PORTFOLIO AND FOREIGN DIRECT INVESTMENTS EFFECTS ON YOUTH UNEMPLOYMENT IN KENYA

JOSPHAT MUTUKU KIOKO

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF ECONOMIC THEORY IN THE SCHOOL OF BUSINESS, ECONOMICS AND TOURISM IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF ECONOMICS OF KENYATTA UNIVERSITY

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DECLARATION

This project is my original work and has not been presented for a degree in any other university or any other award.

Signature…….……..Date…….……

Josphat Mutuku Kioko (B.A Economics with Sociology, Kenyatta University)

K102/CTY/20760/2020

I confirm that the work reported in this project was carried out by the candidate under my supervision.

Signature……Date ……..……

Dr. Isaac Kimunio (PhD)

Department of Applied Economics

School of Business, Economics and Tourism

Kenyatta University

DEDICATION

To my dearest mother, Mary, for your unwavering support, she has shown this far.

ACKNOWLEDGEMENTS

All the glory goes to God Almighty, for His enduring grace and abundant favors that have enabled me write this work from the start to the end. Instrumental people were involved in accomplishment of this work through various forms of support such as insightful advice, finances, consistent follow-ups and keen interest. A special thank you goes to Dr. Isaac Kimunio, my project supervisor for taking me this far. Lastly, many thanks to my nuclear family, extended family and devoted friends for their encouragement, sacrifices and all forms of support, all of which made me reach the end of the program.

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ABBREVIATIONS

ADF	Augmented Dickey-Fuller Test
ARDL	Autoregressive Distributed Lags Model
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ILO	International Labor Organization
KNBS	Kenya National Bureau of Statistics
OECD	Organization for Economic Corporation and Development
PI	Portfolio Investment
USD	United States of America Dollar
WIR	World Investment Report

OPERATIONAL DEFINITION OF TERMS

Foreign Direct Investments (FDI): investments made by nationals of one country into another country in terms assets acquisition or acquiring stakes in companies in another country. It entails movement of different forms of capital such as equity capital and ploughing back investment income to the foreign economy.

Jua Kali sector: refers to the informal, small-scale, and often self-employed businesses and artisans in East Africa, particularly in Kenya.

Portfolio Investments: investments made by persons in purchasing equity securities or debt securities in a particular country. It covers transactions in debt securities and equity securities.

Youth: this is a group of persons aged 15 to 24 years.

Youth Unemployment Rate: The proportion of individuals aged 15 to 24 years within the labor force who are unemployed but actively looking for work and available to be employed.

ABSTRACT

Foreign firms have established themselves in financial services, insurance services, educational institutions, communication technology, trade and manufacturing in Kenya, bringing in much needed foreign direct investments. Portfolio investors in Kenya have invested in mobile money transfers, agricultural processing, banking sector, health care services, information communication technology, renewable and non-renewable energy, extractives, retail trade, transport infrastructure and hospitality industry. Meanwhile, youth unemployment rates rose from 6.676 in 1993 reaching 12.012 in 2023, see attached appendix A4 data, indicating growing economic challenges despite investment inflows. Despite the rise in Kenya's foreign direct investments from 2.53% of Gross Domestic Product in the year 1993 reaching 0.67% of Gross Domestic Product in the year 2023 and portfolio investments from 0.32% of Gross Domestic Product in the year 1993 reaching 0.597% of Gross Domestic Product in the year 2023 see attached appendix A4 data, empirical understanding of relationship between youth unemployment and these forms of investments has been elusive due to mixed results. This study, therefore, aims to examine the effect in Kenya of both foreign direct investment and portfolio investment on the youth unemployment. The two specific objectives are (i) to assess the effects of foreign direct investments on youth unemployment rate in Kenya; (ii) to establish effects of portfolio investments on youth unemployment rate in Kenya. Investments have not been prioritized to affect the level of youth unemployment; this informs this research work. The Keynesian theory of unemployment anchors the study. This research is non-experimental as the time series data is sourced from secondary databases such as International Monetary Fund (IMF) and World Bank Development Indicators(WDI) for 1993 to 2023 period. Several diagnostics tests such as unit root test, cointegration bound test, heteroskedasticity test, test for normality, autocorrelation test, model stability test and omitted variable test were done and the model passed all diagnostics tests. The effects of foreign direct investments on youth unemployment in Kenya and the effects of portfolio investments on youth unemployment in Kenya were assessed through the use of ARDL model. Findings of the research, foreign direct investments are significant in the short run and insignificant in the long run. Portfolio investments are insignificant in the short run and long run. Conclusion of study, foreign direct investments create new demand in the short run which creates new job opportunities for the youth while in the long run it does not create employment opportunities due to mergers and acquisitions of entities. Portfolio investments don't create employment opportunities for the youth in the short run and long run. The study recommends that the ministry of investment, trade and industry, the incoming foreign direct investments should be directed towards youth employment absorbing sectors in agro processing, construction, manufacturing and horticulture. Foreign direct investments can be used to expand sectors with low youth unemployment and create new sectors that can absorb youth. Portfolio investments cannot be relied on employment creation for the youth.

CHAPTER ONE

INTRODUCTION

1.1 Background

Youth energy and creativity is fundamental to national development agenda. Unemployment has negative consequences on the society, as able bodied persons and resources are not properly utilized. The youth do not participate in various economic activities thus taking a backseat in development agenda. It results in the youth living in poverty, leading heath conditions such as mental health complications due to hopelessness. The youth education and skill development is hampered; this short changes their future which is dependent on advanced education and skill development (Goldin, 2015).

There is a group of youth not taking part in training, education, employment or actively looking for work within the economy for one reason to another, for the economy to be productive their input is crucial. The youth demographic dividend is an opportunity for countries willing to invest in human capital for national development. Urban youth are notably having easy access to education while rural youth have easy access to jobs dependent on region. Youth in cities work in factories, services sector and trade while the youth in the rural areas work in agriculture, fishing, cottage, small scale enterprise and handicrafts. (Goldin, 2015).

The unemployment rate globally for the youth has been fluctuating from 12.46% in the year 1993 reaching 13.56% in the year 2023 (World Bank, 2025). It is a direct threat to world peace if the problem is not addressed now.

In Africa youth unemployment for eastern and southern Africa has been fluctuating from 15.43% in the year 1993 reaching 13.37% in the year 2023 and western and central Africa has been fluctuating from 7.76% in the year 1993 reaching 5.58% in the year 2023, (World Bank, 2025). Youth unemployment across Africa is as a result of political instability, slow economic expansion and interrelated challenges, including limited access to healthcare and educational opportunities. (Sargeant & Tiraboschi, 2015). Employment environment for young people, particularly in Sub-Saharan Africa, vary widely, showing regional inequalities, uneven economic growth and gender disparities. In addition, the labor market in Sub-Sahara has structural challenges, the size of formal sector remains limited and the youth face barriers when attempting to secure entry into formal employment (Sargeant & Tiraboschi, 2015).

Foreign direct investments involve individuals or business entities directing funds inform of intra company loans, equity capital & reinvested earnings to entities in foreign countries for long-term investments, transactions flow between parent companies or individuals and foreign entities (UNCTAD, 2007). Developed countries remain the source of FDI to underdeveloped and developing nations which require funds for developments. Developed countries multinational companies have established bases in developing and underdeveloped countries. Foreign direct investments may have far reaching effects of neutrality, negativity or positivity on both economies due to difference in levels of capital or savings within the economies (Al-Sadig, 2013).

The firms' foreign investments may be influenced by availability of cheap inputs to production where it shifts production abroad to supply the home market with reduced price products. Macro and micro economic environment include the following; the state

of foreign and home market for products and services does the target consumers have the purchasing power to purchase the products and services. Trade conditions between the two economies have to be favorable to initiate trade flows. Production costs, is the foreign country inputs costs reduced to spur shifted production. Domestic business conditions do they favor foreign investments. Home government policies does it favor local firms to invest in foreign countries. All these conditions influence the level of foreign direct investments flows (Al-Sadig, 2013).

Investments alter the country's economic structure to influence the particular sectors in the economy which would be invested by the public and private sector (Weiss & Clara, 2016). Portfolio investments are under taken by individual investors or fund managers who exploit securities markets to make a profitable return from investing money in a variety of markets within the country or outside the country. Developed countries have a well-established capital markets but the returns have not been as high compared to developing or emerging economies capital markets where returns are high. This has led to diversification of investments to include developing or emerging economies to take advantage of high returns, thus weighted investments is a driver for portfolio investments (Claessens & Gooptu, 2014).

The emerging or developing capital markets are attractive, reason being their predictability or forecasting where information is readily available to investors to exploit the market. Risk exposure estimates are available for emerging capital markets for safeguarding portfolio investments. The risk exposure parameters are global inflation rate, global industrial production growth, price of oil volatility, foreign currency volatility and global market equity return. As long as emerging capital market is investable it does

not matter whether it is integrated in the global economy or not (Claessens & Gooptu, 2014).

The levels of portfolio investments in any country are a measure of investor confidence which is driven by the rate of return. The ease of portfolio investments and capital market visibility attract potential investors to exploit the market. Investment network is interlinked with differences coming in from the levels of development of capital markets (Hakeem & Suzuki, 2016). Action strategy together with the application of portfolio analysis is vital to long-term portfolio investments. It involves risk diversification, procedure for building portfolio and portfolio assets identification and selection (Łuniewska, 2022).

1.1.1 Youth Unemployment in Kenya

Since 1964 policies and programmes have emanated from government of Kenya to address the lack of employment as follows. Development plan of 1964 to 1970 it incorporated Kenyanization, that is absorption of Kenyans into jobs previous occupied by Europeans, distribution of income equitably, family planning initiatives to control births, increase literacy levels & address land question. Sessional Paper No. 10 of 1965 was based on Kenyans taking up roles previous occupied by Europeans and income equity (Omollo, 2010).

Development plan of 1966 to 1970 it consisted of sparring economic growth, income equity, Kenyanization, increased government participation in cooperatives, group start up schemes, education, minimum wage, agriculture, land acquisition and setting up industries in rural areas (Omollo, 2010). Sessional Paper No.10 of 1973 it embraced the

following expansion of productive capacity of the nation, labor income adjustments, development of infrastructure, establishment of technical and vocational centers, accessibility of information regarding employment opportunities, remuneration guidelines, incentivized *jua kali* and informal sector (Omollo, 2010). Sessional Paper No. 2 of 1985 put forward the following expansion of productive capacity of the nation, income equity, incentivized *jua kali* and informal sector, education, retooling of technical and vocational centers, improved agricultural productivity, manufacturing growth, conducive investment climate for private sector and labor force (Omollo, 2010). Development plan 1984 to 1988 it stressed on the following areas rural areas uplift, expansion of productive capacity of the nation, income equity, improved working conditions, improved agricultural productivity, promotion of export market. Sessional Paper No. 2 of 1992 empowered *jua kali* sector and small businesses, improved operating climate for Micro and Small Enterprises (Omollo, 2010).

Sessional Paper No. 1 of 1994 continual expansion of productive capacity of the nation and improved accessibility of information regarding employment opportunities (Omollo, 2010). Development plan of 1994 to 1996 had the following improved agricultural productivity in rural areas, incentivized urban informal sector, improved use of fiscal and monetary tools and little or no interference of government on market forces. Development plan of 1997 to 2001 promotion of enhanced industrialization driven by private sector, improved use of fiscal and monetary tools, improved operating climate for Micro and Small Enterprises and improved operating environment for the employers and employees (Omollo, 2010). Sessional Paper No. 2 of 1997 put into focus the following

improved operating climate for Micro and Small Enterprises, industrialization, enhanced productivity, improved infrastructure and incentivized private sector.

Development plan of 2002 to 2008 focused on the following enhanced fiscal and monetary tools for sustainable economic growth, enhanced productivity capacity and growth oriented operating climate for very small and small businesses. 2003 to 2007 Economic Recovery Strategy Paper put into detail the following foreign and domestic investments across all sectors, stability of all macroeconomic indicators, law & order, improved infrastructure, accessibility to education and health care and business oriented legislations (Omollo, 2010). Political, economic and social pillars ground Vision 2030 in order to transform Kenya to middle income industrializing country. Despite all these programmes and policies the level of youth unemployment rate has been rising. Figure 1.1 focuses on youth unemployment rate in Kenya from 1993 to 2023.

