

The Nexus Between Foreign and Portfolio Investments, and Youth Unemployment in Kenya

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ABSTRACT

Youth unemployment is a global problem as countries at different stages of development that is underdeveloped, developing and developed are grappling with the problem of youth unemployment, which has been addressed in different country specific ways. Investments of whatever form are the life wire of the economy. Investments are a remedy for macroeconomic problems of unemployment, income inequality and economic growth. Investments change the economic structure to affect certain economic sectors eyed by private and public sectors. Investments from foreign entities provide a supportive role in an open foreign economic system with accompanying effects on economic development and growth. Foreign direct investments effects are seen unevenly or uniformly around the globe due to variety economic conditions. Investments in whatever form in a certain country is a key ingredient of economic growth or a catalyst of growth and development leading to job creation for the youth and other people in the labor force. Facilitated portfolio investments and capital market ease of penetration are pull factors for investors. The study seeks to determine the investments effects on Kenya's youth unemployment rate. The study objectives are to determine the foreign direct investments and portfolio investments effects on Kenya's youth unemployment rate. Investments have not been much prioritized to affect the level of youth unemployment; this informs this research work. The Keynesian theory of unemployment anchors the study. This research would be non-experimental as the time series data would be collected from Kenya National Bureau of Statistics, World Bank Development Indicators and Central Bank of Kenya for 1993 to 2022 period. Time series properties of trend and stationarity that is unit roots tests were tested for all the variables if it exists before estimation. Linear regression assumptions of homoscedasticity, linearity and

collinearity were tested before estimation. Multiple regression analysis method was used to analyze stationary data. Tables were used to present results. Study findings, on the effect of foreign direct investments had a statistical insignificant effect on youth unemployment ages 15-24 years in Kenya while portfolio investments had a statistical insignificant effect on youth unemployment rate ages 15-24 years in Kenya. Conclusion of the study, portfolio investments and foreign direct investments t-statistics were insignificant at five per cent (5%) level of significance therefore could not affect the level of youth unemployment rate ages 15-24 years. Recommendations of the study portfolio investments, foreign direct investments and other forms of investments should be directed towards labor absorbing sectors so that different categories of unemployment can be absorbed thus employment creation. Kenya's macro-economic measures need to be directed towards all categories of unemployment.

1. INTRODUCTION

1.1. Background

Youth energy and creativity is fundamental to national development agenda. Unemployment has negative consequences on the economic activities and society, as able bodied persons and resources are not properly utilized (Goldin, 2015). Youth spectate various economic activities where they are not part and parcel thus taking a back sit in development agenda. It results to the youth living in poverty, springing up of heath conditions such as mental health complications due to hopelessness. 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 youth group not taking part in training, employment, education, or actively looking for work within the economy for one reason to another, for the economy to be productive their input is crucial. The governments suffer tax revenue loss and businesses suffer consumer loss due to inability of the youth to participate in meaningful economic activities (Goldin, 2015). Macroeconomic environment dynamism and education & skill mismatch are major contributors of youth unemployment. Life expectancy around the world has improved due to medical and pharmaceutical technological advancement which has reduced significantly child and adult mortality. Household level interventions for the youth are the silver bullet to tackle youth unemployment (Goldin, 2015).

Entrepreneurship, agriculture, informal sector employment and self-employment cards are always available for the youth. Private sector and government interventions combined should offer relief to the levels of youth unemployment around the globe in order to meet sustainable development goals (Goldin, 2015). Youth demographic dividend is in stock 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. In conflict and fragile states the youth are in a disadvantaged position due limited access to education & skills development and work opportunities due to the state of macroeconomic and political environments which are not conducive for investment to support the youth (Goldin, 2015).

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). Youth in developing or underdeveloped countries face a rocky path towards economic independence unlike their counter parts in developed world that have access to necessary tools for economic empowerment (Goldin, 2015). The unemployment rate globally for the youth is approximate 15.6% in the year 2021, the adult rate is less thrice. In the year 2021 globally some seventy five million youth were not in employment, four hundred and eight million were employed, and seven hundred and thirty two million were outside the labour force (ILO, 2022). It goes to show that more youth are in unemployment bracket more than adults. The statistics indicate 807 million youth in the world are not engaged in any meaningful economic activities (ILO, 2022). It is a direct threat to world peace if the problem is not addressed now.

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 foreign direct investments to developing and underdeveloped countries which require funds for developments. Developed countries multinational companies have established bases in developing and underdeveloped countries (Al-Sadig, 2013). Businesses are being conducted to the benefit of all stakeholders in the supply and demand chain. 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. Firms and developed countries characteristics inform on the flow of foreign direct investments (Al-Sadig, 2013).

Home country suffers reduced capital availability due to flow of investments to foreign countries but such severity is influenced by the level of savings in the home country. 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 it benefits both economies stimulating growth (Al-Sadig, 2013). Firms' foreign investments may be driven by local market dynamics where the foreign local market has deficiency in supply of products or services thus the need to join the market. Firms' foreign investments may have critical assets to firms growth and productivity in order to meet strategic production plans (Al-Sadig, 2013). Foreign country macro and micro economic environment is critical for foreign direct investments as investors' confidence levels affect it positively by increased investments and negative by

reduced investments or no investments (Al-Sadig, 2013). 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 (Al-Sadig, 2013). Trade conditions between the two economies are they 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 cure macroeconomic challenges of unemployment, income disparities and country specific investment attractiveness competition. Investments alter the country or territory structure of the economy 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 (Claessens & Gooptu, 2014). 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 and not correlated to it, 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). Portfolio optimization is driven by variance covariance matrix and returns expected. Emerging or developing capital markets are attractive reason being their predictability or forecasting where information is readily available to investors to exploit the market. Shifting industrial structures have risk sensitivity for emerging economies which can sway investments in either direction (Claessens & Gooptu, 2014). Risk exposure estimates are available for emerging capital markets for safeguarding their investments. Risk exposure parameters are global inflation rate, growth of global industrial production, 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 and the macro and micro economic environment. Ease of portfolio investments and capital market visibility attract potential investors to exploit the market. Investment network is interlinked with differences coming in the levels of development of capital markets (Hakeem & Suzuki, 2016). Action strategy 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. Kenya Youth Unemployment

Kenya an East Africa country the level of youth unemployment has been rising despite interventions in policy and legislations. Quarter 4 year 2022, 527,124 youth were unemployed, 1,756,437 youth were not in education, employment or training (KNBS, 2023). 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 in all sectors of the economy, stability of all macroeconomic indicators, law and 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.

Table 1.1 presents unemployment data categorized by age cohorts for quarter four of year 2021, quarter three of year 2022, and quarter four of year 2022.

