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Does Economic Growth Influences the Relationship Between Financial Intermediaries and Securities Market Development in Kenya?

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Abstract
Available evidence from previous studies show that financial intermediaries influence operations at the securities market. Another strand of literature also show that economic growth has a positive influence on securities market operations. A research gap still exists as to how this influence of financial intermediary development on securities markets may be influenced by economic growth. This study examined the relationship between financial intermediary development and securities market development in Kenya and attempted to answer a critical question of how economic growth influences the relationship between commercial banks and securities market in Kenya? Financial intermediary development was proxied by the ratio of the gross domestic bank savings to GDP, while securities market development was proxied by an index nuancing the market capitalization ratio, value traded ratio, and market turnover ratio. The empirical results show that there is a distinct positive relationship between financial intermediary development and securities market development in in Kenya. The results further show that this positive relationship was moderated by the level of economic growth within the economy. The study recommends that any strategy to develop the securities market must also address the development of the financial intermediaries through savings mobilization as well as macroeconomic stability and growth.
Keywords: Commercial Banks, Financial Intermediary Development, Securities Market Development, Nairobi Securitas Exchange

1. Introduction

Financial systems are categorized into bank-based and securities market-based, depending on the relative roles of financial institutions and financial markets. Whether the economic growth is largely influenced by the development in the commercial banking sector or by the securities market sector is debatable and needs more empirical studies. This debate has been fueled by the differing economic developments in economies that first concentrated on securities markets, like the United Kingdom and the United States, and those that gave priority to the system of universal banks such as Germany and Japan. The current mainstream view, according to Lee (2001) however, is that economies contemplating developing a highly sophisticated bank-based financial system should also develop a modest securities market that can complement the bank-based financial system.

Unfortunately, the dynamic relationship between bank-based financial development and securities market development has not been fully explored in many developing economies. Previous studies have mainly concentrated on the relationship between bank-based financial development and economic growth, or on the securities market development and economic growth. In addition, these studies have concentrated mainly on Asian countries and Latin America, leaving many African countries with little coverage. Moreover, majority of these studies suffer from major weaknesses, one by not espousing on how economic growth may influence the relationship between determinants of financial development such as financial intermediary development, and securities market development. Two, some of these studies have over-relied on the cross-sectional data, which may not suitably address the country-specific issues. This study, therefore, fills this gap by examining the moderating effect of economic growth on the relationship between bank-based financial development and securities market development in Kenya. Specifically, the study attempts to answer the critical question of how the relationship between the development of financial intermediaries and securities market development is moderated by economic growth.

The rest of the paper is structured as follows: Section 2 presents the financial intermediary sector development, and section 3 examines the securities market development in Kenya. Section 4 reviews the pertinent literature, while section 5 deals with the research methods employed. Section 6 presents and discusses the findings, and finally Section 7 presents conclusions and possible recommendations for policy prescriptions.

2. Banking Sector Development

The banking sector in Kenya comprises of the Central Bank of Kenya (CBK) created through the Central Bank

of Kenya Act Cap 491 Laws of Kenya – as the regulatory authority – commercial banks and mortgage finance institutions. The banking sector is regulated by the CBK pursuant to the provisions of the Banking Act Cap 488 Laws of Kenya and the other Regulations and various Prudential Guidelines issued thereafter. The Regulations define banks as financial institutions accepting deposits of money, subject to withdrawal by cheque, draft or order. During the 1990s, the rapid development and diversification of the services offered by financial institutions made the classification of banking institutions more complicated and confusing. However, from the 2000s, the distinction between the various classes of financial institutions in Kenya faded considerably due to the amalgamations and takeovers involving commercial banks, building societies and stockbrokerage firms. In fact, recently, building societies, commercial banks, and finance companies became overlapped in terms of their functions.

After independence, the private banking activities in Kenya were restricted by the extensive use of direct monetary control instruments. Credit ceilings were increasingly implemented by the CBK in an attempt to curtail over-borrowing and to control inflation. However, following the Structural Adjustment Programs (SAPs) and collapse of many indigenous banking institutions; commercial banks were faced with increasing exposure to free market principles and stiffer regulation by the CBK. This led to an increase in the banks' previously low cash-reserves and liquid-asset requirements in order to tighten liquidity and to restrain the high level of credit extension to agriculture and business.

By African standards, Kenya has a fairly developed and sophisticated banking systems with commercial banks being the players in the financial system. Currently there are forty-three licensed commercial banks and one mortgage finance institution (CBK, 2017). Out of the forty-four institutions, thirty-one are locally owned and thirteen are foreign owned. The locally owned financial institutions comprise three commercial banks with significant shareholding by the government and other state corporations, and twenty-seven commercial banks and one mortgage finance institution. In addition, there are nine deposit-taking microfinance institutions, and 118 foreign exchange bureaus and two credit reference bureaus – all privately owned.

