Abstract:

**Purpose:** The main aim of this article is to show the positive impacts of the tourism industry on economic development. It is based on mathematical-statistical analysis demonstrating positive trends for the development of the field.

**Design/Methodology/Approach:** Using 6 years of data, from 2010-2016 regarding the tourism development of the state of Georgia, it is possible to identify a forecast for the future tourism development and its impact on national economy.

**Findings:** The direct share of the tourism industry in employment would increase from 6 to 9% and revenues could reach up to 3 billion Gel. Moreover, the econometric results show the tourism industry's influence on main indicators such as tourist flows and direct share in total GDP.

**Practical Implications:** Some findings can be implied as a base for the future development of the field.

**Originality/Value:** The state of Georgia is trying to develop the tourism industry by using many resources to achieve this goal. However, there is a lack of statistical information for the future development needs or expectations. Statistical forecast could be a good precondition to pursue the goals established by the government.

**Keywords:** Tourism industry, Employment, economic development, Georgia.

**JEL codes:** M31, M37.

**Paper type:** Research article.

---

1Akaki Tsereteli State University, Agrarian Faculty, Department of Tourism and Landscape Architecture, Kutaisi, Georgia, maia.diakonidze@atsu.edu.ge
1. Introduction

Since 50s and 60s of the 20th century tourism has become a global and an integral part of human's social life. It is hard to find a country with not a well developed tourism industry. In many countries, tourism industry produces a considerable part of their Gross Domestic Product. For example, in Spain the share of the tourism industry in GDP is 16%, in Italy 10.3%, in Morocco 17.3%, in France 9.3%, in Norway 9.1%, in Turkey 12.6%, in the UK 11.3% (World Travel & Tourism Council, 2015). One of the most important features of tourism, and especially for international tourism, is the growth of employment as the functioning of tourism in any economic field is based on a wide range of human resources. Therefore, the countries where the share of tourism is significantly higher, the number of employees is accordingly proportionate to it. For example, in Europe, in 2015 the number of people employed in the tourism industry was more than 14 million constituting 3.6% of total employment (World Travel & Tourism Council, 2015).

According to data from the first quarter of 2016, the number of visitors in Europe has increased by 3.4% followed by an increase of half a million in the number of employees, and by 2016 the number of employees in the tourism industry in Europe amounted to 14.5 million people (Deutscher Reiseverband, 2016). Based on the foregoing discussion we can make a conclusion about the positive role, that the tourism industry plays in solving problems related to labor market. At this stage, the tourism industry is one of the most profitable and fastest growing industry. Tourism accounts about 10% of the world's GDP (World Travel & Tourism Council, 2015). Tourism develops along with the material-technical progress and it has a relevant impact to its socio-economic environment. Development of mass tourism is associated with several issues, such as:

➢ reduction of working hours in favor of free-time;
➢ increase of material welfare of the society and change of values;
➢ globalization of socio-economic relations.

Based on above mentioned issues, it is possible to distinguish a number of factors that define tourism’s development and its impact on employment growth:

➢ increased demand for tourism services which means that people have an increasing interest on unknown and foreign places. Formation of demand for tourism service includes number of factors such psychological and materialistic. These factors can explain the motivation and the pragmatic possibilities of human travel;
➢ peculiarities of customer demand on tourism services despite the economic stagnation and the economic and financial crises we can see positive dynamics in the demand growth due to the substitution of relatively cheap service. Tourism service customers’ segmentation and its impact on demand formation. In this case it is meant to change the demand for the tourist
product in different periods. For example, in the 80s traditional travels were replaced by extreme kind of travels to get strong feelings and experience from tourism services. In general, the improvement of the social conditions of society, by reducing the retirement age, and changes in the psychological approach to old ages, creates a modified demand for tourism services. Some tourism activities, such as business tourism, religious and ecotourism are getting widespread nowadays attracting a great number of new visitors. Growth and development of tourism services is reflected not only on customers, but also on the number of people employed in the tourism industry and on their professional skills;

- the realization of tourism services determines the purchasing power of consumers, therefore, tourism is an area where we can find differential solvency for the service user, which means differential tourism services and therefore, availability for any customer’s segment.