Table 1.1: Unemployment (strict definition) by Age cohorts

Fourth Quarter, 2021			Third Quarter, 2022			Fourth Quarter, 2022			Change	
Age Cohort/ Unemployed	Total Labour Force	Rate	Unemployed	Total Labour Force	Rate	Unemployed	Total Labour Force	Rate	Qrt4, 2022/ Qrt3, 2022	Qrt4, 2022/ Qrt4, 2021
15-19 years 74,957 persons	894,934	8.4	145,992	642,950	22.7	102,650	937,913	10.9	-11.8	2.5
20-24 years 361,411 persons	2,483,730	14.6	336,916	2,379,930	14.2	424,474	2,720,443	15.6	1.4	1.0
436,368 persons	3,378,664	12.9	482,908	3,022,880	15.97	527,124	3,658,356	14.4		

Source: (KNBS, 2023)

The "Unemployed" column represents individuals in numbers not employed in each age cohort. "Total Labour Force" column represents total number of people in the labor force in each age group. The "Rate" column represents the rate of unemployment, computed as follows (not employed divide by Labour Force Total) multiply by one hundred. "Change" columns show percentage change of rate of unemployment for Quarter 4, 2022, compared to Quarter 3, 2022, and Quarter 4, 2021, respectively. The unemployment rate for the 15-19 age group decreased from Quarter 3, 2022, to Quarter 4, 2022, but increased compared to Quarter 4, 2021. The unemployment rate for the 20-24 age group increased slightly from Quarter 3, 2022, to Quarter

4, 2022, and also increased compared to Quarter 4, 2021. The total unemployment rate decreased from Quarter 3, 2022, to Quarter 4, 2022. This table only represents a point in time, the long term trend is illustrated on figure 1.3 where unemployment rate for the youth ages 15-24 years is fluctuating over time but on a upwards trend.

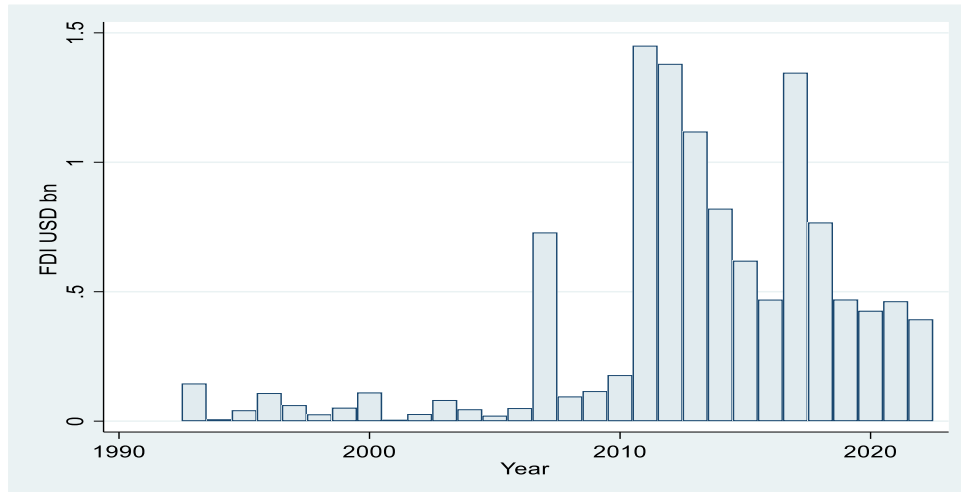
1.1.2 Foreign Direct Investments in Kenya

Foreign direct investments have a pivotal role in an open international economic system with derived benefits of developed country and growth of the economy. Benefits of foreign direct investments are realized unevenly or uniformly across the world due to different economic environments or climate (OECD, 2002). Developing countries initiate foreign direct investments pull factors account for disparities in investments as a well-orchestrated macro and micro economic climate and environment is able 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 (KNBS, 2020).

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. 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 1.1 focuses on Foreign Direct Investments (FDI) to Kenya from 1993 to 2022.

Figure 1.1 shows that the year 1993 foreign direct investments were 0.145655517 billion USD but declined to as low as 0.005302623 billion USD in the year 2001 this can be attributed to the micro and macro-economic environment created by the government or people. A change of government in year 2007 saw foreign direct investments reach 0.729044146 billion USD. Dropping in year 2008 to 0.09558568 billion USD attributable to post election violence due to disputed presidential election which saw a drop in investor confidence.

Figure 1.1: Foreign Direct Investments to Kenya



Source: World Bank 2023

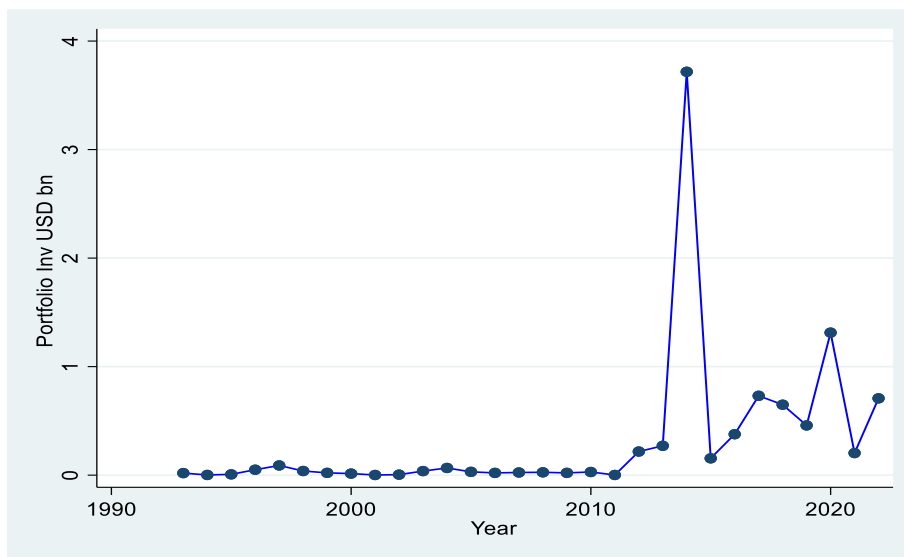
The formation of a coalition government restored investor confidence, foreign direct investments reaching 1.450474757 billion USD in 2011. It is notable during the electioneering period and soon after there is a dip in foreign direct investments due to uncertainty brought about by elections. 1.346085345 billion USD was invested in 2017 but declined soon after due to uncertainty brought about by elections (World Bank, 2023).

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 (GIIN & OCA, 2015). 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 (GIIN & OCA, 2015). 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 (GIIN & OCA, 2015). 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 1.2, which represents Portfolio Investments in Kenya from 1993 to 2022.

Figure 1.2: Portfolio Investments in Kenya



Source: World Bank 2023

Figure 1.2 shows that in the year 1993 portfolio investments were 0.018902462 billion USD attributable to equity securities and debt securities market conditions which were supporting it. It dropped to 0.001988597 billion USD in 1994 due unfavorable market conditions which eroded investor confidence. It picked up in the year 1997 reaching 0.089389841 billion USD due lucrative returns and conducive economic environment supported by the government policies. It dropped to a low of 0.001418756 billion USD in the year 2001 due to prevailing political and economic environment which was not favoring investments in equity securities and debt securities. It reached 0.06631013 billion USD in the year 2004 attributed to change of government which inspired investor confidence coupled with transformative economic policies favoring the business community. It declined to a low of 0.001712405 billion USD in the year 2011 due to political and economic conditions at the time, political uncertainty was setting in on who would be President Kibaki successor. It picked up to 3.716854384 billion USD in the year

