

**FINANCIAL LIBERALIZATION AND FINANCIAL
DEEPENING IN KENYA**

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Financial Liberalization and Financial Deepening in Kenya

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University

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DEDICATION

This thesis is dedicated to my parents Mr. and Mrs John Dickson Otieno who supported me get basic education to this level, my loving wife Quinter whose continuous support offered the motivation to finish this course, my children Shantel, Katerine, Nicole, Joven and Andy Ryan for emotional support during the research period. I also dedicate this entire success to the late mentor Prof. Dominic Makawiti for the encouragement to pursue PhD program.

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ACRONYMS AND ABBREVIATIONS

ADF	Augmented Dickey-Fuller Test
AE	Advanced Economies
APEC	Asia-Pacific Economic Cooperation
ARDL	Autoregressive Distributed Lag
ATM	Automatic Teller Machine
BR	Market risk
CAL	Capital Account Liberalization
CAPACT	Capital Account
CBK	Central Bank of Kenya
CFMs	Capital Flow Management Measures
CL	Credit Liberalization
CMA	Capital Market Authority
CRC	Credit Control
DEA	Data Envelopment Analysis
EAC	The East African Community
EML	Equity Market Liberalization
FD	Financial deepening
FDI	Foreign Direct Investment

FDIC	Financial Deposit Insurance Corporation
FID	Financial Deepening
FSAP	Financial Sector Adjustment Programme
FSI	Financial Stress Index
FTAs	Free Trade Agreements
GDP	Gross Domestic Product
GLM	General Linear Method
GMM	General Moment Method
GNI	Gross National Income
GRF	Global Financial Crisis
HDI	Human Development Index
IFL	Inflation Rate
IMF	International Monetary Fund
IMS	International Monetary System
IRL	Interest Rate Liberalization
JKUAT	Jomo Kenyatta University of Science and Technology
KES	Kenya Shilling
LR	Lending Rate
M4	Ratio of Broad Money to GDP

MPMs	Macro-Prudential Measures
MPS	Monetary Policy Statement
MR	Market Risk
NBFI	Non- Bank Financial Institutions
NDA	Net Domestic Assets
NFA	Net Foreign Assets
OECD	The Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
S&P	Standard & Poor's
T-BILLS	Treasury Bills
USA	United States of America
VAR	Vector Autoregressive
VIF	Variance Inflation Factor
WTO	World Trade Organization

DEFINITION OF OPERATIONAL TERMS

Broad Money different measures of money supply can be categorised as M0, M1, M3 and M4 and the classification depends from country to country (Hanke, 2019). The M0 & M1 is called the narrow money, normally includes coins and notes in circulation and other money equivalents which can be easily converted to cash while M2 includes M1 and short-term deposits in banks and 24hour money market funds. M3 include M3 and long-time deposits and more than money market funds with more than 24-hour maturity period while M4 includes M3 and other deposits. On this research, the term broad money is used to describe M4 as applicable in Kenya.

Equity Market Liberalization refers to country's government decision to provide foreign investors the opportunity to invest in the domestic equity securities and domestic investors the right to transact in the foreign equity securities (Balakrishnan et al., 2019).

Capital Account Liberalization The decision of a country's government to remove restrictions on the capital inflows and outflows which include repatriation of dividends, investment returns, etc. (Peng et al., 2021).

Financial Deepening: Financial deepening refers to the process of increasing the range and sophistication of financial services and instruments in an economy. It involves the expansion and improvement of financial markets and institutions, as well as the development of new financial products and services (Ozekhome, 2022).

Financial Liberalization: is the process of reducing or removing government restrictions and controls on the financial sector of an economy.

This includes easing regulations on financial institutions, allowing for greater flexibility in financial markets, and promoting competition (Peng et al., 2021).

Gross Domestic Product Gross Domestic Product is the total market value of goods and services produced within the borders of a country within a given year (CBK Report, 2020).

Interest Rate Liberalization The process where interest rates are determined by the market factors rather than being set by the regulators which can be through financial institutions being allowed to set the price interest rates independently or through market competition mechanisms (Benedict et al., 2023).

Market Risk Refers to the risk of financial loss resulting from adverse movements in market factors that affect the overall performance of financial markets. Market risk encompasses various types of risks associated with changes in market prices, interest rates, exchange rates, and other relevant financial variables (Arphasil, 2019).

ABSTRACT

Financial liberalization has been part of financial reform packages in many countries as stabilization for financial deepening tools of respective economies. One of these countries is Kenya which has been undergoing various financial sector reforms since 1980 to improve economy mainly on the ease of financial sector, equity market and capital account. This research was conducted to establish the effect of financial liberalization on financial deepening in Kenya in relation to various financial liberalization effects and measures adopted from 1990 to 2020. The study specifically investigated the impact of interest rate liberalization on financial deepening development in Kenya, determine the influence of capital account liberalization on financial deepening in Kenya, determine impact of equity market liberalization on financial deepening in Kenya, determine impact of privatization of financial institutions on financial deepening in Kenya and ascertain the moderating effect of market risk on the relationship between financial deepening and financial sector liberalization. The principal component analysis method was used in the calculation of the index required data for all the years since the liberalization process started in Kenya to calculate the financial liberalization index required for the study period. The was data from world bank and Central Bank of Kenya that covers e measures of independent variables (Interest rate liberalization, Privatization of financial institutions, Capital account liberalization and equity market liberalization), the moderating variable (market risk) and dependent variable (financial deepening) from 1990 to 2020. The Secondary data was sourced from Central Bank of Kenya reports and statistical bulletins. The model estimation followed the Auto-regressive Distributive Lag (ARDL) approach with the effect estimated in line with the Granger Causality analysis for hypothesis. The regression results indicate that interest rate liberalization does not significantly influence financial deepening in Kenya; however, capital account liberalization demonstrates a substantial positive impact, with a coefficient indicating that increased liberalization is associated with enhanced financial deepening, as foreign direct investment helps correct disequilibrium in broad money. Similarly, equity market liberalization also shows a significant positive effect on financial development in Kenya, highlighting its importance in facilitating financial deepening. Furthermore, the results suggest that the privatization of financial institutions plays a crucial role, as an increase in privatization corresponds to improvements in financial deepening. Additionally, findings from the hierarchical Bayes Error Correction Model reveal that market risk moderates the relationships between interest rate liberalization, capital account liberalization, and privatization, indicating that increased market risk may reduce the positive impacts of these liberalization efforts on financial deepening. Consequently, the study concludes that capital account liberalization, equity market liberalization, and privatization of financial institutions are key determinants of financial deepening in Kenya, and it is recommended that policymakers implement measures to manage market risks effectively while fostering these liberalization processes to enhance the overall financial landscape.

CHAPTER ONE

INTRODUCTION

This chapter provides information that gives the context of the research and enables an analysis of the relationship between financial liberalization and financial deepening in Kenya. It includes a background of the study, the global, regional and local perspective of the financial liberalization and financial deepening, the statement of the problem, objectives of the study, hypotheses of the study, significance of the study, the scope of the study and limitations of the study.

1.1 Background of the Study

A well-developed financial system is widely recognized as a catalyst for economic growth, as it facilitates efficient resource allocation, mobilization of savings, credit intermediation, and risk diversification, while also attracting foreign capital inflows that support real sector performance (Yakubu et al., 2020). The classical works of McKinnon (1973) and Shaw (1973) laid the foundation by arguing that financial repression where governments impose interest rate controls, direct credit allocation, and excessive regulation undermines financial sector growth, capital formation, and overall economic progress. Over the last five decades, financial liberalization has been promoted globally as a corrective strategy to dismantle repressive structures, enhance market efficiency, and deepen financial systems. However, empirical evidence remains mixed: while liberalization is expected to stimulate growth and stability, it has also been associated with episodes of financial fragility, volatility, and crises in some economies (Munir & Kakar, 2023; Asongu et al., 2020).

Financial liberalization has evolved alongside the broader wave of economic globalization. Many advanced economies experienced rapid financial deepening - measured through indicators such as credit to GDP, stock market capitalization, and broad money supply - over the past three decades. For instance, in OECD countries, private sector credit as a percentage of GDP rose from an average of 70% in 1990 to over 140% in 2020 (World Bank, 2023). Yet, this rapid deepening has sometimes coincided with heightened financial instability, exemplified by the 2008 global

financial crisis where excessive credit growth amplified systemic risks. Scholars such as Demetriades et al. (2016) and Sahay et al. (2015) caution that while financial deepening accelerates long-term capital accumulation, it may simultaneously increase an economy's vulnerability to systemic risks and boom-bust cycles.

In Africa, financial liberalization gained momentum during the 1980s and 1990s under the auspices of World Bank and IMF-led Structural Adjustment Programs (Ihedioha et al., 2021). Many African governments dismantled interest rate ceilings, liberalized foreign exchange markets, and privatized state-owned financial institutions. While these reforms were aimed at deepening financial systems and stimulating private sector-led growth, outcomes have been uneven. In sub-Saharan Africa, financial deepening has remained shallow compared to other regions: private sector credit averaged only 28% of GDP in 2022 compared to 125% in East Asia (IMF, 2023). Countries such as Nigeria and Ghana recorded some progress in expanding financial markets, yet structural weaknesses such as low savings rates, weak regulatory capacity, and high market risk exposure continue to undermine the full benefits of liberalization (Kudaisi et al., 2022).

Kenya's financial sector has undergone significant liberalization since the mid-1980s, including interest rate deregulation, capital market reforms, and liberalization of foreign exchange transactions. These changes have been accompanied by innovations such as mobile money and digital credit, which have positioned Kenya as a regional leader in financial inclusion and deepening. For example, private sector credit to GDP in Kenya rose from 24% in 2000 to 32% in 2022, while stock market capitalization expanded from 14% of GDP in 2005 to 23% in 2021 (CBK, 2022). Despite these advances, Kenya's financial system still exhibits characteristics of shallowness when compared with emerging economies in Asia and Latin America. Moreover, episodes of volatility in the Nairobi Securities Exchange (NSE) and fluctuations in capital flows highlight the vulnerability of financial markets to external shocks and domestic policy uncertainty.

An important moderating factor in this relationship is market risk, which influences how financial liberalization translates into financial deepening. Liberalized markets

are more exposed to interest rate fluctuations, exchange rate volatility, credit default risk, and investor confidence shocks. In Kenya, market risk is particularly evident in the volatility of the NSE 20 Share Index, which declined by over 35% between 2015 and 2020, and in recurrent banking sector instability, such as the collapse of Imperial Bank and Chase Bank. These risks raise concerns about whether liberalization in the Kenyan context has led to sustainable deepening or whether it has increased systemic vulnerability. While studies such as Ozekhome (2022) and Liu et al. (2020) recognize the dual role of liberalization in promoting growth and triggering instability, few have examined how market risk moderates this relationship in emerging African markets.

From this review, it is evident that while global and regional studies have illuminated the potential of financial liberalization to foster financial deepening, the outcomes remain context-specific and dependent on institutional quality, regulatory capacity, and risk exposure. In Kenya, despite decades of reforms and innovations in financial markets, gaps persist in understanding the extent to which liberalization has effectively deepened financial markets, and more critically, how market risk influences this relationship. This study therefore makes a distinct contribution by focusing on the dual and dynamic effects of financial liberalization on financial deepening in Kenya, while incorporating market risk as a moderating factor.

1.1.1 Global Perspective of Financial Liberalization and Financial Deepening

As financial sector regulations have loosened over the past 25 years, the domestic economies has generally liberalized and opened up to the outside world (Afzal et al., 2023; Capraro & Panico, 2021; Mikek, 2023; & Santana, 2020). Much like other liberalization, interest rate liberalization is almost always the result of a catalyst or crisis and to counter the above, consider the early 1980s in Colombia, when the Plan of the Four Strategies included the establishment of an indexation-based housing finance system as a means of promoting development. Because of the system's high nominal interest rates, there was pressure to raise the rates for bank deposits. Similar to this, during the 1970s the Japanese government was able to issue small amounts of debt at interest rates that were just a little bit below market rates. The banks, however, were able to successfully push for deregulation alongside foreign powers when oil

prices and deficits rose, potentially sowing the seeds for the bubble economy that followed.

Countries in Latin America, such as Ecuador, Mexico, and Uruguay, liberalized interest rates in the mid-1980s, during the preceding fifty years, and during the 1990s in an effort to mobilize domestic resources following the debt crisis that resulted in inflation, exploding fiscal deficits, and a cutoff of external finance. When the World Bank actively supported financial liberalization in developing and transition economies for reviews of its adjustment lending operations in support of such liberalization, Mexico and other Latin American countries began to realize that government intervention had resulted in grossly misallocated credit and stagnant or negative per capita GDP growth (Lechuga & Trevino, 2022).

Ferrari & Terra (2022) noted that a long-term fixed interest contract funded by short-term borrowing would have put intermediaries under immediate pressure. A number of quasi fiscal devices were eventually used to resolve this problem which was faced by numerous housing finance institutions, especially in Eastern Europe and Latin America. The same problem was of course presented at the beginning of the U slide on Savings and loans industry. As was the case in Korea and other East Asian countries in 1997, only a portion of the rate risk would have actually been hedged; the remainder would have simply converted into credit risk. Nevertheless, even if the country's lending had been based on a floating rate, lenders might not have been completely protected from the increase in interest rates. As a result, intermediaries suffered losses as well, partly because their borrowers were unable to afford the increased interest rates and partly because they were deprived of the benefit of having effective deposit rate ceilings in place. The total effect of liberalization on intermediary profitability varied greatly over time and between countries. Particularly in industrialized countries, higher apparent bank profitability was typical in the early post-liberalization years. This would eventually change, though, as new players made their mark and established banks began to feel more confident in their approach (Lechevalier et al., 2019; Arphasil, 2019 & Lechevalier et al., 2018).

Liberalization may expose governments to market discipline: in Europe, the abolition of external capital controls was associated with improved budgetary performance, but internal credit controls did not follow suit. The removal of domestic credit controls did, in fact, worsen the budget, but not the overall deficit. The removal of interest ceilings eventually caused surplus funds to move from lenders to borrowers, including the government. Additionally, it led to some rationing being relaxed, which has given borrowers who were previously priced out of the market more opportunities. It appears that India's middle-sized companies have profited the most from more convenient credit availability. Lenders miscalculated the risk associated with this second tier, which benefited Korea's middle-sized chaebols (conglomerates). Giving these groups greater access might end up being highly cyclical as shown for the United States by Kim et al., (2021) & Wang (2020). This is especially true considering how difficult it is for them to escape the continuous rationing that results from lenders' concerns about adverse selection.

Lechevalier et al., (2018), John (2020) & Gewirtz (2020) noted that in the 1990s, intermediary failure did become more common in almost every nation; severe cases were reported in Spain, Japan, the US, and Scandinavian countries like Poland and Hungary. Most of these economies had the administrative ability and resources to manage the failures with the least amount of negative economic impact (although it is debatable whether or not bank fragility was a major factor in the lengthy Japanese recession of the 1990s). Furthermore, during the early liberalizations, the volume and reaction speed of global capital movements were significantly lower than they are today.

Nam (2019), Pyo (2018), Pirie (2018) and Malarvizhi et al., (2019) documented that the world was affected by the Korean crisis, but it was contained to a lesser extent than initially appeared feasible in the 1990s. Some thought it would have been wiser to continue with the previous course of financial repression and that Korea's experience showed why the nation had erred in starting financial liberalization only a few years earlier. By July 1997, most interest rates in Korea had been liberalized, and entry barriers into the banking and nonbanking sectors had been significantly reduced. Restrictions on the flow of foreign capital were mostly removed. Korea exhibited

caution in regards to the liberalization of foreign capital flows. Korea worried that significant capital inflows would upset the macroeconomic stability of the nation, so it gradually liberalized capital accounts. The growing interest rate gap between domestic and foreign markets created a significant corporate demand for low-cost foreign capital.

Auerbach (2018) documented that Mexico's liberalization, which began in the late 1980s, is representative of the experiences of a number of other Latin American countries that, in the face of macroeconomic instability, moved from repression to liberalization in the 1970s and early 2000s. Fiscal strains, wage and price-setting practices, and ensuing spikes in high inflation have long been features of this area. Only in 1995 did the average inflation rate in the region fall below 50%, and it remains high in a number of significant nations. Four major turning points -the Tequila crisis in 1994, the exchange rate crisis of 1982, bank nationalization, high inflation, interest liberalization and the end of high inflation in 1988–89, bank privatization in 1991–1992, and the end of high inflation in 1988–89, are scattered throughout Mexico's turbulent history. Following the 1982 exchange rate crisis, prices almost doubled yearly for the following six years. There had been a period of high inflation prior to interest rates being liberalized as part of a larger set of reforms that were successful in keeping inflation under control until the "Tequila" collapse at the end of 1994, even though inflation had dropped to 20% by 1989. When macroeconomic conditions were favorable, credit "exploded" in the years following liberalization due to overconfidence. Bank credit to the private sector grew eight times faster than the GDP in the years before the 1994 crisis. Commercial bank credit to the private sector grew from less than 15 percent of GDP.

1.1.2 Regional Perspective of Financial Liberalization and Financial Deepening

Kayongo et al., (2020) and Wanjala & Gogo (2020) stated that the Ugandan government began a massive program of financial system liberalization in 1992 in an attempt to build on the achievements of the economic recovery program (ERP) it had begun in 1987. Enhancing the effectiveness of the financial system to promote GDP growth and macroeconomic stability was the main objective of the reforms. The

liberalization process included institutional and policy changes with the goal of reducing government influence in the financial sector and giving the market more control over resource allocation. The principal objectives of the enacted measures were to enhance the legal and regulatory framework pertaining to the financial sector, do away with interest rate controls, and reorganize financial institutions in order to boost efficiency and competition. By the end of 1992, the government had made great progress toward putting the ERP into place, according to World Bank (2020). Price controls had been lifted, the exchange and trade regime was almost entirely liberalized, the real GDP was growing at an average annual rate of 5.9 percent, and annual inflation had dropped from 240 percent in 1987 to 30 percent. The only industries left with price controls were utilities and petroleum products. Even with its progress since 1987, Uganda's economy in 1992 was still fragile and highly vulnerable to external shocks. The GDP remained essentially composed of one percent investments and one percent itself, and the rate of inflation remained unacceptably high.

Kudaisi et al., (2022) and Attah-Botchwey et al., (2021) examined how by the World Bank's recommendation, Nigeria began liberalizing its financial sector in 1986 as part of its Structural Adjustment Programme (SAP). This contradicted the prediction of the financial repression theory, which held that a decrease in savings and investment would result from the deregulation of the banking sector. The banking crisis peaked in 1991–1995, with bankrupt banks holding 22% of system deposits and 20% of total assets in 1993. In 1993, the deregulation of the capital market commenced, and the Exchange Control Act of 1962 and the Nigerian Enterprises Promotion Decree of 1989 were revoked. By 1995, Nigeria's financial system had collapsed. The Nigerian Investment Promotion Commission Decree No. 16 of 1995 has established two new laws and repealed the previous two. 16 of 1995 as well as the Foreign Exchange (Monitoring and Other Items) Decree No. 17 of 1995 witnessed the capital market's globalization. There are currently no restrictions on the percentage of foreign ownership in Nigerian-registered companies, and foreigners are free to participate in the market as operators and investors. Along with removing currency restrictions and capital controls, the market-determined exchange rate regime also liberalized capital inflows and outflows.

Mohamed (2023) & Rachdi et al., (2018) documented that Morocco has implemented substantial financial reforms over the last thirty years as part of a strategy to promote financial stability and growth. During the 1970s and 1980s, the public sector absorbed a large portion of domestic savings, accounting for the majority of investment, while private investment was relatively low. Prioritizing the banking industry and monetary policy at first, reforms also aimed to move budget financing toward a more market-based approach. Following these reforms were the introduction of new instruments and stock market reforms aimed at deepening financial markets. As financial activities became more liberalized and deregulated, allowing market participants to take on greater levels of risk, prudent regulations and bank supervision were strengthened. Hinnebusch (2020) noted that reforms had a significant impact on financial intermediation and the structure of the financial sector, but more work is still needed to enhance financial supervision and promote the expansion of the stock market. Touil & Mamoghli (2020) conducted a cross-country regression analysis to look into the effects of financial liberalization on savings, investments, and economic growth in a sample of five MENA countries (Egypt, Jordan, Morocco, Tunisia, and Turkey) between 1970 and 1998.

In Tanzania, Prior to liberalization, the financial system consisted solely of three banks and was frail, constrained, and provided inadequate services. After the Banking and Financial Liberalization Act and the Foreign Exchange Act were passed, the financial system was liberalized, opening up the market to banks from both domestic and foreign nations (URT, 2020; Lwesya & Ismail, 2021; Joseph, 2023). After Tanzania's liberalization, there has been a noticeable improvement in the use of information technology and other banking services, such as customer service. Regarding financial institutions, prior to liberalization, there were none; however, as of right now, there are seven community banks and a comparatively greater number of microfinance institutions, all of which serve the financial needs of common people, farmers, business owners, and so on. As a result, there is now more competition among service providers and a wider range of services available. However, when comparing the sector's efficiency to a few Sub-Saharan African nations, such as South Africa and Mauritius, these nations have surpassed Tanzania. However, an examination of deposit and lending mobilization patterns following financial liberalization indicates that the

market has been more successful in attracting private sector financial resources. For instance, total credit to the private sector grew gradually, reaching TZS 17500 billion from TZS 171.0 billion in 1994 (Hungu, 2023 & Kapaya, 2021).

1.1.3 Local Perspective of Financial Liberalization and Financial Deepening

Kenya, along with many other developing nations, faces the challenge of deepening and strengthening their financial sectors to ensure their effectiveness and efficiency in light of their low levels of financial deepening. Because of structural issues, a poor macroeconomic policy environment, weak institutions, and other factors, efforts to liberalize the financial markets have not yet produced the anticipated results. When it comes to the standard of their institutions and the cost of conducting business, many developing nations including Kenya, fall well short of the developed nations worldwide. Without a doubt, these difficulties have played a significant role in the prevalence of small, shallow financial systems in these economies, with little reach and little financial intermediation.

Nyangu et al., (2023) noted that following its independence in 1963, Kenya had a remarkable period of economic growth, with an average GDP growth rate of 66.6% and an average inflation rate of 3 percent. The world economy was negatively impacted by the two oil crises in 1973–1974, 1979, and 1992, in addition to drought conditions in 1979, 1984, and 1992, making this impressive economic performance unsustainable. The inflation rate increased as a result of these two macroeconomic imbalances, reaching 19.1% in 1975 and 22.3 % in 1982. The GDP growth rate likewise fell precipitously over the course of the following years, with 1975 reporting a growth rate of 3 percent and 1983 and 1984 reporting growth rates of 2 percent and 0 percent, respectively. The state of the economy at the time had a negative impact on terms of trade as well, with a 22 percent decline from 1972 to 1975. In 1976–1977, there was a coffee boom. The impact of the coffee boom was not felt because the terms of trade had declined by 28% by 1980, rather than increasing them. As a result, the current account deficit as a percentage of GDP increased from 4% in the 1970s to 14% in 1980.

Misati et al., (2010) and Yakubu et al., (2020) noted that Kenya's financial sector liberalization occurred in three stages, the first of which occurred in the 1970s and early 1980s. For the most part of this time, the banking sector which was characterized by financial repression dominated the financial industry. The government played a key role in directing credit toward investments by utilizing direct monetary policy tools like interest rate controls, exchange rate controls, and credit allocation to priority sectors, among other restrictions.

Nyamweya (2021) documented that the government implemented several control measures in an effort to stem the economy's deteriorating state. These measures included interest rate controls, import quotas, price controls on goods, and restrictions on bank lending. Even with these steps taken, the economy continued to perform poorly. Revenues fell short of expenditures as a result of further pressure on government resources. The situation did not improve by the early 1980s, as the total deficit had risen to 8.9 percent of GDP in 1981 from less than 3 percent in the 1960s. In order to cut spending, the government moved forward and implemented budget rationalization. This still did not work out because in 1987 there was a reported high fiscal deficit of 7.2 percent.

Ahmed (2022) noted that real interest rates fell below zero between 1973 and 1978 as a result of the financial market distortion caused by the government's actions to contain the economy's declining performance. Figure 1.1 illustrates the sharp decline in domestic savings that occurred in 1975 and 1979. This suggested that as the economy declined, so did the financial sector's performance. Domestic savings invested in the financial sector as financial assets averaged 30% between 1984 and 1987, which is comparable to the level seen in the 1970s. To pay for its parastatals and budget deficit, the government borrowed the greatest amount of domestic credit. The government's net domestic credit increased as a result, rising from 20% in 1978 to roughly 38% in 1986.

Macharia & Mungai (2021) documented that in 1986, institutional undercapitalization issues were reported, posing a threat to the sector's collapse. So, there was going to be a financial sector crisis. Financial liberalization policies could now be implemented as

a result of this crisis. In Kenya, financial reforms were first implemented in 1989. They were subsequently strengthened in the 1990s with the introduction of the following reforms: interest rates were removed in July 1991; credit guidelines were loosening up from 1991; exchange rates were allowed to fluctuate from 1993; borrowing from abroad was permitted from 1994; and foreign investors were permitted to trade on the local stock market starting in 1995 which they further noted that the government's ownership stake in large banks was decreased.

In contrast, there was a systematic relationship between gross domestic savings and gross capital formation up until 1992, when domestic savings began to gradually decline. In the meantime, gross capital formation fluctuated between 15 and 22 percent, with a gradual increase observed between 2002 and 2011. A positive relationship prior to financial liberalization is indicated by the systematic relationship existing before 1992. Because research on the effects of foreign aid on the economic growth of developing nations has produced contradictory findings, the difference between gross domestic savings and gross capital formation between 1995 and 2011 is reason for concern (Kipyego et al., 2022).

The Central Bank of Kenya (1997) reports that by 1996, Kenya's financial system had grown significantly following the implementation of financial reforms. At that time, the sector included 51 commercial banks, 23 Non-Bank Financial Institutions (NBFIs), 5 building societies, 39 insurance companies, 3 reinsurance companies, 10 development financial institutions, 1 Capital Market Authority (CMA), 20 security and brokerage firms, 1 stock exchange, 12 investment advisory firms, 57 hire purchase companies, several pension funds, 13 foreign exchange bureaus, and 2670 SACCOS.

Langat (2022) documented that remittance inflows to Kenya have been rising and have surpassed traditional foreign capital inflows; as a result, they have emerged as a significant source of foreign exchange, rivaled only by tourism, horticulture, and tea exports. According to an analysis of World Bank data for Kenya, remittances increased by 268.8% from US\$537.9 million in 2000 to 2017 to \$1,962 billion, which represents 2.63% of the GDP (World Bank, 2018). North America is the top source market for remittance inflows to Kenya, followed by Europe and the rest of the world, with

percentages of 47.1%, 27.1%, and 25.8%, respectively, according to the central bank of Kenya's monthly remittance inflow survey for Quarter 3, 2018.

Okisai et al., (2023) noted that Kenya Vision 2030 acknowledges the vital role the financial services industry will play in the nation's development process by offering services for facilitating the transfer of capital between savings and investments. Because domestic savings are so important to the development process, the government implemented a number of financial reforms both before and after the 8th National Development Plan (1997/2001). For example, ERS sought to increase domestic savings through programs that ensured savings were allocated efficiently and promoted savings in order to reach higher investment levels for sustainable development. Nonetheless, the Vision places the financial sector's GDP contribution in 2008 at 4%—more than ten years after Kenya's initial financial reforms were put into place. Regarding this, the GoK has made a lot of effort in each budgetary speech to promote savings mobilization in line with Vision 2030. For example, in the 2009–2010 financial year budget speech, the government changed the Banking Act to permit branchless banking, which allowed banks to offer more services, particularly savings through agencies with extensive distribution networks. In the 2010–2011 financial year budget speech, the Republic of Kenya changed the Micro Finance Act to make it easier for deposit taking MFIs to use third party agents. The Republic of Kenya has made several attempts to improve Kenya's financial system, but domestic savings have been declining over time.

In 2003, the capital requirements for commercial banks were cut from Kenya shillings 500 million to 250 million, while the requirements for NBFIs were lowered from Kenya shillings 375 million to 200 million. The government announced that it would reduce the amount of domestic borrowing and the amount of cash reserves needed. The loan that was non-performing was turned into restructured capital. By boosting regional financial industry competitiveness and economic growth, these actions were meant to reduce lending interest rates. Kenya's economy began to recover after a change of administration in 2002, and in 2003 it saw real GDP growth of 2.8% (CBK, 2015).

By June 2015, inflationary expectations had begun to build up in the economy, as per the CBK report (2018). After holding it steady at 8.5 percent for two years, the CBK increased its policy rate by 150 basis points to offset these pressures and stabilize growing inflation expectations. The pressures were ascribed to persistent volatility in the global foreign exchange market, depreciation of the exchange rate, and demand pressures. Spreads, lending rates, and deposit rates were all impacted by this increase in interbank interest rates and Treasury volatility. The rate on Treasury bills increased to a peak of 21.65 percent in October 2015, after averaging 8 percent for almost two years. Commercial banks raised average lending rates by 188 basis points in 2015, up from a 104 basis point decline in 2014, and average deposit rates by 133 basis points, up from a marginal increase of 26 basis points in 2014, in an attempt to retain their depositors (Central Bank, 2018).

1.2 Statement of the Problem

Financial deepening is widely regarded as an essential driver of long-term economic growth because it enhances capital accumulation, promotes efficient resource allocation, and facilitates financial intermediation. However, in many developing economies, including Kenya, the depth of the financial system has remained relatively shallow despite decades of reforms. For instance, while Kenya's private sector credit to GDP ratio increased marginally from 24% in 2000 to 32% in 2022, this level still falls significantly below emerging market averages of 60–100% (World Bank, 2023). Similarly, stock market capitalization in Kenya remains volatile and low, averaging only 23% of GDP in 2021 compared to over 70% in middle-income Asian economies (CBK, 2022). These statistics highlight a persistent gap between the expected outcomes of financial deepening and the actual state of Kenya's financial sector.

Financial liberalization was introduced in Kenya in the early 1990s, beginning with interest rate deregulation in 1991, removal of credit guidelines, and subsequent opening of the financial sector to foreign players. The expectation was that liberalization would spur competition, increase savings mobilization, attract capital inflows, and ultimately deepen financial systems. Yet, evidence from both global and regional contexts suggests that the outcomes of liberalization are mixed and context-

dependent. While some studies demonstrate that liberalization stimulates financial sector growth, others link it to heightened risks, instability, and crisis (Odhiambo, 2008; Ahmed, 2022; Asongu et al., 2020). In Kenya, despite the growth of innovative instruments such as mobile money and digital credit, financial deepening indicators remain modest, suggesting that liberalization has not fully translated into the anticipated outcomes.

