

GASTRONOMIC TOURISM AS A FACTOR IN PROMOTING ECONOMIC GROWTH IN THE REPUBLIC OF ARMENIA: ASSESSMENT OF ITS IMPACT

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Introduction

In the modern world, tourism has long exceeded the boundaries of leisure and has become a fundamental component of the global economy. In 2025, the contribution of the tourism sector to global GDP amounted to 11.6 trillion US dollars, representing 9.8% of the world economy, while the sector supported the creation of 366 million jobs, meaning that one out of every three new jobs created worldwide was related to the tourism industry [WTTC, 2025]. Gastronomic tourism, as a rapidly developing branch of modern tourism, has acquired particular strategic importance over the last decade. The Committee on Tourism and Competitiveness (CTC) of the UN Tourism Organization (UN Tourism) defines gastronomic tourism as a type of tourism activity characterized by the visitor's experience related to food, associated products, and activities during travel. Gastronomic and wine tourism create opportunities to stimulate a country's economic development, involve non-tourism professional sectors, and provide new applications for the agricultural sector. Gastronomic tourism performs important function in preserving cultural heritage and creates economic opportunities, including employment, particularly in rural regions [UN Tourism, 2025].

In the Republic of Armenia, tourism has become one of the dynamically developing sectors of the economy during recent decades. Armenia's historical and cultural heritage, gastronomic traditions, natural environment, and regional characteristics form significant tourism potential. The inflow of international tourists has increased, while the hotel and food service establishments have expanded alongside the growing economic activity of the service sector. However, despite the development of the sector, the quantitative assessment of the relationship between tourism and economic growth in Armenia remains insufficiently studied.

In economic theory, tourism is considered a demand-generating sector with a multiplier effect [HowAndWhat.net, 2023]. Tourist expenditures create waves of economic impact by stimulating the activity of agriculture, construction, retail trade, and other sectors, which ultimately contribute to nominal GDP growth. Local enterprises supplying food products to hotels and restaurants experience increased sales volumes during tourism seasons, accompanied by the creation of new jobs and increased tax revenues for local budgets. As a result of these processes, tourism has become an important factor in promoting nominal GDP growth and economic activity. In particular, the development of gastronomic tourism

strengthens the economic role of the food service establishments by supporting local food producers, restaurants, and related businesses, thereby creating additional stable demand within the service market [Editorial GE, 2025].

The main objective of this study is to assess, through the application of econometric methods, the impact of tourism and food service establishments indicators on the economic development of the Republic of Armenia. In particular, the research analyzes the relationship between the number of inbound tourists, revenue generated by Food Service Establishments, and nominal gross domestic product (GDP). The study is based on official statistical data covering the period from 2009 to 2024, enabling the observation of long-term development trends in the sector, including the effects of the 2020 pandemic and regional crises that caused economic shocks.

The study applies simple and multiple regression models, enabling evaluation of relationships between variables and yielding econometric coefficients with elasticity-based interpretations. In addition, correlation analysis, multicollinearity diagnostics using the Variance Inflation Factor (VIF), and the Durbin–Watson test were conducted to ensure the statistical reliability and stability of the models. The obtained results make it possible to identify the structural role of tourism and the service sector in the Armenian economy and to formulate practical recommendations aimed at improving the effectiveness of tourism policy.

Methodology

The present study applies econometric and statistical analysis methods to assess the impact of tourism and the gastronomic sector on the economic growth of the Republic of Armenia. The research is based on official statistical data covering the period from 2009 to 2024. Simple regression analysis was applied to evaluate the bilateral relationships between the number of tourists, revenue generated by food service establishments, and nominal gross domestic product (GDP). Three separate regression models were constructed to identify the impact of tourism on food service establishments' revenue, the impact of food service establishments' revenue on nominal GDP, and the direct relationship between tourism and nominal GDP. Multiple regression analysis was used to assess the simultaneous impact of tourism-related indicators on nominal GDP. The model included the number of tourists, revenue generated by hotel and food service establishments, and employment as explanatory variables, while nominal GDP at current prices served as the dependent variable.

Pearson correlation analysis was conducted to assess the direction and strength of linear relationships among the principal economic indicators. In particular, the correlation matrix was used to evaluate the interrelationship between tourism, hotel and food service establishments, employment, and nominal GDP, as well as the relationship between food service establishment activity volumes and macroeconomic indicators at the regional level. The Variance Inflation Factor (VIF) was calculated in order to assess the presence of multicol-

linearity among the explanatory variables included in the multiple regression model. The Durbin–Watson test was applied to evaluate the existence of autocorrelation in the residuals of the regression models. Prior to conducting the econometric analysis, all variables were transformed into their natural logarithmic form in order to improve statistical stability and enable elasticity-based interpretation of the estimated coefficients.

