

DOES TOURISM INFLUENCE FINANCIAL DEVELOPMENT IN KENYA?

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ABSTRACT

Objective: In this study, we investigate the impact of tourism on financial development in Kenya using time series data from 1995 to 2017. The study uses the autoregressive distributed lag (ARDL) bound testing approach to cointegration and error correction model to examine this connection. To increase the robustness of the results, the study uses two proxies of financial development, namely broad money (bank-based financial development proxy) and total value of stocks traded (market-based financial development proxy). Results show that tourism has an insignificant impact on financial development in Kenya – both in the short run and in the long run. The results are relevant regardless of whether the financial development is proxied by a bank-based financial development indicator or by a market-based financial development indicator. This finding points to the fact that, although tourism is one of the main sources of foreign exchange in Kenya, it has no direct impact on financial development. The findings from this study add value to policy makers in Kenya by revealing the insignificant impact that tourism has on financial development, although this is in contrast to other studies that found a positive contribution. Based on the findings, Kenya may not anchor its financial development policies on tourism.

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1. INTRODUCTION

Kenya embarked on broad financial sector reforms after financial sector challenges experienced in the 1980s and early 1990s (United Nations Economic and Social Council, 1997). The challenges included non-compliance of financial institutions to the regulatory requirements of the 1989 Banking Act, the inability of the Central Bank of Kenya (CBK) to supervise banks effectively, and loss of control of money supply growth (United Nations Economic and Social Council, 1997). Numerous financial sector reforms have been implemented in Kenya to address both the legal and the regulatory challenges, as well as to reshape policies and build capacity in the Kenyan financial sector (United Nations Economic and Social Council, 1997).

Since the 1990s, Kenya has not looked back in using financial sector reforms as a vehicle for economic growth, access to financial services and financial sector prudence. This has led to Kenya signing the 2013 Monetary Union Protocol with a timeline of creating a regional currency by 2024 (Ndung'u, 2014a). The protocol comes with further financial sector reforms and streamlining of policies, regulations, and procedures as a process for the harmonization of all monetary policies in preparation for the introduction of the monetary union.

This development comes at a time when tourism inflows have improved worldwide (World Tourism Organization [UNWTO], 2020). According to UNWTO (2020), tourist arrivals grew by 4% in 2019 to reach 1.5 billion. Although tourism growth was depressed in 2019 compared to 2018, where 6% was recorded, a growth was registered (UNWTO, 2020). Africa, Europe, and the Middle East are among the regions that enjoyed an increase in tourist arrivals (UNWTO, 2020). The major question that this study seeks to answer is whether Kenya can harness tourism in its journey to develop a better and more efficient financial system, given the burgeoning of its tourist arrivals.

The growing importance of tourism as a source of economic growth has ignited the interest of researchers to investigate the relationship between tourism and economic growth empirically (see, among others, Nyasha, Odhiambo & Asongu, 2020). In general, these studies found that tourism is a significant source of economic growth. A question that remains is whether tourism can be a catalyst for financial development in Kenya, apart from being a major stimulant of economic growth.

Although a significant number of studies exist on the tourism–growth nexus, the same cannot be said for the tourism–finance nexus. Only a few studies have investigated the relationship between tourism and financial development, with those focusing on causality tilting the scale (Yenisehirlioglu & Bayat,

2019; Shahbaz et al., 2019; Shahbaz et al., 2017; Basarir & Cakir, 2015). This, therefore, leaves a gap in the impact of tourism on financial development, in general, and in Kenya, in particular (Cannonier & Burke, 2017). Thus, a very limited number of studies have investigated the impact of tourism on financial development in SSA countries, in general, and in Kenya, in particular – despite the role which tourism plays in the development of the financial sector. It is the gap that the current study aims to close with an empirical study of the impact of tourism on financial development in Kenya. This study comes at a time when many countries are striving to modernize their financial systems and to improve their efficiency and accessibility to integrate into the global economy.

The study uses the autoregressive distributed lag (ARDL) bound testing approach to cointegration and error correction model to examine this linkage. This method has numerous advantages, such as being robust in small samples and does not require all variables to be integrated of the same order (Pesaran et al., 2001). The approach also allows the analysis of the results in the long-run and short-run time frames. The findings from this study will provide policy makers in Kenya with an insight into the nexus between tourism and financial development. The rest of the study is organised as follows: section 1 outlines the literature review; section 2 discusses estimation techniques and empirical results. Section 3 concludes the study.