The ongoing regional integration efforts and the increasing market competition, according to Onyuma (2006), have seen a number of Kenyan commercial banks cross-list their shares as well as establish branches in the other East African Community States of Rwanda, Burundi, Tanzania, Uganda and South Sudan. Similarly, two additional foreign financial institutions, HSBC of UK and FirstRand Bank of South Africa, have established physical presence in Kenya since 2011 through establishment of representative offices. In 2014, Mauritius Commercial Bank was also granted authority to establish a representative office by the CBK.

In order to improve their financial performance, efficiency and cope with the changing operating environment; several banking institutions have had to either merge – combine their operations – or acquisition (one institution takes over the other(s) operations). Some of the reasons put forward for mergers and acquisitions are, according to CBK (2014): to meet the increased level of share capital; expand distribution network and market share; and benefit from best global practices among others. Several banking institutions have merged or participated in acquisitions which were approved by the CBK. Some of the operating environment changes include: the global financial crisis of 2007-2010, which originated from the mortgage market in USA, and; the sovereign debt crisis that began in 2010 in Europe, which have prompted fresh focus on financial system regulation (Karuitha & Onyuma, 2013).

Although Kenya is currently considered to have one of the most developed and sophisticated financial systems in Eastern Africa, its market share is still dominated by a few commercial banks. For example, more than 82 percent of banks' total assets are held by only six commercial banking groups (three local and three foreign), while the remaining 18 percent are spread among remaining commercial banks. In addition, the financial depth as measured by the ratio of broad money supply relative to GDP has not increased significantly since the implementation of the SAPs including financial liberalization policy undertaken in early the 1990s.

3. Securities Market Development in Kenya

The Kenyan securities market, by African standards, is considered to be robust, liquid and fairly developed. The securities market is regulated by the Capital Markets Authority through the Capital Markets Act Cap 485A Laws of Kenya. In Kenya, dealing in financial securities, particularly shares, informally started in the 1920s, with no physical trading floor. Created in 1954, the Nairobi Securities Exchange (NSE) is currently one of the largest securities exchanges in Africa by market capitalization. The Exchange is a major player in the African Securities Exchanges Association – formed in 1993 – and hosts its secretariat in Nairobi. Currently, some of the listed Kenyan securities, including those issued by listed commercial banks, according to Makau, Onyuma & Okumu (2015), have been cross-listed and currently trade simultaneously in Nairobi, Dar es Salaam, Kampala, and Kigali.

Whereas the Exchange launched its central depository system in November 2004, in September 2006 live trading on the automated trading system was implemented. These initiatives essentially automated the trading, depository, clearance and settlement functions of the market, improving trading speed and delivery versus

settlement (Onyuma, 2013). It also led to extension of the trading hours from two to five.

In preparation for wider African securities market integration, the Exchange signed a merger MoU with the Uganda Securities Exchange in 2006 as well as another one on mass cross listing, which allow listed firms in both the two exchanges to dual-list and engineer their future growth and development of a regional securities market (Onyuma, 2006a). In February 2007, the NSE upgraded its system to enhance easy and faster access to accurate and timely trading data and listed firms' information, which has facilitated and boosted its data vending business. A wide area network platform was also implemented in 2007, which eradicated the need for securities brokers to send their traders/dealers to the Exchange trading floor to conduct business (Onyuma, Okumu & Karuitha, 2016). Although trading is currently being conducted from brokers' offices through the wide area network, securities brokers still under certain circumstances have to conduct trading from the floor of the Exchange. A consequent of these automation initiatives, according to Onyuma (2009), saw the NSE 20-Share Index recording an all-time high value of 6061.48 points on 12th February 2007 since its inceptions, compared to 100 points base set in 1966.

In 2008, the NSE All Share Index was introduced, as an alternative index, to measure the overall market performance. The Index incorporates all the listed shares and focuses on the overall market capitalization rather than the price movements of select counters. Following increased cases of fraudulent activities committed by brokerage firms between 2007 and 2009 at the NSE, the Complaints Handling Unit was launched in August 2009 to bridge the confidence gap with securities investors. This Unit provides a convenient way to have any concerns processed and resolved by forwarding the issues via e‑mail and SMS and ability to track progress on‑line. In order to further deepen that market, the NSE launched automated trading in government Treasury bonds through the ATS in December 2009. This marked a significant step in the efforts by the NSE and CBK towards providing the necessary market liquidity.

