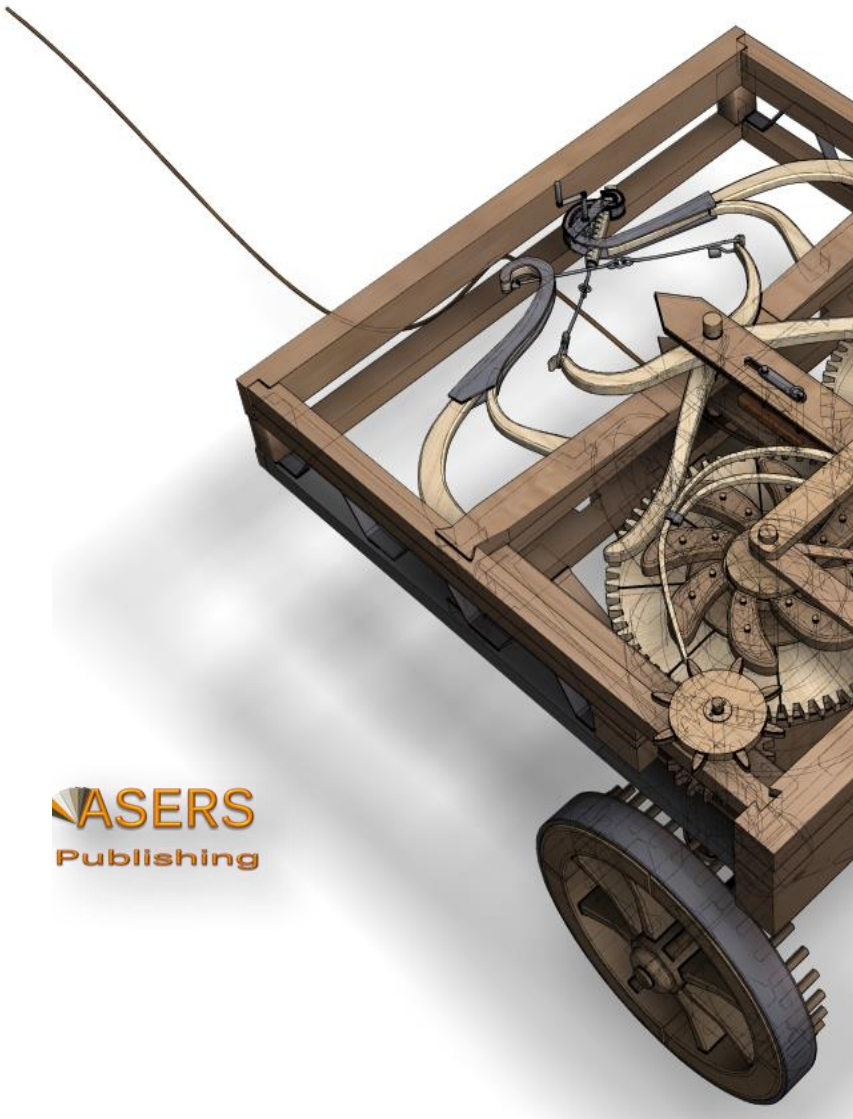
Theoretical and Practical Research in Economic Fields



Biannually
Volume XIV
Issue 1(27)
Summer 2023

ISSN 2068 – 7710
Journal **DOI**
https://doi.org/10.14505/tpref

ASERS
Publishing

is an advanced e-publisher struggling to bring further worldwide learning, knowledge and research. This transformative mission is realized through our commitment to innovation and enterprise, placing us at the cutting-edge of electronic delivery in a world that increasingly considers the dominance of digital content and networked access not only to books and journals but to a whole range of other pedagogic services.

In both books and journals, ASERS Publishing is a hallmark of the finest scholarly publishing and cutting-edge research, maintained by our commitment to rigorous peer-review process.

Using pioneer developing technologies, ASERS Publishing keeps pace with the rapid changes in the e-publishing market.

ASERS Publishing is committed to providing customers with the information they want when they want it and how they want it. To serve this purpose, ASERS publishing offers digital Higher Education materials from its journals, courses, and scientific books, in a proven way in order to engage the academic society of the entire world.

Volume XIV
Issue 1(27)
Summer 2023

ASERS Publishing
http://www.asers.eu/asers-publishing
ISSN 2068 – 7710
Journal's Issue **DOI**:
https://doi.org/10.14505/tpref.v14.1(27).00

Table of Contents:

Call for Papers
Volume XIV, Issue 2(28), Winter 2023
Theoretical and Practical Research in Economic Fields

Many economists today are concerned by the proliferation of journals and the concomitant labyrinth of research to be conquered in order to reach the specific information they require. To combat this tendency, **Theoretical and Practical Research in Economic Fields** has been conceived and designed outside the realm of the traditional economics journal. It consists of concise communications that provide a means of rapid and efficient dissemination of new results, models, and methods in all fields of economic research.

Theoretical and Practical Research in Economic Fields publishes original articles in all branches of economics – theoretical and practical, abstract, and applied, providing wide-ranging coverage across the subject area.

Journal promotes research that aim at the unification of the theoretical-quantitative and the empirical-quantitative approach to economic problems and that are penetrated by constructive and rigorous thinking. It explores a unique range of topics from the frontier of theoretical developments in many new and important areas, to research on current and applied economic problems, to methodologically innovative, theoretical, and applied studies in economics. The interaction between practical work and economic policy is an important feature of the journal.

Theoretical and Practical Research in Economic Fields is indexed in SCOPUS, RePEC, ProQuest, Cabell Directories and CEEOL databases.

The primary aim of the Journal has been and remains the provision of a forum for the dissemination of a variety of international issues, practical research, and other matters of interest to researchers and practitioners in a diversity of subject areas linked to the broad theme of economic sciences.

At the same time, the journal encourages the interdisciplinary approach within the economic sciences, this being a challenge for all researchers.

The advisory board of the journal includes distinguished scholars who have fruitfully straddled disciplinary boundaries in their academic research.

All the papers will be first considered by the Editors for general relevance, originality, and significance. If accepted for review, papers will then be subject to double blind peer review.

Deadline for submission of proposals: 20th November 2023

Expected publication date: December 2023

Website: http://journals.aserspublishing.eu/tpref

E-mail: tpref@aserspublishing.eu

To prepare your paper for submission, please see full author guidelines in the following file: TPREF_Full_Paper_Template.docx, on our site.

DOI: https://doi.org/10.14505/tpref.v14.1(27).07

International Tourism, Financial Deepening and Economic Growth: Insights from Southern African Countries

P. K. MISHRA
Central University of Punjab, Punjab, India
pkmishra1974@gmail.com

Himanshu B. ROUT
Mizoram University, Mizoram, India
himanshurout78@gmail.com

Debasis SAHOO
Central University of Himachal Pradesh, HP, India
debasis_chef@yahoo.com

Pradip KUMAR
Assam University, Assam, India
pradipkumar567@gmail.com

S. R. CHAINI
SOA University, Odisha, India
susanta_chaini@yahoo.co.in

Article's History: Received 17 April 2023; Received in revised form 28 April 2023; Accepted 11 May 2023; Published 26 June 2023.

