AFRICAN ECONOMIC AND SOCIAL RESEARCH INSTITUTE (AESRI) WORKING PAPER SERIES

DOES TOURISM INFLUENCE FINANCIAL DEVELOPMENT IN KENYA?[1]

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[1] This working paper also appeared in the UNISA Economic Research Working Paper Series.

Open Rubric

DOES TOURISM INFLUENCE FINANCIAL DEVELOPMENT IN KENYA?

Mercy T. Musakwa[2] and Nicholas M. Odhiambo

Abstract

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 linkage. 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 and in the long run. The results apply irrespective 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 tourism has on financial development, although it is contrary to other studies that found a positive contribution. Based on the findings, Kenya may not anchor its financial development policies on tourism.

Keywords: Financial development; market-based financial development; bank-based financial development; tourism; Kenya; ARDL approach

JEL Classification : E44, Z3, C32

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1. Introduction

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

Since then, Kenya has never looked back in using financial sector reforms as a vehicle for economic growth, accesses to financial services and financial sector prudence. This has led Kenya into 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 to harmonise all policy in preparation for the rolling out of the monetary union.

This development comes at a time when tourism inflows have improved worldwide (World Tourism Organisation [UNWTO], 2020). According to UNWTO (2020), tourists 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. Africa, Europe, and the Middle East are among the regions that enjoyed an increase in tourist arrivals (UNWTO, 2020). The major question 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 in 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 *et al*., 2020). In the main, these studies found tourism to be a significant source of economic growth. A question that remains is, can tourism be a catalyst to financial development in Kenya, apart from being a major stimulant of economic growth?

Although there is a significant number of studies 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 and Bayat, 2019; Shahbaz *et al*., 2019; Shahbaz *et al*., 2017; Basarir and Cakir, 2015). This, therefore, leaves a gap on the impact of tourism on financial development, in general, and in Kenya, in particular (Cannonier and Burke, 2017). Thus, 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 that tourism plays in the development of the financial sector. It is this lacuna that the current study aims to close by empirically investigating the impact of tourism on financial development in Kenya. This study comes at a time when many countries are striving to modernise their financial system and improve its efficiency and accessibility as a way of integrating 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 support of other bodies and agencies such as the 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 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 cuts across numerous ministries (World Bank, 2010). Apart from public bodies that rally towards tourism in Kenya, there is the Kenya Tourist Board, 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.

Top 5 tourist source countries in 2019 and 2018 were the United States of America (USA) with 245.4 thousand arrivals; Uganda with 223 thousand; Tanzania with 193.7 thousand, a fall from 204 thousand in 2018; the United Kingdom with 181. 5 thousand, from 184 thousand the previous year; and India with 122.6 thousand 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, stable political environment, and improved security – besides the Dusit d2 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 tourist receipts.