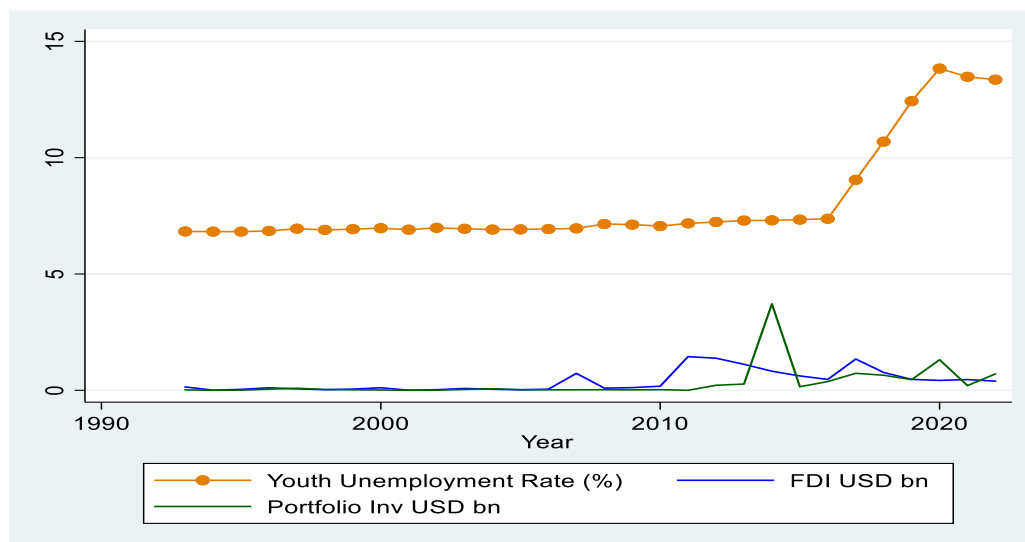
2014 due to a change of government and its spirited efforts to attract portfolio investments. It dropped but later picked up to 1.322891783 billion USD in the year 2020 (World Bank, 2023).

1.1.4 Youth Unemployment Rate compared to Foreign Direct Investments 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 (KNBS, 2020). 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). 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. Quarter 4 year 2022, 527,124 youth were unemployed, 1,756,437 youth were not being trained, employed or educated (KNBS, 2023).

Figure 1.3 presents Foreign Direct Investments (FDI), Youth Unemployment Rate ages 15-24 years and Portfolio Investments in Kenya from 1993 to 2022.

Figure 1.3: Youth Unemployment Rate compared to Foreign Direct Investments and Portfolio Investments



Source: World Bank 2023

Figure 1.3 the level of youth unemployment rate has been fluctuating over the years reaching 13.352 in the year 2022 (World Bank, 2023). It is notable during the electioneering period and soon after there is a dip in foreign direct investments due to uncertainty brought about by elections this accounts for fluctuations in foreign direct investments levels. Prevailing political & economic environment influences the level of investments in equity securities and debt securities thus accounting for fluctuations in the levels of portfolio investments.

1.2. Statement of the Problem

Development agenda for Kenya is based on a vibrant investment culture. Foreign direct investments have a pivotal role in an open international economic system with derived benefits of economic growth and development. It triggers 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. Reforms have been pull factors for domestic and international firms (KNBS, 2020).

Kenya investment climate has been lucrative to attract portfolio investments in debt and equity securities. Kenya pull factors such as stable macroeconomic factors, established infrastructure and transparent regulatory framework have facilitated portfolio investors’ confidence to invest in debt and equity securities (GIIN and OCA 2015). Kenya’s economy has continued to grow over time due to the support from infrastructure projects, investments by the government and private sector domestic investments, fiscal and monetary policies (Kimenyi, *et al.*, 2016).

Unemployment has negative consequences on the economic activities and 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, 2023). Since 1964, the Kenyan government has implemented numerous policies and programs to tackle unemployment, including development plans for 1964-1970, 1966-1970, 1984-1988, 1994-1996, 1997-2001, and 2002-2008; Sessional Papers No. 10 (1965 and 1973), No. 2 (1985, 1992, and 1997), No. 1 (1994); the Economic Recovery Strategy Paper for 2003-2007; and Vision 2030. Despite these efforts, youth unemployment continues to rise, posing a national challenge. Foreign direct investments (FDI) in Kenya showed fluctuations from 1993 to 2017, ranging from \$0.1087 billion to \$1.4505 billion. Portfolio investments also varied significantly, peaking at \$3.7169 billion in 2014. Meanwhile, youth unemployment rates rose from 6.83 in 1993 to 13.83 in 2020, indicating growing economic challenges despite investment inflows (World Bank, 2023).

Despite the rise in Kenya's foreign direct investments and portfolio investments it is not clear whether it has a bearing on youth unemployment rate. Investments cure macroeconomic challenges of unemployment, income disparities and country specific investment attractiveness competition (Weiss & Clara, 2016). These forms of investments are expected in one way or another to affect the levels of youth unemployment rate. Empirical literature on the effects of portfolio investments and foreign direct investments on economic growth & youth unemployment has shown mixed results. Studies such as those by Fagge and Zubairu (2014) and Mkombe *et al.* (2021) have investigated 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). This research aims to dissect the specific impacts of these investment types on youth unemployment in Kenya, providing necessary insights for policymakers to address this persistent issue effectively.

Two schools of thought emerge on effects of portfolio investments and foreign direct investments on youth unemployment or unemployment, due to mixed results the study sought to ascertain the effects of portfolio investments and foreign direct investments on youth unemployment rate ages 15-24 years for Kenya. The disaggregation of unemployment to cover youth ages 15-24 years is crucial because portfolio investments and foreign direct investments affect differently, the different unemployment categories and this study would provide analysts and a variety policy makers the correct tools & applicable knowledge.

This identified gap was the motivation for this research to provide insights into how foreign direct investments and portfolio investments can provide policy direction for youth unemployment problem in Kenya.

1.4. 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?

1.5. Objectives to the study

Core objective of this research is to determine the effects of investments on youth unemployment rate in Kenya. The specific objectives of the research 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.

1.6. Significance of the Study

The study has made contributions to unemployment & investment theories. It has created a framework that connects youth unemployment ages 15-24 years and investments. This study is a reference point for ways and means of addressing youth unemployment thus adding value to decision makers in government and private sector. Transformation of theories, empirical literature missing links and further study areas for researchers to explore have been invoked.

1.7. Scope and Organization of the Study

This study covered a period of thirty years, population of interest is Kenya. The research relied on secondary sources of data. The period 1993 to 2022 was selected because data is available for all the variables to be used in the study. The research work covered the following areas: First chapter contains background to the study, problem statement, questions of research, objectives of research, study significance and study scope. Second chapter comprises of literature review consisting of empirical literature review, theoretical literature review & literature overview. Third chapter 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.

2. LITERATURE REVIEW

2.1. Introduction

The section comprises of reviewed literature. Chapter two puts forward what has been done on the topic of discussion. It sheds light to key dimensions of the topic of study and an assessment of empirical literature and theoretical literature. Overview of literature presents the gap to be filled.