The complexity of this relationship is further compounded by market risk, which influences the effectiveness of liberalization in fostering deepening. Volatility in interest rates, exchange rates, and credit markets, along with shocks to the stock market, often distort the expected positive effects of liberalization. Episodes such as the collapse of several banks in the mid-2010s and recurrent volatility in the Nairobi Securities Exchange illustrate how market risks erode investor confidence and undermine financial sector development. Yet, empirical studies in Kenya and much of sub-Saharan Africa have rarely incorporated market risk as a moderating factor when examining the link between financial liberalization and financial deepening.

Existing empirical work on financial liberalization in developing countries also presents several shortcomings. First, many studies have relied on outdated datasets covering the 1960s to 1990s (Ngugi & Kabubo, 1998; Yakubu et al., 2020), making their conclusions less relevant in light of recent innovations and regulatory changes. Second, much of the literature has focused narrowly on isolated sectors such as banking or stock markets, failing to provide a comprehensive assessment of financial deepening in the context of broad-based liberalization. Third, some studies have omitted critical moderating variables such as market risk, thereby overlooking how instability and volatility may alter the expected effects of reforms (Okisai et al., 2023). These gaps create uncertainty about the actual effectiveness of Kenya's financial liberalization in achieving sustainable financial deepening.

In this regard, the central problem is that despite over three decades of financial liberalization in Kenya, financial deepening remains shallow, inconsistent, and highly vulnerable to market risks. This raises the question of whether liberalization in its current form is sufficient to drive meaningful financial sector development, or whether

market risks are undermining its potential benefits. Therefore, this study seeks to provide a contextual and updated analysis of the dual and dynamic effects of financial liberalization on financial deepening in Kenya, while explicitly incorporating market risk as a moderator. By addressing the overlooked role of risk and focusing on recent data, this research contributes uniquely to both policy and academic debates on how liberalization can translate into effective financial deepening in emerging economies.

1.3 Research Objective

The study was guided by both general and specific objectives.

1.3.1 General Objective

The main research objective of this study is to establish the impact of financial liberalization on financial deepening in Kenya.

1.3.2 Specific Objectives

The specific objectives are:

- i. To investigate the impact of interest rate liberalization on financial deepening development in Kenya.
- ii. To determine the impact of capital account liberalization on financial deepening in Kenya.
- iii. To determine impact of equity market liberalization on financial deepening in Kenya.
- iv. To determine impact of privatization of financial institutions on financial deepening in Kenya.
- v. To ascertain the moderating effect of market risk on the relationship between financial deepening and financial sector liberalization.

1.4 Research Hypotheses

To achieve the research objectives, the following hypotheses were tested.

- H01:** Interest rate liberalization has no significant impact on financial deepening in Kenya.
- H02:** Capital account liberalization has no significant impact on financial deepening in Kenya.
- H03:** Equity market liberalization has no significant impact on financial deepening in Kenya.
- H04:** Privatization of financial institutions has no significant impact on financial deepening in Kenya.
- H05:** Market risk has no significant moderating effect on the relationship between financial deepening and financial sector liberalization in Kenya.

1.5 Significance of the Study

This study is significant to the following stakeholders;

1.5.1 Investors

The recommendations and findings of this study is important to investors in that it provides insights into investment opportunities through identification of new opportunities in emerging sectors and asset classes. Also the findings will assist investors in understanding market dynamics through understanding impact of liberalization policies to financial sector efficiency resulting to enhanced transparency, reduced barriers to entry and improved competition due to access to financial services by domestic investors and increase in entry of foreign investors hence Investors can study the impact of these policies as per this study to make more informed investment decisions. Additionally, this study aimed at providing proof of how financial liberalization indicators performance enables Investors to stay informed about the policy changes to ensure compliance with new regulations, to adapt their investment strategies accordingly and navigate the complexities of global financial markets.

1.5.2 Government

The study is crucial to governments because it will help the key officials understand and make informed decisions about financial policies involving foreign investments

and capital flows. The findings will assist in enhancing financial regulations which affects local financial access and global trade like the inflation control and market risk towards a country GDP hence identify potential vulnerabilities and mitigate systemic risks. Additionally, financial liberalization often leads to the development of capital markets, including stock exchanges and bond markets., Governments study these developments to assess their role in supporting public financing, corporate growth, and infrastructure investment.

1.5.3 Research and Academia

This study will be crucial to academicians because it will offer opportunities to advance knowledge, contribute to economic policy debates, and address pressing issues related to economic development which this study will help in showing the causal relationships, indicators and mechanisms between financial liberalization and financial deepening and its event to the GDP. It will help academicians understand financial stability and financial market dynamics by providing evidence-based insights to policymakers to and help in designing better policies hence this study will provide a fertile ground for research and intellectual inquiry that will have real-world impact.

1.5.4 Financial Institutions Managers

The study of both financial liberalization and financial deepening is of significant importance to the management of financial institutions since these two concepts are closely related but have distinct implications for financial institutions, and understanding them can help management make informed decisions and formulate effective strategies. This study will assist managers by achieving a balancing act between the benefits of financial liberalization, which creates new markets and opportunities, and the risks associated with adoption of the policies such as increased competition and regulatory changes. The study will also help managers make decisions of market expansion through insights from this study to identify opportunities for product diversification, geographic expansion, and customer acquisition. Lastly, as financial markets deepen and liberalize, financial institutions must assess their capital adequacy to support growth and manage risks effectively which this study will bridge

the gap by providing proven findings and recommendation on financial concepts that will be crucial for optimizing capital allocation.

1.6 Scope of the Study

The study analyses the effect of financial sector liberalization on financial deepening in Kenya between the period of 1990 to 2020. Though Kenya attained independence in 1963, this study mainly was restricted from 1990 due to the key liberalization reforms instituted in that year and availability of complete data for this thesis. This analysed only the three measures of financial liberalization that affects financial deepening which include Stock market liberalization, capital account liberalization and interest rate liberalization to achieve the research objective hence omitted other forms of liberalization like current account liberalization.

1.7 Limitations of the Study

The study contributes to significant insights on the impact of financial sector liberalization on financial deepening in Kenya. Nevertheless, the study suffers from some weaknesses. First, the study relied on annual time series data for empirical investigation, which has the potential to reduce the accurateness of the parameters. As such quarterly data is most appropriate. However, since quarterly data is not readily available, annual data was utilized. Secondly, the study only relied on interest rate liberalization, privatization of financial institutions, capital market liberalization and equity market liberalization as measures of financial liberalization. Though these proxies are most appropriate in the context of the study, other proxies could be utilized, such as constructing a financial liberalization variable basing on the observed changes in policy. Nevertheless, given the challenges associated with the utilization of policy changes, the proxies utilized by the study were most appropriate in measuring financial liberalization. Moreover, there is limited literature on the influence of financial liberalization on financial deepening in Kenya. The study, therefore, utilized literature from other countries. Though the preceding limitations could have an undesirable implication on the findings of the study, it is assumed that their implications are negligible and may not influence both the empirical and theoretical findings of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This Chapter outlines the contributions by various researchers to the body of knowledge on Finance liberalization and financial deepening. This includes the theoretical and empirical literature of financial liberalization and financial deepening. It outline the conceptual framework which shows the independent variables (Capital account liberalization, stock market liberalization, interest rate liberalization and Privatization of financial institutions), dependant variable which is financial deepening and moderating variable being market risks measured by inflation deflator to GDP. It also explores various applicable theories the researcher has used to address the research gap. The chapter also provide critique of the empirical literature and the summary of the study.

2.2 Theoretical Review

This chapter presents the theoretical review that underpins the study. The adoption of a multiple-theory approach is necessary because no single theory can sufficiently explain the complex and multidimensional relationship between financial liberalization, financial deepening, and market risk in Kenya. Financial liberalization encompasses diverse dimensions - interest rate liberalization, capital account liberalization, equity market liberalization, and privatization of financial institutions - each of which has distinct mechanisms through which it influences financial deepening. Moreover, the moderating effect of market risk further complicates these relationships, requiring a combination of theoretical perspectives to provide a comprehensive analytical framework. Thus, drawing from several complementary theories enables this study to capture the breadth and depth of these interactions in a manner that a single theory could not adequately address. A theory refers to definitions and propositions that present a systematic view of phenomena by specifying the relationships among variables with the aim of explaining and predicting outcomes (Luciani, 2015; Cooper & Schindler, 2011; Mukuusi, 2019). This study is grounded in

four key theories: the Financial Intermediation Theory, the Institutional Theory of Financial Deepening, the Financial Liberalization Theory, and the Capital Structure Theory.

The Financial Intermediation Theory provides insight into the role of financial institutions in mobilizing and allocating resources, thereby facilitating financial deepening through efficient intermediation. The Institutional Theory of Financial Deepening emphasizes the significance of regulatory frameworks, legal structures, and institutional quality in fostering or hindering the development of deeper financial systems. The Financial Liberalization Theory explains how removing restrictions on interest rates, capital accounts, and equity markets can stimulate competition, efficiency, and capital flows, which are critical for financial deepening. Finally, the Capital Structure Theory helps to explain how privatization of financial institutions and the resulting ownership and financing decisions influence the stability and depth of financial markets.

By integrating these theories, the study develops a robust framework to address its objectives: investigating the impact of interest rate, capital account, equity market, and institutional privatization liberalization on financial deepening in Kenya, as well as examining the moderating role of market risk in these relationships. Together, these theories provide complementary explanations that allow for a more comprehensive understanding of the financial liberalization–financial deepening nexus within Kenya’s dynamic economic environment.

2.2.1 Theory of Financial Liberalization

The theory was put forth by Shaw, Fry, and McKinnon in 1973. They contested the Tobin argument and rejected Keynesian monetarism. Rather, they presented an economy model with immature financial markets. The closed nature of developing economies, with little access to outside capital and self-financing investments, served as the foundation for McKinnon's arguments. According to McKinnon, import licensing policies subtly direct funding to approved importers and the governments of developing nations intervened in the financial markets for specific reasons that demonstrated the effectiveness of their investments. This can lower the cost of capital

goods and thereby indirectly subsidize the costs of investments, opening the door to corruption and monopoly privileges. As a result, wealth redistribution may contribute to implicit capital controls on foreign investments and to the financing of land ownership. They argued against financial repression and low, controlled interest rates, supporting financial liberalization and development as important measures that would boost economic growth. Furthermore, before making an investment in tangible capital, prospective investors must first amass financial assets.

Economists, decision-makers, and experts have expressed concern over the proposal and recommendation made by Shaw (1973) and Mckinnon (1973) regarding the liberalization of the financial system as a way to enhance financial intermediation and depth in the financial system. Mckinnon-Shaw's stance on the crucial role that finance plays in economic development is that government intervention, strict financial system regulations, and low financial depth and growth are the reasons behind this in many developing nations. The foundation of the financial liberalization argument was financial sector reform, i.e., a robust financial sector supporting the productivity of the real sector. They argue that the practice of keeping interest rates below levels set by the market destabilizes the financial sector and, in turn, undermines banks' ability to effectively provide financial intermediation. The incentive for economic units to hold excess funds as financial assets decreases when interest rates are administratively fixed at low levels. Furthermore, savings may be discouraged by the worry that there will be persistent inflation and currency devaluation due to capital flight. Consequently, there will be a finite amount of investible funds available. These restrictions also imply that the interest rate is no longer a reliable way to limit credit and differentiate between investments.

Proponents of the liberalization hypothesis, like Kitchen (1988) and Ozekhome (2022) contend that if bank credit is limited and hard to come by, a firm's ability to use its full capacity may be hampered because it would be very hard to get credit to finance its working capital, which could severely restrict its output. Kitchen therefore contended that interest rate liberalization would increase credit availability which might have the effect of boosting the use of capital stock and current financial resources. Thus, the financial market's liberalization would result in the capital stock and financial

resources being allocated more effectively which would spur greater savings, credit intermediation, growth, and financial deepening. In light of this, proponents of financial liberalization clarified that financial repression hinders economic growth. Theoretically, real and sustainable economic processes depend on the development and support of effective financial institutions. According to Levine (2000), Sawyer (2018) and Jiang et al., (2020) financial institutions have the potential to mitigate risk, enhance corporate governance and savings, mobilize savings, lower transaction and information costs, and encourage specialization.

Financial repression is opposed by people who claim that it stunts economic growth and financial deepening. These people include Shaw (1973), Mckinnon (1973), Roubini and Sala-i-Martin (1992), King and Levine (1993), Demetriades, and Luintel (1997). In order to re-establish a financial system that was outdated and underdeveloped, they proposed financial liberalization. They contended that a liberalization policy leading to higher interest rates would thus establish a positive feedback loop of higher rates of economic growth, better investment efficiency, and increased savings. Proponents of financial liberalization claim that because of the increased efficiency that results, economic growth will be accelerated. They claimed that the availability of financial assets would enable the financial sector to grow.

Various schools of economics, including some researchers connected to the mainstream New Keynesian economics like Rodrik (1998), Stiglitz (1993), Wijbergen et al., (1986), and Stiglitz (2010), have criticized financial liberalization. There are at least three major perspectives in heterodox economics that heavily criticize financial liberalization which include Marxist summaries which are provided by Fine (2012, 2013), Lapavitsas (2013), and Epstein (2005, 2019). The Regulationist school, which is still forming its own unique viewpoint but draws influence from both Marxists and post-Keynesians, opposes financial liberalization Boyer (1999), Boyer and Saillard (2002), and Becker et al., (2010) all contain syntheses of their concepts.

Stallings and Peres (2011), Sawyer (2018) and Jiang et al., (2020) documented that financial liberalization frequently had unfavorable effects and that the data correlation level of openness to economic growth is distinctly inconclusive in their empirical study

examining economic reforms in Latin America and the Caribbean. Capital flows have the potential to upset emerging market economies and lessen the independence of their macroeconomic policies. Additionally, they may cause fluctuations in the exchange rates of developing nations, as noted by Eichengreen et al., (2000) explained that “real economic consequences devastating for particular sectors and whole economies could result from volatility in exchange rates and interest rates induced by speculation and capital flows”. Hausmann et al., (2005) noted that capital controls and an exchange rate regime that minimizes external vulnerability and avoids excessive exchange rate fluctuations are necessary to maintain the autonomy of fiscal and monetary policies so that they can concentrate on ensuring growth and development and avoiding speculative attacks. Countries that have grown fastest like China, the East Asian tigers, Chile, India have all used capital controls as claims by Palley (2009).

The structural view of financial liberalization, which traces its origins to the writings of structuralist economists such as Prebisch (1950) and Singer (1950) argued that structural flaws and other rigidities in developing economies must be eliminated before attempting to break the cycle of financial instability. This will open the door for financial growth and economic transformation (Mouna & Reza, 2001, Singh et al., 2007 & Campos and Coricelli, 2002). According to this thesis financial policies that directly address the prevailing structural deficiencies should be the primary focus of public policy rather than monetary and economic policies that control and regulate the money supply and government expenditures. Thus, growth in developing and transition economies will be accelerated through the adoption, execution, and deepening of significant structural reforms. In structuralism, therefore, in order to create a solid foundation for financial sector reforms and long-term macroeconomic stabilization, great efforts should first be focused on resolving the deficiencies, flaws, and structural rigidities in the economic and financial domain. If these economic barriers and structural rigidities are not removed, it may be impossible to expand and develop the economy quickly, even in the face of sophisticated financial markets.

Despite these criticisms, the Financial Liberalization Theory remains highly relevant for examining the relationship between interest rate liberalization and financial deepening. It provides a strong conceptual foundation for predicting that deregulated

interest rates should mobilize greater savings and credit flows, thereby broadening financial intermediation. At the same time, the theory highlights the importance of balancing liberalization with institutional capacity and risk management. For this study, the theory anchors Objective One by offering both the rationale and expected direction of the relationship, while also acknowledging that moderating factors such as market risk and institutional weaknesses could alter the expected outcomes. In this way, the theory both justifies the focus on interest rate liberalization and frames the empirical analysis of its effects on financial deepening in Kenya.

2.2.2 Financial Intermediation Theory

Financial intermediation theory was developed by Mises (1912). The theory emphasized on the roles of financial intermediaries like banks in the financial systems. They recognized that the financial intermediaries can be categorized by four criteria which are: categories of liabilities (deposits) which are specified for a fixed sum which is not related to the performance of portfolio, high proportion of their liabilities are chequeable and liabilities, short term deposits and assets which are transferable. The theory establishes that the contribution of intermediaries is to ensure steady flow of the funds from the surplus units to the deficits units and also to ensure that asymmetries of information in the market exists.

Andrieş (2009), Ratnawati (2020), Havrylchyk & Verdier (2018) explored that the financial intermediation theory analyses the functions of financial intermediation and how they influence an economy, therefore highlighting the roles of financial intermediaries, their controls, supervision and impact of financial intermediaries' regulation to stimulate an economy. As pointed out by Rampini & Viswanathan (2019) that intermediation theory is based on the theory of agency theory and informational asymmetry which in principle explain the existence of method of regulation, high transaction costs and inadequate or incomplete information. Ai et al.,(2020) documented that financial intermediary is an industry of similar financial firms which make and enforce financial arrangements in an economy where borrowers and lenders effectively effect the allocation of financial resources both long-term and short term which results to liquidity provision in the financial institutions.

Greenbaum et al., (2019) describes financial intermediaries as a coalition that deals with the information distribution and informational asymmetry is the key factor when outlining the financial intermediation effects which may result from moral hazard (business entity providing wrong or misleading information on a particular detail required in a transaction by the next trading party hence increases the exposure of risk of failure) and adverse selection (where a party has not entered in a contract in good faith or a situation where he has totally provided wrong information since he/she won't face risks) while the theory of perfect markets in Arrow- Debreu theory and if the financial institutions holds a fully diversified assets portfolio, depositors hold risk free rate debt contracts hence reduced the financial institutions monitoring.

Diamond and Dybvig (1983), Bethune et al., (2021), Chan (2018) and Diamond (1986) on neo- classical theory on perfect financial markets model argues that in a liberalized financial market possess numerous conditions which include no influence of prices by any participants, absence of discriminatory fees, no competitive advantage since all information's are readily available, no transactions costs hence all trading partners can access information and trade effectively where forces of demand and supply determine prices, stock movements, transactions costs and stability of the markets hence hedge risks associated with exploitation and market failure either through agents and trading partners. Many imperfections in the markets generated by informational asymmetry which results to institution of transactions by the partners which resulted to creation of financial intermediaries to control and regulate costs, mobilize deposits, give loans, provide trading advices on projects trading partners wish to undertake and encourages savings hence regulate liquidity risks.

Ratnawati (2020) and Havrylchyk & Verdier (2018) in their study on framework for financial market development reveals that the works by the latter researchers dwell much on capital accumulation and the accompanying factors that contribute to this respect, but assume that perfect functional aspects of the financial markets upholds in the transition economies that there is efficient channeling of savings from households to enterprises and that funds are channeled to the most profitable investment projects. Molnár (2018) asserts that credit and monetary policies through negative effect on aggregate supply, may reduce output and result into hefty prices.

This study as well maintains that dynamics of structural change may not be easy to analyze due to aggregate perspective.

The criticism of the theory was put forth by various scholars such as Atkeson & Kehoe (1993) on their study on introduction of a complete set of future markets brings forth the analysis of gaps in future markets to assist in speeding the restructuring of transition economies. John & Nwekemezie (2019), Perotti (1993) and Buch (1996) on the other hand has emphasized on lending behaviours of banks and the impostors that this has on reforms of financial markets. Stiglitz et al., (1981) argued out that imperfections on capital market taking the forms of moral hazard and asymmetric information, borrowers must be ready for taking the perils since the presence of dormant capital controls results to credit rationing. Stiglitz (2000) further quotes that, “it has become increasingly clear that financial and capital market liberalization done hurriedly without first putting into place an effective regulatory framework was at the core of the problem”.

On a critical note, other than financial openness according to Agapova & Vishwasrao (2020) noted that trade openness that is to say, openness to international trade in that by putting together the stronger economic groups and aligning them in close proximity with the financial deepening, trade openness can improve the supply of finance from without. A challenge is hereby imposed to the African nationalities on whether they are ready to reap the advantages of liberalization without bumping onto the perils of crisis resulting from the volatility and cyclicity of flows.

Arora et al., (2004) and Donaldson et al., (2021) criticizes the notion asserting that the trade openness might pose externalities to young infant industries in Africa since goods flowing from outside tend to pose economic fluctuations. In support of the same and with further incite from Agapova & Vishwasrao (2020) and Molnár (2018) adds on the aforementioned statement by Arora et al., (2004) that exposing the small African economies to trade openness particularly through international flow of goods would increase their vulnerability to external shocks and thus the outcome is a worsened capital market imperfections and creation of much more impediments to financial deepening.

As pointed out by various theorist, the theory distinguishes between the following functions of financial intermediaries; transactions cost reduction, liquidity risk reduction, information provision and debt reduction, Grassi et al., (2022); Yao et al., (2021); Buckle & Thompson (2020). In Germany, Buckle & Thompson (2020) have found that previously neglected segments of the consumer credit market, such as high-risk consumers and those applying for small credit lines, as well as businesses facing lack of credit by banks are the potential borrowers of the new online marketplace lending platforms.

The theory is directly relevant to impact of capital account liberalization on financial deepening in Kenya. Capital account liberalization opens domestic financial systems to cross-border flows, thereby intensifying the role of financial intermediaries in managing foreign capital, mitigating risks, and ensuring that resources are allocated to productive sectors. Intermediaries thus become essential conduits for channeling international capital inflows into long-term investments, while also offering mechanisms to hedge risks associated with volatility in foreign exchange and cross-border capital movements (Rampini & Viswanathan, 2019; Ai et al., 2020). Through liberalization, intermediaries are expected to expand credit access, enhance liquidity, and deepen financial markets, ultimately strengthening economic development.

However, critics caution that financial intermediation in liberalized capital markets may introduce new vulnerabilities. Scholars such as Stiglitz (2000) and Perotti (1993) note that opening capital accounts without adequate regulatory frameworks often amplifies systemic risks, fosters credit rationing, and exposes domestic markets to sudden reversals of foreign capital. Similarly, empirical evidence suggests that premature capital account liberalization in emerging economies can exacerbate instability and weaken financial deepening by exposing local markets to external shocks and speculative flows (Atkeson & Kehoe, 1993; Agapova & Vishwasrao, 2020). These dynamics highlight the double-edged nature of capital account liberalization: while it may enhance intermediation and expand financial access, it can also increase vulnerability in weakly regulated financial systems.

Despite these criticisms, Financial Intermediation Theory provides a strong conceptual foundation for understanding the link between capital account liberalization and financial deepening. In emphasizing the intermediary role of banks and related institutions, the theory explains how capital inflows can be transformed into productive investment when supported by efficient intermediation structures. This makes the theory particularly relevant for Kenya, where financial markets remain shallow and external capital inflows are increasingly important for economic growth. In this context, the theory not only justifies the examination of capital account liberalization but also highlights the conditions - such as robust regulation, transparency, and institutional capacity - under which liberalization contributes to deeper, more resilient financial systems (Grassi et al., 2022; Yao et al., 2021; Buckle & Thompson, 2020).

2.2.3 Institution Theory of Financial Deepening

The institutional theory of financial deepening was developed by Douglas North (1922). The theory focuses on the importance of institutional factors in shaping the development and functioning of financial systems in different countries. It suggests that the legal, regulatory, and governance frameworks significantly influence the efficiency, stability, and accessibility of financial markets. These postulations highlight the central role of institutions in fostering or constraining financial deepening hence form the basis for analyzing and understanding the dynamics of financial systems and guide policy makers and researchers in assessing the quality and effectiveness of institutional arrangements in different financial environments.

The proposition and recommendation by Greenwood & Jovanovic (1990) and Saint-Paul (1992) document that as the economy grows, the costs of financial intermediation decrease due to intensive competition from emerging institutions therefore inducing a larger scale of funds available for productive investment. Jaffee & Levonian (2001) & Mungule & Chomba (2022) demonstrate that the GDP per capita level and the saving rate have positive effects on the banking system capital structure considering branches in operation, employees and bank assets. Beck *et al.* (2003) address how institutions matter for financial deepening while Stulz and Williamson (2003) stress the impact of differences in culture proxied by differences in religion and language, on the process

of financial deepening. They provide evidence that culture predicts cross-country variation in protection and enforcement of investor rights, especially of creditor rights. The evidence also showed that the influence of culture on creditor rights protection is mitigated by the introduction of trade openness and the role of media state ownership has significant role in financial deepening (Djankov *et al.*, 2003).

The removal of entry barriers is another dimension financial liberalization advocate; it stipulates that removal of barrier leads to growth and increase of financial institutions in an economy hence results to financial sector development thereby increasing financial resources to the investors hence improved financial depth and enhancements of the resource allocation from inferior venture to high yielding ones are expected to occur. The supporters and researchers of institution theory argue that government restriction on the banking system obstructs the flow of financial investments which can be depicted by the banking sector competition, growth and introduction of new technology in their operations (Meso & Kaino, 2008; De Haan et al., 2020).

The empirical analysis points out that those high-quality institutions are significant to sustenance of financial deepening. For instance, previous study by Schiantarelli and Strahan (2016) remarkably notes that an economy with efficient judicial services is likely to have more stable banking system, alongside the European commission (2015) that maintains the fact that legal system such as insolvency rules helps in reduction of financial friction. The author concludes that, “low interest rate pass-through in the Eurozone was specifically caused by the rise in mark-ups due to higher perceived risks and that little reactions has of bank interest rates to monetary policy shocks occurred but its importance was likely less as compared to mark-up increments”.

Aksoy (2019) conducted the research by analyzing various structural reforms and their impacts on financial growth presupposing that there is ease in guessing which reforms take which path of action. Equally, the researcher attempts to differentiate the impacts of reforms in both the short and long term, and finally adopts the coefficients of the short run to investigate indicators of the growth impacts pertaining to liberalization. The findings presented showed that domestic reforms of finance, global trade, accounts of capital in the long run relates positively to real per capita GDP, stating

further that in inclusion of de-facto reforms measures alongside quality democratic variables, the positivity resulting could be of great intense. Likewise, the researcher maintains that in the short run, the improvement of institutional reforms prerequisite the mitigation of terrific short run impacts. Well, to finalize the core of research, the researcher maintains that there exists a positive connection between reforms and the GDP per capita associated with the long run, contrasting this to short run effects , imposing that even though the effects are positive on an average, various economies still shows heterogeneity and further asserts that economies with better property rights with better contract enforcement enjoys the positivity in the short run as opposed to poor quality of institutions that only escalates the adverse reforms and therefore reinforcing reforms on global trade that precedes reforms on finance could assist economies in mitigating through adverse impacts of short run.

Critiques of institutional theory have been advanced by different scholars such as Raifu & Afolabi (2023) who documented that the theory tendency to overemphasize formal institutions, such as legal frameworks and regulatory bodies, while neglecting informal institutions and social factors and argued that informal institutions, including cultural norms, trust, and social networks, play a vital role in shaping financial behavior and development. The researchers stated that by focusing solely on formal institutions, the theory may overlook essential components that contribute to financial deepening. DeGregori (2019) contend that the Institutional theory faces challenges in addressing the endogeneity of institutions and economic development, while the theory suggests a causal relationship between institutional quality and financial deepening, the researcher argued that this relationship is bidirectional. Institutions evolve in response to economic development, and the theory may not adequately capture the complex feedback loops between institutions and financial systems. De Haan et al. (2020) documented that measuring institutional quality poses a significant challenge for researchers and policymakers and argued that the theory often relies on subjective and imprecise measures of institutional quality, making it difficult to establish clear causal relationships. Additionally, the researcher noted that the theory may struggle to capture the dynamic and multifaceted nature of institutional quality, leading to potential shortcomings in empirical analysis.

Kaminsky & Schmukler (2003) noted that financial liberalization would be created for increasing and improving the financial institution's operation on credit regulation, interest control, capital account to control offshore flows and borrowings, exchange rate controls and capital outflow controls, the capital control is implemented to control the inflow and outflow money in the long-term and stock market liberalization would be implemented to control capital inflows which is the acquisitions of shares by the foreign investors, repatriation of dividends and interests and capital outflow (repatriation of capital) and it fully liberalized, the stock exchange will increase the foreign investors participation in the economy because of established regulations and empowered institutions to deal with any imbalances in the trade.

The relevance of this theory to the present study is specifically tied determining the impact of privatization of financial institutions on financial deepening in Kenya. Privatization, as an institutional reform, alters the governance and ownership structure of financial institutions, with significant implications for efficiency, competition, and resource mobilization. According to Greenwood and Jovanovic (1990) and Saint-Paul (1992), institutional reforms such as privatization can reduce the costs of financial intermediation by fostering competition and expanding access to credit, thus stimulating financial deepening. As economies liberalize, privatization of state-owned banks is expected to attract private capital, improve managerial accountability, and strengthen prudential regulation, which in turn enhance institutional quality and deepen financial markets (Meso & Kaino, 2008; De Haan et al., 2020). In the Kenyan context, privatization aligns with efforts to strengthen governance in the financial sector and reduce inefficiencies associated with state dominance.

Nonetheless, critics of the Institutional Theory highlight several limitations. Raifu and Afolabi (2023) argue that the theory tends to overemphasize formal institutions while neglecting informal institutions such as trust, cultural norms, and social networks, which are equally important in shaping financial behavior. Similarly, DeGregori (2019) observes that the relationship between institutions and financial deepening is often bidirectional: while strong institutions promote financial development, economic growth itself can shape institutional reforms. Furthermore, De Haan et al. (2020) caution that measuring institutional quality is difficult due to reliance on subjective

indicators, raising concerns about the robustness of empirical findings. These critiques are particularly relevant to privatization reforms, where weak oversight and poor enforcement can undermine anticipated gains, leading instead to elite capture, concentration of ownership, or financial exclusion.

Despite these criticisms, the Institutional Theory remains highly relevant for analyzing the impact of privatization on financial deepening. Privatization represents a deliberate institutional reform intended to strengthen governance, improve efficiency, and foster competition within financial markets. In reducing state dominance, privatized financial institutions are better positioned to allocate credit efficiently, mobilize savings, and enhance innovation in financial services, thereby contributing to financial deepening. In Kenya, this implies that successful privatization must be accompanied by strong institutional frameworks, including regulatory oversight, transparency, and mechanisms for protecting investors and consumers. Thus, the Institutional Theory provides a robust foundation for assessing how privatization, as a structural reform, influences financial deepening in the Kenyan financial sector.

2.2.4 Capital Structure Theory

A combination of debt and equity securities is what Myers (2001) defined as capital structure, and it is used to finance both nominal and real investments. Capital structure is the long-term financing strategy that corporate organizations employ. Brendea (2018), Nirajini and Priya (2013) defined it as the process by which corporate entities finance a combination of long- and short-term liabilities and capital.

The propositions of Modigliani and Miller's theory (1958) which was the ground breaking theoretical investigation placed in a world devoid of friction, where investors have access to all information, there are no financial distress, taxes, or transaction costs. They contend that the value of a company is independent of its capital structure and that an increase in the gearing ratio will correspondingly increase the expected return on equity. The authors went on to elaborate on their theories, assuming that in a tax-averse world, a company's choice between debt and equity determines its value. A company that benefits from tax reductions can reduce its cost of capital and raise its value (Modigliani and Miller, 1963).

