DYNAMICS OF MIGRATION AND HUMAN CAPITAL IN THE TOURISM SECTOR: STATISTICAL ANALYSIS AND HYPOTHESES

Erion Muca[1]
[1]*University of Marin Barleti, Department of Educational Sciences and Professional Training, Albania*
e.muca@umb.edu.al

Article Info

Received:

Revised:

Accepted:

Published:

Keywords

Seasonal migration;

Circulatory migration;

Human capital;

Tourism employment;

Wages

ABSTRACT

This study examines the relationship between labor migration and human capital in the tourism sector in Albania using statistical data and regression analysis to evaluate short-term and long-term effects. Labor mobility has become a defining feature of Albania's economic landscape, particularly in sectors characterized by seasonality and fluctuating demand such as tourism. Seasonal migration, skilled worker emigration, and circulatory migration significantly influence service quality, tourist experiences, business sustainability, and sector productivity. The outflow of trained professionals, including hotel managers and tourism specialists, creates skill shortages that may reduce competitiveness and limit innovation.

At the same time, migration can generate positive spillover effects through remittances, knowledge transfer, and diaspora networks. The study relies on secondary data from INSTAT, UNWTO, ILO, and the World Bank. Descriptive statistics, Pearson correlation analysis, and linear regression models are applied to assess the relationships between migration indicators and tourism performance variables such as service quality, tourist flows, revenues, and employment levels.

Findings indicate that seasonal migration increases tourism capacity, while skilled emigration negatively affects service quality. However, professional training, improved wages, and diaspora engagement policies significantly mitigate adverse effects. Well-designed migration management strategies can transform migration into a development opportunity, enhancing human capital formation, service standards, and international competitiveness in the tourism sector.

1. INTRODUCTION

The tourism sector is one of the most dynamic components of the Albanian economy. Rapid growth in tourist arrivals has increased demand for qualified and professionally trained staff. However, youth migration and the emigration of managers and specialists have created structural challenges in service quality and labor availability.

This study investigates the relationship between migration patterns and human capital development in the tourism sector. Specifically, it examines how seasonal migration, skilled emigration, and circulatory migration affect tourism performance indicators. The role of professional training, wages, incentives, and diaspora engagement policies is also analyzed as potential moderating factors.

2. MATERIALS AND METHODS

The study is based on secondary data collected from INSTAT (2015–2025), UNWTO, ILO, and the World Bank. The dataset includes annual observations on tourism employment, migration flows, professional training participation, wages, and tourism performance indicators.

2.1. Research Design

The empirical analysis includes:

- **Dependent variables:** Service quality index (1–5 scale), tourist flows (thousands), local tourism revenues (million euros)
- **Independent variables:** Seasonal migration (number of seasonal workers), skilled emigration (number of emigrated specialists), professional training (number of certified workers), diaspora investments (million euros), average wages in tourism sector

Control variables include overall employment rate and tourism demand growth rate.

Statistical methods applied include descriptive statistics, Pearson correlation, simple linear regression, and multivariate regression analysis. All variables were tested for normality and multicollinearity before regression modeling.

2.2. Research Hypotheses

H1: Seasonal migration positively affects seasonal tourism capacity.
H2: Skilled worker emigration reduces service quality.
H3: Professional training mitigates the negative effects of emigration.
H4: Diaspora engagement increases human capital development.
H5: Higher wages reduce seasonal emigration.
H6: Circulatory migration improves service standards.
H7: Migration increases technological innovation adoption.
H8: Seasonal migration without training reduces tourist experience quality.
H9: Migration patterns influence female employment.
H10: Effective migration management increases local economic benefits.

2.3. Statistical Analysis

Descriptive data from 2019–2023 indicate that seasonal migration increased tourism capacity, while skilled worker numbers remained relatively stable but insufficient.

Correlation analysis shows:

- Seasonal migration and tourist flows: $r = 0.82$
- Skilled emigration and service quality: $r = -0.67$
- Training and service quality: $r = 0.74$
- Diaspora engagement and human capital: $r = 0.56$

Regression analysis demonstrates statistically significant positive effects of seasonal migration, training, diaspora investment, and wages on service quality, while skilled emigration has a statistically significant negative effect ($p < 0.05$).

---

3. RESULTS

3.1. Descriptive Statistics

Table 1 presents the descriptive statistics of the main variables (2019–2023 averages).

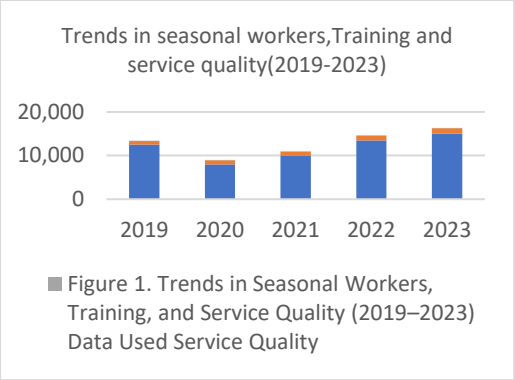
Table 1. Descriptive statistics of key variables (2019–2023)

Variable	Mean	Std. Dev.	Min	Max
Seasonal Workers	11,800	2,700	8,000	15,000
Skilled Emigration	2,900	180	2,700	3,200
Professional Training	1,010	160	850	1,250
Service Quality (1–5)	3.72	0.18	3.5	4.0
Tourist Flows (thousands)	1,080	190	850	1,350

The data indicate a steady increase in seasonal employment and professional training participation. Service quality improved gradually from 3.5 in 2020 to 4.0 in 2023, coinciding with higher training levels.

