

## The Effect of Geographical Factors on Absorbing Foreign Investment with an Emphasis on Health Tourism (Case Study: Spa in Damavand)

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### Abstract

The objective of this article is to examine the effect of geographical factors on absorbing foreign investment with an emphasis on health tourism. Spa is one of an impressive creation and used for disease treatment. Moreover, it is so important to absorb foreign investment and health tourism. More specifically; it will be considered to submit some effect of geographical factors on absorbing foreign investment and introducing tourism potential of health. Some criteria should be considered and evaluated like the numbers of health tourist, income rate, employ rates, services, facilities and amenities for spa. So the researchers chose Damavand because of geomorphological situation, economical condition and abundant spas. In order to evaluate these spas. The researchers chose VIKOR model criteria. This study is quantitative and collected the data from local participants in those areas. The findings of this study indicate ALLA spa achieved the highest ranking among the other streams and also is known as the best spa for investment and health tourism. Damavand can be as international poles for treatment because it has heat spas, the quality of spas and natural geography and its view. So, the official of Iran government should pay attention to these areas.

**Keywords:** Foreign investment; Health tourism; Spas; Damavand

### Introduction

This research study provides an opportunity to study the effect of geographical factors on absorbing foreign investment with an emphasis on health tourism. According to policy principles of 44 constitutions, this principle approves the law in order to support foreign investment and the cooperation of private section in the investment field. Tehran and Mazandaran provinces have critical conditions regarding to industrial, agriculture and tourism potential in order to absorb internal and external capitals.

Foreign investment can be divided into two parts: the first one is financial direct investment and financial indirect investment in the following parts, direct and indirect investment are defined extensively: in this kind of investment, the country or company copes with financial responsibilities of the produced and commercial company and ownership of capital. Indirect investment happens through buying stock and serving hand by foreign investment. The purpose of investment is to optimize capitals and decrease the risk of capital in order to earn extra assets by comparison with other investment, and the investor doesn't interfere with the control of the production and doesn't take responsibilities.

It is increasing competition among different countries particular under developed Asian countries in order to absorb health tourism [1]. On the other hand, health tourism is blossoming in under developed countries because the commercial is freed in health tourism [2]. Health tourism and its subcategories are noticed among different tourism fields [3].

Internal investment includes transferring material and immaterial assets from one country to another country in order to gather wealth. The important factors for observing foreign investment can be pointed potential, cultural, social, economic, and financial. Encouraging (consists of decreasing customs toll, official facilities, discount and so on) and geographical factors.

In the following parts, these factors will be explained broadly:

#### 1) Political factors

If the country is not stable in political, structure, and management, it is not appropriate for foreign investment.

#### 2) Culture and social factors

Foreign investment depends on relationship between foreign company and host country for a long term. This relationship is not only limited to commercial goods and technical knowledge but also it depends on manager, engineer and technical workers commenting to other countries. If the distance is very short between two countries, economical and sociological charge will decrease.

#### 3) Financial and economic factors

There are a lot of work power, cheap materials and markets in the developed countries so the investors had better invest their money in those countries. It is difficult to export goods to other countries because of taxes. Therefore, it is better to be invested in the developed countries [4].

The last one is geographical factors. The purpose of geographical factors is geography condition. Geography condition includes weather, geology, different type of plan, population, inhabitants and access to commercial passage that are the factors of encouraged and threatening for foreign investment [5].

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Spas and heating streams are one of the geographical factors, so the researchers will discount health tourism in the following parts: mineral waters treat depended on temperature, physical and treats and gases. Moreover, people decide to accommodate in a beautiful and pleasant place that are near spas and heating streams. The experts and doctors believe that the spas and heating streams are more effective on increasing heart activities, decreasing blood pressure and increasing the number of macro sites and microsities.

In the following parts different kinds of tourism will be described:

- Wellness Tourism: According to Brown and Weiler [6], traveling to spas and heating streams are very pleasant and relieve and heal the pains without medical check-up.
- The second one is creative tourism: The doctor prescribes mineral waters, salt, and mod and so on for the remedies of some disease.
- The third one is medical tourism: sometimes, the patient are prescribed to travel to the mineral streams or spas after medical operation (Table 1).