Having corporatized to improve its governance structure in September 2011, the NSE changed its name to the Nairobi Securities Exchange Ltd converting from a company limited by guarantee to a company limited by shares and adopted a new Memorandum and Articles of Association reflecting the change (Onyuma, 2011). The change of name reflected the strategic plan of the Exchange to evolve into a full-service securities exchange which supports trading, clearing and settlement of equities, bonds, derivatives and other associated financial instruments. During this period, the NSE lowered its equity delivery and settlement cycle from T+5 to the current T+3; a move which allow investors who sell their shares to get their money three days after the transaction day. This development was followed with the launch of the Broker Back Office system in October 2011, which enables the Exchange to remotely view what goes on at the back offices of it broker members.

In addition, the NSE modernized its operations in November 2011 with the launch of a new indexing system in conjunction with the FTSE – FTSE NSE Kenya 15 and FTSE NSE Kenya 25 Indices Series – albeit being made available on the NSE website in March 2012. The new indexing system reflect the growing interest in new domestic investment and diversification opportunities in the East African region. It also provide international investors with an indexing system with which they are familiar. Furthermore, the NSE became a member of the Financial Information Services Division of the Software and Information Industry Association. These initiatives provide investors the opportunity to access current information and provides a reliable indication of the Kenyan equity market's performance during trading hours.

Moreover, in June 2014 the NSE Ltd performed an IPO in which it subsequently self-listed its shares on its trading board, thereby according to Onyuma (2017), completing its demutualization process. The listing made the NSE to join the JSE in being the only exchanges in Africa, which are self-listed. In September 2014, the Exchange launched STT system for trading corporate bonds and state Treasury Bonds. This system allows on-line trading of debt securities and is integrated with the settlement system at the CBK, thus enabling the Exchange to continue achieving a true DvP and hence mitigating investor's risk. This system is also more efficient, scalable and flexible, and can support trading in bonds that have been issued in foreign currencies. It also presents other enormous opportunities in the bonds market such as; ability to support market making, a two-way quote trading model, ability to integrate with regulators' surveillance systems, and being able to report transactions that are concluded over the counter for purposes of settlement. In March 2015, the NSE joined the United Nations Sustainable Stock Exchanges in which members make a voluntary pledge to inform their stakeholders of the importance of integrating sustainability in their capital markets. As a result of all these innovative developments, the Exchange was in 2016 awarded the *Most Innovative African Stock Exchange* by Ai Capital Markets and Index Series Awards. This was the second time the NSE was receiving this prestigious award, having won the same in 2013.

The NSE has also made inroads into trading on derivatives with the creation of the NSE Derivatives Market (NEXT) in 2016 to facilitate trading of Futures contracts across a variety of asset classes, such as equities. The NEXT was established as a result of the increased volatility in asset prices local and international financial markets, a consequence of increased integration of the Kenyan financial markets with the international markets, and due to increasing need for more sophisticated risk management tools and strategies. Through NEXT,

investors can trade in two securities: equity index futures and single stock futures. Nevertheless, NEXT has not been launched for trading yet and the NSE planned to launch its Derivatives Market in last quarter of 2017 commencing with index and single stock futures.

The NSE took a bold step in introducing new financial innovative products in March 2017, which marked a profound achievement in the history of Kenya's capital markets, by listing its first exchange traded fund (EFT) – the Barclays *NewGold* ETF) – which track the performance of Gold. The ETF was issued as Gold Bullion Debentures by *NewGold*, a South African SPV owned by *NewGold* Owner Trust. Globally, gold has emerged as one of the most reliable safe havens of wealth, remaining largely unchanged in the long-run despite the short-term market volatilities, and offering perfect hedge against inflation, deflation and currency risk.

For decades, the Kenyan securities market was highly regulated through practices that were enforced by the NSE. Member brokerage firms operated both as stock brokers and securities trading principals, in addition to owning the Exchange (Onyuma, 2006b). Membership was also limited to Kenyans with unlimited liability. Commercial banks, as limited liability companies, were thus excluded from membership. However, following the financial collapse of four stockbrokers and financial distress of many brokers in late 2007/2009, structural changes were imposed on the NSE and its broker members in 2011, which resulted in a need to increase their capitalization.

The NSE Ltd is one of the sub-Saharan Africa's largest market with 65 listed firms. It is among the top 5 African exchanges, with others being JSE, Egyptian Exchange, Nigerian Stock Exchange, and Morocco Stock Exchange. During second quarter of 2017, the NSE was the sixth best performing securities market in Africa in terms of market returns in US dollar terms. By the end of June 2017, the Egyptian Exchange had a 96.72 percent rate of return – the highest among the continent's top performers. The Morocco Stock Exchange came in a distant second at 22.36 percent, followed by Malawi Stock Exchange (21.35 percent), Mauritius Stock Exchange (18.49), Nigeria Stock Exchange (10.31 percent), Nairobi Securities Exchange (8.52 percent), Uganda Securities Exchange (-2.23 percent) and Dar es Salaam Stock Exchange (-14.73 percent). Over the years, Exchange fundamentals represented by market turnover velocity, value traded ratio as well as market capitalization ratio, according to Onyuma (2017), have shown impressive growth.