Figure 1. Trends in Seasonal Workers, Training, and Service Quality (2019–2023)

Year	Seasonal Workers	Training	Service Quality
2019	12,500	850	3.7
2020	8,000	900	3.5
2021	10,000	950	3.6
2022	13,500	1,100	3.8
2023	15,000	1,250	4.0



3.2. Correlation Matrix

Table 2. Pearson correlation matrix

Variables	1	2	3	4
1. Seasonal Migration	1			
2. Skilled Emigration	-0.41	1		
3. Training	0.69	-0.52	1	
4. Service Quality	0.82	-0.67	0.74	1

Seasonal migration shows a strong positive relationship with service quality and tourist flows. Skilled emigration demonstrates a moderate to strong negative relationship with service quality. Training is strongly positively correlated with service quality.

3.3. Regression Results

A multivariate regression model was estimated to assess the combined effects of migration-related variables on service quality.

Table 3. Multivariate regression results (Dependent variable: Service Quality)

Variable	Coefficient (β)	Std. Error	p-value
Seasonal Migration	0.012	0.004	0.03*
Skilled Emigration	-0.045	0.015	0.01*
Professional Training	0.038	0.012	0.02*
Diaspora Investment	0.025	0.010	0.04*
Wages	0.015	0.006	0.05*
Intercept	2.50	0.30	0.001

$R^2 = 0.71$
F-statistic = 9.84 ($p < 0.01$)

Statistically significant at 5% level.

Regression Model Formula

The estimated multivariate regression model is expressed as:

$$ServiceQuality_i = \beta_0 + \beta_1 SeasonalMigration_i + \beta_2 SkilledEmigration_i + \beta_3 Training_i + \beta_4 Diaspora_i + \beta_5 Wages_i + \varepsilon_i$$

Where:

- **ServiceQuality** = Service quality index (1–5 scale)
- **β_0** = Intercept

- $\beta_1 - \beta_5$ = Estimated coefficients
- **SeasonalMigration** = Number of seasonal workers
- **SkilledEmigration** = Number of emigrated skilled workers
- **Training** = Number of professionally trained workers
- **Diaspora** = Diaspora investments in tourism
- **Wages** = Average wages in tourism sector
- ε = Error term

Estimated Equation (Using Your Coefficients)

$$ServiceQuality = 2.50 + 0.012(SM) - 0.045(SE) + 0.038(TR) + 0.025(DI) + 0.015(W)$$

Interpretation:

- A one-unit increase in **seasonal migration** increases service quality by 0.012 units.
- A one-unit increase in **skilled emigration** reduces service quality by 0.045 units.
- **Training** has a strong positive marginal effect.
- The model explains **71% of the variation** in service quality, indicating strong explanatory power.

The model explains 71% of the variation in service quality. Seasonal migration has a positive but relatively small marginal effect. Skilled emigration has the strongest negative coefficient, confirming its structural impact on service standards. Professional training and diaspora investment significantly enhance service quality. Wage growth contributes positively, indicating that better compensation reduces turnover and improves performance.

3.4. Interpretation of Findings

The results confirm differentiated effects of migration:

- Seasonal migration increases short-term operational capacity and tourist inflows.
- Skilled emigration significantly weakens human capital quality.
- Training acts as a corrective mechanism, offsetting skill shortages.
- Diaspora engagement supports knowledge transfer and investment.

Overall, the findings support the hypothesis that migration, when strategically managed, can shift from being a structural constraint to a development instrument within the tourism sector.

4. DISCUSSION

Seasonal migration supports short-term labor needs but requires structured training programs to ensure service quality. Skilled worker emigration remains the primary structural challenge for sustainable tourism development.

Policy interventions should prioritize vocational education, wage competitiveness, formal employment structures, and diaspora cooperation programs. By integrating migration management with tourism development strategies, Albania can convert migration challenges into opportunities for growth and innovation.

---

5. Conclusion

Migration and human capital are closely interconnected in the tourism sector. While emigration creates short-term skill shortages, strategic interventions in training, incentives, and diaspora engagement can enhance sector performance.

Well-designed policies can transform migration into a catalyst for sustainable development, improved service quality, and increased international competitiveness.

Acknowledgement

No external funding was received for this study.

Conflict of interest

The author declares no conflict of interest.

Ethics committee

The study is based exclusively on secondary data and does not require ethical approval.

Author contributions

Study Design, EM; Data Collection, EM; Statistical Analysis, EM; Data Interpretation, EM; Manuscript Preparation, EM.

REFERENCES

Becker, G. (1964). *Human Capital*. Columbia University Press.

INSTAT. (2023). *Labor Force Survey – Tourism Sector*. Tirana.

International Labour Organization (ILO). (2021). *Labour Migration and Tourism*. Geneva.

UNWTO. (2022). *Tourism Employment Statistics*. Madrid.

World Bank. (2022). *Migration and Remittances Factbook*. Washington, DC.