EFFECT OF DOMESTIC PUBLIC DEBT ON FINANCIAL DEVELOPMENT IN KENYA

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, FACULTY OF BUSINESS AND MANAGEMENT SCIENCES, UNIVERSITY OF NAIROBI

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any

institution or university other than the University of Nairobi for examination.

Signed: _____ Date: 8ᵗʰ November 2022

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This research project has been submitted for examination with my approval as the

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Signed: _____ Date: 15th November 2022

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DEDICATION

This research project is dedicated to my family and to my many friends. A special feeling of gratitude to my Mum, Jane Muriuki, my siblings Eustace, Margret and Edwin whose words of encouragement and push for tenacity always rings in my ears.

I also dedicate this work to my grandparents, Mrs. Margret Muriuki and the late Eustace Muriuki who have been a great pillar in my academic path.

And lastly, I dedicate this project to my great cousins, Uncles and Aunts who have been my best Cheerleaders in this journey.

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LIST OF ABBREVIATIONS

CBK   Central Bank of Kenya

ECOWAS   Economic Community of West African States

GDP   Gross Domestic Product

GMM   Generalized Method of Moments

PRISMA   Preferred Reporting Items for Systematic Meta-Analyses

SSA   Sub Saharan Africa

UK   United Kingdom

UNCTAD   United Nations Conference on Trade and Development

US   United States

VAR   Vector Autoregressive

ABSTRACT

The effect of domestic public borrowing on the development level of financial sector has not been extensively investigated in finance literature. Two views, safe asset view and lazy bank view, have been suggested for the interaction between public borrowing and financial development. Lazy bank view suggests that banks with greater public debt instruments increase their profitability but decrease their efficiency and in turn lowers financial depth in time. On the other side, safe asset view asserts that limited amount of public borrowing supports financial development. So, the net influence of public borrowing on financial sector development depends on public borrowing level and country specific characteristics. The objective of this research was to determine the effect of domestic public debt on Kenya's financial development. The study was anchored on crowding out effect theory and supported by debt overhang theory and neoclassical theory. The independent variable was domestic public debt operationalized as the ratio of domestic public debt to GDP while the control variables were; interest rate, inflation and unemployment rate. The dependent variable that the research attempted to explain was the financial development in Kenya. The data was collected on a quarterly basis over a period of twenty years (from January 2002 to December 2021). A descriptive research approach was employed in the research, with a multivariate regression model used to examine the connection between the study variables. The study's findings yielded an R-square value of 0.642, indicating that the chosen independent variables could explain 64.2 percent of the variance in Kenya's financial development, while the other 35.8 percent was due to other factors not investigated in this study. The F statistic was significant at a 5% level with a p=0.000. This suggests that the model was adequate for explaining financial development in Kenya. Further, the findings demonstrated that domestic public debt, inflation and unemployment rate had a negative and significant influence on Kenya's financial development. Interest rate had no significant influence on Kenya's financial development. The study recommends the need for practitioners and policy makers to develop target domestic public debt level that will promote financial development. The policy makers should also ensure that inflation levels are stabilized and unemployment rate is reduced. Future studies can focus on other determinants of financial development in Kenya such as financial literacy and economic growth among others. Future studies can also focus on a longer study period to confirm the findings.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The relationship between domestic public debt and financial development is a perennial issue in development finance judging from several empirical scholarly works on issue about if government domestic borrowing leads to crowding out or crowding in of the private sector credit. Hassan (2015) reveals that domestic debt has a negative relationship with financial development in both short-run and long-run. These findings are however in conflict with the Renjith and Shanmugam (2018) who argues that domestic public debt does not bring any burden residents since it belongs to them and resources remain within the country but only changes through transfer from tax payers to bond holders.

This study was anchored on crowding out effect theory and supported by Keynesian theory and neoclassical theory. The crowding out effect theory by McConnel and Brue (1990) claims that government borrowing boosts credit market interest rates, driving the private sector out of the market and so adversely affecting financial development. The debt overhang theory by Krugman (1988) elaborates the indirect link between public debt and financial development as huge debt service reduces the capacity of governments to save and invest thus slowing down economic growth and consequently financial development. The neoclassical theory by Solow (1956) is also pertinent to the present research since it has been widely accepted that using domestic borrowing to pay government spending will reduce private investment, raising the economy's real interest rates and slowing financial development.

The focus of this study was Kenya. The study focuses on Kenya because the ratio of public debt to Gross Domestic Product (GDP) in Kenya has been on the rise (World Bank, 2019). Between 2010 and 2018, mean public debt in Kenya rose by half, from 40 to 59 percent of GDP, making Kenya to be among the fastest-growing debt-accumulation countries in the world. At the same time, the country has also recorded significant growth in economic growth and financial development (World Bank, 2020). The country offers a good context to investigate the effect of domestic public debt on financial development.

1.1.1 Domestic Public Debt

Domestic public debt is defined as debt owed to holders of government securities such as treasury bills and treasury bonds (Akram, 2010). Domestic public debt can also be defined as amounts borrowed from government instruments like Treasury bills, bonds, and others (UNCTAD, 2017). Murungi and Okiro (2018) affirm that domestic public debt is a form of fiscal financing, where the government raises funds through floating loans within the country. Panizza and Presbitero (2013) suggest that domestic public debt refers to a situation where governments raise funds by acquiring loans from lenders within the geographical boundaries of the country.

Government domestic public debt is used for various reasons including; finance the budget deficit when the government is not able to meet its expenditure commitments using domestically raised revenue and externally sourced grants and borrowing; helps in implementation of monetary policy through open market operations in addition to development of financial markets through debt instruments. Moreover, the purpose of borrowing is also to influence aggregate demand for economic stability (Klein, 2010).

Comparing domestic public debt to the economy's production or gross domestic product is one approach to quantify it (Ariyo, 2017). Domestic debt can also be measured in absolute terms but this measure ignores a country's wealth as well as efficiency. A rich and increasingly fruitful nation can counter and incur massive domestic public debt compared to a poor one. As a result, proportional to a country's GDP, rather than absolute terms, is a better indicator of domestic debt. The domestic debt-to-GDP ratio permits for valuable comparisons across time between countries in terms of a government's ability to service its obligations as well as manage its overall fiscal situation (Matiti, 2013). The current study measured domestic public debt as a ratio to GDP in a given quarter.

1.1.2 Financial Development

According to World Bank (2017), financial development is described as the advancement of the financial sector with respect to efficiency, debt, stability and accessibility. According to Roubini and Bilodeau (2008), financial development can be defined as enabling infrastructural factors, institutions and policies whose outcome is broad and deep access to capital and financial services and effective financial intermediation. A good financial development measurement is vital in assessing the advancement of financial sector and articulating its subsequent impact on poverty reduction and economic growth (Mehrotra & Yetman, 2015).

Levine et al. (2012) cites four conventional ways that could be used to ascertain financial development which are; the size and market of financial institutions i.e. financial depth, the degree to which financial services are utilized by individuals i.e. access, the financial institutions' efficiency in mediation of resources and facilitation of financial transactions

i.e. efficiency and the financial institutions' stability. It is on this basis that various financial development parameters were established.