The statistical analyses and econometric calculations were conducted using IBM SPSS Statistics, Microsoft Excel, and EViews software packages.

Literature review

The relationship between tourism and economic growth has been extensively examined within the framework of the Tourism-Led Growth Hypothesis (TLGH), which suggests that tourism can act as a driver of economic development through foreign exchange earnings, investment attraction, and employment creation. Examination of the Armenian case found evidence supporting the Tourism-Led Growth Hypothesis and concluded that tourism represents an important contributor to economic development and external revenue generation in the Republic of Armenia [Tovmasyan, 2022].

The empirical literature, however, does not provide entirely uniform conclusions. Brida et al. argue that tourism may serve as a strategic factor for long-run economic growth, particularly in economies where the tourism sector constitutes an important source of income and value creation. Their findings indicate that tourism expenditures can contribute directly to GDP growth through multiplier effects and linkages with other sectors of the economy [Brida & Pulina, 2010].

In the case of Armenia, tourism receipts demonstrate a significant multiplier effect on economic growth. Econometric estimates show that increases in international visitor expenditures generate more-than-proportional increases in real GDP, underscoring the importance of tourism-related spending for the Armenian economy [Tadevosyan et al., 2023].

Recent studies have also expanded the analysis beyond traditional tourism indicators. In the case of Armenia, digital technologies and online tourism platforms significantly influence tourists' travel decisions and overall travel experiences, while technological modernization contributes to strengthening tourism competitiveness and improving service quality [Bilan, Tovmasyan & Dallakyan, 2024]. Although the existing literature provides substantial evidence regarding the relationship between tourism and economic growth, considerably less attention has been devoted to the specific role of gastronomic tourism and food service establishments as channels through which tourism affects economic performance. Consequently, the relationship between tourism activity, food service establishments, employment, and GDP in Armenia remains insufficiently explored. The present study seeks to address this gap through the application of regression and correlation analysis based on official statistical data covering the period 2009–2024.

Scientific novelty

The scientific novelty of the present study lies in the econometric assessment of the impact of gastronomic tourism on the economic growth of the Republic of Armenia through the application of regression and correlation analysis methods. The study identifies the relationship between tourism activity, food service establishments, employment, and nominal GDP at current prices based on official statistical data covering the period from 2009 to 2024. The research also introduces a combined analytical approach that evaluates both the direct impact of tourism on economic growth and the indirect impact transmitted through the development of the hotel and food service sectors. In addition, the study provides a regional correlation analysis of food service establishment activity and macroeconomic indicators, allowing the identification of regional differences in the development of the service sector and tourism-related economic activity in Armenia.

Analysis

1. Simple Regression Analysis and Its Theoretical Foundations

The selected study period provides an opportunity to examine structural changes in the economy and to assess the impact of tourism on the main indicators of the country's socio-economic development. The analysis was based on the number of inbound and domestic tourists visiting the Republic of Armenia (Tourists), revenue generated by the food service establishments (Revenue), and nominal gross domestic product (GDP), expressed in million AMD. The data is reliable provided by the Statistical Committee of the RA [Statistical Committee of the RA, 2025], and serve as an empirical basis for the research.

During the study, it was observed that all variables were characterized by growth trends and non-linear behavior. Therefore, before conducting the econometric calculations, the data were transformed using natural logarithms. The application of logarithmic transformation reduces the magnitude of fluctuations and linearizes the relationships between variables, while also allowing the obtained results to be interpreted in percentage terms from an economic perspective.

The methodological foundation of the research is based on simple linear regression analysis, the purpose of which is to identify the linear relationship between one explanatory variable and one dependent variable [Montgomery et al., 2021]. Simple regression was selected for several reasons. First, it ensures analytical simplicity and high interpretability, allowing the assessment of the effect of one factor on another without the inclusion of additional intervening variables. Furthermore, the method is particularly suitable for time-series analyses with limited sample sizes, such as the 15-year period (2009–2024) examined in this study. At the same time, the method provides economically meaningful coefficients that allow the interpretation of elasticity relationships. Simple regression analysis is widely applied as a tool for preliminary empirical research, as it can serve as a foundation for the construction of multiple regression models. In addition, the method itself is simple

both from computational and interpretative perspectives, which increases the applicability of the obtained results for policy-making and economic decision-making processes.