Miller (1977) contended that taxes may have a negative impact on debt structure since low personal taxes on equity will raise the cost of riskier debt. The impact of taxes on debt is broad in both costs and benefits. According to DeAngelo and Masulis (1980), a non-debt tax shield is an additional factor that diminishes marginal tax advantages. A particular number of tax benefits 9:07 percent-to firm value have been identified by Graham (2000). These benefits can be doubled through debt issuance until marginal tax advantages begin to decline.

The two theories of capital structure which include the trade-off and pecking order theories developed by Modigliani and Miller in 1963 and Myers and Majluf in 1984, respectively, serve as the foundation for a majority of empirical research. Still, Pecking order theory outperforms trade-off theory in explanatory power (Shyam-Sunder and Myers, 1999). Fama and French (2002) came to the conclusion that neither theory could be universally accepted or rejected, but that both have some capacity to explain the financial behavior of the firms. The reasons for this are the disparities in presumptions; for example, the trade-off and pecking order theories presuppose that variations in capital structure result from variations in information and taxes, respectively. Amidu (2007) noted that the trade-off theory suggests that a company should utilize a sensible ratio of debt to equity in order to maximize the firm's value. Due to the higher interest rates associated with debt, businesses are able to save taxes.

Schmukler and Vesperoni (2001) document that the main driver of financial liberalization is the enhancement of market discipline, financial infrastructure, transparency, and development of the financial system through the globalization of the financial markets. This gives domestic businesses new avenues for funding and investment. Demirguc-Kunt & Maksimovic (1996) for instance, conduct an empirical investigation into the relationship between the growth of the stock market and the financial structure of thirty nations, including South Africa. For developed countries, they find that debt financing is replaced by equity, while for developing countries, the outcome is the opposite. Larger businesses in particular become more leveraged, while smaller businesses are largely unaffected by changes in the stock market.

The research conducted by Gallego and Loayza (2000), who among other things looked at whether financial liberalization and the growth of the stock market affected the preference for debt over equity among Chilean firms, gave rise to the opponents of capital structure theory. They discover that while the growth of the stock market causes a rise in the use of equity relative to debt, the expansion and activity of the banking industry causes a decrease in the use of equity. The more surprising discovery was that there seems to be a correlation between the debt-to-equity ratio and access to foreign equity markets. They contend that this is because ADR issuers are generally viewed as having a higher creditworthiness, which makes more space available for the continued use of debt.

According to Bhaduri's (2000) analysis of financing options for Indian businesses, financial liberalization lowers the marginal propensity for debt for businesses of all sizes. Nonetheless, the reduction is more noticeable for big, established businesses. This result implies that different firm financial decisions are impacted by financial liberalization. Schmukler and Vesperoni (2006) found that that companies that have access to foreign debt and equity markets are able to obtain more long-term debt than companies that rely more heavily on domestic financing, based on a cross-country analysis. They come to the conclusion that financial liberalization drives a wedge between domestically and foreign-financed businesses.

Flavin and O'Connor (2010) investigated how the financial structure of 31 emerging firms is affected by stock market liberalization. They examined the impact of stock market liberalization events on corporate financing choices and analyzed the differences between 'investable' firms and those who cross-list on international markets and show that an initial act of liberalization evokes similar responses across all firms. They found evidence of different behavior depending on the sequence of events and across categories of listing.

The introduction of the public debt market in South Africa represents yet another development in the process of financial liberalization. Prior to the establishment of the Bond Exchange of South Africa companies had few options for securing outside funding. The two primary sources were usually private debt, particularly that from

banks, and equity. Ojah and Pillay (2009) contend that this increased choice causes capital market competition, which in turn impacts South African firms' debt and capital structure. They find that the cost of capital for public debt issuing firms is lower than that of non-public debt issuing firms following issuance in their sample of public and non-public debt issuing firms. It could be argued that this improves public debt issuing companies' ability to obtain more outside funding.

The theoretical and empirical evidence that has been examined thus far, financial liberalization undoubtedly has an impact on the choice of financial structure. The choice of capital structure is heavily influenced by the characteristics of the firm. Larger companies are impacted differently than smaller companies, and companies that have access to global equity markets are impacted differently than companies that are financed domestically. Overall, the majority of the data suggests that using equity more often than debt is the way to go and a lengthy list of macroeconomic, industry-specific, and company-specific variables, including age, financial constraints, tangibility, size, growth, and industry practices.

The relevance of Capital Structure Theory to this study lies examining the impact of equity market liberalization on financial deepening in Kenya. Stock market liberalization expands access to external equity financing, lowers information asymmetry, and provides firms with broader options for structuring their capital. According to Demirguc-Kunt and Maksimovic (1996), liberalized equity markets often shift financing preferences in developed economies from debt toward equity, deepening financial systems by diversifying instruments and improving capital allocation. For Kenya, equity market liberalization could enhance financial deepening by improving liquidity, encouraging cross-border investment, and expanding access to long-term financing, particularly for firms unable to rely solely on bank lending. This aligns with the trade-off theory's recognition that equity markets play a stabilizing role by reducing overreliance on debt.

Nonetheless, critics caution that equity market liberalization produces heterogeneous effects across countries and firm sizes. Evidence from Chile, India, and South Africa demonstrates that large and internationally connected firms benefit disproportionately

from liberalized stock markets, often accessing foreign equity and long-term financing, while smaller firms remain dependent on domestic debt markets (Gallego & Loayza, 2000; Bhaduri, 2000; Ojah & Pillay, 2009). Flavin and O'Connor (2010) also found that equity market liberalization influences firms differently depending on listing status and timing, suggesting that liberalization may amplify inequalities within financial systems. These critiques highlight the importance of institutional and market capacity in ensuring that equity liberalization supports inclusive financial deepening rather than privileging only the largest firms.

Despite these challenges, Capital Structure Theory remains an essential framework for analyzing equity market liberalization. It explains how firms restructure financing in response to market reforms, balancing debt and equity to optimize value. For Kenya, the theory underpins the expectation that liberalized equity markets should broaden financing options, enhance financial intermediation, and strengthen overall market depth. However, the theory also draws attention to the need for robust regulation, investor protection, and institutional capacity to ensure equitable benefits. Thus, Capital Structure Theory provides a solid foundation for Objective Three by linking equity market liberalization to changes in financing structures that ultimately drive financial deepening.

2.2.5 Modern Portfolio Theory (MPT)

The Modern Portfolio Theory (MPT) developed by Markowitz (1952), remains a cornerstone in modern finance by highlighting the trade-off between risk and return. The theory posits that investors are rational actors seeking to optimize portfolio returns while minimizing exposure to risk, with diversification as the key tool for reducing unsystematic risk. Through diversification, investors can spread risks across multiple assets or sectors, thereby minimizing the impact of individual asset volatility on overall portfolio performance (Elton et al., 2014). However, MPT emphasizes that systematic risk arising from macroeconomic factors such as inflation, market downturns, and global crises cannot be eliminated, meaning investors are always exposed to market-wide fluctuations (Fabozzi et al., 2021). As such, MPT provides a foundational perspective for understanding why financial deepening strategies must address

systemic vulnerabilities in addition to promoting diversification (Choueifaty & Coignard, 2008).

Building upon MPT, the Capital Asset Pricing Model (CAPM) introduced by Sharpe (1964) and later refined by Lintner (1965) provided a quantitative framework to explain the relationship between risk and return. CAPM introduced the beta coefficient, which measures the sensitivity of asset returns relative to overall market movements. A higher beta suggests greater exposure to market risk, and hence, investors require higher returns as compensation (Fama & French, 2004). CAPM also formalized the security market line (SML), graphically depicting the expected return of assets based on their systematic risk. While the model has been critiqued for assuming efficient markets and rational investors, it remains widely used in both academic and practical finance as a baseline for pricing risk and evaluating performance (Black, 1972; Jagannathan & Wang, 1996). By integrating MPT's diversification principle with CAPM's beta-based return expectations, these frameworks help explain how financial decisions are shaped by risk-return trade-offs at both firm and macroeconomic levels (Bodie et al., 2014).

In the context of examining the moderating effect of market risk on the relationship between financial sector liberalization and financial deepening, MPT and CAPM provide crucial insights. Financial liberalization is intended to widen access to diverse instruments, attract foreign investment, and enhance market efficiency (Bekaert et al., 2005). However, the ability of liberalization to translate into meaningful deepening depends largely on investors' perception of market risk (Henry, 2000). During stable conditions with low volatility, liberalization fosters confidence and broadens participation in financial markets. Conversely, when systemic risk levels are elevated, investors adopt risk-averse strategies that constrain intermediation and discourage participation, even in liberalized environments (Stiglitz, 2000; Kim & Singal, 2000). Therefore, the moderating role of market risk becomes evident, as it conditions whether liberalization policies stimulate or undermine deepening.

Empirical evidence supports these theoretical assumptions, especially in emerging economies. For example, Henry (2000) demonstrated that stock market liberalization

lowered capital costs and improved liquidity during periods of stability. Similarly, Bekaert et al. (2005) found that liberalization significantly enhances financial depth, but these effects weaken during financial crises. Moreover, Kaminsky and Schmukler (2003) reported that volatility associated with global shocks amplifies capital outflows, restricting the benefits of liberalization. Evidence from African markets also suggests that liberalization alone cannot guarantee deepening without parallel mechanisms to mitigate volatility and risk exposure (Adjasi & Biekpe, 2006; Yartey & Adjasi, 2007). These findings are consistent with CAPM's assertion that investors demand higher risk premiums under volatile conditions, thereby limiting participation and weakening the gains of liberalization (Raddatz & Schmukler, 2008).

Further studies highlight how heightened market risk constrains liberalized markets. Kim and Singal (2000) revealed that liberalization under volatile conditions deters capital inflows as investors become wary of heightened risk. Similarly, Raddatz and Schmukler (2008) argued that high levels of systematic risk amplify vulnerability to external shocks, making financial deepening unsustainable. Beck and Levine (2004) also demonstrated that countries with weak institutions experience less benefit from liberalization because high risk reduces foreign and domestic investor confidence. In addition, Arestis and Demetriades (1999) warned that unchecked liberalization in high-risk environments can destabilize rather than strengthen financial systems. These findings emphasize that the benefits of liberalization are contingent not only on access to capital but also on mechanisms that manage systemic volatility and risk perception.

The implication of these insights is that liberalization, while important, is not inherently growth-inducing unless accompanied by robust frameworks for managing market risk. For Kenya and similar emerging economies, this means that liberalization policies must be reinforced by institutional reforms such as stronger regulatory systems, improved investor protections, and effective monetary policies to manage systemic shocks (Levine, 2000). Empirical studies show that countries with better risk-mitigation frameworks experience deeper and more stable financial development following liberalization (Stulz, 1999; Eichengreen et al., 2000). For policymakers, this implies that strategies to encourage financial deepening must go beyond liberalization

to include efforts that enhance resilience against volatility and ensure investor confidence (Adjasi & Biekpe, 2006).

In conclusion, MPT and CAPM provide a robust theoretical foundation for understanding the moderating role of market risk in the liberalization–deepening relationship. Both theories demonstrate that while liberalization creates opportunities for growth and efficiency, its outcomes are highly dependent on systemic risk levels. Stable environments amplify the positive effects of liberalization, while volatile conditions weaken them through reduced participation and capital flight (Fama & French, 2004; Raddatz & Schmukler, 2008). Thus, this study justifies the inclusion of market risk as a moderating variable, as it conditions the strength and direction of the relationship between liberalization and financial deepening. For Kenya, effective management of volatility, inflation, and external shocks will be essential for ensuring that liberalization translates into sustainable deepening and long-term growth.

2.3 Conceptual Framework

A conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation (Kombo and Tromp, 2009). A conceptual framework for the present study points toward the effect of financial liberalization on financial deepening in Kenya and has been depicted in Figure 2.1. Figure 2.1 conceptualizes that financial liberalization (Interest rate, capital account, privatization of financial institutions and equity market) influence the financial deepening (Broad money to GDP & Domestic credit to private sector) in Kenya.

Independent Variable

Dependent Variable

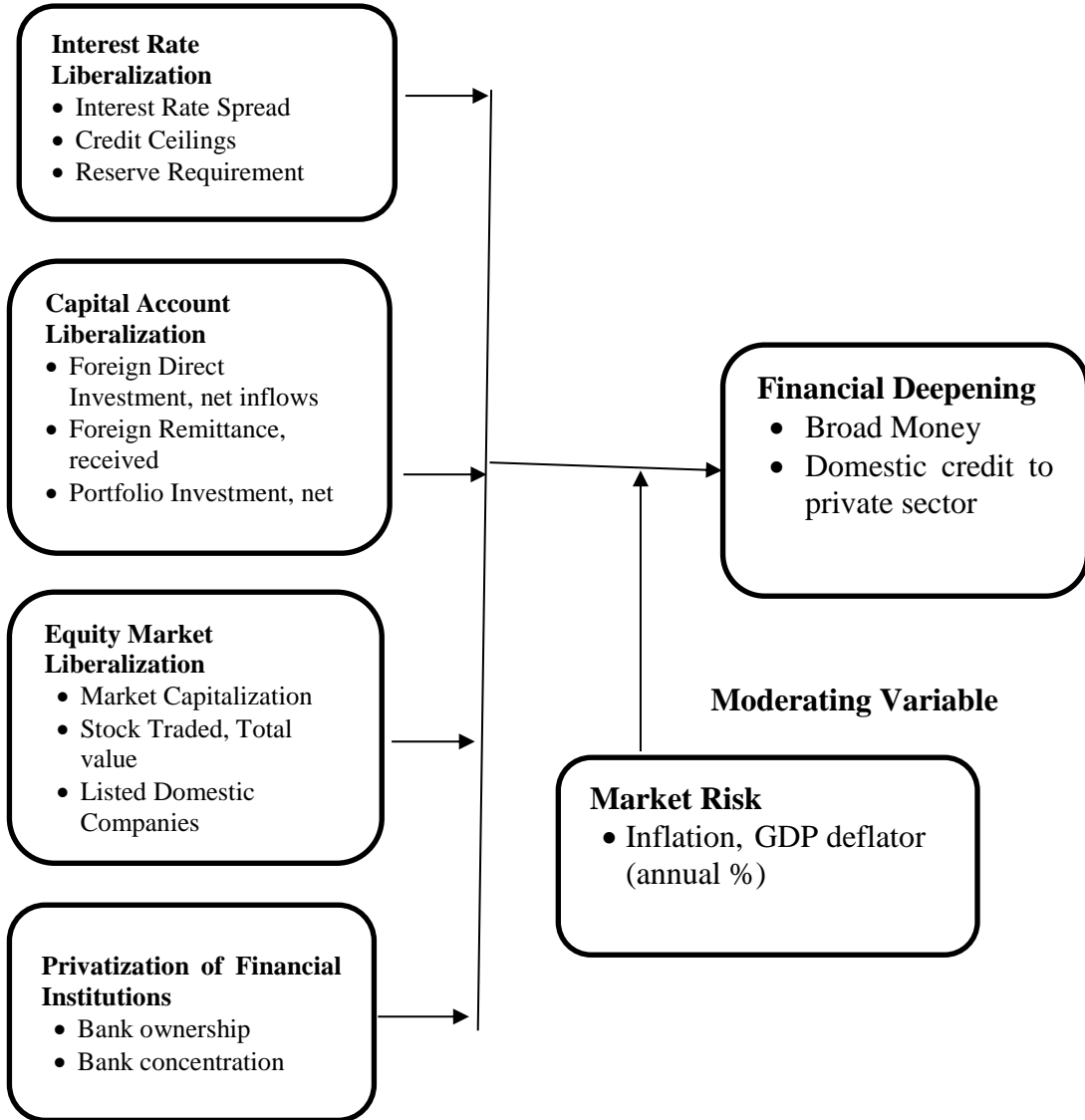


Figure 2.1: Conceptual Framework

2.3.1 Interest Rate Liberalization

Benedict et al., (2023) states that the process of letting market forces determine interest rates in an economy rather than governmental controls is known as interest rate liberalization. Hossin (2023) demonstrated that Interest rate liberalization may have a complex and multidimensional impact on financial deepening and has a context-

specific impact on financial deepening that is dependent on a number of variables, such as the state of the economy, consumer behavior, regulations, and the current financial infrastructure. Interest rate liberalization can support financial deepening by fostering competition, encouraging savings, and elimination of government-imposed ceilings on the maximum or minimum interest rates that financial institutions can charge on loans and deposits, as well as the raising of these ceilings and a well-functioning financial system (Liu et al., 2021).

Ngugi & Kabubo (1998) demonstrated that Central banks are able to concentrate more on monetary policy through indirect instruments like open market operations and reserve requirements by decreasing their direct control over interest rates, a practice known as central bank credit ceiling. Liu et al., (2021) demonstrated that the interest rate payable by commercial or comparable banks for demand, time, or savings deposits less the interest rate that banks charge on loans to customers in the private sector is known as the interest rate spread. However, these rates are not cross-country comparable due to the terms and conditions that vary by country and the absence of interest rate controls on lending and borrowing, as well as the absence of credit controls, are characteristics of a completely liberalized domestic financial system (Macharia & Mungai, 2021).

2.3.2 Capital Account Liberalization

Hamdaoui et al., (2022) explained that the process of removing restrictions on the flow of capital into and out of a nation, known as capital account liberalization, can have a variety of effects on financial deepening. Many factors influence the impact of capital account liberalization on financial deepening, such as the degree and timing of liberalization, the regulatory landscape, the stability of the financial system, and the overall state of the economy. Capital account liberalization can stimulate financial deepening through a variety of means, including drawing in foreign capital, broadening the range of financial products offered, technology transfer and improved foreign direct investment and fostering competition and innovation, additionally it can also bring with it risks to financial stability and supervision that must be monitored closely (Pond ,2018 & Stiglitz, 2000).

2.3.3 Equity Market Liberalization

Moshirian et al., (2021) explained that equity market liberalization is the process of lowering or eliminating limitations and obstacles in a nation's equity (stock) market in an effort to promote increased effectiveness, accessibility, and transparency. They also noted that to achieve stock liberalization, the equity market is usually made more accessible to both domestic and foreign investors, competition among market players is promoted, and market forces are given greater sway over pricing and valuations.

Naghavi et al., (2018) demonstrated that financial deepening can benefit from equity market liberalization in a number of ways which include removing barriers to domestic equity trading and opening up a nation's stock market to foreign investors hence Equity market liberalization can enhance financial deepening by increasing access to capital, encouraging investment, and enhancing corporate governance when combined with responsible regulatory measures and risk management techniques. McLean et al. (2022), Peng et al., (2021) & İlhan (2019) noted that value of domestic shares traded divided by market capitalization is the turnover ratio for stocks traded, or the ratio of traded domestic shares is also a measure of equity liberalization and is calculated by multiplying the share price by the total number of outstanding shares, encompassing all subclasses.

2.3.4 Privatization of Financial Institutions

Breen & Doyle (2020) explained that privatization is the process of increasing the amount of private ownership in the market by selling state-owned businesses to private investors through initial public offerings (IPOs) or other equity market mechanisms and it's the most direct way for a government to influence how credit is distributed is through bank ownership. Onsongo (2023), Herbst (2019) and Estrin & Pelletier (2018) demonstrated that in developing nations, bank privatizations frequently occur alongside a lengthy and intricate process of "financial liberalization," which radically alters the way the financial sector is run as a whole and more specifically, liberalization have an impact on banks' performance as well as the value of their banking charter, growth potential, and risk exposure.

2.3.5 Market Risk

Si et al., (2021) explained that market risk, sometimes referred to as systematic risk or undiversifiable risk, is the possibility of suffering a financial loss as a result of unfavourable changes in market variables that have an impact on the efficiency of the financial markets as a whole. However, Hlaing & Kakinaka (2018) explained that market risk is the umbrella term for a variety of risks related to fluctuations in market prices, interest rates, exchange rates, and other pertinent financial factors and has an impact on many different financial products and investments. Loayza et al., (2018) noted that it is true that inflation, or the rate at which prices for goods and services generally increase, can moderate this relationship and affect how financial liberalization and deepening interact, by understanding the dynamics of these two economic phenomena requires taking into account the moderating effect of inflation on the relationship between financial sector liberalization and financial deepening. The rate of change in prices throughout the economy is indicated by inflation, which is calculated using the GDP implicit deflator's annual growth rate. The ratio of GDP in current local currency to GDP in constant local currency is known as the GDP implicit deflator. All investing activities involve some level of market risk, which cannot be totally eliminated. Diversification, hedging tactics, and the usage of derivatives are a few of the risk management strategies that investors and financial institutions employ to lessen the impact of market risk. Financial firms, including banks, keep a careful eye on and manage market risk to make sure they have sufficient capital buffers and risk controls in place (Sawyer, 2018).

2.3.6 Financial Deepening

Nyamweya (2021) explained that the process of expanding the scope and sophistication of financial services and instruments within an economy is referred to as financial deepening and it entails the creation of new financial goods and services in addition to the growth and development of financial markets and institutions. Financial deepening is frequently viewed as a good measure for an economy growth since it can result in better risk management, more efficient use of resources, and faster economic growth. But it also presents difficulties, like the requirement for strong

regulatory frameworks to control possible risks and guarantee the stability of the financial system.

Wanjala & Gogo (2020), Ahmed (2022) & Ukamaka (2021) demonstrated that private credit as a percentage of GDP is a proxy variable that has drawn a lot of attention in the empirical literature in this regard and to be more precise, the variable is defined as the percentage of local currency GDP that domestic private credit from deposit money banks to the real sector represents. Therefore, credit given to governments, government agencies, and public enterprises is not included in the private credit. The contribution of private credit to GDP varies greatly between nations and is highly correlated with income. For instance, the proportion of private credit to GDP in high-income nations is 103%, which is more than four times higher than the average for low-income nations. Many European economies are considered to have deep financial systems based on this metric; South Africa, Australia, and Canada are also among the economies in the top quartile with respect to the share of private credit to GDP.

Ajudua & Odishika (2022) noted that the global financial deepening database also includes the variable total banking assets to GDP as a substitute for private credit to GDP and given that it takes into account bank assets other than credit in addition to credit to the government and the private sector, it is possibly a more accurate indicator of size. They also noted that measures of financial depth should ideally cover more than just banks, despite the empirical literature's concentration on banks (because of data availability). They also demonstrated that problems with non-bank financial institutions (NBFIs) have been brought to light by the current crisis. Compared to banks, NBFIs have substantially less extensive data coverage.

2.4 Empirical Literature Review

2.4.1 Interest Rate Liberalization on Financial Deepening

Hoffman (2023) examined the effect monetary deepening and economic growth in Ghana. The study investigated the relationship between economic progress and financial deepening in Ghana using quarterly data from 1993 to 2018. Financial deepening was measured with wide money and lending to the private sector, while

economic growth was measured with real GDP per capita. The interest rate, GDP/government spending, and GDP/gross fixed capital formation were other factors. The findings indicated that there was no long-term association between financial deepening as measured by broad money to GDP and economic growth, but there was one when financial deepening was measured by loans to the private sector and GDP and by using the Granger causality, vector autoregressive, vector error correction, and Johansen cointegration techniques, this link was discovered hence it was demonstrated that the capital stock was the primary factor influencing economic growth. The findings revealed that the biggest impact on capital stock and financial depth comes from economic expansion and real interest rates were mostly determined by financial deepening. The research suggests that in order to allow financial institutions to perform their functions without hindrance, the Bank of Ghana should consider enhancing the institutional, legal, and regulatory environment.

Wu et al., (2023) undertook a study on the Interest rate liberalization and bank efficiency: A DEA analysis of Chinese commercial banks. Using a data set of 27 commercial banks from 2006 to 2020, the researchers assessed the overall efficiency, fund-raising efficiency, and fund-using efficiency of Chinese commercial banks using a two-stage network data envelopment analysis (DEA) approach. Additionally, they used tobit regression to look more closely at how interest rate liberalization affects bank efficiency. The study findings demonstrate how interest rate liberalization helps to increase bank efficiency enhance financial institutions' performance. They also found that liberalization of interest rates appears to be impeding the enhancement of fund-using efficiency, a matter that Chinese commercial banks should take seriously. The study recommended a China's interest rate liberalization policy reforms implementation to enhance financial institutions' performance.

Spahiu and Durguti (2023) conducted a study on the impact of financial liberalization on export, evidence from Kosovo. The researchers sought the relationship between export levels, GDP growth, gross savings, lending interest rates and real interest rates over a 12-year period from 2009 to 2020. This study's evaluation approach combines an Ordinary Least Squares (OLS) and an Arellano-Bover/Blundell-Bond estimation. The finding showed that lending interest rates and GDP growth are positively

correlated with the rate of export growth while real interest rates have a detrimental effect on export levels as a part of financial liberalization. The study also noted that the fact that there is a negative correlation between real interest rates and export levels indicates that during the course of the research period, real interest rates changed as a result of regulatory reforms measures which intern affected exports levels financially. The study recommended that policymakers must create measures to improve the financial system with appropriate reforms and make infrastructure development investments to support the export sector if they are to achieve the goal of increasing exports.

Based on another study carried out by Song & Gao (2023) on interest rate liberalization and debt risk in China by combining pertinent modes with PBC and national statistical data. The study objective was to assess the necessity of interest rate liberalization to advance the market economy. The study found that interest rate liberalization has a multifaceted effect on the economy during the marketization process, particularly on the macro-debt market. The impact of interest rate liberalization on microenterprise owners' operations and management behavior is significant and a crucial aspect of deeper financial reforms; conversely, the study noted that ongoing increase in local government debt risk will have a spillover effect on financial decisions and enterprise implementation. The research concluded by agreeing that other studies on the financial market reform in China that demonstrated that pushing for interest rate liberalization can undoubtedly boost an enterprise's financing capacity, though will be constrained by the escalation of the local government's debt risk. The study recommended notable improvement in the interest liberalization capacity to amplify the stimulus that interest rate to provide to an enterprises financing capacity.

Echebiri et al., (2023) studied the “Financial Liberalization, Institutions and Savings in Nigeria” by conducting research on the adoption and execution of financial liberalization policies on interest rate on the nation's savings. The variables they used were political Stability, corruption and regulatory quality, government effectiveness. The research used an ex post facto design and key data was obtained from the World Development Indicators and World Governance Indicators from 1996 to 2020. The Ordinary Least Squares (OLS) estimation approach was used to analyze the data and

5% significance threshold was used in the investigation. The study's conclusions showed that government delivery services in Nigeria was positively and marginally impacted by gross domestic product and dividend payment ratio. The results additionally demonstrated a correlation between Nigerian institutions and government delivery services. The study found that when financial liberalization was enhanced in the financial institutions, the impact on savings in Nigeria improved. The study recommended that in order to increase savings, the nation needs fortify its institutions by preventing corruption, guaranteeing political stability, and improving regulatory standards.

Xing (2023) in his study sought to determine if interest rate liberalization lead to the narrowing of commercial banks' interest margins? The study used panel data from 39 Chinese commercial banks spanning from 2013 to 2022 which objective to empirically examine the effects of interest rate marketization on the interest margins of these banks. The analysis was based on the background of China's interest rate liberalization and the findings showed that Chinese commercial banks' interest margins are considerably lowered by interest rate liberalization. They also noted that over time, as interest rate liberalization intensifies, commercial banks' interest margins often get narrower. The study recommended that the current state of interest rate liberalization in China needs to be sustained to spur financial institutions development.

Kohn et al., (2023) researched on how the financial sector has affected the overall effects of lower import taxes on capital and intermediate inputs. The study provides empirical evidence that, after trade liberalization, economies with lower levels of development have a slower aggregate reaction. The study used Colombian plant-level data to build a general equilibrium model with heterogeneous companies subject to collateral constraints in order to evaluate these effects. The study concluded that the benefits of trade liberalization in Colombia during the early 1990s were significantly curtailed by low financial deepening and poor financial deepening significantly restricts the welfare and overall benefits of tariff reductions.

Oyadeyi (2023) studied the financial deepening, interest rate pass-through and interest rate channel of monetary policy from 1981 to 2020. The study looked at Nigerian interest rate operations and procedures as well as how financial deepening influences central bank monetary policies, ranging from the monetary policy rate to rates on loans, deposits, and the money market. Sub-samples for the years 1981 to 2011 and 1991 to 2021 were included in the analysis to assess the findings' consistency for the entire 1981–2021 period. The results verified that, although to a lesser extent in the short term compared to the long term, interest rate pass-through is insufficient for Nigeria. This could be caused by bank switching costs, asymmetric knowledge issues, and interest rate stickiness. Furthermore, the results verified that financial deepening mitigates the effect of monetary policy on interest rates, changes in the policy rate are reflected in the deposit and lending rates within the year of their announcement, according to the examination of the asymmetric mean adjustment lags through process. The study recommended that the outcomes for every subsample and the resilience assessments should align with the primary analysis because financial deepening has the potential to either strengthen or weaken the interest rate monetary policy channel, policymakers must take it into consideration when determining the effectiveness of monetary policy.

Proaño et al., (2023) in their research on how does financial deepening affect the growth inequality nexus noted that although the previous empirical studies widely acknowledged the critical role that financial deepening plays in both economic growth and inequality, much less focus has been placed on understanding how different types of financial deepening may have different effects on growth and inequality. In light of this, they examined how various forms of financial deepening affect the relationship between inequality and growth using annual data from 1980 to 2016 and a panel of 110 developed and developing nations. It was based on panel conditionally homogeneous vector–autoregressive model. The study found out that the growth–inequality nexus is significantly influenced by the overall level of financial deepening, as measured by the financial deepening index of the International Monetary Fund. Additionally, for both low and high levels of total financial deepening, an increase in the income share of the top 10% of earners has a large negative effect on economic growth; however, this effect is negligible for middle levels. Examining more granular

sub-indices of financial deepening, they discover that when financial markets and institutions are deeper and more efficient to on economic growth which raises the income share of the bottom 10% of earners. The study recommended understanding of the notion of financial deepening in order to formulate policy initiatives targeted at various societal segments.

Okisai et al., (2023) on their study on the effect of lending rates on economic growth in Kenya with the objective to evaluate how important lending rates were in boosting real output within the economy. The study used a quantitative explanatory research design with neoclassical endogenous growth theory served as the study's guiding theory. The primary data sources were national accounts data for the years 1990–2021. A vector error correction model was employed in the investigation. The variables were first examined for unit root, and then the long-term relationship between them examined using the Johansen cointegration technique. The findings indicated that loan rates have a long-term impact on economic expansion. In particular, lending interest rates affected economic growth in the long run. The study recommended that the CBK should instil sound monetary and fiscal policies for regulating lending interest rate in curbing the level of money supply and inflation in the economy so as to generate economic growth.