2. LITERATURE REVIEW

2.1. Tourism and financial development dynamics in Kenya

The Ministry of Tourism spearheads tourism development in Kenya with the support of other bodies and agencies such as Kenya Wildlife, Ministry of Transport, and Ministry of Trade and Industry (Ministry of Tourism and Wildlife, 2020). Under the Ministry of Finance, departments such as Tourism Support, Tourism and Security, and Tourism Policy and Strategy work closely with other bodies and agencies to support the tourism agenda (Ministry of Tourism and Wildlife, 2020). Apart from the Ministry of Tourism, the Tourism Regulatory Authority, a body established under Section 4 of the Tourism Act 28 of 2011, is mandated to regulate the tourism sector in Kenya (Tourism Regulatory Authority, 2020). The body also develops regulations, standards, and guides to ensure delivery of quality services (Tourism Regulatory Authority, 2020). Tourism is recognised as an industry that encompasses numerous ministries (World Bank, 2010). Apart from public bodies that rally around tourism in Kenya, there is the Kenya Tourist Board, which is responsible for destination marketing. Then there

is also the Kenya Tourist Development Corporation (KTDC) that owns several tourism facilities and leases them to the private sector, thus boosting private sector participation in the tourism sector.

The top five tourist source countries in 2019 and 2018 were the United States of America (USA) with 245 400 arrivals; Uganda with 223 000; Tanzania with 193 700 thousand, a fall from 204 000 in 2018; the United Kingdom with 181 500 thousand, a fall from 184 000 the previous year; and India with 122 600 arrivals recorded (Ministry of Tourism and Wildlife et al, 2019). Although the arrivals recorded a mixed success, overall, the receipts depicted a growth of 3.9% from 2018 to 2019 (Ministry of Tourism and Wildlife et al, 2019). This growth was driven by aggressive marketing using different platforms, a stable political environment, and improved security – a side from the Dusit D2 hotel terrorist attack that occurred in January 2019 and the global slowdown in economic activities (Ministry of Tourism and Wildlife et al, 2019). Kenyan tourism is anchored on safari, coastal, and business and conference travel (World Bank, 2010). Figure 1 shows the trend in tourism, as depicted by tourist arrivals and tourism receipts.

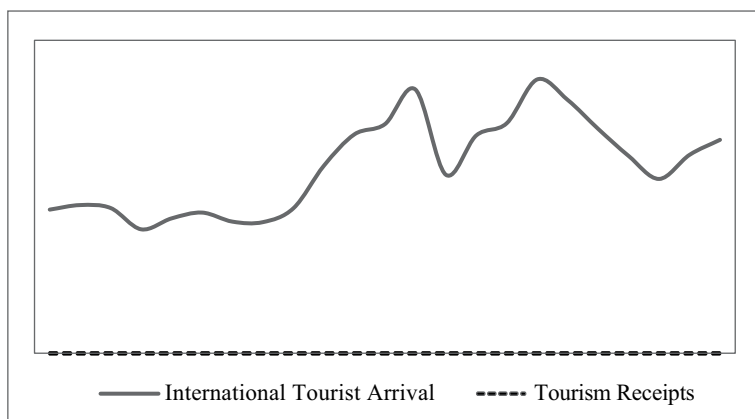


Figure 1: Trends in Tourism Receipts and Tourist Arrivals (1995-2017)

Source: World Bank, 2020

As shown in Figure 1, tourism receipts grew rapidly from 1995 to 1999 before heading into a sharp decline in 2000 (World Bank, 2020). The tourism receipts picked up gradually from 2001 to 2007 before declining again (World Bank, 2020). A gradual decline was recorded from 2012 to 2017 (World Bank, 2020). For the greater part of the period since then (i.e., from the year 2000), the tourist arrivals mimicked the trend in tourism receipts showing a seemingly positive relationship between the two (World Bank, 2020).

On the financial development front, Kenya implemented an overhaul through a combination of policy reforms and regulatory revamps of the financial sector that started in the late 1980s – in line with a drive to modernise, enhance competitiveness and capacitate the financial sector to support economic activities (United Nations Economic and Social Council, 1997). The financial sector reform initiatives included the amendment of the Banking Act of 1989 and 1991; the revision of Capital Markets Authority Act of 1994; the interest rate and the exchange rate policy reforms (United Nations Economic and Social Council, 1997). The governor of the central bank then identified smart and better regulations as contributing factors towards a successful financial development with a huge outreach to the Kenyan population (Ndung'u, 2014b).