World tourism organization (WTO) defined health tourism as follows: a series of services that help to improve and increase healthy and the spirit of a person by using mineral water, weather or medical treatment. Moreover, the person is cured out of his or her habitat for 24 h. What's more, health tourism is beyond of treatment tourism and includes natural facilities, heating and mineral water, mud treatment and so on.

Damavand is located in the East of Tehran and the southern province of Mazandaran. This area is between length 5135 5 E 354237 N, and length 53 6 19 E and 35 42 7N. Because of geographical location and strategic that is caused to annually millions of passengers pass from the region (Cultural Damavand is the vicinity of three provinces such as Mazandaran, Semnan, and Tehran. Tehran has high potentially such as politics, culture, facilities and transportation system in the west caused up to create numerous capabilities for the region. As the matter of fact this area is also corridor north to the south of the country.

Tourism became one of the important industries in early 1970. Florans Natingel suggested Turkish mineral spas instead of Swiss. Mineral spas because it was cheap for health tourism. A lot of studies have been examined. The result of this study revile that the book was written about requires, demand and opportunities about health tourism in Australia. Annual reports show economy has been blossoming about \$255 milliard in America. The USA earns \$12 milliiards, Japan earns \$5/7 milliard and Germany \$3/8 milliard dollar from health tourism. According to global spa summit in 2008, the north of America, Europe, Asia and Pacific Ocean are the best continents in health tourism

S. no.	Disease	Rank		Disease		Rank
1	Heart	First	9	Neural system	9	Ninth
2	Cancers	Second	11	Infection	11	Tenth
3	Bacterial infection	Third	11	Respiratory system	11	Eleventh
4	Viral infection	Forth	12	Digestive system	12	Twelfth
5	Parasite disease	Fifth	13	Urinary system	13	Thirteenth
6	Hematozoon	Sixth	14	Congenital	14	Fourteenth
7	Ductless gland disease	Seventh	15	Birth disease	15	Fifteenth
8	Psychological disease	Eighth	-	-	-	-

Table 1: The name of disease (Rashidi, 2011).

respectively. The following table shows the income of global spa (Table 2) [6,7].

Rashidi et al. [8] ranked the treatment features of streams in Ardebil and focused on health tourism. The finding of this study reveals that has spatial geographical condition that can appeal to tourist. Izadi et al. [9] examined the situation of health tourism in IRAN as an opportunity or threat and revealed that Iran is a good place for investment because of its strength point. Sharif and Asadiyan [10] introduced a model for the development of health tourism with integrated approach of Topsis fuzzy and make model interpreting structure in YAZD province. The finding of this study show health tourism and its development need resolution in order to attract the satisfaction of pations.

Hence, the statement problem of the study is lack of infrastructures (road, transportation system) facilities, amenities, medical services, and hotel. So that this reign is suitable to be investment. The researchers hope that the government notices these places so that foreign invest and appeal to the places.

## Methodology

This study concentrates on the effect of geographical factors on absorbing foreign investment with an emphasis on health tourism. To carry out the study, the researchers under take the following steps:

- The investigation of theoretical framework and the review of related literature of the study
- Field observation
- The selection of index.

## Instrument

In order to examine the study the researchers applied different instrument like geology maps with the scale of 1:100000 and topographical maps from the studied area with the scale of 1:50000 and the last one is the usage of VIKOR model to rank 8 heating stream and Spas. The researchers will have explained some spas, streams and medical treats briefly in the following (Figure 1 and Table 3)

## Data collection

The researcher collected the data from some indexes such as the number of health tourist, the rate of income and the rate of employees. VIKOR model is applied to analyses 8 mineral spas in Damavand. This method is applied to make decision on the selection of creative and alternatives. VIKOR model includes some steps:

- 1) Making matrix
- 2) The number of weigh of criteria

Country	The number of stream	Annual revenue	The number of employees in stream
Europe	22,617	Billion 18/4	441,727
Asia	21,566	Billion 11/4	363,684
North America	21,662	Billion 13/5	317,229
Middle East	1114	Billion 1 /7	21,938
Africa	389	Billion 1/3	7273
Latin America	5435	Billion 2/5	82,694
Total	71,672	Billion 46/8	12,224

Table 2: The income of global spa (Brown & Weile, 2010).



