

FACTORS INFLUENCING WOMEN'S EMPLOYMENT IN TOURISM IN RELATION TO GENDER STEREOTYPES IN EUROPEAN COUNTRIES

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Abstract: Employment in the tourism sector serves as a critical indicator of both economic performance and the broader social structure of countries, particularly in relation to gender equality. As a service-dominated industry, tourism employs a disproportionately high share of women, positioning it as a strategic domain for examining gendered labor market dynamics. According to UNWTO (2019), women comprise 54% of the global tourism workforce, compared to only 39% in the overall economy. This study draws on Eurostat data to evaluate the determinants of women's employment in the tourism sector. A comprehensive diagnostic analysis of data distribution was conducted prior to model specification, applying the Shapiro–Wilk W test and complementary visual techniques such as histograms and Q-Q plots. Descriptive evidence highlights that women are primarily concentrated in accommodation, food services, customer-facing roles, and part-time positions – patterns shaped by persistent social norms and gendered occupational segregation. Through the application of advanced statistical modelling supported by visual analytics (bar charts, heatmaps, and 3D regression surfaces), the study assesses the significance and explanatory power of selected structural and socio-economic factors. The findings underscore tourism's potential to act as a catalyst for regional development and a mechanism for strengthening gender equality, particularly in areas with untapped economic capacity. The results offer actionable insights for policymakers: integrating tourism development into broader employment and gender-equality strategies may enhance labor market participation among women, especially outside major economic centers. This study thus contributes to the growing body of evidence positioning tourism as a transformative sector within inclusive economic development frameworks.

Keywords: tourism, visitors, gender, stereotypes, employment, development

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INTRODUCTION

Tourism is one of the fastest growing industries in recent decades. It accounts for more than 10% of global GDP and creates one in four new jobs (WTTC, 2020). Tourism is a dynamic industry that has the ability to generate supply even in locations where all other industries fail due to poorly developed infrastructure. Despite the penetration of technological innovations into the tourism industry, many services by their nature require personal contact, thus creating space for the application of the released workforce from those industries where layoffs are at risk due to automation and digitalization of some processes (Bumbak, 2024; Deac et al., 2023; Szentgróti et al., 2025). The labor market in the tourism industry has the ability to generate jobs not only directly in the tourism industry, but also indirectly in other sectors of the economy. In this context, we speak of primary employment (meeting the needs of visitors), secondary employment (positions in other sectors triggered by tourism activities) and induced employment. This sector includes a wide range of professions – from hotel and catering services to cultural, guiding and reservation activities – which are often more accessible to women even in countries with a lower level of economic development (Josan et al., 2024; Law et al., 2022; Surya et al., 2020; Pavloudakis et al., 2024). Over the past 60 years, there has been an increase in the employment and education rates of women worldwide. However, the wage gap between men and women persists. Although gender equality in tourism is not the dominant theme in this article, we would like to highlight important findings from this area, as they have an impact on women's employment in tourism. We would like to underline that tourism is one of the sectors with the largest wage gaps. Understanding the roots of gender inequality is a step towards eliminating discrimination and the glass ceiling. The World Economic Forum annually publishes the “Global Gender Gap Report”, which includes the so-called “Global Gender Gap

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Index". The construction of the index identifies four areas of gender equality monitoring, namely in the areas of economic participation and opportunities, educational attainment, health and survival, and last but not least, in political representation or empowerment of women. Positive results in closing the gender gap have been achieved in the long term in the areas of health and survival and educational attainment. On the contrary, the dimension of political representation is the area with the largest gender gap. The result itself directly points to the long-term problem of women's advancement in senior positions, as well as the unfavorable situation of women's representation in top management positions (Kolos & Kenesei, 2023; Otegui et al., 2025; Wang et al., 2024). From a regional perspective, Western Europe is the leader, followed by North America, Latin America and the Caribbean, Eastern Europe and Central Asia. The order continues with East Asia and the Pacific, Sub-Saharan Africa and South Asia. The region with the largest difference in gender equality is the Middle East and North Africa (Global Gender Gap Report, 2024). Although gender research has a rich theoretical and empirical history, its integration into tourism studies has been limited and the deeper implications of social prejudices and cultural norms on women's professional experiences have often been neglected (Dreyer et al., 2017; Eger et al., 2022; Kusum et al., 2024). While objective gender inequality is widely studied and measured, the causes of subjective gender inequality are less well understood (GeoJournal, 2025; Bîrsănuț, 2025).

