to import from other national economies. On the other hand, the public secondary and technical and vocational secondary education sector in Razavi Khorasan province and other national economies has the lowest increasing coefficient and the lowest production growth potential in the entire economy.

Table 5. Comparison of Increasing Coefficients of Production and Spillover Effects of Razavi Khorasan Province and Other National Economies Due to the Increase of One Unit of Final Demand in 2015

Economic sectors	**Change in the final demand of Khorasan Razavi province**			**Changes in the final demand of other national economies**		
	Khorasan Razavi	**Other national economies (spillover effect)**	**total effect (National)**	**Other national economies**	**Khorasan Razavi (spillover effect)**	**total effect (National)**
Residential buildings	1.573	0.065	1.638	1.998	0.438	2.436
Other buildings	1.398	0.04	1.438	1.705	0.312	2.017
Wholesale, retail, except motor vehicles and motorcycles	1.174	0.014	1.188	1.295	0.113	1.408
Transportation by intercity railway	1.288	0.022	1.31	1.723	0.461	2.184
Other ground transportation	1.179	0.017	1.196	1.457	0.247	1.704

Water and air transportation	1.298	0.024	1.322	1.857	0.557	2.414
Accommodation	1.056	0.007	1.063	1.306	0.263	1.569
Service activities related to food and beverages	1.508	0.045	1.553	1.597	0.153	1.75
Administrative activities and support services	1.21	0.022	1.232	1.335	0.122	1.457
Activities related to government human health	1.095	0.009	1.104	1.197	0.099	1.296
Activities related to private human health	1.163	0.016	1.179	1.318	0.138	1.456
Art, entertainment, and recreation	1.146	0.012	1.158	1.43	0.276	1.706
Religious organizations and membership organizations	1.264	0.022	1.286	1.468	0.228	1.696

Source: Research finding.

Regarding the effects of an investment in tourism in Razavi Khorasan province on other economic sectors, according to the amount of investment in tourism in the province during the years 2018 to 2020, an average of about 700 billion rials per year on the amount of investment in tourism in Razavi Khorasan province (excluding land) has been added (statistical yearbook of the General Department of Cultural Heritage, Tourism and Handicrafts of Razavi Khorasan 2019 and research calculations). To calculate the mentioned amount, first, the inflation of investment in the tourism sector of the province is adjusted and then the average investment is considered. Therefore, although the primary statistical information available in this study was for 2016 (the last published input-output table is for 2016), to examine the impact of shocks such as Corona in recent years, the investment growth scenario considering the growth of investment in recent years (2018-2020). Therefore, the average annual increase of 700 billion Rials was considered as the scenario of increasing investment in the tourism sector. Thus, although the primary statistics are related to previous years due to limited access, the investment growth scenarios have been adjusted according to recent years so that recent shocks can also be included in the study.

Then, to examine the effects of changes in investment in tourism in Razavi Khorasan Province on the value-added of other economic sectors at the provincial level and other national economies, two scenarios of an increase of 700 billion Rials are considered simultaneously in all sectors related to tourism and also separately in each section. The results of an increase of 700 billion rials in investment simultaneously in all tourism sectors in Razavi Khorasan province, which with an increase of 700 billion rials in investment in sectors related to tourism in the province, a total of 7,103.73 billion rials in the amount of value added to the activity.

The economic benefits of Razavi Khorasan province are increasing, and the spillover effect of this increase caused the creation of 1437.13 billion Rials in the value added of other national economies. Of the amount of 7,103.73 billion Rials in the increase of the value added of the economic activities of Razavi Khorasan province, 6,386.83 billion Rials (90 percent) of the creation of value added is directly related to the 13 sectors of the tourism industry, and 716.91 (10 percent) is related to It is an indirect effect of other parts. Among tourism activities, the highest value-added created as a result of investment (direct effect of investment) is related to the wholesale sector, retail sales except for motor vehicles and motorcycles (11 percent), and other land transportation. (9.56 percent) and accommodation (residences) (7.91 percent). The lowest direct effect in creating value-added due to the increase in investment in all tourism sectors is related to the activities of residential buildings (3.47 percent) and water and air transportation (3.5 percent). Among the other economic sectors of the province, the most indirect effect of value added is related to residential (private and rented) and non-residential unit services (2.65 percent) and the production of other non-metallic mineral products (1.27 percent).