Abstract: The impact of tourism development on financial development via its effects on economic growth and country openness in Southern African countries for the period 1995 to 2019 was examined relying on pooled mean group-based estimation of panel ARDL regression, and the results lend supports to the tourism-led financial development hypothesis in these countries in the long-run. The findings infer that the development of the travel and tourism sector can spur financial development as the former by contributing to output, employment and income warrant an enhanced role of the financial sector.

Keywords: international tourism; financial deepening; economic growth; Africa.

JEL Classification: G15; G29; N17; N27; O47; O55; Z32.

Introduction

In the Southern African region, the economic development among the nations is quite uneven with Botswana, Namibia and South Africa labelled as upper-middle-income countries, and Eswatini and Lesotho as lower-middle-income countries by the World Bank as per the list released in July 2022. As per the Gross Domestic product of 2021, South Africa ranks 31, Botswana 122, Namibia 139, Eswatini 164 and Lesotho 180 out of 207 countries listed by the World Bank (see Table 1). For sustained growth of these economies, it is essential to reorient policy focus towards the growth of sectors having potential for sustainable growth and development both in the short and long span of time. One such smokeless sector is travel and tourism. In Southern African countries, the contribution of travel and tourism to Gross Domestic Product is noteworthy. It was 15.3% in Namibia, 13.4% in Lesotho, 9.6% in Botswana, 6.9% in South Africa and 5.5% in Eswatini in 2019 followed by the exceptional year 2020 due to the sudden outbreak of Coronavirus disease (COVID-19) pandemic and the recovery year 2021 (see Table 2). Similarly, travel and tourism have significant contributions to total employment in these nations. It was 15% in Namibia, 11.9% in Lesotho, 8.9% in South Africa, 8.4% in Botswana, and 5.9% in Eswatini followed by the exceptional year 2020 and the recovery year 2021 (see Table 2).

Table 1. Status of Economy, Financial and Tourism Sectors, 2019-2021

Country	International Tourism Receipts (current US$ million)		Financial Development Index		GDP Per Capita Growth (Annual %)		GDP (US$ million) (Country Rank)
	2019	2020	2019	2020	2020	2021	2021
Botswana	712.40	217.00	0.3511	0.3550	-10.40	9.56	17615 (122)
Eswatini	14.30	7.30	0.1514	0.1552	-2.48	6.83	4743 (164)
Lesotho	25.56	5.00	0.1452	0.1430	-9.51	0.13	2496 (180)
Namibia	451.00	155.00	0.4110	0.4142	-9.60	0.99	12311 (139)
South Africa	9064.00	2716.00	0.6400	0.6215	-7.48	3.87	419015 (31)

Source: Compiled from WDI of World Bank, 2023 & Financial Development Index Database of IMF, 2023

Table 2. Contribution of Travel & Tourism to GDP & Employment, 2020-2021

Country	Contribution to GDP		Contribution to Employment	
	2020	2021	2020	2021
Botswana	1229.60 (7.8%)	1412.80 (8.0%)	67.30 (7.5%)	69.90 (7.7%)
Eswatini	200.60 (4.4%)	221.30 (4.6%)	14.60 (5.5%)	15.50 (5.7%)
Lesotho	249.30 (10.6%)	276.80 (11.8%)	72.60 (10.0%)	75.80 (10.2%)
Namibia	1043.90 (8.6%)	1315.90 (11.0%)	87.40 (11.7%)	94.00 (12.6%)
South Africa	12200.00 (3.1%)	13200.00 (3.2%)	1060.00 (7.0%)	1080.00 (7.3%)

Note: *total contribution of travel and tourism to GDP in USD million; total contribution of travel and tourism to employment in thousands of jobs; Percentages are of total economy and total employment respectively*;
Source: Global Economic Impact and Trend 2022, WTTC

The contribution of the tourism sector in Botswana is due to the presence of incredible tourist attractions such as game reserves, wildlife and wilderness; in Eswatini due to a range of beautiful landscapes and wildlife; in Lesotho due to its natural beauty, rich flora and fauna, absorbing prehistoric and cultural heritage, sculpted mountains, cave houses, valleys, and rivers; in Namibia due to a unique mix of wildlife, spectacular scenery and diverse culture; in South Africa due to its picturesque natural landscape and game reserves, diverse cultural heritage and highly regarded wine. All of these showcases strong tourism potential in Southern African countries, and it has been reflected in the number of international tourist arrivals in 2019 as depicted in Table 3, albeit the availability of limited data for the years 2020 and 2021.

In 2019, Botswana hosted 34% of international tourists from Zimbabwe, 33% from South Africa, 9% from Zambia, 6% from Namibia, 3% from US, and 15% from the rest of the world. Second, Eswatini hosted 57% of international tourists from South Africa, 4% from Mozambique, 3% from Portugal, 3% from UK, 0.8% from Australia, and 31% from the rest of the world. Third, Lesotho hosted 85% of international tourists from South Africa, 3% from Zimbabwe, 1% from US, 1% from Germany, 1% from Botswana and 9% from the rest of the world. Fourth, Namibia hosted 35% of international tourists from Angola, 17% from South Africa, 15% from Zambia, 6% from Germany, 5% from Zimbabwe, and 21% from the rest of the world. Lastly, South Africa hosted 22% of international tourists from Zimbabwe, 15% from Lesotho, 13% from Mozambique, 9% from Eswatini, 7% from Botswana, and 34% from the rest of the world.

However, the above states of inbound arrivals were disturbed in 2020 due to the unprecedented outbreak of corona pandemic. In 2020, Botswana hosted 43% of international tourists from Zimbabwe, 37% from South Africa, 6% from Namibia, 4% from Zambia, 2% from Germany, and 8% from the rest of the world. Second, Eswatini hosted 60% of international tourists from South Africa, 6% from Mozambique, 3% from Portugal, 3% from UK, 0.5% from Australia, and 28% from the rest of the world. Third, Lesotho hosted 84% of international tourists from South Africa, 4% from Zimbabwe, 2% from Germany, 1% from China and 9% from the rest of the world. Fourth, Namibia hosted 38% of international tourists from Angola, 20% from South Africa, 12% from Zambia, 6% from Germany, 5% from Zimbabwe, and 18% from the rest of the world. Lastly, South Africa hosted 23% of international tourists from Zimbabwe, 19% from Lesotho, 16% from Mozambique, 9% from Eswatini, 7% from Botswana, and 27% from the rest of the world.

Similarly, the world's competitive strength in travel and tourism can be gauged from the ranking of these countries in terms of international tourism arrivals, international tourism expenditure and international tourism receipts (see Table 4).