Ayadi, Arbak and Naceur (2013) used three financial development indicators that can be used for the measurement of financial development. These included: Credit to private sector (%GDP); Bank Deposits (%GDP); and Stock Market capitalization (% GDP). While Standley (2008) in measuring financial market development in Sub-Saharan Africa used five indicators to measure financial development namely Deposit money- bank assets (%GDP), Value traded, Credit to private sector (% of GDP); Turnover ratio and Market capitalization (%GDP). The current study used credit issued to the private sector divided by GDP as the measure for financial development.

1.1.3 Domestic Public Debt and Financial Development

Safe asset view and lazy bank view have been suggested for the interaction between domestic public debt and financial development. Lazy bank view suggests that banks with greater public debt instruments increase their profitability but decrease their efficiency and in turn lowers financial depth in time. On the other side, safe asset view asserts that limited amount of public borrowing supports financial development (Hauner, 2009). So, the net influence of public borrowing on financial sector development depends on public borrowing level and country specific characteristics (Achwoga, 2016).

The modern theory of public debt which argues that domestic public debt does not bring any burden residents since it belongs to them and resources remain within the country but only changes through transfer from tax payers to bond holders. Modern theory of public debt believes that more income facilitates payment of taxes and interests of the debt

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(Renjith & Shanmugam, 2018). This theory further assumes that increased public borrowing leads to development in the banking industry, stock market and capital markets and insurance companies (Coupet, 2017).

Domestic debt can have severe implications on the financial system of a country if the increase in the debt discourages financial intermediaries from lending to the private sectors as the ratio of private credit to GDP is a good indicator of financial development (Levine et al., 2012). Financial development is important because of its impact on economic growth and development. However, one of the factors affecting financial development is public debt. Its effect on financial development could be negative or positive depending on the effect of public borrowing on private credit (Hauner, 2009).

1.1.4 Domestic Public Debt and Financial Development in Kenya

Kenya is one of Sub-Saharan Africa's fastest-growing economies with an average annual growth of 5.4%. A report by the World Bank (2020) states that the country's financial sector experiences significant growth both in size and complexity which greatly boost an economy's overall growth. The sector mainly constitutes of banking, insurance, capital markets, credit and savings cooperatives and pensions. Other key players consist of microfinance institutions, money remittances companies, foreign exchange bureaus and development finance institutions. Safety nets and resolution organizations additionally exist and incorporate policyholders' compensation funds for the insurance industry.

According to the World Bank (2019), the National Treasury data on fiscal out turn released in September 2019 reveals a considerable rise in the public debt for FY2018/19, taking decisive action to take back Kenya to fiscal consolidation path. There is a growth in fiscal deficit from 7.4 percent (previous years) to 7.7 percent of GDP in FY2018/19

hence the target was missed in FY2018/19 (of 6.8 percent of GDP) by nearly a full percentage point of GDP. This has sequentially resulted in the driving out of the private sector, an unforeseen rise in budget deficit, and the moderate credit growth in private sector.

1.2 Research Problem

The effect of domestic public borrowing on the development level of financial sector has not been extensively investigated in finance literature. Two views, safe asset view and lazy bank view, have been suggested for the interaction between public borrowing and financial development. Lazy bank view suggests that banks with greater public debt instruments increase their profitability but decrease their efficiency and in turn lowers financial depth in time. On the other side, safe asset view asserts that limited amount of public borrowing supports financial development (Hauner, 2009). So, the net influence of public borrowing on financial sector development depends on public borrowing level and country specific characteristics (Achwoga, 2016).

Kenya has consistently accumulated the level of public debt used in financing budgets (Were, 2018). Debt to GDP ratio in Kenya escalated from 25.4 to 56.2 percent from 1963 to 2015 with the target set at 41.4 percent in 2015 implying debt stabilization has not been a priority to the government but escalation of public debt may have negative repercussions in achieving several targets like GDP growth of 10.6 percent and a debt-GDP reduction to 39.2 percent by 2017 (Republic of Kenya, 2018). The implication of deficit financing through borrowing is that, the debt burden, if not well managed may dim envisaged financial development prospects in Kenya.

Empirical studies have been conducted in this area. Globally, Hauner (2009) analyzed the impact of public sector borrowing on financial development in 79 emerging countries and discovered that public sector borrowing positively affected the financial development. However, Ilgün (2016) explored the same nexus for 18 emerging economies through cointegration analysis and revealed a negative long run effect of government borrowing on financial development. Altayligil and Akkay (2013) investigated the same nexus for an emerging Turkish economy through cointegration approach and reached the same findings with Ilgün (2016). These studies were conducted in different contexts and cannot be generalized in Kenya due to different social and economic settings.

Regionally, Benayed and Gabsi (2020) explored the influence of domestic public borrowing on bank credit to the private sector in Sub-Saharan African countries and revealed an inverted-U relationship. Ehikioya et al. (2020) investigated the diverse relationships between foreign loan and economic development in 43 African nations from 2001 to 2018. The study concluded that foreign debt has a significant negative influence on growth of African Nations. Fayed (2012) investigates crowding out effect of public borrowing of the Egyptian economy and revealed that government borrowing from the domestic banks leads to crowding out of private credit.

Locally, Ochieng' (2018) examined the impact of government domestic borrowing on the development of the Kenyan financial sector. Murungi and Okiro (2018) conducted a review of literature on the impact of government debt on economic growth. The findings demonstrated that government debt had an impact on economic growth. Achwoga (2016) revealed that domestic public debt and economic growth possess statistically significant connection. From the above reviewed local and global studies, it evident most studies

provide conflict findings with some oscillating from negative to positive and other indicating no relationship at all. In addition, no conclusive study has documented the interactions among domestic public debt and financial development in Kenya hence conceptual and contextual gaps. This leads to the research question, what is the effect of domestic public debt on financial development in Kenya?

1.3 Research Objective

This research sought to establish the effect of domestic public debt on financial development in Kenya

1.4 Value of the Study

This study adds on to the available theoretical discussion on the neoclassical theory, Keynesian theory, and crowding out effect theory. The study also adds on to the empirical literature on domestic public debt and financial development. Additional, studies may also be carried out based on the recommendation and further research suggestions.

The study is also of value to policymaking organizations like governments and economic bodies that formulate the various polices on domestic public debt and financial development. The policy making bodies may use the study recommendations to come with effective borrowing strategies to enhance economic growth.

The study is of significance to the management of institutions that are tasked in managing domestic public debt and financial development. Investors will gain from this research as well, since they will be able to comprehend the implication of changes in domestic public debt and take necessary actions.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The theoretical review chapter documents the various theories guiding the study and the relationship with the study variables as well as the empirical linkages among the variables under review. A conceptual framework has also been developed from the review,

2.2 Theoretical Foundation

The primary theories made use of in the literature in interpreting the domestic public debt impact on financial development are crowding out effect theory, debt overhang theory and neoclassical theory. A discussion of these theories is given in this segment.