In other words, existing gender indices focus on measuring objective gender inequalities, while overlooking the qualitative dimensions of prejudice and bias (Gupta et al., 2019; Rostami et al., 2024). Maklári et al. (2024) report that the gender pay gap is particularly pronounced in tourism, due to high horizontal segregation and the high number of women working in tourism. The tourism labor market remains deeply gender-segmented. Women are often relegated to marginalized or unskilled positions, underrepresented in leadership positions and face pay gaps compared to their male counterparts (Díaz-Carrión & Vizcaino, 2021; Carrasco-Santos et al., 2024).

Woman's gender-specific roles are limited to tasks such as childcare, cleaning and cooking. Women working in traditional agricultural and fishing industries contribute to the tourism sector through the sale of their products, crafts and participation in the tourism supply chain. Chinoune et al. (2024) point out the critical need to address gender equality in this sector precisely because of the above facts. On the other hand, research by Wang & Xu (2018) confirms that women working in tourism have higher self-esteem, better family status and benefit from higher incomes.

Because of the COVID-19 pandemic, the tourism industry's performance declined significantly between 2020 and 2022. Sales Dias et al. (2021) state in their study that the pandemic caused major changes in people's lifestyles. It brought unemployment, insecurity in the family, in companies. This also negatively affected the mental and social life of women working in the tourism industry. Hemmonsbey et al. (2021) listed, that the COVID-19 pandemic negatively affected women's living standards. Their research showed that due to reduced income due to the ongoing impact of COVID-19, women were unable to meet family expenses and had to rely on their family (Karalis, 2020). This led to stress, as well as physical and psychological harm in the family. SARS had an impact on all sectors of the economy, including employment. Tourism has been perhaps the most disrupted by the pandemic, travel restrictions and massive lockdowns imposed by countries to contain the spread of the virus. UNWTO (2022) reported that the pandemic had threatened more than 100 million direct jobs in the tourism sector at that time. Understanding the effects of the COVID-19 pandemic in 2020 in time and space was essential for estimating the recovery period for tourism from the pandemic. It was assumed that 2023 would bring a revival of the industry, to 80% - 95% of pre-pandemic performance.

Since employment affects the elimination of discrimination, let us ask ourselves: is the importance of tourism a strong factor influencing female employment in services? This, as well as other questions are focusing our research in this paper. We will start with women's employment in tourism before and after the COVID-19 period in Europe.

In Figure 1, we have shown the average number of women employed in tourism in European countries in three periods: before the pandemic (2015–2019), during the pandemic (2020–2021) and after the pandemic (2022–2024).

