

Effect of Fiscal Policy on Unemployment in Kenya

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Abstract: Unemployment is one of the most complex and greatest challenges facing the Kenyan economy. Just like other developing countries in the world, Kenya has been employing the fiscal policy framework as an economic tool to alleviate the high rates of unemployment within the country. Unemployment among the youth in Kenya has been increasing over time from as low as 20.98 percent in 2006 to 23.86 percent in 2014. However, the national unemployment rate stands at 11 percent as of 2008 and this has negatively affected the country's economic growth. This social and economic challenge continues despite the fact that the government of Kenya has employed a fiscal policy as an economic tool to mitigate this menace and harness the country's economic growth through job creation to the youth. Hence the importance of assessing the effectiveness of Kenya's fiscal policy on unemployment. The purpose of this study was to determine the effect of fiscal policy of government expenditure on unemployment. The objective of the study was to determine the effect of public expenditure on unemployment. The other fiscal policy aggregate variables considered from the literature reviewed are gross domestic product growth rate, inflation rate and population growth rate. The study was anchored on the Fiscal Policy Theory as explained by Richard Musgrave in 1959. A longitudinal research design was adopted where annual time series data was collected covering years 1986 to 2017. The study used appropriate regression model and techniques as applied in Baxter and King (1993) with adjustments. To achieve the objective, data on unemployment rates was collected from KNBS annual reports and other annual reports while data on fiscal policy was obtained from KNBS, economic outlook reports and relevant ministries publications. The data was subjected to diagnostic tests before any analysis including unit root test, normality, autocorrelation, heteroscedasticity, and multicollinearity to ensure sound results. The researcher established that the models conformed to the theoretical foundations although the variables were not statistically significant. Variables used in the model of government expenditure and unemployment were found to be jointly significant with the model explaining 74 percent of all the variations. From the analysis, the researcher concluded the effect of fiscal policy in Kenya on unemployment is positive even though it is not significant. This means that fiscal policy does not contribute much as far as the employment situation is concerned in Kenya. Therefore, the government has to explore other means of employment creation that match Kenya's level of economic growth.

Key Word: Unemployment; fiscal; expenditure; ; ; .

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I. Introduction

Governments employ fiscal policy instruments: taxation and government expenditure to achieve macroeconomic objectives such as sustained economic growth. The role of government notwithstanding various researchers, scholars, and theorists has always come up with conflicting results and conclusions on the role of fiscal policy on unemployment creating an unending debate. (Keynes, 1936; Mahmood & Khalid, 2013; McDonald and Solow, 1981; Murwirachena, Choga & Maredza, 2013).

The International Labour Organisation (ILO) defines unemployment as share of the labour force that are currently not working but are willing and able to work for pay, currently available to work and have actively searched for work (ILO, 2013). One of the views on how fiscal policies affect unemployment states that during recession, expansionary fiscal policy will increase Aggregate Demand (AD) resulting in higher inputs creating new employment opportunities (Classen & Dunn, 2012). However, this view contrasts with the classical economics, which states that fiscal policies only cause temporary increase in real output, but in the long-term, it results in inflation. Nevertheless, fiscal policy can reduce unemployment through cutting of taxes and increasing government spending to increase aggregate demand, which leads to firms hiring more labour and hence creating employment opportunities.

Barker (2007) laments that despite many governments in the world employing fiscal policies to address unemployment problem, the long-term effects have always been disappointing. Pritchett (2009), for instance, pointed out that the UK has always been keen on using the fiscal policy to tune their economy and ensure full employment by increasing aggregate demand when required. In addition, Greece pursued a very tight fiscal

policy of cutting government spending with the aim of reducing budget deficit but ended up worsening recession consequently increasing unemployment (Pettinger, 2014). Furthermore, in Japan, the unemployment rate declined to 3.5 percent in the last quarter of 2014 due to rapid decline in the working age population. The effects of expansionary fiscal policy and monetary expansion on an unprecedented scale (Nakaso, 2015) spurred the decline.