Nyangu et al., (2023) studied Symmetric and asymmetric adjustment of bank deposit interest rates: empirical evidence from Kenya with an objective to investigate at how slowly deposit interest rate categories in developing economies adapt to changes in policy rates. The design that was employed was when deposit rates are above or below their equilibrium levels, they pass-through effect and adjustment speed were measured using symmetric and asymmetric error correction models (ECMs). The results showed that there is an imperfect pass-through impact in the long run as well as a mixed pattern of symmetric and asymmetric adjustment speed among the various deposit rate categories. Deposit rate categories that adjust more strictly upwards than downwards encourage collusive pricing arrangement conduct, whereas deposit rate categories that adjust more rigorously downwards than upwards encourage unfavourable consumer reaction behaviour.

Subkhan and Hutajulu (2023) conducted a study on, “The analysis of the effect of financial deepening on Indonesia’s economic growth”. The study noted that the financial sector is inextricably linked to economic development and one strategy to quicken economic growth is financial deepening. This study aimed to examine the impact of interest rates, the rupiah exchange rate, and financial deepening on Indonesia's economic growth from 1995 to 2018. Secondary time series data from the World Bank were used in this research. This study makes use of the EViews 10 program to analyze Error Correction Models (ECMs). The study’s findings indicated that Indonesia's financial sector is still operating at a low level. Both short- and long-term effects of exchange rates and financial deepening are negative and substantial. Additionally, in the short and long terms, however, interest rates have a considerable and favorable impact on economic growth.

2.4.2 Capital Account Liberalization on Financial Deepening

Zhang (2023) in their paper titled, “capital account liberalization and china’s financial integration”, investigated how financial deepening and capital account liberalization may greatly increase China's foreign assets and liabilities, change the structure of the global monetary system by examining cross-country experiences, financial integration affects the internationalization of the yuan in this environment over the past 40 years. The study found out that, “capital account liberalization could enhance financial integration and improve resource allocation, it also poses new challenges to financial stability. A more financially integrated China would make the Chinese economy more susceptible to global shocks, while Chinese shocks would have a greater impact on the international financial system”.

Barguelli et al., (2018) studied the exchange rate volatility and economic growth on 45 emerging and developing countries over the period of 1985-2015, the research studied the impact of exchange rate volatility on economic growth and the study was conducted using the difference and system generalized method of moments estimators. The study finding recommended that the generalized autoregressive conditional heteroscedasticity-based measure of real exchange rate nominal volatility and have a significant adverse impact on economic growth which the effect of exchange rate

volatility and depends on the financial openness and exchange rate regimes hence volatility is more destructive when countries adopt flexible exchange rate regimes and financial openness.

Jin and Xiong (2023) in their study noted that the macroeconomic and welfare implications of macro prudential measures in open economies are examined quantitatively. The researchers created a dynamic stochastic general equilibrium model for a small open economy in which banks are constrained financially and must select between local and international deposits as their financing sources and as the model, banks will decrease their leverage in response to a tightening of macro prudential policies, but they will become more dependent on foreign finance. The researchers also noted that the stability and welfare benefits of macro prudential regulations are severely undermined by these endogenous changes in the financing composition. Findings imply that capital flows should be taken into account when designing an ideal macro prudential strategy because these policies work less well in financially more open economies.

A study by Gnanon (2018) to examine multilateral trade liberalization and economic growth of 150 countries over the period 1995-2015 with an objective to assess the impact of multilateral trade liberalization on the economic growth rate by using an unbalanced panel dataset. Over the entire sample, the results suggest a very strong impact of multilateral trade liberalization on countries' economic growth rate. This result is confirmed upon examination of the net impact of multilateral trade liberalization on sub-samples of developing, undeveloped and developed countries. The research found that the main beneficiaries of multinational trade liberalization using economic growth rate are high income countries or developed countries and those that benefit least are the least developed economies and the policy implication is that the adoption of trade protection measures would likely trigger a trade war, which would undermine the possibility of greater cooperation among WTO Members to make further progress on multilateral trade liberalization.

Noria et al (2018) studied "The effect of uncertainty on foreign direct investment in Mexico with the goal to examine the effect of uncertainty on FDI flows into the

Mexican manufacturing sector between 2007 to 2015 using a panel of manufacturing subsectors and estimated a model by GMM system that includes domestic and external factors, as well as idiosyncratic and aggregate uncertainty measures as explicative variables. They also perform some simulations to evaluate the uncertainty effect on FDI flows. The main results show that uncertainty discourages FDI flows into the Mexican manufacturing sector during this period. They also find that idiosyncratic uncertainty measures are more important in explaining FDI flows than aggregate uncertainty measures.

Meyer (2018) undertook the study entitled “Free Trade, Fair Trade, and Selective Enforcement”. The study presents data from trade enforcement actions in the energy and fisheries sectors in USA between 2006 to 2015 to achieve the research objective, Their found out that: First, it demonstrates empirically that selective enforcement is considerably more pervasive than commonly thought and contemporary selective enforcement is the reverse of the kind of selective enforcement that has traditionally concerned trade critics and Secondly, the study presents a theory of how selective enforcement of trade law distorts markets to the detriment of the environment by arguing that selective enforcement is an implicit subsidy for products that are not targeted for enforcement but benefit from the same allegedly.

Asamoah and Alagidede (2023) undertook a study with objective of finding the financial deepening thresholds at which real sector growth is boosted by foreign direct investment (FDI). In order to establish their empirical correlations for the period 1990–2017, the researchers used a newly generated financial deepening dataset and the Lewbel instrumental variable two-step GMM estimator together with orthogonal statistics. According to preliminary estimates, the study found that foreign direct investment (FDI) has no growth effects and instead hinders the expansion of the agriculture sector overall in the real sector, manufacturing, and industry. After breaking down the real sector, they discovered that, taken at face value, the real sector and its constituent parts grow more quickly when financial deepening and FDI interact. On the other hand, the marginal effect reveals that the growth impact of FDI on the whole real sector, Growth in the manufacturing sector only becomes noticeable at the 90th percentile of financial deepening, but growth in the industry and service sectors

begins at the threshold level of the 25th percentile. Financial deepening helps foreign direct investment (FDI) project the expansion of the agriculture sector, but their combined effect cannot completely eliminate the negative effects of FDI initially. The outcomes withstand growth determinants with resilience.

Akobeng (2023) conducted a study on, “harnessing remittances for the poor: the role of institutions”. The study looked at how institutions directly affect poverty and whether they can make the relationship between remittances and poverty stronger in Sub-Saharan Africa. The findings imply that a nation with strong financial deepening, a good and stable government, and mechanisms to deter corruption and draw in investment will create the favourable conditions necessary to lower the rate, intensity, and severity of poverty. The efficiency of international remittances in eradicating poverty is strengthened by these high-quality institutional attributes.

Wu et al., (2023) conducted a study on analyzing the differential impacts of financial sector development on remittance inflows. This study examined the relationship between remittances and financial deepening using a panel of 84 nations with varying income levels from 1995 to 2018. The researchers used indices that cover all facets of the development of the financial sector (overall, institutional, and markets) in order to investigate the relationship between financial deepening and remittances using a dynamic commonly correlated effects estimator for a heterogeneous panel data model with weakly exogenous regressors. The findings showed how crucial the financial sector's growth is to remittance inflows and supported the idea that strengthening the financial sector has a positive impact on the amount of remittances to lower-income countries but not high-income countries. They recommended that low-income country policymakers may choose to enact measures that enhance the financial sector's development in order to draw in more remittances.

Trabelsi and Cherif (2017) investigated the influence of cross-border financial integration on financial sector development by analyzing a sample of 90 developed and developing countries over 1980–2009. Employing both cross-sectional and dynamic panel estimations using the Generalized Method of Moments (GMM), their study explored whether the impact of capital account liberalization depends on

institutional and structural prerequisites. The findings revealed that in developing economies, financial integration does not automatically enhance financial development unless institutions and private sector structures are sufficiently developed. Specifically, for middle-income nations to reap the benefits of capital account liberalization, strengthening institutional frameworks and advancing the private sector are crucial. The results also suggested that the contribution of liberalized capital flows to economic growth is contingent on these same foundational prerequisites, underscoring the conditional nature of financial openness.

In a more country-specific study, Elhmedi and Kammoun (2024) examined Tunisia between 1984 and 2020 to evaluate the effects of capital account liberalization on economic growth. Applying the Autoregressive Distributed Lag (ARDL) method, the authors observed mixed short-run relationships between economic growth and factors such as financial openness, institutional and financial development, and trade liberalization. However, in the long run, these determinants displayed a significant positive influence on growth. The findings emphasized that both financial and institutional reforms are essential for fostering sustainable economic expansion. Policymakers were advised to improve regulatory efficiency, reduce information acquisition costs, and strengthen macroeconomic stability to maximize the benefits of liberalization.

Nduka and Ngangah (2025) provided evidence from Nigeria for the period 1986–2022, where the effects of financial liberalization on economic development were tested using multiple econometric techniques such as Augmented Dickey-Fuller unit root tests, ARDL bound tests, Error Correction Mechanisms (ECM), and ARDL estimation. Economic development was proxied by the Human Development Index (HDI), while explanatory variables included lending rate (LIR), exchange rate (EXR), capital account openness (KAOPEN), market capitalization (MCP), and private sector credit (PSC). Their results demonstrated that financial liberalization significantly improved HDI, with LIR, KAOPEN, and PSC showing positive and significant effects, while EXR and MCP had mixed, insignificant impacts. The authors concluded that financial liberalization policies fostered inclusive development in Nigeria, recommending more flexible monetary strategies and expanded financial access to underserved populations.

Contrastingly, Abbas (2025) focused on Jordan from 1993 to 2022, employing the ARDL bounds testing approach to explore the connection between financial liberalization and growth. The results revealed that liberalization had an adverse, albeit weak, impact on both short-run and long-run economic growth. This suggests that, unlike in other contexts, liberalization did not contribute to Jordan's economic expansion. Given the susceptibility of financial systems to market imperfections, Abbas argued that government intervention remains essential in financial reforms. The study further recommended designing policies that could increase financial inflows, strengthen regulatory oversight, and enhance the role of financial liberalization in boosting economic performance. Together, these studies highlight that the effects of financial liberalization are context-specific, with outcomes shaped by institutional readiness, regulatory quality, and macroeconomic stability.

2.4.3 Equity Market Liberalization and Financial Deepening

Aderemi et al., (2023) conducted a study by using equity investment to investigate how financial deepening affects stock market development. In this study, the researchers identified the main financial deepening mechanisms, including economic growth, credit to the private sector, and a broad money supply. They also used inflation as a moderating tool. The scope of the study was between 1981 and 2021 and the study used the error correction model (ECM) and autoregressive distributed lag (ARDL) model. The study's conclusions indicated that GDP has a positive effect on equity investment over the long and short terms, suggesting that improvements in the overall state of the economy may also have a positive effect on equity investment. Similar to this, broad money supply influences equity investments favorably and significantly in the short term but not in the long term. Credit to the private sector, on the other hand, becomes negligible over time and has a short-term, materially negative impact on stock market development. These results imply that in order to enhance equity investment, which is a significant part of stock market capitalization, the government should keep a closer eye on financial deepening indicators.

Zhu et al., (2023) undertook a study on, "Revisiting Financial Opening and Financial deepening: A Regulation Heterogeneity Perspective". The key objective being

evaluating the impact of financial openings is the quality of regulation, based on the behavior of financial markets under various regulatory frameworks. Using data from 114 economies between 2008 and 2019, the researchers utilized the dynamic panel threshold model to assess the presence of a financial regulation threshold and the effect of financial opening on the scope and effectiveness of financial deepening. The findings show that while financial opening in less regulated markets may not advance financial efficiency, it does speed up the expansion of the credit market. In well-regulated markets, the growth effect is less noticeable, but overall efficiency is higher. This threshold effect emphasizes how crucial regulatory Building capacity is a requirement for a successful financial opening. Their findings have policy ramifications for developing economies that want to accelerate aggressive financial liberalization.

Tongurai and Vithessonthi (2023) did a study on, “financial openness and financial market development”. In their work, they used a sample of 164 nations from 1960 to 2020 to empirically explore the relationship between financial openness and financial deepening. They found that there is a positive and bidirectional association between relative financial openness and relative banking sector development based on the estimation of systems of equations. Similarly, there is a positive and reciprocal association between relative financial openness and relative stock market development. Relative financial openness and relative bond market development, however, have a negative and reciprocal relationship.

A study by Ireland (2018) on efficiency or power, the rise of the shareholder-oriented joint stock corporation studied the attempts to depict the global rise to dominance of the shareholder-oriented joint stock corporation as largely cautiously determined and to portray these corporations as fundamentally “private” in nature. The study analyzed the economic nature of the joint stock companies that emerged in growing numbers in the 19th century on their corporate legal form, how they were incorporated and their financial structure. The study seeks to highlight the sharp contradiction between the continuing private appropriation of corporate surpluses and the increasingly social and transnational character of production and growing volume of public interventions, national and international, needed to protect investors and the research argues that

special interests and power lie behind what is often dressed up as economic efficiency and against this backdrop.

Sinha and Shastri (2023) conducted a study on, “Does financial deepening matter for domestic investment? Empirical evidence from India”. The main objective was to investigate the impact of financial deepening on domestic investment in India between 1989 and 2017. This study tests the long-term relationship between financial deepening and domestic investment using the autoregressive distributed lag (ARDL) bounds testing approach to co-integration. The Granger causality/Block Exogeneity Wald test and the Toda-Yamamoto causality test have been used in the vector error correction model to test the direction of causality. Gross Capital Formation has been used as a measure of investment and other eight variables both market- and bank-based, were used to capture different aspects of India's financial deepening. Principal component analysis (PCA) has been utilized to construct a composite financial deepening index. Conclusions: The estimated result shows evidence of the financial deepening's beneficial short- and long-term effects on investment in the Indian economy and the amount of investment is found to be significantly impacted by both market- and bank-based indicators. The study recommended that policies that guarantee the efficiency of financial intermediation must be put in place in light of the considerable impact that efficiency-based financial deepening indicators both market and bank-based have on domestic investment.

Kithandi et al., (2023) conducted a study on, “impact of stock market development on economic growth in Kenya: a systematic review”. The purpose of this study was to examine the relationship between Kenya's economic growth and the development of the stock market; a comprehensive review and analysis of pertinent empirical reviews from earlier research were conducted for a period between 2017 and 2021. The systematic review's conclusions demonstrated that, although an increasing stock market can have a positive effect on economic growth, this relationship is not clear-cut and is influenced by a number of variables, such as political stability, governmental regulations, the state of the financial system, credit availability, and foreign investment. The research also notes a number of obstacles that have impeded the growth of Kenya's stock market, such as a lack of liquidity, low involvement from

local investors, shoddy corporate governance, and insufficient regulatory monitoring. The study recommended that the policymakers to use the findings as evidence to improve the Kenya's stock market's growth and strengthen its contribution to the country's economic expansion which included suggestions like bolstering corporate governance procedures, raising investor education and awareness, boosting transparency and disclosure requirements, and refining the regulatory framework.

Kalu et al., (2023) conducted a study examined the interactive effects of local and international stock market factors on the strength of the financial systems in Sub-Saharan African (SSA) nations from 1990 to 2018. For the dynamic heterogeneous panel, the study's design employed the mean group and pooled mean group estimators. The study findings: there is substantial statistical support for the hypothesis that a combination of domestic and global stock market indicators influences the strength of the financial systems in SSA nations. The monetization ratio, in particular, has a tendency to negatively impact the depth of the system, whereas the local variables have a positive effect. Regarding practical implications, the study pointed out that even while it is possible to infer a tendency toward portfolio adjustments and reversals, it emphasizes the necessity of taking a more globalized approach to the development and application of financial policies, even as the trend toward global Financialization becomes more pronounced and robust.

In a study carried out on stock market development and economic growth in Zimbabwe between the year 1980 to 2008 using annual time series data by Zivengwa et al. (2011). The study appraised the nature of the relationship between stock market development and economic growth in Zimbabwe and the stock market development was measured using two variables: stock market size as measured by stock market capitalization as a ratio of stock market turnover and GDP as measured by the value of stocks traded as a ratio of stock market capitalisation. The study used advanced econometric techniques of Unit Root Tests, Vector Autoregressive (VAR) and Granger Causality Tests to explore the relationships. The results showed a unidirectional causal link that runs from stock market development to economic growth and there is indication of secondary transmission mechanism through the effect of stock market development on investment.

The relationship between equity market liberalization and economic growth has been widely debated, with differing empirical results across contexts. McLean, Pontiff, and Zhao (2024) explored whether granting foreign investors access to emerging equity markets directly contributes to economic growth. The causal argument in this line of inquiry suggests that liberalization reduces discount rates, increases equity issuance, and enhances firm-level investment and efficiency. However, their findings challenge this assumption: using three distinct measures of foreign investability, they found little evidence to support the claim that liberalization itself generates these positive outcomes. Instead, they observed that standard *de jure* measures of foreign accessibility were weak indicators of actual investability, and that stronger economic performance was often explained by broader economic indicators rather than liberalization alone. This suggests that while equity market liberalization correlates with growth, the underlying drivers may be macroeconomic and institutional conditions rather than foreigner investability itself.

Building on this perspective, Liu, Kou, Zhu, and Elahi (2025) investigated the spillover effects of equity market liberalization in China by focusing on non-pilot enterprises. Leveraging the Shanghai-Hong Kong and Shenzhen-Hong Kong Stock Connect programs as quasi-natural experiments, they applied robust econometric techniques to assess impacts on total factor productivity (TFP). Their results demonstrated that liberalization enhanced TFP among non-pilot enterprises by attracting institutional investors, promoting digital transformation, and improving efficiency in investment allocation. However, the benefits were uneven: liberalization reduced ownership discrimination by favoring private enterprises over state-owned ones, yet it also magnified scale-based disparities, as larger firms were more likely to secure access to resources. These findings highlight the nuanced implications of equity market liberalization, stressing the need for regulatory reforms to ensure more equitable distribution of resources and prevent widening gaps in competitiveness between firms.

In contrast, Syed (2022) examined the case of Bangladesh, where the liberalization of equity markets had measurable positive effects on economic performance. The study emphasized that opening the market to foreign investors increased international integration, reduced portfolio risks, and attracted greater foreign capital inflows. These

inflows subsequently lowered the cost of capital, encouraged domestic investment, and ultimately contributed to economic expansion. Empirical evidence from the Dhaka Stock Exchange indicated a significant structural break in market capitalization following liberalization, reflecting the surge of new investment and the expansion of market size and value. The findings align with theoretical expectations that liberalized equity markets can foster growth by mobilizing capital, reducing financing costs, and enhancing investment opportunities. Collectively, these studies underscore that while equity market liberalization may create pathways for growth, its outcomes depend heavily on institutional settings, resource allocation mechanisms, and complementary economic reforms.

2.4.4 Privatization of Financial Institutions and Financial Deepening

Younis (2021) examined the impact of bank business models on performance and stability using a large sample of 2,513 commercial banks from 26 countries covering 1985 to 2015. Applying k-medoids cluster analysis, the study identified two dominant models: the focused retail model and the trader business model. Privatization was shown to trigger immediate gains in efficiency, with banks shifting towards the focused retail model and relying more heavily on intermediary activities. Using Stochastic Frontier Analysis (SFA), the research demonstrated both short- and long-term improvements in profit and cost efficiency, indicating that privatized banks undergo lasting structural changes that improve sustainability and competitiveness.

Reddy (2024) conducted a comprehensive analysis of bank privatization in developing and underdeveloped countries, highlighting its broader financial and socio-economic impacts. By drawing on both regression and descriptive analysis of cross-sectional and time series data, the study revealed that transferring public banks into private ownership boosted economic activity and enhanced long-term bank performance. Additionally, privatization was associated with improvements in societal dynamism and political stability. The findings emphasize that privatization policies, when effectively implemented, can align banking sector reforms with wider economic development goals in resource-constrained economies.

Focusing on social dimensions, Peña-Miguel and Cuadrado-Ballesteros (2021) assessed the relationship between privatization reforms and income inequality across 25 European countries between 2003 and 2013. Their empirical evidence showed a positive association between extensive privatization and higher levels of inequality, measured through various indicators. This finding highlights the unintended consequences of reform policies, as prior research primarily linked privatization to poverty reduction and welfare improvement. The study therefore underscores the need to consider the distributional effects of privatization policies alongside efficiency gains when evaluating regulatory reforms in Europe.

Birhanu (2025) investigated the effects of privatization on economic growth in Ethiopia over the period 1990 to 2023, utilizing a Vector Error Correction Model (VECM) after testing for stationarity. The analysis established both short-term and long-term positive relationships between privatization and growth, suggesting that reforms contributed to improved economic performance over time. The findings recommended that Ethiopian policymakers continue with privatization efforts to stimulate competition and create a more efficient economic environment. By strengthening the role of privatization in the national economy, the study argued, Ethiopia can foster sustainable growth and enhance competitiveness.

Abdeldayem and Al Dulaimi (2022) examined the effectiveness of privatization in Egypt, focusing on its developmental and performance outcomes for privatized firms. The research adopted a three-stage approach: secondary data analysis of privatized companies, a survey of finance managers from 56 firms, and semi-structured interviews with senior managers in eight firms. Findings indicated that privatization improved accountability, efficiency, and developmental outcomes, with efficiency gains cited as the most significant advantage. By combining quantitative and qualitative methods, the study provided robust evidence that privatization in Egypt led to structural improvements in firms and contributed to broader economic reforms in emerging markets.

Andrieş et al., (2023). Conducted a study on, “The role of institutional investors in the financial deepening”. The key objective was to evaluate the impact of institutional

investors on financial deepening through the use of a dataset that spans 34 Organization for Economic Co-operation and Development member countries from 1995 to 2019. Based on their findings, the financial system as a whole benefit from a greater presence of institutional investors, particularly investment funds. This conclusion holds true for both static and dynamic estimation methods and a variety of specifications. They further expanded their analysis by looking at the key elements of financial deepening and found that the financial markets influence financial institutions. As a result, institutional investors can increase accessibility to financial services and long-term investments. The results have important policy implications for those tasked with fostering financial deepening, as favourable conditions, a strong regulatory framework, and more latitude in investment regulations- particularly for pension funds and insurance companies will improve risk-adjusted returns and bolster the growth of the financial system.

Hleli and Smida (2023) conducted a study on financial liberalization and banking system development: evidence from Arab countries. The research objective was to assess, using panel data, how institutional quality and financial liberalization have affected the growth of banking in a sample of 17 Arab nations between 1990 to 2012. The estimated coefficients of the model was used to investigate how institutional development and financial account opening affect the growth of the banking industry in the Arab world. The bank development is the dependent variable in this case, and trade openness, financial openness, institutional development, GDP, and inflation are the explanatory variables. The empirical results imply that institutional quality and financial liberalization may both benefit the growth of banking in the Arab world. Arab nations have an interest in modernizing their financial systems to handle crises when they emerge, adhering to international standards for banking and financial regulation, and strengthening institutional frameworks and policies to ensure the success of the planned transition.

Babasyan et al., (2023) conducted a study on, “Late banking transitions: Comparing Uzbekistan to earlier reformers”. This study contrasts Uzbekistan's early experience with other transition economies in terms of implementing market principles in its banking system and it does this by utilizing previously released transition economy

data, new information on Uzbekistan's banking industry, and literary evidence. The study discovered that compared to previous transition countries, the 2017 financial liberalization led to a greater credit boom while the Covid-19 pandemic contributed to a soft landing and boom taming. The researchers noted that a systemic banking crisis can be prevented by the major state banks having a healthy level of capitalization though also noted that for financial deepening to proceed sustainably, gaps in structural reform must be filled since the state banks have preferential access to bigger economies of scale, longer-term financing, and capital infusions from bailouts that stifle competition in the banking industry. Other obstacles to fair banking competition include the state enterprise-state bank relationship, the small private sector, a lack of commercialization, and the sluggish privatization of state enterprises. Institutions in the financial sector, including deposit insurance, bank resolution, risk-based supervision, accounting, and auditing, are still lagging behind best practices worldwide. The study recommended that banking privatization should be fast tracked to transform the banking industry and accelerate the deepening of financial sector.

Gul et al., (2023) conducted a study to investigate the determinants of banks profitability: evidence from banks of Pakistan. The study's goal is to examine the factors that influence commercial banks' profitability by focusing on UBL and ABL banks for the years 2017–2021. The primary pillars of the financial markets are the banks, which act as intermediaries' financial resources in addition to organizations like the insurance and investment stock markets. By providing funds for investors to borrow and by fostering financial deepening within the nation, banks play a significant role in the economic growth of the nation. The profitability of commercial banks is significant because the health of the economy as a whole is strongly correlated with the health of an industry. The banking industry's profitability is crucial since the health of the economy as a whole is directly correlated with the industry's performance. The researchers noted that a skilled and productive banking industry is better equipped to withstand adverse economic shocks. Additionally, the profitability of financial institutions is influenced by a variety of factors which include ownership and concentration. In order to ascertain the findings of the variables of used included capital adequacy, loan to deposit, bank size, GDP, inflation, and interest rate as independent variables and profitability as the dependent variable, secondary data was

used. The outcomes demonstrated a positive and sign between the privatization and financial deepening.

Shen et al., (2023) conducted a study on, “Bank Profitability Analysis in China: Stochastic Frontier Approach”. Managing bank profitability is a key component of banking system regulation in China, where the state maintains a comparatively high degree of control over the industry. Commercial banks' profitability can be evaluated by comparing their earnings to those of the industry's top banks, but the stochastic frontier approach also accounts for the characteristics of the management technologies employed and the impact of the market environment. Based on the central bank's perspective, this research employed the stochastic frontier approach to examine the profitability of the Chinese banking system from 2012 to 2020. A focus on the majority of banks' positions with respect to trends and best practices that alter overall profitability is implied by the details of the analysis as seen from the bank's point of view. The study found out that while the indicators are not positive in dynamics, the Chinese banking system exhibits a high degree of cost and profit efficiency overall. Reduced economic growth rate, financial market volatility, and ongoing reforms are the causes of the negative dynamics. In contrast to national joint-stock commercial banks, which are experiencing growing competition and declining profitability efficiency, state-owned commercial banks are becoming increasingly profitable. They noted that both urban and rural commercial banks continue to operate at a high standard of hence need for privatization to improve the performance.

Uddin and Majumder (2023) conducted a study on the, “10 Banking sector in Bangladesh after financial liberalization”. The researchers noted that Credit markets are vital to a nation's economic growth because they facilitate the transfer of money from surplus to deficit sectors and the banks convert short-term deposits into long-term loans, making them an essential component of the credit markets. The study found out that Bangladesh's credit market is highly fragmented, with formal, quasi-formal, and informal sectors coexisting with banks dominating the financial markets and hold nearly 86% of the country's financial assets. They also found out that in 1990 Bangladesh's banking industry began a phase of financial reforms that included structural adjustment plans and general economic stabilization, de-nationalization and

privatization measures which were adopted in 1992–1993 leading to accelerated bank performances.

Gupta and Panagariya (2023) conducted a study on, “Privatization of public sector banks in India: why, how and how far”. The research noted that economic growth is greatly aided by banks and in India, the economy and its stakeholders have been underserved by the banking industry, which is dominated by public sector banks. The research noted that even with a number of policy initiatives over the past ten years public sector banks underperformance has continued while market share has significantly increased and private banks have continued to perform well. The researchers recommended the privatizing all other banks while keeping the State Bank of India (SBI) under government ownership for the time being due to its superior performance and adherence to the public sector banks development perspective. They also noted that withdrawing the government from the bank's post-privatization board is the most important prerequisite for privatization to be successful. On further recommendation, the researchers issued a warning stating that the current situation will cause public sector banks market share to continue declining and eventually disappear, hindering India's economic progress and imposing heavy costs on taxpayers, businesses, depositors, and the government, which holds the majority of the shares.

Klepczarek and Wieczorek (2023) conducted a study on, “Ownership transformations in a post-transition economy: which institutions matter? Evidence from the Polish banking sector”. The researchers examined the types of institutions that influence changes in bank ownership. They made use of statistical information about bank mergers and acquisitions in Poland during the thirty years following the change in government. According to the findings, institutional factors with a political and cultural bent play a vital role in promoting ownership transformation. By focusing on the role of path dependence and the critical turning points that affect the evolution of institutions, institutional analysis assesses the significance and present shortcomings in explaining the changes in banking ownership in Poland. They recommended that for post-reform economies, determining which institutions are most important is essential to choosing the best policies.

2.4.5 Market Risks, Financial Liberalization and Financial Deepening

Munir & Kakar (2023) studied the, “Assessing the role of financial deepening in macroeconomic stability: a time-series analysis of Pakistan” with the main objective of examining the correlation between the growth of the financial industry and the stability of the macroeconomic environment in Pakistan from 1980 to 2021. This study examined the causal relationship between the stability of macroeconomic indicators and various variables of financial deepening in Pakistan through the analysis of data from the State Bank of Pakistan. The balance of payments to GDP is the dependent variable in the study, and the explanatory factors are the M2 to GDP ratio, the bank claim on private sector ratio to GDP, the capitalization of the equities market to GDP, the national saving to GDP, and inflation. To examine the causative relationship between the long-run dependent and independent variables, the study used statistical tests such as the modified causality test and the ADF unit root test. The study's findings suggest that macroeconomic stability in Pakistan is related to financial deepening in a number of ways. The results also show that while the saving ratio and control variable inflation have independent causal relationships with Pakistan's macroeconomic stability, financial depth, the growth of the banking sector, and the size of the equity market have a unidirectional causal relationship with macroeconomic stability. The study also discovers a unidirectional causal relationship between the saving ratio and the development of the banking industry as well as a unidirectional causal relationship with financial deepening. They recommended that in order to encourage saving and investing and, by extension, long-term economic growth, it may be necessary to quicken the financial reforms that the government started in the late 1980s and enhance the effectiveness of financial institutions and governance.

Abanikanda & Akinbobola (2023) conducted a study on, “Does financial deepening matter in the nexus between exchange rate volatility and foreign investment? Insight from Nigeria”. Using the Autoregressive Distributed Lag Cointegration procedure, this study empirically investigated the role of financial deepening in the relationship between exchange rate volatility and foreign investment in Nigeria from 1986Q1 to 2020Q4. Findings demonstrate that while exchange rate volatility lowers foreign investment over time, it increases it in the short term. Nonetheless, the combined

impact of exchange rate volatility and financial deepening indicates that, over time, financial deepening helps to mitigate the negative effects of volatile exchange rates. According to this study, the extent of the financial sector plays a role in mitigating the long-term negative impact of exchange rate volatility on foreign investment. Therefore, in order to increase the confidence of foreign investors in the economy, policymakers are encouraged to further strengthen the financial sector by introducing appropriate regulations and reforms to broaden the sector's depth.

Gachoki (2023) conducted a study on the impact of financial deepening on inflation: Empirical evidence from Kenya using the ARDL approach using time series data from 1973 to 2021. This study attempted to analyze the connection between Kenya's inflation and financial deepening. The empirical and theoretical literature, particularly for country-specific contexts, highlights the significance of the short- and long-term effects of financial deepening on inflation. However, this relationship has not yet received much attention in research. In order to achieve this, the paper employed an advanced analytical model known as the ARDL analysis method. Results verified that financial deepening has a long-term, major effect on Kenyan inflation and not in the short term. Further, they found out that interest rates and inflation have a strong negative correlation both in the short and long terms hence causal relationship between financial deepening and inflation exists over the long term. The study recommended that the financial institutions and the government should prioritize improving the infrastructure of the financial market and encouraging the use of financial services.