2. The Research Rationale

The development of the tourism industry has two kinds of impact - direct and indirect - on employment growth. An impact is direct when the number of employment growth is attributed directly to tourism services (tourist agencies, hotels, restaurants and others). Indirect impact is when employment growth is associated in different areas such as in trade, banking, insurance and other adjacent sectors of the tourism industry. As the Swiss experience shows tourism, in particular for the field of employment, has a multiple effect. Swiss Professor Schmidhauser's calculations show that, for every 1000 workers employed in the sphere of accommodating, it comes that only 459 workers are employed in other services, and for every 100 workers employed in the sphere of accommodating, it comes that 11 workers employed in the trade sector and 2 workers employed in banking and insurance services (Schmidhauser, 1989). Indirect effect from the development of the tourism industry on adjacent fields is also visible in the areas of primary purpose productions, sports and other similar activities. The development of the tourism industry always works as a catalyzer for the increase of activities in other economic sectors, such as transportation, communications, trade, agriculture and other consumer’s products (Gamidullaeva, 2018).

The most important feature of the tourism industry is the growing demand on labor force. Tourism can be considered as one of the dominant sectors in case of job creation in small and developing countries, more than 50% of the employed people are engaged in activities directly or indirectly associated with tourism. Countries having a closed economic system, which means before tourism industry’s development they were depended on the agricultural sector of the economy. There is a different situation in big countries that have developed major industrial trends. Tourism industry creates about 5% of employment in these countries (UNWTO Statistics and Tourism). In developing world, tourism industry creates more jobs, than the other sectors of the economy. If there is not such natural resources, as oil or gas
in the country and it needs to increase income within a short term period, tourism can be a rescue ring that will allow the country to increase budget income in a very short period of time. The main contribution of tourism in the national economy is obvious the generated revenues from the sector. The effect in money in circulation is positive since tourists spent money to cover their expenses a very important result for the economy as such. Locals receive some revenues from these tourism expenses and return it to the country’s economy again through their spending. It is expected that the number of jobs in the tourism industry will increase by 10%, by the end of 2019 (World Travel & Tourism Council, 2015). Despite crises and stagnation, global employment in tourism industry continues to grow.

It should be pointed out, that tourism is a very specific field and involves many sectors of economic, that makes difficult to determine the exact number of employees in the field. Tourism product includes not only services but also planning, branding, and packaging. Characterized by seasonality. Tourism is very sensitive it is distinguished with high sensitivity to political changes. Tourism product is very special as much as we can’t touch or save, move or predict positive or negative features, etc. In the absence of any one of the components of tourism service, the impression is completely violated. It is not an autonomous developed sector, tourism development in itself embraces many other fields.

To assess an effectiveness of employment in the tourism industry, for instance, we can use survey of US Department of Statistics, which has calculated data for the last 30 years. According to the data, employment in tourism increased by 32% and in other areas by 25%. Also demand for managers increased by 47% in public catering facilities (Economics & Statistics Administration, 2015). Tourism industry has one more positive feature, it can employ different profile specialists, since it is a multidisciplinary complex. Positive economic impact of tourism industry in the country can be reduced, if there is a high number of imported goods and services, majority of tourist company facilities are owned by foreigners, but, it should be noted that some of the tourism types can’t be implemented without foreign investment.

Development of tourism business is an important prerequisite for employment of the population. Studies conducted by the World Travel Agency found that every eleventh people employed on earth in the sphere of tourism. World tourism provides of employment about 9% of the economically active population. Half of those employed in tourism are working in hotel business. In addition, tourists are consuming local produced products, stimulating development of the national economy and providing foreign currency inflows in the country.