The spillover effects of this increase in other national economies are in the form of 1437.13 billion Rials in the amount of value added to the economic activities of other national economies, 640.95 billion Rials (44.59 percent) from the creation of value-added, directly related to the 13 sectors of the tourism industry and 796.18 (55.4%) is related to the indirect effect of other sectors. Among tourism activities, the highest value-added created as a result of investment (direct effect of investment) is related to the wholesale sector, retail sales except for motor vehicles and motorcycles (14.4 percent), and other land transportation (12.395 percent) and administrative activities and support services (7.29 percent). The lowest direct effect in the creation of value-added due to the increase in

investment in all tourism sectors is related to the activities related to public human health (0.22 percent) and provision of accommodation (0.387 percent). Among other economic sectors in other national economies, the most significant indirect effect of value added is the production of other non-metallic mineral products (3.549 percent) and agriculture, horticulture, and agricultural services (3.488 percent).

The results indicate that the direct effects of a simultaneous investment in Razavi Khorasan province have a very high contribution in increasing the value added to the economic activities of the province. This effect on other national economies is also significant. However, the indirect effects of increased investment in Razavi Khorasan province on other economies outweigh its direct effects.

Table 6. The Effectiveness of Investment in All Tourism Sectors of Razavi Khorasan Province on Other Economic Activities in 2015 (Billion Rials/Percent)

Economic sectors	Razavi Khorasan Province				Other national economies			
	Primary value added	Secondary value added	value added changes	Increase share	Primary value added	Secondary value added	value added changes	Increase share
Agriculture, horticulture, and agricultural services	66,219.78	66,281.34	61.56	0.87	902395.31	902445.43	50.12	3.488
Industrial and traditional animal husbandry	16,607.19	16,628.15	20.96	0.3	181628.7	181641.78	13.08	0.91
Poultry	2,956.89	2,961.17	4.28	0.06	35395.753	35398.49	2.73	0.19
Bee breeding, silkworms, hunting and other agricultural activities	191.88	191.9	0.02	0	8588.0673	8588.12	0.05	0.004
forestry	411.71	412.23	0.52	0.01	9174.4386	9175.73	1.29	0.09
fishing	115.91	115.96	0.05	0	78101.061	78102.02	0.95	0.066
Extraction of crude oil, natural gas and mining support services and extraction of other mines	5,335.07	5,336.20	1.13	0.02	1970427.7	1970480.23	52.49	3.653
Production of food products	29,092.76	29,144.62	51.87	0.73	354509.06	354537.95	28.89	2.01
Production of all kinds of beverages and production of tobacco products	1,997.83	2,001.02	3.19	0.04	11834.947	11837.29	2.35	0.163
Textile production	4,611.58	4,615.38	3.8	0.05	54825.669	54832.26	6.59	0.458
Clothing production	1,245.13	1,245.67	0.54	0.01	33570.327	33571.06	0.74	0.051
Production of leather and related products	1,352.43	1,353.10	0.67	0.01	30822.914	30823.95	1.04	0.072
Production of wood and wooden products except furniture, mats and woven mat materials	3,013.24	3,017.93	4.69	0.07	73275.957	73280.08	4.13	0.287
Production of paper and paper products, printing and reproduction of recorded media	2,054.56	2,060.30	5.74	0.08	47714.248	47723.12	8.88	0.618
Coke production, oil refining products	68.45	68.69	0.23	0	164805.14	164812.91	7.77	0.541
Production of chemicals and chemical products	2,636.79	2,638.01	1.22	0.02	344921.65	344939.59	17.94	1.249
Production of medicines and medicinal, chemical, and herbal products	1,381.33	1,383.84	2.51	0.04	47461.344	47464.18	2.84	0.197
Production of rubber and plastic products	4,746.05	4,767.24	21.18	0.3	92700.149	92727.02	26.87	1.87
Production of other non-metallic mineral products	11,243.76	11,334.13	90.37	1.27	168637.12	168688.13	51.01	3.549
Production of base metals	4,900.50	4,908.53	8.03	0.11	186999.71	187013.48	13.77	0.958
Manufacture of fabricated metal products, except machinery and equipment	2,743.61	2,746.27	2.66	0.04	110073.13	110078.3	5.17	0.359
Production of computer, electronic and optical products	546.42	546.6	0.18	0	28134.158	28134.62	0.46	0.032
Production of electrical equipment	5,121.39	5,129.98	8.58	0.12	50691.977	50698.47	6.49	0.452
Manufacture of machinery and equipment not elsewhere classified	2,425.50	2,427.16	1.66	0.02	67863.74	67865.96	2.22	0.154
Production of motor vehicles, trailers and semi-trailers	15,378.75	15,385.86	7.11	0.1	194520.6	194529.28	8.68	0.604
Production of other transportation equipment	271.16	271.25	0.09	0	10867.89	10868.1	0.21	0.015