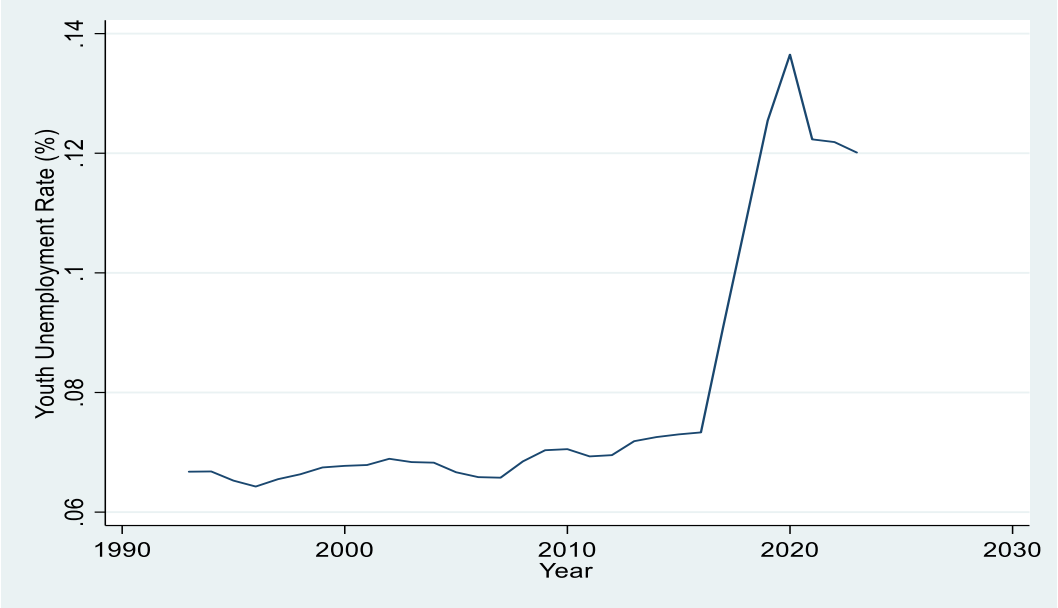

Figure 1.1: Youth Unemployment Rates in Kenya
Source: World Bank 2025

In Figure 1.1 the year 1993 youth unemployment rate was 6.676% it remained within the 6% mark until the year 2008 this could be attributed to government's micro and macro policies and also the private sector ability to absorb youth. From the year 2009 youth unemployment rate increased to 7.035% to 7.186% in the year 2013 to 10.817% in the year 2018 this could be attributed to political uncertainty brought by general elections and change of government which increased the number of unemployed youth. In the year 2020 youth unemployment had reach a high of 13.649% this could be attributed Covid-19 pandemic outbreak which brought shocks in the economy and lead to job loses. In the 2023 youth unemployment rate decreased to 12.012% showing relaxing Covid-19 restrictions was able to increase youth in employment, complete youth unemployment series is found on appendix A6 data (World Bank, 2025).

1.1.2 Foreign Direct Investments in Kenya

Foreign direct investments have a pivotal role in an open international economic system with derived benefits of growth of the economy. The benefits of foreign direct investments are realized unevenly or uniformly across the world due to different economic conditions. Developing countries initiate foreign direct investments which can result to increase, decrease or withdraw foreign direct investments (OECD, 2002). It is the role of developing countries to check their national policy for openness, natural resources, human capital, legislations, institutional capacity, judiciary, security, taxation regime and economic system to attract massive foreign direct investments. Foreign direct investments trigger technological transfer, accelerated human capital formation, world trade and competitive enterprises all these stimulate economic growth (OECD, 2002).

Kenya's investment climate has been positively changing for the better being enabled by government efforts in economic programs to stimulate economic growth and make Kenya an investments destination hub. Industrial transformation initiative has led to increased infrastructure development and friendlier business environment. Government partnerships with the private sector have seen improvement in Kenya's competitiveness locally and globally. Macroeconomic stability complemented by regional integration initiatives has seen private sector thriving and attracting private capital flows (KNBS, 2020).

Ease of doing business has been enabled by business registration reforms, ease of construction permits, minority investors' protection, and ease of credit, automated tax regime and insolvency policy. The reforms have been pull factors for domestic and international firms. Foreign firms have established themselves in financial services, insurance services, educational institutions, communication technology, trade and manufacturing (KNBS, 2020). Figure 1.2 focuses on Foreign Direct Investments (FDI) net inflows (% of GDP) to Kenya from 1993 to 2023.

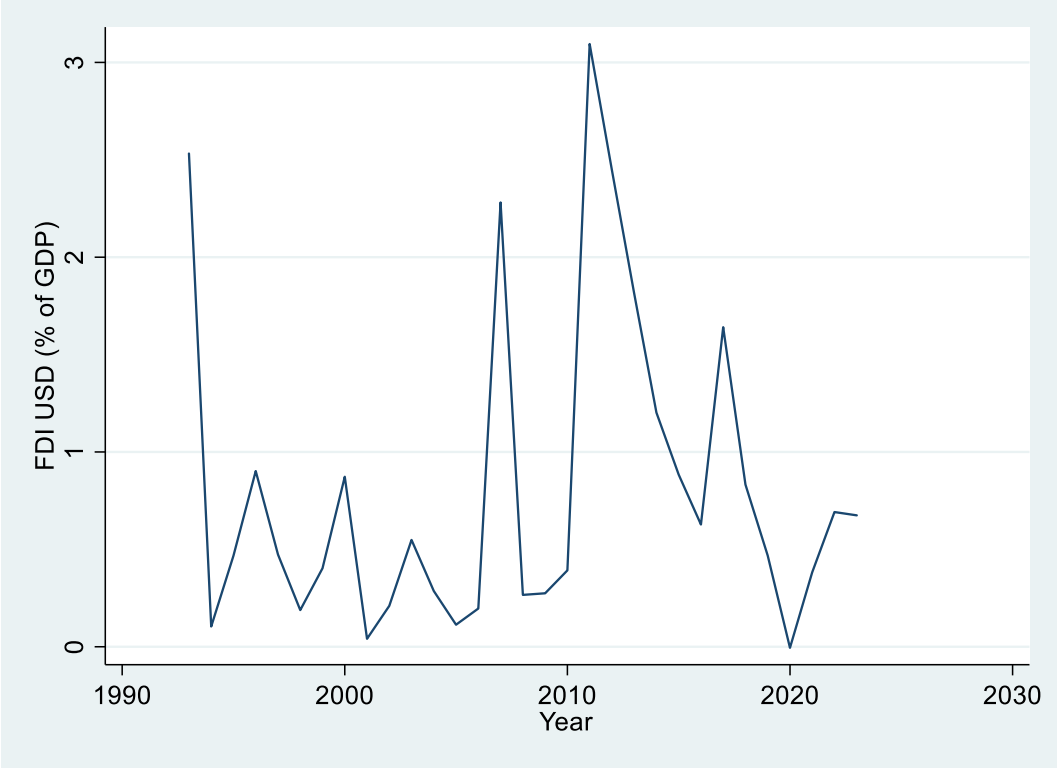

Figure 1.2: Foreign Direct Investments net inflows (% of GDP) to Kenya
Source: World Bank 2025

Figure 1.2 shows that the year 1993 foreign direct investments net inflows (% of GDP) were 2.53% this can be attributed to the micro and macro-economic environment created by the government or people. Low investor confidence in the country saw foreign direct investments net inflows (% of GDP) drop in year 2008 to 0.266% attributable to post election violence due to disputed presidential election which saw a drop in investor confidence. The formation of a coalition government restored investor confidence, foreign direct investments net inflows (% of GDP) reaching 0.274% in 2009. It is notable during the electioneering period and soon after there is a dip in foreign direct investments net inflows due to uncertainty brought about by elections. 1.814% was invested in 2013 due continual investor confidence.

In 2018 there was a drop in foreign direct investments net inflows (% of GDP) to 0.832% attributable to uncertainty brought by general elections. In the year 2020 foreign direct investments net inflows (% of GDP) dropped to -0.005368% a negative foreign direct investments net inflow (% of GDP) comes about because it is measured as net inflows, net could be positive or negative, attributable to Covid-19 pandemic which restricted movements of people and economic activities. Easy of Covid-19 restrictions saw foreign direct investments net inflows (% of GDP) reach 0.674% in the year 2023 (World Bank, 2025) complete series of foreign direct investments net inflows (% of GDP) are on appendix A6 data.

1.1.3 Portfolio Investments in Kenya

Kenya investment climate has been lucrative to attract portfolio investments in debt and equity securities. The returns have been lucrative to foreign and local investors who have invested their funds in debt and equity securities to earn higher returns as compared to other countries. Kenya has a developed infrastructure in terms of transport i.e. road, rail, air and sea networks this facilitates efficient transport network for trade volumes, equipped security forces to maintain law and order, business oriented legislations, equipped judiciary, ease in business registration, automated tax regime, human capital, relative stable political environment and equipped education sector all these factors facilitate portfolio investors' confidence to invest in debt and equity securities (GIIN & OCA, 2015). Kenya macroeconomic indicators are among the most stable in Africa thus offering a route for portfolio investments.

Kenya is committed to fighting climate change and it has provided incentives to investments in green energy thus investors focused in fighting climate change can invest in green energy portfolios to stimulate green energy consumption. Lucrative sectors for investors include mobile money transfers, agricultural processing, banking sector, health care services, information communication technology, renewable and non-renewable energy, extractives, retail trade, transport infrastructure and hospitality industry, all these sectors portfolio investments are attractive for portfolio investments. Kenya government is non-discriminatory to foreign and local investors in debt and equity securities as they receive same treatment regardless of origin. Kenya has a transparent regulatory system and licensing to enhance improved business environment (GIIN & OCA, 2015). Figure 1.3, represents Kenya's Portfolio Investments net (% of GDP) from 1993 to 2023.

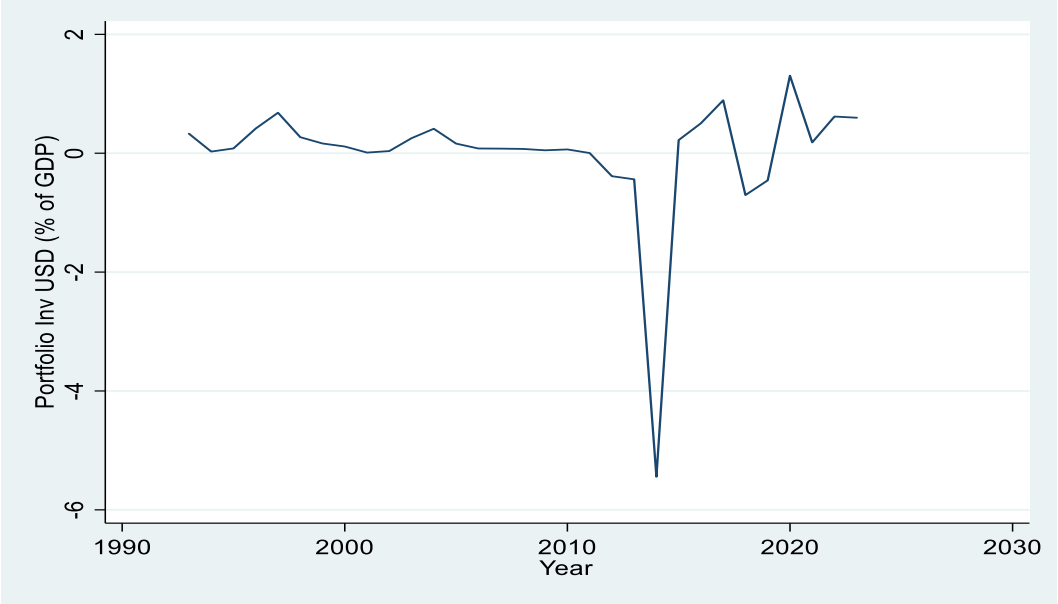

Figure 1.3: Portfolio Investments net (% of GDP) in Kenya
Source: World Bank 2025

In Figure 1.3 the year 1993 portfolio investments net (% of GDP) were 0.3286% attributable to equity securities and debt securities market conditions which were

supporting it. In the year 2008 portfolio investments net (% of GDP) reached 0.072698% due to continued investor confidence but it dropped to 0.0493% in 2009 due unfavorable market conditions which eroded investor confidence. It dropped to a low of -0.4386% in the year 2013 due to disputed presidential elections which eroded investor confidence. In the year 2018 it was a low of -0.7039%, a negative portfolio investments net (% of GDP) comes about because it is measured as a net, its net could be positive or negative, due to disputed presidential elections which eroded investor confidence. It reached 1.30468% in the year 2020 due growing investor confidence. It dropped to 0.597% in the year 2023 attributed to political uncertainty brought about by presidential elections (World Bank, 2025).

1.1.4 Youth Unemployment Rate compared to FDI and Portfolio Investments.

Kenya's investment climate has been positively changing for the better being enabled by government efforts in economic programs to stimulate economic growth and make Kenya an investments destination hub. Macroeconomic stability complemented by regional integration initiatives has seen private sector thriving and attracting private capital flows. Reforms have been pull factors for domestic and international firms (KNBS, 2020). Foreign firms have established themselves in financial services, insurance services, educational institutions, communication technology, trade and manufacturing. Kenya macroeconomic indicators are among the most stable in Africa thus offering a route for portfolio investments. Kenya government is non-discriminatory to foreign and local investors in debt and equity securities as they receive same treatment regardless of origin (KNBS, 2020).

Special economic zones for manufacturing, trading and processing for local and foreign investors have been created such as the export processing zones to lure all kinds of investors to invest in Kenya (KNBS, 2023). Figure 1.4 presents Foreign Direct Investments (FDI) net inflows (% of GDP), Youth Unemployment Rate ages 15-24 years and Portfolio Investments net (% of GDP) in Kenya from 1993 to 2023.