Usually considered that foreign tourists on transport and food consumption spending - 40%, on the hotel - 30% on the country's journey - 8% other expenses - 22%. Such expenditures are brought to the country by a positive economic effect (World Tourism Organization). Tourism plays a major role in the development of international trade,
which is largely due to the rapid growth of tourism industry. Exchanging goods and services among countries is an integral part of international trade and it has a big impact on international trade. Tourism industry is an active generator of international trade flows of goods and services of other economy sectors. Many tourist countries meet the requirements of foreign tourists with an imported goods. Development of tourism infrastructure in the country encourages import of construction materials and technologies of different countries. It is important for the tourism business to develop the national economy. Contribution of tourism business in the Balance of payments is expressed in the difference between the expenses incurred by foreign tourists in the country.

World Tourism Organization (UNWTO) predicts that growth of tourism industry development will be an irreversible process in the 21st century. By 2020, international tourist visits will reach 1.6 billion. Importance of tourism development is indicated by the fact, that World Tourism Organization (UNWTO) and Microsoft have signed an agreement, that enhances an efficiency of tourism sector in terms of innovative technologies use, introduction of future informatics and promotion (World Tourism Organization).

Modern tourism has become a sphere of international information technology and processes based on introduction of computer techniques. Traveling through the internet, due to global distribution and spatial limitations, geographical expansion continues and its contribution (4 trillion US dollars) in the world economy is annually growing. A clear evidence of all this is, that tourism sector creates about 10% of world GDP, 7% of investments and every 11th person employed is in tourism sector. Today tourism is one of the fastest growing services in Georgia creating many opportunities to invest in the tourism sector in the country (World Travel & Tourism Council, 2015).

Tourism is an increasingly significant part of the Georgia’s economy. In 2016, 6,714,773 tourists brought approximately US$2.16 billion to the country. According to the government, there are 103 resorts in different climatic zones in Georgia. Tourist attractions include more than 2,000 mineral springs, over 12,000 historical and cultural monuments, four of which are recognised as UNESCO World Heritage Sites as Bagrati Cathedral in Kutaisi and Gelati Monastery, historical monuments of Mtskheta, and Upper Svaneti. Rational use of existing potential is a precondition of promotion on several tourism types in the country such as: cultural, medical, resort, rural, agro, eco, pilgrim, etc.

3. **The Empirical Study**

While reviewing the tourism situation in Georgia, it is necessary to identify some issues, such as the country's economic policy, tourism environment, tourism potential research and seasonality. It is very important to define an economic effect at this stage of the tourism industry development in the region. The economic
indicators given by the Georgian National Tourism Administration include statistical data, number of employees employed in tourism sector, export-import of tourism services, share of tourism in GDP, direct foreign investment in hotels and restaurants, capacity of Georgian Railways and Airports. The data is displayed in different ways:

- Employment: Number of employees and their dynamics in hotels and restaurants, as well as in transport and other services;
- Import/Export of Tourist Services: Quarterly and annual data on revenues from international tourism and expenses incurred abroad by Georgian residents;
- Direct foreign investments: Quarterly and annual data on foreign direct investments made in hotels and restaurants;
- Capacity: Data about Georgian Railway and Tbilisi, Batumi, Kutaisi and Mestia Airports.

The problem of unemployment is quite acute in Georgia as well as in the whole world. It is extremely important to identify each way of solving the problem regarding unemployment. As it was mentioned above, the tourism industry is an important factor of employment growth. An employment in the tourism industry has a complex character, tourism represents an interdisciplinary complex, which involves development of many neighboring branches, leading to the accommodation, transportation, food and beverage sectors. According to the data of National Tourism Administration in 2017 and 2018, total number of employees in tourism amounted to 126,8 and 142,8 thousand people (Table 1).