2.2.1 Crowding-Out Effect Theory

This is the anchor theory of the current study and it was developed by McConnel and Brue (1990). According to Karazijiene (2015), this approach posits that the tendency of borrowing by a government increases interest rates in the credit market which is a blow to the private sector and thus it lowers the possibility of future investments. With these increasing interest rates and crowding out the private sector, higher national deficit has the influence of lowering business activities and also decreasing the growth of the economy according to Coupet (2017). This proposition of crowding-out effect is a section contained in the more diverge neoclassical hypothesis discussed by Lwanga and Mawejje (2014), which posits that underwriting debts leads to the crowding-out of investments which consequently leads to low formation of capital. A consistent deficit of the budget is a tool that drains the national savings of a country (Hyman, 2014). The decrease in these

savings may end up raising the real interest rates which in turn becomes a barrier to investment and consequently decelerate the growth of the economy.

A major constraint with the approach comes up because the approach requires full utilization of resources, but very occasional thrifts, Kenya included, are capable to accomplish. Similarly, this approach is also unfit in the study since it links fiscal dominance to private acquisition and savings. Also, it carries a hypothesis stating fiscal debts are only subsidized using fiscal sovereignty, even though alternatives like borrowing through bilateral and multilateral organizations exist (Coupet, 2017).

The approach applies to existing analysis since it identifies the significance of state renting to subsidize debt allocations because monetary organizations have little funds at their disposal to lend to the private sector. In case the approach is valid, public debts might carry a damaging impact on poverty levels in the long term through filling out all private investors and entrepreneurs. Therefore, borrowing of a state to inflate expenditure may lead to an increase in the interest rates that affects private investment and consequently financial growth. This theory hypothesizes a positive relationship between debt and poverty levels. Consequently, when the government borrows from banks to expand spending, the interest rate may rise, affecting private investment and, ultimately, financial development.

2.2.2 Debt Overhang Theory

This theory was developed by Krugman (1988). Debt overhang is defined as "a situation in which the expected payment of principal and interest on foreign debt incurred by a country falls short of its contractual value". If a country accrues unsustainable levels of debt that exceed its ability to repay by a given percentage with time, the anticipated

deficit benefit is anticipated to form an increasing operation of tier of output for that particular country. High foreign interest payments can raise domestic interest rates and also increase the budget deficit, thereby slowing investments and reducing public savings since a large share of a country's financial resources are allocated to debt service.

The theory is on the premise that as the amount of outstanding debt surpasses a certain threshold level known as the debt overhang level; the ability or willingness of a country to repay its debts begins to diminish. This is predominantly the case when governments begin to default on debt payments to impede the adverse effects of very high debt service. Borensztein (1990) emphasizes that debt overhang is "a position in which the debtor country gains significantly low from the return of any additional investment due to the increasing debt service obligations.

On the other hand; Mesjasz (2011) states that a reduction in the face value of future debt obligations increases investment and the repayment capacity of a country consequently leading to sustained economic growth which is a critical determinant of poverty reduction. However, if a country accumulates unsustainable debt, it lowers growth and further curtails the government's savings, investments, and social spending, thus reducing the potential for poverty-related spending (Clements, Rina & Nguyen 2005). This theory indicates that high levels of debt have an impact on financial development due to the decreased levels of public investments.

2.2.3 Neoclassical Theory

Because price varies rapidly, Solow's (1956) neoclassical theory suggests that planned investment should always equal savings; this will also hold true for interest rates. Neoclassical growth theory focuses on capital and technology based on these principles.

Only supply-side forces, as per this theory, influence a country's pace of economic growth. In the model, short-run production growth is achieved via a higher saving rate that results in higher capital formation rate. In this model, though, diminishing returns to capital impose a limit on economic expansion. The neoclassical growth model, on the surface, posits constant returns to scale, with diminishing returns to capital and labor independently.

The neoclassical economics outlook examines the dynamic forces of quantities and prices via principally an institution-free outlook whereby only function matters (Akinwunmi, 2012). The new classical economists emphasizes the importance of intertemporal optimization and rational expectations (Goodfriend, 2004). However, despite having taken over the classical tradition regarding the equilibration of markets, the new classical theory paradoxically debates on the dichotomy between the nominal and real economic factors (Ohanian, 2010).

Critics of the theory have argued that it offers itself to a defective conception of the functioning of the market to demand and supply model of neoclassical economics, as a result, the economic reality is oversimplified (Agboola, 2015). The neoclassical theory is pertinent to the present research since it has been widely accepted that using external borrowing to pay government spending will reduce private investment, raising the economy's real interest rates. As a result, financial development will be slowed.

2.3 Determinants of Financial Development

The elements that drive financial development have been discussed in previous literature. Domestic public debt, interest rates, inflation and unemployment are discussed.

2.3.1 Domestic Public Debt

From the Keynesian theory, countries can balance recessions by administering debts to the private sector and also distributing the profits accrued back to the sector (Eze & Ogiji, 2016). According to Bal and Rath (2016), a thrift's gross spending affects financial development and economic steadiness, therefore a state's debt taken to back expenditure does not destroy the economy to a great extent.

According to Lwanga and Mawejje (2014), Ricardian's approach suggests a correlation between the two variables that is, debt and growth, proves not to be favorable or unfavorable. In their report, financial debt is extraneous because its sole purpose is aiding to streamline any spending and income disturbances (Renjith & Shanmugam, 2018). The approach has been established basing on the view that increasing state deficit consists rising expected taxes with a percentage or value that matches the current value of the deficit.

2.3.2 Interest Rates

They significantly influence the setting of prices for products and services at the local level and even internationally. Money supply occurring in the thrift will significantly impact interests. An example, when the entire economy is enjoying abundance of money, interest rates will in most cases start decreasing impacting the way business functions. Barksenius and Rundell (2012) say that this consequently makes the economy flourish and attract outsiders to come and invest.

Interest rates define the economic improvement. An unforeseen shift in the interest rates affects the investment decisions, where, investors may change their savings arrangements, like shifting to specified profit instruments from the capital market

(Barnor, 2014). Khan and Sattar (2014), state that financial development can be affected either negatively or positively by the interest rates according to the motion. Savings are disheartened when interest rates on deposits are lowered and there is an increase in consumption.

2.3.3 Inflation Rate

Inflation rates are among the factors that can have a great impact on the economy of a particular state. An example, when prices are increasing properties will become costly. Thus, when an economy is undergoing through inflation, the cost of average products and services also rises. Because of this, the purchasing power of people will lower and consequently impact financial development. Due to this fact, a lot of investors that take part in the enterprise of products and services will always allow a room for inflation in their decisions (Biller, 2007).

Increased inflation rates imply that prices of products will be reasonably high for consumers which make them consume less and in turn reduce the profits of the firms. These high prices to a point also activate occurrence of high rates of interest as put across by Hendry (2016). Mostly, inflation has a negative effect on the economy and it is therefore associated to market performance in a positive way (Fama, 1998). Therefore, growth should be related to the expected price level in a negative way, where short-term rate of interest represent the international fisher effect.