Table 3. Brief Account of International Tourism, 2019 - 2021

Countries	International Tourist Arrivals (in Millions)	Inbound Arrivals: Source Nations
	2019, 2020, 2021	2021
Botswana	1.628 (2019), 0.40(2020)	Zimbabwe (43%), South Africa (32%), Zambia (5%), Namibia (5%), Germany (3%), Rest of the World (11%)
Eswatini	1.142 (2019), 0.20 (2020), 0.20 (2021)	South Africa (64%), Mozambique (7%), Portugal (5%), UK (2%), Australia (0.1%), Rest of the World (23%)
Lesotho	1.651 (2019)	South Africa (80%), Zimbabwe (3%), Germany (3%), US (2%), Netherlands (1%), Rest of the World (11%)
Namibia	1.226 (2019), 0.19 (2020) 0.2 (2021)	Angola (41%), South Africa (18%), Zambia (10%), Germany (7%), Botswana (4%), Rest of the World (19%)
South Africa	14.797 (2019), 2.8 (2020), 2.3 (2021)	Lesotho (20%), Zimbabwe (16%), Mozambique (16%), Eswatini (9%), Botswana (6%), Rest of the World (34%)

Source: Oxford Economics, UNWTO, WTTC Reports 2020, 2021, 2022

In terms of international tourist arrivals, South Africa occupied 36th, Botswana 95th, Namibia 96th, Lesotho 107th, and Eswatini 124th ranks among 189 countries in 2019 in the world. Furthermore, in terms of international tourism expenditure, South Africa occupied 43rd, Lesotho 124th, Botswana 129th, Namibia 156th, and Eswatini 163rd ranks among 181 countries in 2019 in the world. Also, in terms of international tourism receipts, South Africa occupied 36th, Botswana 124th, Namibia 136th, Lesotho 176th, and Eswatini 181st ranks among 186 countries in 2019 in the world. Thus, tourism can be the catalyst for rapid economic expansion and growth in Southern African countries.

Existing literature argues that the growth effects of tourism can be significantly realized when economic resources are effectively and efficiently mobilised for capital formation which in turn depends on the depth, access, efficiency and stability of the financial system (Al-Mulali *et al.* 2020). In this direction, the role of tourism can't be over-emphasized because tourism contributes to the expansion of economic activities (reflected in the increase in Gross Domestic Product per capita) thereby creating demand for financial services (Levine 2003; Shahbaz 2009; Cannonier & Burke 2017; Shahbaz *et al.* 2018). Therefore, it is imperative to examine whether the development of tourism effectively and significantly contributes to financial development via its effect on economic growth and country's openness in the Southern African nations in the long-run. The compliance to this objective can reorient the policy directions for achieving sustained development in less developed economies such as Botswana, Eswatini, Lesotho, Namibia and South Africa.

Table 4. World Ranking Based on International Tourism Indicators, 2019

Country	International Tourism Expenditure	International Tourism Receipts	International Tourism Arrivals
Botswana	181	186	189
Eswatini	163	181	124
Lesotho	124	176	107
Namibia	156	136	96
South Africa	43	36	36

Source: Compiled from NationMaster Online Country Statistics on International Tourism

In this perspective, contribution to the literature has been made in four directions – first, it is a study of the first kind in the context of Southern African countries; second, it measures the tourism sector development in Southern African countries by constructing a tourism development index based on principal component analysis; third, it measures depth, access, efficiency and stability of financial markets and institutions using financial development index of International Monetary Fund; and fourth, it provides the evidence of the statistically significant positive impact of tourism sector development on financial development when economic growth and openness of Southern African countries are controlled. In the rest of the study, section 2 reviews the relevant literature, section 3 elaborates on the data sources and methods of analyses, section 4 presents and discusses the findings, and section 5 concludes.

1. Literature Review

The extant literature has accorded travel and tourism a significant contributor to the economic growth and development of a nation via its role in increasing foreign exchange reserves, creating new infrastructure and tourist attractions, enhancing the quality of human resources, creating new employment opportunities, increasing

earnings, productivity improvements, industrial development, poverty reduction, balanced regional development, and in ensuring sustainable development (McKinnon 1964; Croes 2006; Lee & Chang 2008; Lemmetyinen & Go 2009; Cernat & Gourdon 2012; Li *et al.* 2018; OECD 2018; Khan *et al.* 2020; Mishra *et al.* 2020, 2021, 2022). In other words, travel and tourism have been observed to spread positive economic externalities in economies by increasing the extent of financial deepening, and real economic growth (Tsaurai 2018; Shahbaz *et al.* 2018). Thus, significant growth effects of travel and tourism can be realized when economic resources are efficiently mobilised for capital formation through a financial system that has good depth, easy access, utmost efficiency and robust stability (Al-Mulali *et al.* 2020).

In this direction, the role of tourism can't be over-emphasized because tourism contributes to the expansion of economic activities – productivity, investment, employment, output, and welfare – thereby creating demand for financial services (Lee & Kwon 1995; Levine 2003; Chao *et al.* 2006, 2009; Shahbaz 2009; Shahbaz *et al.* 2018). Such an increase in demand for financial services can positively affect financial development in a nation (Cannonier & Burke 2017). In simple words, the theoretical as well as the empirical argument, is that tourism sector development contributes to the real economic growth of a country which in turn increases the demand for financial services thereby contributing to financial development (*i.e.*, tourism-led financial development hypothesis). The existing literature is scanty in addressing this issue except for a few studies including Kumar (2014) for Vietnam, Shabaz *et al.* (2017, 2018) for Malaysia, Katircioglu *et al.* (2018) for Turkey, Cannonier & Burke (2017) for Caribbean countries, Musakwa & Odhiambo (2020) for South Africa, Khanna and Sharma (2021) for 207 countries Khanal *et al.* (2022) for Australia, Tsaurai (2022) for emerging markets, and Kumar *et al.* (2023) for Fiji. And, in the context of Southern African countries, no study has yet been taken up to examine the impact of tourism sector development on financial development via its effect on real economic growth in the long-run. Hence, this study is an attempt to bridge this knowledge gap in the literature, especially in the context of Southern African countries.

2. Materials and Methods

The study aims is to examine the impact of tourism sector development on financial development in Southern African Countries when their economic growth and openness are controlled. For this purpose, a panel of five countries – Botswana, Eswatini, Lesotho, Namibia and South Africa – and four variables – financial development, tourism sector development, economic growth and country's openness – have been considered over 25 years from 1995 to 2019 chosen based on the availability of data. In this study, the proposed theoretical or functional form of the empirical framework is:

$$FD_{it} = f\left(TD_{it}, EG_{it}, OPN_{it}\right) \quad 2.1$$

Here, *FD* is the financial development, *EG* is the economic growth, and *OPN* is the openness of an economy under consideration. In this study, the variable financial development has been measured by the Financial Development Index (*FDIX*) of the International Monetary Fund which reflects the depth, access, efficiency and stability of financial markets and institutions in a country in a year. Besides, we have constructed a composite index, called Tourism Sector Development Index (*TDIX*) employing Principal Component Analysis (PCA) based on annual data on three key indicators of tourism development, viz., International Tourist Arrivals (*ITA*), International Tourism Expenditure (*ITE*) and International Tourism Receipts (*ITR*). Also, we measured economic growth in a country in terms of the natural logarithm of the gross domestic per capita (*GDPC*) in a year. Finally, the openness of an economy has been measured in terms of net inflows of foreign direct investment (*FDI*) in a year. The time series data on the underlying variables have been obtained from the online database of the World Bank and the International Monetary Fund. Then all these variables have been expressed in their natural logarithms to get rid of the possible issues of heteroskedasticity (Gujarati *et al.* 2017). Thus, the log-linear form of the functional form 2.1 is stated in specification 2.2:

$$LnFDIX_{it} = \psi_1 + \psi_2 LnTDIX_{it} + \psi_3 LnGDPC_{it} + \psi_4 LnFDI_{it} + \omega_{it} \quad 2.2$$