**Table 1. Employment in the Tourism Industry 2011-2012**

<table>
<thead>
<tr>
<th>Number of Employees (Thousand Man)</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotels and Restaurants</td>
<td>37,3</td>
<td>44,4</td>
</tr>
<tr>
<td>Transportation</td>
<td>68,8</td>
<td>78,3</td>
</tr>
<tr>
<td>Other services</td>
<td>20,7</td>
<td>20,1</td>
</tr>
<tr>
<td>Total</td>
<td>126,8</td>
<td>142,8</td>
</tr>
</tbody>
</table>

*Source: Georgian National Tourism Administration, Tourism Statistical Report of 2018.*

In the economic forum held in Georgia in 2015 very important statement messages related to tourism were stated. SWOT analysis conducted by the European Bank for Reconstruction and Development (EBRD) evaluated Georgia's tourism and prospects for its development positively. According to the survey an assessment was carried out with 7-point system. The first and the most important reveale was about Georgia's "openness", which implies the simplicity of visa reception and easy entrant in the country. Related to this point Georgia is on the third place in the world
regarding “openness”. There were also assessments of the problems, that require immediate interference from the government. These are the human resources and the labor market in tourism. Regarding these issues Georgia ranked on 120th place according to the quality of service. It is should be noted, that Georgian tourism companies have to work more on service quality improvement. According to the existence of professional and qualified workers in the field Georgia ranks 132nd out of 142 countries.

There were also revealed positive facts and it was noted, that Georgia is in second place in terms of simplicity of foreigner’s employment. Also one of the very important component of these research is the safety of the country, the trend is positive and Georgia is recognized as one of the safest countries in the region. This is a positive signal for tourists and motivation for traveling in the country. One more important problem EBRD’s research focused on is the cost of service which is often incompatible with the quality of the supplied products and in some cases it exceeds it (Georgian National Tourism Administration, Tourism Statistical Report of 2018).

Significant indicators of the development and growth of tourism industry is the number and the dynamics of tourist visits. The number of international visitors in Georgia increases monthly. In 2016 the number of international visitors has reached almost 6 million visitors which is 7.9% more than in the previous year. The funds allocated from the budget for tourism development was about 28 million GEL. Also in 2016 more 29 million GEL was spent for a wide-scale tourist project called "Check in Georgia". In addition, for tourism development, the state carries out many other types of expenditures, such as, expenditures on infrastructure, implementation of regional development programs, and other expenditures, which is very difficult to consider. Therefore, it is possible to calculate an approximate amount of benefits earned from tourism (Georgian National Tourism Administration, Tourism Statistical Report of 2016).

In 2015 the budget for the development of tourism was about 25 million GEL, and the revenues from the tourism sector 1,9 billion. Considering other costs, which is very difficult to account, because such expenditures serve not only to promote tourism, but also to improve the quality of life of local population (interregional importance projects) and cannot be defined as an exact tourism expenses. Therefore, it should be said that the direct flow rate to attract one tourist is 4.2 GEL, and if we add "indirect" costs incurred by objective circumstances this number may increase to 25-30 GEL. Accordingly, the average revenue of each tourist was GEL 322 (Georgian National Tourism Administration, Tourism Statistical Report of 2016, 2017 and 2018). If we subtract our presumptive average "indirect" costs (25-30 GEL) for one tourist, then the difference between them it will be an economic effect of 290 GEL for the country which is almost 10 times higher than incurred expenses.

The tourism sector is one of the major contributors of Georgian export. In 2015, tourism service export was 61.4% (Georgian National Tourism Administration,
Tourism Statistical Report of 2016, 2017 and 2018). Thus, not only the tendency of growth of tourism sector but constant care on its development is an important factor for the achievement of an acceptable balance and, for the development of the country's economy in general. Tourism industry is one of the most important and most prospective economic and business activities. Despite of positive dynamic of tourism industry, sometimes it is difficult to define economic priorities and exact polarization on economic sectors, that are new, popular, demanded and consequently oriented on economic outcomes.

We can say, that the tourism industry is a field, which mostly requires, predictive assessment, because of determination of positive trends, the data obtained from the forecasting is an important motivation of the government for the economic policy making process. That determines how perspective is the tourism development in the country and what kind of influence it has of the state’s economic development. Future prediction in general was very important in the history of mankind, it is also important today and will have an importance in the future. In recent years an importance of the predictability has been increased, it is observed a rapid growth of development at each level of public life. Intensive and rapidly changing information, forces the state or other economic agents to adopt a quick, outcome oriented, management decisions, consequently, it is not enough an intuition future based prediction, it is necessary to have a scientific level of prediction by taking into account objective laws and based on mathematical and statistical modeling. Unfortunately this is out of the scope of the present research.