2.2. Theoretical Literature Review

Theories for particular fields of study have been advanced to address a myriad of issues in the society. Human growth and development has distinct stages, youth is part of transition characterized by important decisions having a remarkable bearing on the future generation (Fox & Kaul, 2017). Youth are a major ingredient to economic growth and development supported by their cognitive and physical abilities with discipline. Inadequacies in developing and underdeveloped countries education system fails to prepare the youth for the dynamic world economy (Fox & Kaul, 2017). Youth unemployment is symptom of the overall employment levels in the country that is economic conditions. Economic structure overhaul leading to expansion of production could lead to increased employment opportunities for the youth. Empirical evidence of successful interventions is the key to address it (Fox & Kaul, 2017). Theories appropriate for addressing youth unemployment are the Keynesian theory of unemployment, product life cycle theory and modern portfolio theory as in one way or another touch on production which is related to employment creation. Employment creation touches on different segments of labor force including the youth.

2.2.1. Marx's Theory of Surplus Value

Karl Marx (1863) put forward theory of surplus value, in his work *Das Kapital*. It exhibits the capitalist mode of production system. Capitalists are driven by the level of profit from production. This leads to creation of a class system in society consisting of the capitalists and laborers. Profit motivation drive exhibited by the capitalists drives the compensation to the laborers to be minimal or a small fraction to the value they add to the production process. Laborers receive minimal compensation to work done or wages leading them to live deplorable lives at the expense of the capitalists who keep a substantial amount of production to quell their thirst for profits. Capitalists institute rigidities in labor absorption in their production entities in order to lower the cost of labor which leads to desperation of the working class searching to fend for themselves. This action by the capitalists to maximize profits lower the cost of production breeds a group of unemployed labor force in society. The capitalist system is characterized by tensions between the two classes as they strive to achieve their desired motives; trade unions are in motion to champion worker rights and also the capitalists have also formed organizations to protect their interests. Capitalist system enriches the few while a majority of the society lives in deplorable conditions. It thus has created unemployment in different segments in society as for

the study youth unemployment. Youth unemployment is a consequence of capitalistic tendencies in society which are not able to absorb this segment of society laying the seeds of despair and poverty.

2.2.2. 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 each time. 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 lengthy 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. Nominal wages in the Keynesian theory 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 not being employed according to Keynes was the deficiency in aggregate demand. Consequently, Keynes proposed that not being employed 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 not being employed and achieving full employment goal (Okoli & Okeke, 2024). A study by Oluchukwu, Chinyere and Francisca (2019) revealed that investment broken down into foreign direct investment, public sector investment and private domestic investment are negatively related to unemployment meaning that each of them has far reaching effects on unemployment. 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.

2.2.3. Modern Portfolio Theory

It was put forward by Harry Markowitz (1952 & 1959) 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). A study by Elekwa, Aniebo and Ogu (2016) revealed that portfolio investment affects significantly and positively employment growth long term. Portfolio assets relate to entities which have employed people thus portfolio investments affect the level of youth unemployment.

2.2.4. Theory of Product Life Cycle

It was put forward by Vernon (1966). It provides the basis under which firms are established in foreign countries. Comparative advantage theory is employed as it links foreign direct investments and product life cycle. Manufacturing industry lures foreign direct investments. Production cycle is divided into three distinctive stages. Stage one new product development through innovation. Local firms produce the product for local and foreign market. Final specifications and costs are not yet standardized at this stage. Stage two products growth, the demand expands and there is standardization of products, the local market is saturated. Due to this firms expand their tentacles to foreign countries, to take advantage of cheap production costs and compete. Stage three products maturity, the products production has matured and the products are standardized. Prices are influenced by the manner of production due to enhanced competition. Local firms expand to foreign countries in large numbers to take advantage of competitive advantage of foreign countries. Foreign subsidiaries produce products for local firms when it is not able to export. A study by Oluchukwu, Chinyere and Francisca (2019) revealed that investment broken down into foreign direct investment, public sector investment and private domestic investment are negatively related to unemployment meaning that each of them has far reaching effects on unemployment. Foreign subsidiaries create employment in the foreign country thus affecting the levels of youth unemployment.

2.3. Empirical Literature Review

Fagge and Zubairu (2014) conducted a review examining the relationship between the private sector and youth employment generation in Nigeria. They analyzed data from secondary sources 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. However, the study relied solely on trend comparisons and did not incorporate econometric tools for analysis, leaving a gap in the research that this proposed study aims to address by utilizing more advanced econometric methods.

Göçer and Erdal (2015) conducted an empirical analysis of the relationship between youth unemployment and economic growth in Central and Eastern European countries. Using panel data for 18 countries with youth unemployment rates exceeding 25% from 2006 to 2012, the study concluded that severe youth unemployment cannot be resolved solely through economic growth. However, the research did not account for the effects of foreign direct investments and portfolio investments on youth unemployment, highlighting a gap that this proposed research intends to address.

Honorati (2015) examined the impact of private sector internships and training programs on urban youth in Kenya through a randomized experiment conducted in Kisumu, Nairobi, and Mombasa. 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. However, while this study focused on the role of internships and training in urban youth employment, it did not address the effects of portfolio and foreign direct investments (FDI) on the overall unemployment rate among Kenyan youth. This gap will be explored by the current research, which aims to investigate how portfolio and FDI impact youth unemployment in Kenya.

Caliendo and Schmidl (2016) analyzed youth unemployment and the impact of active labor market policies (ALMPs) in Europe, focusing on the effectiveness of public work programs, subsidized employment, job search assistance, monitoring, and training courses. 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. However, the research did not explore the effects of portfolio and foreign direct investments (FDI) on youth unemployment. This current research aims to address this gap by examining the influence of portfolio investments and FDI on youth unemployment in Kenya.

Elekwa, Aniebo, and Ogu (2016) examined the impact of foreign portfolio investment (FPI) on employment growth in Nigeria, using multiple regression analysis. Their findings showed that FPI positively affects long-term employment growth. However, the study did not address youth unemployment, a key issue in many developing countries. This research aims to fill that gap by focusing on how FPI affects youth unemployment in Kenya, providing insights into how

portfolio investments can contribute to job creation for young people and inform policy interventions targeting youth employment.

Nwakoby and Bernard (2016) investigated the effect of private sector investment on economic growth in Nigeria, using regression analysis to test the stationary variables. Their findings revealed that private sector investment has a 98% impact on Nigeria's economic growth, highlighting it as a crucial tool for sustained development. However, the study did not address youth unemployment, a significant issue in many developing economies. This research aims to fill that gap by examining the effect of private sector investment on youth unemployment in Kenya, focusing on how investment contributes to job creation for young people.

Bayar and Sasmaz (2017) analyzed the impact of foreign direct investment (FDI) on unemployment in emerging market economies using co-integration analysis and the Augmented Mean Group (AMG) estimator. Their results indicated a long-term positive relationship between unemployment and FDI inflows, while unemployment and domestic investments showed a negative relationship. However, the study did not specifically address youth unemployment, leaving a critical gap. This research seeks to fill that gap by examining how FDI affects youth unemployment in Kenya, aiming to understand its role in creating employment opportunities for young people.