Currently, there is a heightened competition between commercial banks and securities brokers as a number of commercial banks also own licensed stock brokerage/investment-banking subsidiaries. However, the competition between commercial banks and the securities market is not yet levelled. This is due to a wide arrange of restrictions on the issue of commercial papers and corporate bonds, which make it virtually impossible at present to use the securities market as a competitive alternative source for small business finance.

While the bank-based financial development in Kenya has consistently shown a mixed trend, the securities market development has shown a more or less upward trend since 2006. For instance, throughout the period from 2007, the annual securities market capitalization ratio, value traded ration, as well as market turnover ratio have been higher than that of the periods before. All these issues define how the Exchange has been evolving into a modern, developed market within the East African Community.

4. Reviewed Literature

The current debate regarding the relative roles of bank-based versus securities market-based financial systems in enhancing economic growth and development, according to Levine (2003), has been going on for decades. Advocates for the bank-based system claim that a bank-based financial system is better compared to a securities market-based system since it can induce longer-term investment in the real sector. Particularly, commercial banks can enhance domestic investment in several ways. Through pooling of financial savings, Ndikumane (2005) maintains that commercial banks increase the amount of investable funds. They also enhance investment by reducing liquidity risks and inducing higher quality and quantity of investments. Unlike the investment in the bank-based system, investment in the securities market-based system is considered to be too sensitive to the securities market prices and in the long-run may not be sustainable (Lee, 2001). Hence, the bank-based system encourage productive investment as it is less affected by unstable financial markets. Even during recessions, the intimate relationship between commercial banks and corporate firms can allow such businesses to continue with investment without pushing them into bankruptcy (Yartey, 2006). In addition, industrial policies of the government, according to Pollin (1995), can be carried out more easily in a bank-based system since it provides the state with more measures to intervene in the financial sector through interest rate regulation and credit control than the securities market-based system.

Nonetheless, the bank-based financial system has a number of challenges. It is usually vulnerable to glitches including inefficient capital allocation together with the close relationship between commercial banks and firms, and most of all, a higher debt-ratio. The moral hazard problem in the bank-based system is even more problematic (Onyuma, Cheruiyot & Okumu, 2007). With the implicit state bailout, finance sometimes only inflict more harm to an economy, making the system even more susceptible to financial crisis (Chortareas, Girardone & Ventouri, 2011). The crisis in the East-Asian countries in 1998 is a case in point. Before the 1990s,

some economists argued that the good performance of economies, such as Japan, as opposed to many market-based economies, was due to inefficiency in the market-based system, especially for long-term economic growth. However, with the emergence of the Asian crisis in the 1990s, this thinking was adversely challenged. As has been argued by Karuitha and Onyuma (2013), East Asia crisis would not have been that serious if the capital markets had been well developed in East Asia, because the capital market could have buffered and better cushioned the credit contraction in the commercial banking sector.

The current debate, however, zeroes around the complementarity versus the substitutability between these two systems. The argument is that both commercial banks and securities markets intermediate savings towards investments, and can be seen as either substitutes or complements (Naceur et al., 2007). Some recent studies have, however, shown that banks and securities markets are complementary rather than competitive systems (Odhiambo, 2010). In other words, what is important is not whether a financial system is bank-based or securities market-based, but rather how developed and efficient is the financial system. In addition, some studies have shown that the role of the securities market in economic growth is dependent on a country's stage of development. In the early stages of development, banks play a predominant role in stimulating economic growth. However, as a country reaches higher levels of income, securities markets tend to play an increasing role (Demirguc-Kunt & Levine, 1996). This means that more-developed nations are expected to have relatively larger and more liquid securities markets, while less-developed economies are expected to be largely bank-based.

Financial intermediary development is the growth and development of financial institutions such as the commercial banking sector, pension schemes, and savings and credit cooperatives (Saccos) in an economy. In this study, the level of gross domestic private saving mobilized by commercial banks (in Kenya shillings) was used to measure financial intermediary development. Most financial intermediaries in the financial markets are useful avenues for savings mobilization (Ebeke, 2014). Studying what determines securities market development in advanced and emerging markets, Evrim-Mandaci, Aktan, Kurt-Gumus and Tvaronaviciene (2013) found that banking sector credit to the private sector positively and significantly influence securities market capitalization, a proxy for securities market development. Similarly, Cherif and Gazdar (2010) also found that through savings rate, banking and securities markets sectors were complementary rather than substitutes. The implication is that savings held in commercial banks could be beneficial to the development of securities markets.