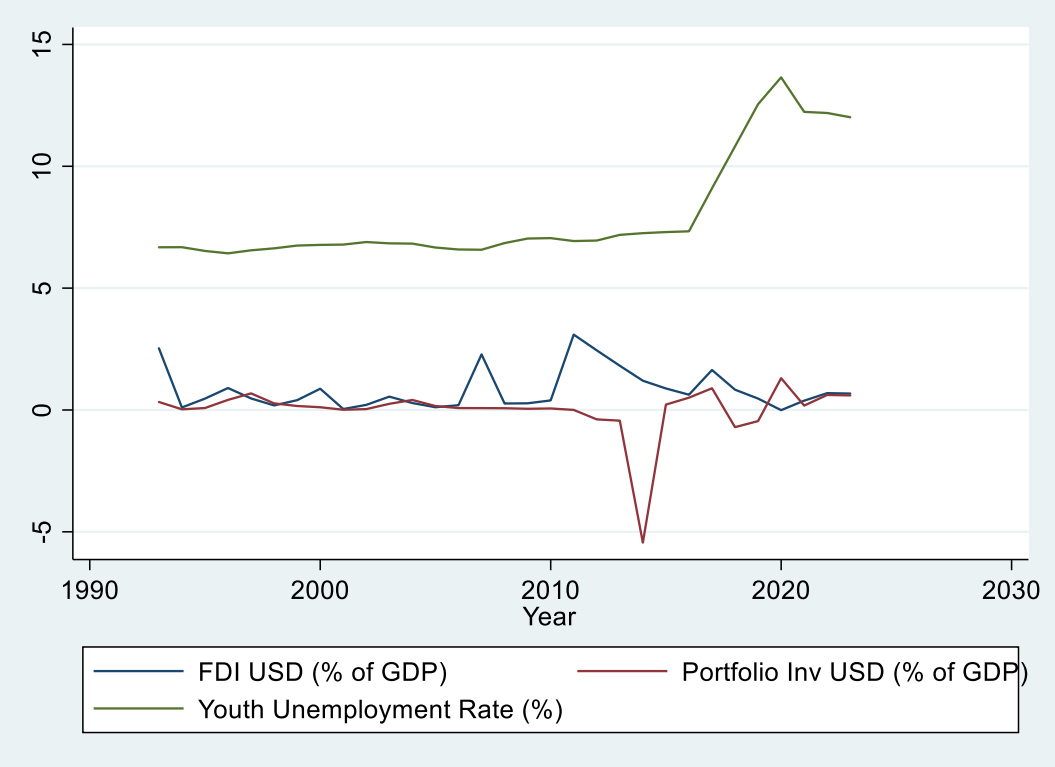

Figure 1.4: Youth Unemployment Rate compared to FDI and Portfolio Investments
Source: World Bank 2025

Figure 1.4 in the year 2007 foreign direct investments net inflows (% of GDP) were 2.281% but dropped to 0.266% in the year 2008 while portfolio investments net (% of GDP) were 0.0773% in 2007 but dropped to 0.072698% in 2008 while youth unemployment rate in the year 2007 was 6.576% but increased 6.848% attributable to economic conditions. In the year 2012 foreign direct investments net inflows (% of GDP) were 2.4472% but dropped to 1.814% in the year 2013 while portfolio investments net

(% of GDP) were -0.386% in the year 2012 but decreased to -0.4386% in the year 2013 while youth unemployment rate was 6.953% in the year 2012 but increased to 7.186% in the year 2013.

In the year 2017 foreign direct investments net inflows (% of GDP) were 1.64% but dropped to 0.83% in the year 2018 while portfolio investments net (% of GDP) were 0.891% in the year 2017 but dropped to -0.7039% in the year 2018 while youth unemployment rate was 9.096% in the year 2017 but increased to 10.817% in the year 2018. In the year 2022 foreign direct investments net inflows (% of GDP) were 0.6916% but dropped to 0.6745% in the year 2023 while portfolio investments net (% of GDP) were 0.617% in the year 2022 but dropped to 0.597% in the year 2023 while youth unemployment rate was 12.187% in the year 2022 but decreased to 12.012% in the year 2023. A negative foreign direct investments net inflow (% of GDP) or portfolio investments net (% of GDP) comes about because it is measured as net inflows, its net could be positive or negative.

The relationship among the three variables is evident during elections where it moves the opposite direction to youth unemployment rate in case there is post elections violence, from the graph and data among the three variables there is a relationship between portfolio investments net (% of GDP) and foreign direct investments net inflows (% of GDP), and youth unemployment rate, complete data set for the series is at appendix A6 data.

1.2 Statement of the Problem

Foreign direct investments triggers technological transfer, accelerated human capital formation, world trade and competitive enterprises all these stimulate economic growth

(OECD, 2002). Kenya investment climate has been lucrative to attract portfolio investments in debt and equity securities (GIIN and OCA 2015).

Unemployment has negative consequences on the society as able bodied persons and resources are not properly utilized (Goldin, 2015). Kenya youth unemployment rate has been fluctuating but on upward trend reaching 13.352 in the year 2022 (World Bank, 2025). Since 1964, the Kenyan government has implemented numerous policies and programs to tackle unemployment, including development plans documents of 1964-1970, 1966-1970, 1984-1988, 1994-1996, 1997-2001, and 2002-2008; Sessional Papers document No. 10 (1965 and 1973), No. 2 (1985, 1992, and 1997), No. 1 (1994); the Economic Recovery Strategy Paper document for 2003-2007; and Vision 2030 document. Despite these efforts, youth unemployment continues to rise, posing a national challenge. Foreign direct investments (FDI) in Kenya showed fluctuations from 1993 to 2023, ranging from USD negative 0.005403752 net billion to USD 1.4505 billion. Portfolio investments also significantly varied, reaching USD 1.313261222 billion in 2020. Meanwhile, youth unemployment rates increased from 6.676 in 1993 to 13.649 in 2020, showing growing economic challenges despite investment inflows (World Bank, 2025).

Despite the rise in Kenya's portfolio investments and foreign direct investments it is not clear whether it has a bearing on youth unemployment rate. Empirical literature work on the impact of portfolio investments and FDI on economic growth & youth unemployment has shown mixed results. Studies such as those by Fagge and Zubairu (2014) and Mkombe *et al*. (2021) have studied the influence of these investments on unemployed

youth, using various methodologies and focusing on different regions and age groups. Notably, some studies found that FDI influences youth employment differently across countries, with significant impacts in the long term (Tanaya & Suyanto, 2023; Bayar & Sasmaz, 2017; Pasara & Garidzirai, 2020), while others indicated that the effects are not substantial due to the nature of the investments (Mkombe, *et al.*, 2021; Setyanti & Wahyudi, 2021).

Due to mixed results the research sought to ascertain the impact of FDI and portfolio investments on youth unemployment rate ages 15-24 years for Kenya. The level of employment is determined by investment part of aggregate demand in the Keynesian theory thus portfolio and foreign direct investments influence the level of youth unemployment. The disaggregation of unemployment to cover youth ages 15-24 years is crucial because this is the most vulnerable cohort affected by economic changes and carry social cost in large numbers in the long term, foreign direct investments and portfolio investments affect differently, the different unemployment categories and this study would provide analysts and a variety policy makers the correct tools & applicable knowledge.

1.3 Research questions

i) What is the effect of foreign direct investments on Kenya's youth unemployment rate?

ii) What is the effect of portfolio investments on Kenya's youth unemployment rate?

1.4 Objectives to the study

The general objective of this research is to determine the effects of portfolio and foreign direct investments on youth unemployment rate in Kenya. Specific objectives of the research are as follows:

i) To ascertain the effects of foreign direct investments on youth unemployment rate in Kenya.

ii) To establish the effects of portfolio investments on youth unemployment rate in Kenya.

1.5 Significance of the Study

The government, multinationals & policymakers, will benefit from the study as it demonstrates the effect of foreign direct investments & portfolio investments on youth unemployment in Kenya. Findings of the study will enable policymakers to develop targeted strategies to optimize investment inflows while addressing youth employment challenges. Investors, both foreign and domestic, will benefit from the study's analysis of how different investment types influence key economic indicators. Furthermore, this study contributes to the academic community as it provides a comprehensive reference for related research for scholars.

1.6 Scope of the Study

The research covers thirty one years' time frame, population of interest is Kenya. The research relied on secondary sources of data such as international monetary fund and

world development indicators. The period 1993 to 2023 was selected because of data availability for all the variables to be used in the study.

1.7 Organization of the Study

The research covered the following areas: Chapter one contains background to the study, problem statement, research questions, research objectives, significance of study & scope. Chapter two comprises of literature review consisting of empirical literature review, theoretical literature review & literature overview. Chapter three is made up of research design, measurement and definition of variables, data source and type, data analysis & diagnostics. Fourth chapter includes research findings & discussion. Fifth chapter presents summaries, conclusions and implications of policy.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section is made up of three parts such as theoretical literature, empirical literature and overview of literature to support the investigation of the objectives of research.

2.2 Theoretical Literature Review

2.2.1 Keynesian Theory of Unemployment

John M. Keynes (1936) according to The General Theory of Employment, Interest and Money of 1936 book presented new thought process on employment and income theory. John M. Keynes focus was different from the classical economics. In this book he criticized classical thought process for putting concern on special case the attributes which don't mirror the societal economy which we reside in. He came up with a chapter with the title The Postulates of Classical Economics. He was coming up with a theory for this particular time relevant to capitalistic ideals (Okoli & Okeke, 2024). Keynes's theory assumes a constant nominal wage even if there could be changes in money wages. In the Keynesian theory nominal wages in were perceived as a function rule of levels of output and employment activity changes. Elaboration by Keynes that real wages will probably not reduce after a nominal wage reduction as propagated by neoclassical economists.

A nominal wage decrease which isn't accompanied by price reduction implies make up fallacy for the entire economy (Okoli & Okeke, 2024). This implies, that real wages levels are not affected because there was no reduced unemployment after nominal wage

decrease which is not accompanied by price fall. Of great scope, output and employment levels can be influenced by nominal wage varied changes. The principal root of joblessness according to Keynes was the deficiency in aggregate demand. Consequently, Keynes proposed that joblessness could be gotten rid-off by the aggregated demand increase. Aggregate demand consists of three parts namely government spending, investment goods and consumption goods. Government intervention according to Keynes was critical to battling joblessness and achieving full employment goal (Okoli & Okeke, 2024). Keynesian theory of unemployment has a vital role to play on unemployment as it relates investments and labor to the output levels which have a direct consequence on unemployment levels of all segments of labor force including the youth. The study adopts Keynesian theory of unemployment for the first and second objectives because it has a vital role to play on unemployment as it relates investments and labor to the output levels which have a direct consequence on unemployment levels, it also anchors theoretical framework of the study.

2.2.2 Harrod-Domar Growth Theory

Domar (1946) and Harrod (1939) independently came up with this theory and this classical growth theory extends Keynesian macroeconomic principles to assess the relationship between capital accumulation and growth of economy. The model posits that physical capital investment serves as the primary driver of output expansion. Savings depends on income in an economy as is shown below

$S=sY$……...(2.1)

Y represents income level nationally, S represents savings amount, and marginal propensity (MPS) to save is represented by s. As investment level rises in an economy, it in turn raises the capital stock amount thus affecting capital productivity and investment efficiency. Below

$$r=\frac{K}{Y} \quad \text{(2.2)}$$

where K represents stock of capital, output is represented by Y and capital-output ratio is represented by r. An economy's investments raise the stock of capital as below

$$I=\Delta K=r\Delta Y \quad \text{(2.3)}$$

Investment and Savings are equal at equilibrium so that: $I=S \ and \ r\Delta Y=S$

$$r\Delta Y=sY \quad \text{(2.4)}$$

From above equation, equation (2.5) shows economic growth rate at equilibrium

$$\frac{\Delta Y}{Y}=\frac{s}{r} \quad \text{(2.5)}$$

When all factors stay constant, MPS, ratio of capital-output and stock of capital are determined by growth rate of output. Economic growth increase is realized when, savings increase leading to increase in stock of capital and production, if MPS is low (Opondo, 2020) there will be low growth rate of the economy. It is critiqued in that there is a belief that developing countries cannot be able to raise savings which is false. In order to raise investment and growth of an economy, savings has to be incorporated, the study will borrow this from this theory.

2.2.3 Modern Portfolio Theory

Harry Markowitz (1952 & 1959) came up with it; he was an economist from America. It is about investors getting maximum returns from portfolio investments after considering risk level. Each investments risk is considered in relation to the rest of investments. Investors have the ability to create a portfolio of assets with available quantified associated risks to maximize the levels of returns. Investors could decrease the level of risks through diversification and resource allocation of assets through quantified risks. Portfolio which is well calculated and balanced diverse markets conditions could lead to a fall in assets then compensated by a rise in other assets. He assumed that most investors are risk averse and would accept a lower return with less risk than a higher return with high risks. Given a set of assets an investor would select an asset with highest return but less risk. Portfolio selection is a two stage process, first stage is security observation behavior over time which informs beliefs about future performance, second stage future beliefs about the security lead to the choice of the security with diversification observed and associated risks relative to securities involved (Markowitz, 1952 & 1959). Portfolio assets relate to entities which have employed people thus portfolio investments affect the level of youth unemployment.