Bahri, Fatmawati, and Madris (2019) examined the impact of government expenditure and private investments on unemployment in Indonesia, focusing on the demand side using structural model analysis. Their findings showed a negative relationship between government expenditure and unemployment, while private investments were positively related to unemployment. Government spending on human resource development and economic growth had a significant positive effect on reducing unemployment, whereas private investments showed no significant impact. However, the study did not address youth unemployment, a gap that this research seeks to fill by focusing on the effects of these factors on youth unemployment in Kenya.

Katumo (2019) analyzed the relationship between youth unemployment and economic growth in Kenya using the Granger causality test and ordinary least square method. The findings revealed a unidirectional causal relationship where economic growth Granger-caused youth unemployment, with economic growth lagging behind. The study also found a positive parameter between youth unemployment and economic growth. However, it did not consider the effects of portfolio and foreign direct investments (FDI) on youth unemployment in Kenya. This research aims to fill that gap by exploring how portfolio and FDI influence youth unemployment in the country.

Kyalo (2019) investigated the relationship between foreign direct investment (FDI), economic growth, and employment in Kenya using the ordinary least squares technique on stationary

variables. The results showed that FDI has a positive relationship with both economic growth and employment in Kenya. However, the study overlooked the impact of other components, such as portfolio investments, on youth unemployment. This research seeks to fill that gap by examining the effects of both foreign direct investment and portfolio investments on the unemployment rate among youth in Kenya.

Ndugbu, Osuka, and Duruechi (2019) examined the relationship between private sector investments and unemployment in Nigeria from 1986 to 2016. They employed Vector Error Correction Model (VECM), pairwise Granger causality analysis, and Johansen co-integration analysis for data evaluation. The findings indicated that no conclusive causality could be established between private sector investments—including foreign portfolio investment, foreign direct investment, and private domestic investment—and long-term unemployment in Nigeria. However, the study did not address youth unemployment, leaving a critical gap. This research aims to fill that gap by investigating how these investments impact youth unemployment in Nigeria.

Oluchukwu, Chinyere, and Francisca (2019) analyzed the impact of various types of investment on unemployment in a developing economy 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. However, the study did not consider the role of portfolio investments in influencing youth unemployment. This research seeks to fill that gap by examining how portfolio investments impact youth unemployment in the context of a developing economy.

Imtiaz *et al.* (2020) investigated the determinants of youth unemployment in Pakistan 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 a significant and positive relationship between youth unemployment and factors such as overpopulation, political instability, the backwardness of the agricultural sector, and a lack of investment, indicating that these factors contribute to rising youth unemployment. However, the study did not consider the impact of portfolio and foreign direct investments on youth unemployment, leaving a critical gap that this research aims to address.

Pasara and Garidzirai (2020) investigated the causal effects among gross capital formation, unemployment, and economic growth in South Africa using Vector Autoregressive (VAR) analysis. They found that gross capital formation positively affects economic growth in the long term, while short-term unemployment does not influence growth. In their second model, gross

capital formation and unemployment had a significant positive relationship, while economic growth and unemployment were inversely related in the third model. However, the study did not consider youth unemployment, leaving a gap to be addressed by this research.

Lambovska, Sardinha, and Belas (2021) analyzed the impact of the Covid-19 pandemic on youth unemployment in the European Union, comparing data across member countries. 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. However, it did not examine the role of portfolio and foreign direct investments on youth unemployment, creating a gap for this research to fill.

Mkombe et al. (2021) examined the effects of foreign direct investment (FDI) on youth unemployment (ages 15-24) in the Southern African Development Community (SADC) region, using the 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 study overlooked portfolio investments, creating a gap for further investigation into youth unemployment.

Setyanti and Wahyudi (2021) explored the causality between FDI and youth employment (ages 15-24) in ASEAN-5 countries using Granger causality and unit root tests. They found that FDI inflows positively influenced youth employment in Singapore, Indonesia, the Philippines, and Malaysia, while the relationship was negative in Thailand. Overall, there was no bidirectional causal relationship between youth employment and FDI in these countries. The study did not consider portfolio investments, highlighting a gap to be filled by this research.

Kukaj, Nimani, and Usaj (2022) investigated the relationships between FDI, economic growth, and unemployment in developing countries using multiple linear regression. Their findings indicated a positive relationship between economic growth and FDI with levels of unemployment in the Western Balkans. However, the study did not address the roles of portfolio investments and youth unemployment, creating a gap for this research to explore.

Tanaya and Suyanto (2023) analyzed the role of FDI on youth unemployment (ages 15-25) in Indonesia using the Auto-Regressive Distributed Lag (ARDL) method for both long-run and short-run analyses. They found that in the short run, FDI can increase youth unemployment due to industry reallocation, while in the long run, FDI significantly reduces youth unemployment. The study did not consider portfolio investments, highlighting a gap to be addressed by this research.

2.4. Overview of Literature

Literature review theoretical perspective supports the notion that investment is the engine of growth. The Keynesian theory of unemployment, product life cycle theory and modern portfolio theory show that investments are required for increased output which translates to increased level of capital goods and human labour. These theories support that increased level of investments would lead to decreased levels of youth unemployment. Empirical literature on the effects of portfolio and foreign direct 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) 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. Fagge and Zubairu (2014) examined Private Sector and Youth Employment Generation in Nigeria: a review but data analysis was by comparison of trends in youth unemployment and private sector investments overtime; no econometric analysis was done. 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 portfolio investments and foreign direct investments on youth unemployment or unemployment, due to mixed results the study sought to ascertain effects of portfolio investments and foreign direct investments on youth unemployment rate for Kenya. The disaggregation of unemployment to cover youth ages 15-24 years is crucial because portfolio investments and foreign direct 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 and portfolio investments can provide policy direction for youth unemployment problem in Kenya.

3. METHODOLOGY

3.1. Introduction

The section puts into focus research structure, theoretical framework, specification of model, definitions and measurement of variables, source of data and data type, data diagnostic tests and analysis applied.

3.2. Research Design

The goal of the research is to determine the effects of foreign direct investments & portfolio investments on Kenya’s youth unemployment rate ages 15-24 years. 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 1993-2022 time series data for the variables youth unemployment rate, inflation rate, foreign direct investments, portfolio investments, population growth rate and gross domestic product growth rate would be collected.

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 Adebaje, 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 in order to equate aggregate supply and aggregate demand at the level of full employment (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^γK_{it}^αN_{it}^β.....3.1

Where:

Y is level of real output 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). Following Waldkirch *et al.* (2009) and Jude and Silaghi, (2016), 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).

$$Y_{it}=A^\gamma \left(\frac{\alpha}{\beta} \cdot N_{it} \cdot \frac{w_{it}}{c_{it}}\right)^\alpha N_{it}^\beta \dots\dots\dots 3.2$$

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

$$\ln N_{it}=\emptyset_0+ \emptyset_1 \ln Y_{it} +\emptyset_2 \ln\left(\frac{w_{it}}{c_{it}}\right) \dots\dots\dots 3.3$$

Where:

$$\emptyset_0= -\frac{(\gamma \ln A +\alpha \ln \alpha -\alpha \ln \beta)}{(\alpha + \beta)}, \emptyset_1= \frac{1}{(\alpha + \beta)}, \emptyset_2= -\frac{\alpha}{(\alpha + \beta)},$$

Someone could expect that over time increases in the production process technical efficiency and technology adoption rate and efficiency increases are correlated with foreign direct investments and portfolio 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:

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

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:

$$\ln N_{it} = \Omega + U_0 T + U_1 \ln FDI_{it} + U_2 \ln PI_{it} + \phi_2 \ln \left(\frac{W_i}{C_i} \right) + \phi_1 \ln Y_{it} \dots\dots\dots 3.5$$

Where:

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

$$U_0 = U_c, U_1 = U_d, U_2 = U_f \text{ and } U = - \frac{\gamma}{(\alpha + \beta)}$$

Equation 3.5 shows that foreign direct investments FDI and portfolio investments PI can be labour demand key drivers.