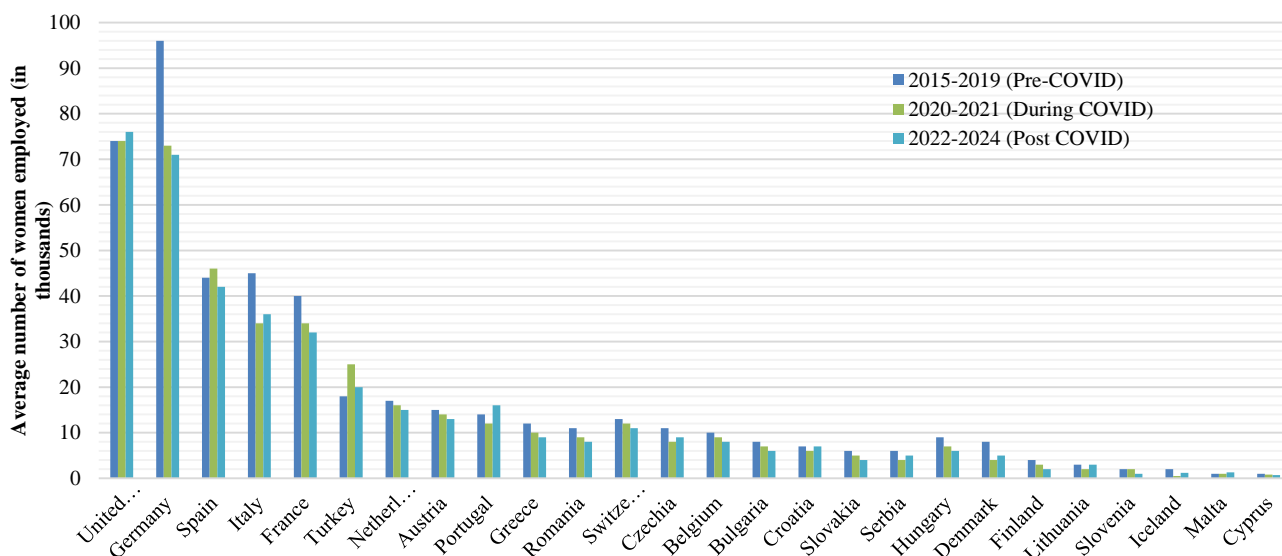


Figure 1. Development of female employment in tourism (Source: Own processing based on Eurostat, 2025)

Countries we ranked by their post-pandemic employment levels, allowing for a clear comparison of their recovery rates. The United Kingdom, Germany and Spain have consistently had the highest female employment rates in the sector. The United Kingdom has maintained a stable high level in each period, while Germany has experienced a slight decline since the pandemic. Turkey is an exception – it is one of the few countries to have recorded an increase after 2020, which points to the growing importance of tourism in its economy. Countries such as Italy, France and Portugal have partially recovered, but have not yet reached pre-pandemic levels. Smaller countries – Cyprus, Malta and Iceland – have maintained low but stable employment, reflecting their size and market structure.

According to the research below, female employment in tourism related to the intensity of tourism activity, but also to the sector's ability to adapt. The graph also demonstrates the importance of digital transformation of businesses – businesses that introduced digital tools such as online bookings, service automation or digital marketing after the pandemic were able to resume operations faster, maintain or increase employment. Digitalization supported inclusive growth, especially in smaller regions, where it replaced the physical availability of services by connecting local businesses to the global market. The development of digital skills and the digitization of processes are thus proving to be key factors for the resilience and flexibility of the industry in the face of future challenges.

MATERIALS AND METHODS

We designed our methodological approach as a combination of descriptive statistics, correlation analysis and regression modelling to identify and quantify the relationship between three key variables: female employment in the tourism sector, the volume of tourist visits and the level of economic development of the country measured as gross domestic product (GDP) per capita in purchasing power parity (PPP). Research data were drawn from publicly available Eurostat databases. Values for the period 2015 to 2024 were extracted from the above indicators. An arithmetic mean value was calculated for each country, resulting in three main variables for the analysis:

1. Average number of women employed in tourism (in thousands of persons),
2. Average number of tourist visits (in absolute numbers),
3. Average GDP per capita in PPP (index, where EU27 = 100).

To compare economic performance, a classification by level of development was used according to Eurostat standards. Countries were divided into three groups based on average GDP in purchasing power parity (PPP), which reflects their standard of living in relation to the EU average. This approach eliminates the impact of short-term fluctuations, such as the COVID-19 pandemic, and provides a more stable picture of long-term development. The results are displayed using a heatmap, where the color shades indicate the level of development. A categorization by tourism intensity was also created in the same way, based on the average number of visitors.

For Validation of data distribution we used Python tools using the Pandas library in creating visualizations and analytical outputs. All visualizations, including bar graphs, heatmaps, and 3D regression surfaces, were constructed to support the interpretation and validity of statistical conclusions. Before implementing statistical models, a detailed diagnosis of data distribution was performed, based on the normality test (Shapiro-Wilk W test) and visual tools (histograms, Q-Q plots) (Brajerčík & Krupka, 2025). Figure 2 shows the flowchart of methodology.