Furniture production	900.3	900.7	0.4	0.01	38345.484	38345.95	0.47	0.033
Production of other products	1,176.18	1,181.00	4.82	0.07	13752.753	13757.2	4.44	0.309
Repair and installation of machinery and equipment	544.03	544.43	0.41	0.01	67961.234	67966.1	4.87	0.339
Electricity generation, transmission, and distribution	9,287.72	9,312.57	24.85	0.35	180394.11	180433.38	39.27	2.732
Production and distribution of natural gas	19,272.34	19,283.78	11.43	0.16	641551.37	641588.13	36.76	2.558
Water supply, waste management, sewage and treatment activities	4,056.58	4,072.02	15.44	0.22	56941.471	56961.7	20.23	1.408
Residential buildings	7,442.51	7,688.69	246.18	3.47	154248.74	154259.38	10.63	0.74
Other buildings	32,253.55	32,629.92	376.37	5.3	678261.48	678280.44	18.97	1.32
Wholesale, retail, except motor vehicles and motorcycles	107,663.68	108,445.79	782.12	11.01	1432386.7	1432593.69	207.01	14.404
Wholesale, retail and repair of motor vehicles and motorcycles and repair of computers and personal goods	12,197.58	12,246.49	48.91	0.69	118319.43	118375.8	56.37	3.923
Transportation by intercity railway	1,643.72	1,945.78	302.06	4.25	16200.327	16219.48	19.15	1.333
Other ground transportation	54,315.06	54,994.52	679.46	9.56	757988.79	758166.91	178.13	12.395
Transport by pipe	1,777.30	1,779.33	2.04	0.03	33602.997	33606.09	3.1	0.215
Water and air transportation	3,993.46	4,241.95	248.48	3.5	41073.572	41094.24	20.67	1.438
Warehousing and transportation support activities	1,745.64	1,768.67	23.03	0.32	56531.72	56573.71	41.99	2.922
Post and courier activities	792.19	794.99	2.79	0.04	6057.6328	6060.51	2.87	0.2
Accommodation	9,061.50	9,623.39	561.89	7.91	19794.32	19799.87	5.55	0.387
Service activities related to food and beverages (restaurants, etc.)	13,556.66	14,016.70	460.04	6.48	155818.62	155843.68	25.06	1.744
connections	2,690.53	2,691.64	1.11	0.02	234269.77	234278.79	9.02	0.627
Other information and communication activities	923.33	924.12	0.78	0.01	57660.341	57664.77	4.43	0.308
Banks and financial institutions	4,364.39	4,377.40	13.01	0.18	153823.87	153847.04	23.17	1.612
Compulsory insurance and social security	5,924.72	5,949.54	24.81	0.35	108050.41	108079.69	29.28	2.038
Other financial services and insurance activities	861.02	861.91	0.88	0.01	60874.124	60877.14	3.02	0.21
Services of residential units (private and rented) and non-residential	139,742.71	139,931.27	188.56	2.65	1666004.1	1666157.49	153.43	10.676
Real estate broker services	2,125.40	2,129.11	3.7	0.05	29098.515	29102.49	3.98	0.277
Research and Development	428.63	428.83	0.2	0	19070.942	19071.45	0.51	0.035
Other professional, scientific, and technical activities	9,577.07	9,603.36	26.29	0.37	35953.079	35973.2	20.12	1.4
Veterinary activities	385.27	385.44	0.18	0	6389.3183	6389.54	0.22	0.015