Within the framework of this study, three separate regression models were constructed. *The first model* aims to evaluate the impact of the number of inbound and domestic tourists visiting the Republic of Armenia on the revenue generated by the food service establishments. Based on the data, the following logarithmic model was constructed:

$$\ln(\text{Revenue}) = a_1 + b_1 \ln(\text{Tourists}) + \varepsilon$$

where $\ln(\text{Revenue})$ is the dependent variable, $\ln(\text{Tourists})$ is the explanatory variable, a_1 is the intercept of the model, b_1 is the regression coefficient reflecting elasticity, and ε denotes the error term.

As a result of the calculations, the following logarithmic model was obtained:

$$\ln(\text{Revenue}) = -9.8733 + 1.4542 \ln(\text{Tourists})$$

The obtained equation demonstrates that there is a direct and very strong linear relationship between the number of tourists and the revenue of food service establishments. According to the model results, the coefficient of determination (R^2) is approximately 0.874, which means that nearly 87% of the variation in food service establishments' revenue is explained by changes in the number of tourists. This indicates the high explanatory power of the model and demonstrates that tourism growth in Armenia has a tangible and systemic impact on the development of the service sector.

Figure 1. Results of the simple regression analysis between the number of inbound and domestic tourists visiting Armenia and the revenue of food service, 2009–2024¹

tourists		revenue		SUMMARY OUTPUT								RESIDUAL OUTPUT																																												
13.838		10.137		<table><tr><th colspan="2">Regression Statistics</th></tr><tr><td>Multiple R</td><td>0.9347</td></tr><tr><td>R Square</td><td>0.8736</td></tr><tr><td>Adjusted R Square</td><td>0.8646</td></tr><tr><td>Standard Error</td><td>0.2732</td></tr><tr><td>Observations</td><td>16</td></tr></table> <table><tr><th colspan="6">ANOVA</th></tr><tr><th></th><th>df</th><th>SS</th><th>MS</th><th>F</th><th>Significance F</th></tr><tr><td>Regression</td><td>1</td><td>7.2226</td><td>7.2226</td><td>96.765</td><td>1.14469E-07</td></tr><tr><td>Residual</td><td>14</td><td>1.045</td><td>0.0746</td><td></td><td></td></tr><tr><td>Total</td><td>15</td><td>8.2675</td><td></td><td></td><td></td></tr></table>								Regression Statistics		Multiple R	0.9347	R Square	0.8736	Adjusted R Square	0.8646	Standard Error	0.2732	Observations	16	ANOVA							df	SS	MS	F	Significance F	Regression	1	7.2226	7.2226	96.765	1.14469E-07	Residual	14	1.045	0.0746			Total	15	8.2675				Observation	Predicted revenue	Residuals
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Total	15	8.2675																																																						
13.986		10.378		1	10.24935824	-0.112828																																																		
14.095		10.490		2	10.46479045	-0.086617																																																		
14.206		10.727		3	10.62321616	-0.133482																																																		
14.376		10.922		4	10.78505056	-0.057796																																																		
14.540		11.078		5	11.03215848	-0.110333																																																		
14.540		11.137		6	11.27048946	-0.192265																																																		
14.622		11.176		7	11.27088335	-0.133551																																																		
14.764		11.334		8	11.38963171	-0.213200																																																		
14.825		11.665		9	11.59620985	-0.262308																																																		
15.051		11.935		10	11.68504572	-0.020222																																																		
14.156		11.491		11	12.01328565	-0.078606																																																		
14.720		11.963		12	10.71271471	0.7784548																																																		
15.095		12.216		13	11.53295196	0.4298541																																																		
15.346		12.517		14	12.07805005	0.1379304																																																		
15.434		12.551		15	12.44253721	0.0746338																																																		
				16	12.57054651	-0.019665																																																		

The regression slope coefficient ($b_1 = 1.4542$) [Montgomery et al., 2021] has an important economic interpretation. It indicates that a 1% increase in the number of tourists leads, on

¹ The figure was compiled by the author using Microsoft Excel software based on data obtained from the Statistical Committee of the Republic of Armenia.

average, to a 1.45% increase in food service establishments' revenue. This result demonstrates that the sector responds more than proportionally to tourism growth, reflecting the high demand for services and the profitability of the sector. Consequently, tourism may be considered an important driving factor for the expansion of consumption and service turnover. The statistical indicators of the model also confirm the reliability of the obtained results. The p-value of the regression is lower than 0.001, indicating the overall statistical significance of the model. In addition, the Durbin–Watson statistic [Durbin & Watson, 1950,] was tested using the EViews [IHS Global Inc., 2024], software package, demonstrating that no significant autocorrelation was observed in the model, which confirms the statistical stability of the model and the reliability of the results.