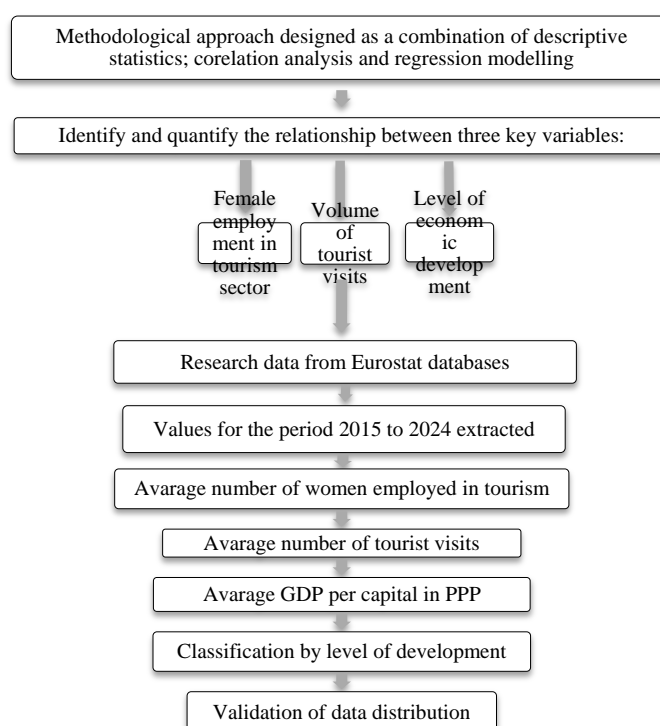


Figure 2. Flowchart of methodology (Source: Own processing)

RESULTS AND DISCUSSION

We have produced and present on Figure 3 a heatmap showing the average GDP per capita in purchasing power parity (PPP) for selected European countries from 2015 to 2024. The data we expressed as an index, where the average for the European Union (EU27) is 100. Each country is also classified into one of three performance categories according to its level of development: high, middle or low income, based on internationally accepted methodology (Eurostat, 2025).

Country	GDP (PPS, EU27=100)	Income level
Switzerland	157,6	High income level
Netherlands	131,5	High income level
Iceland	129,5	High income level
Denmark	128,7	High income level
Austria	123,3	High income level
Germany	121,7	High income level
Sweden	118,8	High income level
Belgium	117,6	High income level
Finland	108	High income level
Malta	105,3	High income level
United Kingdom	103,1	High income level
France	102,3	High income level
Italy	97	Medium income level
Cyprus	91,9	Medium income level
Czechia	91,6	Medium income level
Spain	89,7	Medium income level
Slovenia	86,8	Medium income level
Lithuania	82,9	Medium income level
Portugal	77,2	Medium income level
Poland	74,7	Low income level
Hungary	73,4	Low income level
Slovakia	73,2	Low income level
Romania	68,7	Low income level
Croatia	67,8	Low income level
Greece	66,7	Low income level
Türkiye	65,1	Low income level
Bulgaria	56,9	Low income level
Serbia	43,6	Low income level

Figure 3. Average GDP per capita in PPP and development level (Source: Own research and processing)

Using the normality test (Shapiro-Wilk W) and visual tools (histograms, Q-Q plots), it was found that the distribution of data for the variables average number of tourist visits and average number of women employed in tourism is approximately normal with a slight positive skewness, which is acceptable when analyzing a larger number of observations. The variable average GDP per capita in PPP was distributed more evenly due to its index nature, but did not show extreme deviations. Table 1 shown diagnostics of the distribution of variables.

Table 1. Diagnostics of the distribution of variables (normality test and basic statistics) (Source: Own research)

Variable	Mean	Std. Dev.	Skewness	Shapiro-Wilk W	Shapiro-Wilk p
Female Employment	14.75714	20.66399	2.25613	0.657043	7.44E-07
Tourist Visits	60048791.428571	87337360.564101	1.93174	0.674541	1.27E-06
GDP per capita (PPS)	94.79643	27.03329	0.28273	0.977185	0.778467

The distribution of all three key variables used in the analysis was evaluated in detail based on the data from Table 1 “Normality Diagnostics”. Although the first two variables do not meet the normality assumption, due to the sufficiently large sample and the robustness of the least squares (OLS) method, Pearson correlation and linear regression were performed. Visual Q–Q plots showed that the irregularities mainly concern the marginal values, while the central part of the data follows the expected trend. This confirms that, despite the non-ideal distribution, the statistical processing using the OLS methodology is reliable. The regression models were evaluated using the coefficient of determination R^2 .