2.3.4 Unemployment Rate

Assume the stock and labor markets are both in balance. Now, imagine there is a negative shock to labor demand, resulting in a fall in wages and salaries and an increase in unemployment, ceteris paribus. Increased unemployment will result in lower disposable

income for the employees affected, lowering demand for stocks. Stock durability suggests that the short-term supply of stocks is fixed, thus stock prices will fall in this situation (Osoro & Ogeto, 2014).

The prospering of a nation is intimately related with the economic, which includes factors like as unemployment, GDP, inflation, remittances, capital supply, interest rate, and exchange rates, according to both theory and empirical literature. Variations in economic fundamentals drive share price movements, and these fundamentals affect future prospects (Rehman, Sidek, & Fauziah, 2009).

2.4 Empirical Studies

Under the empirical studies section, various surveys linked to the research variables, which have been undertaken by various author around world, were reviewed to establish the methodologies used and the gaps in those studies.

2.4.1 Global Studies

Chung-Yee, Ismail and Ai-Lian (2020) investigate the asymmetric effects of public debt on financial development in Malaysia. Employing time series data for the period of 1980-2015 and nonlinear Autoregressive Distributed Lags framework, this study found that public debt levels are significantly linked to financial development in both short-run and long-run. The research has a contextual gap as it focused in Malaysia whose financial and economic status is different from Kenya.

Bayar and Sakar (2020) explores the influence of public borrowing from domestic money banks together with FDI inflows and remittances on the development of the financial sector over the period 1996–2017 in 11 EU transition economies with second-generation

cointegration and causality analysis. The causality analysis discloses that domestic public borrowing had a significant influence on financial development. The research has a contextual gap as it focused in EU transition economies whose financial and economic status is different from Kenya.

Rahman et al. (2019) investigated if there is widespread agreement on the consequences of domestic public debt on a country's or group's economic growth. A systematic review of related papers was performed. The major papers to be reviewed were picked from a total of thirty-three. The correlation between domestic public debt and economic growth was discovered to be a source of disagreement. Based on how funds are used, the connection can be positive, negative, or even non-linear. This study presents a methodological gap as it was a review of literature and therefore need to conduct empirical studies.

2.4.2 Regional Studies

Ehikioya et al. (2020) investigated the diverse relationships between foreign loan and economic development in 43 African nations from 2001 to 2018. They utilized the Johansen Cointegration test and the system generalised method of moments. The study shows how the importance of external borrowing can be narrow as a result of its misappropriation. The findings show that if external debt is utilized in infrastructure development, there is a long-run equilibrium link between foreign loans and Africa's economic development. This study presents a contextual gap as it was cross-country in nature and therefore the findings cannot be generalized to a specific country.

Musibau et al. (2018) surveyed the causal effect between foreign borrowing and economic development amongst ECOWAS nations using panel data from 1980 to 2015.

The estimates are based on Pedroni co-integration and panel causality estimation methodologies applied to a panel of 15 ECOWAS nations. The finding demonstrates that external debt and economic development in economically integrated member nations have both long as well as short run causation. This study presents a contextual gap as it focused on external debt leaving a gap on the effect of internal debt.

Between 1996 and 2013, Mensah et al. (2018) pursued to clarify impact of infrastructure development and foreign loans on economic development in 36 Africa's Sub-Saharan nations. Foreign loans describe the growth economic designs in SSA, according to the research, which used the GMM approach. Foreign loans devoted appropriately in gainful infrastructure projects, according to the report, would have a favorable influence on growth. The research presents a conceptual gap as domestic public debt was not considered and also a contextual gap as it was conducted in a different setting.

2.4.3 Local Studies

Murungi and Okiro (2018) conducted an analysis of the theoretical and empirical literature on the impact of government debt on economic growth. The most of the results from the government debt literature analysis suggested that government debt had an impact on economic growth; some studies showed positive economic development whereas others showed negative economic growth. This study presents a methodological gap as it was a critical review of literature and therefore lacks empiricism.

Kimolo and Onono (2017) used a multivariate linear regression model including additional variables believed to influence economic growth to examine the reaction of Kenyan economic growth to domestic borrowing from 1971 to 2013. The data suggest that domestic borrowing has a negative impact on economic growth. Economic growth is

also found to be negatively influenced by private consumption and inflation, but favorably influenced by private investment and net exports growth. The research present a conceptual gap as it focused on economic growth leaving a gap on financial development.

Mwangi (2017) sought to study how public borrowing impacts individually on growth of Kenya's economy. Cointegration analysis was employed. The research revealed that domestic public debt has an insignificant but positive effect while external debt had substantial but negative association with growth. The study presents a conceptual gap as it focused on economic growth leaving a gap on financial development.

2.5 Conceptual Framework

This study conceptual model comprises of domestic public debt and financial development as the independent and dependent variables while interest rate, inflation and unemployment rate were incorporated as the control variables. Domestic public debt was theoretically expected to have a negative influence on financial development. Figure 2.1 depict the study's conceptual model.

Independent variable   **Dependent variable**

Domestic public debt

- Domestic public debt to
  GDP

Financial development

- Credit to the private
  sector to GDP

Control Variables

- Interest rate (average
  lending rate

- Inflation (inflation rate)

- Unemployment
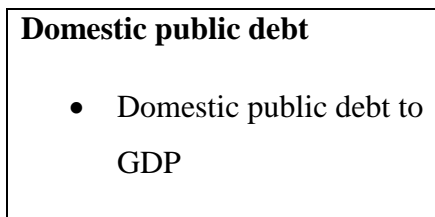
(unemployment rate)
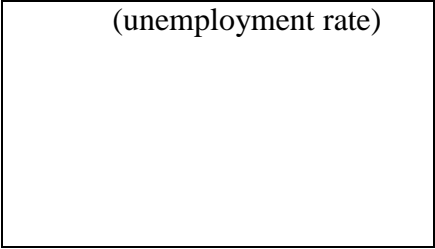
Figure 2.1: Conceptual Model

Source: Author (2022)

2.6 Summary of Empirical Review and Research Gaps

Table 2.1: Summary of Relevant Studies and Gaps

Author and year	Objective	Methodology	Findings	Research gaps
Ehikioya et al. (2020)	To investigate the dynamic relationship between external debt and economic growth in 43 African nations over the duration 2001–2018.	Johansen Cointegration test and system Generalised Method of Moments (sysGMM)	The findings show that if external debt is used for infrastructure development, there is a long-run equilibrium link between external debt and economic growth in Africa.	This study presents a contextual gap as it was cross-country in nature and therefore the findings cannot be generalized to a specific country.
Rahman et al. (2019)	Examined whether there is widespread agreement on the consequences of domestic public debt on a country's or group's economic growth	Review of literature	There is no universal agreement on the link between government borrowing and economic growth.	This study presents a methodological gap as it was a review of literature and therefore need to conduct empirical studies
Musibau et al. (2018)	To look into the causality effect between external debt and economic growth in ECOWAS nations.	Pedroni co-integration and panel causality estimation techniques.	The finding demonstrates that external debt and economic growth have both long and short run causation in economically linked member nations.	This study presents a contextual gap as it focused on external debt leaving a gap on the effect of internal debt.
Murungi and Okiro (2018)	Examined the impact of government debt on economic growth	Review of literature	Government debt has an impact on economic growth; some showed a positive economic growth while others	This study presents a methodological gap as it was a critical review of literature and therefore need for an empirical