From an econometric perspective, the obtained findings reflect the fundamental mechanism through which tourism contributes to the activation of the service sector. The growth in the number of tourists increases the demand for hotels, restaurants, cafés, and other service establishments, leading to higher revenues in these sectors. Therefore, food service establishments' revenue may be considered an important economic indicator characterizing the intensity of tourism activity.

The second model: The Relationship Between Revenue generated by Food Service Establishments and Nominal GDP in the Republic of Armenia.

The following model was constructed: $\ln(\text{GDP}) = a_2 + b_2 \ln(\text{Revenue}) + \varepsilon$, where $\ln(\text{GDP})$ is the dependent variable, while $\ln(\text{Revenue})$ is the explanatory variable. As a result of the calculations, the following model was obtained:

$$\ln(\text{GDP}) = 10.2955 + 0.4605 \ln(\text{Revenue})$$

The obtained results demonstrate that there is a very strong and statistically significant positive relationship between food service establishments' revenue and nominal GDP. The high coefficient of determination ($R^2 = 0.986$) indicates that approximately 98.6% of the variation in nominal GDP is explained by changes in food service establishments' revenue.

The slope coefficient ($b_2 = 0.4605$) indicates that a 1% increase in food service establishments' revenue leads, on average, to an approximately 0.46% increase in nominal GDP. This finding confirms that the service sector plays an important role in shaping economic activity in Armenia. At the same time, the fact that the coefficient is smaller than one demonstrates that nominal GDP growth is also influenced by the development of other sectors of the economy. The obtained results indicate that the food service establishments may be considered a sensitive indicator of economic dynamics, reflecting the general trends of domestic demand and consumption. From an econometric perspective, this relationship confirms that the expansion of the service sector contributes to the growth of economic activity and the structural development of the economy. Overall, the model results demonstrate that the food service establishments have systemic importance within the Armenian economy and constitute an important component of economic growth.

Figure 2. Results of the Simple Regression Analysis Between Revenue generated by Food service establishments and Nominal GDP in the Republic of Armenia¹

revenue	gdp	SUMMARY OUTPUT						RESIDUAL OUTPUT																																				
10.13653	14.96026	Regression Statistics <table><tr><td>Multiple R</td><td>0.993108197</td></tr><tr><td>R Square</td><td>0.986263892</td></tr><tr><td>Adjusted R Square</td><td>0.985282741</td></tr><tr><td>Standard Error</td><td>0.041765469</td></tr><tr><td>Observations</td><td>16</td></tr></table> ANOVA <table><tr><th></th><th>df</th><th>SS</th><th>MS</th><th>F</th><th>Significance F</th></tr><tr><td>Regression</td><td>1</td><td>1.753445162</td><td>1.753445</td><td>1005.212</td><td>1.94446E-14</td></tr><tr><td>Residual</td><td>14</td><td>0.024420962</td><td>0.001744</td><td></td><td></td></tr><tr><td>Total</td><td>15</td><td>1.777866124</td><td></td><td></td><td></td></tr></table>						Multiple R	0.993108197	R Square	0.986263892	Adjusted R Square	0.985282741	Standard Error	0.041765469	Observations	16		df	SS	MS	F	Significance F	Regression	1	1.753445162	1.753445	1005.212	1.94446E-14	Residual	14	0.024420962	0.001744			Total	15	1.777866124				Observation	Predicted gdp	Residuals
Multiple R	0.993108197																																											
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Residual	14	0.024420962	0.001744																																									
Total	15	1.777866124																																										
10.37817	15.05684	1	14.96369235	-0.003433333																																								
10.48973	15.14469	2	15.07497674	-0.018139015																																								
10.72726	15.26630	3	15.1263536	0.01833733																																								
10.92183	15.33188	4	15.23573917	0.030555951																																								
11.07822	15.39007	5	15.32534488	0.006531309																																								
11.13733	15.43364	6	15.39737109	-0.00729851																																								
11.17643	15.43832	7	15.42459238	0.009044869																																								
11.33390	15.53192	8	15.44259844	-0.004281036																																								
11.66482	15.61011	9	15.51511836	0.016798131																																								
11.93468	15.69396	10	15.66751809	-0.057412881																																								
11.49117	15.63714	11	15.79179464	-0.097839122																																								
11.96281	15.76025	12	15.58754497	0.049591674																																								
12.21598	15.95575	13	15.80474793	-0.044502517																																								
12.51717	16.06601	14	15.92134238	0.034404845																																								
12.55088	16.13725	15	16.0600498	0.005964275																																								
		16	16.07557448	0.061678029																																								