To improve linearity and remove skewness, a multivariate log-log model was used, while the target variable remained the average number of women employed in tourism. A VIF (Variance Inflation Factor) analysis was performed to control for multicollinearity. The values for both independent variables – log number of tourists and log GDP – reached 1.04, which is well below the critical limits (5 or 10).

This confirms their independence and suitability for joint use in a single model. The increased VIF value for the intercept is expected and does not affect the interpretation of the model. Results of testing hypothesis shown Figure 4.

In Graph, we have shown the results of the residual analysis of the log-log regression model, where the horizontal axis represents the predicted values and the vertical axis represents the residuals (the difference between the actual and the predicted values). Most of the residuals are concentrated around zero, without a visible nonlinear trend, which confirms the suitability of the linear approach. More significant deviations can be explained by specific national factors.



Figure 4. Residual plot: female employment (Source: Own processing)

The results as a whole demonstrate that the average number of tourist visits is the dominant predictor of female employment in the tourism sector, while the economic performance of the country measured by GDP in PPP has only a secondary and statistically insignificant effect, if tourism is already included in the model. Based on the analytical procedure, which was carried out using correlation and regression models between the variables under study, the following research questions were set. They are logically based on the available data, the applied methods and the obtained statistical outputs:

1. Is there a statistically significant relationship between the average number of tourist visits and the average number of women employed in tourism?
2. Is average GDP per capita in PPP a reliable predictor of female employment in tourism?
3. Which factor – average GDP per capita in PPP or average number of tourist visits – better predicts female employment in tourism?
4. Which countries deviate from the general trend between tourism and female employment? Our Heatmap shows the differences in the economic level of European countries according to GDP in PPP. Green indicates high-income countries such as Switzerland, the Netherlands, Iceland and Germany – states with advanced economies, high productivity and living standards that significantly exceed the EU average. The middle category (yellow-orange shades) includes Italy, the Czech Republic, Cyprus, Slovenia and Portugal. These countries are close to the EU average, but face internal regional and historical disparities. Red shades indicate low-income economies such as Poland, Slovakia, Bulgaria and Serbia, where GDP in PPP reflects lower purchasing power, productivity and investment, despite growth trends. Overall, the heatmap points to persistent differences between Western and Eastern Europe, which is of fundamental importance for the EU's economic and social cohesion policy. Average Number of Tourist Visits and Tourism Level by Country shown Figure 5.

Country	Average tourist visits	Tourism level
Germany	310 577 618	High tourism
France	292 139 698	High tourism
Italy	200 514 382	High tourism
United Kingdom	193 345 515	High tourism
Spain	159 055 108	High tourism
Netherlands	73 846 390	High tourism
Türkiye	66 520 350	High tourism
Poland	66 143 926	High tourism
Sweden	44 477 571	High tourism
Austria	33 933 432	Medium tourism
Switzerland	30 153 324	Medium tourism
Czechia	28 158 942	Medium tourism
Portugal	23 867 375	Medium tourism
Denmark	21 736 291	Medium tourism
Romania	21 529 093	Medium tourism
Greece	20 931 144	Medium tourism
Belgium	20 625 571	Medium tourism
Hungary	15 450 967	Medium tourism
Finland	15 399 581	Medium tourism
Bulgaria	9 764 747	Low tourism
Slovakia	8 846 891	Low tourism
Croatia	6 743 064	Low tourism
Serbia	5 386 931	Low tourism
Slovenia	4 680 839	Low tourism
Lithuania	4 495 681	Low tourism
Iceland	1 433 798	Low tourism
Cyprus	1 080 518	Low tourism
Malta	527 413	Low tourism

Figure 5. Average number of tourist visits and tourism level by country (Source: Own processing)