Furthermore, Gottlieb, *et al*. (2012) found that the availability of contractual savings institutions – pension schemes, unit trusts, life assurance firms – contributes to financial development. This is because a larger portion of funds held by these institutions is heavily invested in financial securities listed and traded in the securities market. This implies that the sophistication of the financial intermediary development may contribute to securities markets development. This is important because the Kenyan commercial banking sector now controls billions in savings, with a possibility of finding its way in the securities market investments.

Moreover, El-Nader & Alraimony (2013) examined the macroeconomic determinants of securities market development in Jordan and Latin America and found that GDP growth, domestic investment, and financial intermediary sector development are important factors. Yartey and Adjasi (2007) found that a percentage point increase in financial intermediary sector development tends to increase securities market development in selected African countries controlling for macroeconomic stability, economic development, and the quality of legal and political institutions. In addition, El-Wassal (2005; 2013) investigated the relationship between securities market growth, economic growth, financial liberalization, and foreign portfolio investment in 40 emerging markets. The results showed that economic growth, financial liberalization policies, and foreign portfolio investments were the leading factors of the emerging securities markets growth.

Examining the relationship between commercial banks and securities market development in South Africa, Odhiambo (2010) used country-specific data and banking development was proxied by the ratio of the domestic credit to the private sector to GDP, while the securities market development was proxied by the ratio of securities market capitalization to GDP. The results show that there was a distinct positive relationship between banks and securities markets in South Africa. The results applied both in the short-run as well as in the long-run. The results further showed that in the short-run, the securities market development in South Africa was positively determined by the level of savings, but negatively affected by the rate of inflation and the lagged values of the stock market development. However, in the long-run, the securities market was positively determined by real income and the inflation rate. The implication is for the development of financial intermediaries since investor savings is vital in explain securities market activities.

However, the relationship between the two systems, according to Yartey (2008), is non-monotonic. In fact, at the early stages of ~~its~~ development, banking sector development serves as a complement to the securities market development in financing investment, and this relationship may be shaped by the level of economic growth. However, as the two systems develop, they begin to compete with each other as vehicles for financing investment. Regrettably, studies which attempt to empirically examine how the relationship between bank-based financial system and securities market development is moderated by economic growth are scanty.

5. Methodology

This study assessed whether the level of economic growth moderates the relationship between financial intermediary development as captured by gross domestic savings and securities market development. Following Onyuma (2017), a moderator analysis was conducted to assess this relationship in Kenya. The study adopted a correlational research design of a predictive nature since it is more formalized and typically structured with clearly stated hypotheses or investigative questions. The population of interest comprised all the listed firms at the NSE since they are the ones that deal with the securities market and are subject to the regulatory rules in place. There are currently 65 listed firms at the NSE, in addition to a REIT, and an EFT. Out of these, 50 firms are classified under MIMS, 10 are under the AIMS, and 5 SMEs in the GEMS. Due to the few number of listed firms at the NSE, a complete enumeration procedure was used to select all the listed firms during the study period and used their stock trading information for analysis.

The NSE database contains information on market statistics such as securities prices, listed firms' shares issued, securities traded volumes, corporate actions by listed firms, value of the NSE 20 Share Index spanning 1997 to date. This study utilized secondary data collected from the NSE and CBK databases for the period 1997-2016. This period of analysis assisted in avoiding biases in the findings due to financial recession and securities market booms. The reason for selecting monthly data was because most previous studies related to determinants of securities market development used annual or quarterly data. Monthly data was used for several reasons (Onyuma, 2017): First, yearly data often reported by CMA are collected on the last trading day of the month of December each year, and may not provide more insights about the annual market trading. Even if data were to be averaged annually, such data suffers from over-averaging. Whereas, monthly data has not been utilized in the case of Kenya, the use of monthly data was therefore meant to make the most of the observations, and to seize the long-standing dynamic fluctuations in the securities market development process, and thus, diminish the possibilities of high degree of multicollinearity. Given that the values of both market capitalization and GDP are measured at the end of the year, this study also used monthly data to solve the stock-flow problem. El-Nader and Alraimony (2013) have also used monthly market data in Jordan.

The data collected was analyzed using OLS regression to test the research hypothesis to determine the existence of any significant relationship between the variables under study and to ascertain the predictive power of financial intermediary development on securities market development, as well as how economic growth moderates this relationship. Securities markets, like financial intermediaries, intermediate savings to investments. Usually the larger the savings, the higher the amount of capital flows through the securities market. In this study, the financial intermediary development was measured through the gross domestic private savings calculated in billions of Kenya shillings, as percentage of GDP.

Data was first transformed into logarithm and centered – by subtracting their mean from their values – in order to reduce any possible multicollinearity between the variable and the interaction term, and to facilitate better interpretation of the results.