Construction of Tourism Development Index (TDIX): One strand of the extant literature lends support to the use of the number of international tourist arrivals to measure tourism sector development (Kim *et al.* 2006; Katircioglu, 2009; Tang & Abosedra, 2016) while others use international tourism expenditure (Song *et al.* 2010; Cardenas-Garci *et al.* 2015; Aslan, 2016), and international tourism receipts (Chen & Chiou-Wei, 2009; Arslanturk *et al.* 2011; Ridderstaat *et al.* 2014). There are shreds of evidence where either one of these indicators, some of these or all of these indicators have been used in measuring tourism sector development (Shahzad *et al.* 2017). Such a methodology has certain shortcomings – first, each of these indicators reflects only a partial linkage with

the macroeconomic growth of an economy; and second, these indicators depict a strong correlation among themselves as the larger the flow of international tourists, the greater is the volume of expenditure and hence, bigger is the number of receipts thereby posing the problems of multicollinearity (Shahzad *et al.* 2017). All these justify why a composite indicator of tourism sector development is required. The existing literature supports the construction of a composite index of tourism sector development in a country by combining international tourist arrivals, international tourism expenditure, and international tourism receipts through Principal Component Analysis (Shahzad *et al.* 2017; Shahbaz *et al.* 2018; Al-Mulali *et al.* 2020). The process of the construction of this composite index is stated below:

If the set of values of the 3-selected tourism indicators for the i^{th} country are T_{i1}, T_{i2}, T_{i3}, then the composite indices obtained for each country through the first principal component is given by the linear combination of the variables: $CTD_i = w_{11}T_{i1} + w_{12}T_{i2} + w_{13}T_{i3}$, where w_{11}, w_{12}, w_{13} are weights of each indicator such that their sum of squares is one, and CTD is the composite tourism sector development index. The first principal component is calculated such that it accounts for the greatest possible variance in the dataset. Finally, the obtained composite index is normalized by the Max-Min method to obtain the Tourism development index which is given by $TDIX = \frac{CTD_i - Min\{CTD_i\}}{Max\{CTD_i\} - Min\{CTD_i\}}$.

Description of Data Characteristics: The basic statistical features of each variable have been examined by calculating mean, standard deviation, skewness and kurtosis, and by testing the normality of the dataset using the Jarque-Bera (JB) goodness-of-fit test where the null hypothesis is the normal distribution of the data. The JB test statistic is given by: $JB = \frac{n}{64}\left(S^2 + \frac{1}{4}(K-3)^2\right)$ where S is the sample skewness, K is the sample kurtosis and n are the sample size.

Estimation of Parameters: Since cross-sectional dependence is an important issue in a panel dataset due to the strong macroeconomic interdependence of economies in the Southern African region, it is essential to check the likely presence of the cross-sectional dependence. For this purpose, we have used the CD statistic of Pesaran (2004) which can be stated as: $CD = \sqrt{\frac{2T}{N(N-1)}}\sum_{i=1}^{N-1}\sum_{j=i+1}^{N}\hat{\rho}_{ij}$. In this test statistic, $\hat{\rho}_{ij}$ is the average value of the pair-wise correlation coefficients of OLS residuals regressions under the fixed/random effect model. As will be seen in the next section, the panel datasets under consideration exhibit cross-sectional independence. Thus, IPS unit root test Im, Pesaran & Shin (2003), a variant of the first generation stationarity test has been considered adequate to examine the stationary properties and determine the order of integration of the variables used in the heterogeneous cross-sections. By considering the autoregressive properties of each cross-section, IPS test uses the following t-bar statistic to analyse the stationary properties of the underlying dataset: $\bar{t} = \frac{1}{N}\sum_{i=1}^{N} t_{\rho_i}$ where t_{ρ_i} is the individual t-statistic for $H_0 : \rho_i = 1 vs. H_a : |\rho_i| < 1$, given the regression model: $y_{it} = \rho_i y_{i,t-1} + \sum_{j=1}^{p_i}\phi_{ij}\Delta y_{it-j} + Z_{it}^{'}\gamma + \varepsilon_{it}$. As will be seen in Section 4, the variables of interest are a mix of I(0) and I(1).

Therefore, specification (2) can be estimated in the Autoregressive Distributive Lag (ARDL) framework based on the appropriate estimator robustly chosen by using the Hausman test (Hausman, 1978) from a set of three different dynamic estimators – the Mean Group (MG) estimator as proposed by Pesaran & Smith (1995), the Pooled Mean Group (PMG) estimator as developed by (Pesaran *et al.* 1999), and the Dynamic Fixed Effects (DFE) estimator as put forward by Weinhold (1999). These estimators by assuming long-run equilibrium and the heterogeneity of the dynamic adjustment process (Demetriades & Law, 2006), are computed by the maximum likelihood method.

The MG estimator is obtained by estimating a separate regression for each cross-section, and then helps estimating both the short-run and long-run parameters by averaging the individual parameters from each cross-section. In this way, the MG estimator ensures the coefficients are heterogeneous both in the short-run and long-run. Second, the PMG approach estimates the short-run and long-run parameters from the panel error correction specification (3) in the ARDL framework. It allows short-run coefficients, intercepts, the error correction coefficients (the speed of adjustment of short-run disequilibrium towards the long-run equilibrium values) and error variances to be heterogeneous across cross-sections. However, it maintains homogeneity of the long-run slope coefficient across cross-sections. Lastly, the DFE estimator allows heterogeneity of intercepts across cross-

sections while maintaining the homogeneity of the error correction coefficients, and short- and long-run coefficients across cross-sections.

$$\Delta LnFDIX_{it} = \varphi_i ECT_{it} + \sum_{j=1}^{p-1} \lambda_{ij} \Delta LnFDIX_{i,t-j} + \sum_{i=1}^{q-1} \eta_{1ij} \Delta LnTDIX_{i,t-j} + \sum_{i=1}^{r-1} \eta_{2ij} \Delta LnGDPC_{i,t-j} + \sum_{i=1}^{u-1} \eta_{3ij} \Delta LnFDI_{i,t-j} + \varepsilon_{it} \quad 2.3$$

In this ARDL framework, the lag structure of the variables has been determined by the Akaike Information Criterion (AIC) of lag selection. It will be seen from the next section that the optimal lag structure of the proposed econometric model is ARDL (1,1,1,1,1).