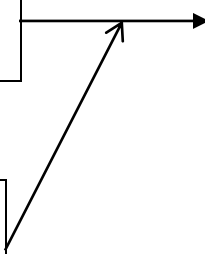|			showed a negative economic growth	study to confirm the findings.
Mensah et al. (2018)	Collective impact of infrastructure development and external debt on the economic growth of 36 Sub-Saharan African countries	System GMM	The study submitted that external debt invested correctly in profitable infrastructure projects would have a positive effect on growth	The study presents a conceptual gap as domestic public debt was not considered
Kimolo and Onono (2017)	Analyzed the response of economic growth to domestic borrowing in Kenya	Multivariate regression Model	The findings indicate that economic growth responds negatively to domestic borrowing	The study present a conceptual gap as it focused on economic growth leaving a gap on financial development
Mwangi (2017)	Effect of domestic public debt on economic growth in Kenya	Cointegration analysis	Domestic public debt has an insignificant but positive impact on economic growth while external debt has a significant but negative relationship	The study present a conceptual gap as it focused on economic growth leaving a gap on financial development

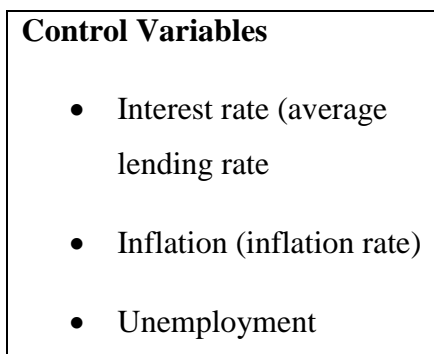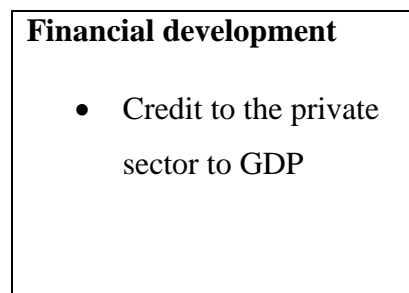**Source: Author (2022**

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CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The section highlights all steps and methods embraced in the execution of the proposed study. It particularly converses the methods of collecting data, research design, operationalization of the variables, and the techniques of analyzing data.

3.2 Research Design

The descriptive study design was adopted in the research in order to estimate the effect of Kenya's domestic debt on financial development. Cooper and Schindler (2013), suggest that the most systematic research design is the descriptive one as it consists of a practical inquiry whereby the researcher does not directly control the independent variable due to their manifestation having already occurred or their inherent inability to manipulate. A defining study method is the most suitable as the study sought to create a profile about the link between financial development and public debt.

3.3 Data Collection

This research used secondary data only. The gathering of the secondary data was done through Central Bank reports and KNBS reports for the quarterly periods between January 2002 and December 2021. This twenty- year period that was compiled quarterly was sufficient to give the necessary information required in order to attain the objectives of the study. A data collection sheet was utilized to compile all secondary data. The particular information gathered included; credit to the private sector, unemployment rate, interest rate, inflation rate as well as GDP.

3.4 Diagnostic Tests

The linear regression was anchored on several presumptions like no auto-correlation, no

or little multi-collinearity, homoscedasticity and multivariate normality. The diagnostic

tests performed are outlined in Table 3.1

Table 3.1: Diagnostic Tests

Test	Meaning	Statistical method	Interpretation	Diagnosis
Autocorrelation	Occurs when the residuals lack independence from each other.	Durbin-Watson statistic	When the test outcomes fall within critical values (1.5<d<2.5) there is no autocorrelation	Correlogram (Auto Correlation Function-ACF plot) Review model specifications
Multicollinearity	How closely related are the independent variables of the study	Variance Inflation Factors (VIF)	VIF less than 10 implies that there is no multicollnearity	Multicollinearity was adjusted using log transformation
Normality Test	When linear regression analysis for all variables is multivariate normal	Goodness of fit test Shapiro-Wilk test	Kolmogorov-Smirnov test prob.> 0.05. If the test is not substantial, the distribution is possibly normal.	Data that was normally distributed was adjusted for using log transformation and non-linear log transformation.
Stationarity	a unit-root test to establish if the data was stationary	Jarque Bera unit root test	A p value less than 0.05 implies that the data is stationary	Robust standard errors were used where data failed the test.

3.5 Data Analysis

Analyzing data was conducted with the help of the SPSS software version 24. Graphs and tables presented the quantitative conclusions. Measures of central tendency and dispersion were calculated using descriptive statistics, and standard deviation was provided for all the variables. Regression and correlation were relied on by the inferential statistics. The correlation determined the extent of the relationship that exists among the study variables whereas the reason and impact of the variables was defined using regression. A multivariate regression linearly determined the link between independent and dependent variables.

3.5.1 Analytical Model

The following equation was applicable:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: Y = Financial development measured by total credit issued to the private sector divided by GDP on a quarterly basis

β_0 = y intercept of the regression equation.

$\beta_1, \beta_2, \beta_3, \beta_4$ = are the regression coefficients

X_1 = Domestic public debt measured as the ratio of domestic debt to GDP per quarter

X_2 = Interest rate measured as average quarterly lending rate

X_3 = Inflation rate measured as quarterly inflation rate

X_4 = Unemployment measured as quarterly unemployment rate

ε = error term

3.5.2 Tests of Significance

The study analysed the significance value after extracting the ANOVA statistics using a 95% confidence level and 5% significance level. The model's overall significance in assessing the effect of public debt on poverty levels was determined by comparing the calculated F value and the critical value.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND FINDINGS

4.1 Introduction

This chapter presents the findings of this research. The main aim of the study was to determine how domestic public debt influences financial development in Kenya. The following sections consist of descriptive statistic, diagnostic test, correlation analysis, regression analysis and discussion of results.

4.2 Descriptive Analysis

Descriptive statistics of all variables on which analysis was done are listed in the table below. Quarterly information was gathered and analyzed using SPSS version 24 software during a twenty-year period (2002 to 2021).

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Financial development	80	.2	.3	.294	.0244	-3.684	.269	11.870	.532
Domestic public debt	80	.2919	.3320	.311126	.0086716	.200	.269	-.569	.532
Interest rate	80	5.8	18.0	9.819	2.7188	1.525	.269	2.697	.532
Inflation rate	80	4.0	16.8	7.653	3.2928	1.544	.269	1.527	.532
Unemployment rate	80	.0919	.1240	.110914	.0082678	.012	.269	-.862	.532
Valid N (listwise)	80								

Source: Research Findings (2022)

4.3 Diagnostic Tests

Diagnostic tests were done before conducting the regression model. Autocorrelation, Multicollinearity, normality, and stationarity tests were conducted in the study.