These reforms have been strengthened by the need for a transformation of the Kenyan financial sector in preparation for the adoption of the East Africa Monetary Union. The country signed the 2013 Monetary Union Protocol with a timeline towards a single regional currency by 2024 (Ndung'u, 2014a). The protocol demands that Kenya streamlines its financial system, and adopts common principles, rules and regulations, and supervision by 2018 (Ndung'u, 2014a). To achieve these standards, East African Banks adopted the pronouncements of the international setting bodies such as the Financial Stability Board, Basel Committee on Banking and Supervision, and Financial Action Task Force (Ndung'u, 2014a). Some of the regulatory rules that Kenya is expected to harmonise include licensing requirements, prudential requirements on capital and liquidity, joining the East African Payment System to reduce transaction costs within the region, corporate governance, and public disclosures. Given the measures that Kenya is expected to implement in preparation for the Monetary Union, major steps towards creating a sound financial system are inevitable. Figure 2 shows the trend in the financial development of Kenya, as measured by broad money, domestic credit to the private sector provided by banks, domestic credit provided by the financial sector, and the total value of stocks traded.

As reflected in Figure 2, all four measures of financial development suffered a mild slump in 1996 and a rebound in 1997 but, in general, they exhibited a rather stable trend over the period under study (World Bank, 2020). Three bank-based financial development measures have shown the same trend, indicating a close association between the three proxies (World Bank, 2020). Domestic credit provided by the financial sector maintained the lowest share, when measured as a percentage of GDP, from 1995 to 2017 (World Bank, 2020). Broad money and domestic credit to the private sector by banks oscillated, maintaining a negligible margin over the years (World Bank, 2020).

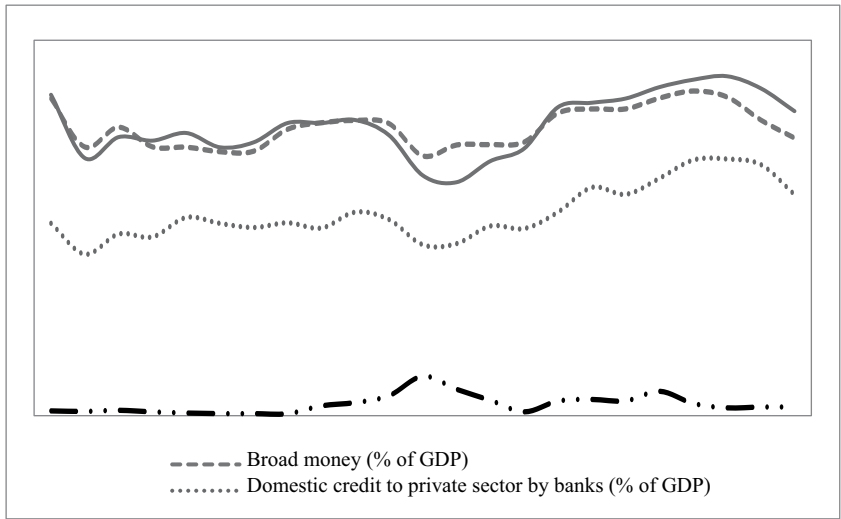


Figure 2: Trends in the Financial Sector Development Indicators.

Source: World Bank, 2020

From the market-based financial development side, the total value of stock traded as a percentage of GDP shows a gradual decline from 1995 to 2002, before an upsurge, reaching a peak of 5.2% in 2006 (World Bank, 2020). The total value of stock traded declined sharply from 2006 and stabilised in 2009 recording 0.53% (World Bank, 2020). From 2009, the total value of stock traded has averaged 1.9% (World Bank, 2020). Overall, the trend in the financial sector development measures recorded in Figure 2 shows a steady-state development in the Kenyan financial market, which could only be achieved by consistency in policies, regulations, and oversight.

2.2. A Review of Related Literature

A financial system plays an important role as a conduit through which financial resources are mobilised and lent to deficit units (Levine, 1997). This role is important in economic growth through the resource mobilisation for investment purposes. Financial systems can be classified into bank-based or market-based depending on which intermediaries play a key role in the economy (Demirguc-Kunt & Levine, 2001). A financial system where the financial intermediaries play an important role is called a bank-based financial system, while a financial system where financial market plays an important role is called a market-based financial system (Nyasha & Odhiambo, 2014; 2015; Demirguc-Kunt & Levine, 2001). The importance of financial development in economic growth cannot be

underestimated irrespective of the source of the financial sector development – market or bank-based. The growing importance of tourism in Kenya as one of the six key sources of economic transformation of the country into a middle-income country demands that the tourism-finance nexus in the country be put to empirical test.

According to [Wang \(2009\)](#), exchange rates, travel costs and the economic conditions of the tourist source country determine the demand for tourism in the tourist destination country. Looking at the receiving country like Kenya, political, economic – including financial development and social factors – are among the factors that determine tourist demand ([Song & Lin, 2012](#)). When the focus is placed on economic activities that take place in the host country in support of successful tourism, the role of the financial sector becomes important in facilitating transactions and mobilising resources from savers to investors – in this case, in the tourism supporting sectors. The ease of carrying out transactions, of financial inclusion and of confidence in the financial system become important.