2.2.4 Neoclassical Theory

Swan & Solow (1956) developed it. Economic growth in the long term for this model is depicted within the context of Neoclassical thoughts. The theory is made up of three components that is technology input, capital input and labor input where by their changes affects output in a production function. Combination of technology input, capital input and labor input determine level of output. Therefore, equilibrium state can be utilized to

decide growth of the economy by adjusting production function inputs. Neoclassical model of growth views that through development and advancement of technology, output productivity can be increased. Accordingly, as a result of both labor input and technology input determined exogenously there is long run growth of the economy. Poverty is beyond individuals' control as viewed and recognized by neoclassical economist. It is seen in inadequate employment, poor health, inadequate education, among others. They believed that policy can be put in practice by measuring poverty in terms of quantifiable monetary units. It has been critiqued on the following assumptions no government interference and full employment in the economy which seem unrealistic, it is also not relevant to under developed countries. Long run economic growth comes from unskilled to skilled labor force and technological progress which supports both objectives of study.

2.2.5 Theory of Endogenous Growth

Foreign direct investments in both the long and short term affect production growth of output. Authors such as, (Romer 1986, 1987, Lucas 1988, Arrow 1962) through acquirement of permanent knowledge made it possible to model foreign direct investments to show long run link. Growth of the economy in this theory is driven by inventions & technology advancement. Romer assumes that long run impact of foreign direct investments will increase capital and labor because of development of technology increases endogenously. Technology is assumed as an endogenous factor in this theory. It has three key channels as follows; introduction of new inputs and technologies triggers increases in the host country capital accumulation, knowledge and skills increases through labor and managerial training in the host country and since market power and entry barriers are reduced competition is increased in the host country. Equation (2.6)

shows that an economy's output is dependent on technology, labor, human capital, and capital.

$Y=(K,L,A,H)$……2.6

In this theory population is considered to be increasing at constant rate and technology leads to advancement of an economy. The difference between Romer model and Solow model is that Romer model puts in consideration population growth as other factors.

$g_a=\frac{n}{1-\theta'}$……2.7

Equation 2.7 θ' represents a single researcher output productivity of and g_a represents growth of technology. A higher population in the model corresponds to higher technological advancement thus it corresponds to rapid economic expansion in the long-term. This theory fails to explain among countries the various economic growth disparities by only considering accumulation of knowledge. The study will borrow the concept of economic growth in the long-run and find out whether unemployment is affected by new knowledge accumulation.

2.3 Empirical Literature Review

2.3.1 Foreign Direct Investments on Youth Unemployment

Fagge and Zubairu (2014) conducted a review examining the role of the private sector in addressing employment of youth in Nigeria. The research aimed to evaluate the contribution of activities of the private sector in addressing employment of youth. The aim of the research was to examine youth employment generation in Nigeria as result of

the role and contribution of private sector. Data was analyzed from secondary sources such as government documents, journal articles, scholars' analyses and previous research, as well as magazines / newspapers by comparing trends in youth unemployment and private sector investments over time. Their findings indicated that youth unemployment could be effectively addressed through private sector involvement. The study only relied on trend comparison but this study would use econometric models to address the gap.

Göçer and Erdal (2015) conducted a study on the effect of economic growth in Eastern and Central European countries on youth unemployment. The impact on unemployed youth of economic growth was the objective. Using panel data for 18 countries with youth unemployment rates exceeding 25% from 2006 to 2012.The model used for study was Panel Dynamic Ordinary Least Squares. The study concluded that severe youth unemployment cannot be resolved solely through economic growth. The study failed to consider portfolio and foreign direct investments which are addressed in this study.

Honorati (2015) examined the effect on youth in urban areas in Kenya of private sector internships and training programs through a randomized experiment conducted in Kisumu, Nairobi, and Mombasa. The study aimed at determining the effect on youth in urban areas in Kenya of private sector internships and training programs. The program involved three months of technical training followed by internships with private firms. The results showed notable success, with a 15% increase in job placements for males, an increase in wage earnings of KES 7,500 for females and KES 5,000 for males, and heightened youth interest in internships and certified skills courses. The study failed to

put into consideration effects of portfolio and foreign direct investments on youth unemployment which is being addressed by this research.

Caliendo and Schmidl (2016) examined youth unemployment across Europe and evaluated active labor market policies (ALMPs) in Europe effectiveness, focusing on the effectiveness of public work programs, subsidized employment, job search assistance, monitoring, and training courses. The research sought to examine the effects of active labor market policies on youth unemployment. Comprehensive survey was used. Their findings revealed that job search assistance had positive effects on employment, while wage subsidies and training programs yielded mixed results. Programs involving public works were found to have negative effects on youth employment outcomes. The study emphasized the need to improve job market dynamics through policy interventions. The study failed to consider portfolio and foreign direct investments effects which are at the centre of focus in this study for Kenya.

Nwakoby & Bernard (2016) explored the relationship between private sector investment and growth of the economy in Nigeria. The research aimed at determining the impact of private sector investment on growth of the economy in Nigeria. CBN Statistical Bulletin, 2014, provided data in time series on the six variables and utilized ordinary least squares regression analysis. Their findings revealed that investments from the private sector have 98% effect on growth of the economy in Nigeria, highlighting it as a crucial tool for sustained development. The study did not consider youth unemployment a persistent problem in Africa which is being addressed here for Kenya showing how investments affect it.

Bayar and Sasmaz (2017) analyzed the impact on unemployment in emerging market economies of foreign direct investment (FDI). The study aimed at investigating the effect in the long run of both domestic investments and FDI on unemployment over the period 1994-2014 in 21 emerging economies. The data on unemployment, gross capital formation and FDI inflows was sourced from World Development Indicators (2016c, 2016a and 2016b) data. Using co-integration analysis and the Augmented Mean Group (AMG) estimator. Their results indicated a long term positive relationship between foreign direct investments inflows and unemployment, while unemployment & domestic investments showed a negative relationship. However, the study did not specifically address youth unemployment, leaving a critical gap. The study ignored the youth a critical demographic which is being addressed in this study showing effects of FDI and portfolio investments on youth unemployment in Kenya.

Bahri, Fatmawati, and Madris (2019) assessed the effect on unemployment of private investments and government expenditure in Indonesia. The effect on unemployment of private investment & government spending in Indonesia both directly and indirectly through economic growth and human resources quality was the objective. The analysis technique used in this research is structural model. Their findings showed a negative relationship between unemployment and government expenditure, while private investments were positively related to unemployment. Government spending on human resource development & growth of the economy had a significant positive effect on reducing unemployment, whereas private investments showed no significant impact. The study did not prioritize youth unemployment which is being addressed here for Kenya.

Katumo (2019) analyzed the relationship in Kenya between growth of the economic activities & youth unemployment. The general objective was to examine the relationship between growth of the economy and youth unemployment in Kenya. The study utilized secondary sources of data such as published journals by KIPPRA and KNBS, using ordinary least square method and Granger causality test. The findings indicated the relationship was unidirectional where economic growth Granger-caused youth unemployment, with economic growth lagging behind. Additionally, the research established a positive parameter between youth unemployment and growth of the economy. The study failed to consider effect of portfolio and FDI on youth unemployment in Kenya, a gap being filled here.

Kyalo (2019) examined the relationship in Kenya between economic activities growth, FDI & employment. The impact in Kenya of FDI on employment and GDP growth was the objective. The data was sourced from World Bank and KNBS yearly statistical surveys, ordinary least square was for analysis. It revealed that there is positive relationship between foreign direct investments and variables employment and economic growth in Kenya. The study failed to recognize the role of FDI and portfolio investments on youth unemployment in Kenya a critical gap being filled by this research.

Oluchukwu, Chinyere, and Francisca (2019) investigated the effects on unemployment of different types of investment within a developing economy. The effect of different forms of investment on unemployment was the objective. World Bank Development Indicators and Central Bank of Nigeria Statistical Bulletin provided time series data for the period 1980 to 2017, using a dynamic model with error correction. Their findings indicated that

foreign direct investment, private domestic investment, and public sector investments are negatively related to unemployment, suggesting that each type significantly affects unemployment levels. The study did not consider youth as part of unemployment demographic and portfolio investments which is being addressed by this research for Kenya.

Imtiaz *et al.* (2020) examined what was determining unemployment of youth in Pakistan. The study identified factors such as overpopulation, backwardness of agriculture sector, lack of investment and political instability as main contributors to youth unemployment rates, using a structured questionnaire comprising 18 Likert-scale questions, along with convenience sampling. Data was collected from Bahawalpur, Multan, Rahim Yar Khan, and Lahore, yielding 120 usable responses from 130 distributed questionnaires. Regression analysis revealed that youth unemployment has a positive significant relationship with factors such as overpopulation, the backwardness of the agricultural sector, political instability and a lack of investment, indicating that these factors contribute to rising youth unemployment. The study put aside other forms of investments being looked into in this study.

Pasara and Garidzirai (2020) explored the causal effects among gross capital formation, unemployment and growth of the economy in South Africa. The study investigates the causality effects of growth of economy, gross capital formation and unemployment in South Africa, utilizing Vector Autoregressive (VAR) analysis. They found that in the long term growth of the economy & gross capital formation have a positive relationship, while in the short-term unemployment does not influence growth. In their second model,

gross capital formation and unemployment relationship was significant & positive, while unemployment and economic growth were inversely related in the third model. The research failed to consider youth unemployment which is being put into focus in this research.

Lambovska, Belas and Sardinha, (2021) analyzed the effects on unemployed youth of the Covid-19 pandemic in the states in European Union. The effect on unemployed youth of the Covid-19 pandemic in states in the European Union, comparing data across member countries was the objective. They identified Portugal, Lithuania, Greece, France, Sweden, Italy, and Spain as having the highest youth unemployment rates. The study revealed a negative effect of Covid-19 on European economies due to pandemic-related disruptions. The study ignored effects of FDI and portfolio investments on youth unemployment being explored in this research for Kenya.

Mkombe et al. (2021) examined the effects of foreign direct investment (FDI) on unemployed youth (ages 15-24) in Southern African Development Community region (SADC). The effect on unemployed youth (ages 15-24) of foreign direct investment (FDI) in the SADC region was the objective. World Development Indicators provided cross-sectional time-series data from spanning 1994 to 2017, data was analyzed using feasible generalized least squares method. Their results indicated that FDI's impact on youth unemployment is insignificant, as investments were mainly directed towards mergers and acquisitions rather than Greenfield projects. This research ignored portfolio investments being addressed in this study for Kenya.

Wahyudi and Setyanti (2021) explored the causality between youth employment (ages 15-24) and FDI in ASEAN-5 countries. The aim of the study causality between youth employment (ages 15-24) and FDI in five ASEAN nations, using Granger causality and unit root tests. They found that foreign direct investments inflows positively influenced employed youth in Singapore, Indonesia, the Philippines, and Malaysia, while the relationship was negative in Thailand. Overall, the relationship was not bidirectional between youth employment & foreign direct investments in these nations. The study ignored portfolio investments being addressed here.

Kukaj, Nimani, & Usaj (2022) investigated the relationships between growth of economy, unemployment and FDI in developing countries. The study examines unemployment, growth of the economy and FDI relationships to assess & quantify the relationship in Western Balkans nations or selected developing nations, using multiple linear regressions. Their findings indicated FDI and growth of the economy have a positive relationship with levels of unemployment in the Western Balkans. The study put aside the effects of portfolio investments on youth unemployment being addressed here for Kenya.

Suyanto & Tanaya (2023) analyzed the effect on unemployed youth (ages 15-25) of FDI in Indonesia. The study sought the impact on youth unemployment of foreign direct investments in Indonesia. World Development Indicators provided data for all variables from 1991-2019, the study applied Auto-Regressive Distributed Lag model to capture long-run and short-run dynamics. The findings indicated that, FDI contributed to an increase in unemployed youth in the short run, potentially due to structural adjustments

and industry shifts. However, FDI was found to significantly reduce unemployed youth in the long run. The study put aside the effects of portfolio investments on youth unemployment being addressed here for Kenya.

2.3.2 Portfolio Investments on Youth Unemployment

Ndugbu, Osuka, and Duruechi (2019) examined unemployment and private sector investments relationship in Nigeria from 1986 to 2016. The effect on levels of unemployment of various forms of investments in Nigeria was the objective. World Bank Development Indicators and Central Bank of Nigeria Statistical Bulletin provided time series data on unemployment rate, foreign portfolio investment, foreign direct investment and private domestic investment. They employed pairwise Granger causality analysis, Johansen cointegration analysis and Vector Error Correction Model for data evaluation. The findings indicated that no conclusive causality could be established between private sector investments including foreign portfolio investment, private domestic investment and FDI and long-term unemployment in Nigeria. The research failed to consider youth unemployment which is being put into focus in this research.

Elekwa, Aniebo & Ogu (2016) examined in Nigeria the impact on employment growth of foreign portfolio investments (FPI). The impact on employment growth of foreign portfolio investments in Nigeria was the objective, using ARDL Autoregressive Distributed Lag model. Their findings showed that FPI positively affects long-term employment growth. The research ignored youth unemployment a critical demographic of unemployment and foreign direct investments which is being put into focus in this research.