Model Selection: We have used the Hausman test as suggested by Hausman (1978) to identify the best estimator from among the MG, PMG and DFE estimators. The null hypothesis of this test is that the difference between PMG and MG, or PMG and DFE estimation is not significant. If the null hypothesis is not rejected (*i.e.*, p-value is greater than 0.05), then the PMG estimator is suggested to be the efficient estimator.

In specification (2), the coefficient ψ_2 is expected to have a positive sign, if tourism development promotes financial development, otherwise negative; the coefficient ψ_3 is expected to have a positive sign, if economic growth enhances financial development, otherwise negative; the coefficient ψ_4 is expected to have a positive sign, if country's openness improves financial development, otherwise negative.

4. Results and Discussion

At the outset, the tourism development index, TDIX, has been constructed based on the annual observations on international tourist arrivals, international tourism expenditure and international tourism receipts deploying the Principal Component Analysis (see Table 5). It is observed from the Table 5 that the eigen value for the first principal component (PC-01) is not only greater than one but explains 97% of the total variability which justifies its relevancy in index construction. The factor loadings of PC-01 as reported under eigen vectors are all positive and thus, indicate that these are the weights of the three tourism indicators respectively. Then, the weighted tourism development index has been constructed following the methodology explained in the previous section.

Table 5. Results of Principal Component Analysis

Eigen Values			
Component	**Eigen Values**	**Proportion**	
PC-01	2.9379	0.9793	
PC-02	0.0516	0.0172	
PC-03	0.0105	0.0035	
Eigen Vectors			
Variables	PC-01	PC-02	PC-03
ITE	0.578	0.492	0.650
ITA	0.573	-0.813	0.105
ITR	0.580	0.312	-0.752

Source: Authors' Calculation

In the next step, we have examined the nature of the tourism development index, financial development index, economic growth variable and the indicator of country's openness by analysing the descriptive statistics presented in Table 6. The mean growth of GDP per capita is above 8 per cent for South Africa followed by Botswana, Namibia, and Eswatini which indicates booming economies of Southern African countries over the last 25 years. The mean growth of GDP is the lowest for Lesotho over the sample period. The mean growth of financial development and tourism development indicators are negative for all the countries over the sample period. The GDP per capita growth is positively skewed for Botswana and Lesotho, but negative for Namibia, Eswatini and South Africa. The growth of financial development indicator is positively skewed for Namibia and Eswatini, but negative for Botswana, Lesotho and South Africa. The growth of tourism development indicator is negative for all the countries thereby indicating the probability of the presence of larges decreases than increases in this series. The kurtosis is less than three for the growth of GDP per capita, financial development and tourism

development in all the Southern African countries except that for tourism development in Lesotho where it is greater than three. This indicates that these three series are either platykurtic or leptokurtic. However, the Jarque-Bera normality test indicates that the growth of the GDP per capita series is normal as there is a lack of sufficient statistical evidence to reject the null hypothesis of normal distribution for all the countries. The growth of financial development indicator is normally distributed for all countries except for Botswana. The growth of tourism development indicator is normally distributed for all countries except for Botswana and Lesotho.

Table 6. Descriptive Statistics of Variables, 1996-2019

Country/Statistics	LnTDIX	LnGDPC	LnFDIX	LnFDI
Botswana				
Mean	-3.520	8.726	-1.168	19.055
Std. Dev.	0.483	0.189	0.129	0.884
Skewness	-1.393	0.043	-1.255	-0.616
Kurtosis	0.915	-1.374	1.108	-0.878
Jarque-Bera Stat.	8.957**	1.974	7.841**	2.384
p-val.	0.011	0.372	0.019	0.303
Observations	25	25	25	25
Lesotho				
Mean	-4.896	6.943	-1.978	17.653
Std. Dev.	1.867	0.226	0.104	0.800
Skewness	-0.799	0.005	-0.205	0.018
Kurtosis	4.031	-1.619	-0.754	-0.531
Jarque-Bera Stat.	19.580*	2.730	0.767	0.295
p-val.	0.000	0.255	0.681	0.863
Observations	25	25	25	25
Namibia				
Mean	-3.776	8.492	-0.930	19.489
Std. Dev.	0.273	0.182	0.281	0.872
Skewness	-0.525	-0.175	0.113	-0.312
Kurtosis	-0.668	-1.545	-1.925	-0.904
Jarque-Bera Stat.	1.613	2.614	3.913	1.256
p-val.	0.446	0.271	0.141	0.533
Observations	25	25	25	25
Eswatini				
Mean	-6.323	8.244	-1.906	17.845
Std. Dev.	0.875	0.176	0.306	0.658
Skewness	-0.647	-0.139	0.693	-0.242
Kurtosis	-0.726	-1.616	0.409	-1.132
Jarque-Bera Stat.	2.293	2.800	2.175	1.578
p-val.	0.317	0.246	0.337	0.454
Observations	25	25	25	25
South Africa				
Mean	-0.536	8.818	-0.648	21.676
Std. Dev.	0.486	0.112	0.171	0.932
Skewness	-0.628	-0.485	-0.874	-0.254
Kurtosis	-1.461	-1.574	0.326	-1.419
Jarque-Bera Stat.	3.866	3.561	3.293	2.366
p-val.	0.144	0.168	0.192	0.306
Observations	25	25	25	25

*Note: LnFDI: Natural Logarithm of Net Inflows of Foreign Direct Investment; LnFDIX: Natural Logarithm of Financial Development Index; LnGDPC: Natural Logarithm of GDP per Capita; LnINF: Natural Logarithm of Inflation; LnTDIX: Natural Logarithm of Tourism Development Index; *significant at 0.01 level; **significant at 0.05 level.*

Source: Authors' Calculation

Then the possibility of the existence of cross-sectional dependency among the variables has been tested by deploying Pesaran's CD test (see Table 7). It is observed from the Table 7 that the proposed model (specification (2)) does not exhibit any cross-sectional dependency. So, the first-generation unit root test, IPS, has been used to check the stationary properties of the variables and select the appropriate estimation method.

The results are reported in Table 8 which infer that the variables are a mix of I(0) and I(1) thereby justifying the use of ARDL regression to understand the short- and long-run dynamics as specified in (3) in the previous section.

