Conference track «Regional and sectoral development in the context of digital transformation»

Exploring the Synergistic Relationship Between Economic Growth and Tourism Revenue Amidst Ethiopia's 2018 Economic Reform

Научный руководитель – Yuryevna Professor Malkina Marina

Mulaw Sisay Genanu Mulaw
Doctor of Science (PhD)
Нижегородский государственный университет им. Н.И. Лобачевского, Нижний Новгород, Россия
E-mail: sisay2002@gmail.com

Utilizing both descriptive and econometric analyses, this study employs a Vector Autoregressive (VAR) model to explore the relationship between tourism revenue and economic growth in Ethiopia, revealing a negative and statistically insignificant impact of tourism on GDP since the 2018 economic reforms. The findings emphasize the need for the Ethiopian government to resolve internal conflicts to revitalize tourism and enhance economic growth.

Key Words: Tourism, GDP, VAR, Economic growth, Economic Reform

The tourism industry, frequently referred to as the "smokeless industry," plays a significant role in the global economy, accounting for approximately 7% of the world's total exports and ranking as the third largest export sector after fuels and chemicals [11]. In 2023, the travel & tourism sector contributed 9.1% to the global GDP and generated 27 million new jobs (WTTC, 2024). Tourism can play a crucial role in economic recovery [14], stimulate economic growth by generating revenue, creating employment opportunities, and fostering infrastructure development [9], [3]. Tourism receipts can have a direct and positive impact on GDP growth [12]. Furthermore, tourism can enhance sustainable competitiveness among countries [9].

With more United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage Sites than any other African nation, Ethiopia is well known for its rich natural and cultural legacy [5], [13], but the contribution of tourism to GDP is low and the 114th ^{at} the global level [15]. The COVID-19 epidemic and civil unrest across Ethiopia have had a major influence on the country's tourism industry [8], despite the tourism's contributions to the global and African economies increasing after 2020 but not for Ethiopia [2]. An examination of the interplay between tourism-generated revenue and economic expansion can offer valuable insights to policymakers regarding the tourism sector's capacity to stimulate economic progress. Thus, analyzing the nexus between Ethiopian growth and tourism revenue is essential and timely since the problem is not investigated by any researcher. The general objective of this research is to explore the synergistic relationship between economic growth and tourism revenue amidst economic reform since 2018 [2].

The correlation between economic expansion and tourism-generated revenue is extensively documented in developmental studies, particularly within the framework of emerging economies. Ethiopia's tourism industry has been recognized as a key catalyst for economic advancement, notably in the wake of the 2018 economic reforms designed to deregulate the economy and stimulate foreign investment [4]. Empirical evidence suggests that tourism substantially contributes to the nation's GDP and employment creation, with [7] asserting that "the expansion of tourism revenue is fundamentally intertwined with broader economic performance and developmental objectives." Additionally, Abate [1] underscores the importance of incorporating tourism into effective economic policies to optimize intersectoral synergies, proposing that the post-reform era offers a distinctive opportunity for stakeholders to leverage tourism for sustainable economic progress. This corpus of research accentuates the imperative for a holistic strategy that harmonizes

tourism development with national economic initiatives to foster robust growth and enhance living standards in Ethiopia.

The researcher conducted it by using both descriptive and econometric analyses. For the descriptive analysis, the researcher employed line graphs to illustrate the exact relationships and trends of the variables, while for the econometric analysis, a time series analysis utilizing a vector autoregressive (VAR) model was implemented to analyze the impact of tourism on GDP. Data were obtained from the World Bank, encompassing the period from 1995 to 2021. The dependent variable was Gross Domestic Product (GDP), used as a measure of economic growth, while the independent variable was international tourism receipts, also referred to as revenue from tourism. Both variables were measured in current United States dollars (USD). The data were analyzed using STATA 17 econometrics software. The GDP and tourism were not stationary; the difference using lag (2) the variables became stationary using the Augmented Dickey-Fuller (ADF) test. Based on Akaik Information Criteria (AIC) and Hannan-Quinn Information Criteria (HQIC), the maximum lag length was two [10]. Serial correlation—stability test and lagragian multiplier test were conducted, and the model filled all tests [6].

The research findings indicated that tourism, as an exogenous source of revenue, has demonstrated a positive and statistically significant impact on Ethiopia's GDP when analyzed using data from 1995 onward. Subsequent to 2018, descriptive statistical analysis revealed a downward trend in both tourism revenue and the country's GDP, with tourism revenue exhibiting a more precipitous decline relative to GDP. Nevertheless, since 2018, both descriptive and econometric analyzes have demonstrated that tourism revenue has exerted a positive and statistically significant effect on Ethiopia's economic growth even if the country is under civil unrest where the number of tourists is low as compared to pre-2018. Consequently, despite increased government expenditure on developing additional tourist attractions such as lodges and collider facilities, tourism revenue is declining. The primary factor contributing to this decrease is internal instability. Therefore, the government should address the internal conflict among opposing groups to enhance tourism revenues.