The statistical diagnostic tests confirm the high reliability of the model and its compliance with the principal assumptions of classical linear regression. The p-value of the regression is lower than 0.001, indicating the overall statistical significance of the model and demonstrating that the explanatory variable has a statistically significant effect on nominal GDP. In addition, the Durbin–Watson [Durbin & Watson, 1950] statistic was evaluated using the EViews software package and indicated the absence of significant first-order autocorrelation in the residuals, suggesting that the residual terms are randomly distributed. From an econometric perspective, the obtained findings demonstrate that the food service establishments in Armenia represent an important branch of the service sector that stimulates economic activity. Since the sector’s revenues largely depend on both domestic consumption and tourism-related expenditures, their growth may be considered a sensitive indicator of the direction of economic growth. Also, the food service establishments are not only an important segment of the consumption chain but also ensure a significant level of employment.

The obtained results are important from the perspective of economic policy, as they demonstrate that the promotion of the service sector may contribute to the overall economic development of the country. Overall, the study confirms that the food service establishments constitute one of the key components of the structural and economic stability of the Armenian economy.

The third model identifies the impact of tourism on nominal GDP. The model is specified as follows: $\ln(\text{GDP}) = a_3 + b_3 \ln(\text{Tourists}) + \varepsilon$, where the coefficient (b_3) indicates the percent-

¹ The figure was compiled by the author using Microsoft Excel software based on data obtained from the Statistical Committee of the Republic of Armenia.

tical value of the model. The growth of tourist flows contributes to the expansion of the hotel industry, food service establishments, transportation, trade, and cultural services, generating a multiplier effect across various sectors of the economy. The results demonstrate that the development of tourism contributes not only to the expansion of the service sector but also to the growth of employment and income levels.

Overall, the results of all three regression models jointly indicate that tourism activity and economic growth in Armenia have developed in an interconnected manner. The increase in the number of tourists has contributed to the growth of revenue generated by food service establishments, while the expansion of this sector has stimulated nominal GDP growth.

2. Multiple Regression Analysis: Methodology and Results

The purpose of the multiple regression analysis [Montgomery et al., 2021] is to assess the impact of tourism on the economic development of the Republic of Armenia. This analysis is also based on data obtained from the Statistical Committee of the RA in 2009 - 2024.

Through multiple regression analysis, the study examines how the number of inbound tourists, the revenue generated by hotels and food service establishments, and the level of employment affect nominal gross domestic product (GDP). Correlation and regression analyses [Montgomery et al., 2021] were applied as the principal analytical tools, allowing the evaluation of the interrelationships between the economic indicators. The analysis is based on indicators reflecting the economic activity of both the service and production sectors. These include the number of inbound tourists (persons), revenue generated from the activities of hotels and food service establishments (million AMD), total employment (persons), and the country's nominal gross domestic product (GDP) measured at current prices (million AMD). These four indicators were selected because, collectively, they represent the principal components of the economic chain of tourism: the origin of demand (through the number of tourists), the expansion of supply (through the scale of hotel and food service establishment activities), labor potential (through employment), and the final economic outcome represented by the total volume of produced goods and services in the form of nominal GDP.

The preliminary examination of the data demonstrated that, during the studied period, almost all variables exhibited an upward trend, except 2020, when the pandemic [WHO, n.d.] and the Artsakh war had a significant negative impact on tourism and overall economic activity. Despite this temporary decline, the long-term trends indicate a positive interrelationship between tourism activity and economic growth.