On the empirical front, it can be observed that the tourism-finance field is still emerging and thin; hence, relevant studies to review are limited. Given this limitation, the study also reviews empirical literature on the causality between tourism and financial development to gain insight into the relationship between these two variables of interest ([Kumar & Kumar, 2013](#); [Cannonier & Burke, 2017](#); [Ridderstaat & Croes, 2015](#); [Cannonier & Burke, 2017](#); [Shahbaz et al., 2019](#)). These studies found tourism to have a positive impact on financial development. Financial development was found to benefit from the increasing number of tourists.

[Shahbaz et al. \(2019\)](#) analysed the relationship between financial development and tourism development in Malaysia. The study used real domestic credit to private sector per capita as a measure for financial development and tourism receipts, arrivals and expenditure as measures of tourism. Using data between 1975 and 2016 and employing the Toda-Yamamoto Granger causality approach, they found tourism development to be positively related to financial development. Further investigation on the causality between tourism and financial development revealed a bidirectional causality. Thus, the two have a reinforcing relationship. In the same vein, [Cannonier and Burke \(2017\)](#) analysed the relationship between tourism and financial development in the Caribbean countries employing data from 1980 to 2013. Using annual panel data, financial development was measured by three proxies: financial depth, measured by broad money; efficiency of the financial sector, measured by bank credit to the public sector; stability, measured by bank credit to the private sector, while tourism was measured by tourism

expenditure per capita. The study found tourism expenditure to have a positive effect on financial development.

In a separate study, [Yenisehirlioglu and Bayat \(2019\)](#) investigated the causal relationship between tourism and financial development in the MENA. Employing data from the period between 1995 and 2016, they found a unidirectional causal flow from tourism to financial development in Sudan and Morocco. [Katircioglu et al., \(2017\)](#) investigated the association between tourism and financial development in Turkey. Tourism expansion was found to influence financial development. Change in tourism was found to precede changes in financial development. [Basarir and Cakir \(2015\)](#) found bidirectional causality between financial development and tourism in a study on Greece, Italy, Turkey, France, and Spain using data from 1995 to 2010. Although the reviewed literature was limited, what came out strongly was the presence of a significant relationship between tourism development and financial development – supporting the notion that tourism is good for financial development.

3. MATERIALS AND METHODS

3.1. Estimation Techniques

This study employs the Autoregressive Distributed Lag (ARDL) bounds testing approach to investigate the impact of tourism on financial development in Kenya. The selection of a parsimonious model was based on Schwarz Bayesian Criteria (SBC). The ARDL has been selected for this study for a number of reasons. Firstly, the approach gives robust estimates in small samples. Secondly, unlike residual-based cointegration methods such as Engle and Granger (1987) and other approaches that use a system of equations, the ARDL approach uses a reduced form single equation. Lastly, the approach does not require all variables in the model to be integrated of the same order before proceeding with the analysis. The variables can be a combination of variables with an integration order of zero $[I(0)]$ or integration order of one $[I(1)]$ ([Pesaran et al., 2001](#)). However, the approach falls away if variables are integrated of a higher order than $[I(1)]$ ([Pesaran et al., 2001](#)).

Unit root tests and cointegration tests are performed on the variables in Model 1 – where broad money is used as a proxy for financial development and other explanatory variables remain the same. Model 2 is where the total value of stocks traded as a percentage of GDP is used as a proxy for financial development as a dependent variable. A test for unit root is performed to confirm whether all the variables are stationary before proceeding to cointegration. While a test for unit

root ensures that the regression is not spurious, a test for cointegration establishes whether there is a long-run relationship among the variables in the two models. Results from the cointegration determine the next step in the analysis of the data. If a long-run relationship is found to exist, then an error correction model is estimated.

3.2. Definition of variables

The variables of interest in this study from Model 1 and Model 2 are tourism (TR), measured by tourist receipts as a percentage of gross domestic product (GDP), and financial development (FD) with two proxies – broad money (BM) and the total value of stocks traded as a percentage of GDP (STV). Tourism is expected to have a positive effect on financial development irrespective of the financial development proxy used. Financial development is proxied by broad money, which is a bank-based measure of financial development. Unlike other studies that focused only on bank-based measures, this study also included a market-based financial development indicator – total value of stocks traded as a percentage of GDP.