2.4 Overview of Literature

Foreign direct investment is influenced by exogenously determined technological advancement according to Neoclassical theory. It views foreign direct investments in the productive sectors as bringing in local efficiency which leads to growth of the economy and reduction in unemployment. The endogenous growth theory says that growth of an economy is within it contradicting foreign direct investment which is determined exogenously. An increase in population in the long term, leads to growth in technology thus growth of the economy. The Harrod-Domar Growth Model posits that physical capital investment serves as the primary driver of output expansion in an economy. The Keynesian theory argued that government intervention is necessary in the short run to correct the market by using fiscal policies. Modern Portfolio theory is about investors getting maximum returns from portfolio investments after considering risk level.

Empirical literature on the effects of FDI and portfolio investments on unemployed youth such as (Fagge & Zubairu, 2014; Göçer & Erdal, 2015; Caliendo & Schmidl, 2016; Nwakoby & Bernard, 2016; Bahri, Fatmawati & Madris, 2019; Oluchukwu, Chinyere & Francisca, 2019; Imtiaz, Ali, Khan, Ullah, Khan & Jacquemod, 2020; Pasara & Garidzirai, 2020; Lambovska, Sardinha & Belas, 2021; Mkombe, *et al*., 2021; Kukaj, Nimani & Usaj, 2022) as it concentrates on one component on youth unemployment without taking into consideration all components such as portfolio and foreign direct investments, concentrating on relationship between youth unemployment and other factors such as economic growth and concentrating on determinants of youth unemployment without factoring in portfolio and foreign direct investments. In Kenya empirical studies concentrated on components of foreign direct investments, portfolio

investments on unemployment or economic growth without taking into consideration youth unemployment in Kenya and also used different estimation techniques from the one in this study and different age cohorts (Honorati, 2015; Katumo, 2019; Kyalo, 2019).

Two schools of thought emerge on effects of FDI and portfolio investments on youth unemployment or unemployment, due to mixed results the study sought to ascertain effects of FDI and portfolio investments on youth unemployment rate for Kenya. The disaggregation of unemployment to cover youth ages 15-24 years is crucial because this is the most vulnerable cohort affected by economic changes and carry social cost in large numbers in the long term, FDI and portfolio investments affect differently, the different unemployment categories and this study would provide analysts and a variety of policy makers with the correct tools & applicable knowledge. This identified gap was the motivation for this research to provide insights into how foreign direct investments (FDI) and portfolio investments can provide policy direction for Kenya's youth unemployment problem.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The section includes data sources, definition of variables, model specification, theoretical framework and research design to lay ground for research.

3.2 Research Design

The objective of this research is to determine the effects of foreign direct investments & portfolio investments on youth unemployment rate ages 15-24 years in Kenya. This research will employ a non-experimental research design using data in time series on study variables. The study considers the design because the researcher cannot manipulate the data on the variables of study. Years 1993-2023 time series data for the variables youth unemployment rate, inflation rate, foreign direct investments, portfolio investments, population growth rate, trade (% of GDP), employment to population ratio, 15+, total (%) and government expenditure, (% of GDP) would be collected from secondary sources of data such as international monetary fund and world development indicators.

3.3 Theoretical Framework

Keynesian theory of unemployment anchors the theoretical framework for this study according to (Okoli and Okeke, 2024), (Adeyemi, *et al*., 2020) and (Folawewo and Adeboje, 2017). According to Keynes effective demand deficiency was the main cause of not being employed. Further, not being employed emanates from total demand deficiency

coming from part or combination of parts of demand aggregate such as declining demand of investment, decreasing demand of consumers and dropping expenditure of the government. Consequently, Keynes proposed that not being employed would be gotten rid off by expanding demand aggregate. Further, Keynes put forward, in order to decrease not being employed, there are prerequisites required as follows government spending, demand of consumers and investment demand levels to be increased so as to equate total supply and total demand at full employment level (Okoli & Okeke, 2024). Keynes further supports that if consumption and investment are slowing down because of negative investor and consumer decision making affecting effective demand, interference by the government is essential to curbing not being employed and achieving the full employment goal. Investment demand part of effective demand is made up of portfolio investments and foreign direct investments. Suppose output aggregate is defined as below (Okoli & Okeke, 2024).

$$Y_{it}=A^{\gamma}K_{it}^{\alpha}N_{it}^{\beta} \quad \text{.....3.1}$$

Where:

Y represents real output level for region or country *i* for time period *t,* K represents quantity of capital stock, N represents labour units and technical progress is A. Output elasticity with respect to labour and capital is represented by β and α respectively and factors change A's efficiency the production process due to coefficient γ (Greenaway *et al*, 1999).

Maximization of profit imply that optimal capital K_{it} is chosen such that the wage (W) equals labour's marginal revenue product and the cost of capital (C) equals capital's marginal revenue product (Waldkirch *et al.* 2009). According to Jude and Silaghi, (2016) and Waldkirch *et al.* (2009), solving for optimal capital K_{it} and substituting in equation 3.1 yields Equation 3.2. For optimal capital K_{it} to be computed two simultaneous equations of the wage (W) equals labour's marginal revenue product and cost of capital (C) equals capital's marginal revenue product are solved simultaneous, to solve for optimal value of K_{it} thus $\frac{\partial TR}{\partial K_{it}}$=C and $\frac{\partial TR}{\partial N_{it}}$=W solving this two equations simultaneous for the value of K_{it} optimal would result to optimal K_{it} substituted to equation 3.1 to result to equation 3.2. Refer to Appendix A1 for optimal solution of optimal K_{it}**.** The capital stock K_{it} estimation is problematic at aggregate level and for the cost of capital the interest rate is a poor proxy (Jude & Silaghi, 2016).

$$Y_{it}=A^{\gamma}\left(\frac{\alpha}{\beta}.N_{it}.\frac{w_{it}}{c_{it}}\right)^{\alpha}N_{it}^{\beta} \quad \text{……..……3.2}$$

Level of employment is N. Equation 3.2 transformation takes place by on both sides taking logarithms and the labour demand function results from rearranging the terms as follows: Refer to Appendix A2 Equation 3.2 transformation takes place by on both sides taking logarithms and the labour demand function results from rearranging the terms as follows

$$\ln N_{it}=Ø_0+ Ø_1 \ln Y_{it} +Ø_2\ln\left(\frac{w_i}{c_i}\right) \text{……3.3}$$

Where:

$$Ø_0 = -\frac{(\gamma \ln A + \alpha \ln \alpha - \alpha \ln \beta)}{(\alpha + \beta)},\ Ø_1 = \frac{1}{(\alpha + \beta)},\ Ø_2 = -\frac{\alpha}{(\alpha + \beta)},$$

Someone could expect that over time increases in the production process technical efficiency and technology adoption rate and efficiency increases are correlated with portfolio investments and foreign direct investments therefore parameter A in the production function is hypothesized that with time it varies in the following manner (Greenaway *et al*. 1999): Focusing on FDI-Foreign Direct Investment and PI-Portfolio Investments technological change induced; technical efficiency can be modeled as a function of PI and FDI as below:

$A = e^{cT}\ FDI_{it}^{d} PI_{it}^{f}\quad c,d,f>0$ …………………………….…………………………… 3.4

Where:

T is time trend, FDI_{it} is Foreign Direct Investment, PI_{it} is Portfolio Investments for region or country *i, t* is time and e represents exponential relations. Take logarithm of A and substitute in equation (3.3), it shows us labour which is employment, relationship with foreign direct investments and portfolio investments as follows: Refer to Appendix A3 Take logarithm of A and substitute in equation (3.3), it shows us labour which is employment, relationship with foreign direct investments and portfolio investments as follows:

$\ln N_{it} = \Omega + U_0 T + U_1 \ln FDI_{it} + U_2 \ln PI_{it} + Ø_2 \ln(\frac{w_i}{c_i}) + Ø_1 \ln Y_{it}$ …………………………3.5

Where:

$\Omega = -\frac{(\alpha \ln\alpha - \alpha \ln\beta)}{(\alpha + \beta)}$ U_0=Uc, U_1=Ud, U_2=Uf and $U = -\frac{\gamma}{(\alpha + \beta)}$

Equation 3.5 shows that foreign direct investments FDI and portfolio investments PI can be labour demand key drivers. If FDI and PI in the labour demand indices were to increase, employment would increase as expected (Okoli & Okeke, 2024).

Therefore, take the opposite of employment as unemployment, youth unemployment and portfolio investments and foreign direct investments relationship can be presented by having opposite signs on the right hand of equation (3.5) (Mkombe, *et al*., 2021).

$\ln V_{it} = -\Omega - U_0 T - U_1 \ln FDI_{it} - U_2 \ln PI_{it} - \emptyset_2 \ln(\frac{w_i}{c_i}) - \emptyset_1 \ln Y_{it}$ ……3.6

Where:

$\Omega = -\frac{(\alpha \ln\alpha - \alpha \ln\beta)}{(\alpha + \beta)}$

U_0=Uc, U_1=Ud, U_2=Uf and $U = -\frac{\gamma}{(\alpha + \beta)}$, V= youth unemployment

3.4 Empirical Model

Equation 3.6 above implies youth unemployment can be determined the levels of portfolio investments and foreign direct investments. Autoregressive Distributed Lags model (ARDL) was employed to fulfill the equation below according to (Tanaya & Suyanto, 2023) & (Irpan, *et al*., 2016).

YUR=f(FDI,PI,INFR,POPGR,TR,EMP, GOVTE) … … … … … … … … .. … … … 3.7

Where:

YUR represents Unemployment Rate for Youth.

FDI represents Foreign Direct Investments

PI represents Portfolio Investments

TR represents Trade (% of GDP).

INFR represents Inflation Rate.

POPGR stands for Population Growth Rate

EMP stands for Employment to Population ratio, 15+, total (%)

GOVTE represents Government Expenditure, (% of GDP)

The equation becomes;

$YUR=a_0+a_1FDI_t+a_2PI_t+a_3POPGR_t+a_4INFR_t+a_5TR_t+a_6EMP_t+a_7GOVTE_t+e$ …… (3.8)

a_0 is constant term or intercept, a_1 to a_7 are parameters or coefficients for FDI, PI, POPGR, INFR, TR,EMP and GOVTE respectively, t is the year 1993 to 2023 and e-error term.

Equation 3.8 ARDL representation is formulated as follows:

$$\Delta YUR=\alpha_0+\sum^{n}_{i=1}\alpha_{1i}\Delta YUR_{t-1}+\sum^{n}_{i=1}\alpha_{2i}\Delta FDI_{t-1}+\sum^{n}_{i=1}\alpha_{3i}\Delta PI_{t-1}+\sum^{n}_{i=1}\alpha_{4i}\Delta POPGR_{t-1}+\sum^{n}_{i=1}\alpha_{5i}INFR_{t-1}+\sum^{n}_{i=1}\alpha_{6i}TR_{t-1}+\sum^{n}_{i=1}\alpha_{7i}EMP_{t-1}++\sum^{n}_{i=1}\alpha_{8i}GOVTE_{t-1}+\beta_1 YUR_{t-i}+\beta_2 FDI_{t-i}+\beta_3 PI_{t-i}+\beta_4 POPGR_{t-i}+\beta_5 INFR_{t-I}+\beta_6 TR_{t-i}+\beta_7 EMP_{t-i}+\beta_8 GOVTE_{t-i}+e_t \quad \text{.....(3.9)}$$

In this model Δ represents first difference operator, α_0 denotes drift component and e_t is the error term. On the left-hand side of the equation is the dependent variable which is youth unemployment rate. β_1 to β_7 expressions correspond to the long-run relationship which are on the right-hand side of the equation. The short-run dynamics of the model are represented by expressions α_1 to α_7 with the summation sign .

Autoregressive Distributed Lags model (ARDL) was first introduced by Pesaran & Shin (1999) and extended further by Pesaran, Shin, & Smith (2001). It is applicable if the variables are integrated of I(1) and I(0). It is particularly advantageous when working with small sample sizes and allows for different lag lengths across variables. Autoregressive Distributed Lags (ARDL) model would be used for this study. ARDL model determines the type of relationship between a continuous independent and dependent variables whether a positive or negative relationship to draw conclusions about the regressors effects on the regressand.

3.5 Definition and Measurement of Variables

Table 3.1: Definition and Measurement of Variables

Variable	Definition	Measurement	Source
Youth Unemployment Rate (ages 15-24 years) (%) (YUR)	The proportion of individuals aged 15 to 24 within the labor force who are unemployed but actively looking for work and available to be employed	Youth unemployment rate percentage annually.	World Bank
Foreign Direct Investments (FDI) (% of GDP)	Investments made by nationals of one country into another country in terms assets acquisition or acquiring stakes in companies in another country.	Foreign direct investment, (FDI) net inflows (% of GDP) annually	World Bank
Portfolio Investments (PI) (% of GDP)	Investments made by persons in purchasing debt or equity securities in a particular country.	Portfolio Investment, net ((% of GDP) annually	World Bank
Trade(TR)(% of GDP)	The total value of exports and imports of goods and services expressed as a percentage of the gross domestic product (GDP).	Trade (%of GDP) annually	World Bank
Inflation, consumer prices (INFR) (annual %)	The general price level increases of services and goods within the economy.	Inflation rate percentage annually.	World Bank
Population Growth Rate (POPGR) (%)	The general increase of the population annually.	Population growth rate percentage annually.	World Bank
Employment to population ratio, 15+, total (%) (EMP)	Employment to population ratio is the share of a country's total population that is currently employed.	Employment to population ratio, 15+, total (%) annually	World Bank
Government expenditure,(%ofGDP) (GOVTE)	Kenyan government expenditure.	Government expenditure, (% of GDP) annually	International Monetary Fund

3.6 Data Type and Source

The study utilised data from secondary sources from year 1993 to year 2023 for the following variables youth unemployment rate, inflation rate, foreign direct investments,

portfolio investments, population growth rate, trade (% of GDP), employment to population ratio, 15+, total (%) were sourced from world development indicators and government expenditure, (% of GDP) was sourced from International Monetary Fund.