Table 7. Pesaran's Cross-sectional Dependence Test

Panel Data Model	CD test stat.	p-value
Fixed Effect	-0.460	0.645
Random Effect	-0.248	0.804

*H0: No Cross-Sectional Dependence; * sig. at 0.01 level*
Source: Authors' Estimation

Table 8. Results of IPS Panel Unit Root Test

Variables	At Level with Intercept	At 1st Difference with Intercept	Order of Integration
LnFDIX	-1.9613** (0.0249)	-	I(0)
LnTDIX	-1.4303*** (0.0763)	-	I(0)
LnGDPC	1.1282 (0.8704)	-4.4804* (0.0000)	I(1)
LnFDI	-3.3192* (0.0005)	-	I(0)

*Note: Values within parentheses are p-values; *, **, *** significant at 0.01, 0.05 and 0.10 levels respectively*
Source: Authors' Estimation

Table 9. Results of Short-Run Long-Run Relationships

Variables	Mean Group (MG)	Pooled Mean Group (PMG)	Dynamic Fixed Effects (DFE)
Long-Run Coefficients			
LnTDIX	0.1731 (0.212)	0.1127** (0.044)	0.0878 (0.379)
LnGDPC	0.4963* (0.001)	0.2413** (0.039)	0.4837*** (0.060)
LnFDI	-0.0927 (0.382)	0.0005 (0.983)	-0.0491 (0.428)
Error Correction Term			
ECT	-0.5161* (0.000)	-0.3208* (0.001)	-0.3865* (0.000)
Short-Run Coefficients			
ΔLnTDIX	-0.0823 (0.179)	-0.0345 (0.419)	0.0035 (0.944)
ΔLnGDPC	-1.1561 (0.262)	-0.8282 (0.299)	-0.5765 (0.265)
ΔLnFDI	0.0450 (0.314)	-0.0019 (0.262)	0.0031 (0.867)
C	-2.3954* (0.000)	-1.7688* (0.002)	-2.3291* (0.003)
Obs.	125	125	125
#Hausman Test: χ2 Stat. (PMG or MG): 4.78 (0.1889) => PMG is Efficient			
@Hausman χ2 Stat. (PMG or DFE): 0.070 (0.9952) => PMG is Efficient			

*Note: p-val. in parentheses; *, **, *** sig. at 0.01, 0.05 and 0.10 levels respectively; Dependent Variable: Δ(LnFDIX); Dependent & Dynamic Regressors Lag Structure: ARDL (1,1,1,1); #Null Hypothesis: PMG is efficient estimation than MG @Null Hypothesis: PMG is efficient estimation than DFE;* ECT: Speed of Adjustment or Error Correction Term
Source: Authors' Estimation

The ARDL specification (3) has been estimated using MG, PMG and DFE estimators (see Table 9) of which the best estimator has been chosen by resorting to the Hausman test. The Hausman test suggests that PMG based estimation of ARDL specification (3) is more efficient than MG and DFE estimators. While interpreting the PMG based estimation, it is inferred from Table 9 that in the long-run, the coefficient of the tourism development index is positive and statistically significant at 0.05 levels. It means, in Southern African countries, tourism sector expansion can contribute to financial development in the long-run by 0.11 percent when the rate of real economic growth and the degree of country's openness has been controlled (as the coefficients of economic growth and openness variables are both positive, the former being significant at 0.05 levels while the latter is not). In other words, tourism sector development has the potential to promote financial development via its positive effects on real economic growth and the country's openness in the long-run. This finding validates the 'tourism-led financial development hypothesis' in the context of Southern African countries.

However, no short-run relationship between tourism sector development and financial development in Southern African countries has been observed. Nonetheless, the coefficient of error correction term, ECT, is negative and statistically significant at 0.01 levels. It means the short-run deviations from the long-run equilibrium relationship can subsequently be restored through an annual adjustment rate of 0.516 percent. Thus, the policy implication is that the Southern African countries can achieve more depth, accessible, efficient and stable financial sector by catalyzing travel and tourism in the long-run.

This finding corroborates the findings of Kumar (2014) for Vietnam, Shabaz *et al.* (2017, 2018) for Malaysia, Cannonier & Burke (2017) for Caribbean countries, and Musakwa & Odhiambo (2020) for South Africa and contradicts the findings of Ohlan (2017) for India. In addition, it brings into the limelight another dimension of the tourism-finance nexus, *i.e.*, tourism development can lead to the financial development of a country in the Southern African region, contrary to the existing empirical evidence in support of the 'finance-led tourism development hypothesis' by Tsaurai (2018) for Southern African Countries, and Musakwa & Odhiambo (2021) for Kenya. Thus, the bottom line is that the tourism sector development can stimulate productive economic activities and strengthen the tourism-growth nexus thereby leading to the financial sector development in Southern African countries.

Conclusions and Further Research

In this study, the long-run impact of tourism development on financial development via its effects on economic growth and country's openness in Southern African countries for the period 1995 to 2019 is positive and statistically significant. Thus, tourism sector development can be considered a crucial policy objective for attaining higher economic growth as well as enhanced financial development in the region. Precisely, increasing budgetary allocations for building tourism destinations and infrastructure and introducing innovative tourism projects would certainly enhance international tourist arrivals and consequential international tourism spending and receipts. On the one hand, this would spur investment, employment, income and output in Southern African countries, and on the other hand, would create demand for improved and efficient financial services thereby contributing to enhanced financial development. Despite such novelties, the study is delimited for not examining country-specific dynamics which can be considered as a direction for future work.

References

[1] Al-Mulali, U., Solarin, S. A. and Gholipour, H. F. 2020. Relationship between financial development and inbound tourism: A revisit. *Journal of Public Affairs*, e2233. DOI: https://doi.org/10.1002/pa.2233

[2] Arslanturk Y, Balcilar, M. and Ozdemir, Z. A. 2011. Time-varying linkages between tourism receipts and economic growth in a small open economy. *Economic Modelling,* 28: 664-671. DOI:https://doi.org/10.1016/j.econmod.2010.06.003

[3] Aslan, A. 2016. Does tourism cause growth? Evidence from Turkey. *Current Issues in Tourism*, 19: 1176e1184. DOI: https://doi.org/10.1080/13683500.2015.1015970

[4] Cannonier, C. and Burke, M. G. 2017. Tourism and financial development in small states: evidence from Caribbean countries. *Tourism Economics*, 23: 1-9. DOI: https://doi.org/10.1177/1354816617689870

[5] Cardenas-Garci, P. J., Sanchez-Rivero, M. and Pulido-Fernandez, J. I. 2015. Does tourism growth influence economic development? *Journal of Travel Research*, 54: 206e221. DOI:https://doi.org/10.1177/0047287513514297

[6] Cernat, L. and Gourdon, J. 2012. Paths to success: Benchmarking cross-country sustainable tourism. *Tourism Management*, 33: 1044-1056. DOI: https://doi.org/10.1016/j.tourman.2011.12.007

[7] Chao, C., Hazari, B. R., Laffargue, J. P., and Yu, E. S. H. 2009. A dynamic model of tourism, employment and welfare: the case of Hong Kong. *Pacific Economic Review*. 14(2). 232-245. DOI:https://doi.org/10.1111/j.1468-0106.2009.00441.x

[8] Chao, C., Hazari, B. R., Laffargue, J. P., Sgro, P. M., & Yu, E. S. H. 2006. Tourism, Dutch disease and welfare in an open dynamic economy. *The Japanese Economic Review*. 57(4): 501-515. DOI:https://doi.org/10.1111/j.1468-5876.2006.00400.x

[9] Chen, C.-F., and Chiou-Wei, S. Z. 2009. Tourism expansion, tourism uncertainty and economic growth: New evidence from Taiwan and Korea. *Tourism Management*, 30: 812e818. DOI:https://doi.org/10.1016/j.tourman.2008.12.013

[10] Croes, R. 2006. A paradigm shift to a new strategy for small island economies: Embracing demand-side economics for value enhancement and long term economic stability. *Tourism Management*, 27: 453-465. DOI: https://doi.org/10.1016/j.tourman.2004.12.003

[11] Demetriades, P. and Law, S. H. 2006. Finance, Institutions and Economic Growth. *International Journal of Finance and Economics*, 11(3): 245-260. DOI: https://doi.org/10.1002/ijfe.296

[12] Gujarati, D. N., Porter, D. C. and Gunasekar, S. 2017. *Basic Econometrics*, 5th ed., McGraw Hill Education.