Other variables included in Model 1 and Model 2 to fully specify the model are GDP, trade openness (TOP) and real effective exchange rate (RER). The real gross domestic product is expected to have a positive impact on financial development. The higher the gross domestic product, the more the demand exists for a developed financial system. Trade openness is expected to have a positive impact on financial development. The more a country is open to trade with other countries, the more likely the host country will be to adopt better and more advanced financial systems. This is done partly to facilitate trade and also to attract more trade opportunities. The real effective exchange rate is expected to have a positive effect on financial development. A higher real effective exchange rate implies increased trade activities between the host country and other countries. This consequently gives an incentive to the host country to develop its financial system to facilitate trade with its partners.

3.3. Model Specification

Following [Connonier and Burke \(2017\)](#) with a modification of variables included in the model, a generic model specification is given in Equation 1 as:

$$FD_t = \alpha_0 + \alpha_1 TR + \alpha_2 GDP + \alpha_3 RER + \alpha_4 TOP + \alpha_5 CPI + \varepsilon_t \quad (1)$$

Where FD is financial development – proxied by broad money and total value of stocks traded as a percentage of GDP. Each of the two financial development proxies enters the equation one at a time, but the control variables remain the same. TR is tourism receipts as a percentage of GDP, GDP represents real gross domestic product, RER is real effective exchange rate, CPI is inflation, captured by the consumer price index, and TOP is trade openness, expressed as a percentage of GDP.

Equation 2 gives the ARDL-bounds specification

ARDL model Specification for Equation 1 (FD, TR, GDP, RER, TOP, CPI)

$$\begin{aligned} \Delta FD_t = & \alpha_0 + \sum_{i=1}^n \alpha_{1i} \Delta FD_{t-i} + \sum_{i=0}^n \alpha_{2i} \Delta TR_{t-i} + \sum_{i=0}^n \alpha_{3i} \Delta GDP_{t-i} + \sum_{i=0}^n \alpha_{4i} \Delta RER_{t-i} \\ & + \sum_{i=0}^n \alpha_{5i} \Delta TOP_{t-i} + \sum_{i=0}^n \alpha_{6i} \Delta CPI_{t-i} + \alpha_7 FD_{t-1} + \alpha_8 TR_{t-1} + \alpha_9 GDP_{t-1} \\ & + \alpha_{10} RER_{t-1} + \alpha_{11} TOP_{t-1} + \alpha_{12} CPI_{t-1} + \mu_{1t} \end{aligned} \quad (2)$$

Where α_0 is a constant, α_{1i} – α_{6i} and α_7 – α_{12} are regression coefficients for short run and long run variables, respectively, and μ_{1t} is an error term. All the other variables remain the same as defined in Equation 1.

3.4. Model Specification

A test for cointegration is performed to establish whether there is a long-run relationship among the variables in each model. If cointegration is confirmed then the estimation of the model is done in two steps. The first step involves estimating the long-run equations and obtaining the residuals which are incorporated into the short run equations. Thus, an estimation of the error correction model is done. The error correction term included in the short-run model shows the speed of adjustment to the equilibrium when there is a disequilibrium in the economy. The general ECM specification for Model 1 and Model 2 is given in Equation 3 as:

$$\begin{aligned} \Delta FD_t = & \alpha_0 + \sum_{i=1}^n \alpha_{1i} \Delta FD_{t-i} + \sum_{i=0}^n \alpha_{2i} \Delta TR_{t-i} + \sum_{i=0}^n \alpha_{3i} \Delta GDP_{t-i} + \sum_{i=0}^n \alpha_{4i} \Delta RER_{t-i} \\ & + \sum_{i=0}^n \alpha_{5i} \Delta TOP_{t-i} + \sum_{i=0}^n \alpha_{6i} \Delta CPI_{t-i} + \theta_1 ECM_{t-1} + \mu_{1t} \end{aligned} \quad (3)$$

where ECM is the error correction term; θ_1 is the coefficient of the ECM and all the other variables and characters are as described in Equations 1 and 2.

3.5. Data Sources

In this study, annual time series data from 1995 to 2017 is used to investigate the impact of tourism on financial development in Kenya. The data for broad money (BM), total value of stocks traded as a percentage of GDP (STV), trade openness (TOP), real gross domestic product (GDP) and inflation (CPI) were extracted from World Bank Development Indicators. Real effective exchange rate was extracted from United Nations Conference on Trade and Development (UNCTAD). Analysis of the data was done using Microfit 5.0.

4. RESULTS

Unit Root Test

Stationarity tests were done on all variables in Model 1 and Model 2 to ascertain the order of integration. Dickey-Fuller Generalised Least Squares (DF-GLS) and Phillip-Perron (PP) unit root tests were used in this study. The results of the tests are presented in Table 1.