Administrative activities and support services	5,138.03	5,733.03	595	8.38	81086.189	81190.96	104.77	7.29
Public affairs and city services	22,713.71	22,718.40	4.69	0.07	356777.39	356781.97	4.58	0.319
defense affairs	13,985.86	13,987.55	1.69	0.02	218253.04	218255.2	2.17	0.151
Police affairs	10,104.81	10,105.71	0.9	0.01	112452.84	112454.05	1.21	0.084
State primary education	13,946.37	13,946.81	0.44	0.01	153154.2	153154.67	0.47	0.033
Private primary education	761.77	761.79	0.02	0	7846.1696	7846.19	0.02	0.001
General secondary education and government technical ….	16,364.52	16,365.00	0.49	0.01	165162.13	165162.66	0.53	0.037
Public secondary education and private technical and professional secondary education	655.42	655.48	0.06	0	11175.213	11175.27	0.06	0.004
State higher education	3,507.62	3,507.74	0.12	0	79383.495	79383.66	0.17	0.011
Private higher education	5,468.91	5,472.62	3.71	0.05	59769.116	59772.93	3.81	0.265
Other public and private education	1,341.65	1,345.79	4.14	0.06	19132.223	19136.57	4.34	0.302
Activities related to government human health	20,320.13	20,923.77	603.65	8.5	273213.38	273216.65	3.27	0.227
Activities related to private human health	22,944.25	23,490.04	545.79	7.68	372965.73	372975.21	9.48	0.66
Social work	2,413.65	2,414.88	1.24	0.02	31869.082	31870.54	1.46	0.102
Art, entertainment, and recreation	6,380.12	6,861.94	481.82	6.78	33188.319	33204.73	16.41	1.142
Religious organizations and membership organizations	3,247.20	3,751.18	503.98	7.09	27713.665	27735.51	21.85	1.52
Other personal service activities	3,940.30	3,943.22	2.93	0.04	58691.919	58694.98	3.06	0.213
Total	788,607.07	795,710.80	7,103.73	-	14162200.1	14163637.2	1437.13	-
total effect	7,103.73 (100%)				1437.13 (100 %)			
direct impact	6,386.83 (90 %)				640.95 (44.59%)			
indirect effect	716.91 (10%)				796.18 (55.4%)			

Source: Research finding.

The general results of increased investment in each of the tourism activities of the province are presented in the table below. According to the obtained results, the increase in investment in sector government human health has created the highest amount of added value, and this sector is in the first place of the total effect due to the increase in investment in the province. After this activity, there is the activity related to wholesale and retail sales, administrative activities, and support services. In fact, due to the high share of value added in the province, the government's human health sector will significantly contribute to creating value-added in the province if the investment increases. In other words, the investment in the province's health tourism will create significant value added for the province. The increase in the share of administrative activities and support services is also due to the increased effects of travel agencies' activities. In addition, according to the investigation of the direct effects of an investment in tourism, the government's human health sector has created the most direct effect in this sector. There are activities related to accommodation, wholesale, and retail, except motor vehicles and motorcycles. Therefore, increasing investment in each of the abovementioned sectors can bring significant value to the province's tourism sector.

Regarding the effects of an investment in Razavi Khorasan province on other national economies, the indirect effects were the most significant effect of this increase. The reason for this problem can be the need to provide the required inputs for the tourism sector in the province from another national economy should be in the form of imports from other regions. In addition, the most value-added was created in water, air transportation, place, transportation through intercity railway, and in the third, Residential buildings. This problem can be due to transportation's influence on tourists' arrival and departure to Razavi Khorasan Province.