3.4. Empirical Model

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).

$$\ln V_{it} = -\Omega - U_0 T - U_1 \ln FDI_{it} - U_2 \ln PI_{it} - \phi_2 \ln \left(\frac{W_i}{C_i} \right) - \phi_1 \ln Y_{it} \dots\dots\dots 3.6$$

Where:

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

$$U_0 = U_c, U_1 = U_d, U_2 = U_f \text{ and } U = - \frac{\gamma}{(\alpha + \beta)}, V = \text{youth unemployment}$$

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.	Foreign direct investments inflows annually.
Portfolio Investments (PI)	Investments made by persons in purchasing debt or equity securities in a particular country.	Portfolio investments levels annually.
Gross Domestic Product Growth Rate (GDPGR)	The annual growth rate of Kenyan economy, that is increases in economy production.	Gross domestic product growth rate percentage annually.
Inflation Rate (INFR)	The general price level increases of services and goods within the economy.	Inflation rate percentage annually.
Population Growth Rate (POPGR)	The general increase of the population annually.	Population growth rate percentage annually.

3.6. Data Type and Source

This study relied on years 1993 to 2022 secondary data from the following sources World Bank Development Indicators, Kenya’s Central Bank, Kenya National Bureau of Statistics and from other sources.

3.7. Time Series Properties

Time series factors or components such as irregular, cyclical, seasonal and trend were tested for all the variables if it exists particularly positive or negative trend that is decrease or increase in time series before estimation.

3.8. Diagnostic Tests

The study tested for the following homoscedasticity, multicollinearity and linearity between the regressand (youth unemployment rate) and regressors (portfolio investments, foreign direct investments, portfolio investments, gross domestic product growth rate, population growth rate and inflation rate).

3.9. Data Analysis

The study employed multiple regression analysis which determines the relationship type between regressand and regressors whether a positive or negative relationship to draw conclusions about the effects, commonly used when examining economic nature relationships. To estimate the

study objectives, the study will estimate Equation (3.8). The analyzed data would show the effects of foreign direct investments, inflation rate, gross domestic product growth rate, population growth rate and portfolio investments on youth unemployment rate.

4. EMPIRICAL FINDINGS AND INTERPRETATION

4.1. Introduction

The section puts into focus discussion of characteristics of data & interpretation by use of descriptive statistics, estimation of model and findings of analysis. Objectives of research are aligned with empirical results.

4.2. Data Characteristics

4.2.1. Data Sources

The study utilized yearly data for a period of thirty years (1993 to 2022). World Bank Development Indicators, Kenya’s Central Bank, Kenya National Bureau of Statistics formed the sources of data. Data extracted consisted of the following foreign direct investments, inflation rate, gross domestic product growth rate, population growth rate, portfolio investments and youth unemployment rate.

4.2.2. Descriptive Statistics

Table 4.1: Descriptive Statistics of Variables of Study, years 1993 to 2022

Variable	Minimum	Maximum	Mean	Standard Deviation	Variance	Skewness
Youth unemployment rate	6.821	13.83	8.0503	2.227164	4.96026	1.833103
Foreign direct investments	0.0053026	1.450475	0.3877887	0.4492847	0.2018567	1.18027
Portfolio investments	0.0014188	3.716854	0.3101881	0.7112692	0.5059038	3.925797
GDP growth rate	-0.2727663	8.058474	3.861792	2.236008	4.999731	-0.2623964
Inflation rate	1.554328	45.97888	10.26992	8.949087	80.08616	2.624315
Population growth rate	1.90951	3.03361	2.614946	0.3892708	0.1515318	-0.6117629

Observations	30	30	30	30	30	30
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Source: Author's Calculations (2024)

Data for the following foreign direct investments, inflation rate, gross domestic product growth rate, population growth rate, portfolio investments and youth unemployment rate for a period of thirty years was analyzed.

In Table 4.1 the means for population growth rate 2.614946, GDP growth rate 3.861792 with higher means on youth unemployment rate 8.0503 and Inflation rate 10.26992. The means of portfolio investments 0.3101881 and foreign direct investments 0.3877887.

Standard deviation is a spread measurement of values from its average. The following have standard deviation of youth unemployment rate 2.227164, foreign direct investments 0.4492847, portfolio investments 0.7112692, GDP growth rate 2.236008, inflation rate 8.949087, population growth rate 0.3892708. The mean/average is more than the standard deviation for particular variables, means the spread measurement of values is close to the average/mean.

The data range is different for each variable. Specific variables show a maximum of youth unemployment rate 13.83, foreign direct investments 1.450475, portfolio investments 3.716854, GDP growth rate 8.058474, inflation rate 45.97888 and population growth rate 3.03361. The variable maximums show similar range. Minimums of the variables as follows youth unemployment rate 6.821, foreign direct investments 0.0053026, portfolio investments 0.0014188, GDP growth rate -0.2727663, inflation rate 1.554328, population growth rate 1.90951, showing variance over the study period of thirty years. The range is not huge for the variables of study showing non incremental growth for thirty years.

Left skewed variables of study are GDP growth rate -0.2623964, population growth rate -0.6117629 right skewed Youth unemployment rate 1.833103, foreign direct investments 1.18027, portfolio investments 3.925797 and inflation rate 2.624315.

4.3. Analysis of Stationarity

Time invariant variance & mean for a variable is checked using stationarity test. Phillip-Perron (PP) and Augmented Dicker-Fuller (ADF) stationarity tests would be used for the study. Null hypothesis of the stationarity test indicate presence of unit root in the variables, its rejection occurs where the test statistic is greater than critical values in absolute terms. Unit root tests at level are presented in appendix A4. Phillip-Perron (PP) Test and Augmented Dicker-Fuller (ADF) Test results show natural logarithms of portfolio investments, inflation rate, youth unemployment rate, foreign direct investments, GDP growth rate and population growth rate are

non-stationary at level. Appendix A5 shows that taking the first difference of natural logarithms of youth unemployment rate, portfolio investments, foreign direct investments, inflation rate, GDP growth rate and population growth rate became stationary.

4.4. Test Results of Diagnostic

The following diagnostic tests were carried out for results integrity to be discussed, linearity, homoscedasticity and multicollinearity.

Data linearity test between the dependent variable and independent variables of study was carried out to show relationship strengths. Results of correlation, the relationships of natural logs of youth unemployment rate and GDP growth rate, youth unemployment rate and population growth rate are moderate while the relationships natural logs of youth unemployment rate and inflation rate, youth unemployment rate and portfolio investments & youth unemployment rate and foreign direct investments are quite moderate refer to appendix A6.