Figure 1: Trends in Tourism Receipts and Tourist Arrivals (1995-2017)
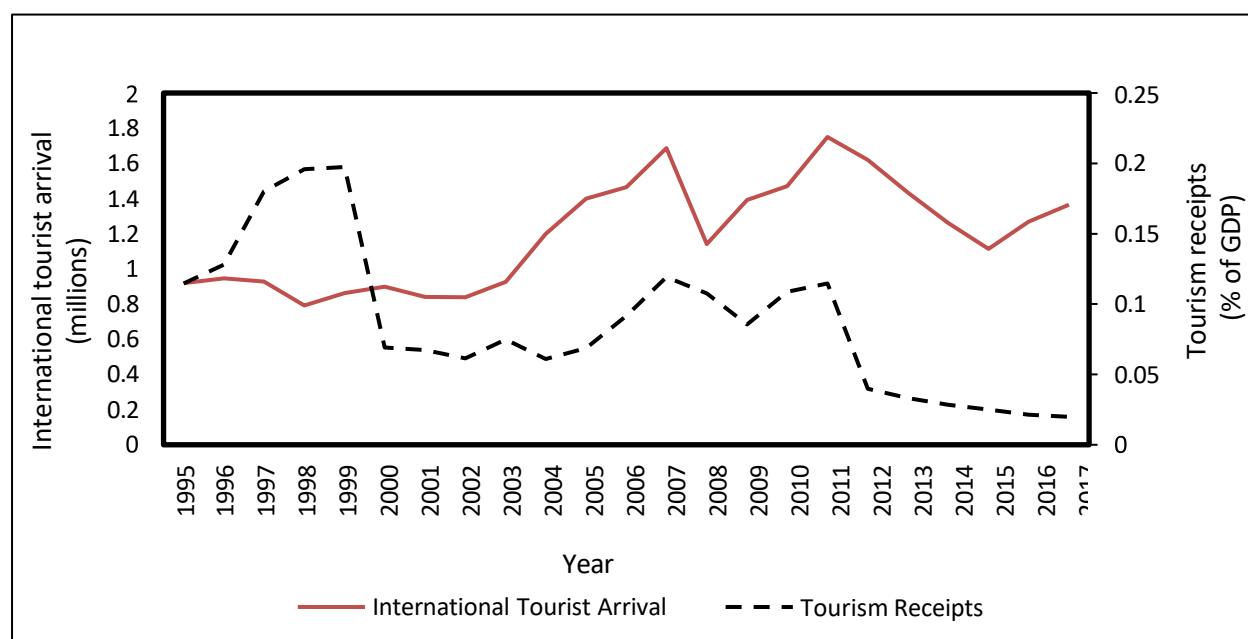
Source: World Bank, 2020

As shown in Figure 1, tourism receipts grew rapidly from 1995 to 1999 before taking 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 (i.e. from the year 2000), the

tourist arrivals mimicked the trend in tourist 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 revamp 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 to a successful financial development with a huge outreach to 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 to a single regional currency by 2024 (Ndung'u, 2014a). The protocol demands that Kenya streamlines her financial system, adopt common principles, rules and regulations and supervision by 2018 (Ndung'u, 2014a). To achieve these standards, East African Banks adopted pronouncements of the international setting bodies such as 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 cost within the region, corporate governance, and public disclosures. Given the measures that Kenya is expected to implement in preparation of the Monetary Union, great strides in coming up with

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 by banks, domestic

credit provided by the financial sector and the total value of stocks traded.

Figure 2: Trends in the Financial Sector Development Indicators.
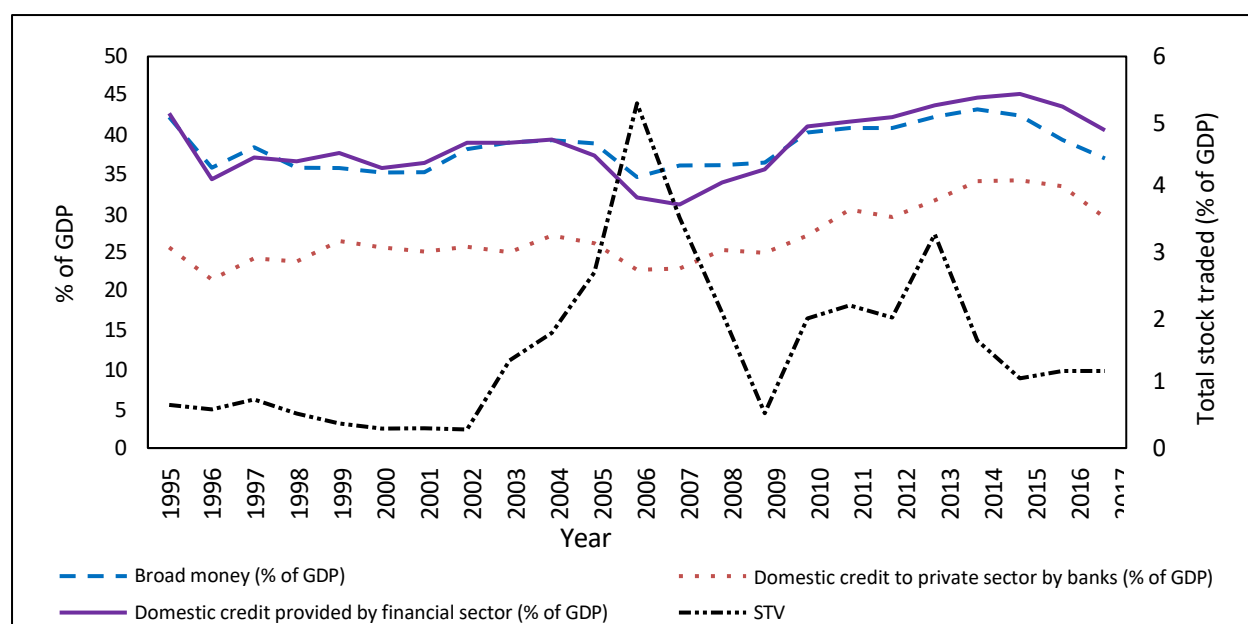
Source: World Bank, 2020