4. The Research Model

Forecasting in the field of tourism can be made by two approaches, Qualitative and Quantitative, each of them combines several methods. Qualitative methods of forecasting are used in "obscure" situations and in the absence of data. These methods are mainly based on the personal experiences and intuition of forecasters. Quantitative methods are used in stable situations, in the existence of data and each one more or less uses complex mathematical apparatus (Bakuradze and Virsaladze, 2014). Statistical forecasting requires implementation of stages. On the first stage of the work (which called forecasting orientation) we have to determine the aim of the research and the overall description of the tourism industry.

At the next stage of the dynamic prediction of events, we have to provide informational ensure for the forecasting process, which meant collecting data from an internal statistical source of the country and their systematization for further processing. At the prognostic process, we made a qualitative and quantitative analysis of factors affecting the forecasting object. The main purpose of this stage is to determine the factors that will be inserted into the model. It is not our interest an in-depth study of correlation. Connection between political risks and tourist flows is an indirect process with negative reflects on the tendency of tourism development in the world as in the regions with wars. For example in the Middle East we observed
a decrease by 9.6% in 2016. As for Africa tourist flows fell by 0.7% (World Travel & Tourism Council, 2015).

On the example of Georgia, after the war in 2008 tendency didn’t change. Such facts optimizes and, based on correlation with the given factor, we have an interesting result in the process of reviewing the named factor for the forecast (Table 2).

**Table 2. Tourists Flows Dynamics**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>559753</td>
<td>763231</td>
<td>1051749</td>
<td>1290108</td>
<td>1500049</td>
<td>2031717</td>
<td>2822363</td>
<td>4428213</td>
<td>5392303</td>
<td>5515559</td>
<td>5901094</td>
</tr>
</tbody>
</table>

*Source: Georgian National Tourism Administration, Tourism Statistical Report of the 2005-2015*

As Table 2 shows, ongoing political processes in 2008 in Georgia's had not negative impact on the growth of tourist flows. This fact can be explained by various factors, including intensive support from the European Union and pro-Western orientation of the countr. Based on the research interests and scales, we decided to use a method of extrapolation, the most common method of extrapolation, Average Annual Growth Rate – AAGR. By mathematical-statistical method we have used, we selected simple alignment methods of leaped changes in dynamic levels. To equalize by the average absolute and an average annual growth rate, it implies that the first factual level is based on other equal levels:

\[
\hat{Y}_{n+1} = \hat{Y}_n + \bar{\Delta} \cdot t \quad \text{and} \quad \hat{Y}_{n+1} = \hat{Y}_n \cdot \bar{K}
\]

Where \( \hat{Y}_{n+1} \) is the last theoretical (equalized, corrected) level of dynamic column, \( \bar{K} \) is the average of annual growth rate (increase), \( \bar{\Delta} \) is the average of absolute growth, and \( t \) is the forecast term. With similar way we have used extrapolation in nonlinear functions to equalize/correct data (Bakuradze and Virsaladze, 2014).

With this method, we implemented a study of the prospects for development, two main indicators, the direct share of the tourism industry in the country's GDP and the employment indicator. Also it is important to determine one of the main indicators the perspective/forecast of tourist flows. For the forecast we used an information based on statistical data of the state of Georgia. In order to create a dynamic column, we have chosen the period from 2010 to 2016 an direct share of tourism in total employment as a forecast parameter for the calculation (Georgian National Tourism Administration, Tourism Statistical Report of the 2010-2016).
Table 3. Direct share of the Tourism Industry in Employment (%)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Y (factual) %</td>
<td>3,5</td>
<td>3,8</td>
<td>5,3</td>
<td>4,8</td>
<td>4,9</td>
<td>5,8</td>
<td>6,0</td>
<td>6,41</td>
<td>7,64</td>
</tr>
<tr>
<td>( \hat{Y}_n = Y_1 + \bar{\Delta}(n - 1) )</td>
<td>3,5</td>
<td>3,91</td>
<td>4,32</td>
<td>4,73</td>
<td>5,14</td>
<td>5,6</td>
<td>6,0</td>
<td>6,41</td>
<td>7,64</td>
</tr>
</tbody>
</table>