4.3.1 Autocorrelation Test

A serial correlation test established the relationship of error terms for different times. For the research to obtain the desired model parameters, the Durbin Watson serial correlation test was used to carry out the analysis of autocorrelation in the data, which is a major shortcoming in the data analysis that must be examined. The findings are shown in Table 4.2.

Table 4.2: Autocorrelation Results

Durbin Watson Statistic
1.783

Source: Research Findings (2022)

From the null hypothesis, no first-order serial/auto correlation exists. The 1.783 Durbin Watson statistical varies from 1.5 to 2.5 indicating no serial correlation.

4.3.2 Multicollinearity

In a multiple regression model, multicollinearity is displayed whenever predictor variables exhibit a substantial relationship. An event where independent variables have great correlations is unfortunate. Parameters are said to have multicollinearity if they have a perfect linear connection. Outcomes for the test on multicollinearity were displayed in Table 4.3.

Table 4.3: Multicollinearity Test

| | Collinearity Statistics | |
	Tolerance	VIF
Domestic public debt	0.418	2.392
Interest rate	0.359	2.786
Inflation rate	0.614	1.629
Unemployment rate	0.524	1.908

Source: Research Findings (2022)

VIF value is used where values that fall below 10 are not multi-linear. One condition for multiple regressions to occur is that no strong connection should be evidenced among variables. Given by the outcomes, every VIF variable is below 10 as indicated in table 4.3 which shows that independent variables in the study experience no significant statistical multi-linearity.

4.3.3 Normality Test

To establish if the data was normally distributed, the researcher used the Shapiro-wilk test. If the p-value falls above 0.05, we conclude that there is normal distribution of data and vice versa. Table 4.4 summarizes the results of the test.

Table 4.4: Normality Test Results

	Shapiro-Wilk	P-value
Domestic public debt	0.883	0.195
Interest rate	0.877	0.192
Inflation rate	0.895	0.202
Unemployment rate	0.925	0.221
Domestic public debt	0.876	0.195

Source: Research Findings (2022)

Since the data displayed a p value of above 0.05 therefore having a uniform distribution, the researcher adopted the alternative hypothesis. This data was fit to be subjected to tests and analysis like for variance, regression and Pearson's Correlation analyses.

4.3.4 Stationarity Test

The research variables were subjected to a unit-root test to establish if the data was stationary. The unit root test was ADF test. With a standard statistical significance level of 5%, the test was compared to their corresponding p-values. In this test, the null hypothesis states that every variable has a unit root, and the alternative hypothesis is that the variables are stationary. Findings depicted in Table 4.5.

Table 4.5: Stationarity Test

Variables	Inverse normal Z statistic	P-value
Financial development	2.2456	0.0000
Domestic public debt	2.7578	0.0000
Interest rate	3.2434	0.0000
Inflation rate	3.4628	0.0000
Unemployment rate	2.1936	0.0000

Source: Research Findings (2022)

As demonstrated in Table 4.5, this test concludes that the data is stationary at a 5% level of statistical significance since the p-values all fall below 0.05.

4.4 Correlation Analysis

Pearson correlation was employed to establish the relationship linking financial development in Kenya to the characteristics of the study (domestic public debt, unemployment rate, inflation and interest rate). The results are as shown in Table 4.6.

Table 4.6: Correlation Analysis

		Financial development	Domestic public debt	Interest rate	Inflation rate	Unemployment rate
Financial development	Pearson Correlation	1				
	Sig. (2-tailed)					
Domestic public debt	Pearson Correlation	-.224*	1			
	Sig. (2-tailed)	.045				
Interest rate	Pearson Correlation	.134	.001	1		
	Sig. (2-tailed)	.237	.995			
Inflation rate	Pearson Correlation	-.267*	.134	-.221*	1	
	Sig. (2-tailed)	.017	.238	.049		
Unemployment rate	Pearson Correlation	-.229*	.393**	.009	-.258*	1
	Sig. (2-tailed)	.041	.000	.934	.021	

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).
c. Listwise N=80

Source: Research Findings (2022)

From the study's findings, a weak negative that is statistically significant relationship exists between domestic public debt and financial development (r = -.224, p = .045). The rate of interest displays a not significant positive interrelationship to financial development in the Kenyan economy (r = .134, p = .237). Inflation exhibited a weak negative and significant association with financial development in Kenya (r = -.267, p = .017). The correlation results further revealed a weak negative and significant statistical connection between unemployment rate and financial development (r = -.229, p = .041). The findings further revealed that domestic debt and unemployment have a weak, positive and significant relationship (r = .393, p = .000). Further, inflation rate and

unemployment rate exhibited a weak negative and significant association (r = -.258, p = .021)

4.5 Regression Analysis

Domestic public debt, unemployment rate, interest rate, together with the rate of inflation was utilized as agents to predict financial development in Kenya. The test was done at 5% level of significance. Table 4.7 to 4.9 displays the results.

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.801[a]	.642	.622	.0308

a. Predictors: (Constant), Unemployment rate, Interest rate, Inflation rate, Domestic public debt

Source: Research Findings (2022)

The R squared indicator indicates how the explanatory variables may describe variations in the response variable. As indicated in Table 4.8, the R square was 0.642, indicating that change in domestic public debt, unemployment rate, interest rate and inflation account for 64.2 percent of the financial development in Kenya. Other factors not included in this research account for 35.8 percent of the variance in financial development in Kenya. The correlation coefficient (R) of 0.801 showed a significant connection amongst predictor factors and financial development.

The value of P obtained by ANOVA is 0.000, which is less than p=0.05. This demonstrates that the model's importance described how domestic public debt, unemployment rate, rate of interest and inflation, affect Kenya's financial development.

Table 4.8: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.128	4	.032	33.555	.000[b]
	Residual	.071	75	.001		
	Total	.199	79			
a. Dependent Variable: Financial development						
b. Predictors: (Constant), Unemployment rate, Interest rate, Inflation rate, Domestic public debt						

Source: Research Findings (2022)

The relevance of various variables was determined using the model coefficients. The statistics of t and values of p were used to accomplish this. This study is significant since it allowed the researcher to determine which independent variables were chosen (domestic public debt, unemployment rate, interest rate and inflation) significantly influences the financial development of the Kenyan economy. Table 4.9 summarizes the findings.

Table 4.9: Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.137	.047		-2.856	.007
	Domestic public debt	-.247	.001	-.248	-3.402	.001
	Interest rate	.152	.008	.164	1.529	.130
	Inflation rate	-.183	.010	-.174	-2.434	.017
	Unemployment	-.437	.000	-.437	-4.013	.000
a. Dependent Variable: Financial development						

Source: Research Findings (2022)

Table 4.10 shows that domestic public debt, inflation and unemployment rate, with a p value less than 0.05, were significant predictors of financial development in Kenya. Interest rates were not significant predictors of financial development in Kenya, as evidenced by a low t value and p value greater than 0.05.