As reflected in Figure 2, all the four measures of financial development suffered a mild slump in 1996 and a rebound in 1997, but in the main, exhibiting a rather stable trend over the period under study (World Bank. 2020). The three bank-based financial development measures have trended together, showing 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 around each other, maintaining a negligible margin over the years (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 lend 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 in the economy (Demirguc-Kunt and Levine, 2001. A financial system where financial intermediaries play an important role is called a bank-based financial system, while a financial system where financial market plays an important role are called market-based financial systems (Nyasha and Odhiambo, 2014; 2015); Demirguc-Kunt and 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), exchanges 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 and 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, financial inclusion and confidence in the financial system becomes important.

From the empirical front, it can be observed that the tourism-finance field is still nascent 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 get insight into the relationship between these two variables of interest (Kumar and Kumar, 2013; Cannonier and Burke, 2017; Ridderstaat and Croes, 2015; Cannonier and 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 from 1975-2016 and employing the Toda-Yamamoto Granger causality approach, they found a 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; and 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 1995-2016, 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 Estimation Techniques and Empirical Results

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 done to confirm if 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 if 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.

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 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 adopts better and 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 the other countries. This consequently gives an incentive to the host country to develop the financial system to facilitate trade with its partners.

Model Specification

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

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

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 tourist receipts as a percentage of GDP, GDP represents real gross domestic product, RER is real effective exchange rate, CPI is

inflation, captured by 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)

$$\Delta FD_t = \alpha_0 + \sum_{i=1}^{n} \alpha_{1i} \Delta FD_{t-i} + \sum_{i=0}^{n} \alpha_{2i} \Delta TR_{t-i} + \sum_{i=0}^{n} \alpha_{3i} \Delta GDP_{t-i} + \sum_{i=0}^{n} \alpha_{4i} \Delta RER_{t-i}$$

$$+ \sum_{i=0}^{n} \alpha_{5i} \Delta TOP_{t-i} + \sum_{i=0}^{n} \alpha_{6i} \Delta CPI_{t-i} + \alpha_7 FD_{t-1} + \alpha_8 TR_{t-1} + \alpha_9 GDP_{t-1}$$

$$+ \alpha_{10} RER_{t-1} + \alpha_{11} TOP_{t-1} + \alpha_{12} CPI_{t-1} + \mu_{1t} \tag{2}$$

Where α_0 is a constant, $\alpha_{i1} - \alpha_{6i}$ and $\alpha_7 - \alpha_{12}$ 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

Model Specification

A test for cointegration is done to establish if 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:

$$\Delta FD_t = \alpha_0 + \sum_{i=1}^{n} \alpha_{1i} \Delta FD_{t-i} + \sum_{i=0}^{n} \alpha_{2i} \Delta TR_{t-i} + \sum_{i=0}^{n} \alpha_{3i} \Delta GDP_{t-i} + \sum_{i=0}^{n} \alpha_{4i} \Delta RER_{t-i}$$

$$+ \sum_{i=0}^{n} \alpha_{5i} \Delta TOP_{t-i} + \sum_{i=0}^{n} \alpha_{6i} \Delta CPI_{t-i} + \theta_1 ECM_{t-1} + \mu_{1t} \qquad (3)$$

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.