Based on the average number of tourist visits, countries were divided into three groups according to tourism intensity: high, medium and low. High intensity was achieved by countries such as Germany (310 million overnight stays), France, Italy, Spain and the United Kingdom, supplemented by the Netherlands, Turkey and Poland. These countries have long been attractive tourist destinations, with domestic tourism also playing a significant role in some cases. Moreover, high values in Poland and Turkey point to the important role of tourism even in countries with lower GDP per capita. Medium intensity refers to countries such as Switzerland, the Czech Republic, Portugal and Romania. These countries show stable interest, often due to seasonality, domestic travel or population size. Low intensity is shown by smaller or less accessible countries such as Malta, Iceland, Lithuania, Slovenia and Bulgaria. Their lower values are influenced by market size, infrastructure and visibility on the global market. The heatmap thus reveals the uneven distribution of tourism demand between Western and Eastern Europe, as well as between large and small economies. These differences are crucial for effective planning of development and sustainable tourism within the EU. Figure 6 shown female employment in tourism vs. tourist visits.

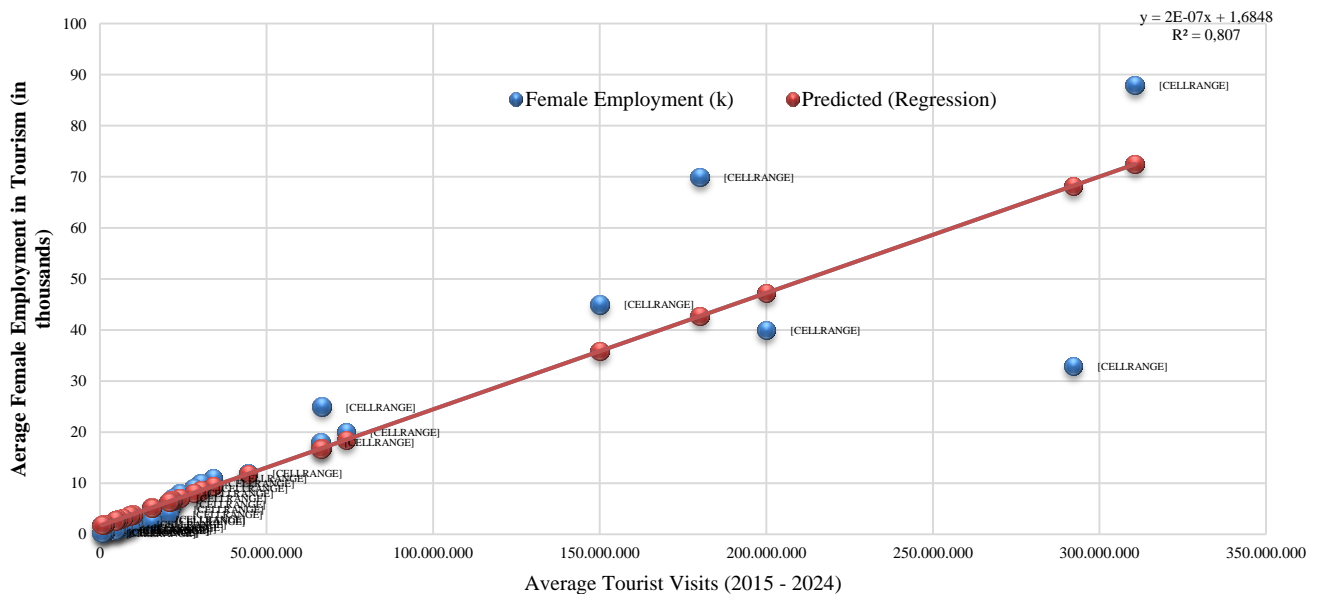


Figure 6. Regression: Female employment in tourism vs. tourist visits (Source: Own processing)

We have shown a strong linear relationship between the number of tourist visits and the number of women working in tourism. The regression line ($R^2 = 0.81$) shows that up to 81% of the differences in female employment can be explained by the intensity of tourism. Most countries are close to the trend line, confirming the high consistency between the variables. Green shadowed countries names indicate countries with higher female employment than would be expected from the number of tourists – e.g. Germany and the United Kingdom. This may indicate effective equality policies or a developed service sector. Black names indicate countries with lower female employment than would be predicted by the number of visits – notably France. This may be due to higher automation, different sector structures or cultural differences. In conclusion, the graph confirms the importance of tourism as a strong factor influencing female employment in services, with important implications for gender equality and labour market policy. Figure 7 shown female employment in tourism vs. GDP per capita (PPP).