Ma'sum, Purnomo, and Purnamasari (2024) examined market risk dynamics in Vietnam by analyzing spillovers and the asymmetric impacts of macroeconomic indicators across 24 sectors between 2012 and 2022. Employing the value-at-risk (VaR) framework alongside a vector autoregression (VAR) model, they uncovered significant interconnectedness among sectors, with Building Materials, Technology, and Securities industries serving as the main risk transmitters, while sectors such as Minerals, Development Investment, and Education absorbed much of the market volatility. The study further applied a panel nonlinear autoregressive distributed lag (NARDL) model, revealing that macroeconomic indicators - including interest rates, the USD/VND exchange rate, trade openness, financial development, and economic

growth - exert asymmetric effects on sectoral risk, both in the short and long term. Importantly, the Minerals, Oil & Gas, and Rubber sectors were identified as being particularly sensitive to these macroeconomic fluctuations over the long run. Overall, the findings demonstrate that Vietnam's market risk escalates sharply during extreme events and that its transmission pathways are uneven across industries, underscoring the importance of sector-specific risk management strategies.

Ganguly & Vasudevan (2023) conducted a study on the financial liberalization and the Indian non-financial, corporate sector. The researchers noted that the rise of the corporate, non-financial sector as the main wedge for the penetration of global finance, as opposed to the financial sector, is a unique aspect of India's financial liberalization journey. A segment of large corporations and non-financial companies in India gained power as a result of neoliberal reforms that diminished the traditional role of development banks and state-directed credit. The study found out that due to the calibrated and partial path towards capital account liberalization, the channel for connecting the Indian economy with global financial markets has shifted from the commercial banking system to this segment of the non-financial corporate sector in India. While the Indian government had previously used funds to support development goals, it has since switched to using funds to support the globally integrated corporate sector, which has disproportionate access to both the national financial system and global financial markets.

Azumah et al., (2023) conducted a study on, "The effect of banking sector reforms on interest rate spread: Evidence from Ghana". The researchers noted that many developing economies have expressed concern about the wide spread in interest rates. In Ghana, banks are thought to have connected the interest rate spread to a number of factors that impact them, giving the impression that it is excessively wide. With an unbalanced panel-data dynamic-equation regression model, the study investigated how banking sector reforms have affected bank interest rate spread in Ghana from 2008 to 2020. According to the research, Ghana's bank interest rate spread is heavily influenced by the country's GDP, inflation rate, bank size, and profitability. The findings additionally indicated that these variables are responsible for establishing the interest rate differential within Ghana's universal banking sector. In addition to

addressing industry-specific problems and strengthening institutional frameworks like governance and supervision, the study recommended that the industry must continue to maintain political stability in order to reduce the interest rate spread. In order to support the competitiveness of the nation's universal banking sector, the study additionally offered insightful information on the creation and implementation of competitive policies as well as regulatory modifications to interest rate regimes. They further recommended that in Ghana's universal banking sector, enterprise risk management practices should be prioritized by policymakers and regulators in order to monitor credit risk and other types of risk.

Adusei Michael (2018). The finance–growth nexus: Does risk premium matter? The bounds testing approach to cointegration analysis is employed in this paper to examine whether the risk premium demanded by the banking sector moderates the finance–growth nexus with data (1970–2015) from South Africa. To the extent that the interaction between risk premium and financial deepening positively affects growth in the long run, they affirm that the risk premium demanded by the banking sector represents a significant channel through which financial deepening drives growth and the implication of this finding was that financial liberalization removes interest rates restrictions, allowing the banking sector to adequately price risk, is in the best interest of the South African economy. This paper used ARDL model or bounds testing approach to cointegration.

A study of Batuo et al (2018) on linkages between financial deepening, financial instability, financial liberalization and economic growth in Africa from the period 1985-2010 which was carried out in over 41 African countries to examine linkages between financial liberalization, economic growth, financial deepening and financial instability in the countries under study showed that financial deepening and financial liberalization have significant effects on financial instability and also reveal that economic growth diminishes financial instability and the magnitude of reduction is higher in the pre-liberalization period compared to post-liberalization period. The source of the data the researcher used was primarily from the Africa Development indicators of the World Bank using dynamic panel method to evaluate various correlated variables. The research recommended that future studies can improve extant

literature by engaging cross-specific studies for more targeted policy implications and moreover, assessing if the established linkages within empirical scrutiny in other regions is also worthwhile.

Baran et al. (2018) in his study entitled, "an explanatory study on the impact of pro-market reforms on the Indian corporate sector", asserts that there were expectations in increment on competition, agent-cost reduction and improved efficiency with pro-market reforms. This study tries to build a foundation on links between micro and macro aspects in investigating the way performance of various entity ownerships are impacted by reforms. The study has employed the case of India since it provides better empirical setting in outlining the comparative response portrayed by firms in line with the pro-market reforms initiated by the Indian economy. The sample studies were conducted through examinations of ownership level governance and performance during the pro-market via use of longitudinal panel data-set. The author findings shows that the performance of the privately owned entities is stagnant whereas those that are publicly run have indicated signs of convergence, and that the performing ones have been noted to be those that are subsidized by multinationals and resurgence in performance of state owned enterprises is an outcome that can be desired from the pro-market reforms, and has urged policy makers to aim at the preceding generation reforms and employ them in improving organizational efficiency as well as firm's productivity rather than concentrating on reaping them. The study has employed the case of India since it provides better empirical setting in outlining the comparative response portrayed by firms in line with the pro-market reforms initiated by the Indian economy. The sample studies were conducted through examinations of ownership level governance and performance during the pro-market via use of longitudinal panel data-set. Baran & Ray (2017) found that the resurgence in performance of state-owned enterprises is an outcome that can be desired from the pro-market reforms, and has urged policy makers to aim at the preceding generation reforms and employ them in improving organizational efficiency as well as firm's productivity rather than concentrating on reaping them.

Manganelli et al (2015) studied financial deepening, sectorial reallocation, and volatility: International evidence. This paper studies how financial deepening affects

the volatility of GDP growth through the channel of sectoral reallocation for 28 OECD countries over the period 1970–2007, they construct a benchmark industrial portfolio that minimizes the economy's long-term volatility for a given level of long-term labour productivity growth, they found out that financial deepening substantially increases the speed with which the observed industrial composition of output converges toward the benchmark and Second, the reduction in aggregate volatility is realized through a reallocation of resources toward sectors whose growth profile is correlated with the economy in a way that gives them large optimal weights in an mean-variance efficiency (MVE) sense. To overcome endogeneity concerns, they exploit sectoral sensitivities to financial deepening and exogenous liberalization events. This paper contributes to the literature by testing the second mechanism in an international context. In theory, diversification of output through the channel of volatility-reducing reallocation may not be a universal outcome of financial deepening if it depends on the superior institutional features of a particular country like the USA. In particular, a sector's optimal share is derived from an argument that depends on the sector's own relative labour productivity and labour productivity growth, as well as on the volatility and the correlation with other sectors thereof.

Tiago et al. (2017) conducted a study entitled, “Portugal’s banking and financial crises: unexpected consequences of monetary integration and relates Portuguese financial crisis to a banking crisis originating from the economy’s choice to join the Euro, that only did away with the risks associated with exchange rate but forgot risks associated to liquidity within the Eurozone”. The context of the research was otherwise based on explaining the fact that Portugal was exposed to a variety of bank crisis.

According to Bahmani & Baek (2017) who conducted a study entitled, “Economic uncertainty, monetary uncertainty and the Korean demand for money stated that economic and monetary uncertainties affects national money holding in various directions and their research has considered money demand in Korean economy”. The context of the researchers was aimed at finding out the impacts of output and monetary volatility measures on outcome of Korean monetary demand. Having incorporated economic and monetary uncertainties, Bahmani & Baek (2017) asserts that the Korean money demand can be estimated via quarterly data. Owing to the fact that some factors

turned out to be stationary and non-stationary, the researchers revealed that both measures imposed short run effect through the long run economic uncertainties.

A study by Shuang Pan (2016) to examine the risk management strategies of financial liberalization in China with the aim to examine the causes of the risk of financial liberalization. The study sited forward four strategies of risk management during the financial liberalization in China which include the concept of efficiency supervision, improving the financial safety net, establishing a multi regulatory system and promoting the financial liberalization with a proper method. The research concluded that financial liberalization cannot ignore risks in determination and advancement.

Dullien et al., (2019) conducted a study, “on the effectiveness of International Monetary Fund in showing the distinct features between crisis of solvency and liquidity as imposed on Greece most probably during the crisis, tends to link the equilibria like models with the pre-experiences of the IMF in the Latin America. The researchers as well focus on the extent IMF has gone in assisting the developing nations, and in general analyzes three main aspects including the rescue packages that are most efficient to the core of this context, the credibility of the guideline policies by the IMF to the growing markets, and finally the interrelation between the IMF’s experience and the Greece economy”. The researcher further maintained that, “the I.M.F didn’t single handedly construct the Greek program but rather was aided by the troika, with the main aid of IMF in this being the transfer of know-how on the very significant layout of adjustment packages. While presenting their findings, they assert that the speculated aid from the IMF by the Eurozone during the Greek crises did not bear fruits at its best”. On the other hand, IMF (2013) maintains that major concerns among the Eurozone policy drafters were founded on the fact that debt redesigning for Greece would have resulted into contagion of the rest of Eurozone economies. Dullien et al., (2019) also mentions that during the same crisis, the Greek economy had a confused administrative council that only kept the political prowess of the Eurozone economies to release substantial debts for the fear of imposing moral hazard debts to other accompanying nations. The researchers culminates this article stating that the Eurozone got a blow from the IMF for failing to instil such a great aid during the crisis when they had all the formalized level of know-how and institutional strengths.

Poczter (2017) conducted a study entitled, “Democratization and the depoliticization of the banking sector: Are all banks affected equally?”, asserts that the political ties of the Indonesian banking system got a dramatic dynamic owing to the fact that the process with which democracy upholds shows variability through the type of bank ownership in place. The researcher proceeds to prove that there exists an interrelation between political connections and hence different banks may end up performing differently. Equally, the fact that performance of state owned banks performs better under little political influence has as well been realized in this context. Poczter (2017) further investigates the resulting effects following the urge to de-politicize bank issues and improving on democracy majoring on Indonesia as the case study. The study employs a unique data-set (1993-2008) to measures the linkage between banks and of course board members of Indonesian banks, and hence the findings presents that there exists widespread de-politicization of banking sectors in Indonesia resulting from changes in democratic practices. The data results as well shows that there existed various dynamics regarding performance noticed between state owned banks and the private banking sectors, with the main findings asserting that the state-owned banks remained advantageous whereas the private banking sectors suffered a blow as a result of changes in political ties. The researcher affirms that political influence has varied consequences on different banks. The study otherwise points that democratic transitions and their impacts on financial sector is not a project to study on a single nation, but the case of Indonesia has come out as a benchmarking tool on behalf of other economies’ experiences from such transitions.

Pito and Baptista (2017) presents a list of findings mentioning that Portugal has experienced hostile banking crisis that counts to six episodes that are quite critical, reviewed from the perspective of joining the Euro. The findings shows that the banking system adopted with its crisis destructed the banking assets’ quality on the account of increase in numbers of low performing loans and sovereign debts. Tiago & Diogo (2017) otherwise affirms that immediately after joining the Euro, the Portuguese economy became a good lender and creditor to various consumption efforts as well as to non-trade sectors including construction and real estate which ended up with severe negative impacts from the international economic crisis (2007/2008). This act of lending and crediting as brought out by Tiago & Baptista (2017) in their research

affirms that it resulted into devastated levels of debt and costs to the economy of Portugal indicated by programmes to bail it out from the Troika, internal default pointing to reduction in investments and lower remuneration in the Portuguese economy.

Alonso & Rosad (2019) in their research entitled, “Financial crisis and pension reform in Spain: the effect of labour market dynamics” tend to base their research on post-financial crisis unemployment dynamics on the Spanish system’s financial health through aggregate accounting. In order to realize its effectiveness, they made a comparison on current labour market dynamics persistence with full employment. The findings presented shows that future reforms should be able to increase the labour market participation and as well affirms that recent pension reforms are not sustaining in the long run. The researcher also analyzed the unemployment and withdrawal from labour force extents remarkably after the great global financial crisis in Spain and the resulting consequences on the GDP, using the accounting method. After a considerate Labour Force Survey between employment and unemployment during the post crisis (2008-2016), it was realized that the main driver of expenditure is dependency ratio in the long run. Further to that, the researchers in this context affirms that their findings have given suggestions that on future reforms to address the weaknesses of labour market and confirm that the recent Spanish reforms does not attain sustainability.

Kim & Lin (2023) conducted a study on, “Income inequality, inflation and financial deepening”. This paper investigates empirically whether the relationship between inflation and income inequality is shaped by financial deepening. Motivated by the observations that high and volatile inflation distorts information flows and interferes with the financial sector's resource allocation, financial deepening offers a safeguard against inflation risk. The study found out that the distributional impact of inflation may depend on the relationship between inflation and financial deepening, i.e. contingent on economic growth. They also found out that income inequality is negatively correlated with the interaction between inflation and financial deepening, but positively correlated with inflation in a sample of both developed and developing nations. The negative impact of inflation on income inequality is mitigated by financial

deepening. Empirical data indicates that fostering financial deepening could mitigate the adverse impacts of inflation on the distribution of income.

Caner (2019) presents a framework in his research entitled, “How do mega- bank policy and regulations contribute to financial stability? Evidence from Australia and Canada” asserts that on a comparative analytic case of Australia and Canada, that the competition policy and regulations marked the key factors that reinforced prudent banking and financial stability in the two countries. The emphasis of the research is otherwise not based on financial stability of Australia and Canada during the global financial crisis being entirely due to bank merger policy and regulation, but rather based on the influence on bank behaviour which otherwise contributed to financial stability. This research adopted an explanatory case study method as it examines the why/how questions and as well incorporated a qualitative data collection method which included combination of interviews and written sources. Equally, the interview participants are said to have aided in build-up of the information and data concerning financial stability of the two economies in question. It is evident from this work’s citation that there is much more negligence pertaining to role of bank merger policies and the potential extents of pointing out prudent bank behaviours and financial stability with special reference to comparison displayed between Canada and Australia. Consequently, this paper tends to address crucial issues like bank merger policies and regulations that prohibits foreign and domestic mergers and hence supports the concentration stability view, and secondly found that the merger policy and regulation limited the relationship of the larger Australian and Canadian banks to the global financial system.

According to research by Chuku et al., (2020) on their study on, “the linkage between economic policies and real economy” with the aim of investigate the relationship between financial deepening and effectiveness of monetary policy on output and inflation, and having applied a standard panel data technique to yearly data between 1990 to 2015 for a panel of 39 African states come to a consensus that there exists a weak linkage between financial deepening and monetary effectiveness in Africa. Even though the outcomes indicate very little statistical evidence of the linkage between for output growth, they indicate a negative linkage on inflation case on contemporary

levels. The researchers therefore recommend that strengthening the monetary transmission mechanism across African states through deliberate efforts would otherwise aid in strengthening the financial sector development.

2.5 Critique of the Existing Literature

Across the reviewed literature, several conceptual gaps emerge. Most of the studies (e.g., Hoffman, 2023; Wu et al., 2023; Spahiu & Durguti, 2023; McLean et al., 2024; Abbas, 2025) primarily examine the relationship between financial liberalization and economic growth, savings, exports, or development indicators such as HDI, rather than financial deepening specifically. While variables such as lending rates, capital account openness, or foreign equity investability were employed, these were seldom linked directly to indicators of financial deepening like private sector credit, M2/GDP, or stock market liquidity. This creates a clear conceptual gap, since the Kenyan context requires examining how liberalization affects the depth, accessibility, and efficiency of financial markets, rather than broader macroeconomic outcomes. Additionally, most studies treat financial liberalization as an aggregate construct without disaggregating its specific dimensions interest rate, capital account, equity market, and privatization - despite these being distinct policy levers with potentially different effects on financial deepening. This limits their explanatory power for your research, which is explicitly designed to isolate each construct's effect.

From a methodological perspective, the reviewed studies also exhibit shortcomings. Many employ time-series or panel approaches such as ARDL (Elhmedi & Kammoun, 2024; Abbas, 2025), DEA (Wu et al., 2023), or VAR (Ma'sum et al., 2024) but do not always clarify the robustness of financial deepening measures. For instance, some studies rely on broad indicators like GDP growth (Spahiu & Durguti, 2023; Zhang, 2023) or structural breaks in market capitalization (Syed, 2022), which do not capture depth in financial systems. Furthermore, while GMM and ECM approaches (Trabelsi & Cherif, 2017; Nduka & Ngangah, 2025) enhance causality testing, they often assume uniform institutional contexts across countries, overlooking country-specific dynamics like regulatory frameworks, governance, or market maturity. In addition, studies frequently neglect moderating effects such as market risk, which your study

incorporates, leaving a methodological gap in understanding how risks amplify or dampen the liberalization–deepening nexus.

Regarding contextual gaps, the majority of research is situated in Asian (China, Bangladesh, Jordan, Vietnam) or North African (Tunisia, Egypt) contexts, with only limited attention to Sub-Saharan Africa (Nigeria, South Africa, Kenya). Even within African cases, the emphasis is more on growth, savings, or poverty reduction rather than financial deepening. Few studies explicitly focus on Kenya’s financial system, despite its unique liberalization path involving interest rate deregulation, capital account partial opening, privatization of financial institutions, and equity market reforms. Moreover, the country’s persistent challenges - such as high market concentration, informality, and credit access disparities - have not been adequately integrated into past analyses. Thus, while the reviewed studies provide valuable insights into broader liberalization effects, they leave unanswered questions about the direct and multidimensional relationship between financial liberalization and financial deepening in Kenya, particularly when moderated by market risk.

2.6 Research Gaps

Although numerous studies have examined financial liberalization, significant gaps remain in linking it directly to financial deepening, especially within the Kenyan context. First, most existing research has emphasized other dependent variables such as economic growth, exports, savings, and inequality (Abbas, 2025; Elhmedi & Kammoun, 2024; Wu et al., 2023; Syed, 2022), rather than the depth, accessibility, and efficiency of financial systems. Very few studies have disaggregated financial liberalization into its individual constructs interest rate liberalization, capital account liberalization, equity market liberalization, and privatization of financial institutions - despite the likelihood that each dimension exerts distinct effects on financial deepening. This presents a clear conceptual gap that this study addresses by examining each construct separately, alongside the moderating role of market risk.

Second, there are notable methodological gaps. While prior studies have employed econometric techniques such as ARDL, VAR, GMM, and DEA (e.g., Trabelsi & Cherif, 2017; Ma’sum et al., 2024; Nduka & Ngangah, 2025), many relied on broad

indicators like GDP growth, HDI, or structural breaks in market capitalization as proxies, which do not adequately measure financial deepening. In addition, prior research often overlooked the interaction of financial liberalization with market risk, which can amplify or dampen the effectiveness of reforms. This study responds to these shortcomings by employing a more comprehensive econometric approach and incorporating a moderating variable to better capture the complexity of the liberalization–deepening nexus.

Third, contextual gaps are evident. Much of the existing literature is concentrated in Asia, North Africa, or cross-country comparisons (e.g., Hoffman, 2023; Zhang, 2023; McLean et al., 2024), with limited focus on Sub-Saharan Africa and only scattered attention to Kenya. Cross-country analyses (e.g., O’Connor, 2013; Manganelli et al., 2015; Ozkok, 2017) excluded Kenya altogether, yet liberalization outcomes are known to be highly context-specific, shaped by institutional quality, regulatory frameworks, and market maturity. In focusing exclusively on Kenya, this study provides a detailed country-level analysis that captures both pre- and post-liberalization dynamics across different economic cycles from 1980 to 2018, enabling a more nuanced understanding of how liberalization policies have shaped financial deepening over time. This study fills conceptual, methodological, and contextual gaps by disaggregating liberalization into its core constructs, incorporating market risk as a moderator, applying rigorous econometric techniques, and situating the analysis specifically within Kenya’s financial sector context.

2.7 Summary

Although several attempts have been made to investigate the role of financial liberalization in developing countries, a majority of the studies have concentrated mainly on financial repression paradigm and interest rate determination, specifically issues of relevance of complementarity hypothesis which link interest rate, liberalization, savings and economic development. It is evident from the cross-country empirical analysis that most of the studies suggest no significant positive correlation between domestic private savings rate and real interest rate, which contradicts the financial liberalization prediction. On the other hand, few studies which find positive

relationship do not deserve much policy significance as the magnitude of the coefficients is not large enough and/or used variables that are not appropriate to test the financial liberalization thesis. The studies also do not indicate the relationship that exists between financial sector liberalization and the financial deepening in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter reviews the methodological approach used to provide answers to the research questions and hypotheses. The chapter begins with the research design, population, sampling and sampling techniques, instruments of data collection, data collection and data processing and analysis in relation to the objectives of the study.

3.2 Research Philosophy

According to Tamminen & Pouche (2020) research philosophy refers to the set of principles, beliefs and assumptions that guide a researchers approach to conducting research, therefore serves as the foundation upon which the research design, data analysis and methodology are built. The research philosophy of this study is the positivist paradigm. Khatri (2020) noted that Positivist philosophy premises that knowledge is based on facts and that no abstractions or subjective status of individuals is considered and thus derives a quantitative perspective which holds that there is an objective reality that can be expressed numerically, with explanatory and predictive power. Mauthner (2020) documented that, “Under this paradigm, knowledge is valid only if it is based on values of reason and facts, gathered through direct observations and experience measured empirically through quantitative methods and statistical analysis. Secondly, theoretical models can be developed that are generalizable to explain cause and effect relationships”. The selection of positivism in this study was based on the examination of cause-and-effect relationships between variables of study, which is important in answering certain research questions or achieving the objectives of the study.

3.3 Research Design

Research design is the structure within which research is done from collecting, measuring analyzing and interpreting data, a type of inquiry within quantitative, qualitative, or mixed methods approaches that gives direction for procedures (Kothari,

2015 and Cooper & Schindler, 2014). According to Creswell and Creswell (2018) in research design, the researcher does not only choose quantitative, qualitative, or mixed methods but also decides on the type of design within these choices. The research used a time series data. The choice of a research design was informed by the nature of the research problem. The study employed longitudinal research design. The approach was selected because the variables of interest cover a 31-year period from 1990 to 2020.

3.4 Target Population

Hunziker and Blankenagel (2021) define a population (universe) as any complete group, such as people, sales territories, stores, or college students that share a common set of characteristics. In this study, the target population comprised all annual observations of financial liberalization indicators and financial deepening in Kenya over the period 1990 to 2020. Specifically, the study focused on four dimensions of financial liberalization - interest rate liberalization, privatization of financial institutions, capital account liberalization, and equity market liberalization—together with the moderating variable (market risk) and the dependent variable (financial deepening). The data used were secondary in nature and consisted of annual time series drawn from the Central Bank of Kenya (CBK) Statistical Bulletins for various years and the World Bank Development Indicators. Thus, the population under study reflects 31 annual data points for each of the variables covering the period 1990 to 2020, as summarized in Table 3.1.

3.5 Sample and Sampling Technique

According to Huntington-Klein (2021), a sampling frame refers to a complete list of all sampling units that make up the population under study. In this research, a census sampling technique was adopted, whereby all annual observations of the study variables between 1990 and 2020 were included. These variables—interest rate liberalization, capital account liberalization, equity market liberalization, privatization of financial institutions, market risk, and financial deepening—were obtained from the World Bank Development Indicators and various issues of the Central Bank of Kenya (CBK) Statistical Bulletins. As noted by Osuagwu (2020), census sampling is a method of data collection that seeks information from every unit in the target population,

providing a complete enumeration rather than relying on a subset or representative sample.

This method was considered appropriate for the present study because it is time series in nature, spanning a 31-year period. In including all available annual data points, census sampling minimized the risk of bias and ensured accuracy in trend analysis. Furthermore, it allowed the study to capture the full scope of fluctuations across different economic cycles, policy reforms, and external shocks during the study period. Consequently, this approach provided a robust and comprehensive dataset to effectively test the study's hypotheses and achieve its objectives.

3.6 Instruments of Data Collection

There are two main sources of data collection: primary and secondary data (Osuagwu, 2020). This study relied exclusively on secondary data, which refers to information that has already been collected, processed, and sometimes analyzed by other researchers or institutions. According to Osuagwu (2020), secondary data represents existing datasets made available for further research, while Hunziker and Blankenagel (2021) describe it as the use of previously gathered data to test new hypotheses or examine fresh relationships.

Annual time series data covering the period 1990 to 2020 was obtained from the Central Bank of Kenya (CBK) Statistical Bulletins and the World Bank Development Indicators, yielding a total of 31 annual observations. The choice of secondary data was informed by the study's focus on financial liberalization and financial deepening, which require long-term, consistent, and reliable records that cannot be feasibly obtained through primary surveys or interviews. Collecting primary data for this scope would not only be costly and time-consuming but also impractical, given the historical nature of the study period.

In addition, the study variables had several possible measurement indicators. For instance, financial deepening can be measured using broad money to GDP, private sector credit, or savings ratios, while liberalization indicators may include credit ceilings, reserve requirements, capital account openness, equity market development

measures, and privatization indices. To address this, the study carefully reviewed alternative measures, selected the most relevant proxies, and, where necessary, combined indicators into composite measures to ensure consistency and suitability for time series regression analysis. This strengthened the reliability of the findings while ensuring alignment with both theory and prior empirical studies.

3.7 Data Collection Procedure

Hunziker and Blankenagel (2021) describe data collection as the precise and systematic process of gathering information relevant to the research problem and its sub-components. Guided by this definition, the present study relied exclusively on secondary data sources to meet its objectives. Annual time series data for the period 1990–2020 were obtained from the Central Bank of Kenya (CBK) Statistical Bulletins and the World Bank Development Indicators (WDI). These sources were selected because they provide reliable, consistent, and internationally recognized datasets required for examining the relationship between financial liberalization and financial deepening in Kenya.

The procedure involved several steps. First, the key study variables - interest rate liberalization, capital account liberalization, equity market liberalization, privatization of financial institutions, financial deepening, and the moderating variable (market risk)—were identified in line with the conceptual framework. Second, for each variable, multiple indicators were considered (e.g., broad money-to-GDP ratio for financial deepening, credit ceilings and reserve requirements for interest rate liberalization, portfolio investment flows for capital account liberalization, listed domestic companies for equity market liberalization, and bank ownership or concentration for privatization). The most appropriate indicators were then selected and justified based on relevance, availability, and alignment with previous literature.

Third, data were systematically extracted from the CBK and WDI publications for each year within the study period. This included careful cross-checking of figures across different editions of the statistical bulletins and databases to ensure consistency and accuracy. Fourth, the extracted data were cleaned and validated by addressing any missing values, reconciling discrepancies, and standardizing measurement units (e.g.,

percentages, ratios, or monetary values). Finally, the validated data were coded and compiled into a structured dataset suitable for econometric analysis. This process ensured that the dataset was accurate, comprehensive, and ready for use in diagnostic tests and regression modeling.

3.8 Data Processing and Analysis

According to Osuagwu (2020), data analysis involves systematically processing collected data to transform it into meaningful information, since raw data in its original form may hold little value to most audiences. In this study, the secondary data gathered from the Central Bank of Kenya (CBK) Statistical Bulletins and World Bank Development Indicators was processed, cleaned, and organized into structured datasets suitable for analysis. The analysis employed both descriptive and inferential statistical techniques to achieve the study objectives.

Descriptive statistics, including measures such as means, standard deviations, skewness, and kurtosis, were used to summarize and present the characteristics of the study variables over the period 1990–2020. These measures provided insights into patterns, variability, and distribution of the data. Inferential statistics were then applied to test the research hypotheses. Specifically, econometric models identified in this section were employed, incorporating the variables defined in Table 3.1.

3.8.1 Measurement of Study Variables

The main objective of this study is to establish the effect of financial sector liberalization on financial deepening in Kenya. The study adopted financial sector liberalization as the independent variable and financial deepening as the dependent variable. These variables are discussed below in the table 3.1:

Table 3.1: Variables and Measurement

Variables	Proxy	Indicator	Measurement	Source
Independent				
Interest Rate Liberalization	IRL	<ul style="list-style-type: none"> • Interest rate spread • Credit ceilings • Reserve Requirement 	<ul style="list-style-type: none"> • (Lending interest rate -Deposit interest rate) • CBK Bank Rate • Reserve Requirement 	• WDI, IMF, CBK, Abiad et al. 2008
Equity Market Liberalization	EML	<ul style="list-style-type: none"> • Reserve Requirement, net • Market capitalization (% of GDP) • Listed domestic companies • Stock traded, total value (% of GDP) 	<ul style="list-style-type: none"> • (Reserve Requirement, outflow-inflow) (% of GDP) • Market capitalization (% of GDP) • Listed domestic companies • Stock traded, total value (% of GDP) 	• WDI, IMF, CBK, Abiad et al., (2008)
Capital Account Liberalization	CAL	<ul style="list-style-type: none"> • Foreign direct investment, net inflows (% of GDP) • Foreign remittance, received 	<ul style="list-style-type: none"> • Foreign direct investment, net inflows (% of GDP) • Foreign remittance, received (% of GDP) 	• WDI, IMF, CBK, Abiad et al. 2008
Privatization of Financial Institutions		<ul style="list-style-type: none"> • Bank ownership • Bank concentration 	<ul style="list-style-type: none"> • Share of Banking Sector Assets Held by State-Owned Banks) • Asset share of three largest banks 	• CBK, GFD, Abiad et al.,(2008)
Moderating				
Market Risk	MR	<ul style="list-style-type: none"> • Inflation rates, GDP deflator (annual %) 	<ul style="list-style-type: none"> • Inflation rates, GDP deflator (annual %) 	• WDI, IMF, CBK, Abiad et al., (2008), Gachoki (2023)
Dependent				
Financial Deepening	FD	<ul style="list-style-type: none"> • Broad Money (% of GDP) • Domestic credit to private sector 	<ul style="list-style-type: none"> • Broad Money (% of GDP) • Domestic credit to private sector (% of GDP) 	• WDI,CBK, Abiad et al. 2008

3.9 Model Test and Specification

3.9.1 Time Series Diagnostic Test

Due to the use of time series data in this study, it was important to test for the violation of classical linear regression assumptions to avoid biased and consistent estimates. These tests help researchers and analysts identify issues with the model and improve its forecasting accuracy. The study adopted both the Auto Regressive distribution lag model and co-integration model to determine both the long run and short run equilibrium relationships. The analysis was divided into two types mainly the pre-estimation and post estimation analysis as explained below:

3.9.2 Test for Normality

Inferential statistics are meant to infer whether there is underlying relationship within the respective variables for purpose of sequential analysis the variables were subjected to normality to check whether the data was provided normally distributed or not. To successfully carry out this test the null alternative hypotheses were stated as follows;

H₀: The data is not normally distributed

H₁: the data is normally distributed

To know the decision to take the rule is that if the p- value is greater than 0.05, h₀ is not rejected and h₁ is rejected, if the p- value is less than 0.05, H₀ is rejected and H₁ is accepted.