\( \bar{\Delta} = 0,41 \)

Source: (Georgian National Tourism Administration, Tourism Statistical Report of 2010-2016)

In the beginning we can note, that a simple method of equalization the dynamic column can be done with:

➢ Equalization (correction) with average absolute increments;
➢ Equalization (correction) with an average annual growth (increase) rate;

In analytical period the average of absolute growth of dynamic column (\( \bar{\Delta} \)) we have calculated by the chain method of mathematical calculations with the help of absolute growth:

\[
\bar{\Delta} = \frac{1}{n-1} \sum_{i=1}^{n-1} \Delta_{n-1}, \quad n \ - \ the \ number \ of \ rows.
\]

Therefore, we have:

\[
\bar{\Delta} = \frac{6,0 - 3,5}{7 - 1} \approx 0,41
\]

Thus, in the current calculation we have got the data for 2017 (6,41%) and 2020 (7,64%). To determine the trend, we need to equalize (correct) the level of dynamical rows, i.e., "Liquidation" of the "leap changes" during the recession and growth, and revealing general picture of development. Thus, in the current calculation we have data for 2017 (6,41%) and 2020 (7,64%).

By the second method, the average annual growth (increase) rate is based on the first-factual level we can find equalized levels with the formula:

\[
Y_n = Y_1 \cdot \bar{K}^{n-1}
\]

From Table 3 we can see - (\( \bar{K} = \frac{\sqrt[6]{Y_1}}{\sqrt[3]{3,5} \ - \ from} \)), \( \bar{K} = \sqrt[7]{\frac{6,0}{3,5}} = 1,09 \)
Table 4. Direct share of the Tourism Industry in Employment (%)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>3.5</td>
<td>3.8</td>
<td>5.3</td>
<td>4.8</td>
<td>4.9</td>
<td>5.8</td>
<td>6.0</td>
<td>6.54</td>
<td>8.5</td>
</tr>
<tr>
<td>(\bar{K}_{(1,0)})</td>
<td>3.5</td>
<td>3.81</td>
<td>4.15</td>
<td>4.53</td>
<td>4.94</td>
<td>5.38</td>
<td>6.0</td>
<td>6.54</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Source: Prognostic indicators developed by author.

In this section, we have got the data from 2017 (6.54) and 2020 (8.5), where it was observed the slightest change. With the equalization of the dynamic column with the linear function method, although a simple method of equalization (correction) gives a possibility to imagine/see a general development of an event, but cannot provide an accurate statistical assessment of its progress. To get more accurate results, we have used analytical methods for the dynamical column equalization/correction, where the theoretical levels are found on the basis of the functional nature of the factorial (empirical) changes in time.

Depending on the nature of the deviations, by having inserted an appropriate function \(\hat{Y}\) we got the following formula:

\[
\sum(Y - a_0 - a_1 t)^2 = \min
\]

from this we can reach the next:

\[
Y = a_0 + a_1 t
\]

Economically \(a_0\) - shows the original level of the mark, as the \(a_1\) is a single time change of the original level, which will change with a few units. And also \(a_1\) shows the nature of the development of an event in time. We have used a calculation method/formula as follows where \(\sum t\) for our example (when the number of levels is odd) is 0, i.e. \(a_0 = \frac{\sum Y}{n}\) and \(a_1 = \frac{\sum Yt}{\sum t^2}\).