Table 4. Dataset Required for the Regression Analysis, 2009–2024¹

Year	Tourists arriving in Armenia	Revenue of Hotel Industry Establishments and Food Service Establishments – million AMD	Employment – persons	Nominal GDP at Current Prices – million AMD
2009	586755	34226	1152800	3141651
2010	729260	43401.8	1185200	3460202.7
2011	832746	48854.9	1175100	3777945.6
2012	963035	61061.9	1172800	426460.5
2013	1081984	73265.1	1163800	4555638.2
2014	1203745	83682.8	1133500	4828626.3
2015	1192119	90815.4	1072600	5043633.2
2016	1259657	94387.9	1006200	5067293.5
2017	1494779	112035.7	1011700	5564493.3
2018	1651782	150901.7	1048500	6017035.2
2019	1894377	194257.4	1077400	6543321.8
2020	360338	114333.8	1060100	6181902.6
2021	875772	165828.2	1096800	6991777.8
2022	1665658	212954.1	1145300	8501449.4
2023	2316210	285475.7	1184600	9492514.3
2024	2208179	295052.9	1226061	10193415.3

A quantitative analysis was conducted based on econometric time-series analysis. Since the variables exhibited growing and non-linear behavior, all indicators were transformed using natural logarithms. This approach ensured the comparability of the data, reduced the impact of fluctuations, and enabled the interpretation of the estimated coefficients in terms of elasticity. In addition, the logarithmic transformation contributed to improving the statistical stability of the model and reducing the likelihood of heteroskedasticity.

One of the principal assumptions of the multiple regression model is the absence of multicollinearity among the explanatory variables. For this purpose, the Variance Inflation Factor (VIF) [Montgomery et al., 2021] was calculated. The obtained results demonstrated that the VIF values for all variables ranged between 1.03 and 1.94, which falls within the acceptable range². This indicates that a high degree of linear dependence among the explanatory variables is practically absent, and therefore, the structure of the model is statistically stable. At the same time, a correlation matrix was constructed in order to evaluate the direction and strength of the linear relationships among the variables.

The results of the correlation matrix demonstrate that there is a very strong positive linear relationship between nominal GDP and the revenue generated by hotel establishments and

¹ The table was compiled by the author based on data obtained from the Statistical Committee of the Republic of Armenia.

² If the VIF value exceeds 10, it is considered an indicator of high multicollinearity, which may threaten the stability of the model. Values ranging between 1 and 5 are regarded as indicating weak or insignificant intercorrelation and therefore do not create serious problems for the analysis.

food service establishments ($r=0.985$), which is fully justified from an econometric perspective. The hotel and food service sectors directly reflect the scale of tourism activity and the expansion of the service market, both of which make a substantial contribution to the formation of nominal GDP.

Table 5. Correlation Matrix Constructed to Identify the Direction and Strength of the Linear Relationships Among Inbound Tourists, Revenue Generated by Hotel Establishments and Food Service Establishments, Employment, and Nominal GDP¹

	<i>LN(tourists)</i>	<i>LN (hotels and restaurants)</i>	<i>LN (employed)</i>	<i>LN (GDP)</i>
LN (tourists)	1			
LN (hotels and restaurants)	0.687	1		
LN (employed)	0.053	-0.077	1	
LN (GDP)	0.628	0.985	0.009	1

At the same time, a moderately strong positive linear relationship was identified between nominal GDP and the number of inbound tourists ($r = 0.628$). This indicates that the impact of tourism on nominal GDP is manifested primarily through indirect channels, particularly through the development of the service sector. This circumstance also explains the relatively weaker effect of the tourist variable in the regression model, since a considerable portion of its impact is transmitted through the revenues generated by hotel establishments and food service establishments. In contrast, the overall employment indicator demonstrates a relatively weak relationship both with nominal GDP and with the other independent variables. However, it should be noted that the present study utilizes the overall employment indicator rather than sector-specific employment related to tourism or services. In addition, the seasonality characteristic of the tourism sector, as well as the possible existence of informal employment, may limit the statistical expression of the actual relationship between this indicator and economic outcomes. Nevertheless, the employment variable retains its economic significance by reflecting the general stability of the labor market and the functional activity of the economic system.

The results of the correlation analysis are also consistent with the VIF calculations, according to which the VIF values of all variables remain within acceptable limits. This indicates that the problem of multicollinearity is not substantially present in the model and that the variables are sufficiently independent from one another, thereby ensuring the statistical stability of the regression model and the reliability of the estimated coefficients. Overall, the obtained findings characterize the structural features of the Armenian economy, where

¹ The analysis was conducted by the author using IBM SPSS Statistics software [IBM Corp., 2024] based on data obtained from the Statistical Committee of the Republic of Armenia.

the development of tourism stimulates the expansion of the service sector, while the latter becomes a direct contributor to nominal GDP growth.