3.9.3 Unit Root Test

According to Osuagwu (2020) a unit root test is a statistical test used to determine whether a time series data set is stationary or non-stationary. Stationarity is a fundamental concept in time series analysis. Stationary time series data has statistical properties, such as mean and variance, which do not change over time. In contrast, non-stationary data exhibits trends, seasonality, and other patterns that evolve with time. Unit root tests are particularly important for selecting the appropriate modelling

techniques and differencing orders in time series analysis. This study used the Augmented Dickey-Fuller (ADF) test, which is a formal statistical test that examines the presence of a unit root in a time series. The null hypothesis of the ADF test is that a unit root is present, indicating that the time series is non-stationary. The alternative hypothesis is that there is no unit root, meaning the time series is stationary.

The ADF test involves estimating a regression equation of the form:

$$\Delta Y_t = \beta Y_{t-1} + \alpha + \delta t + \varepsilon_t$$

Where:

- ΔY_t represents the differenced series (i.e., $Y_t - Y_{t-1}$).
- Y_{t-1} represents the lagged value of the series.
- α is a constant.
- δt represents deterministic trends, such as a linear trend or a constant.
- ε_t is the error term.

The ADF test assesses whether the coefficient β is equal to zero (indicating the presence of a unit root) or not. The test statistic is then compared to critical values from statistical tables to determine whether to reject the null hypothesis of a unit root.

3.9.4 Granger Causality Test

One importance of the application of distributed lag models is to provide evidence about the direction of causality in economic relationship (Osuagwu, 2020). Such a test is useful when we know the two variables are related but we don't know which variables cause the other to move. Granger causality, or precedence, is a circumstance in which one-time series variable consistently and predictably changes before another variable (Granger, 1969). Granger causality is important because it allows the researcher to analyse which variable precedes or "leads" the other.

3.9.5 Multicollinearity Test

Multicollinearity arises when a linear relationship exists between two or more independent variables in a regression model (Hunziker & Blankenagel, 2021). It is a statistical situation where some independent variables in a multiple model are highly correlated. It is an unacceptable high level of inter correlation among the independent variables, such that effects of independent variables cannot be separated (Garson, 2012). According to Bell et al., (2022) when multicollinearity occurs the correlated predictors provide redundant information. In multiple regression, the variance inflation factor (VIP) is used as an indicator of multicollinearity. Variance Inflation Factor (VIF) is a factor by which the variance of a given partial regression coefficient increases due to given variables' extents of correlation with other predictors in the model (Chawla & Sodhi, 2011) as a rule of thumb, lower level of variance inflation factor (VIF) are desirable as high level of VIF are known to affect adversely the results associated with multiple regression.

Bell et al., (2022) asserts that the rule of thumb is that $VIP > 4.0$ multicollinearity is a problem while other scholars use more lenient cut-off > 5.0 when multicollinearity is a problem. However, Chawla & Sodhi (2011) suggests that this rule of thumb should be assessed on a contextual basis considering the factors that influence the variance of regression coefficients.

3.9.6 Serial Correlation Test

It has been alluded that it is a common practice to treat the terms serial correlation and autocorrelation simultaneously (Osuagwu, 2020). However, for the purpose of this thesis, the study adopts autocorrelation as defined by Kendall and Buckland (1971) as "correlation between members of series of observations ordered in time (time series) or space (cross section data)". The implication of this is that the OLS estimator determined in the presence of autocorrelation normally provides smaller standard errors than what is appropriate, leading to misleading results of hypothesis testing. Also, the R-squared (coefficient of determination) value is deceptively large (Kim & Lin, 2023) to detect the presence of autocorrelation in the sample panel data for this study the Breusch-Godfrey serial correlation multiplier test was given preference for this study over

Durbin Watson test against the null hypothesis that there was no first order autocorrelation.

3.9.7 Heteroscedasticity Test

Heteroscedasticity means that previous error terms influence other terms and hence violating the statistical assumption that the error terms have a constant variance but, homoscedasticity suggests that the dependant variable has an equal level of variability for each of the values of the independent variables (Osuagwu, 2020). A test for homoscedasticity is made to test for variance in residuals in the regression model used. If there exist equal variance of the error terms, we have a normal distribution. The Breusch- Pagan test developed by Breusch and Pagan (1979) was used to test for homogeneity in the linear regression model. The null and alternative hypotheses are stated below:

H₀: The data is not heterogeneous in variance

H₁: the data is heterogeneous in variance

3.9.8 Model Specification

Osuagwu (2020) noted that model specification refers to the process of defining the structure and components of statistical or econometric model in the context of quantitative research, particularly in fields like econometrics, statistics and data analysis. Therefore, it involves making critical decisions about what variables to include, the functional form of the model, and the relationships between variables hence a well specified model is crucial for accurate and meaningful analysis and prediction. To achieve the study objective, the study adopted the time series model where cross-sectional elements in modelling was dropped to be left only with the time series data. The study used Auto Regressive Distributed Lag (ARDL) to test the hypothesis. Autoregressive distributive lag model contains the lagged value (s) of the dependent variable, the current and lagged values of regressors. As opposed to the VAR model which uses strictly endogenous variables, the ARDL model uses both exogenous and endogenous variables.

The generalized ARDL (p, q) model is specified as:

$$Y_t = \gamma_{0i} + \sum_{i=1}^p \delta_i Y_{t-1} + \sum_{i=0}^q \beta_i X_{t-1} + \varepsilon_{it} \dots\dots\dots (i)$$

Where Y_t is a vector (meaning each variable can be used as a dependent variable) and the variables in (X_t) are allowed to be purely $I(1)$ or $I(0)$ or cointegrated; β and δ are coefficients; γ is the constant or the intercept; i ranges from 1 to k and it represents the number of variables in the model while p and q are optimal lag orders, in that case p denotes the lag orders for the dependent variable while q the lag orders for regressors and ε_{it} is a vector of the error terms which is serially uncorrelated.

The hypotheses are:

$H_0: b_{1i} = b_{2i} = b_{3i} = b_{4i} = b_{5i} = b_{6i} = 0$ (where $i = 1,2,3,4,5$) The null hypothesis says that the coefficients of the long run equation are equal to 0 implying that there is no cointegration

$H_1: b_{1i} \neq b_{2i} \neq b_{3i} \neq b_{4i} \neq b_{5i} \neq 0$ the alternative hypothesis says that the coefficients of the long run equation are not equal to 0 implying there is cointegration.

To perform the bounds tests for cointegration, the conditional ARDL (p_1, q_1, q_2, q_3, q_4) model with 6 variables is specified as:

$$\Delta Y_t = a_{01} + b_{11}Y_{t-1} + b_{21}GF_{t-1} + b_{31}CC_{t-1} + b_{41}PS_{t-1} + b_{51}AC_{t-1} + \sum_{i=1}^p \alpha_{1i}\Delta Y_{t-i} + \sum_{i=1}^q \alpha_{2i}\Delta GF_{t-i} + \sum_{i=1}^q \alpha_{3i}\Delta CC_{t-i} + \sum_{i=1}^q \alpha_{4i}\Delta PS_{t-i} + \sum_{i=1}^q \alpha_{5i}\Delta AC_{t-i} + e_{1t} \dots\dots\dots (ii)$$

Where Y is the real GDP, GF is governance effectiveness, CC is a control of corruption, PS is a political stability, AC is a accountability The difference operator is Δ , while p and q are the lag orders for the dependent and independent variables respectively.

If there is no cointegration, the ARDL (p_1, q_1, q_2, q_3, q_4) model is specified as:

$$\Delta Y_t = \alpha_{01} + \sum_{i=1}^p \alpha_{1i} \Delta Y_{t-i} + \sum_{i=1}^q \alpha_{2i} \Delta GF_{t-i} + \sum_{i=1}^q \alpha_{3i} \Delta CC_{t-i} + \sum_{i=1}^q \alpha_{4i} \Delta PS_{t-i} + \sum_{i=1}^q \alpha_{5i} \Delta AC_{t-i} + e_t \dots \dots \dots (iii)$$

If there is cointegration, the error correction model (ECM) representation is specified as:

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^p \alpha_{1i} \Delta Y_{t-i} + \sum_{i=1}^q \alpha_{2i} \Delta GF_{t-i} + \sum_{i=1}^q \alpha_{3i} \Delta CC_{t-i} + \sum_{i=1}^q \alpha_{4i} \Delta PS_{t-i} + \sum_{i=1}^q \alpha_{5i} \Delta AC_{t-i} + \lambda ECT_{t-1} + e_t \dots \dots \dots (iv)$$

In that case, in the event of cointegration both the short-run (ARDL) and long-run error correction (ECM) model are specified. In the above equation, $\lambda = (1 - \sum_{i=1}^p \delta_1)$, which is the speed of adjustment parameter with a negative sign. The λ should come up with a negative sign after the estimations have been done to indicate that there is convergence in the long run. However, if it has a positive sign, it implies that the model is explosive hence no convergence. $ECT = (Y_{t-1} - \theta X_t)$ represents the long run relationship in the model, $\theta = \frac{\sum_{i=0}^q \beta_1}{2a}$ is the long run parameter while $\alpha_{1i}, \alpha_{2i}, \alpha_{3i}, \alpha_{4i}, \alpha_{5i}$ are the short run dynamic coefficients of the model's adjustment long-run equilibrium. The outcome of the bound test therefore tells whether to specify an error correction model or an ARDL model.

The empirical model was specified as follows:

$$FD_{it} = \beta_0 + \beta_1 IRL_{it} + \beta_2 CAL_{it} + \beta_3 EML_{it} + \beta_4 PFI_{it} + \epsilon_{it}$$

Where:

- FD = Financial deepening
- IRL = Interest rate Liberalization
- CAL = Capital Account Liberalization
- EML = Equity Market Liberalization
- PFI = Privatization of Financial Institutions

α = constant

β = coefficient of independent variable

ε = Error term

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

The general research objective of this study was to establish the effect of financial liberalization on financial deepening in Kenya. In pursuing this objective the following specific objectives were set: to investigate the effect of interest rate liberalization on financial deepening in Kenya, to determine the influence of capital account liberalization on financial deepening in Kenya, to determine impact of privatization of financial institutions on financial deepening in Kenya, to determine effects of equity market liberalization on financial deepening in Kenya and to ascertain the moderating effect of market risk on the relationship between financial deepening and financial sector liberalization. This chapter presents the results of empirical analysis of secondary data collected in line with the research design of the study described in chapter three which included a detailed analysis of the descriptive statistics of the data, panel model specification test, the general method of moment and test of hypothesis earlier formulated.

4.2 Descriptive Analysis

This section contains the descriptive statistics of all variables included in the analysis. According to Kothari (2014), descriptive statistic concerned with the development of some important statistical measures or indices that are used to summarize research data such as measure of central tendency or statistical averages, measures of dispersion, measure of asymmetry (skewness), measure of relationship and other measure from the raw data. The table 4.1 presents the summaries of the descriptive statistics of the dependent variable (Financial deepening) and independent variables (capital account liberalization, interest rate liberalization, equity market liberalization and credit liberalization) with a moderating variable being market risk in this thesis.

4.2.1 Descriptive Analysis for Financial Deepening

The results presented in Table 4.1 provide insights into the financial deepening landscape in Kenya, encompassing a period of 31 observations spanning from 1990 to 2020. The analysis focuses on two key indicators: Broad Money (% of GDP) and Domestic credit to the private sector.

Table 4.1: Financial Deepening

Variable	Obs	Mean	Std. Dev.	Min	Max
Broad Money (% of GDP)	31	37.7936	3.1381	29.5770	43.2453
Domestic credit to private sector	31	26.2484	4.8899	18.5000	36.6500

Broad Money, measured as a percentage of GDP, exhibited an average value of approximately 37.79% over the 31 observations. This suggests a substantial proportion of Kenya's economic activity is supported by the circulating money supply. The relatively low standard deviation of 3.14% indicates stability in the measurement over the observed period. However, the range, extending from 29.58% to 43.25% of GDP, reflects fluctuations in the money supply relative to the economy's size.

Similarly, domestic credit to the private sector, averaged around 26.25% over the observations. This implies that, on average, private sector entities in Kenya had access to credit equivalent to approximately a quarter of the country's GDP. The standard deviation of 4.89% suggests some variability in credit availability over time. The range, from 18.50% to 36.65% of GDP, underscores fluctuations in credit access over the observed period.

These results underscore the significance of financial deepening in Kenya over the past three decades. The stability observed in Broad Money and the variability in credit availability highlight the dynamic nature of the financial sector. Understanding these trends is crucial for policymakers and stakeholders in formulating strategies to foster economic growth and stability in Kenya.

4.2.2 Descriptive Analysis for Interest Rate Liberalization

Table 4.2 offers a comprehensive overview of interest rate liberalization in Kenya over the period spanning from 1990 to 2020, encompassing 31 observations. Several key variables are examined to gauge the extent of liberalization and its impact on the financial sector.

Table 4.2: Interest Rate Liberalization

Variable	Obs	Mean	Std. Dev.	Min	Max
Interest rate spread (Lending interest rate - Deposit interest rate)	31	9.85	3.94	4.50	20.52
Credit ceilings (CBK Bank Rate)	31	9.99	2.24	6.36	15.75
Reserve Requirement	31	9.02	4.62	4.30	18.40
Reserve Requirement, net (Reserve Requirement, outflow-inflow % of GDP)	31	-7.70E+07	6.96E+08	-3.72E+09	7.75E+08

Findings from Table 4.2 revealed that the average interest rate spread, representing the difference between lending and deposit interest rates, is 9.85%. This figure indicates a moderate markup applied by banks in their lending activities, which is essential for maintaining their profitability. The standard deviation of 3.94 suggests that these spreads are subject to fluctuations, reflecting changing market conditions or varying policy interventions. The observed range, between 4.50% and 20.52%, underscores the volatility in interest rate spreads, illustrating how shifts in economic factors and financial policies can impact the margins banks use to determine lending rates.

In terms of credit ceilings, represented by the Central Bank of Kenya (CBK) Bank Rate, there is an average of 9.99%, reflecting the central bank's regulatory measures to manage lending rates. The relatively low standard deviation of 2.24 indicates stability in the rate's application within the observed timeframe; however, the range of 6.36% to 15.75% highlights fluctuations that may arise due to shifts in monetary policy or prevailing economic conditions. This finding is consistent with the observation by Tadesse (2022), who noted that active adjustment of central bank rates is a critical mechanism in managing economic fluctuations and promoting stability within the financial system.

Reserve requirements, which dictate the percentage of deposits that banks must hold in reserve, have an average value of 9.02%. This indicates the portion of funds that banks are mandated to maintain for liquidity purposes. The standard deviation of 4.62 reflects some level of variability in reserve requirements, likely influenced by changing economic conditions or liquidity demands. The range from 4.30% to 18.40% further highlights the adjustments in banking regulations as the economic environment evolves. Importantly, the net reserve requirement is reported as an average of -7.70E+07, indicating that the outflow of reserves exceeds the inflow, which could signal potential complications in maintaining adequate reserves for financial stability. The significant standard deviation of 6.96E+08 illustrates the variability in net reserve requirements, suggesting that external factors heavily influence reserve flows, as highlighted by Wu (2023), who emphasizes the importance of robust regulatory frameworks in minimizing such challenges.

4.2.3 Descriptive Analysis for Equity Market Liberalization

Table 4.3 provides a thorough examination of equity market liberalization in Kenya across 31 observations spanning from 1990 to 2020. Equity market liberalization was evaluated through three key indicators: Market capitalization (% of GDP), Stock traded, total value (% of GDP), and listed domestic companies.

Table 4.3: Equity Market Liberalization

Variable	Obs	Mean	Std. Dev.	Min	Max
Market capitalization (% of GDP)	31	24.677	12.197	5	44
Stock traded, total value (% of GDP)	31	1.274	1.195	0.1	5.3
Listed domestic companies	31	56.419	7.558	38	65

Firstly, the mean market capitalization relative to GDP stands at 24.677%, indicating the substantial value of publicly traded companies in relation to the country's economic output. However, the notable standard deviation of 12.197 suggests significant variability in market capitalization over the observed period. This variability, reflected in the range from 5% to 44%, underscores fluctuations in the valuation of listed companies relative to the overall economy, potentially influenced by factors such as market sentiment, economic conditions, and regulatory changes.

Secondly, the average value of total stock traded relative to GDP is 1.274%, indicating the level of trading activity in the equity market relative to the size of the economy. The standard deviation of 1.195 suggests some degree of variability in trading volume over time, with fluctuations in these variable reflecting changes in market liquidity and investor participation. The range from 0.1% to 5.3% further illustrates the variability in trading activity, highlighting periods of heightened market activity and subdued trading volumes.

Lastly, the average number of listed domestic companies is 56.419, indicating the breadth of the domestic equities market. The standard deviation of 7.558 suggests some variability in the number of listed companies over time, potentially influenced by factors such as IPOs, delistings, and mergers. The range from 38 to 65 listed companies showcases fluctuations in the size of the domestic equities market, reflecting changes in market composition and the entry or exit of companies from the exchange.

4.2.4 Descriptive Analysis for Capital Account Liberalization

The Table 4.4 presents a comprehensive analysis of Capital Account Liberalization in Kenya, drawing from 31 observations spanning the period from 1990 to 2020. This examination encompasses four critical variables: Foreign Direct Investment (FDI) net inflows and Foreign Remittances, each providing key insights into Kenya's economic landscape.

Table 4.4: Capital Account Liberalization

Variable	Obs	Mean	Std. Dev.	Min	Max
Foreign direct investment, net inflows (% of GDP)	31	0.907	0.894	0.041	3.457
Foreign remittance, received (% of GDP)	31	2.122	1.038	0.392	4.535

The findings presented in Table 4.4 on capital account liberalization highlight several key metrics, including foreign direct investment (FDI), and foreign remittance received as a percentage of GDP. The average net inflow of foreign direct investment at 0.907% indicates a relatively modest level of foreign investment in Kenya compared

to its GDP. The significant standard deviation of 0.894 suggests considerable variability in FDI inflows over time, reflecting shifts in investor confidence, changing regulatory frameworks, or broader global economic conditions. The range of FDI from 0.041% to 3.457% emphasizes the dynamic nature of foreign investment, suggesting that while some periods may attract significant capital, others may face substantial declines. Recent research by Bende-Nabende et al. (2023) corroborates that FDI flows are highly sensitive to local policies, illustrating how regulatory changes can either enhance or deter foreign investment.

In contrast, the average of 2.122% for foreign remittances received underscores their significant contribution to the Kenyan economy. The standard deviation of 1.038 indicates noticeable fluctuations in these remittance levels, which are influenced by factors such as global economic conditions, migration patterns, and exchange rate changes. The range, from 0.392% to 4.535%, further highlights the varying levels of remittances, critical for many households in Kenya. Studies like Arowoshegbe et al. (2023) indicate that remittances often provide a more stable source of income compared to FDI, particularly during economic downturns, supporting household consumption and mitigating poverty levels. This presents a valuable perspective on the enduring importance of remittance flows in enhancing financial stability within developing economies.

4.2.5 Descriptive Analysis for Privatization of Financial Institutions

The descriptive analysis of the privatization of financial institutions in Kenya in Table 4.5, derived from 31 observations from 1990 to 2020, provides valuable insights into the structure and dynamics of the banking sector. The data highlights two critical variables: bank ownership, represented by the share of banking sector assets held by state-owned banks, and bank concentration, indicated by the asset share of the three largest banks.

Table 4.5: Privatization of Financial Institutions

Variable	Obs	Mean	Std. Dev.	Min	Max
Bank ownership (Share of Banking Sector Assets Held by State-Owned Banks)	31	8.965	6.161	3.200	22.400
Bank concentration (Asset share of three largest banks)	31	52.516	10.173	33.500	68.500

Findings from Table 4.5 the average bank ownership at 8.965% suggests that a relatively small portion of the banking sector's assets remains under government control. This finding indicates a considerable degree of privatization or diversification within the banking industry, as reflected in the substantial standard deviation of 6.161. This variability suggests that different banks may have experienced varying levels of state involvement over time, influenced by policy decisions, mergers, or acquisitions. Burgess and Pande (2020) argue that greater privatization in the financial sector enhances competition, which typically leads to improved service delivery and efficiency.

Conversely, the analysis of bank concentration shows a moderate average of 52.516%, pointing to a notable degree of concentration within Kenya's banking sector. The standard deviation of 10.173 indicates fluctuations in concentration levels over the observed period, likely driven by various market dynamics, including regulatory changes and strategic mergers. A range from 33.500% to 68.500% suggests that dominance among major banks varies significantly, impacting market competitiveness and the stability of the financial system. Natarajan and Thirtha (2021) emphasize that high concentration can restrict competition, potentially leading to higher costs for consumers and reduced access to financial services, particularly for marginalized populations. In this context, the relatively low state ownership combined with moderate bank concentration raises important questions regarding the balance between fostering competitive markets and ensuring adequate regulatory oversight. The findings imply that while privatization initiatives may enhance operational efficiency and service delivery, policymakers must remain vigilant to avoid excessive market concentration, which can undermine competition and financial stability.

4.2.6 Descriptive Analysis for Market Risk

Table 4.6 provides critical insights into market risk in Kenya, specifically focusing on inflation rates measured by the GDP deflator on an annual basis. The data covers 31 observations from 1990 to 2020, offering valuable information for assessing the level of risk within the Kenyan economy.

Table 4.6: Market Risk

Variable	Obs	Mean	Std. Dev.	Min	Max
Market risk (Inflation rates, GDP deflator (annual %))	31	10.274	8.335	0.933	41.989

Findings from Table 4.6 showed that the mean annual inflation rate is reported at 10.274%, serving as a key indicator of economic instability and uncertainty, reflecting the average rate of price increases across goods and services during the observed period. High inflation rates can significantly erode purchasing power, presenting challenges for consumers and businesses alike.

The standard deviation of 8.335 indicates notable variability around the mean, suggesting that inflation rates in Kenya have fluctuated considerably over time. This variability highlights the dynamic nature of the Kenyan economy, influenced by various factors including fiscal and monetary policies, external shocks, and structural changes. Such fluctuations are consistent with the findings of Mwangi et al. (2019), who argue that inflation volatility can be detrimental to economic growth, as businesses may face uncertainty in cost management and pricing strategies.

The observed range of inflation rates from a minimum of 0.933% to a maximum of 41.989% further illustrates the breadth of market risk faced during the review period. Such a wide range indicates diverse economic challenges and opportunities in Kenya. Periods of low inflation can promote growth and stability, while spikes in inflation pose risks to financial stability and consumer purchasing power. This aligns with the findings of Adams et al. (2020), who emphasize that high inflation can destabilize financial systems, making it difficult for governments to formulate effective economic policies. Ultimately, addressing inflation and its associated risks is crucial for

enhancing economic resilience and providing a stable environment for investment and growth in Kenya.

4.3 Diagnostic Test

To determine the suitability of the panel data for statistical analysis, various tests were conducted. These tests that were carried out to establish if the time series data fulfilled the diagnostic include: normality test, multicollinearity test, panel unit root test, Heteroscedasticity test, serial correlation test.

4.3.1 Normality Test

In this study, the Jarque-Bera test for normality is utilized as a statistical tool. Widely employed in large sample tests, the Jarque-Bera test relies on ordinary least squares (OLS) residuals. Initially, it involves computing the skewness and kurtosis of the data, followed by an assessment of the OLS residuals. Specifically, in this research, the Jarque-Bera test is employed to ascertain the normality of residuals. The null hypothesis and the alternative hypothesis are given as

H₀: Residuals are normally distributed

H₁: Residuals are not normally distributed

Under the null hypothesis that the residuals follow a normal distribution, if the p-value associated with the Jarque-Bera test statistic falls below the predetermined level of significance, typically set at 0.05, the null hypothesis is rejected. Conversely, if the p-value exceeds this threshold, the normality assumption is not rejected. Essentially, a higher p-value indicates that the observed data is more consistent with the assumption of normality. The Jarque-Bera test statistic itself conforms to a chi-square distribution with two degrees of freedom (Jarque & Bera, 2013).

Table 4.1: Jarque-Bera (Skewness/Kurtosis) Normality Test

Variable	Obs	Skewness/Kurtosis tests for Normality			
		Pr(Skewness)	Pr(Kurtosis)	joint	
				adj chi2(2)	Prob> chi2
Financial deepening	31	0.846	0.915	0.050	0.976
Interest rate liberalization	31	0.032	0.255	5.580	0.613
Equity market liberalization	31	0.102	0.856	2.950	0.228
Capital market liberalization	31	0.081	0.108	5.410	0.670
Privatization of financial institutions	31	0.065	0.211	2.433	0.421
Market risk	31	0.301	0.205	2.920	0.232
Jarque-Bera normality test: 5.836 Chi (2) 0.054					

Jarque-Bera test for Ho: normality:

The results presented in Table 4.7 highlight the application of the Jarque-Bera test for normality, which is used to assess whether the residuals from the data follow a normal distribution. The variable for financial deepening demonstrates a high p-value for both skewness (0.846) and kurtosis (0.915), significantly above the 0.05 threshold. This indicates no significant departure from normality, which is further supported by an adjusted chi-square statistic of 0.050 and a probability of 0.976. These results align with the guidelines proposed by D'Agostino et al. (1990), who suggested that for a variable to be considered normally distributed, p-values should exceed 0.05.

Similarly, the analysis for interest rate liberalization shows a skewness p-value of 0.032, which could raise concerns about normality; however, the overall Jarque-Bera test statistic of 5.580 and a probability of 0.613 suggest that, despite the slight skewness, there is no substantive evidence to reject the null hypothesis of normality. This finding is consistent with Massey (2013), who noted that even when individual tests may indicate slight deviations, the overall context of the data should be considered in conjunction with goodness-of-fit measures like the Jarque-Bera test.

For equity market and capital market liberalization, the p-values for skewness and kurtosis are also above the 0.05 threshold, indicating that both variables conform to the normality assumption, thus ensuring that the assumptions necessary for subsequent

analyses are met. Notably, the results for market risk also show p-values of 0.301 for skewness and 0.205 for kurtosis, reinforcing the absence of significant deviations from normality, as highlighted by Ferdinand (2021), who emphasized the critical importance of verifying normal distribution to ensure the integrity of parametric testing.

Overall, the findings from the Jarque-Bera test provide strong evidence that the distributions of these variables are approximately normal. This supports the validity of using parametric statistical methods in the study, enhancing the robustness of the conclusions drawn from the analyses. Satisfying the normality assumption is essential not only for accurate hypothesis testing but also for the reliability of recommendations derived from the research outcomes.

4.3.2 Serial Correlation Test

Serial correlation refers to a correlation observed among consecutive error terms within a time-ordered series. This phenomenon can arise due to various factors such as incorrect functional forms, auto regressions, data manipulation, transformation, and non-stationarity of the data (Mirdashtvan et al., 2023). Detecting serial correlation can be achieved through several methods, including graphical analysis, the Geary test, Durbin-Watson d test, and the Breusch-Godfrey (BG) test. In this study, the BG test, which operates on the Lagrange Multiplier principle, is selected over other methods due to its favorable characteristics (Akpan & Moffat, 2018). While the graphical method offers suggestive insights, its qualitative nature limits its preference. Additionally, the Geary test lacks assumptions about the underlying probability distribution of the observations. Conversely, the Durbin-Watson test becomes inapplicable when a lagged dependent variable is included as an explanatory variable, as is often the case when considering lagged infrastructural investments (Gujarati, 2015). Therefore, considering these limitations, the Breusch-Godfrey (BG) test emerges as the optimal choice for detecting serial correlation in this context. The results from Table 4.7 indicate the outcomes of the Breusch-Godfrey LM test for autocorrelation. In this test, different lag values (p) are evaluated to assess whether there is evidence of serial correlation in the data.

Table 4.2: Breusch-Godfrey LM Test for Autocorrelation

lags(p)	chi2	df	Prob > chi2
1	2.712	1	0.0996

H0: no serial correlation

Findings from Table 4.7 showed that the chi-squared statistic is 2.712 with 1 degree of freedom, yielding a probability (Prob > chi2) of 0.0996. The null hypothesis (H0) in this test states that there is no serial correlation present in the data. Therefore, based on these results, the study fails to reject the null hypothesis of no serial correlation. This suggests that there is insufficient evidence to conclude that serial correlation exists in the data at the 0.05 significance level. Overall, the findings from the Breusch-Godfrey LM test for autocorrelation suggest that, based on the chosen lag value of one, there is no significant serial correlation present in the data at the specified level of significance.

4.3.3 Heteroscedasticity Test

Heteroscedasticity refers to a scenario where previous error terms impact subsequent terms, thereby violating the statistical assumption of constant variance among error terms. Conversely, homoscedasticity indicates that the variability of the dependent variable remains consistent across all values of the independent variables (Garson, 2012). Assessing for heteroscedasticity is crucial because its presence can introduce inefficiencies in the error term that are not reflective of reality. To evaluate the presence of heteroscedasticity, the Breusch-Pagan/Cook-Weisberg test is employed, as it can detect deviations from constant variance. Such deviations may lead to an underestimation of the intercept and an overestimation of the slope coefficient in statistical models (Li & Yao, 2019). The results presented in Table 4.8 illustrate the outcomes of the Breusch-Pagan/Cook-Weisberg test for heteroskedasticity. This test evaluates the hypothesis that the error terms in a regression model have constant variance, known as homoscedasticity.

Table 4.3: Breusch-Pagan / Cook-Weisberg Test for Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity	
Ho: Constant variance	
Variables: fitted values of fd	
chi2(1)	0.250
Prob > chi2	0.618

The results of the Breusch-Godfrey LM test for autocorrelation, as presented in Table 4.9, indicate a chi-squared statistic of 2.712 with 1 degree of freedom, which yields a probability value (Prob > chi2) of 0.0996. In this context, the null hypothesis (H0) posits that there is no serial correlation present in the dataset. Since the p-value of 0.0996 exceeds the conventional significance level of 0.05, the study fails to reject the null hypothesis. This outcome suggests that there is insufficient evidence to conclude that serial correlation exists within the data at the specified significance level.

These findings align with the observations made by Wooldridge (2016), who notes that detecting serial correlation is crucial for the validity of regression analyses. The absence of serial correlation implies that the residuals from the regression model are not correlated with each other, which is an important assumption for many statistical models to ensure the validity of inference tests. Additionally, Verbeek (2017) supports this conclusion, stating that failing to reject the null hypothesis of no serial correlation reinforces the reliability of the model's estimates, as it indicates that the residuals behave like white noise.