Table 7. The Effects of Investment Increase Scenarios in Each of the Tourism Sub-Sectors of Razavi Khorasan Province

Economic sectors	Razavi Khorasan				Other national economies			
	Secondary value added	total effect	Direct effect	Indirect effect	Secondary value added	total effect	Direct effect	Indirect effect
Residential buildings	789055.645	448.578	244.279 (54.4%)	204.30 (45.54 %)	14162375	175.19	7.70 (4.39 %)	167.492 (95.61 %)
Other buildings	789121,547	514,481	364,43 (70,845%)	150,05 (29,16%)	14162326	125,73	4.02 (3,2%)	121,713 (96.8%)
Wholesale, retail, except motor vehicles and motorcycles	789238.44	631.374	549.644 (87.05%)	81.73 (12.94 %)	14162256	56.4	6.48 (11.48 %)	49.921 (88.52 %)
Transportation by intercity railway	789019.994	412.928	296.182 (71.73 %)	116.75 (28.27 %)	14162401	201.26	13.37 (6.64 %)	187.895 (93.36 %)
Other ground transportation	789169.166	562.099	497.910 (88.58 %)	64.19 (11.42 %)	14162306	105.99	17.04 (16.07 %)	88.952 (83.93 %)
Water and air transportation	788969.459	362.392	242.742 (66.98 %)	119.65 (33.02 %)	14162439	238.73	13.90 (5.82 %)	224.828 (94.18 %)
Accommodation	789185.294	578.227	557.018 (96.33 %)	21.21 (3.67 %)	14162300	100.18	0.26 (0.26 %)	99.914 (99.74 %)
Service activities related to food and beverages	789214.28	607.213	438.426 (72.20 %)	68.79 (27.80 %)	14162256	55.86	0.11 (0.20 %)	55.744 (99.80 %)
Administrative activities and support services	789224.788	617.722	518.373 (83.92 %)	99.35 (16.08 %)	14162256	56.36	1.88 (3.34 %)	54.478 (96.66 %)
Activities related to government human health	789246.364	639.297	599.292 (93.74 %)	40.00 (6.26 %)	14162241	41.22	0.11 (0.28 %)	41.104 (91.72 %)
Activities related to private human health	789217.349	610.282	545.024 (89.31 %)	65.26 (10.69 %)	14162264	63.79	8.53 (13.38 %)	55.255 (86.62 %)
Art, entertainment, and recreation	789147.592	540.526	479.977 (88.80 %)	60.55 (11.20 %)	14162329	128.49	14.26 (11.10 %)	114.229 (88.90 %)
Religious organizations and membership organizations	789185.68	578.613	494.447 (85.45 %)	84.17 (14.55 %)	14162288	87.94	10.07 (11.45 %)	77.869 (88.55 %)

Source: Research finding.

6. Conclusion and Recommendation

In the present research, the two regions' economies of Razavi Khorasan Province and other national economies are investigated by the input-output table. For this purpose, first, the input-output table of two regions was made for these two regions using the input-output table of 2016. The results of the investigation of increasing coefficients and spillover and feedback effects showed that the service sector of residential (private and rented) and non-residential units, with 11.56% of the total output of Razavi Khorasan province is the most important among other sectors in the region and also compared to other national economies has While the share of this sector in other national economies is 7.5% and in the national economy is 7.7%. Accommodation sectors (residences) and service activities related to food and beverages (restaurants, etc..) account for a total of 2.5% of the production share of the province. Also, the mentioned two sectors have a higher share than other national economies and the national economy in the country.

According to the results, the share of consumption, value-added, import from others, and import from outside the world of the total supply for Razavi Khorasan province are 24.3, 61.2, 20.41 and 4.09%, respectively, which shows a considerable difference in the share of value added. The province is from the total supply. Also, the supply structure of other parts of the national economy indicates that in the national economy, value-added has the largest share of the total supply of the economy with a share of 60.11%, which shows the similar structure of Razavi Khorasan province and other national economies. The difference is that more activities have a high consumption share at the level of other national economies. The total value added created from economic activities in Razavi Khorasan province in 2015 is equal to 788607066.7 billion Rials, of which about 64482.11 billion Rials is the tourism sector's share. 8.18% of the total value added of the province is related to the tourism sector.