[13] Hausman, J. A. 1978. Specification Tests in Econometrics. *Econometrica*, 46: 1251-1272. DOI:https://doi.org/10.2307/1913827

[14] Im, K. S., Pesaran, M. H. and Shin, Y. 2003. Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, 115(1): 53-74. DOI: https://doi.org/10.1016/S0304-4076(03)00092-7

[15] Katircioglu, S. T. 2009. Revisiting the tourism-led-growth hypothesis for Turkey using the bounds test and Johansen approach for cointegration. *Tourism Management*, 30(1): 17-20. DOI:https://doi.org/10.1016/j.tourman.2008.04.004

[16] Katircioglu, S., Katircioğlu, S. and Altinay, M. 2018. Interactions between tourism and financial sector development: evidence from Turkey. *The Service Industries Journal*, 38(9-10): 519-542. DOI:https://doi.org/10.1080/02642069.2017.1406479

[17] Khan, A., *et al.* 2020. Tourism and development in developing economies: a policy implication perspective. *Sustainability*, 12: 1618. DOI: httpS://doi.org/10.3390/su12041618

[18] Khanal, A., Rahman, M. M., Khanam, R. and Velayutham, E. 2022. The role of tourism in service sector employment: Do market capital, financial development and trade also play a role? *PLoS ONE* 17(8): e0270772. DOI: https://doi.org/10.1371/journal.pone.0270772

[19] Khanna, R., and Sharma, C. 2021. Does Financial Development Raise Tourism Demand? A Cross-Country Panel Evidence. *Journal of Hospitality & Tourism Research*. DOI:https://doi.org/10.1177/10963480211060789

[20] Kim, H. J., Chen, M. H. and Jang, S. C. 2006. Tourism expansion and economic development: the case of Taiwan. *Tourism Management*. 27: 925-933. DOI: https://doi.org/10.1016/j.tourman.2005.05.011

[21] Kumar, N. N., Chandra, R. A. and Patel, A. 2023. Modeling the tourism-financial development association in developing countries. *Journal of Policy Research in Tourism, Leisure and Events*. DOI:https://doi.org/10.1080/19407963.2023.2179061

[22] Kumar, R. R. 2014. Exploring the role of technology, tourism and financial development: an empirical study of Vietnam". *Quality and Quantity*, 48(5): 2881-2898. DOI: https://doi.org/10.1007/s11135-013-9930-5

[23] Lee, C. and Kwon, K. 1995. Importance of secondary impact of foreign tourism receipts on the South Korean economy. *Journal of Travel Research*, 34: 50-54. DOI: https://doi.org/10.1177/004728759503400210

[24] Lee, C. C., and Chang, C. P. 2008. Tourism development and economic growth: A closer look at panels. *Tourism Management,* 29: 180-192. DOI: https://doi.org/10.1016/j.tourman.2007.02.013

[25] Lemmetyinen, A., and Go, F. M. 2009. The key capabilities required for managing tourism business networks. *Tourism Management*, 30: 31-40. DOI: https://doi.org/10.1016/j.tourman.2008.04.005

[26] Levine, R. 2003. More on finance and growth: more finance, more growth? *Review, Federal Reserve Bank of Saint Louis*, 85(4): 31-46. DOI: https://doi.org/10.20955/r.85.31-46

[27] Li, K. X., Jin, M., and Shi, W. 2018. Tourism as an important impetus to promoting economic growth: A critical review. *Tourism Management Perspectives*, 26: 135-142. DOI:https://doi.org/10.1016/j.tmp.2017.10.002

[28] McKinnon, D. R. I. 1964. Foreign exchange constraint in economic development and efficient aid allocation. *Economic Journal*, 74(3): 88-409. DOI: https://doi.org/10.2307/2228486

[29] Mishra, P. K., Rout, H. B. and Kestwal, A. K. 2020. Tourism, Foreign Direct Investment and Economic Growth in India. *African Journal of Hospitality, Tourism and Leisure*, 9(1): 1-7. Available at: https://www.ajhtl.com/uploads/7/1/6/3/7163688/article_62_vol_9_1__2020_india.pdf

[30] Mishra, P. K., Rout, H. B. and Sahoo, D. 2021. International Tourism and Economic Growth: Empirical Evidence from BRICS Countries. *African Journal of Hospitality, Tourism and Leisure*, 10(6): 1944-1958. DOI:https://doi.org/10.46222/ajhtl.19770720.202

[31] Mishra, P. K., *et al.* 2022. Does Tourism Foster Economic Growth in BRICS Region? Empirical Evidence Over 1995-2019. *Journal of Environmental Management and Tourism*, 4(60): 1089-1099. DOI:https://doi.org/10.14505/jemt.13.4(60).15

[32] Musakwa, M. T. and Odhiambo, N. M. 2020. Tourism and financial development in South Africa: a trivariate approach. *Journal of Policy Research in Tourism, Leisure and Events*. DOI:https://doi.org/10.1080/19407963.2020.1856860

[33] Musakwa, M. T. and Odhiambo, N. M. 2021. Tourism and financial development nexus in Kenya: A multivariate approach. *Journal of Transnational Management*, 26(1): 58-74. DOI:https://doi.org/10.1080/15475778.2021.1880879

[34] Ohlan, R. 2017. The Relationship between Tourism, Financial Development and Economic Growth in India. *Future Business Journal*, 3(1): 9-22. DOI: https://doi.org/10.1016/j.fbj.2017.01.003

[35] Pesaran, M. H. 2004. General diagnostic tests for cross section dependence in panels", (Cambridge Working Papers in Economics No. 0435). Cambridge, UK: University of Cambridge. (2004). DOI:https://doi.org/10.2139/ssrn.572504

[36] Pesaran, M. H., and Smith, R. 1995. Estimating long-run relationships from dynamic heterogeneous panels. *Journal of Econometrics*, 68(1): 79-113. DOI: https://doi.org/10.1016/0304-4076(94)01644-F

[37] Pesaran, M. H., Shin, Y., and Smith, R. P. 1999. Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association*, 94(446): 621-634. DOI:https://doi.org/10.1080/01621459.1999.10474156

[38] Ridderstaat, J., Croes, R., and Nijkamp, P. 2014. Tourism and long-run economic growth in Aruba. *International Journal of Tourism Research*, 16: 472e487. DOI: https://doi.org/10.1002/jtr.1941

[39] Shahbaz, M. 2009. A reassessment of finance-growth nexus for Pakistan: under the investigation of FMOLS and DOLS techniques. *The IUP Journal of Applied Economics*, 8(1): 65-80.