Table 1: Unit Root Test Results

Variable	Dickey-Fuller Generalised Least Square (DF-GLS)				Phillip and Perron (PP) Root Test			
	Stationarity of all Variables in Levels		Stationarity of all variables in First Difference		Stationarity of all Variables in Levels		Stationarity of all variables in First Difference	
	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend	Without Trend	With Trend
BM	-2.2259**	-2.9105*	-	-	-2.6439*	-3.4086*	-	-
STV	-2.0752**	-2.1970	-	-4.5121**	-2.0993	-2.0428	-4.3603***	-4.3030**
CPI	-0.5563	-1.6928	-2.5651**	-4.7142***	3.7106**	-1.0978	-	-4.4738***
TR	-14458	-2.5449	-4.2284***	-4.3029***	-1.4034	-2.4778	-4.2114***	-4.0730**
GDP	-0.2326	-1.1974	-1.9108*	-4.5086***	-8.5627***	-1.6834	-	-9.5830***
TOP	-1.1845	-2.0135	-3.3138***	-3.7999***	-2.0386	-2.7367	-4.1350***	-4.9929***
RER	0.3933	-1.8557	-4.6866***	-5.2844***	0.9223	-1.7965	-4.6909***	-6.3672***

Note: *, ** and *** denote statistical significance at 10%, 5% and 1% levels, respectively

Source: Authors' survey

Table 1 shows the unit root test for the variables in Model 1 and Model 2 - broad money (BM), total value of stocks traded (STV), inflation (CPI), tourism receipts (TR), real gross domestic product (GDP), trade openness (TOP) and real

effective exchange rate (RER) are stationary in levels or in first difference. This also confirms the use of ARDL for further analysis on the relationship between tourism and financial development. The next step in the analysis is to test for a long- run relationship in Model 1 and Model 2. The results of the cointegration test performed are presented in Table 2.

Table 2: ARDL Bound Test to Cointegration Results

Dependent Variable	Function	F-Statistic		Cointegration Status		
BM	F (BM TR, GDP, TOP, RER, CPI)	6.0795***		Cointegrated		
STV	F (STV TR, GDP, TOP, RER, CPI)	3.3212*		Cointegrated		
Asymptotic Critical Values (unrestricted intercept and no trend)						
	1%		5%		10%	
Critical Values	I (0)	I (1)	I (0)	I (1)	I (0)	I (1)
	3.29	4.37	2.56	3.49	2.20	3.09

Note: *, ** and *** denote stationarity at 10%, 5% and 1 % significance levels, respectively.

Source: Authors’ survey

Cointegration results presented in Table 2 for Model 1 and Model 2 confirm cointegration in both models. According to Pesaran et al. (2001) cointegration is confirmed if the calculated F-statistics is above the upper bound at 1%, 5% or 10% level of significance. If the calculated F-statistic is below the lower bound, no cointegration is confirmed. However, if the F-statistic falls in between the upper and the lower bounds, the results are inconclusive.

The results presented in Table 2 show that Model 1 – where broad money is a proxy for financial development – is cointegrated at 1% level of significance. Model 2 – where total value of stocks traded as a percentage of GDP (STV) is used as a proxy – also confirms cointegration, at 10% level of significance. The presence of cointegration implies a long-run relation in the two models.

To proceed with analysis, the first step is to estimate the long-run model and capture the error terms. The second step is the estimation of the error correction model where short-run estimates, together with the error term from the long-run model estimation, are regressed. The error term captures long-run relationship in the error correction model. The SBC was used for optimal lag length selection as it gave parsimonious results. For Model 1, ARDL (1,2,1,0,2,2) was chosen while ARDL (1,0,2,0,0,2) was selected for Model 2. The long-run and short-run results for Model 1 and Model 2 are presented in Table 3 and Table 4, respectively.

Table 3: Long-run Results -Model 1 and Model 2

Variables	Model 1 (dependent variable BM) ARDL (1,2,1,0,2,2)		Model 2 (dependent variable STV) ARDL (1,0,2,0,0,2)	
	Coefficient	T-ratio	Coefficient	T-ratio
C	26.6909*	2.3576	-29.9932***	-4.1248
TR	-0.1146	-1.3210	0.0043	0.0667
TOP	0.4414***	4.6948	0.2567***	3.3733
GDP	0.7946*	2.0240	0.9697***	3.5051
RER	0.0242	-0.6954	-0.0212	-0.9930
CPI	-0.2568**	2.5009	-0.1895***	-2.9776

Note: *, ** and *** denote stationarity at 10%, 5% and 1% significance levels, respectively.

Source: Authors' survey

The short-run results for Model 1 and Model 2 are presented in Table 4.