Among the main activities of the province's tourism sector, the largest share of the value added created in this sector is related to the other land transportation sector (except rail) (27157.53 billion Rials) with a share of 42.12%, followed by the wholesale sector, retail sales except for motor vehicles and motorcycles (10766.37 billion Rials) with a share of 16.7% and accommodation sector (residences) (9061.50 billion Rials) with a share of 14.05%. The lowest share of the total value added of the province's tourism sector is related to religious organizations and member organizations (324.72 billion Rials), with a share of 0.55%. Regarding the tourism sector of other national economies, the total value added created as a result of economic activities in other national economies in 2015

is equivalent to 14162200068 billion Rials, of which about 798573.24 billion Rials is the share of the tourism sector. 5.63 percent of the total value added of other economies is related to the tourism sector.

Comparing the structure of the tourism sector's share in the value added of Razavi Khorasan Province and other national economies shows that the tourism sector in Razavi Khorasan Province has a higher share than other national economies. Also, the two regions have a similar structure in terms of the contribution of sectors in tourism, with the difference that the accommodation sector in Razavi Khorasan province has a significant share of the value added of this sector. The most significant increasing coefficient of production in the Khorasan-Razavi province is related to the production of food products in two regions. Regarding the feedback effects of tourism sectors, the feedback effects of Razavi Khorasan province are smaller than other national economies. The return effects of tourism sectors in the province are not much more significant compared to other provinces, and the growth of production of these sectors in Razavi Khorasan province is more affected by the changes made in this province.

Also, in the next section, the effects of increased investment in the tourism sector of Razavi Khorasan Province on other economic activities in this province and other national economies were examined. For this purpose, according to the existence of various tourism activities, 13 activities were considered, and then their value share added, and investment increase scenarios were investigated. For this purpose, two types of scenarios are considered. In one scenario, the increase of 700 billion rials in investment in all sectors is discussed simultaneously. In the second scenario, the effect of the increase of 700 billion rials in each activity is evaluated separately.

With an increase of 700 billion rials in investment in all sectors related to tourism, a total of 7,103.73 billion rials will add to the value-added of the economic activities of Razavi Khorasan province. The spillover effect of this increase caused the creation of 1437.13 billion Rials in the value added of other national economies. Of the amount of 7,103.73 billion Rials in the increase of the value added of the economic activities of Razavi Khorasan province, 6,386.83 billion Rials (90 percent) of the creation of value added is directly related to the 13 sectors of the tourism industry, and 716.91 (10 percent) is related to the indirect effect of other parts. Among the tourism activities, the most value-added created as a result of the investment is related to the wholesale sector, retail sales except motor vehicles and motorcycles (11 percent), other land transportation (9.56 percent), and

supply and place (residences) (7.91 percent). The lowest direct effect in creating value-added due to the increase in investment in all tourism sectors is related to the activities of residential buildings (3.47 percent) and water and air transportation (3.5 percent).

The spillover effects of this increase in other national economies are in the form of 1437.13 billion Rials in the amount of value added to the economic activities of other national economies, 640.95 billion Rials (44.59 percent) from the creation of value-added, directly related to the 13 sectors. It belongs to the tourism industry, and 796.18 (55.4%) is related to the indirect effect of other sectors. Among the tourism activities, the highest value-added created as a result of the investment is related to the wholesale sector, retail sales except for motor vehicles and motorcycles (14.4 percent), other ground transportation (12.395 percent), and activities administrative and support services (7.29 percent), that the direct effects of a simultaneous investment in Razavi Khorasan province have a very high contribution in increasing the value added to the economic activities of the province.

The general results of increased investment in each of the tourism activities of the province are presented in the table below. According to the obtained results, The increase in investment in sector government human health has created the highest amount of added value, and this sector is in the first place of the total effect due to the increase in investment in the province. After this activity, there is the activity related to wholesale and retail sales, administrative activities, and support services. In fact, due to the high share of value added in the province, the government's human health sector will significantly contribute to creating value-added in the province if the investment increases. In other words, the investment in the province's health tourism will create significant value added for the province. The increase in the share of administrative activities and support services is also due to the increased effects of travel agencies' activities. In addition, according to the investigation of the direct effects of an investment in tourism, the government's human health sector has created the most direct effect in this sector. There are activities related to accommodation, wholesale, and retail, except motor vehicles and motorcycles. Therefore, increasing investment in each of the abovementioned sectors can bring significant value to the province's tourism sector.

Tourism development programs should be considered in line with investment in these sectors.

Resources

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