[40] Shahbaz, M., Benkraiem, R., Miloudi, A. and Tiwari, A. K. 2018. Tourism-induced financial development in Malaysia: New evidence from the tourism development index. *Tourism Economics*, 1-22. DOI:https://doi.org/10.1177/1354816618806123

[41] Shahbaz, M., Kumar, R. R., Ivanov, S., and Loganathan, N. 2017. The nexus between tourism demand and output per capita with the relative importance of trade openness and financial development: A study of Malaysia. *Tourism Economics*, 23(1): 168-186. DOI: https://doi.org/10.5367/te.2015.0505

[42] Shahzad, S. J. H., Shahbaz, N., Ferrer, R. and Kumar, R. R. 2017. Tourism-led growth hypothesis in the top ten tourist destinations: New evidence using the quantile-on-quantile approach. *Tourism Management*, 60: 223-232. DOI: http://dx.doi.org/10.1016/j.tourman.2016.12.006

[43] Song, H., Li, G., Witt, S. F., and Fei, B. 2010. Tourism demand modelling and forecasting: How should demand be measured? *Tourism Economics*, 16: 63e81. DOI: https://doi.org/10.5367/000000010790872213

[44] Tang, C. F. and Abosedra, S. 2016. Tourism and growth in Lebanon: new evidence from bootstrap simulation and rolling causality approaches. *Empirical Economics*, 50(2): 679-696. DOI:https://doi.org/10.1007/s00181-015-0944-9

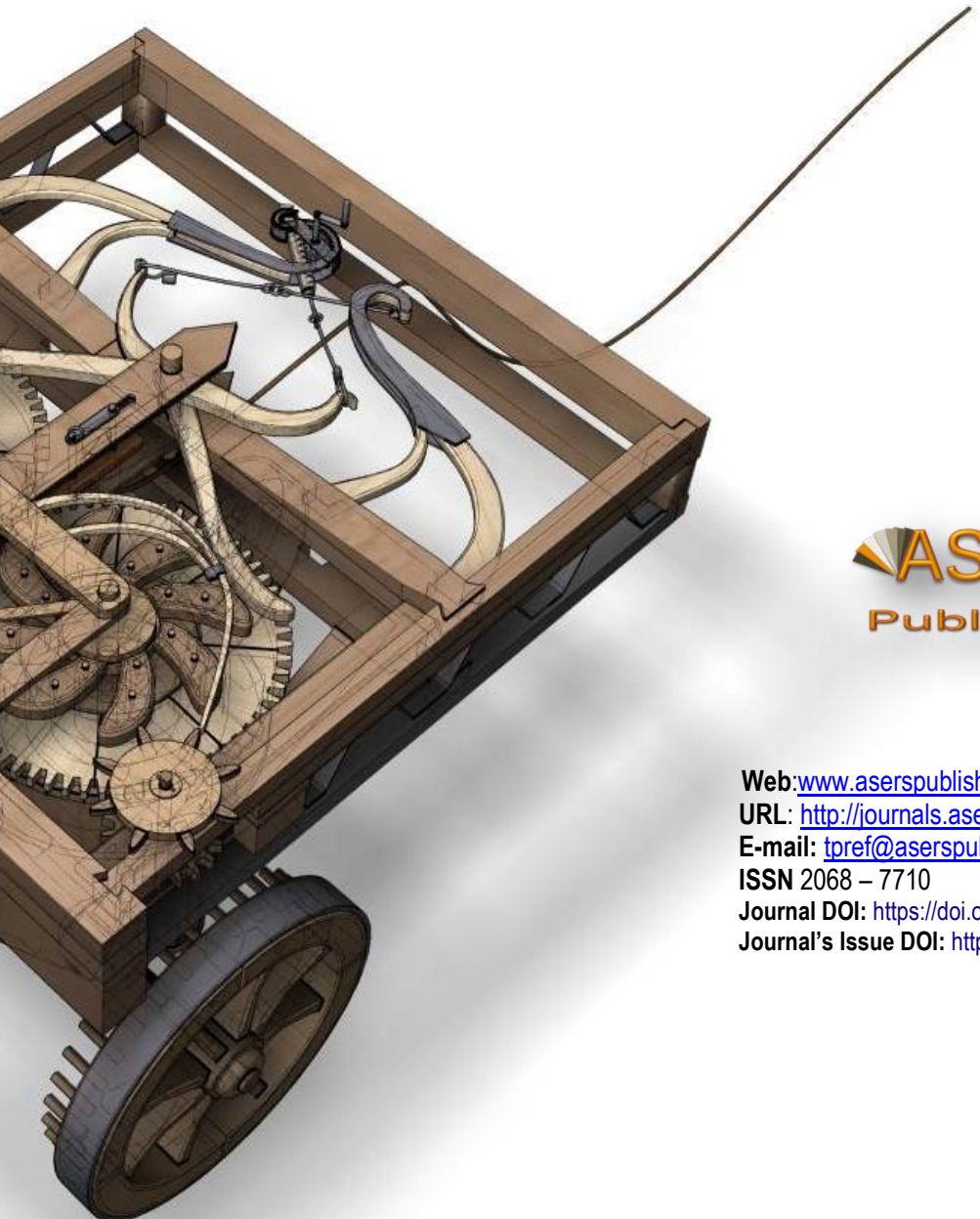
[45] Tsaurai, K. 2022. Is Financial Development a Determinant of Tourism? A Case of Selected Emerging Markets. *Acta Universitatis Danubius. OEconomica*, 18(4): 80-99. Available at: https://dj.univ-danubius.ro/index.php/AUDOE/article/view/1923/2200

[46] Tsaurai, K. 2018. The role of financial sector development in the tourism-growth nexus: A case of Southern African Countries. *Journal of Economics and Behavioural Studies*, 10(3): 100-110. DOI:http://doi.org/10.22610/jebs.v10i3.2320

[47] Weinhold, D. 1999. A Dynamic Fixed Effects Model for Heterogeneous Panel Data. London School of Economics. Mimeo, London.

[48] *** OECD. "OECD Tourism Trends and Policies 2018", OECD Publishing, Paris. (2018). DOI: https://doi.org/10.1787/tour-2018-en

ASERS



ASERS Publishing

Web:www.aserspublishing.eu
URL: http://journals.aserspublishing.eu/tpref
E-mail: tpref@aserspublishing.eu
ISSN 2068 – 7710
Journal DOI: https://doi.org/10.14505/tpref
Journal's Issue DOI: https://doi.org/10.14505/tpref.v14.1(27).00