The following regression was estimated:

$$Y = -0.137 - 0.247X_1 - 0.183X_2 - 0.437X_3$$

Where,

Y = Financial development

X_1 = Domestic public debt

X_2 = Inflation rate

X_3 = Unemployment rate

Using the constant = 0.137, we can see that if selected independent variables (domestic public debt, unemployment rate, interest rate and inflation) were rated zero, the financial development would increase by 0.137. Increasing domestic public debt by one unit would decrease financial development by 0.247 units, increasing inflation by one unit would decrease financial development by 0.183 while increasing the unemployment rate by one unit would cause the financial development to decrease by 0.437. Interest rate had no statistically significant influence.

4.6 Discussion of Research Findings

This research had an aim of establishing the way in which the predictor variables impacted the financial development in the Kenyan context. Independent variables included domestic public debt, unemployment rate, interest rate and inflation. This research tried to show financial development being a dependent variable. The ratio of credit to the private sector to GDP measured financial development. Correlation as well

as regression analysis were utilized to show the connection linking the independent to dependent variables.

The Pearson model showed that a weak negative that is statistically significant relationship exists between domestic public debt and financial development. The rate of interest displays a not significant positive interrelationship to financial development in the Kenyan economy. Inflation exhibited a weak negative and significant association with financial development in Kenya. The correlation results further revealed a weak negative and significant statistical connection between unemployment rate and financial development.

The independent variables accounted for 64.2% of variances in financial development, in accordance with the summary of the model. The predictor variables of this research had explanatory power that fitted a 95% confidence level like indicated by the 0.000 p value, which was way below the threshold of significance that is 5%. Therefore, the overall model employed in this study is a good and sufficient prediction model to determine the financial development in Kenya.

This research is in agreement with Chung-Yee, Ismail and Ai-Lian (2020) who investigate the asymmetric effects of public debt on financial development in Malaysia. Employing time series data for the period of 1980-2015 and nonlinear Autoregressive Distributed Lags framework, this study found that public debt levels are significantly linked to financial development in both short-run and long-run.

This study is also in agreement with a study conducted by Bayar and Sakar (2020) who explores the influence of public borrowing from domestic money banks together with

FDI inflows and remittances on the development of the financial sector over the period 1996–2017 in 11 EU transition economies with second-generation cointegration and causality analysis. The causality analysis discloses that domestic public borrowing had a significant influence on financial development.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The major motive of this study was to investigate the way domestic public debt influences the financial development in Kenya. The findings from the above sections are outlined in this chapter together with the conclusions and limitations of this study. This section also outlines the strategies that can be adopted by policymakers. It also provides the recommendations.

5.2 Summary of Findings

The study assessed how domestic public debt influenced the financial development in Kenya. Domestic public debt, unemployment rate, interest rates, as well as inflation rate was adopted to be the predictor variables of the research. The study used descriptive design to do analysis and data collection. Secondary data was obtained from CBK as well as KNBS and prepared using SPSS version 24 program. The study used data of 20 years compiled quarterly.

The Pearson model showed that a weak negative that is statistically significant relationship exists between domestic public debt and financial development. The rate of interest displays a not significant positive interrelationship to financial development in the Kenyan economy. Inflation exhibited a weak negative and significant association with financial development in Kenya. The correlation results further revealed a weak negative and significant statistical connection between unemployment rate and financial development.

The independent variables accounted for 64.2% of variances in financial development, in accordance with the summary of the model. The predictor variables of this research had explanatory power that fitted a 95% confidence level like indicated by the 0.000 p value, which was way below the threshold of significance that is 5%. Therefore, the overall model employed in this study is a good and sufficient prediction model to determine the financial development in Kenya.

The regression results further discovered that if selected independent variables (domestic public debt, unemployment rate, interest rate and inflation) were rated zero, the financial development would increase by 0.137. Increasing domestic public debt by one unit would decrease financial development by 0.247 units, increasing inflation by one unit would decrease financial development by 0.183 while increasing the unemployment rate by one unit would cause the financial development to decrease by 0.437. Interest rate had no statistically significant influence.

5.3 Conclusions

The results of the research indicate that Kenya's financial development is negatively affected by domestic public debt and unemployment rate. The research finds that the higher inflation and unemployment rate leads to a significant decrease in financial development in Kenya. The research also finds that while interest rate has a positive impact on financial development, the impact is not statistically meaningful.

The study concludes that the factors under research – domestic public debt, unemployment rate, interest rate and inflation – affect financial development by describing 64.2% of the variations. This means that the non-model variables are only

responsible for 72.8% of variations of financial development in the country. It is therefore substantial to infer that the outlined factors affect the financial development as shown in the ANOVA summary by p values less than 0.05.

The conclusions of this research concurred with Albu and Albu (2021) who analyzed the dynamics of the link between public deficit and rate of financial development in European nations. They did this using the wavelet approach, where they were able to establish both long-term and short-term correlations connecting the two variables. Analysis done using the non-linear on the debt-growth nexus reveals that there were points whereby economic growth can be hampered by rising indebtedness. The wavelet analysis approach shows a strong relationship between financial growth and public debt, especially with high frequencies, public debt significantly affects the financial growth in the subject of terms above 2 years for most of the members of the Euro Zone states.

5.4 Recommendations

Outcomes show that domestic public debt possesses a positive and considerable effect on financial development in Kenya implying a rise in domestic debt can have a negative effect on financial development. This also means that credit to the private sector is likely to drop with a rise in domestic public debt. The research proposes that policy makers to adopt measures aimed at reducing the rate of domestic borrowing, since this would lead to a rise in financial development and possibly also other areas of the economy.

This study has demonstrated that the rate of unemployment has a negative and significant effect on the financial development in the country. It therefore recommends that several approaches are required to make sure that the factors that lead to rise in unemployment

are well handled to make sure that the unemployment rate does not negatively influence financial development. The government should work on creating employment opportunities for all and this can be achieved by creating a conducive environment for doing business.

This study has demonstrated that the rate of inflation has a negative and significant effect on the financial development in the country. It therefore recommends that several approaches are required to make sure that the factors that lead to rise in inflation are well handled to make sure that the inflation does not negatively influence financial development. The government should work on lowering the cost of production that brings about cost push inflation while at the same time ensuring sufficient supply of goods and services as this reduces the possibility of demand pull inflation.

5.5 Limitations of the Study

This study embraced a 20 years period (2002-2021). It gives no substantial evidence that in an added timeframe, the findings will not change. Additionally, it is not certain that these findings will be sustained after 2021, things might change. Extra timeframe is reliable because it comprises instances with economic shifts like recessions and booms.

The main drawback of the study was the quality of data. It is not possible to reliably state the results obtained in the survey as the correct reflection of the general situation. Accuracy and reliability of the data collected are assumed to a certain point. Additionally, because of the existing circumstances, computing the data has been incoherent. This study uses secondary data as opposed to primary data. The determinants of financial development have been partially considered because of unavailability of data for all determinants.

Regression models were used to conduct data analysis. It would be impossible for the researchers to generalize outcomes because of the setbacks accruing from model utilization like erroneous and deceptive conclusions resulting from a change in value of variable. Whenever data is put in a regression model, it is impossible to process it through another previous model.