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.

3.2 Empirical Results

Unit Root Test

Stationarity tests were done on all the 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

Dickey-Fuller Generalised Least Square (DF-GLS)	Phillip and Perron (PP) Root Test

Variable	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

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), tourist 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)					
Critical Values	1%		5%		10%	
	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.

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.

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

Variables	Model 1 (dependent variable BM)		Model 2 (dependent variable STV)	
	ARDL (1,2,1,0,2,2)		ARDL (1,0,2,0,0,2)	
Regressors	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.

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)		Model 2(dependent variable STV)	
	ARDL (1,2,1,0,2,2)		ARDL (1,0,2,0,0,2)	
Regressors	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

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 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 Tables 3 and 4 for both Models 1 and 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 timeframe considered. Further, 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 develop financial markets to smoothen financial transaction between itself and its trading partners. This is evidenced by the country joining the regional currency with one of the reasons as minimising transaction costs. 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 above a one 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 Models 1 and 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] |

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 2
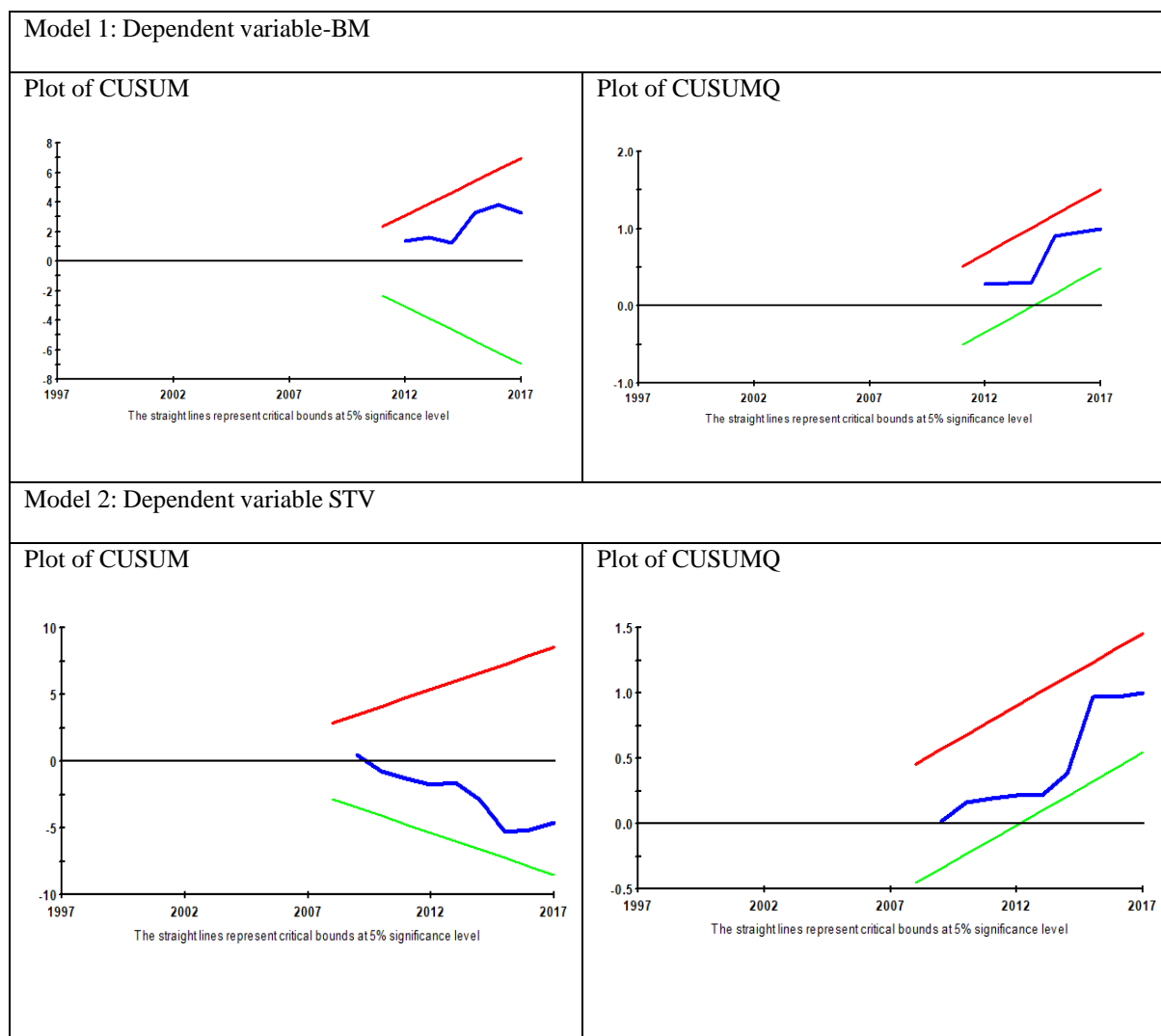
Note: Straight lines represent critical bounds at 5% level of significance