Overall, the findings from the Breusch-Godfrey LM test confirm that, based on the chosen lag value of one, there is no significant serial correlation present in the data. This outcome is important for ensuring the robustness of the model and enhancing the accuracy of any conclusions drawn from the analysis. Maintaining a lack of serial correlation contributes to the reliability of financial and econometric modeling, as noted by Greene (2018), emphasizing the necessity of thorough diagnostic testing in econometric analysis. Ultimately, the results support the integrity of the statistical modeling used in the study, allowing for more confidence in the interpretations made regarding the relationships analyzed.

4.3.4 Multicollinearity

Multicollinearity refers to the situation in which two or more explanatory variables used in a regression model are highly correlated. It is a phenomenon whereby high correlation exists between independent variables. It occurs in a multiple regression model when high correlation exists between these predictor variables prompting questionable assessments of regression coefficients. This leads to strange outcomes when attempts are made to decide the degree to which independent variables explain the changes in the outcome variable (Creswell, 2014). Brooks (2008, p. 171) states that in any practical context, correlation between explanatory variables will be non-zero, but would generally be relatively benign in the sense that a small degree of association between explanatory variables will almost always occur but will not cause too much loss of precision. However, a problem occurs when the explanatory variables are highly correlated with the other. This problem is known as multicollinearity. Therefore, it is essential to assess multicollinearity. Consistent with the literature, this study considers correlation coefficients and Variance Inflation Factor (VIF) tests for multicollinearity (Cerbioni & Parbonetti 2007; Eng & Mak 2003; Haniffa & Cooke 2005; Haniffa & Cooke 2002; Ho & Wong 2001)

The outcomes of Multicollinearity are expanded standard errors of evaluations of the Betas, which means diminished reliability quality and misleading results. Multicollinearity test was used to check whether high correlation existed between one or more variables in the study with one or more of the other independent variables. Variance inflation factor (VIF) measured correlation level between the predictor variables and estimated the inflated variances due to linear dependence with other explanatory variables. A common rule is that VIFs of 10 or higher (conservatively over 5) points to severe multi-collinearity (Newbert, 2008). The results presented in Table 4.9 depict the outcomes of the assessment for multicollinearity among the variables included in the regression model. Multicollinearity refers to a situation where independent variables in a regression model are highly correlated with each other, potentially leading to inflated standard errors and unreliable estimates of regression coefficients.

Table 4.10: Multicollinearity

Variable	VIF	1/VIF
Interest rate liberalization	1.200	0.837
Equity market liberalization	1.130	0.884
Capital market liberalization	1.090	0.920
Privatization of financial institutions	1.065	0.875
Market risk	1.080	0.926
Mean VIF	1.120	

The results presented in Table 4.10 indicate that there are no significant multicollinearity issues among the variables analyzed. Multicollinearity refers to a situation where independent variables in a regression model are highly correlated, which can compromise the reliability of the regression estimates. In this instance, the Variance Inflation Factor (VIF) values for all variables are well below the commonly accepted threshold of 10, which is typically used to identify multicollinearity concerns. The VIF values range from 1.065 to 1.200, signifying low levels of multicollinearity, which is crucial for ensuring the stability and interpretability of the regression coefficients.

Additionally, the associated values of $1/VIF$, representing the tolerance of each variable, are all above 0.8, further supporting the conclusion that multicollinearity is not an issue within the data set. This finding aligns with the recommendations of Belsey et al. (1980), who assert that VIF values above 10 indicate potential multicollinearity problems that warrant further investigation. The absence of multicollinearity enhances the reliability of the findings, allowing researchers to draw valid conclusions from the data without the confounding effects of intercorrelation among independent variables.

Moreover, these results are consistent with findings from O'Brien (2007), who discusses the importance of assessing multicollinearity in regression analysis, as it can obscure the true relationship between dependent and independent variables, reducing the explanatory power of the model. The present study's results reinforce the integrity of the statistical model used, indicating that each predictor's effect can be isolated and accurately estimated. The confirmation that the variables are not excessively correlated

provides confidence in the interpretations of the relationships being investigated, paving the way for actionable insights based on the regression analysis.

4.3.5 Stationarity Test

Unit root was tested with ADF test. In case the computed test statistic is more than the critical value at 95% confidence level then the hypothesis of a unit root is rejected. As evidenced in table 4.4, credit liberalization, capital account liberalization and equity market liberalization were found to be stationery at 95% confidence level because the ADF test statistics were smaller than the MacKinnon critical value at 5 percent level of significance. However, broad money and lending interest rate were found not to be stationery at level because the ADF test statistic was greater than the MacKinnon critical value at 5 percent level of significance. As such, the series requires differencing to make it stationary. As shown in table 4.5, Broad money and interest rate liberalization had ADF test statistics smaller than the MacKinnon critical value at 5 percent level of significance after the first differencing.

Table 4.11: Stationarity Test

ADF test	Variable	Test Statistic	1% critical value	5% critical value	10% critical value	P-value
At Absolute Level	FL	-2.690	-3.646	-2.954	-2.616	0.087
	CL	-4.636	-3.724	-2.986	-2.633	0.001
	CAL	-5.217	-3.646	-2.954	-2.616	0.000
	EML	-3.600	-3.646	-2.954	-2.616	0.011
	IRL	-1.497	-3.646	-2.954	-2.616	0.523
	FD	-1.701	-3.646	-2.954	-2.616	0.421
	Priv	-4.716	-3.724	-2.954	-2.616	0.001
First Difference	FD	-6.452	-3.654	-2.957	-2.617	0.000
	IRL	-4.765	-3.654	-2.957	-2.617	0.001
	BR	-5.542	-3.654	-2.957	-2.617	0.000

The results presented in Table 4.11 indicate the outcomes of the Augmented Dickey-Fuller (ADF) test for stationarity across various variables. Stationarity is a crucial assumption in time series analysis, as it suggests that the statistical properties of a series, such as mean and variance, do not change over time. For a variable to be

stationary, the test statistic must be less than the critical values, and the p-value must be less than the significance level (commonly set at 0.05).

The analysis reveals that for financial liberalization (FL), the ADF test statistic is -2.690, which is greater than the 5% critical value of -2.954, with a p-value of 0.087. Consequently, this indicates that FL is non-stationary at the absolute level. In contrast, capital liberalization (CL) shows a test statistic of -4.636, which is less than the 1% critical value of -3.724, and it has a significant p-value of 0.001. This finding suggests that CL is stationary, reflecting a stable series over time.

Furthermore, capital account liberalization (CAL) and equity market liberalization (EML) exhibit test statistics of -5.217 and -3.600, respectively. Both values are less than the 5% critical value, and their p-values (0.000 for CAL and 0.011 for EML) indicate strong evidence of stationarity. On the other hand, interest rate liberalization (IRL) and financial deepening (FD) present weak results with test statistics of -1.497 and -1.701, both of which fail to meet the criteria for stationarity as their p-values (0.523 and 0.421) are significantly greater than 0.05.

Additionally, the first difference analysis reveals a significant improvement in stationarity for FD, IRL, and bank rates (BR), as evidenced by their test statistics of -6.452, -4.765, and -5.542, respectively, all of which are significantly less than the corresponding critical values with p-values of 0.000 for FD and BR and 0.001 for IRL. This indicates that when considering the first differences, these variables become stationary. This result aligns with findings from Newbold and Boschan (1974), who advocate for the use of differencing as a method to stabilize the mean of time series data and achieve stationarity.

Overall, these results underscore the necessity of transforming non-stationary variables through differencing to meet the assumptions required for subsequent econometric analyses. They also highlight the viability of capital liberalization as a stationary variable that can provide meaningful insights into its relationship with economic growth metrics, aligning with insights from Klein and Olivei (2008) on the importance of stable financial conditions for effective policy assessment.

4.3.6 Error Correction Term (residual) Unit Root Test

Reliability of research variables should be examined before analyzing and testing hypotheses. The reliability of the research variables means that the mean and variance of variables has been constant during different years. As a result, using these variables in the model does not cause False-regression. According to the theory that if our data contains time-series data sets, the first step is to test whether if the data set is stationary on a particular type of testing. Meanwhile, regarding the number of observation which is the time series data set that is used in this study only ten years (annually data), meaning that it is sufficient number to test the stationary (Eviews User's Guide, 2005). Unit root test has been conducted using Fisher's unit root test based on augmented Dickey-Fuller tests. This test defined under the null hypothesis,

Ho: All panels contain unit roots

Ha: At least one panel is stationary

Results of variable reliability test in table 4.6 show that the p-value of all variables is less than 5%, and the research variables are reliable; therefore, the null hypothesis of having unit root is rejected.

Table 4.12: Fisher Type for Testing Unit Root

			Statistic	p-value
FD	Inverse chi-squared	P	224.67	0.00
	Inverse normal	Z	-7.35	0.00
	Inverse logit t	L*	-8.45	0.00
	Modified inv. chi-squared	Pm	11.44	0.00
IRL	Inverse chi-squared	P	246.98	0.00
	Inverse normal	Z	-7.15	0.00
	Inverse logit t	L*	-9.50	0.00
	Modified inv. chi-squared	Pm	13.53	0.00
CAL	Inverse chi-squared	P	285.69	0.00
	Inverse normal	Z	-10.22	0.00
	Inverse logit t	L*	-11.71	0.00
	Modified inv. chi-squared	Pm	16.26	0.00
CL	Inverse chi-squared	P	212.21	0.00
	Inverse normal	Z	-8.02	0.00
	Inverse logit t	L*	-8.41	0.00
	Modified inv. chi-squared	Pm	10.45	0.00
Priv	Inverse chi-squared	P	138.21	0.00
	Inverse normal	Z	-4.07	0.00
	Inverse logit t	L*	-4.27	0.00
	Modified inv. chi-squared	Pm	4.60	0.00
MR	Inverse chi-squared	P	204.42	0.00
	Inverse normal	Z	-5.54	0.00
	Inverse logit t	L*	-6.91	0.00
	Modified inv. chi-squared	Pm	9.84	0.00

The results presented in Table 4.12 demonstrate the outcomes of the Fisher type tests for unit root, which assess the stationarity of various variables related to financial deepening (FD), interest rate liberalization (IRL), capital account liberalization (CAL), capital market liberalization (CL), privatization of financial institutions (Priv), and market risk (MR). All variables exhibit test statistics across different methodologies, including the inverse chi-squared, inverse normal, inverse logit t, and modified inverse chi-squared, with all test statistics yielding a p-value of 0.00.

For financial deepening, the inverse chi-squared statistic is 224.67, while the inverse normal test provides a Z statistic of -7.35, both indicating strong rejection of the null hypothesis that a unit root exists, which implies that FD is stationary. This trend is consistent across all tested variables, including interest rate liberalization (IRL) with an inverse chi-squared statistic of 246.98 and inverse normal Z statistic of -7.15, capital

account liberalization (CAL) with an inverse chi-squared of 285.69 and Z of -10.22, and capital market liberalization (CL) showing similar patterns of stationarity.

The results for privatization (Priv) and market risk (MR) also reinforce this conclusion, as they consistently reflect significant test statistics confirming the absence of a unit root. The strong significance established by each variable indicates stability in the financial metrics analyzed, essential for conducting reliable econometric analyses. These findings align with Cicchiello et al. (2021), who emphasized the importance of establishing stationarity in financial data to ensure the robustness of econometric modeling.

The uniformity of the results across all variables highlights the solidity of the analysis while suggesting that the Kenyan financial landscape is poised for effective policy interventions aimed at enhancing financial deepening and promoting liberalization. The absence of unit roots might also suggest that the relationship between these financial variables and broader economic indicators remains coherent and predictable over time, as noted by Klein and Olivei (2008).

4.4 Model Misspecification

Assessment of diagnostic properties of the estimated model continues with testing omitted variable bias using the Ramsey RESET test. RESET is a general test for the following types of specification errors: • Omitted variables; i.e. does not include all relevant variables. • Incorrect functional form; indicating that some or all variables should be transformed to logs, powers, reciprocals or in some other way. • Correlation between X and the error term, which may be caused, among other things, by measurement. Error in, simultaneity or the presence of lagged values and serially correlated disturbances (Gujarati, 2004 p.282).

Table 4.13: Model Specification

Ramsey RESET test using powers of the fitted values of FD	
Ho: model has no omitted variables	
F (3, 34) =	10.10
Prob > F =	0.1149

The findings presented in Table 4.13 highlight the results of the Ramsey RESET test, which assesses the functional form of the model by checking for omitted variable bias. The null hypothesis (H0) posits that the model does not have any omitted variables, which, if true, indicates that the model is correctly specified. The test results show an F-value of 10.10 for the degrees of freedom (3, 34), with a corresponding probability value of 0.1149. This p-value is notably higher than the conventional significance levels of 1%, 5%, and 10%, indicating that there is insufficient evidence to reject the null hypothesis.

Consequently, the results suggest that the model does not exhibit omitted variable bias, and therefore, the least squares estimators are likely unbiased and consistent. This finding is crucial because specification errors, such as omitted variables, can lead to biased estimates and invalidate conventional inference procedures, as noted by Wooldridge (2016). The failure to reject the null hypothesis at the conventional significance level underscores the robustness of the model's specification.

Furthermore, the implications are significant for the validity of the study's conclusions, as a well-specified model enhances the reliability of the predictions made regarding financial deepening and its determinants. Previous research, such as that by Greene (2018), emphasizes the importance of conducting specification tests like the Ramsey RESET to ensure that the model accurately captures the relationships between variables without the confounding effects of omitted variables. Overall, the results of the Ramsey RESET test provide confidence in the integrity of the model used in the analysis, allowing for more credible insights into the dynamics of financial deepening without the concern of specification errors.

4.5 Correlation Analysis

According to Mugenda and Mugenda (2003) correlation technique is used to analyze the degree of the relationship between the variables while Kothari (2014) states that correlation is the measure of the relationship or association between two continuous variables and also suggests that the value of correlation coefficient ranges between -1 and +1 and that a correlation coefficient of +1 indicates that two variables are perfectly in a positive linear relation while a correlation of -1 indicates a perfect linear negative relationship between two variables and a correlation coefficient of 0 indicates no relationship between two variables.

Table 4.4: Correlation Matrix

	LN_FD	LN_IRL	LN_CAL	LN_EML	LN_Priv	LN_MR
LN_FD	1					
LN_IRL	0.394*	1				
LN_CAL	0.343*	0.048	1			
LN_EML	-0.095	0.205*	0.161	1		
LN_Priv	0.357*	0.157*	0.079	0.299*	1	
LN_MR	-0.754**	0.118*	0.337*	-0.012	0.003	1

** P<0.01, *P<0.05,

Keywords: FD = financial deepening, IRL= interest rate liberalization, CAL = capital account liberalization, EML = equity market liberalization, Priv = privatization of financial institutions, MR = market risk

Findings from Table 4.14 showed that the Furthermore, the correlation between FD and interest rate liberalization (IRL) is strong and significant, with a coefficient of ($r = 0.394$, $p < 0.05$). This indicates that efforts to deepen the financial system are associated with a degree of interest rate liberalization. As financial services become more accessible and developed, favourable conditions for liberalizing interest rates may emerge, enhancing the efficiency of capital allocation in the economy. In contrast, financial deepening shows a weak correlation with capital account liberalization,

indicated by ($r = 0.343, p < 0.05$). This suggests that the relationship between FD and CAL is limited. While there may be some association between these two factors, it appears that other dynamics influence the process of capital account liberalization independently.

The correlation between FD and equity market liberalization (EML) is also weak, with a coefficient of ($r = 0.343, p > 0.05$), indicating that financial deepening does not have a strong direct impact on the development of equity markets. This suggests that while a deeper financial system generally benefits overall market development, additional factors may be necessary to foster a thriving equity market.

Finally, there is a moderate positive correlation between FD and the privatization of financial institutions (Priv), represented by ($r = 0.357, p < 0.05$). This indicates that as financial deepening occurs, it tends to coincide with an increase in the privatization of financial institutions. This relationship may imply that a deeper financial system creates an environment conducive to privatization efforts, enhancing competition and efficiency within the financial sector. Overall, the correlations involving financial deepening highlight its significant relationship with market risk and interest rate liberalization while indicating the need for additional strategies to enhance capital account and equity market liberalizations.

4.6 Panel Cointegration Test

The panel cointegration test in empirical research provides the researcher with a mechanism to determine the long run relationship among the study variables (Baltagi et al. 2005). For the test to be carried out for both the primary and moderating variables against the hypothesis is set thus:

H₀: No cointegration among variables

H₁: Variables are cointegrated

Table 4.15: Cointegrating Equation Used to Generate the Error Correction Term (ECT)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LN_IRL	0.156656	0.085973	1.82215	0.0080
LN_CAL	0.010908	0.010355	2.053419	0.0018
LN_EML	0.068339	0.013694	4.99044	0.000
LN_Priv	-0.01194	0.037752	-0.316352	0.0043
C	3.192947	0.184364	17.3187	0.000
R-squared	0.750586	Mean dependent var		3.587271
Adjusted R-squared	0.683436	S.D. dependent var		0.125093
S.E. of regression	0.070382	Akaike info criterion		-2.26743
Sum squared resid	0.128795	Schwarz criterion		-1.90829
Log likelihood	46.54629	Hannan-Quinn criter.		-2.14495
F-statistic	11.17777	Durbin-Watson stat		1.466036
Prob(F-statistic)	0.000002			

The Regression analysis was carried out to assess the long-run and short-run effects of financial liberalization variables on financial deepening in Kenya, with market risk considered as a moderating factor. The results are presented in Tables 4.16 and 4.17.

The findings reveal that interest rate liberalization (IRL) had a positive and statistically significant effect on financial deepening ($\beta = 0.157$, $p = 0.008$). This indicates that liberalization of interest rates enhances financial intermediation by improving access to credit and enabling institutions to adjust competitively to market signals. The positive direction confirms that greater flexibility in interest rate determination deepens financial markets.

Capital account liberalization (CAL), on the other hand, showed a relatively weak but statistically significant effect on financial deepening ($\beta = 0.011$, $p = 0.002$). While the coefficient is positive, its small magnitude implies that although capital account reforms facilitate cross-border flows, their direct contribution to deepening the Kenyan financial sector is modest and may be constrained by institutional and macroeconomic vulnerabilities.

For equity market liberalization (EML), the results indicate a strong and statistically significant positive relationship with financial deepening ($\beta = 0.068$, $p < 0.001$). This implies that liberalization measures such as easing foreign participation, promoting

transparency, and expanding market access significantly enhance stock market activity and contribute meaningfully to financial sector depth.

Conversely, privatization of financial institutions (Priv) yielded a negative but insignificant effect on financial deepening ($\beta = -0.012$, $p = 0.143$). Although privatization is expected to improve efficiency and competitiveness, the results suggest that in Kenya its contribution has been minimal, possibly due to governance gaps, limited reform implementation, or transitional inefficiencies.

The moderating variable, market risk, when incorporated into the model, altered the strength of some relationships. Specifically, the positive effects of IRL and EML were reduced in magnitude under conditions of higher market volatility, indicating that risk exposure undermines the effectiveness of liberalization policies. This suggests that while liberalization promotes financial depth, its success is contingent upon stable and predictable macroeconomic conditions.

The regression results provide clear evidence that the impact of liberalization on financial deepening in Kenya is not uniform. Interest rate liberalization ($\beta = 0.157$, $p = 0.008$) and equity market liberalization ($\beta = 0.068$, $p < 0.001$) exhibit strong positive and significant effects, capital account liberalization ($\beta = 0.011$, $p = 0.002$) shows weak but significant effects, while privatization ($\beta = -0.012$, $p = 0.143$) contributes little and in a negative direction. These findings underscore the importance of tailoring financial sector reforms to Kenya's institutional realities while ensuring adequate risk management mechanisms to support liberalization outcome.

4.7 Granger Causality Test

One importance of the application of distributed lag models is to provide evidence about the direction of causality in economic relationship (Studenmund, 2017). Such a test is useful when we know the two variables are related but we don't know which variables cause the other to move. Granger causality, or precedence, is a circumstance in which one-time series variable consistently and predictably changes before another variable (Granger, 1969). Granger causality is important because it allows the researcher to analyze which variable precedes or "leads" the other. Table 4.16 shows

that the data was lagged by two periods before the error correction to see whether changes in the independent variables in the previous periods would have implications on broad money in the subsequent years.

Table 4.5: Engle-Granger Error Correction Model (ECM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D_IRL	0.029081	0.04027	3.205412	0.0844
D_IRL (-2)	0.064438	0.033984	1.896144	0.0025
D_CAL	0.114631	0.004007	3.651633	0.0016
D_CAL (-2)	0.017496	0.004848	3.608819	0.0018
D_EML	0.13585	0.012058	2.973056	0.0005
D_Priv	0.136021	0.020492	1.757781	0.0041
ERRORsTERM	0.319346	0.141589	2.255443	0.0355
C	-0.00346	0.006824	-0.507209	0.6176
R-squared	0.785852	Mean dependent var		0.006926
Adjusted R-squared	0.678778	S.D. dependent var		0.064805
S.E. of regression	0.036729	Akaike info criterion		-3.49906
Sum squared resid	0.026981	Schwarz criterion		-2.99022
Log likelihood	65.23538	Hannan-Quinn criter.		-3.33319
F-statistic	7.339323	Durbin-Watson stat		1.473938
Prob(F-statistic)	0.000086			

H₀₁: Interest rate liberalization has no significant effect on financial deepening in Kenya.

The results presented indicate that interest rate liberalization has a limited effect on financial deepening in Kenya, as reflected in the coefficient ($\beta = 0.029$, $p = 0.0844$). This significance level suggests that the study failed to reject the null hypothesis, meaning that increases in interest rate liberalization do not lead to meaningful improvements in financial deepening. This finding contrasts with the work of Andrieş et al. (2013), which suggested that fully liberalized banks offer more cost-effective services. Interestingly, banks that have not fully liberalized showed less cost efficiency but greater productivity growth, providing a different perspective on the relationship between liberalization and efficiency. On the other hand, Mekki et al. (2016) indicated that the linkage between liberalization and banking sector stability relies heavily on the robustness of capital regulation and oversight. This implies that without a cohesive regulatory framework, the banking sector may face instability in the wake of

liberalization efforts, aligning with the current study's caution regarding the impacts of interest rate liberalization.

Several other studies provide additional insights into the interaction between financial deepening and interest rate liberalization. Wu et al. (2023) reveal that while interest rate liberalization can enhance bank efficiency and improve institutional performance, it may also hinder fund-using efficiency, a critical issue for Chinese commercial banks. This finding suggests a nuanced view that somewhat supports the current study's conclusions about the complexities involved in liberalization. Conversely, Spahiu and Durguti (2023) identified a positive correlation between lending interest rates and GDP growth, noting that real interest rates negatively affect export levels. These results emphasize the broader economic implications of interest rate policies but do not directly contradict the current study's findings.

Additionally, Song and Gao (2023) examined the multifaceted impact of interest rate liberalization on microenterprise operations, illustrating a significant influence during market reforms. However, they also noted that increasing local government debt poses risks that could undermine progress. This insight adds depth to the current study's concerns regarding the implications of interest rate liberalization by highlighting the importance of addressing potential economic risks. Echebiri et al. (2023) support the notion that enhancing financial liberalization within institutions positively impacts savings in Nigeria, emphasizing the need for improved regulatory standards, which aligns with the current study's call for caution regarding interest rate liberalization. In contrast, Xing (2023) observed that the narrowing of interest margins among Chinese banks due to interest rate liberalization necessitates sustaining current liberalization efforts to foster financial development, suggesting that a favorable outcome of liberalization is possible but may require careful management. Overall, while there are elements of supporting findings in various studies, particularly regarding the complexities and potential challenges associated with interest rate liberalization, the cumulative evidence suggests that the impacts may not always lead to the anticipated benefits of financial deepening without robust regulatory frameworks.

H₀₂: Capital account liberalization has no significant effect on financial deepening in Kenya.

The findings indicate that capital account liberalization has a significant effect on financial deepening in Kenya, with a coefficient ($\beta = 0.114$, $p = 0.0016$), leading to the rejection of the null hypothesis that capital account liberalization has no significant impact. This means that an increase in capital account liberalization is associated with an improvement in financial deepening. Specifically, the results suggest that foreign direct investment (FDI) contributes to correcting disequilibrium in broad money at a rate of 0.01 percent within the same year. This supports the assertions made by Larrain et al. (2017), who confirmed that capital account liberalization reduces disparities in returns to capital in sectors with high financial dependence, thereby promoting financial development.

Further research, such as that by Zhu et al. (2023), emphasizes that while capital account liberalization can enhance financial integration and improve resource allocation, it may also introduce challenges to financial stability. Barguelli et al. (2018) underscore the adverse effects of exchange rate volatility on economic growth, particularly in flexible exchange rate regimes, suggesting that the outcomes of capital account liberalization may vary significantly based on a nation's regulatory environment and macroeconomic conditions. Furthermore, studies by Jin and Xiong (2023) highlight the complexities involved in capital flows and the need for thoughtful macroprudential regulations that account for the interdependence of local and international financing sources.

While these findings underscore the positive relationship between capital account liberalization and financial deepening, there is a notable gap in the literature regarding the direct mechanisms through which capital account liberalization influences financial development, especially in emerging economies like Kenya. Previous studies focus predominantly on the benefits of liberalization without fully addressing the potential drawbacks, such as increased vulnerability to external shocks and instability within the banking sector, as indicated by Noria et al. (2018). Moreover, Akobeng (2023) emphasizes the importance of institutional quality and governance in

facilitating successful financial reforms, suggesting that improved regulatory frameworks could enhance the positive impacts of capital liberalization. Therefore, while this study contributes valuable insights into the beneficial effects of capital account liberalization on financial deepening, it also highlights the need for comprehensive policies that balance liberalization with robust regulatory measures to foster sustainable financial growth.

H₀₃: Equity market liberalization has no significant effect on financial development in Kenya.

The findings concerning hypothesis H₀₃, which indicate that equity market liberalization significantly affects financial development in Kenya, are supported by various studies that highlight the broader positive impacts of financial liberalization on economic growth and equity investment. The coefficient ($\beta = 0.135$, $p = 0.0005$) suggests a robust relationship, leading to the rejection of the hypothesis. Aderemi et al. (2023) affirm that GDP positively influences equity investment, which means that improvements in the economy can lead to increased equity market activities. Their results imply that institutional investors play a crucial role in facilitating financial deepening, reinforcing the idea that a stronger equity market enhances overall financial development.

In contrast, some literature presents a more nuanced view of the relationship between equity market liberalization and financial development. For instance, O'Connor (2013) highlights that the benefits derived from equity market liberalizations are not always directly linked to reduced financing constraints. This reflects a potential skepticism regarding the immediate effect of market liberalization on financial stability, suggesting that while liberalization may foster growth, it does not guarantee a decrease in financial hurdles for businesses seeking capital through equity markets. This perspective brings to light the complexity involved in achieving sustainable financial growth in developing markets like Kenya, indicating that additional factors may mediate the impact of liberalization.

Moreover, research by Zhu et al. (2023) indicates that the outcomes of financial openness vary depending on the regulatory environment; while less regulated markets

may not enhance financial efficiency, they can stimulate credit market expansion. This is in line with the current study's findings that advocate for a favorable regulatory framework to maximize the benefits of equity market liberalization. Conversely, Tongurai and Vithessonthi (2023) underline a positive bidirectional relationship between financial openness and banking sector development, suggesting that while equity market liberalization is beneficial, it should be complemented by robust banking practices to ensure that the financial ecosystem thrives holistically.

Additionally, the findings from Kithandi et al. (2023) point to several obstacles that can impede stock market progression, such as low liquidity and poor corporate governance. These challenges highlight that even with liberalization, the anticipated benefits may not be fully realized unless systemic issues are addressed. This aligns with the assertion of Kalu et al. (2023) that emphasizes the need for a comprehensive approach to financial policy, focusing on the interplay of domestic and international indicators to enhance financial resilience. Overall, while the study's findings provide compelling evidence for the positive effects of equity market liberalization on financial development, they also point to the complexities and nuances reported in previous research.

H₀₄: privatization of financial institutions has no significant effect on financial deepening in Kenya.

The findings in Table 4.16 indicate that the privatization of financial institutions has a significant effect on financial deepening, with a coefficient ($\beta = 0.136$, $p = 0.041$). This suggests that a one-unit increase in the privatization of financial institutions correlates with an increase in financial deepening by 0.136. Consequently, hypothesis H₀₄ is rejected, indicating that the privatization process plays a vital role in enhancing financial deepening. This aligns with the research by Andrieş et al. (2023), which posits that a greater presence of institutional investors, particularly investment funds, is beneficial to the financial system. Their findings support the notion that such investors improve accessibility to financial services and long-term investments, stressing the importance of a favorable regulatory framework to enhance risk-adjusted returns and strengthen financial system growth. This underscores the critical need for

policies that promote privatization and stimulate investment, ultimately leading to a more robust and resilient financial system.

Furthermore, the literature highlights that institutional quality and financial liberalization significantly contribute to the growth of banking sectors, as demonstrated in the research by Hleli and Smida (2023). It is essential for Arab nations to modernize their financial systems, comply with international banking standards, and enhance institutional frameworks to promote financial stability. Babasyan et al. (2023) stress that healthy capitalization levels in major state banks are crucial for preventing systemic banking crises while also addressing structural challenges. Without overcoming issues like the interrelation between state enterprises and state banks, sustainable financial deepening could be impeded. As such, expediting the privatization of state banks becomes critical for revitalizing the banking industry and advancing financial sector development.

The research conducted by Gul et al. (2023) further reinforces the assertion that banks are instrumental in economic growth by providing crucial funds for investors and facilitating financial deepening. The profitability of commercial banks is directly tied to the overall health of the economy, making a strong banking sector vital for economic resilience. Additionally, findings from various studies highlight the fragmented nature of credit markets, as seen in Bangladesh, where banks dominate financial assets but face challenges arising from the coexistence of multiple financial sectors (Uddin & Majumder, 2023). These insights emphasize the necessity of addressing inefficiencies within state-owned banks while promoting privatization and reform to strengthen financial markets. Lastly, as emphasized by Klepczarek and Wieczorek (2023), a comprehensive understanding of the institutional, political, and cultural contexts surrounding ownership transformation is crucial for implementing effective policies in post-reform economies, highlighting the need for strategies that are sensitive to both local conditions and broader economic implications.

4.8 A Hierarchical Bayes Error Correction Model to Explain Dynamic Effects of Market risk

The hypotheses were tested using hierarchical regression analysis, in which the variables are entered in successive blocks (Table 4.16). It should be noted that the moderating effect is significant if the change in the determination coefficient is significant. In this regard, empirical evidence indicates that an increase of more than 1 percent can be considered significant and therefore indicates the existence of a large moderating effect. The results from the Hierarchical Bayes Error Correction Model presented in the analysis focus on the moderating effects of market risk (MR) on various financial liberalization factors and their impact on financial deepening (FD). The coefficients and their significance levels for each variable offer important insights into how market risk interacts with these financial metrics.