We have inserted the results in the next formula as:

\[
\hat{Y} = \frac{\sum Y}{n} + \frac{\sum Yt}{\sum t^2} \cdot t.
\]

Then we found the theoretical levels presented in Table 5:
\[ \hat{Y} = 4.87 + 0.39 \cdot t \]

**Table 5. Direct share of the Tourism Industry in Employment (%)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>( Y ) (factual)</td>
<td>3.5</td>
<td>3.8</td>
<td>5.3</td>
<td>4.8</td>
<td>4.9</td>
<td>5.8</td>
<td>6.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( Y ) (Factual, ( t ))</td>
<td>10.5</td>
<td>-7.6</td>
<td>-5.3</td>
<td>4.8</td>
<td>4.9</td>
<td>11.6</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \hat{Y} = 4.87 + 0.39 \cdot t )</td>
<td>3.7</td>
<td>4.09</td>
<td>4.48</td>
<td>4.8</td>
<td>5.3</td>
<td>5.7</td>
<td>6.0</td>
<td>6.43</td>
<td>7.6</td>
</tr>
</tbody>
</table>

*Source: Prognostic indicators developed by author.*

According to this forecast the data is: 2017 (6.43%) and 2020 (7.6%).

If we look at all the three data, it is possible to see that, they are quite close to each other, however, the most coincidence is between the first and third. Therefore based on the comparison of data, we will try to show a relatively accurate forecast. In order to find out an accuracy of the forecast and its boundaries, it is necessary to determine the margin of error \( \Delta \), which is calculated by the following formula:

\[ \Delta = \sigma \cdot t \] (where the \( t \) is the Student’s criterion and for our calculation it is about \( \approx 2 \)).

Where \( \sigma \) RMS (Root-Mean-Square Error) error calculated by the following:

\[
\sigma = \sqrt{\frac{\sum(\hat{Y} - Y_{\text{factual}})^2}{N - P}}
\]

where \( N \) is the number of levels (i.e. 7), and \( P \) the number of parameters involved in the function, i.e. 2 (\( a_0 \) and \( a_1 \)).

For the first Table RMS error is:

\[
\sigma = \sqrt{\frac{1.086}{5}} = 0.466\% 
\]
Therefore, RMS error is 0.466, which means, that the marginal error is equal to 0.932%, i.e., forecast for 2017 will be between 5.478% and 7.342%, and for 2020 between 6.708% and 8.572%.

In Table 5 the RMS error coefficient of forecasted is:

\[
\sigma = \sqrt{\frac{0.8765}{5}} = 0.418\%
\]

Consequently, the rate of deviation (error) for the growth rate (increase) in employment will be 0.836%, which means that by 2017 it will be relatively accurate being between 5.594% and 7.266%, and for 2020 is between 6.764% and 8.572% (Diagram 1).

**Diagram 1. Direct share of the Tourism Industry in Employment (%) 2020.**

![Diagram 1](image)

**Source:** Forecast developed by author.

Thus, we assume that in 2020 the growth of the share of total employment from tourism industry will be 8.6%. By similar method we have done the empirical research on other important indicators for the national economy such as the direct share of the tourism industry in the country's GDP and the number of tourists. As the "theoretical explanation" of this approach has already been discussed, we show only the results (Diagram 2). Thus, the direct share of the tourism industry in Georgia's GDP is around 8% by 2017. In a longer term forecast, the same data will reach 9.7% by 2020 as in Diagram 2 and this is a significant increase.

As for the tourist flows in the country according to 2015 data, 5.9 million people traveled to Georgia for tourism purposes. Taking into account the factors that: a) travel world follows a positive trend; b) there is a continuous annual increase in demand for the tourism product; c) state policies for tourism development are getting more effective, we expect a better result than what is indicated in our research. We have also used the above-mentioned approach as a result of the prognosis, that will be 7.2 million tourists by 2017 and by 2020, the expectation will go up to 10 million.
Diagram 2. Direct share of the Tourism Industry in Employment (%) (2017-2020)

Source: Forecast developed by author.


Source: Forecast developed by the author.