Table 4: Short- run Results for Model 1 and Model 2

Variables	Model1 (dependent variable BM) ARDL (1,2,1,0,2,2)		Model 2 (dependent variable STV) ARDL (1,0,2,0,0,2)	
	Coefficient	T-ratio	Coefficient	T-ratio
dTR	0.0740	0.8626	0.0041	0.0663
dTR(-1)	0.0926	0.8596	-	-
dTOP	0.2868**	2.8990	0.3700*	2.0805
dTOP(-1)	-	-	-0.0109	-0.1297
dGDP	0.7857**	2.2904	0.9292**	2.5974
dRER	0.0058	-0.2484	-0.0203	-1.1065
dRER(-1)	-0.0310	-1.1859	-	-
dCPI	-0.2078**	-2.3387	-0.1420**	-2.6040
dCPI(-1)	-0.3291**	-2.5971	0.0687	0.7030
ECM(-1)	-0.9888***	-4.8241	-0.9583**	-2.6802
R-squared	0.9092		0.8461	
R-bar squared	0.7406		0.7923	
S.E of Regression	1.0078		0.9084	
Mean of Dependent variable	0.0561		0.0280	
AIC	-32.4263		-30.9907	
F-stat	7.7889 (0.001)		3.2824 (0.002)	
SBC	-39.7379		-36.7356	
DW-statistic	2.4328		2.2946	
S.D of dependent variable	1.9788		1.0798	

Note: *, ** and *** denote stationarity at 10%, 5% and 1% significance levels, respectively

Source: Authors' survey

The results presented in Table 3 (long-run results) and Table 4 (short-run results) for Model 1 and Model 2 confirm that tourism does not have an impact on financial development. These results apply irrespective of whether the analysis was done in the long run or in the short run. These results were not expected as the Kenyan government has made tourism one of the six pillars for economic growth. The possible reason for the lack of significant impact of tourism on financial development could be the fact that tourism does not have a direct impact on financial development, but the effect could be seen through other variables such as economic growth. It could also be that although tourism is regarded as important to the Kenyan economy, a significant part of it lies in the informal sector of the economy and remains unrecorded; hence, its impact on the financial sector may be distorted. The results suggest that Kenya may need to be cautious when formulating policies targeting tourism and financial development.

Other results presented in Table 3 and Table 4, for both Model 1 and Model 2, further reveal that in Kenya, trade openness and economic growth have a positive impact on financial development, while inflation was found to have a negative impact on financial development, irrespective of the financial development measure used or the timeframe considered. Furthermore, real effective exchange rate was found to have an insignificant impact on financial development. As with the other results, this outcome was also financial development measure- and time-invariant. Thus, these results were found to apply regardless of whether bank-based or market-based financial development was used as a proxy, and irrespective of whether the regression was conducted in the long run or in the short run.

The positive relationship revealed between trade openness and financial development could be explained by Kenya's need to further develop financial markets to smoothen financial transactions between itself and its trading partners. On the same note, the positive impact of GDP on the financial development in Kenya is consistent with theory, where money growth is always in line with economic growth level, thus making financial development possible.

The explanatory power of Model 1 is 91%, while that of Model 2 was found to be 85%, implying that both models have high explanatory power and that they were correctly specified. The coefficient of the error correction term [ECM (-1)] in both models was also found to be negative and statistically significant, as was expected. According to the findings of this study, it takes slightly more than a year for Kenya to return to equilibrium when there is a shock in the economy, as evidenced by the error correction term of 99% and 96% for Model 1 and Model 2, respectively.

Table 5 reports the diagnostic results for Model 1 and Model 2.

Table 5: Diagnostic Test - Model 1 and Model 2

Diagnostic Test	Model 1	Model 2
Serial Correlation (CHSQ 1)	1.519 [1.161]	1.781[0.182]
Functional Form (CHSQ 1)	0.439 [0.518]	0.281[0.687]
Normality (CHSQ 2)	0.923[0.630]	2.143[0.342]
Heteroscedasticity (CHSQ 1)	0.431[0.512]	1.127[0.165]

Source: Authors’ survey

As revealed by model diagnostic results reported in Table 5, the two models passed serial correlation, functionality, normality and heteroscedasticity tests. The plots of the cumulative sum of recursive residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMQ) for both models confirm the stability of the models at 5% level of significance. The plots of CUSUM and CUSUMQ for both models are reported in Figure 3.