4. Conclusion and Recommendation

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), 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 the main, the study aimed to investigate if 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.

References

Basarir, C., & Cakir, Y. N. 2015. Causal interactions between CO2 emissions, financial development, energy and tourism. *Asian Economic and Financial Review*, 5(11), 1227–1238. https://doi.org/10.18488/journal.aefr/2015.5.11/102.11.1227.1238.

Cannonier, C., & Burke, M.G. 2017. Tourism and financial development in small states: Evidence from Caribbean countries. *Tourism Economics,* 23(6), 1369-1377. https://doi: 10.1177/1354816617689870

Demirguc-Kunt, A. & Levine, R. 2001. Bank-based and market-based financial systems: Cross-country comparisons. In: Demirguc-Kunt, A. and Levine, R. (Eds.) Financial Structure and Economic Growth: A Cross- Country Comparison of Banks, Markets, and Development. MIT Press: Cambridge, MA, 81-140. https://econpapers.repec.org/bookchap/mtptitles/0262541793.htm

Duasa, J. 2007. Determinants of Malaysian trade balance: An ARDL bounds testing approach. *Journal of Economic Cooperation*, 28(3), 21-40. https://doi.org/10.1080/12265080701217405

Engle, R. F., & Granger, C. W. J. 1987. Cointegration and error-correction: Representation, estimation and testing. *Econometrica*, 55 (2), 251 – 276. https://ideas.repec.org/a/ecm/emetrp/v55y1987i2p251-76.html

Katircioglu, S., Katircioglu, S., & Altinay, M. 2017. Interaction between tourism and financial sector development: evidence from Turkey. *The Service Industries Journal, 38* (9-10), 519-542. https://doi.org/10.1080/02642069.2017.1406479

Kumar, R. R., & Kumar, R. 2013. Exploring the development in urbanisation, aid dependency, sectorial shifts and services sector expansion in Fiji a modern growth perspective, *Global Business and Economic Review*, 15, 371-395. https://doi:10.1504/GBER.2013.056648

Levine, R. 1997. Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35, 688-726. https://doi.org/10.1596/1813-9450-1678.

Ministry of Tourism and Wildlife. (23 April 2020). Our Ministry. Ministry of Tourism and Wildlife. http://www.tourism.go.ke/.

Ministry of Tourism and Wildlife., Tourism Research Institute and Magical Kenya. 2019. *Kenya Tourism Sector Performance Report*. ATTA Travel. https://www.atta.travel/media/17456/kenya-tourism-sector-perfomance-report-2019-v1.pdf.