3.7 Diagnostic Tests

3.7.1 Unit Root Test

The Augmented Dickey-Fuller (ADF) test was used assess the stationarity of each study variable. First differencing transformation was employed on variables that were found to be non-stationary at their levels.

3.7.2 Cointegration Test

Cointegration test for variables I(1) and I(0), the ARDL model bound testing suggested by Pesaran & Shin (2019) was used to test for it. Since cointegration was present Error correction models (ECM) was used.

3.7.3 Model Stability Test

CUSUM curve was used to check the stability of ARDL model parameters. The CUSUM curve must remain within the 5% critical value (green lines).

3.7.4 Serial Correlation Test

Breusch-Godfrey LM test was used to test for autocorrelation. Breusch-Godfrey LM test for autocorrelation p-value must be greater than 0.05 indicating absence of serial correlation.

3.7.5 Heteroskedasticity Test

Heteroskedasticity was tested using Breusch-Pagan / Cook-Weisberg test for heteroskedasticity p-value must be greater than 0.05 for the model to be homoscedastic.

3.7.6 Normality Test

Normality of residuals was tested using Jarque-Bera normality test p-value must be greater than 0.05 for the residuals to be normally distributed.

3.7.7 Model Specification Test

Ramsey's reset checked for any omitted variables from the model it must have a p-value greater than 0.10 for the model to have no omitted variables.

3.8 Data Analysis

The primary aim of this study was to examine the impact of portfolio investments and foreign direct investments on youth unemployment in Kenya. To answer the two specific objectives requires using equation 3.8. Several diagnostics tests were done such as unit root test, cointegration bound test, heteroskedasticity test, test for normality, autocorrelation test, model stability test and omitted variable test. The model passed all diagnostics tests. Thus Autoregressive Distributed Lags model (ARDL) is suitable for answering the two objectives of the study (i) to ascertain the effects of foreign direct investments on youth unemployment rate in Kenya; (ii) to establish effects of portfolio investments on youth unemployment rate in Kenya.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 Introduction

The section is structured as follows; description of statistics, stationarity tests and discusses the results according to the objectives.

4.2 Descriptive Statistics

Descriptive statistics such as measures of dispersion and central tendency were computed to summarize key characteristics of the variables. The variables include the following foreign direct investments (FDI), inflation rate (INFR), trade (TR), government expenditure (GOVTE), employment to population ratio (EMP), population growth rate (POPGR), portfolio investments(PI) and youth unemployment rate (YUR) for a period of thirty one years was analyzed. Period 1993 to 2023 annual time series data was used.

Table 4.1: Descriptive Statistics of Variables of Study

Variable	Minimum	Maximum	Mean	Standard Deviation
Youth Unemployment Rate (%)	6.428	13.649	7.955581	2.214746
Foreign Direct Investments (FDI) (% of GDP)	-0.0053685	3.094711	0.8163724	0.8190636
Portfolio Investments (% of GDP)	-5.443086	1.304683	0.0062574	1.086185
Trade(% of GDP)	27.23782	72.85848	49.50849	12.49264
Government expenditure, (% of GDP)	13.68239	25.36051	19.68299	3.866319
Inflation rate (%)	1.554328	45.97888	10.18623	8.810981
Population growth rate (%)	1.900409	3.146264	2.643916	0.4366268
Employment to population ratio (%)	63.248	72.354	69.77023	2.925104
Observations	31	31	31	31

Source: Author's Calculations (2025)

In Table 4.1 youth unemployment rate has a minimum of 6.428% in 1996 and a maximum of 13.649% in 2020. Youth unemployment rate has 7.955581 as mean and 2.214746 as standard deviation of which means that values are far off the mean this is expected because youth unemployment is driven by different factors within the economy such political stability, economic growth, infrastructure network and government policies.

Foreign Direct Investment (% of GDP) has a minimum of -0.0053685% in 2020 and a maximum of 3.094711% in 2011. Foreign direct investments has 0.8163724 as mean and 0.8190636 as standard deviation of which means that values are not far off the

mean this shows Kenya's foreign direct investments environment is conducive for investments from foreigners..

Portfolio Investment (% of GDP) has a minimum of -5.443086% in 2014 and a maximum of 1.304683% in 2020. 0.0062574 is the mean for portfolio investments and 1.086185 is standard deviation of which means that values are away from the mean this is expected because portfolio investors are driven by different factors when making investment decisions such inflation rate, net return, security, global oil prices and exchange rate.

Trade (% of GDP) has a minimum of 27.23782% in 2020 and a maximum of 72.85848% in 1993. Trade has 49.50849 as mean of and 12.49264 as standard deviation of which means that most values are away from the mean this is expected because trade is driven by different factors within the economy such as political stability, tax laws, infrastructure and governance.

Government Expenditure (% of GDP) has a minimum of 13.68239% in 1999 and a maximum of 25.36051% in 2016. Government expenditure has 19.68299 as mean and 3.866319 as standard deviation of which means that values are far off the mean this is expected because government expenditure is driven by different factors within the economy such the government policies, immediate needs of a country and lenders conditions.

Inflation Rate (%) has a minimum of 1.554328% in 1995 and a maximum of 45.97888% in 1993. Inflation rate has 10.18623 as mean and 8.810981 as standard

deviation of which means that values are far off the mean this is expected because inflation rate is driven by different factors within the economy such as price of oil and the cost of inputs.

Population Growth Rate (%) has a minimum of 1.900409% in 2021 and a maximum of 3.146264% in 2002. Population growth rate has 2.643916 as mean of and 0.4366268 as standard deviation of which means that values are not far off the mean this is expected because population growth is driven by different factors within the economy such as food security, political stability and family planning practices.

Employment-to-Population Ratio (%) has a minimum of 63.248% in 2023 and a maximum of 72.354% in 2016. It has 69.77023 as mean and 2.925104 as standard deviation of which means that values are far off the mean this is expected because trade and investments is driven by different factors within the economy such as level of taxation, incentives, infrastructure network and fast conflict resolution mechanisms.

Policy implications, foreign direct investments, portfolio investments, trade and government expenditure should be directed to labor absorbing sectors such as agro processing, construction, manufacturing and horticulture to create employment for the youth. Declining population growth rate is a signal for reduction of people who would require jobs. Declining employment to population ratio is signal for loss of employment which should be increased through intervention measures such as increase in manufacturing and technology.

4.3 Stationarity Analysis

Augmented Dickey Fuller (ADF) stationarity test was used for this study to examine the variables order of integration, STATA 15 was used for all analysis in this study. ADF test in STATA has three models such as, no constant and no trend applies to variables youth unemployment rate, portfolio investment USD (% of GDP), population growth annual (%), trade (% of GDP), employment to population ratio, 15+, total (%), government expenditure (% of GDP) constant with no trend applies to variables foreign direct investments USD (% of GDP), inflation rate annual (%) and constant and trend applies to no variables. The pattern of data should be checked for particular model use.

Stationarity test null hypothesis indicate unit root presence in the variables, its rejection occurs where the critical values in absolute terms are less than the test statistic. Appendix A4 shows ADF tests and order of integration for variables as follows youth unemployment rate (%) I(1), foreign direct investments USD (% of GDP) I(0), portfolio investment USD (% of GDP) I(0), inflation rate annual (%) I(0), population growth annual (%) I(1), trade (% of GDP) I(1), employment to population ratio, 15+, total (%) I(1) and government expenditure, (% of GDP) I(1) therefore all the variables of the study are either integrated of I(1) or I(0) Autoregressive Distributed Lags (ARDL) Pesaran & Shin (1999) model is appropriate for data analysis, thus ARDL model is adopted for this study due to small sample size and variables integrated of I(0) and I(1).

4.4 Empirical Findings

Key study findings are presented here. The main objective was to investigate in Kenya the effect on youth unemployment of foreign direct investments and portfolio

investments. The study's main objective was achieved through two specific aims, and their results are reported here. The two objectives were to determine the effect of foreign direct investments on youth unemployment rate in Kenya and to determine the effect of portfolio investments on youth unemployment rate in Kenya. The two objectives were accomplished through ARDL model output results as shown in Table 4.2.

The variables youth unemployment rate (%), inflation rate annual (%) and population growth annual (%) were transformed to natural logarithms while foreign direct investments USD (% of GDP), portfolio investments USD (% of GDP), Trade (% of GDP), employment to population ratio, 15+, total (%) and Government expenditure, (% of GDP) were at level in the regression model. Akaike information Criteria was used to determine variables lag selection. In the ARDL model a maximum of two lags was selected, that is two lags on log youth unemployment rate (%), two lags log inflation rate annual (%), two lags on log population growth annual (%) , two lags on foreign direct investments USD (% of GDP), one lag on portfolio investments USD (% of GDP), two lags on trade (% of GDP), two lags on employment to population ratio, 15+, total (%) and one lag on government expenditure, (% of GDP). Table 4.2 shows the ARDL diagnostic tests and regression outcomes that were done.

Table 4.2: ARDL Regression Results for Effects of Portfolio and Foreign Direct Investments on Youth Unemployment Rate in Kenya

Dependent Variable: Natural Log of Youth Unemployment Rate			
	Coefficient	**Standard Error**	**P-Value**
Error Correction Coefficient (-1)	-0.7035483	0.1844397	0.007
Long Run Estimates			
FDI (% of GDP)	1.917963	1.207615	0.156
Portfolio Investment (% of GDP)	-0.4660433	0.458425	0.343
Log of inflation Rate Annual (%)	-0.0283363	0.0128077	0.063
Log of Population growth annual (%)	0.3723227	0.1261904	0.021
Trade (% of GDP)	-0.4211307	0.1300734	0.014
Employment to Population Ratio, 15+, total (%)	-4.962505	0.4789382	0.000
Government expenditure, (% of GDP)	2.797989	0.4333435	0.000
Short Run Estimates			
Log of Youth Unemployment Lagged Difference	-0.6543539	0.219279	0.020
FDI USD (% of GDP): First Difference	-1.844805	0.5670518	0.014
FDI USD (% of GDP): Lagged Difference	-1.246095	0.4187325	0.021
Portfolio Inv USD (% of GDP) First Difference	0.1889044	0.1969904	0.370
Log of Inflation Rate (%): First Difference	0.022255	0.0068261	0.014
Log of Inflation Rate (%): Lagged Difference	0.0129836	0.0041351	0.016
Log of Population Growth(%):	-0.0394731	0.1726632	0.826

First Difference			
Log of Population Growth(%): Lagged Difference	0.4128764	0.1780683	0.054
Trade (% of GDP): First Difference	0.2123874	0.0782393	0.030
Trade (% of GDP): Lagged Difference	0.0960323	0.0613874	0.162
Employment to population ratio (%):First Difference	-3.199816	1.215746	0.034
Employment to population ratio (%): Lagged Difference	-6.363373	1.821648	0.010
Government Exp, (% of GDP): First Difference	-1.045097	0.3723735	0.026
R-Squared	0.9951 N 29		
Adj R-squared	0.9803		
Diagnostic Test Results	**Statistic**	**P-Value**	
Cointegration Bounds Test (F-stat)	10.053		
Autocorrelation test(Durbin-Watson Statistics)	2.102178		
Autocorrelation test (Breusch-Godfrey LM test)	0.920	0.3374	-
Heteroskedasticity test(Breusch-Pagan / Cook-Weisberg test test)	0.14	0.7127	-
Normality test (Jarque-Bera test)	0.3883	0.8235	-
Skewness/Kurtosis tests for Normality	1.37	0.5029	
Ramsey Reset test	2.39	0.2097	
Cumulative Sum Test for Parameter Stability see appendix A5 plot of CUSUM curve is between 5% of critical bounds			

Source: Author's Computation (2025)

4.4.1 Diagnostic Tests for the ARDL Model

The following diagnostic tests were carried out. Pesaran et al (2001) ARDL bound test of cointegration checked for existence of short run and long run relationship among the variables. Results from Table 4.2 show the ARDL bound test with a F-statistics of 10.053 which is greater than critical values of 1%, 2.5%, 5% and 10% upper bounds leading to rejection of null hypothesis of no cointegration relationship and confirming presence of cointegration. Once cointegration has been confirmed the appropriate model to use is the error correction model. Diagnostic tests were performed as follows ;

The Durbin Watson test statistic had a value of 2.102178 which is between 1.5 and 2.5 indicating absence of serial correlation. Breusch-Godfrey LM test for autocorrelation had a p-value of 0.3374 which is greater than 0.05 indicating absence of serial correlation.