In South Africa, counter-cyclical fiscal policy has been in force since 1980. According to Republic of South Africa (2009) Treasury report, the programme enabled the country to save temporary revenue when the economy is strong and to borrow when the economy dips into recession. However, the treasury reports (1998 and 2010) shows that unemployment continues to soar in the country, a situation that has led to questions from scholars such as Murwirapachena et al., (2010) on whether the counter-cyclical fiscal policy is good for the economy. Recent statistics showed that almost all sectors of its economy had declined employment rates by up to (-1.8%) between year 2015 and 2016, which was an indication that the country was headed in the wrong direction. In 2018, unemployment in South Africa stood at 29%. That notwithstanding, Mwege and Ndung'u, (2012) indicated that South Africa's fiscal policies have been more effective in reducing poverty and increasing employment opportunities as compared to Uganda, Tanzania and nine other peer countries. A study in Nigeria by Shuaib, Augustine and Frank (2015) shows that the fiscal policies adopted by the government from time to time have actually led to increased unemployment rates which stood at 12.1% in 2018 having jumped from 10.4% in 2015.

1.1 Unemployment Globally

ILO (2013) definition on unemployment was adopted in this study: able-bodied persons who are currently not working but willing to work at the prevailing wage levels and are currently in active job search (Knoema, 2015). However, unemployment takes various forms and states hence the need to distinguish them. As such, policy makers are always interested in establishing the state and type of unemployment predominant in their respective country to be able to devise the appropriate policy measures (OECD, 2015). This study focused on the three main types of unemployment's; structural, frictional, and cyclical unemployment (Merino, 2014).

Frictional unemployment results from the continuous flow of individuals from job to job, in and out of employment (Department of Labour and Training, 2015). It was popularly known as transitional unemployment to mean workers changing or moving from job to job. Frictional unemployment always exists in any economy due to workers who voluntarily quit their previous employment in search of better paying jobs or first time job-market-entrants who are yet to secure employment. Workers are unable to secure employment immediately due to market imperfections or labor immobility. In Nigeria, frictional unemployment is more prevalent due to the high number of universities and tertiary releasing large numbers of graduates while the economy is not expanding to create opportunities (Kayode, Arome & Anyio, 2015).

Structural unemployment occurs because of mismatch between the unemployed persons and the specific skills demanded at job (Merino, 2014). The unemployed workers lack the necessary skills required by the expanding industries. In addition, the unemployment may result from location mismatch between the unemployed workers and the expanding industry. Recently, Britain experienced structural unemployment, a case at hand being, Wales, in the motorcar industry, and among machine-tool operators (Smith, 2012). Structural unemployment is common in growing economies mostly due to technological changes.

Structurally unemployed workers need to acquire new training and skills to match the job market needs. Hence, unlike frictional unemployment, structural unemployment tends to last longer due to the time needed for training or acquiring new skills or relocation to new industries. Frictionally unemployed tend to get jobs within a relatively short period since job vacancies exist for them to fill.

Technological change in construction industry in Nigeria has caused massive unemployment in brick industry, as people prefer to use cement blocks (Kayode, 2015). In 2009, Detroit in USA experienced structural unemployment following the closure of General Motor Detroit plant. Detroit experienced a 29 percent rise in unemployment as compared USA national rate of 9.8 percent (Klier & Rubenstein, 2012).

Cyclical unemployment also known as demand deficient or Keynesian unemployment occurs because aggregate desired expenditure is insufficient to obtaining all the output of a fully employed labor force (Murwirapachena et al. 2010; Merino, 2014). This unemployment is common among advanced capitalist economies especially during recessions. Private firms exist with the motive of making profit. As such, if they are unable to sell their entire output then their profit expectations are not fulfilled and hence necessitates the cutting down their output and as a result, the businesses have to lay off some factors of production leading to unemployment. The ripple effect being household's disposable income declines reducing the purchasing power of consumers. The aggregate demand deficiency creates the involuntary cyclical unemployment.

The 2008 financial crisis greatly hit the housing sector in USA. Homeowners stopped constructing new homes forcing construction industries to lay approximately two million construction workers (National Bureau of Economic Research, 2011). This type of job loss is termed as cyclical unemployment. However, some

construction industries opted to become technology sensitive and adopted sophisticated computer operated machines to cut on labor cost. This ended up creating structural unemployment as the laid workers needed to acquire new training and skills (Kalleberg & Von Wachter, 2017).