Following Onyuma (2017), the dependent variable was measured as follows: m*arket capitalization ratio (MCR)* is the value of listed shares divided by GDP, an indicator of the size of the market relative to the size of the economy; v*alue traded ratio (VTR)* is the value of shares traded on the exchange divided by GDP, a measure of the degree of liquidity that the securities market provides in the economy; while *market turnover ratio (MTR) is* the value of total shares traded divided by market capitalization, a measure of the activity of the securities market relative to its own size. MTR complements the MCR and measures the amount of re-valuation that takes place in the market. A large but inactive market can have a large market capitalization ratio but a small turnover ratio. The MTR also complements the VTR, and measures trading relative to the size of the securities market. A small liquid market can have a high turnover ratio but a small value traded ratio. Following Onyuma (2017), these variables were measured as follows:

$\mathrm{MC} = DMP \times NSI$ ……………………………..(Eq.1)

$\mathrm{MCR} = \frac{MC}{GDP}$ ………………………………………(Eq.2)

$\mathrm{VTR} = \frac{VST}{GDP}$ ……………………………………… (Eq.3)

$\mathrm{MTR} = \frac{VST}{MC}$ ………………………………………(Eq.4)

Securities market development was measured by creating a market development index (MDI), following Onyuma (2017), by taking into account MCR, VTR and MTR.

$\mathrm{MDI} = \beta_0 + \beta_1 \mathrm{LnGDSV} + \varepsilon_i$……………………………..………(Eq.5)

LnGDSV = Logarithm of gross domestic private savings mobilized by commercial banks as a percent of GDP, in percentage.

LnGDPg = Logarithm growth rate in gross domestic product, a proxy for economic growth, measured in percentage.

β_0 = Autonomous market development resulting without any of the interventions.

β_1 = The coefficient to be measured.

ε_i = Error tern capturing variations in securities market development not explained by the predictor variable(s).

The study employed a hierarchical moderator multiple regression analysis, where gross domestic savings and economic growth were entered into the regression model. First, financial intermediary development and economic growth were entered. Secondly, the study created an interaction term between gross domestic savings and economic growth. The interaction term was then added into the analysis model. The significance of the change in F-statistic, as well as the change in R-square, was then observed and used to assess any moderating effect of economic growth.

6. Results and Discussion

The results from the analysis in Table 1 show that LnGDSV and LnGDPg alone accounted for a significant amount of variations in securities market development, $R^2 = .840$; $F(2, 237) = 558.831$; $p < .05$.

Table 1: The Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.916[a]	.840	.838	.33507081	.840	558.831	2	237	.000
2	.920[b]	.847	.845	.32824178	.007	9.955	1	236	.002

Source: Data Analysis (2017)

Based on the result in Table 1 and Table 2, it is evident that the two models were statistically significant at the 5 percent level, and the amount of the variance accounted for in Model 2 with the interaction term with an $F(3, 236) = 391.535$; and $p<.05$ was significantly more than that of Model 1 without the interaction term with an [$F(2, 236) = 558.831$; and $p < .05$].

Table 2: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	125.483	2	62.741	558.831	.000
	Residual	23.914	237	.112		
	Total	149.397	239			
2	Regression	126.555	3	42.185	391.535	.000
	Residual	22.841	236	.108		
	Total	149.397	239			

Source: Data Analysis (2017)

The results contained in Table 3 further revealed that the addition of the interaction term accounted for a significant amount of variation in securities market development, as revealed by change in $R^2 = .007$; change in $F(1, 236) = 9.955$; $p = .002$; while $\beta = -3.103$; $t(236) = -3.155$; and $p < .05$.

From the first model whose results are presented in Table 3, financial intermediary development positively and statistically influenced securities market development at the 5 percent level [$F(2, 237) = 558.831$; $p = .000$; $\beta = 1.681$; $t(237) = 27.334$]. This implies that a unit change in financial intermediary development leads to 1.681 unit variation in securities market development in Kenya.

From the second model whose results are also presented in Table 3, the coefficient for the interaction term shows moderation effect of economic growth on the influence of financial intermediary development on the level of securities market development.

Table 3: Moderator Effect of Economic Growth on Influence of Financial Intermediary Development

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	12.559	.449		27.960	.000	11.674	13.444
	LnGDSV	1.681	.061	.797	27.334	.000	1.560	1.802
	LnGDPg	2.122	.242	.255	8.751	.000	1.644	2.600
2	(Constant)	13.112	.474		27.684	.000	12.178	14.045
	LnGDSV	1.751	.064	.831	27.273	.000	1.624	1.878
	LnGDPg	-21.567	7.512	-2.595	-2.871	.005	-36.375	-6.760
	LnGSVxLnGDPg	-3.103	.984	-2.840	-3.155	.002	-5.042	-1.164

Based on the above findings, economic growth, therefore, moderates the relationship between financial intermediary development and securities market development in Kenya. The implication is that the influence of financial intermediary development on securities market development in Kenya is moderated by the level of economic growth. The revealed moderation effect means that as the economy grows, the financial intermediary become more developed, the level of the securities market also improves. Economic growth is, therefore, important for securities market development, and this influence is exerted through its catalytic moderation effect on the influence of development of the various financial intermediaries within the economy. It, therefore, implies that economic growth fully moderates the relationship between the financial intermediary development – particularly via domestic bank savings – and securities market development in Kenya.