The second test was testing for normality of residuals. To assess for normality Jarque-Bera normality test was utilized with 0.3883 Chi(2) and a p-value of 0.8235 and also Skewness/Kurtosis tests for Normality with a adj chi2(2) of 1.37 with a p-value of 0.5029 which is greater than 0.05 indicating that the residuals are normally distributed.

The third test was checking for heteroskedasticity. A Breusch-Pagan / Cook-Weisberg test for heteroskedasticity with a chi2(1) of 0.14 and a p-value of 0.7127 which is greater than 0.05 put forward by Cook & Weisberg (1983) and Breusch & Pagan (1979) was done leading to acceptance of null hypothesis of constant variance therefore our model is homoskedastic since it has a p-value of 0.7127.

The fourth test was Ramsey's reset introduced by Ramsey (1969) performed to check for any omitted variables from the model which led to acceptance of null hypothesis of the model has no omitted variables since it had a F(3, 4) of 2.39 with a p-value of 0.2097 which is greater than 0.10 therefore the model has no omitted variables.

The fifth test checked if structural break exists in the series thus the model stability was tested by using CUSUM curve as shown in appendix A5 the CUSUM curve remain within the 5% critical value (green lines), suggesting that the model stability has been proven. ARDL model controls for endogeneity by incorporating independent and dependent variables lagged values.

Displayed in table 4.2 represent the long run and short run results of ARDL model for where Adj R-squared of 0.9803 implying that the independent variables account for almost 98 percent changes in youth unemployment. The model's Adj R-squared of 0.9803 is valid because the model has passed all diagnostic tests such has unit root test i.e. the variables are I(0) and I(1), cointegration bound test, heteroskedasticity test, test for normality, autocorrelation test, model stability test & omitted variable test, the error correction term has a coefficient of -0.7035483 which is negative and significant at 5 percent level and the six out seven variables were significant at 5% significant level in determining youth unemployment in Kenya.

4.4.2 Effect of Foreign Direct Investment on Youth Unemployment

Long run model, at 5 percent significance level, 1.917963 is the coefficient of foreign direct investments with a p-value of 0.156 suggesting that foreign direct investments is not significant in determining the level of youth unemployment rate for ages 15-24 years

in the long run. In the short run model, at 5 percent significance level, the coefficient for first difference of foreign direct investments is -1.844805 with a p-value of 0.014 which is significant suggesting, holding other factors constant, if first difference of foreign direct investments is increased by one percent, then youth unemployment for ages 15-24 years will decrease by 1.844805 percent. At 5 percent significance level, lagged difference of foreign direct investments is significant with a coefficient of -1.246095 and a p-value of 0.021 thus holding all other factors constant, a percentage change in lagged difference of foreign direct investments corresponds to a 1.246095 percent decrease in youth unemployment for ages 15-24 years.

4.4.3 Effect of Portfolio Investment on Youth Unemployment

At 5 percent significance level, -0.4660433 is the coefficient of portfolio investments with a p-value of 0.343 suggesting in the long run that portfolio investments is not significant in determining the level of youth unemployment rate for ages 15-24 years. In the short run, at 5 percent significance level, first difference of portfolio investments is insignificant with a coefficient of 0.1889044 and a p-value of 0.370 which implies that portfolio investments are not significant in determining the level of youth unemployment for ages 15-24 years in the short run.

Long run model, Trade as a (% of GDP) coefficient is negative 0.4211307 which is negative with a p-value of 0.014 which is significant at 5 percent level. This implies that holding other factors constant, one percentage change in trade as a (% of GDP) is associated with 0.4211307 percent decrease in youth unemployment at 5 percent significance level.

Short run model, reveal that, at 5 percent significance level the coefficient is -0.6543539 with a p-value of 0.020 for lagged difference of youth unemployment suggesting that one percentage change in lagged difference of youth unemployment corresponds to a 0.6543539 percent decrease in youth unemployment holding other factors constant.

At 5 percent significant level the negative speed of adjustment coefficient was -0.7035483 which is significant and negative. According to Adeleye et al (2018) and Kripfganz & Schneider (2018) dependent variable equilibrium distortion is shown by the negative speed of adjustment coefficient which is corrected in one period, showing in current period that 70.35483% disequilibrium is corrected.

The key findings summary of this study is discussed as follows; first, in the short run foreign direct investments and youth unemployment have a negative relationship while foreign direct investments are insignificant in determining the level of youth unemployment in the long run. Secondly, portfolio investments are insignificant in determining the level of youth unemployment in the short and long run. Thirdly at 5% significant level population growth rate, employment to population ratio, the government expenditure and Trade are significant in determining the level of youth unemployment in the short run and long run while inflation rate at 5% significance level is only significant in the short run in determining the level of youth unemployment. Lastly, in the short run, lagged difference of youth unemployment is significant and negatively associated with youth unemployment.

The ARDL model has addressed the first and second objectives. The results of the study are in line with Keynesian theory of unemployment; the investment part of aggregate

demand affects the levels of unemployment. This is supported by significance of FDI in the short run.. The result of the study is line with (Mkombe et al., 2021) their results indicated that FDI's impact on youth unemployment is insignificant, as investments were mainly directed towards acquisitions and mergers rather than Greenfield projects. Foreign direct investments in this study are insignificant in the long run. The results of the study contradict (Tanaya and Suyanto, 2023) they found that in the short run, foreign direct investments can increase youth unemployment due to industry reallocation, while in the long run, foreign direct investments significantly reduces youth unemployment. (Setyanti & Wahyudi 2021) overall, the relationship was not bidirectional between youth employment & foreign direct investments in these nations. The differences could have come out from where the foreign direct investments were targeted.

The results of the study are in line with (Ndugbu, Osuka, & Duruechi, 2019) their findings indicated that no conclusive causality could be established between private sector investments including foreign portfolio investment, private domestic investment and foreign direct investment, and long-term unemployment in Nigeria, thus portfolio investments in this study are insignificant in determining unemployment. The results of the study contradict (Elekwa, Aniebo & Ogu, 2016) their findings showed that foreign portfolio investments positively affect long-term employment growth. The reason for the difference could be the type of portfolio investments, the study is using foreign portfolio investments and this study is using portfolio investments net and also where it is targeted.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

5.1 Introduction

It is made up key findings summary, makes conclusion & offers policy recommendations. It also sheds light on contribution to knowledge and potential research areas.

5.2 Summary

To determine the effects of portfolio investments and foreign direct investments on youth unemployment rate ages 15-24 years in Kenya, was the study objective, for the objectives to be achieved effects of foreign direct investments and portfolio investments were assessed on youth unemployment rate. Inflation rate, trade, employment to population ratio, government expenditure and population growth rate were adopted from theoretical perspectives and from empirical literature as it is related to unemployment. Data was collected for thirty one years (1993-2023) for variables of study, diagnostic tests were conducted to show robustness of Autoregressive Distributed Lags (ARDL) model used.

Study findings were as follows in the short run, foreign direct investments were significant at 5% level of significance, showing that foreign direct investments were creating jobs in different sectors of the economy in the short run, but insignificant in the long run in determining the level of youth unemployment. Foreign direct investments in the long run were insignificant because of mergers and acquisitions of enterprises which did not result to job creation for the youth. Portfolio investments are insignificant in determining the level of youth unemployment in the short run and long run, because

investments in equities and debt securities did not target youth absorbing sectors. At 5% significant level population growth rate, employment to population ratio, government expenditure and trade are significant in determining the level of youth unemployment in the short run and long run while inflation at 5% significance level is only significant in the short run in determining the level of youth unemployment. In the short run, lagged difference of youth unemployment is significant and negatively associated with youth unemployment.

5.3 Conclusions

Conclusions of the study findings, explored the effect of portfolio investments and foreign direct investments on youth unemployment in Kenya. Aim was to determine the effects of foreign direct investment on youth unemployment in Kenya and the effects of portfolio investments on youth unemployment in Kenya. Using ARDL model, the study found out that foreign direct investment was significant at 5% level of significance in the short run, but insignificant in the long run in determining the level of youth unemployment. Portfolio investments are insignificant in determining the level of youth unemployment in the short and long run. In the short run, lagged difference of youth unemployment is significant and negatively associated with youth unemployment. The study findings show that foreign direct investments play a key role in the economy in short run. Foreign direct investment in the short run affects youth unemployment negatively which could be as result of short term employment. However, long-term effect of foreign direct investment on youth unemployment is insignificant which could be because of mergers and acquisitions and not on Greenfield investments. Portfolio

investments play no role in determining the level of youth unemployment in the long and short run.

5.4 Policy Implications

The two key objectives research findings formulated policy recommendations examining the effects of foreign direct investment on youth unemployment in Kenya and assessing the effect of portfolio investment on youth unemployment in Kenya. The study found that foreign direct investment plays a significant role in creating employment opportunities for the youth, particularly in the short run. Based on these findings, the study recommends that the Ministry of Investment, Trade, and Industry could offer policy direction to direct part of incoming FDI to go youth absorbing sectors such agro-processing, construction, horticulture and manufacturing. While offering tax breaks, modern infrastructure, security, working judiciary to solve conflicts, ease of registrations of businesses and free land to set up factories in special economic zones. Portfolio investors in Kenya should direct their investments to labor absorbing sectors for the youth so that job creation for the youth through portfolio investments can be achieved. The government could direct all companies in securities market to have a 30% employment quota for the youth.

5.5 Contribution to Knowledge

The study showed the effects of foreign direct investments and portfolio investments on youth unemployment in Kenya through Autoregressive Distributed Lag (ARDL) Model where foreign direct investments were significant in creating employment for the youth in the short run and insignificant in creating employment for the youth in the long run and

portfolio investments were insignificant in creating employment for the youth in the short run and long run. These results apply uniquely to Kenya.

5.6 Suggestion for Further Research

Effects of portfolio and foreign direct investments on youth unemployment in Kenya covered a period of study from 1993 to 2023. More countries in Africa & the world, other forms of investments such venture capital & domestic investments and longer periods of study should inform future research. Foreign direct investments can lead to tensions between labor unions and foreign investors this is an area worth studying.

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APPENDICES

Appendix A1: Optimal (K_{it}) Derivation

For optimal K_{it} it is computed as follows:

$TR=P.Y_{it}=P.A^{\gamma}K_{it}^{\alpha}N_{it}^{\beta}$……total revenue……...……..i

$\frac{\partial TR}{\partial K_{it}}=\alpha PA^{\gamma}K_{it}^{\alpha-1}N_{it}^{\beta}$ ……partial differentiation……ii

$\frac{\partial TR}{\partial N_{it}}=\beta PA^{\gamma}K_{it}^{\alpha}N_{it}^{\beta-1}$ ……..... partial differentiation…..…iii

For profit maximization

$\frac{\partial TR}{\partial K_{it}}=C$ and $\frac{\partial TR}{\partial N_{it}}=W$ …… partial differentiation…….iv

$\alpha PA^{\gamma}K_{it}^{\alpha-1}N_{it}^{\beta}=C_{it}$ and $\beta PA^{\gamma}K_{it}^{\alpha}N_{it}^{\beta-1}=W_{it}$ make K_{it} the subject

$K_{it}^{\alpha-1}=\frac{C_{it}}{\alpha PA^{\gamma}N_{it}^{\beta}}$ and $K_{it}^{\alpha}=\frac{W_{it}}{\beta PA^{\gamma}N_{it}^{\beta-1}}$ ……..….power rules ……..v

$\frac{K_{it}^{\alpha}}{K_{it}}=\frac{C_{it}}{\alpha PA^{\gamma}N_{it}^{\beta}}$ therefore $\frac{\frac{W_{it}}{\beta PA^{\gamma}N_{it}^{\beta-1}}}{K_{it}}=\frac{C_{it}}{\alpha PA^{\gamma}N_{it}^{\beta}}$ cross multiply $K_{it}C_{it}=\frac{W_{it}}{\beta PA^{\gamma}N_{it}^{\beta-1}}\alpha PA^{\gamma}N_{it}^{\beta}$

…….vi

$K_{it}=\frac{W_{it}}{\beta}\frac{\alpha}{C_{it}}N_{it}$ Therefore $K_{it}=\frac{\alpha}{\beta}N_{it}\frac{W_{it}}{C_{it}}$ ……..…..vii

Appendix A2: Labor Demand Function Computation

Labor demand function is computed as follows:

$Y_{it}=A^{\gamma}K_{it}^{\alpha}N_{it}^{\beta}$ becomes $Y_{it}= A^{\gamma}(\frac{\alpha}{\beta} N_{it} \frac{W_{it}}{C_{it}})^{\alpha}N_{it}^{\beta}$……i

Taking logarithms on both sides and rearranging the terms gives the labor demand function.