Ndung'u, J. 2014a. Increasing the level of financial inclusion in Kenya. African Rural and Agricultural Credit Association International Visit to Kenya, Kenya School of Monetary Studies. BIS. Available from https://www.bis.org/review/r140516b.htm. [Accessed 18 April 2020].

Ndung'u, J. 2014b. Banking and Financial Sector Development in Kenya: Institute of Bankers 2rd National Banking and Finance Conference. Mombasa. Available from https://www.bis.org/review/r140715d.htm. [Accessed 18 April 2020].

Nyasha, S. & Odhiambo, N. M. 2014. Bank-based financial development and economic growth: A review of international literature. *Journal of Financial Economic Policy*, *6*(2), 112-132. https://www.emerald.com/insight/content/doi/10.1108/JFEP-07-2013-0031/full/html

Nyasha, S. & Odhiambo, N. M. 2015. Economic Growth and market-based financial systems: A review. *Studies in Economics and Finance*, *32*(2): 235-255, https://doi.org/10.1108/SEF-03-2014-0053.

Nyasha, S., Odhiambo, N. M. & Asongu, A. A. 2020. The impact of tourism development on economic growth in sub-Saharan Africa. *The European Journal of Development Research*, https://mpra.ub.uni-muenchen.de/107100/1/MPRA_paper_107100.pdf.

Pesaran, M. H., Shin, Y & Smith, R. 2001. Bounds testing approaches to the analysis of level relationship. *Journal of Applied Econometrics, 16*(3), 174-189. https://doi.org/10.1002/jae.616.

Ridderstaat, J., & Croes, R. 2015. The link between money supply and tourism demand cycles. a case study of two Caribbean destinations. *Journal of Travel Research*, *26*(2), 37–40. http://dx.doi.org/10.1177/0047287515619695.

Shahbaz, M., Benkraiem, R., Miloudi, A., & Tiwari., A. K. 2019. Tourism-induced financial development in Malaysia: New evidence from the tourism development index. *Tourism Economics.*, *25*(5), 757-778. https://doi: 10.1177/1354816618806123.

Shahbaz, M., Kumar, R. R., Ivanov, S., & Loganathan, L. 2017. Nexus between tourism demand and output per capita with relative importance of trade and financial development: A study of Malaysia. *Tourism Economics, 23*(1), 168-186. https://doi: 10.5367/te.2015.0505.

Song, H., & Lin, S. 2012. Impacts of the financial and economic crisis. *Journal of Travel Research, 49*(1), 16-30. https://doi:10.1177/0047287509353190

Tourism Regulatory Authority, 2020. *Legislation.* Tourism Regulatory Authority. https://www.tourismauthority.go.ke/.

UNCTAD, 2020. UNCTADStat. Available from https://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=32085.

United Nations Economic and Social Council, 1997. *Kenya's Financial Sector: Institution structure, Evolution and Resource Mobilisation, mobilisation of development*. UNECA. https://repository.uneca.org/handle/10855/4926

UNWTO, 2020. *World Tourism Barometer and Statistical Annex January 2020*, Volume 18:Issue 1. UNWTO. https://www.e-unwto.org/toc/wtobarometereng/18/1.

Wang, Y. 2009. The impact of crisis events and macroeconomic activity on Taiwan's international inbound tourism demand. *Tourism Management*, *30*(1), 75-82. https://doi: 10.1016/j.tourman.2008.04.010

World Bank, 2020. *World Bank Development indicators.* World Bank. https://databank.worldbank.org.

World Bank. 2010. *Kenya's Tourism Polishing the Jewe*l. World Bank. Available from https://openknowledge.worldbank.org. [Accessed 29 April 2020].

Yenisehirlioglu, E., & Bayat, T. 2019. The relationship between tourism income and financial

development in the MENA countries. *Journal of Business Research, 11*(2), 1183-1190.

https://doi.org/10.20491/isarder.2019.664.