5.6 Suggestions for Further Research

The aim of the study was to determine the impact of domestic public debt on financial development of the Kenyan economy. A research that focuses on primary data or mixes primary data with secondary data is recommended so as to recognize qualitative elements that might have been overlooked in the current research.

This research failed to consider all independent variables that affect financial development of an economy. A suggestion therefore arises to include other factors in future studies in order to come up with more specific findings. These factors include money supply, economic growth, balance of payments, foreign direct investments among others. Providing details how each of them affects financial development will enable policymakers make decision on the steps to take in order to control their financial development.

Because of unavailability of data, this study focused on the latest 20 years. Other future studies should employ a wider range to come up with a valid conclusion. This study was also under restriction because it only focused solely on Kenya. Additional survey should be conducted in other nations to determine results. In conclusion, the investigator adopted a regression model to do a confirmation or rejection of the findings. Any studies in future should adopt other independent methods to confirm or reject their findings.

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APPENDICES

Appendix I: Research Data

Year	Quarter	Financial development	Domestic public debt	Interest rate	Inflation rate	Unemployment rate
2002	1	0.2183	0.3001	5.8333	7.8500	0.1001
	2	0.2264	0.3028	6.0833	5.8667	0.1028
	3	0.2157	0.3037	6.5000	4.7067	0.1037
	4	0.2314	0.3044	15.1667	4.0333	0.1044
2003	1	0.2617	0.3045	18.0000	4.1567	0.1045
	2	0.2859	0.3053	18.0000	6.0133	0.1053
	3	0.2827	0.3056	15.3333	9.0200	0.1056
	4	0.2883	0.3057	11.6667	12.7767	0.1057
2004	1	0.3120	0.3063	9.5000	15.8267	0.1063
	2	0.3177	0.3065	8.8333	16.2900	0.1065
	3	0.2911	0.3071	8.5000	14.2967	0.1071
	4	0.3029	0.3071	8.5000	10.6967	0.1071
2005	1	0.2099	0.3072	8.5000	7.2567	0.1072
	2	0.3146	0.3072	8.5000	5.0433	0.1072
	3	0.3229	0.3083	8.5000	4.5633	0.1083
	4	0.3315	0.3094	8.5000	5.3867	0.1094
2006	1	0.3185	0.3097	8.5000	6.2033	0.1097
	2	0.3262	0.3114	9.0000	6.8267	0.1114
	3	0.3379	0.3114	11.5000	7.2367	0.1114
	4		0.3121			0.1121

Year	Quarter	Financial development	Domestic public debt	Interest rate	Inflation rate	Unemployment rate
		0.3421		11.5000	6.9767	
2007	1	0.3214	0.3126	11.5000	6.6667	0.1126
	2	0.3271	0.3136	10.8333	6.6567	0.1136
	3	0.3359	0.3140	10.5000	6.3900	0.1140
	4	0.3427	0.3165	10.5000	6.4367	0.1165
2008	1	0.3298	0.3174	10.0000	6.8400	0.1174
	2	0.3149	0.3179	10.0000	6.5900	0.1179
	3	0.3192	0.3188	10.0000	6.4700	0.1188
	4	0.3046	0.3191	10.0000	6.4033	0.1191
2009	1	0.3111	0.3210	9.5000	6.4833	0.1210
	2	0.3029	0.3224	9.0000	7.7233	0.1224
	3	0.3072	0.3228	9.0000	8.3233	0.1228
	4	0.3262	0.3232	9.0000	8.1533	0.1232
2010	1	0.2813	0.3210	9.0000	7.3600	0.1210
	2	0.2790	0.3224	9.0000	5.6833	0.1224
	3	0.2795	0.3228	9.0000	4.7033	0.1228
	4	0.2730	0.3232	8.8300	4.6033	0.1232
2011	1	0.2765	0.2919	9.0000	7.3600	0.0919
	2	0.2756	0.2938	9.0000	5.6833	0.0938
	3	0.2745	0.2968	9.0000	4.7033	0.0968
	4	0.2753	0.2984	8.8300	4.6033	0.0984
2012	1	0.3131	0.2985	6.9167	16.8333	0.0985

Year	Quarter	Financial development	Domestic public debt	Interest rate	Inflation rate	Unemployment rate
	2	0.3140	0.2987	6.7500	15.9200	0.0987
	3	0.3149	0.2993	6.0000	13.3933	0.0993
	4	0.3158	0.3001	6.0000	10.3000	0.1001
2013	1	0.3167	0.3001	5.8333	7.8500	0.1001
	2	0.3176	0.3028	6.0833	5.8667	0.1028
	3	0.3185	0.3037	6.5000	4.7067	0.1037
	4	0.3194	0.3044	15.1667	4.0333	0.1044
2014	1	0.3203	0.3045	18.0000	4.1567	0.1045
	2	0.3212	0.3053	18.0000	6.0133	0.1053
	3	0.3220	0.3056	15.3333	9.0200	0.1056
	4	0.3229	0.3057	11.6667	12.7767	0.1057
2015	1	0.3238	0.3063	9.5000	15.8267	0.1063
	2	0.3247	0.3065	8.8333	16.2900	0.1065
	3	0.3256	0.3071	8.5000	14.2967	0.1071
	4	0.3265	0.3071	8.5000	10.6967	0.1071
2016	1	0.3274	0.3072	8.5000	7.2567	0.1072
	2	0.3283	0.3072	8.5000	5.0433	0.1072
	3	0.3292	0.3083	8.5000	4.5633	0.1083
	4	0.3301	0.3094	8.5000	5.3867	0.1094
2017	1	0.3310	0.3097	8.5000	6.2033	0.1097
	2	0.3318	0.3114	9.0000	6.8267	0.1114
	3	0.3327	0.3114	11.5000	7.2367	0.1114

Year	Quarter	Financial development	Domestic public debt	Interest rate	Inflation rate	Unemployment rate
	4	0.3336	0.3121	11.5000	6.9767	0.1121
2018	1	0.3345	0.3126	11.5000	6.6667	0.1126
	2	0.3354	0.3136	10.8333	6.6567	0.1136
	3	0.3363	0.3140	10.5000	6.3900	0.1140
	4	0.3372	0.3165	10.5000	6.4367	0.1165
2019	1	0.3381	0.3174	10.0000	6.8400	0.1174
	2	0.3390	0.3179	10.0000	6.5900	0.1179
	3	0.3399	0.3188	10.0000	6.4700	0.1188
	4	0.3408	0.3191	10.0000	6.4033	0.1191
2020	1	0.3416	0.3210	9.5000	6.4833	0.1210
	2	0.3425	0.3224	9.0000	7.7233	0.1224
	3	0.3434	0.3228	9.0000	8.3233	0.1228
	4	0.3443	0.3232	9.0000	8.1533	0.1232
2021	1	0.3452	0.3250	9.0000	7.3600	0.1240
	2	0.3461	0.3270	9.0000	5.6833	0.1240
	3	0.3470	0.3290	9.0000	4.7033	0.1240
	4	0.3479	0.3320	8.8300	4.6033	0.1240