Figure 1: Pictures from the study area spas (a) ASTRABAKO (b) AB AHAN (c) ALLA (d) LARIGAN (e) SAFID AB (f) TIZAB (g) POLOR (h) ASK.

- 3) Determine positive and negative ideal spot
- 4) Measuring the rate of S and R for each alternative
- 5) Measuring VIKOR index (Q for each alternative)
- 6) Ordering alternatives based on the rate of Q, R, S.

### Data analysis

In order to implement VIKOR model the researchers applied multi criteria making decision n and m criteria. The steps of implementing VIKOR model is as follows the first one is making matrix.  $X_{ij} =$  [ ]

where in  $X_{ij}$  performance options i (  $i=1,2,\dots, m$ ) in relation to criterion j (  $j= 1,2,\dots, n$ ) (Table 4).

The second step is no scale design matrix

At this stage, the criteria with different dimensions to become dimensionless criteria and a matrix defined in Table 5.

The third step is determining the weighting of criteria. In order to determine the weight of indicators, the researchers used Entropy method. As can be seen Entropy method in the following (Table 6).

The fourth step is to determine the best ( ) and the worth ( ) value of positive and negative criteria as follows:

Max Min

( ) is the best value of criteria j and ( ) is the worth value of criteria j from among alternatives. (Table 7) shows this.

The fifth step is: measure utility value (S) and dissatisfaction (R) in the following part (Table 8).

$$[ \dots ] + (1-V) [ \dots ]$$

$$= \text{Min} \quad \text{Max} \quad = \text{Min} \quad \text{Max}$$

$$S- 0.887605 \quad S+ 0.242972 \quad R - 0.4 \quad R +$$

$$0.133422282$$

Parameter V is chosen according to the agreed decision in the group. In this case the value of V is half according to the unanimous agreement (Table 9).

### Discussion

The study was an attempt to examine the effect of mineral water on diseases. The main objectives of this study are:

1. To show the effect of heating stream and spas on stomach, liver, pancreas, intestine and different metabolism in the body. Moreover, taking shower fizzy bicarbonate streams can help the body to activate the vessel. During taking a shower, the rate of urine is increasing and the pails is increasing and nutrition's are more active [11].
2. To examine colour streams are more effective for rheumatism and dermatology.
3. To find taking shower in mineral water has effect on pains in our mussels and admit uric acid.
4. To determine the best spas with the help of criteria and indicators.

The privies study reveals that different mineral water, spas are more effective on investment health tourism and treatment tourism. The findings of this study strongly and positively are the same as the privies studies. The following map the ranking of streams and spas.

In this study the researchers arranged alternatives according to the measure of Q, R, S.

In this step, regarding to the measure of Q, R, S, the alternatives can be categorized three groups from low to high. Afterwards, the alternative is selected as a best alternative from among three groups. In Q group, the alternative is the best that have two conditions.

The first one is: If the alternative GS2 and GS8 are the first and the second and n indicates the number of alternatives as follows:

$$Q(S6) - Q(S8) > n - 8 \quad 0.95 - 0 > 0.95 > 0.14$$

The second one is: alternative S6 have to be at least the best rank between R and S groups. If the first condition does not hold, we can accesses the best alternatives as the following formula

$$S = S1, S2 \dots Sm \quad Q(\dots) \quad Q(\dots)$$

In this study the first condition is approved.

### Conclusion

This study investment the effect of geographical factors on absorbing foreign investment with an emphasis on health tourism. The findings of this study reveal that annual reports of WTO (2013) Iran has not had important role in health and foreign tourism, but Iran has a good potential in order to invested for treatment tourist and foreign investment. As was mentioned before, Iran has a high capacity regarding to spas and mineral waters but it doesn't have appropriate status for foreign and local tourist (Figure 2) [12].