$\ln Y_{it}= \gamma \ln A+\alpha \ln \alpha-\alpha \ln \beta+\alpha \ln N_{it}+\alpha \ln \frac{W_i}{C_i}+\beta \ln N_{it}$ ……...ii

$\alpha \ln N_{it}+ \beta \ln N_{it}=\ln Y_{it}-\gamma \ln A-\alpha \ln \alpha+\alpha \ln \beta- \alpha \ln \frac{W_i}{C_i}$ ……..iii

$\ln N_{it}(\alpha+\beta)= \ln Y_{it}-\gamma \ln A-\alpha \ln \alpha+\alpha \ln \beta- \alpha \ln \frac{W_i}{C_i}$ …….iv

$\ln N_{it}= \frac{-(\gamma \ln A+\alpha \ln \alpha-\alpha \ln \beta)}{(\alpha+\beta)}+\frac{1}{(\alpha+\beta)} \ln Y_{it}- \frac{\alpha}{(\alpha+\beta)} \ln \frac{W_i}{C_i}$ …….…v

$\ln N_{it}=Ø_0+Ø_1 \ln Y_{it}+Ø_2 \ln \frac{W_i}{C_i}$ where ……..…vi

$Ø_0=\frac{-(\gamma \ln A+\alpha \ln \alpha-\alpha \ln \beta)}{(\alpha+\beta)}$, $Ø_1=\frac{1}{(\alpha+\beta)}$ and $Ø_2=-\frac{\alpha}{(\alpha+\beta)}$ ….…vii

Appendix A3: Derivation of Relationship between Employment and {Foreign Direct Investments (FDI) & Portfolio Investments (PI)}

Relationship between labour (employment) and {Foreign Direct Investments (FDI) & Portfolio Investments (PI)} as follows:

$$\ln N_{it}=\frac{-(\gamma \ln A+\alpha \ln \alpha-\alpha \ln \beta)}{(\alpha+\beta)}+\frac{1}{(\alpha+\beta)}\ln Y_{it}-\frac{\alpha}{(\alpha+\beta)}\ln\frac{W_i}{C_i} \quad \ldots\ldots\ldots\ldots i$$

$$\ln N_{it}=\varnothing_0+\varnothing_1\ln Y_{it}+\varnothing_2\ln\frac{W_i}{C_i} \text{ where } \ldots\ldots\ldots\ldots ii$$

$$\varnothing_0=\frac{-(\gamma \ln A+\alpha \ln \alpha-\alpha \ln \beta)}{(\alpha+\beta)},\ \varnothing_1=\frac{1}{(\alpha+\beta)} \text{ and } \varnothing_2=-\frac{\alpha}{(\alpha+\beta)} \quad \ldots\ldots\ldots\ldots iii$$

$$A=e^{CT}FDI_{it}^{d}PI_{it}^{f} \quad c,d \;\&\; f>0 \quad \ldots\ldots\ldots\ldots iv$$

$$\ln A=CT\log_e e+d\ln FDI_{it}+f\ln PI_{it} \quad \ldots\ldots\ldots\ldots v$$

$$\ln N_{it}=\frac{-\gamma}{(\alpha+\beta)}(CT\log_e e+d\ln FDI_{it}+f\ln PI_{it})-\frac{(\alpha \ln \alpha-\alpha \ln \beta)}{(\alpha+\beta)}+\varnothing_1\ln Y_{it}$$

$$+\varnothing_2\ln\frac{W_i}{C_i} \quad \ldots\ldots\ldots\ldots vi$$

Where $U=\frac{-\gamma}{(\alpha+\beta)}$, $\Omega=-\frac{(\alpha \ln \alpha-\alpha \ln \beta)}{(\alpha+\beta)}$, $U_0=Uc$, $U_1=Ud$, $U_2=Uf$

$$\ln N_{it}=\Omega+U_0T+U_1\ln FDI_{it}+U_2\ln PI_{it}+\varnothing_1\ln Y_{it}+\varnothing_2\ln\frac{W_i}{C_i} \quad \ldots\ldots\ldots\ldots vii$$

Appendix A4: Unit Root Test Results

Variable	Level		First Difference		
	Test Statistic	Stationarity	Test Statistic	Stationarity	Conclusion
Youth unemployment rate (%)	0.552	Non Stationary	-2.677	Stationary	I(1)
Foreign direct investments USD (%of GDP)	-3.145	Stationary			I(0)
Portfolio investments USD(% of GDP)	-3.613	Stationary			I(0)
Population growth annual (%)	-2.433	Non Stationary	-2.143	Stationary	I(1)
Inflation Rate Annual (%)	-7.102	Stationary			I(0)
Trade(%of GDP)	-1.722	Non Stationary	-4.260	Stationary	I(1)
Employment to population ratio, 15+, total (%)	-0.692	Non Stationary	-2.527	Stationary	I(1)
Government expenditure,(% of GDP)	-2.708	Non Stationary	-3.384	Stationary	I(1)

Note: All the variables of the model are I(0) and I(1) making it suitable to be used in ARDL Model according to (Pesaran & Shin, 1999)

Source: Author's Calculations (2025)

Appendix A5: Plot of CUSUM Curve for the ARDL Model

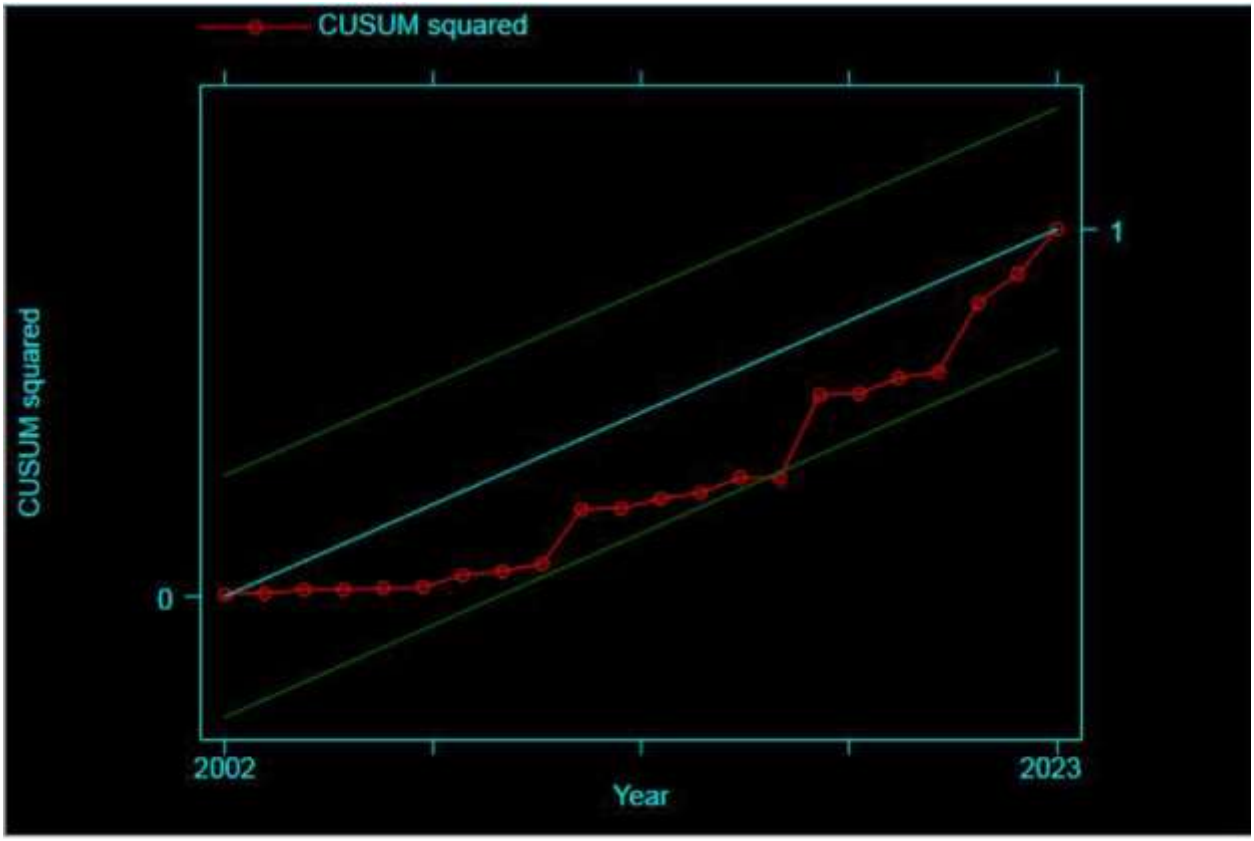

Figure A5: Plot of CUSUM curve is between 5% of critical bounds showing model stability therefore there are no structural breaks

Source: Author's Calculations (2025)

Appendix A6: Data

Year	Youth Unemployment Rate (%)	FDI USD (% of GDP net inflows)	Portfolio Inv USD (% of GDP) net	Inflation Rate Annual (%)	Population growth annual (%)	Trade (% of GDP)	Employment to population ratio, 15+, total (%)	Government expenditure, (% of GDP)	FDI USD billion net inflows	Portfolio Investments USD billion net
1993	6.676	2.53235	0.328636356	45.9788813	2.96883713	72.85848	70.745	18.9223914	0.14565552	0.0189025
1994	6.68	0.10398	0.027819748	28.8143894	2.90339923	71.26613	70.675	18.7965893	0.00743241	0.0019886
1995	6.527	0.46747	0.0806636	1.55432816	2.83906557	71.74574	70.665	17.3284916	0.04228925	0.0072971
1996	6.428	0.90216	0.415932898	8.86408742	2.75278022	57.31211	70.636	15.2186992	0.10867293	0.0501027
1997	6.551	0.47345	0.681545038	11.3618451	2.73276497	54.05712	70.52	15.5517879	0.06209681	0.0893898
1998	6.633	0.18837	0.270525131	6.72243651	2.75957646	48.89724	70.42	15.3427134	0.02654825	0.0381278
1999	6.747	0.40286	0.163978906	5.7420011	2.8843005	48.19227	70.299	13.6823929	0.05195346	0.0211467
2000	6.774	0.8729	0.113280241	9.98002515	3.01293994	53.30904	70.417	14.0941769	0.11090455	0.0143927
2001	6.788	0.04083	0.010925267	5.73859814	3.13629207	55.94684	70.54	14.9397026	0.00530262	0.0014188
2002	6.892	0.21006	0.036246647	1.96130822	3.14626442	55.17267	70.629	15.6508608	0.02761845	0.0047656
2003	6.837	0.54841	0.252840864	9.81569063	3.08528899	54.13227	70.78	16.0135232	0.08173824	0.0376847
2004	6.827	0.28619	0.41198348	11.6240355	3.10482476	59.477	70.914	15.4480547	0.04606393	0.0663101
2005	6.667	0.1132	0.162577477	10.3127784	3.07223123	64.47887	71.106	16.249336	0.02121169	0.0304636
2006	6.585	0.19622	0.079867737	14.4537342	3.04704867	55.23649	71.269	17.3105644	0.05067473	0.0206263
2007	6.576	2.28124	0.077376058	9.75888023	3.02220921	53.89479	71.407	18.0761716	0.72904415	0.024728
2008	6.848	0.26629	0.072698241	26.2398166	3.02964938	57.5786	71.445	18.9155622	0.09558568	0.0260951
2009	7.035	0.27453	0.04931979	9.23412592	3.0211086	45.94519	71.514	20.2741192	0.11625761	0.0208856
2010	7.053	0.39216	0.063777821	3.96138889	2.90158845	50.39429	71.645	21.5433495	0.17806461	0.0289587
2011	6.932	3.09471	0.003653561	14.0224913	2.75013744	58.40221	71.827	20.1183099	1.45047476	0.0017124
2012	6.953	2.44726	-0.38600488	9.37777004	2.60807442	51.62369	71.957	22.0978767	1.38017366	-0.217694
2013	7.186	1.81417	-0.43861434	5.71749357	2.47210752	47.46464	72.01	23.230469	1.118825	-0.2704998
2014	7.255	1.20221	-5.44308564	6.87815499	2.33901192	46.17049	72.12	23.424854	0.8209376	-3.7168544
2015	7.3	0.8838	0.221124041	6.58215429	2.22703294	40.32738	72.237	23.826738	0.61972447	0.1550532
2016	7.333	0.62759	0.504609168	6.29724954	2.20775685	34.86502	72.354	25.3605054	0.46953331	0.3775241
2017	9.096	1.64084	0.891216228	8.00564968	2.17412855	35.99506	69.745	25.1982106	1.34608535	0.7311227
2018	10.82	0.83269	-0.70390306	4.68980647	2.03083744	34.41475	67.1	24.478941	0.76776151	-0.6490196
2019	12.55	0.46817	-0.45649778	5.23963796	1.9638155	31.75946	64.403	24.4153258	0.46994027	-0.4582253
2020	13.65	-0.0054	1.304682857	5.40516208	1.96197634	27.23782	63.273	24.8033564	-0.0054038	1.3132612
2021	12.23	0.38259	0.181856056	6.10793604	1.90040859	30.8243	63.621	24.0153983	0.41971961	0.1995027
2022	12.19	0.69165	0.617462928	7.65986268	1.92297608	33.69114	63.356	23.1604277	0.79158176	0.70668
2023	12.01	0.67454	0.59748628	7.67139634	1.98296028	32.09208	63.248	22.683915	0.72876661	0.6455157

Negative values show net outflows (World Bank, 2025).

Source: World Development Indicators and International Monetary Fund