References

1) Abate, M. 2021. "Strategic Integration of Tourism into National Economic Policies in Ethiopia: Opportunities and Challenges."East African Journal of Business and Economics, 5(1), pp. 45-60.
2) Ahmed, M. J., Oumer, A. A. 2022. The impacts of armed conflicts on the heritage tourism of Dessie and its environs, Northern Ethiopia. Journal of Heritage Tourism, 18(1), pp. 101–120. https://doi.org/10.1080/1743873X.2022.2145899
3) Alcalá-Ordóñez, A. and Segarra, V., 2023. Tourism and economic development: A literature review to highlight main empirical findings. Tourism Economics, p.13548166231219638.
4) Ayalew, B., Kassa, B., Chercos, T. 2020. "The Role of Tourism in Economic Growth: A Case Study of Ethiopia."Journal of Tourism and Hospitality Management, 8(2), pp. 120-135.
5) Folkers, A. S., van Buiten, B. A., Folkers, A. S., van Buiten, B. A. 2019. The Rock-Hewn Churches of Lalibela. Modern Architecture in Africa: Practical Encounters with Intricate African Modernity, pp. 286-298.
6) Hamilton, J. D. 1994. Time Series Analysis . Princeton University Press.
7) Hussien, A., Gashaw, A. 2021. "Tourism Revenue and Economic Growth: Evidence from Ethiopia."International Journal of Economic Studies, 14(3), pp. 201-214.

8) Kebede, A. 2024. The immediate causes of the Amhara Fano Force's rebellion against the government of Abiy Ahmed. African Security Review, pp 1-13.

9) Lin, W.L., 2024. Tourism and Economic Growth: Assessing the Significance of Sustainable Competitiveness Using a Dynamic Panel Data Approach. International Journal of Tourism Research, 26(5), pp. 2760.

10) Lütkepohl, H. 2005. New Introduction to Multiple Time Series Analysis. Springer

11) Rasool, H., Maqbool, S., Tarique, M. 2021. The relationship between tourism and economic growth among BRICS countries: a panel cointegration analysis. Future Business Journal, 7(1), pp. 1-12.

12) Risso, W.A., 2018. Tourism and economic growth: A worldwide study. Tourism Analysis, 23(1), pp.123-135.

13) Taye, B., Viles, H. and Orr, S.A., 2024. Seasonality in Moisture Dynamics in the Walls of the rock-cut Churches in Lalibela, Ethiopia: Implications for Weathering. International Journal of Architectural Heritage, 18(2), pp. 302-315.

14) Wang, Y., Wang, L. and Pan, C., 2022. Tourism–growth nexus in the presence of instability. Sustainability, 14(4), pp.2170.

15) World Travel Tourism Council. 2024. Travel tourism economic impact. https://wttc.org/research/economic-impact/ Accessed at 27/02/2025.

Illustrations

```
.
varstable
        Eigenvalue stability condition
                Eigenvalue      Modulus
        -.54304943 + .005707i   .87663
        -.74304943 - .005707i   .91663
        .6706296                .67063
        .1371016                .137102
        At least one eigenvalue is at least 1.0.
        VAR satisfy stability condition.

. var Dgdp Dtourism, lags(1/2)

Vector autoregression

Sample: 1998 thru 2020                          Number of obs     =        23
Log likelihood =   -1010.38                     AIC               =   88.72872
FPE            =    1.19e+36                    HQIC              =   88.85288
Det(Sigma_ml)  =    4.92e+35                    SBIC              =   89.22242

Equation           Parms      RMSE     R-sq      chi2     P>chi2
-------------------------------------------------------------
Dgdp                   5    3.0e+09   0.6131   36.44925   0.0000
Dtourism               5    3.3e+08   0.4098   15.96902   0.0031
-------------------------------------------------------------

------------------------------------------------------------------------------
             |      Coefficient  Std. err.      z    P>|z|     [95% conf. interval]
-------------+----------------------------------------------------------------
Dgdp         |
        Dgdp |
         L1. |     .661617   .2302623     2.87   0.004     .2103111    1.112923
         L2. |    -.124485    .211958    -0.59   0.557    -.5399915     .290945
             |
    Dtourism |
         L1. |    9.445852   2.425902     3.89   0.000     4.691172    14.20053
         L2. |    1.784478   3.078063     0.58   0.562    -4.248414     7.81737
             |
       _cons |    5.64e+08   8.78e+08     0.64   0.521    -1.16e+09    2.28e+09
-------------+----------------------------------------------------------------
Dtourism     |
        Dgdp |
         L1. |     .0101959   .0252065     0.40   0.686    -.039208    .0595998
         L2. |     .0153049   .0232028     0.66   0.509    -.0301717    .0607815
             |
    Dtourism |
         L1. |     .0600154   .2655604     0.23   0.821    -.4604734    .5805042
         L2. |    -.9678161   .3369516    -2.87   0.004    -1.628229   -.3074031
             |
       _cons |    1.36e+08   9.61e+07     1.41   0.157    -5.24e+07    3.24e+08
------------------------------------------------------------------------------
```

Рис. : VAR

Рис. : Test

Stationary Tests

GDP ADF Test Result:

ADF Statistic -2.845

p-value 0.049

Lags Used 2

Observations 25

Critical Value (1%) -3.650

Critical Value (5%) -2.951

Critical Value (10%) -2.614

Tourism ADF Test Result:

ADF Statistic -3.298

p-value 0.013

Lags Used 2

Observations 25

Critical Value (1%) -3.650

Critical Value (5%) -2.951

Critical Value (10%) -2.614

. varsoc

Lag-order selection criteria

Sample: 1998 thru 2020 Number of obs = 23

Lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-1028.22				2.8e+36	89.5841	89.609	89.6829
1	-1016.27	23.89	4	0.000	1.4e+36	88.8932	88.9677	89.1895*
2	-1010.38	11.784*	4	0.019	1.2e+36*	88.7287*	88.8529*	89.2224

* optimal lag
Endogenous: Dgdp Dtourism
Exogenous: _cons

Рис. : ADF