The name of stream	Treatment	Materials in the water	Water temperature	Location		
LARIGAN	Dermatology, Rheumatism	Chlorine, Magnesium	62	52	11	36
				35	54	25
ASK	Fresh skin, Lymphoid	Calcium, Potassium, Salt, Bicarbonate	25	52	9	23
				35	52	9
ASTRABAKO	Infection, Kidney, Liver	Iodine, Potassium, Magnesium	34	52	16	41
				35	58	43
AB AHAN	Heart disease, Blood temperature	Calcium Bicarbonate	11	35	3	2
				35	44	48
TIZAB	Intestine, Stomach, Liver, Kidney	Calcium Bicarbonate	8	52	2	52
				35	51	48
ALLA	Liver, Neural system, Eczema	Calcium Bicarbonate	15	51	55	8
				35	59	2
POLOR	Dermatology Disease	Acid carbonic	8	52	9	43
				35	52	9
SAFID AB	Infection disease, Constipation	Magnesium Sulphide	11	52	4	51
				35	44	54

Table 3: Some spas, streams and medical treats.

S. no.	The name of stream	Number of tourism	Revenue	The rate of employee	Service
S1	LARIGAN	0.5	0.9	100	15
S2	ASK	0.1	0.1	30	10
S <sub>3</sub>	ASTRABAKO	0.1	0.04	30	5
S <sub>4</sub>	AB AHAN	0.001	0.01	5	2
S <sub>5</sub>	TIZAB	0.5	0.01	5	1
S <sub>6</sub>	ALLA	1.5	0.6	50	8
S <sub>7</sub>	POLOR	1	1	70	4
S <sub>8</sub>	SAFID AB	0.001	0.001	5	1

Table 4: Making matrix.

S. no.	The name of stream	The number of tourism	Revenue	Rate of employee	Service
S <sub>1</sub>	LARIGAN	0.257513	0.609305	0.720282	0.71837
S <sub>2</sub>	ASK	0.051503	0.067701	0.216085	0.478913
S <sub>3</sub>	ASTRABAKO	0.051503	0.02708	0.216085	0.239457
S <sub>4</sub>	AB AHAN	0.000515	0.00677	0.036014	0.095783
S <sub>5</sub>	TIZAB	0.257513	0.00677	0.036014	0.047891
S <sub>6</sub>	ALLA	0.772539	0.406204	0.360141	0.383131
S <sub>7</sub>	POLOR	0.515026	0.677006	0.504198	0.191565
S <sub>8</sub>	SAFID AB	0.000515	0.000677	0.036014	0.047891

Table 5: No scale design matrix.

Number of tourism	Revenue	Rate of employee	service
0.4	0.2	0.3	0.1

Table 6: The weight of each indicator based on entropy.

<b>F MAX</b>	0.309016	0.135401	0.216084722	0.071837
<b>F MIN</b>	0.000206	0.000135	0.0108042	0.004789
<b>F+ - F-</b>	0.30881	0.135266	0.205280522	0.067048

Table 7: The highest and lowest value criteria.

S. no.	Name	The number of tourism	Revenue	The rate of employee	Service	S	R
S1	LARIGAN	0.266845	0.008769	0	0	0.275614	0.266845
S2	ASK	0.373582	0.078923	0.221053	0.035714	0.709272	0.373582
S <sub>3</sub>	ASTRABAKO	0.373582	0.084185	0.221052	0.071429	0.750248	0.373582
S <sub>4</sub>	AB AHAN	0.4	0.086815	0.3	0.092857	0.879672	0.4
S <sub>5</sub>	TIZAB	0.266845	0.086815	0.3	0.1	0.75366	0.3
S6	ALLA	0	0.035077	0.157895	0.05	0.242972	0.157895
S7	POLOR	0.133422	0	0.094737	0.078571	0.306731	0.133422
S <sub>8</sub>	SAFID AB	0.4	0.087605	0.3	0.1	0.887605	0.4

Table 8: Multiplication Weights factor in the decision matrix and calculation RI and Si.

S <sub>1</sub>	LARIJAN	0.724431	3
S <sub>2</sub>	ASK	0.18787	5
S <sub>3</sub>	STERABACO	0.156089	6
S <sub>4</sub>	AB AHAN	0.006152	7
S <sub>5</sub>	TIZAB	0.291455	4
S <sub>6</sub>	ALLA	0.954099	1
S <sub>7</sub>	POLOR	0.950546	2
S <sub>8</sub>	SAFID AB	0	8

Table 9: Ranking of spas and heat water based on index VIKOR (Q) and score.