3. Correlation Analysis of the Interrelationship Between the Food Service Establishment Sector and Economic Activity in Yerevan and the Regions of the Republic of Armenia

In recent years, the activities of food service establishments in the Republic of Armenia have become one of the important indicators of economic activity and social welfare. The food service establishment sector, which includes restaurants, cafés, fast-food establishments, and hotel food services, directly responds to changes in household income, tourism flows, and overall economic activity. For this reason, the development of the sector may be considered an indicator of structural changes in the economy and the expansion of the service market.

Within the framework of the present study, an economic analysis of the activities of food service establishments in Armenia was conducted based on the Pearson correlation method [Pearson, 1895]. The objective of the research is to evaluate the interrelationship between the service volume of food service establishments and the principal macroeconomic indicators, namely nominal gross domestic product (GDP), nominal GDP per capita, and the level of employment. Correlation analysis was applied as a preliminary statistical tool to identify the direction and strength of the relationships among the variables.

The results of the present study demonstrate that, at the national level, the activity volumes of food service establishments are closely associated with economic activity. The Pearson correlation coefficient¹ between nominal GDP and food service establishments is approximately 0.83, indicating a strong positive relationship. This means that under conditions of economic growth, food service activities also expand due to increasing levels of consumption and demand. The relationship with nominal GDP per capita is also very strong, at approximately 0.85. This indicates that improvements in population welfare and increased tourism flows are directly accompanied by the expansion of the food service market. However, the regional picture differs considerably. In Shirak, Syunik, and Armavir, the relationship between the activity volumes of food service establishments and nominal GDP is very strong, amounting to 0.82, 0.76, and 0.71, respectively. These regions demonstrate relatively balanced development between the economy and the service sector. In the case of Shirak, this relationship may be explained by the cultural revitalization of Gyumri and the active development of tourism infrastructure. In Syunik, the strong relationship suggests that both mining revenues and tourism flows simultaneously stimulate the develop-

¹ From a statistical perspective, the Pearson correlation coefficient, (r), is calculated on the basis of the covariance between variables and the ratio of their standard deviations. If two variables increase simultaneously, the value of (r) is positive and approaches +1, whereas if one variable increase while the other decreases, the value of (r) is negative and approaches -1. When (r) is close to zero, this indicates the absence of a clear linear relationship between the variables.

ment of the food service sector. In Armavir, this relationship may be explained by the expansion of agricultural production and commercial activity. The reason for this may be the low population density of the region, the limited scale of demand, or the low concentration of services within the market. A similar pattern is observed in the case of Vayots Dzor, where economic activity is largely seasonal and dependent on tourism flows.

The relationship between employment indicators and the activity volumes of food service establishments is also noteworthy. At the national level, the correlation coefficient is approximately 0.67, representing a positive and moderately strong relationship. However, substantial regional differences are observed. In Gegharkunik, Shirak, and Yerevan, the relationship is positive, amounting to 0.57, 0.52, and 0.49 respectively, indicating that in these areas the expansion of the food service market is accompanied by employment growth.

In contrast, in Kotayk and Lori the relationship is negative, reaching approximately -0.27 , which may be explained by several factors. First, it is possible that productivity growth in these regions allows larger turnover volumes to be generated with fewer employees. Second, a high level of informal employment may exist, meaning that actual employment is not fully reflected in official statistical reports. Third, labor migration may also play a role, whereby individuals work in other regions while consumption remains concentrated within their place of residence.

These findings indicate that the food service establishment sector is not only a reflection of the economy but also one of its structural components. In regions where the relationship with nominal GDP is strong, economic growth may be considered relatively balanced with the development of the service market. Conversely, in regions where the relationship is weak, government policy intervention may be necessary in order to improve market accessibility, develop supply chains, and enhance tourism infrastructure.

The food service establishment sector also possesses significant monitoring value for economic policy. Since it rapidly responds to changes in income levels, tourism activity, and employment, statistical data related to the sector may serve as an early indicator of economic fluctuations. For this reason, public authorities may incorporate food service establishment activity volumes into macroeconomic forecasting systems as an indicator of short-term economic activity.

In conclusion, it may be stated that the activities of food service establishments in Armenia are closely connected with economic growth and population welfare. The relationship with employment demonstrates that the expansion and development of the food service establishment sector may contribute to job creation, particularly in regions where tourism and socio-economic development conditions are favorable. Thus, the food service establishment sector may be regarded as an important socio-economic indicator that simultaneously reflects and stimulates the country's economic development.