The study findings are similar to those of Zou & Wang (2017) that currency undervaluation affects financial development through economic growth in Asia. The results are also in line with Anghe, Nita & Badiu (2017) whose findings showed that remittances in Romania had a significant and positive effect on financial sector development especially during times when the economy was in growth projectile. The findings are also in line with Onyuma (2017), who found that the relationship between financial deepening determinant and securities market development was fully moderated by economic growth within an economy. Lastly, the results echoes those of Onyuma & Ochieng (2017) whose findings indicate the relationship between foreign financial flows and securities market development was indeed moderated by economic growth.

7. Conclusion and Recommendation for Policy

This study examined how the relationship between bank-based financial development and securities market development in Kenya, is moderated by the level of economic growth. The empirical results show that there is a distinct positive relationship between financial intermediary development and securities market development in Kenya. The results further showed that this positive relationship was further moderated by the level of economic growth in the economy.

However, savings rate in Kenya is one of the lowest, averaging around 10 percent of GDP compared to 13 percent average of African countries. The securities market can potentially be crucial in raising savings and investment rates by introducing new instruments that might better meet savers' needs and by pooling the small savings of the population to fund large-scale investments that otherwise might not be undertaken. The Kenya government has continuously been issuing Treasury bills in ever increasing volumes. The reason for the T-bills popularity is because in a country where bank lending and deposit rates spread are quite high, the interest income on these bills is higher compared to that from shares, which generally pay lower dividend rates.

The size of investment is usually driven by personal savings, which has been found to influence the development of the securities market. Over the years, the domestic savings mobilized by the private sector via the banking system have grown significantly. This increase can partly be explained by the commercial banks developing financial innovations which enable them to increase market outreach, thus promoting more savings retail investors in the securities market. With uninterrupted flow of mobilized savings, savers can be able to make increased securities investments, thus contributing to more securities market development in the longer-run. This finding by the study can be interpreted to mean that higher savings mobilization by financial intermediaries like commercial banks, pension funds, insurers, as well as, Saccos is a major contributor to the development of securities markets.

The development of the banking sector is important for securities markets, and as a strategy, developing the financial intermediary sector can, therefore, promote securities market development in Kenya. The development of the securities market can only be achieved, therefore, after financial intermediaries have reached a certain depth. Once in place, this will encourage private capital flows, which are important for securities market development. This effort has really worked for many East Asian countries. Support services from the banking

system seem to be important to the development of the securities market. Consequently, liquid inter-bank markets, largely supported by an efficient banking system, are critical for the development of the securities market. Conversely a weak-banking system can constrain the development of the securities market.

Although Kenya has only 43 commercial banks and one mortgage financial institutions, they have provided useful services to the securities market. In the recent IPOs, commercial banks have been useful in providing investors with the loans to pay for the IPO shares. This has enabled many Kenyans to access the securities market. They have also been critical in providing receiving banking services in all the IPOs performed thereby leading to successful processing of the payment and refund of excess securities subscription monies. However, a number of commercial banks have, however, collapsed during the study period while some still under statutory management or liquidation process. With well-developed banking system in Kenya, the cost of savings would be lower and the fees for undertaking receiving banking services will also become cheaper for firms performing IPOs. This will have the effect of attracting more firms to list in the market and offer different types of securities to the investing public.

From a policy standpoint, the Kenya government should facilitate, to the extent possible, the uninterrupted flow and mobilization of private savings as it contributes to long-run securities market development. Therefore, securities market development can be promoted by policies that promote the development of deposit-taking financial intermediaries such as banks, pension schemes, Sacco societies, and even life assurance firms. These financial intermediaries also act as institutional investors in the securities market. The creation and development of a strong institutional investor base can generate positive externalities for the development of the securities market by stimulating financial innovation and efficient functioning of the securities market.

These institutional investors can exert pressure on the listed firms for better accounting and auditing standards as well as for more accurate and timely disclosure of material information to securities investors. They can also encourage improved securities broking and trading arrangements and help establish more efficient and reliable clearing and settlement facilities within the securities market. Additionally, they can improve corporate sector performance by facilitating the privatization process and promoting sound corporate governance practices as well as the dispersion of corporate ownership in the country.