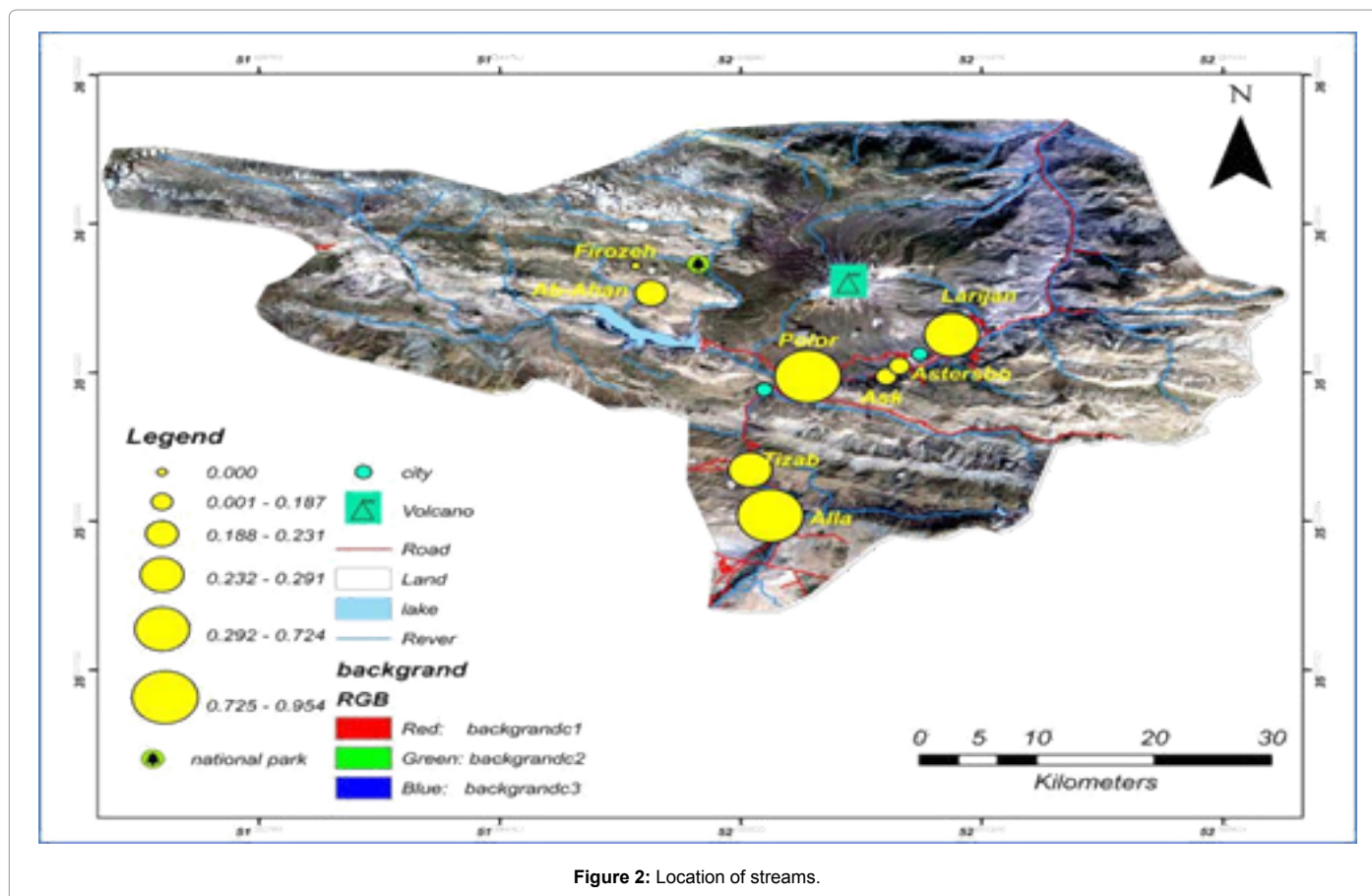


Figure 2: Location of streams.

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