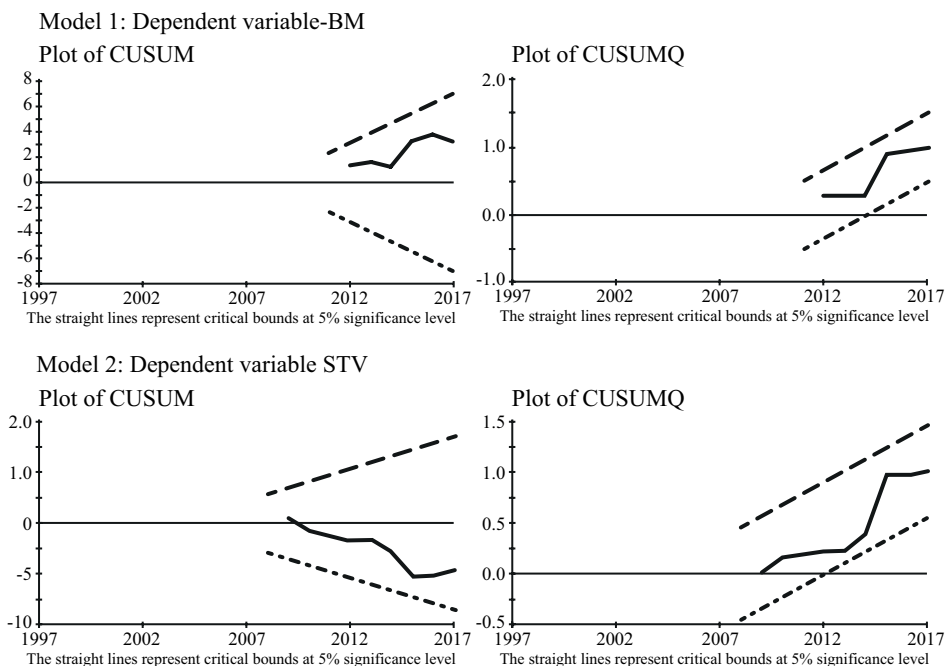


Figure 3: Plot of CUSUM and CUSUMSQ for Model 1 and Model 2

Note: Straight lines represent critical bounds at 5% level of significance

Source: Authors’ survey

5. DISCUSSIONS AND CONCLUSIONS

In this study, the impact of tourism on financial development was investigated using annual time series data from 1995 to 2017. The study used two proxies for financial development, one being a bank-based financial development measure (broad money), and the other being a market-based financial development measure (total value of stock trade). To fully specify the model, real GDP, trade openness, real effective exchange rate and inflation were included as control variables. The study was motivated by the growing importance of tourism in Kenya, on the one hand, and the country's goal to further modernise and develop its financial system, on the other hand. In general, the study aimed to investigate whether Kenya can benefit from tourism in its financial development strategies. Using the autoregressive distributed lag (ARDL) bounds testing approach to cointegration and error correction model, the study found that tourism has no impact on financial development regardless of the time considered – long run or short run. The results also apply irrespective of whether the financial development is proxied by a bank-based financial development proxy (i.e., broad money) or market-based financial development proxy (i.e., stock market development). The results shed some light on the fact that although tourism has been selected as one of the six pillars to spearhead the transition of Kenya to an upper middle-income country, its impact on financial development is still minimal given the size and the depth of the Kenya's financial sector.

Conflict of interests

The authors declare there is no conflict of interest.

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ДА ЛИ ТУРИЗАМ УТИЧЕ НА ФИНАНСИЈСКИ РАЗВОЈ У КЕНИЈИ?

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САЖЕТАК

У овој студији истражујемо утицај туризма на финансијски развој у Кенији користећи податке временске серије од 1995. до 2017. године. Студија користи приступ тестирања са ауторегресивно-дистрибуираним кашњењем (АРДЛ) за коинтеграцију и модел корекције грешака да би испитала ову везу. Како би повећала поузданост резултата, студија користи два проксија финансијског развоја, односно новчану масу у ширем смислу (прокси финансијског развоја заснован на банкама) и укупну вриједност акција којима се тргује (прокси за финансијски развој заснован на тржишту). Резултати показују да туризам има безначајан утицај на финансијски развој у Кенији како краткорочно, тако и дугорочно. Резултати су релевантни без обзира на то да ли је финансијски развој представљен индикатором финансијског развоја заснованом на банкама или индикатором финансијског развоја заснованом на тржишту. Овај налаз указује на чињеницу да, иако је туризам један од главних извора спољне размјене у Кенији, он нема директан утицај на финансијски развој. Налази студије додају вриједност креаторима политике у Кенији откривајући безначајан утицај који туризам има на финансијски развој, иако је то у супротности са другим истраживањима која су пронашла позитиван допринос. На основу налаза, Кенија можда неће своју политику финансијског развоја усмјерити на туризам.

Кључне ријечи: *финансијски развој, финансијски развој заснован на тржишту, финансијски развој заснован на банкама, туризам, Кенија, АРДЛ приступ.*