The contribution of private pension funds to the development of domestic securities market in developing economies like Kenya has long been limited because of investment regulations that favour investments in government bonds. In order to increase their role, such market regulations needs to be relaxed as a means of further liberalizing overall financial markets. With this, their influence on securities market development would improve. The development of domestic pension schemes can provide an impetus to domestic securities market development as has been witnessed in Sweden. Pension schemes need to invest in long-term instruments for asset-liability management purposes and, therefore, can provide a stable market base for domestic securities markets. Chile, for instance, implemented a funded pension system which contributed to the development of its securities market in South America.

Since the development of the banking sector has the potential of growing the national savings for investment, the CBK should increase capitalization to compel smaller banks to undergo mergers and acquisitions thereby creating larger banks with less systemic as well as liquidity risks. Encouraging the creation of private pension funds can generate a large pool of funds under management and varied investor base of institutional investors, and opening the market to foreign pension contributors through financial liberalization can further enlarge and diversify the investor base as well as domestic savings. Given that securities markets have been found to be a complement rather than substitute to the banking sector, developing financial intermediaries to be able to mobilize more savings for investments can promote the domestic securities market development. This calls for strengthening banking sector regulation as a way of preventing bank collapse, as has been recently witnessed with two banks, Chase Bank and Imperial Bank going under in less than six months. Tightening bank regulation as well as placing regulation of all deposit taking institutions under a single regulator would have the effect of improving their efficiency in savings mobilization as a result of improved savers' confidence. This can also be a building block for the intended consolidated financial regulations in Kenya.

Given that private saving plays an important role in determining securities market development, Kenya should, therefore, encourage savings and investment using appropriate strategies. For instance, Kenya needs to mobilize domestic savings both public and private by strengthening its fiscal performance by lowering recurrent spending and increasing tax revenues, reforming the pension system, and recognizing the role played by Saccos societies and improving their operational efficiency. The Kenya government can incentivize households to save through formal contributory pension schemes. Moving from state funded public pension scheme could create a significant pool of financial assets. Any policy to improve peoples' income would also have a positive influence on securities market development. Saccos have grown rapidly and increasingly attracted savings, but their potential is still low. Their use for savings amounts to less than half of those of commercial banks. While the value and reach of non-deposit-taking and unregulated Saccos are not documented, Sacco Societies Regulatory Authority currently has 180 deposit taking Saccos under its jurisdiction, with a total asset base of over Sh310

billion. However, Sacco members do not have the same access to their savings as they do with their bank deposits as they cannot even issue a cheque from their accounts. This limits the utility of their savings accounts for financial investments. Market reforms aimed at the integration and prudentially regulated Saccos into the mainstream financial sector could boost savings rates for a large portion of the population, as long as such savings are channeled to productive investments, especially in the financial markets.

The development of securities markets, therefore, depends on the existence of other capital markets as it can be catalyzed by promoting development in the banking as well as pensions, Saccos and insurance sectors. This can be through providing a yield curve benchmark against which to price securities, market liquidity, and price revelation. This argument is supported by literature which has indicated that securities markets tend to be more developed in countries with deeper money markets. Likewise, the planned derivatives markets cannot flourish without well-developed markets in underlying assets and in turn spur securities market development by completing markets. Therefore, the development of securities market in Kenya requires a well-developed money markets so that monetary policy actions can be taken without causing excessive interest rate volatility that would interfere with the development of other capital markets.

This study also found a moderating effect of economic growth on the relationship between the financial deepening determinants and securities market development. The growth in real gross domestic product is, therefore, vital in bringing about development in the securities market as it catalyzes the influence of the financial intermediary development on market development. Efforts to promote the development of the securities market in Kenya, therefore, must address issues relating to fiscal and monetary policies which will promote national production and trade to grow the GDP to propel the growth rate of the economy. Therefore, policies aimed at price stability by keeping inflation rate moderate, are critical in securing the development of securities market in Kenya. Any monetary, fiscal and other policies aimed at growing the economy would also have the influence of driving the development of the securities market in Kenya. This may be caused by growth in the real output of the economy impacting in the growth and development of the securities market. The finding of a moderating effect of economic growth over financial intermediaries on securities market development also have important policy implications for Kenya. First, the evidence indicates that economic growth plays an important moderating role in securities market development.

Therefore, policy recommendation is for the government to increasingly liberalize the economy when undertaking financial market development. Every fiscal and monetary policies as well as infrastructure development undertaken by the government should be aimed at growing the economy. The promotion of the development of the securities market in Kenya, therefore, calls for fiscal and monetary policies, which will promote national production and private sector trade to grow the economy. In addition, policymakers should implement policies which raise macroeconomic stability, banking sector development considering the interaction between economic growth and these determinants of securities market development. This is because such efforts will also assist in ensuring that the Kenyan securities market continue to grow and develop.

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