5. Discussion

Accurate tourism statistics is crucial for determining the effectiveness of tourism industry. In turn, tourism statistics consist mainly of two components: a) tourist statistics and b) tourist expenses and revenue statistics. Both of these data give information of how important or insignificant is for the country's economy to have accurate statistics.

Tourism statistics considered as an information data base on the number of tourists arriving at the state border (tourist visa users). The purpose of the abovementioned statistics is to determine the relatively accurate quantity, to optimize tourism services and to determine the effect of tourism activity.
Tourist expenses and revenue statistics is a counting process and it has usually the biggest difficulty. On the other hand, the above mentioned activity includes a digital assessment of tourism, which is important for determining the effectiveness of tourism on the national economy as well as the assessment of its influence on the National Payment Balance, it is particular important as a whole tourism as well as financial-economic assessment of its separate sectors. The statistical description of tourism expenses and revenue gives us information about demanded goods and services and, will be reflected on national accounts.

As tourist expenses is possible to consider the total amount of expenses during the start of the travel and the stay in the final destination. By the recommendation of the International Tourism Organization we can take into account only the expenses that can affect the country's economy (only significant expenditures).

In 2015 the total revenue from tourists was about 2 million GEL, while the number of tourists was about 5.9 million. Therefore, we can calculate an average revenue per tourist which will be an average number of total revenue divided with the average number of tourists. We will get an approximate amount of 322 GEL per tourist. According to our forecast, the expected number of tourists by 2020 is approximately 10 million, therefore it is possible to determine an average amount of expenses that tourists can spend during their visit coming to 3.3 billion GEL.

Thus, it is expected that by 2020 the revenue from tourism sector will exceed 3 billion GEL which gives the possibility to make positive conclusions. Considering all of the above-mentioned opinions and researches, we can say that tourism industry is an instrument able to solve the economic problems of the countries such as, unemployment and economic development. Georgia is distinguished by the great opportunities for tourism development, therefore, it is a very important expedient facilitation for the development of the sector by making more intensive steps in this direction. We believe that tourism industry is an economic activity with vital importanc for the economic development of Georgian economy.

6. Conclusion and Recommendations

State economic tourism policy should be primarily based on the existence of tourism resources in the country, their specifics and future prospects. In case of Georgia, government recognizes the economic and social importance of development by the tourism industry but, each time it comes to the same mistake/problem relating to an uncoordinated and inconsistent state tourism policy that, fails to provide a comprehensive development of the tourism industry.

Tourism industry is a peculiar techno-economic system which combines different economic areas but, various fields cannot be united under one type of production and as a single enterprise form. Therefore, tourism industry should be defined as an unified system, that creates tourism services through our participation of all material
and non-material production economic sectors. One of the important economic characteristics of the tourism industry is the maintenance of growth momentum in extreme situations, including times of economic crisis. The exception is political instability. However, in the case of Georgia, the August 2008 war did not become a deterrent of increasing the number of tourists and consequently tourism revenues.

Tourism industry is an economic sector characterized by a development trend and therefore is able to help in the solution of many economic problems such as, unemployment, foreign exchange revenues, infrastructure development and etc. In order to support tourism development, it is necessary to have a clear, proper state-economic policy that will allow the private and the public sector to identify priorities and to establish future work plans.

References:

Eurostat. 2015. Tourism industries prove resilient to the economic crisis and provide jobs for women and young people.
Eurosurveillance. 2015. International Travel and Acquisition of Multidrug-Resistant Enterobacteriaceae, 20, 47, 26-35.
Georgian National Tourism Administration, Tourism Statistical Report 3rd Quarter 2014.
Georgian National Tourism Administration, Tourism Statistical Report 3rd Quarter 2015.
Georgian National Tourism Administration, Tourism Statistical Report 3rd Quarter 2016.
Jeffrey, D. 2015. The Unemployment Rate Does Not Measure Labor Market Strength. Forbes, USA.
World Tourism Organization UNWTO, http://www2.unwto.org/