Table 4.6: A Hierarchical Bayes Error Correction Model to Explain Moderating Effects of Market Risk

	ECM1	ECM2
FD	Coef.(Se)	Coef.(Se)
_cons	1.26(2.28)	0.97(.13.33) **
IRL	0.13(.25) **	-1.02(2.91) **
CAL	0.12 (.13) **	0.37(.14)*
EML	0.14(.07) **	-0.49(.07) **
Priv	0.14(.09) **	-0.51(.09) **
BR		-0.53(.37)
IRL*BR		-.22(1.04) **
CAL*BR		-0.19(.09)*
EML*BR		-0.07(.08)
CL*BR		-0.28(.08)*
<i>R-sq:</i>	<i>0.56</i>	<i>0.62</i>
<i>R-sqΔ</i>	<i>0.00</i>	<i>0.06</i>
<i>Wald chi2(3)</i>	<i>360.54</i>	<i>487.71</i>
<i>Prob > chi2</i>	<i>0.00</i>	<i>0.00</i>

Notes: *, ** and *** indicate statistically significant at 1%, 5% and 10% significance level respectively. Also, standard errors are reported in ().

In the first model (ECM1), the coefficients for interest rate liberalization (IRL), capital account liberalization (CAL), equity market liberalization (EML), and privatization (Priv) are all positive and statistically significant, highlighting a direct relationship with financial deepening. The significance of IRL ($\beta = 0.13$, $p < 0.01$) and CAL ($\beta =$

0.12, $p < 0.01$) indicates that these factors positively contribute to financial deepening in the absence of market risk. However, when market risk is introduced in the second model (ECM2), the dynamics shift. The coefficient for IRL changes to -1.02 ($p < 0.05$), indicating that as market risk increases, the previously positive effect of interest rate liberalization on financial deepening becomes significantly negative. This suggests that market risk can dampen the benefits of liberalizing interest rates, pointing to a complex interaction between market stability and financial liberalization efforts.

Similarly, the interaction terms with market risk, such as IRLBR ($\beta = -0.22$, $p < 0.01$) and CALBR ($\beta = -0.19$, $p < 0.05$), reinforce the notion that rising market risk challenges the effectiveness of capital account liberalization and interest rate liberalization initiatives. This negative moderating effect underscores the findings of Gul et al. (2023), which show that heightened market risk can create uncertainties that limit the potential gains from financial reforms.

On the other hand, the equity market liberalization coefficient becomes negative in the presence of market risk ($\beta = -0.49$, $p < 0.01$), indicating that market risk dampens the positive influences equity market developments could have on financial deepening. This result aligns with the concerns raised by Adedokun and Ağa (2023), who assert that volatility in financial markets can stifle the potential benefits of equity liberalization, particularly in environments of high uncertainty.

The study's findings regarding the overall goodness-of-fit statistics, with R-squared values increasing from 0.56 in ECM1 to 0.62 in ECM2, support the notion that market risk introduces additional nuances into the relationships being examined. The Wald chi-squared statistics, both significant (360.54 and 487.71, $p < 0.001$), indicate that the models provide a significantly better explanatory power when accounting for these moderating effects. The results highlight that market risk plays a crucial role in moderating the relationships between financial liberalization efforts and financial deepening in Kenya. As market risk increases, it appears to negate the positive contributions of interest rate, capital account, and equity market liberalization, posing challenges to achieving sustainable financial growth. Therefore, policymakers should consider the implications of market risk when designing and implementing financial

reforms to ensure that they effectively enhance financial deepening without exacerbating volatility and uncertainty.

4.9 Modgraphs for Moderating Effect of Market Risk

Given that a significant interaction was obtained, at this point it is worth investigating this significant interaction a bit further by the creation of graphs (Aiken and West, 1991). Therefore, a line graph (Graph 1) was developed using Modgraph (Jose, 2013). According to Jose (2008), Modgraph is a moderation tool that helps us visualize the moderating relationship of the third variable on two variables. Modgraph allows one to enter statistical information obtained from multiple regression output in order to compute the equations that yield cell means necessary for the graphical display of statistical interactions. Data gathered from the regression analysis were inserted into Jose's ModGraph programme. +SD (Standard Deviation) and -1 SD (Standard Deviation) values of averages of predictor and continuous moderator variables were calculated in the Jose's programme. These values were classified as high, medium and low groups and were used in programme analysis. The figures created are useful for interpreting the theoretical meaning of the obtained statistical interaction. Input information was taken from the regression analysis output. This application is used in earlier research as well (Lindsay, Sharma & Rashad, 2017).

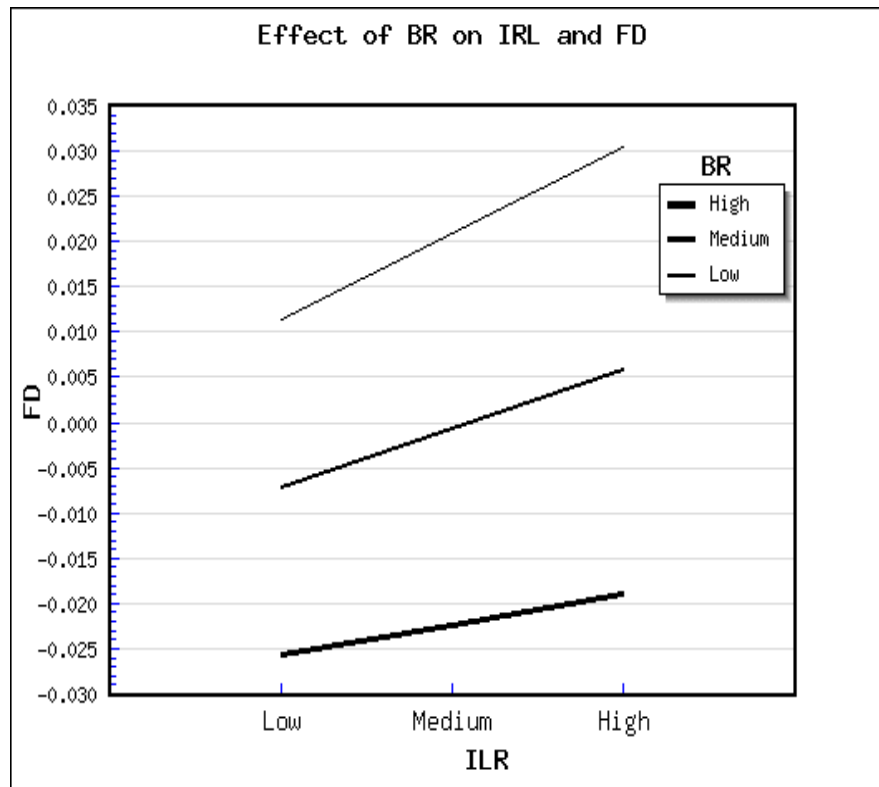


Figure 4.1: Moderating Effect of Market Risk on the Relationship between Interest Lending Rate Liberalization and Financial Deepening

Figure 4.2 revealed that with an increase in market risk, there is a negative contribution of interest rate liberalization on financial deepening in Kenya. Thus, market risk negatively and significantly moderates the relationship interest rate liberalization and financial deepening. Furthermore, as evidenced in Figure 4.3, an increase in market risk brings about a negative contribution of capital account liberalization on financial deepening in Kenya.

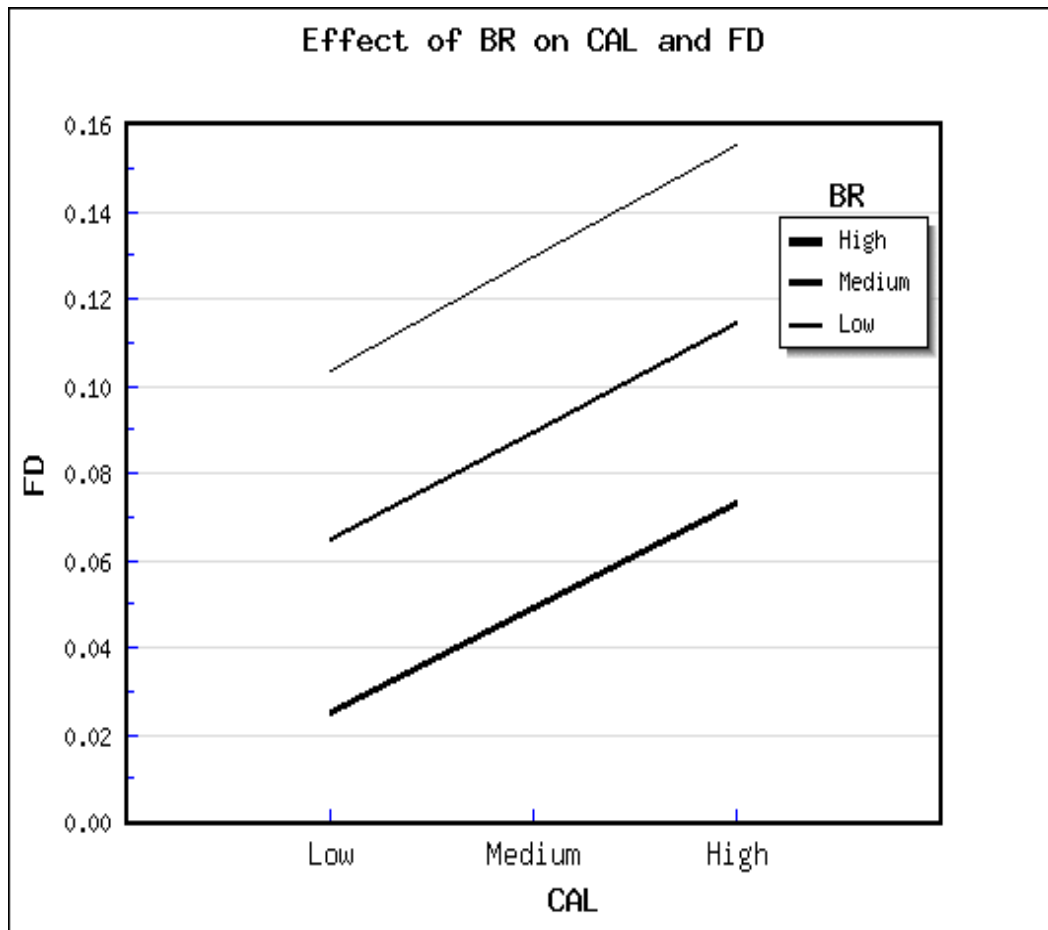


Figure 4.2: Moderating Effect of Market Risk on the Relationship between Capital Account Liberalization and Financial Development

Table 4.18: Summary of Hypotheses Testing Results

Hypothesis Formulated	Beta (β)	ρ – values	Decision
Main Effects			
H01: Interest rate liberalization has no significant effect on financial deepening in Kenya.	0.029	.082	Accepted
H02: Capital account liberalization has no significant effect on financial deepening in Kenya.	0.114	.002	Rejected
H03: Equity market liberalization has no significant effect on financial deepening in Kenya.	0.135	.000	Rejected
H04: privatization of financial institutions has no significant effect on financial deepening in Kenya	0.114	.006	Rejected
Model 4 – moderating effect		R²Δ=0.06	
H05a: Market risk has no significant moderating effect on the relationship between Interest rate liberalization and financial deepening in Kenya	-.22	.000	Rejected
H05b: Market risk has no significant moderating effect on the relationship between capital account liberalization and financial deepening in Kenya	-.19	.010	Rejected
H05c: Market risk has no significant moderating effect on the relationship between equity market liberalization and financial deepening in Kenya	-.07	.109	Rejected
H05d: Market risk has no significant moderating effect on the relationship between equity market liberalization and financial sector liberalization in Kenya	-.28	.000	Accepted

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings, conclusion and recommendation of the study. The recommendations are made in relation with the conclusion of the study while recommendation for further studies are essential for the extension of the study.

5.2 Summary of Findings

The primary objective of the study was to establish the effect of financial sector liberalization on financial deepening in Kenya. The study period was between from 1990 to 2020. The study utilized data from the Central Banks statistical bulletin for several years and the World Bank development index.

5.2.1 Effect of Interest Rate Liberalization on Financial Deepening in Kenya

The descriptive analysis showed that interest rate liberalization altered the financial landscape by granting banks flexibility in setting lending and deposit rates, which introduced competition and reduced rigid controls. This reform encouraged credit expansion and broadened access to financial services. However, the persistence of wide interest rate spreads indicated inefficiencies within the sector, as commercial banks continued to maintain high lending margins. Monetary policy instruments such as reserve requirements and credit ceilings also played a key role in influencing lending behavior, reflecting the challenge of balancing financial stability with the goal of deeper intermediation.

Correlation analysis suggested a positive association between interest rate liberalization and financial deepening, showing that a more open interest rate environment supports financial development. Yet, the Engle–Granger error correction model demonstrated that this relationship is not consistently strong, implying that interest rate reforms alone cannot fully drive financial deepening. The evidence emphasized that complementary factors—such as effective regulation, stronger

institutional frameworks, and measures to enhance transparency and competition are necessary for sustained progress. Policymakers should therefore focus on addressing structural inefficiencies in the banking system and improving supervisory oversight to ensure that liberalization yields meaningful and inclusive growth in the financial sector.

5.2.2 Effect of Capital Account Liberalization on Financial Deepening in Kenya

The descriptive results showed that foreign direct investment and remittance inflows formed a notable part of Kenya's financial landscape, with both playing an important role in resource mobilization. These inflows highlighted the role of capital openness in bridging savings gaps, supporting household consumption, and financing long-term development. However, the descriptive patterns also reflected fluctuations tied to global economic shifts, investor confidence, and domestic policy changes, underscoring the vulnerability of capital flows in an open account system.

The correlation analysis revealed a weak but positive association between capital account liberalization and financial deepening, suggesting that although inflows such as foreign investment and remittances contribute to financial sector development, the effect is limited in strength. This indicates that liberalization on its own is insufficient, and its impact is shaped by regulatory frameworks, institutional capacity, and macroeconomic stability.

Evidence from the Engle–Granger error correction model further confirmed that capital account liberalization significantly influences financial deepening in both the short and long run. The findings indicated that inflows help correct imbalances in the financial system and reinforce the existence of a long-term equilibrium relationship between capital account openness and financial development. This implies that liberalization fosters deeper financial systems by expanding credit availability and enhancing liquidity. However, the effectiveness of these gains depends on supportive policies such as strengthening supervision, safeguarding against volatile capital movements, and aligning inflows with productive investments. In this regard, capital account liberalization is a meaningful driver of financial deepening in Kenya, but only when embedded within sound institutional and regulatory environments.

5.2.2 Effect of Equity Market Liberalization on Financial Deepening in Kenya

The descriptive analysis showed that Kenya's equity market plays an important role in the financial system, with market capitalization relative to GDP reflecting the growing value of publicly traded companies. However, this measure fluctuated widely over the study period due to shifts in investor sentiment, regulatory reforms, and market activities such as initial public offerings, delistings, and mergers. Trading activity, measured by the value of stocks traded relative to GDP, was modest, suggesting that while the equity market provides opportunities for investment, liquidity and participation remain limited. The number of listed domestic firms also varied, reflecting the challenges of sustaining a vibrant and broad-based equity market.

Correlation analysis indicated only a weak association between equity market liberalization and financial deepening, suggesting that liberalization alone does not automatically lead to a stronger financial system. Nevertheless, regression results demonstrated that equity market liberalization significantly contributes to financial development in Kenya. This means that when the equity market is opened further, supported by institutional investors and favorable reforms, it enhances financial access, improves capital allocation, and strengthens the overall financial landscape. These findings emphasize the need for policies that deepen investor participation, enhance market liquidity, and strengthen regulatory oversight so that equity market liberalization translates into meaningful financial deepening.

5.2.3 Effect of Privatization of Financial Institutions on Financial Deepening in Kenya

Descriptive findings indicate that privatization has significantly reshaped Kenya's financial sector. Government ownership of banks has reduced over time, reflecting greater private participation and diversification within the industry. At the same time, the sector remains relatively concentrated, with a few large banks holding a substantial share of the market. This concentration raises questions about competitiveness and inclusivity, as smaller players often struggle to expand in a market dominated by major institutions. These dynamics illustrate the delicate balance between privatization, efficiency, and market stability.

Correlation analysis revealed a moderate positive association between financial deepening and privatization, suggesting that greater private sector participation tends to coincide with improvements in financial development. Regression results further confirmed that privatization significantly contributes to financial deepening by encouraging efficiency, competition, and innovation within the financial system. Overall, the evidence highlights the importance of sustained privatization reforms, supported by regulatory measures that promote fair competition and safeguard stability. Strengthening privatization efforts while ensuring inclusivity can help foster a deeper, more resilient financial system in Kenya.

5.2.4 Moderating Market Risk

Descriptive results show that Kenya experienced considerable volatility in inflation, with an average annual rate of just over 10%. Inflation is a key indicator of market risk, and its wide fluctuations over the study period point to the vulnerability of the economy to both domestic and global shocks. Persistent inflationary pressures reduce purchasing power, increase uncertainty, and create an unstable environment for both businesses and households, which in turn influences the effectiveness of financial reforms.

Correlation analysis revealed a strong negative relationship between financial deepening and market risk, suggesting that rising inflation undermines progress in developing a deeper financial system. Regression and error-correction model results reinforced this finding by showing that market risk weakens or even reverses the positive contributions of liberalization reforms particularly equity market and capital account liberalization on financial deepening. When inflationary pressures intensify, the benefits of interest rate flexibility, capital inflows, and market expansion are diminished, highlighting the moderating role of market risk. These findings emphasize that while liberalization policies are important drivers of financial development, their effectiveness is highly sensitive to prevailing risk conditions. Policymakers should therefore complement liberalization efforts with robust macroeconomic management aimed at stabilizing inflation, strengthening risk mitigation frameworks, and

enhancing resilience against volatility. Without accounting for market risk, reforms may fail to deliver sustainable gains in financial deepening.

5.3 Conclusion

Based on the findings, the study concludes that interest rate liberalization has not significantly contributed to financial deepening in Kenya. While the process allowed financial institutions greater flexibility in setting lending and deposit rates and was expected to encourage wider access to credit, the results revealed persistent challenges. Wide interest rate spreads remain a dominant feature, reflecting inefficiencies in the banking sector where commercial banks continue to charge high lending margins even after liberalization. Although these reforms were designed to foster competition and enhance the flow of credit, their limited impact shows that liberalization in isolation cannot bring about meaningful financial development. Instead, it requires strong institutional capacity, effective supervision, and complementary reforms to ensure that financial institutions pass on the benefits of liberalization to consumers. Without these supporting conditions, the potential of interest rate liberalization to promote financial deepening remains constrained.

In contrast, the study finds that capital account liberalization has a strong and significant effect on financial deepening. In easing restrictions on capital flows, Kenya has been able to attract more foreign direct investment, increase portfolio inflows, and integrate further into the global financial system. These inflows not only supplement domestic resources but also help diversify the sources of capital available to households, firms, and government institutions. The findings underscore that when capital movements are less restricted, financial resources become more accessible, credit markets expand, and financial intermediation improves. This suggests that the liberalization of capital accounts plays a critical role in supporting financial sector growth. However, the benefits can only be maximized if adequate safeguards are put in place to manage external shocks and ensure stability in capital markets. Thus, the positive results highlight the importance of open but well-regulated capital markets in strengthening financial deepening.

The analysis further revealed that equity market liberalization positively and significantly influences financial development in Kenya. By promoting a stronger equity market, liberalization enhances market liquidity, facilitates capital mobilization, and provides diverse investment opportunities for both local and foreign investors. Such developments are essential in improving resource allocation and encouraging long-term investments that drive economic growth. Nonetheless, the study also shows that the benefits of equity market liberalization cannot be fully realized in the presence of market volatility, limited investor participation, and weak institutional capacity. These structural challenges continue to hinder the efficiency and inclusiveness of equity markets. Therefore, while equity market liberalization provides a pathway for deeper financial development, it must be supported by measures that address governance gaps, improve investor confidence, and stabilize market performance to achieve sustainable progress.

The findings also conclude that privatization of financial institutions plays an important role in enhancing financial deepening. Privatization initiatives reduce the dominance of state-owned financial institutions and open the sector to private participation, which stimulates competition and efficiency. This competition encourages banks to innovate, improve customer service, and broaden access to financial products, particularly for underserved groups. In shifting ownership from government to private actors, the financial system becomes more responsive to market signals and better positioned to allocate resources effectively. Moreover, privatization reduces fiscal burdens on government while promoting accountability and efficiency in financial institutions. The study therefore affirms that privatization is a significant driver of financial sector growth and is essential in broadening participation in financial markets and fostering financial inclusion.

Finally, the study emphasizes that market risk plays a major moderating role in the relationship between financial liberalization and financial deepening. The findings show that higher levels of market risk reflected through inflationary pressures and macroeconomic volatility dampen the positive effects of liberalization measures such as capital account and equity market reforms. In periods of instability, liberalization benefits are eroded, as uncertainty reduces investor confidence and undermines the

effectiveness of financial policies. This suggests that without stability-focused interventions, financial liberalization efforts may not achieve their intended objectives. Effective management of market risk through robust monetary policies, improved regulatory oversight, and macroeconomic stabilization is therefore essential. Addressing these challenges will ensure that liberalization translates into real and sustainable financial deepening, creating an enabling environment for long-term economic growth.

5.4 Recommendations

5.4.1 Policy Recommendations

The findings show that interest rate liberalization has not significantly improved financial deepening in Kenya, mainly due to persistent wide spreads and inefficiencies in the banking sector. Policymakers should therefore strengthen regulatory frameworks that encourage competition among banks, reduce excessive margins, and ensure that lending rates are aligned with actual credit risks. Consumer protection mechanisms, such as transparent disclosure of lending costs, should be enforced to prevent exploitation.

For capital account liberalization, the government should maintain a stable investment environment by ensuring predictable macroeconomic policies, reducing bureaucratic hurdles, and strengthening legal frameworks that protect investors. Continuous monitoring of capital flows and adaptive regulations will ensure stability while preventing exposure to external shocks.

Equity market liberalization requires measures to stabilize trading activity and enhance investor confidence. Regulators should enforce strict corporate governance standards, promote transparency in financial reporting, and provide incentives for firms to list on the Nairobi Securities Exchange. Investor education campaigns are also necessary to increase participation by local investors and reduce overreliance on foreign capital.

Privatization of financial institutions should be pursued carefully to increase competition, efficiency, and service delivery. However, privatization must be balanced

with mechanisms that ensure equitable access to financial services, particularly for marginalized groups. Supporting SMEs with improved financing channels can further strengthen the impact of privatization on financial deepening.

Finally, policymakers must design robust macroprudential policies to manage market risk. Inflationary pressures and volatility undermine the benefits of liberalization, hence strengthening monetary policy tools, diversifying financial products, and enhancing coordination between regulatory bodies is crucial for stability.

5.4.2 Theoretical Recommendations

The findings demonstrate that financial liberalization theories need to be contextualized for Kenya. While interest rate liberalization aligns with efficiency-based theories, the lack of significant impact suggests that institutional and structural theories better explain Kenya's case, where weak governance and inefficiencies dilute liberalization benefits. Future theoretical applications should therefore consider hybrid approaches that combine liberalization models with institutional economics to account for context-specific dynamics.

The strong link between capital account liberalization and financial deepening supports theories that emphasize international integration and capital mobility. However, the moderating role of market risk suggests that existing models understate the importance of macroeconomic stability. Theoretical refinements should integrate market risk as a central variable rather than a secondary factor.

Equity market liberalization findings also confirm resource allocation theories, but the uneven benefits indicate that theoretical models should incorporate investor behavior and governance structures as mediators. Similarly, privatization aligns with competition theories but requires broader models that consider social equity and inclusiveness as outcomes of liberalization.

5.4.3 Practical Recommendations

From a practical perspective, financial institutions should adopt measures that align with liberalization reforms while ensuring efficiency. Banks should reduce interest rate

spreads by improving operational efficiency, investing in digital technologies to cut costs, and adopting transparent lending practices.

For capital inflows, private sector stakeholders should collaborate with government agencies to develop attractive investment vehicles, including infrastructure bonds and green finance products, which can channel foreign capital into productive use.

Equity market participants, including listed companies and brokers, should work to enhance transparency and adopt international reporting standards to build credibility. Public campaigns should be conducted to encourage retail investor participation, expanding the domestic investor base.

In terms of privatization, private investors should partner with regulators to design inclusive financial products that expand access to credit and savings for households and SMEs. Privatized institutions should also reinvest in customer service and innovation to differentiate themselves competitively.

Finally, to mitigate market risk, financial institutions should adopt risk management frameworks that emphasize diversification, stress testing, and contingency planning. Cross-institutional collaboration on risk-sharing mechanisms will also enhance resilience, ensuring that liberalization reforms contribute meaningfully to financial deepening and long-term stability.

5.5 Further Research Recommendations

The study contributes vital insights on the effect of financial sector liberalization on financial deepening in Kenya. There is thus need for further research to ascertain the validity of the study findings. As evident, in the literature, few studies have highlighted the benefits of financial liberalization on financial deepening. It is essential to conduct further research in this field to compare financial deepening, pre- and post-financial liberalization in Kenya. Besides, future scholars could delve into the implication of implementing interest rate restraints policy on financial deepening. Also, the study recommends future studies on the influence of microeconomic determinants on the link between financial liberalization and financial deepening. Finally, there is a need

for future studies to formulate policies to change the insignificant influence of interest rate liberalization on financial deepening. Similarly, the study proposes further research on how interest rate impacts on financial deepening.

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APPENDICES

Appendix I: Data Collection Template

YEAR	DEPENDENT VARIABLE		INDEPENDENT VARIABLES												
	Broad money (% of GDP)	Domestic credit to private sector (% of GDP)	Foreign direct investment, net inflows (% of GDP)	Portfolio investment, net	Deposit Interest Rate (%)	Lending Interest Rate (%)	Inflation, GDP deflator (annual %)	Stock traded (% of GDP)	Cash Reserve Requirement	Market capitalization of listed domestic companies (% of GDP)	Central Bank Rate	Listed domestic companies, Total	Remittances, received (% of GDP)	Bank ownership	Bank concentration (%)
1990	29.57701587	18.66	0.665874	18902462.01	13.66667	18.75	10.6372	0.1	13.67	5	14	38	1.62452	22.4	62.5
1991	30.98192861	19.96	0.231013	1988596.906	14.5	18.9975	12.53196	0.1	14.5	6	13.9	40	1.52218	22.2	68.5
1992	36.5177964	22.15	0.077513	7297087.618	14.5	21.0675	18.89723	0.1	14.5	8	11.7	56	1.39893	21.1	63.1
1993	37.06523215	18.5	2.532351	50102716.98	14.5	29.98917	25.69848	0.2	14.5	18	8.2	57	2.05397	18.3	64.5
1994	38.01600914	19.83	0.103977	89389841.2	15.72	36.24	17.01641	1	15.72	43	13.5	57	1.92050	17.1	62
1995	42.23226878	25.63	0.467474	38127808.87	13.5975	28.79583	11.22107	0.7	13.6	22	13.8	57	0.96722	15.4	58.1
1996	35.79169111	21.51	0.90216	21146736.89	17.59083	33.78667	41.98877	0.6	17.59	15	10	56	0.72675	15.1	53.4
1997	38.42265326	24.22	0.473451	14392651.18	16.72167	30.245	11.43522	0.7	16.72	14	10.1	57	3.86264	14.1	50.7
1998	35.8071838	23.81	0.188366	1418755.945	18.40083	29.49	6.931403	0.5	18.4	15	10.3	49	3.77404	10.7	56.1
1999	35.77079783	26.42	0.402864	4765613.847	9.550833	22.38	4.193939	0.4	10	11	8.8	47	4.53516	11.2	57.5
2000	35.16472735	25.62	0.872896	37684711.14	8.100833	22.33917	6.079848	0.3	10	10	7.5	48	4.23365	10.4	64.4
2001	35.24074413	25.7	0.040833	66310129.82	6.639167	19.66583	1.57312	0.3	10	8	8.9	48	0.39207	9.6	60.8
2002	38.15891037	24.99	0.210062	30463597.77	5.486667	18.45333	0.933206	0.3	10	11	10.3	52	0.43463	8.7	58.4
2003	39.02316422	27.13	0.548413	20626252.1	4.133333	16.57333	6.197313	1.3	10	28	11	55	0.44178	6.4	57.4
2004	39.32702744	26.13	0.286194	24727991.75	2.433333	12.53167	7.126842	1.8	6	24	9	55	2.33491	6.2	52.9
2005	38.90671465	22.77	0.113202	26095144.99	5.0825	12.8825	4.89965	2.7	6	34	7.9	55	2.26808	5.1	56.4
2006	34.60156879	22.93	0.19622	20885558.79	5.138703	13.63553	23.53013	5.3	6	44	9.9	58	2.20890	4.8	58.8
2007	36.06481968	25.28	2.281243	28958711.73	5.162251	13.34034	8.129486	3.5	6	42	9.22	60	2.01891	3.3	55.5

2008	36.10549914	21.79	0.266291	1712404.926	5.302131	14.01694	15.15117	2.1	6	31	8.85	61	1.85907	4.1	58.8
2009	36.45871185	23.9	0.314027	-217694034	5.967017	14.80454	11.6373	0.5	5	30	7.87	65	1.49115	5.1	55.4
2010	40.30920989	27.23	0.445161	-270499782.4	4.557367	14.3715	2.091676	2	4.5	37	6.36	64	1.51029	4.3	55.6
2011	40.85457279	26.35	3.457345	-3716854384	5.628563	15.04676	10.79392	2.2	4.75	24	8.63	65	1.99309	4.2	54.6
2012	40.86218636	28.26	2.737747	155053165.8	11.57214	19.72341	9.379781	2	5.25	30	15.75	44	2.14733	3.9	37.8
2013	42.30328065	34.46	2.030656	383124984.6	8.64177	17.31346	5.168744	3.3	5.25	40	8.8	64	2.11488	3.8	35.6
2014	43.2452964	36.65	1.335986	775064208.5	8.37338	16.51393	8.068286	1.6	5.25	43	8.5	65	2.11002	3.2	33.5
2015	42.43511248	35.53	0.968202	18902462.01	9.188945	16.08661	10.02498	1.4	5.25	33	11.13	64	2.23796	3.7	38.5
2016	39.36382304	33.11	0.568531	1,988,596.91	8.688626	16.55963	5.550868	1.2	5.25	38	10.62	65	2.33193	4.1	37.9
2017	36.96961778	31.16	0.852604	7,297,087.62	7.674123	13.66757	7.6052	1.1	5.25	31	10	64	2.39195	4.4	37.5
2018	37.48274503	30.8	1.625	5,010,271.98	8.2927	13.06076	4.233621	1.2	5.25	24	9.27	64	2.95041	4.9	38
2019	37.48274503	32.12	1.32507	13,509,328.00	7.506	12.441132	4.59019	0.5	5.25	25	9	59	2.82749	5	41.1
2020	41.057	31.1	1.6	5,578,700.00	6.968703	11.99578	5.18197	0.5	4.3	21	7	60	3.08763	5.1	42.7