Multicollinearity is measured by the following tests tolerance should be above 0.2 and Variance Inflation Factor (VIF) shouldn't be above 3. From appendix A7 tolerance had a value above 0.2 and Variance Inflation Factor (VIF) had a value less than 3 meaning absence of Multicollinearity in the data.

Homoscedasticity constant variance of the error term was measured using Breusch-Pagan / Cook-Weisberg test for heteroskedasticity $\chi^2(1) = 3.02$ with $\text{Prob} > \chi^2 = 0.0822$ implying that the data is homoscedastic.

4.5. Results of Empirical

Highlighted below extracted multiple regression model:

$$\text{Ln}(YUR) = 0.0148484 - 0.000486\text{Ln}(\text{FDI}) - 0.0028315\text{Ln}(\text{PI}) - 0.5250996\text{Ln}(\text{POPGR}) - 0.00000214\text{Ln}(\text{INFR}) - 0.0069618\text{Ln}(\text{GDPGR}) \dots\dots\dots (4.1)$$

The following relationship being described by the model is between youth unemployment rate and portfolio investments, foreign direct investments, inflation rate, GDP growth rate and population growth rate. The effect of independent variables on the dependent variable youth unemployment rate is -0.0028315 portfolio investments, -0.000486 foreign direct investments, -0.00000214 inflation rate, -0.0069618 GDP growth rate and -0.5250996 population growth rate.

Table 4.2: Results of Regression

Variable	Coefficient	Standard error	t-Statistic	Significance
Constant	0.0148484	0.0130446	1.14	0.268
LnForeign direct investments	-0.000486	0.0091266	-0.05	0.958
LnPortfolio investments	-0.0028315	0.0073385	-0.39	0.703
LnGDP growth rate	-0.0069618	0.009531	-0.73	0.473
LnInflation rate	-0.00000214	0.0132425	-0.00	1.000
LnPopulation growth rate	-0.5250996	0.4146144	-1.27	0.219
R Squared	0.0870	F statistics (Prob)	0.8432	
Adjusted R Squared	-0.1304			
F Statistic	0.40			
Durbin-Watson d-statistic	0.6180755			

Source: Author's Calculations (2024)

The variation between youth unemployment rate and portfolio investments, foreign direct investments, inflation rate, GDP growth rate and population growth rate, the coefficient of determination R is measured by adjusted R which is -0.1304 which is insignificant at 5% level at 95% confidence interval meaning it is not able to explain the level of fit of the regression. At 5% level of significance F-test value of 0.40 with 0.8432 probability value implies that all the variables were insignificant in determining the level of youth unemployment. Durbin-Watson d-statistic 0.6180755 denotes autocorrelation presence implying correlational data. Skewness/Kurtosis tests for normality of the error term refer to Appendix A8 adj chi2(2) with Prob>chi2 of 0.0000 which is less than 0.01 implying the error term is not normally distributed which should be the case for time series data.

4.5.1. Effect of Foreign direct investments on Youth Unemployment Rate

The study's first objective was to ascertain the effects of foreign direct investments on youth unemployment rate in Kenya ages 15-24 years. Multiple linear regression equation was established to ascertain the effects of foreign direct investments as the independent variable and youth unemployment rate the dependent variable. The t-statistic of -0.05 with a p-value of 0.958

implies that foreign direct investments are insignificant in determining the level of youth unemployment. A coefficient of -0.000486 implies the higher the foreign direct investments the lower the youth unemployment rate but it is statistically insignificant the reason behind would be that foreign direct investments are being channeled to non-labor or non-youth absorbing sectors which are not particularly employing the youth thus insignificance effect, foreign firms have established themselves in financial services, insurance services, educational institutions, communication technology, trade and manufacturing (KNBS, 2020) these sectors have not provided enough employment for youth aged 15-24 years thus the insignificance effect. The results of the study met the researcher's expectation which were in line with Mkombe, et al.(2021) Youth unemployment being tackled by foreign direct investment is insignificant because of its use on mergers and acquisitions and not on Greenfield investments.

4.5.2. Effect of Portfolio investments on Youth Unemployment Rate

The study's second objective was to ascertain the effects of portfolio investments on youth unemployment rate. Multiple linear regression equation was established to ascertain the effects of portfolio investments as the independent variable and youth unemployment rate as the dependent variable. The t-statistic of -0.39 with a p-value of 0.703 implies that portfolio investments are insignificant in determining the level of youth unemployment. A coefficient of -0.0028315 implies the higher the portfolio investments the lower the youth unemployment rate but it is statistically insignificant the reason behind would be that portfolio investments are being channeled to non-labor or non-youth absorbing sectors or its use on mergers and acquisitions and not on Greenfield investments, which are not particularly employing the youth thus insignificance effect. 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 are attractive for portfolio investments (GIIN and OCA, 2015) which have not employed youth aged 15-24 years thus the insignificant effect of the coefficient. The results of the study met the researcher's expectation as portfolio investments were negatively associated youth unemployment.

4.5.3 Effect of GDP Growth Rate on Youth Unemployment Rate

The study included GDP growth rate to ascertain its effects on youth unemployment rate ages 15-24 years. Multiple linear regression equation was established to ascertain the effects of GDP growth rate as the independent variable and youth unemployment rate the dependent variable. The t-statistic of -0.73 with a p-value of 0.473 implies that GDP growth rate are insignificant in determining the level of youth unemployment. A coefficient of -0.0069618 implies the higher the GDP growth rate the lower the youth unemployment rate but it is statistically insignificant the

reason behind would be that GDP growth rate is concentrated to non-labor or non-youth absorbing sectors which are not particularly employing the youth thus insignificance effect. Kenya's economic growth pillars are retail, wholesale, agriculture, emerging markets tourism, transport and services, manufacturing, infrastructure development, building and construction (KNBS, 2024) these sectors were not able to employ sufficient levels of youth aged 15-24 years thus the insignificant effect of the coefficient. The results of the study met the researcher's expectation as GDP growth rate was negatively associated to youth unemployment, according to Okun's law where there a negative relationship between economic growth and unemployment.

4.5.3. Effect of Inflation Rate on Youth Unemployment Rate

The study included inflation rate to ascertain its effects on youth unemployment rate ages 15-24 years. Multiple linear regression equation was established to ascertain the effects of inflation rate as the independent variable and youth unemployment rate the dependent variable. The t-statistic of -0.00 with a p-value of 1.000 implies that inflation rate is insignificant in determining the level of youth unemployment. A coefficient of -0.00000214 implies the higher the inflation rate the lower the youth unemployment rate but it is statistically insignificant the reason behind would be that inflation rate is not affecting directly this category of unemployment because they are not being absorbed in the labor markets. The results of the study met the researcher's expectation as inflation rate was negatively associated with youth unemployment, according to Phillips (1958) Phillips curve; inflation and unemployment have a negative relationship.

4.5.3 Effect of Population Growth Rate on Youth Unemployment Rate

The study included population growth rate to ascertain its effects on youth unemployment rate ages 15-24 years. Multiple linear regression equation was established to ascertain the effects of population growth rate as the independent variable and youth unemployment rate the dependent variable. The t-statistic of -1.27 with a p-value of 0.219 implies that population growth rate are insignificant in determining the level of youth unemployment. A coefficient of -0.5250996 implies the higher the population growth rate the lower the youth unemployment rate but it is statistically insignificant the reason behind would be that population growth rate is creating employment opportunities for the youth which can explain the negative relationship. The results of the study met the researcher's expectation as population growth rate was negatively associated with youth unemployment.

5. SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

The section puts into focus discussion of findings of study summary, the study conclusion from obtained results. The policy implication recommendations & lastly further research suggestions.

5.2. Summary

The study objectives were to determine the foreign direct investments and portfolio investments effects on Kenya's youth unemployment rate ages 15-24 years, for the objectives to be achieved portfolio investments and foreign direct investments effects were assessed on youth unemployment rate. Inflation rate, GDP growth rate and population growth were adopted from theoretical perspectives and from empirical literature as it is related to unemployment. Data was collected for thirty years (1993-2022) for variables of study, diagnostic tests were conducted and multiple regression analysis used. Investments of whatever form are the life wire of the economy. Investments are a remedy for macroeconomic problems of unemployment, income inequality and economic growth. Establishing the foreign direct investments and portfolio investments effects on Kenya's youth unemployment rate was a source of motivation for the study. Outcome of results was as follows for each independent variable. Independent variables portfolio investments, foreign direct investments, inflation rate, GDP growth rate and population growth rate t-statistics were insignificant at 5% level of significance therefore could not affect the level of youth unemployment rate.

Investments in whatever form in a certain country is a key ingredient of economic growth or a catalyst of growth and development leading to job creation. Foreign direct investments (FDI) in Kenya showed fluctuations from 1993 to 2017, ranging from \$0.1087 billion to \$1.4505 billion. Portfolio investments also varied significantly, peaking at \$3.7169 billion in 2014 (World Bank, 2023). Despite this heavy portfolio investments and foreign direct investments it was insignificant to this category of overall unemployment that is youth unemployment ages 15-24 years. Kenya's Gross Domestic Product has been on an upward trend reaching 8.058% in the year 2010 and 7.59% in the year 2021 despite this growth it has an insignificant effect on youth unemployment a category of overall unemployment. According to Phillips (1958) Phillips curve, inflation and unemployment have a negative relationship it is evident from regression results but not significant. Population growth rate has positive relationship with unemployment according to Folawewo and Adeboje, (2017) but that is not the case with youth unemployment a category of overall unemployment that has a negative and insignificant relationship.

5.3. Conclusion

The study aimed to assess the effects of foreign direct investments (FDI), portfolio investments, inflation rate, GDP growth rate, and population growth rate on youth unemployment ages 15-24 years in Kenya over the period from 1993 to 2022. The results of the analysis indicated that all

independent variables—FDI, portfolio investments, GDP growth rate, inflation rate, and population growth rate—had insignificant effects on youth unemployment at a 5% level of significance. Despite the theoretical expectations that investments and macroeconomic factors would have a direct impact on employment, particularly for youth, the empirical findings suggest that these variables do not significantly influence youth unemployment in Kenya.

The insignificance of FDI and portfolio investments could be attributed to the nature of the investments, which may have been directed toward sectors that do not significantly absorb youth labor. Similarly, the GDP growth rate, while reflecting economic growth, did not translate into substantial employment opportunities for the youth, possibly due to the concentration of growth in sectors that are not labor-intensive or that do not favor youth employment. Inflation and population growth also showed no significant impact, contradicting some of the established theoretical relationships such as the Phillips curve, which links inflation to lower unemployment.

The study concludes that while investments and economic growth are crucial for a country's development, their direct impact on addressing youth unemployment in Kenya remains limited. This highlights the need for more targeted interventions and policies that focus on creating job opportunities in youth-sensitive sectors and addressing the structural challenges that hinder youth employment.

5.4. Policy Implications

The study's findings suggest several policy implications for addressing youth unemployment in Kenya. First, investment policies should focus on attracting investments in labor-intensive and youth-oriented sectors. While foreign direct investment (FDI) and portfolio investments have been significant, their impact on youth employment has been minimal, possibly because these investments are directed toward sectors that do not create substantial job opportunities for young people. Therefore, greenfield investments that build new infrastructure and jobs should be prioritized over mergers and acquisitions, which have limited effects on employment creation.

The government should also promote youth-centric industrial development by encouraging growth in sectors like technology, manufacturing, agriculture, and the creative industries. Offering tax breaks and subsidies to businesses that prioritize hiring young people could ensure that economic growth directly translates into job creation. In addition, labor market reforms are needed to address structural barriers preventing youth from entering the workforce. Expanding vocational training, improving the quality of education, and offering entrepreneurial training can better equip young people with the skills needed in the current job market.

Improving access to finance is another crucial step. Many young entrepreneurs face challenges in securing funding, which hinders their ability to create businesses and jobs. Expanding financial

inclusion programs, microfinance initiatives, and youth-targeted credit schemes would encourage entrepreneurship and self-employment. Moreover, government programs should focus on sectors that have the highest potential to absorb youth labor, such as agribusiness, construction, and ICT. Public-private partnerships (PPPs) can be instrumental in fostering job creation in these areas.

Population growth management should also be integrated into employment policies. While the study found no significant link between population growth and youth unemployment, policies that promote family planning, education, and healthcare could lead to a more skilled and employable youth population. Additionally, revisiting macroeconomic policies is important. Since variables like inflation and GDP growth have not significantly impacted youth unemployment, more targeted, micro-level policies are needed alongside broader macroeconomic efforts.

Finally, introducing incentives for companies that hire young people could help reduce youth unemployment. Providing tax credits, grants, or reduced social security contributions for businesses that employ youth, especially in high-growth industries, would encourage more youth hiring. These policy recommendations aim to create a more supportive environment for youth employment by aligning investments and economic growth with the needs of younger populations. Addressing the disconnect between investment flows and youth job creation is essential to reducing Kenya's youth unemployment crisis.

5.5. Suggestion for Further Research

Based on the findings of this study, several suggestions for further research emerge. First, while this research focused on youth unemployment and the effects of foreign direct investments (FDI) and portfolio investments, future studies could examine the impact of other forms of investment, such as domestic and venture capital investments, on different categories of unemployment. This would provide a broader understanding of how diverse investment types affect not just youth unemployment but unemployment across different demographic groups.

Further research could also explore the sustainability of employment generated by different forms of investment. While FDI and portfolio investments may create jobs, it is important to understand the long-term sustainability of these jobs, particularly in labor-intensive industries. Studies could assess whether these jobs offer stable, long-term employment or if they are more susceptible to economic fluctuations.

Another area for research involves the relationship between FDI and labor relations, particularly the potential conflicts that arise between foreign investors and trade unions. Understanding how FDI impacts labor rights, wages, and working conditions could provide valuable insights into

how these investments affect the broader workforce, especially in developing economies like Kenya.

Lastly, research could investigate the role of technological advancements and automation in influencing the relationship between investments and youth employment. As technology continues to evolve, it is crucial to understand how it may displace or create jobs, particularly for younger populations who may be entering a more technologically-driven job market. These research avenues could contribute to a more comprehensive understanding of the dynamics between investment, employment, and economic development.

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