Table 6. Volume of food service establishment activities and number of employed persons, 2009–2024¹

Region	Volume of food service es-tablishment activities–nominal GDP	Volume of food service establishment activities – nominal GDP per capita	Volume of food service establishment activities – number of employed
Yerevan	0.587	0.576	0.486
Aragatsotn	0.088	0.097	0.180
Ararat	0.374	0.837	0.260
Armavir	0.713	0.697	0.431
Gegharkunik	0.452	0.453	0.569
Lori	0.396	0.685	-0.265
Kotayk	0.669	0.647	-0.268
Shirak	0.816	0.831	0.515
Syunik	0.763	0.768	0.076
Vayots Dzor	0.223	0.254	-0.033
Tavush	0.378	0.402	-0.084
Republic of Armenia	0.827	0.852	0.670

Conclusion

Within the framework of the present study, an econometric assessment of the interrelationship between tourism, the food service establishment sector, and economic growth in Armenia was conducted through the application of correlation and regression analysis methods. The research was based on official statistical data for 2009 - 2024 and aimed to identify the role of tourism in the process of the structural development of the Armenian economy. The results of the simple regression analysis demonstrated that there is a strong linear and statistically significant relationship between the number of tourists and the revenue generated by food service establishments. In particular, it was found that a 1% increase in the number of tourists leads, on average, to an approximately 1.45% increase in the revenue of food service establishments, indicating the high sensitivity of the service sector to tourism flows. The second regression model demonstrated that the growth of revenue generated by food service establishments has a positive impact on nominal gross domestic product (GDP). According to the obtained results, a 1% increase in the revenue of food service establishments leads to an approximately 0.46% increase in nominal GDP. This confirms that the service sector, particularly the food service market, constitutes an important component of economic activity and domestic demand formation in Armenia.

The results of the third model confirmed the direct impact of tourism on economic growth. According to the regression estimates, a 1% increase in the number of tourists leads, on average, to an approximately 0.66% increase in nominal GDP. This finding demonstrates that tourism in Armenia acts as an important demand-generating factor, stimulating eco-

¹ The table was compiled by the author using IBM SPSS Statistics software based on data obtained from the Statistical Committee of the Republic of Armenia.

conomic activity through its influence on the development of the hotel industry, food service establishments, transportation, trade, and cultural services.

The results of the multiple regression analysis and the calculation of the Variance Inflation Factor (VIF) indicators demonstrated that a high degree of multicollinearity was not observed among the explanatory variables included in the models, as all VIF values remained within acceptable limits. The findings of the multiple regression analysis further demonstrated that the development of tourism is closely associated with the expansion of the service sector and economic growth. The strongest relationship was identified between nominal GDP and the revenues generated by hotel establishments and food service establishments, confirming the important role of the service sector within the Armenian economy. The impact of tourist flows on nominal GDP was manifested primarily through the activation of the service sector. At the same time, the relatively weak relationship associated with the employment indicator may be explained by seasonality and the existence of informal employment.

The results of the correlation analysis also confirmed the close relationship between the food service establishment sector and economic activity. At the national level, a strong positive correlation was identified between the activity volumes of food service establishments and nominal GDP, indicating that the development of the service sector is closely linked to the country's economic growth. At the regional level, the strongest interrelationships were observed in the Shirak, Syunik, and Armavir regions, where the development of tourism and the service sector contributed to relatively balanced economic growth.

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Gastronomic tourism as a factor in promoting economic growth in the Republic of Armenia: assessment of its impact

Key words: tourism, GDP, regression analysis, econometric modeling, economy of RA, Pearson correlation analysis, tourism policy

This article is devoted to the assessment of the impact of gastronomic tourism on the economic growth of the Republic of Armenia. The main objective of the study is to identify, through the application of econometric methods, the interrelationship between tourism, the food service establishments, employment, and nominal gross domestic product (GDP) within the context of economic growth. The study is based on official statistical data covering the period from 2009 to 2024 and includes the number of inbound and domestic tourists in Armenia (Tourists), revenue generated from public catering establishments (Revenue), total employment (persons), and nominal gross domestic product (GDP) measured in million AMD. The research applies simple and multiple regression analyses, as well as correlation analysis. The Variance Inflation Factor (VIF) and the Durbin–Watson test were used to assess the statistical reliability of the econometric models. The findings of the study indicate that tourism and the gastronomic sector represent significant drivers of the long-term development of the Armenian economy, the expansion of the service market, and the promotion of employment. The obtained results demonstrate a statistically significant relationship between tourism-related indicators and nominal GDP growth, highlighting the importance of tourism policy and the development of gastronomic tourism as strategic directions for sustainable economic development in Armenia.