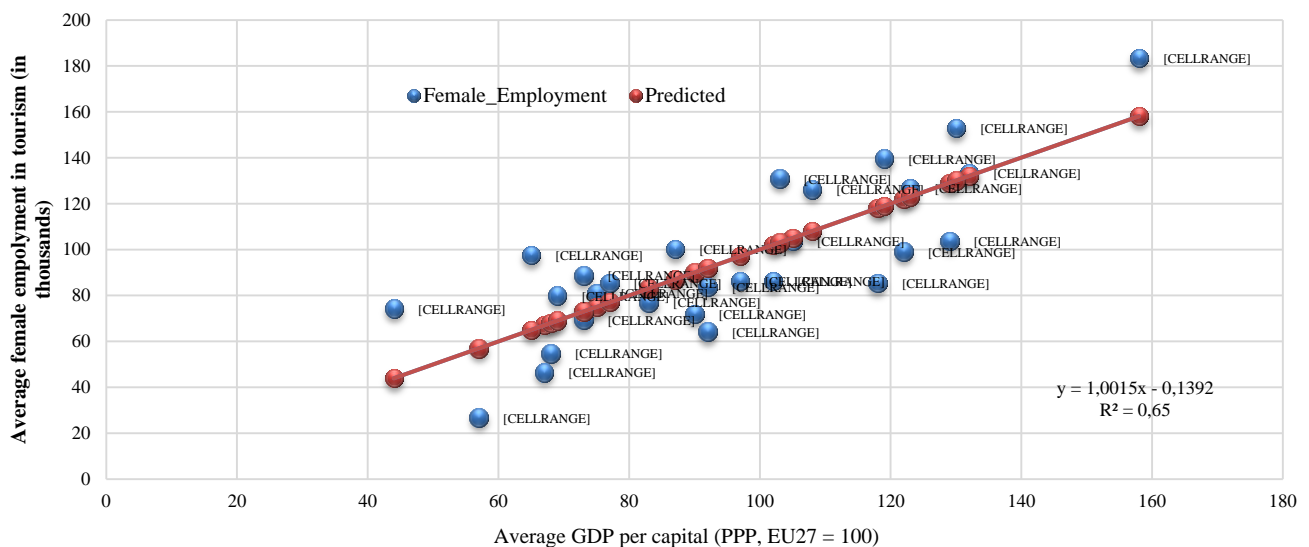


Figure 7. Regression: Female employment in tourism vs. GDP per capita (PPP) (Source: Own processing)

Presented figure shows the relationship between average GDP per capita (in PPP) and female employment in tourism (2015–2024). Although the regression line shows a slightly rising trend, the scatter of the points around it shows that GDP has only a weak predictive value. Several rich countries (e.g. Switzerland, Sweden, Iceland) have lower female employment in tourism than would be expected based on their GDP. Conversely, countries with lower GDP (e.g. Greece, Romania, Portugal) have higher employment, suggesting that other factors – notably tourism intensity, economic structure or gender policies – have a greater impact. After logarithmic transformation, the model significantly improved its performance ($R^2 = 0.65$), suggesting that the combination of GDP and tourism activity better explains the differences in female employment in the sector. Figure 8 shown 3D regression of female employment.

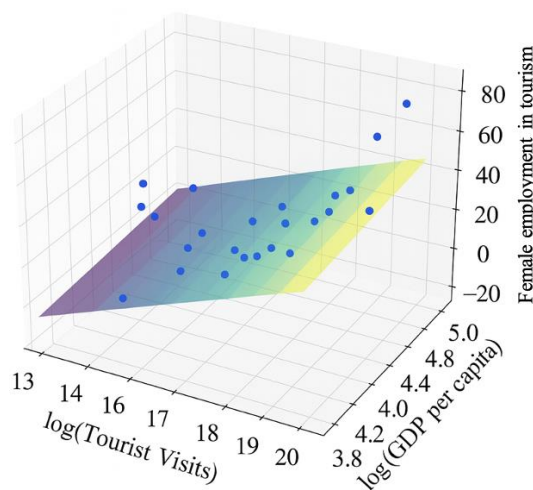


Figure 8. 3D regression surface: female employment (Source: Own processing)

The three-dimensional graph shows a regression surface that illustrates the impact of GDP and tourism on female employment in tourism. The plane is rising, which means that both variables have a positive effect, with tourist arrivals having a stronger effect than GDP. Figure 8 shown that economic wealth alone is not enough – the greatest increase in female employment occurs where economic activity is combined with high tourist demand.

Tourism thus acts as a more effective tool to support female employment.

CONCLUSION

We underline the importance of tourism as an important part of the national economies of most countries all over the World. According to WTTC (2020), in 2019, the year before the pandemic, tourism jobs accounted for 10.3% of all jobs (334 million) and the industry's contribution to global GDP was estimated at 10.4% (10 trillion USD), with international visitor spending totaling 1.9 trillion USD.

2023 was a top year for tourism development in the world (for comparison, in 2014-2019, every fifth newly created job, including its direct, indirect and induced impacts, was in the Czech Republic). The industry is currently experiencing significant growth. This brief statistical overview shows that, despite the shocks caused by the COVID-19 pandemic, it is a promising industry that is recovering relatively quickly.

The tourism industry is characterized by attracting a predominantly young, flexible, part-time workforce. The industry is dominated by women, young people, migrant workers, and residents from local communities (Richardson, 2010).

The results of our quantitative analysis clearly confirm a strong and practically significant connection between the number of tourist visits and female employment in the tourism sector, which suffered during the pandemic period. Pearson's correlation reached a value of $R^2 = 0.90$ and the regression model explained up to 82% of the variability in employment, which represents a very strong effect. This means that the more tourists a country receives, the higher the probability that women will also find employment in tourism. On the contrary, GDP per capita in PPP turned out to be a very weak predictor. A comparison of the models shows that the number of tourist visits is a much stronger indicator than GDP. This conclusion is also supported by the identification of countries that deviate from the expected trend. For example, Germany, the United Kingdom and Austria achieved higher female employment than predicted by the model, which indicates their ability to effectively use the potential of tourism. On the contrary, countries such as France, Sweden and Italy lag behind expectations, which may be due to structural, but especially cultural factors. At the same time, it has been shown that in countries with lower GDP – such as Greece, Portugal or Romania – tourism plays a key role in creating jobs for women, confirming their weaker economic performance.

Based on these findings, tourism can be described as a stable and inclusive employment tool for women.

The strong importance and attractiveness of tourism lies mainly in the influence of personal contact, hospitality and service provision, where women have traditionally had a dominant presence. Castaño et al. (2019), as well as Carrasco-Santos et al. (2024) state that, although the participation of women in tourism is increasing, gender biases continue to limit their career progression. Women need stronger professional networks or higher qualifications than men to have access to the same opportunities, which reinforces occupational segregation and wage gaps. Tourism is not only a consequence of

economic development, but can also be a tool to promote regional development and gender equality – especially in peripheral areas with potential for the development of services, culture or natural heritage.

For policymakers, this means that tourism promotion should be part of strategies to promote employment and gender equality, especially in regions with development potential outside the main economic center.

The limitations of the research may lie mainly in the limited access to reliable and up-to-date data, as many organizations do not collect or publish detailed statistics by gender and job position.

Another limitation may be the subjectivity of the respondents' statements, which may be influenced by social desirability or personal experiences. The research may also be limited by the cultural and regional context – results valid in one country or region may not be applicable elsewhere. Moreover, given the wide range of jobs in the tourism industry, it may be difficult to generalize the findings to the entire sector. Furthermore, gender stereotypes are often implicit and difficult to measure, which makes them difficult to quantify and analyze objectively.

Future research could focus on a deeper analysis of the specific forms of gender stereotypes that most significantly affect women's employment opportunities, career progression and working conditions in different areas of tourism – for example, in management positions versus customer service. It would also be beneficial to examine how gender norms and expectations influence women's decision-making when entering the sector, and what role education or family background plays in this. Another important direction could be to compare the situation between urban and rural areas, or between different countries or cultural contexts. Research could also focus on the effectiveness of policies and initiatives to promote gender equality in tourism – for example, flexible working arrangements, parental benefits or awareness-raising programmes about gender stereotypes in the workplace.

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