1.2 Solving Unemployment in Developing Countries

Unemployment remains a great obstacle to development worldwide and especially in developing countries. A cross sectional study on developing country by Zribi, Temmi, and Zrelli (2014) found countries under study to use labour market flexibility to reduce unemployment. Majority of macroeconomic and democratic aggregates and market labour flexibility were found to decrease unemployment rates in the short run. Therefore, labour market flexibility has been used as a measure to solve unemployment in the long run. As discussed above, structural unemployment results from labour immobility.

Algeria created the national employment agency (ANEM) program to solve unemployment crisis in the country. The agency oversees linking the unemployed youths to corporate to resolve frictional unemployment in the country. To enhance skills and employability, the agency came up with a one-year arrangement where the state pays the graduate their salary and employer pays their social security contribution. However, the programs have failed since inception due to inadequate funding (Musette, 2013).

Egypt has had a policy through the public works program that advocates for direct job creation through infrastructure projects and advocating for labour-intensive techniques. To support the programs, a revolving fund known as social fund for development was set aside. The program only succeeded in creating temporary job that were short lived the male gender being favoured. However, the productive infrastructure projects in irrigation continue to offer employment (Amin, 2014).

Technical and vocational education and training has been the most common among countries in East Africa including Kenya, Uganda, and Tanzania. The institutions have been set aside to equip the youths with technical skills to help them start their own ventures and increase their employability. However, the countries' policies do not favour the informal sector where many graduates from the institutions end up working (UN, 2018).

World Bank and other international organizations have always supported the entrepreneurial ventures in developing countries geared towards tackling unemployment, by channelling funds through microfinance institutions and government agencies. In addition, the youths go through some training that equips them with basic skills. Although the programs have partially succeeded, most of the ventures die within the first three years of start-up. This is associated with lack of funds to help them continue with their operations due to the high interest rates charged by financial institutions (Africa Capacity Building Foundation, 2018).

1.3 Unemployment in Kenya

Unemployment remains a big challenge in Kenya. This country, like many developing counterparts has been using the fiscal policy framework as a tool to mitigate the high unemployment rates. Despite the continued effort to employ Kenya's fiscal policy to influence economic behaviour, unemployment has remained resistant and a great challenge for the Kenyan government.

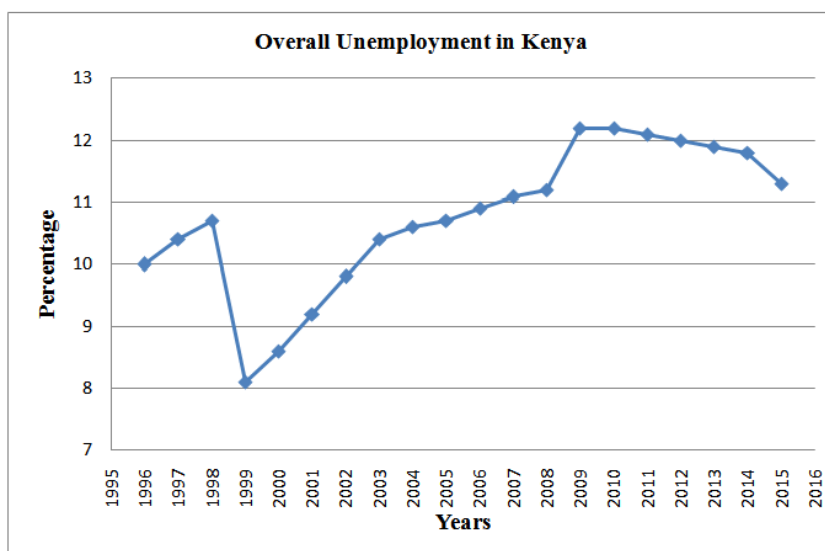


Figure 1. 1: Total Unemployment Rates in Kenya (1996-2015)

Source: World Bank (2016).

Figure 1.1, shows that unemployment has generally been increasing in the period 1995 to 2016. Although there was a decline in the unemployment rate between 1998 and 1999, there was a steady increase between 1999 and 2009 and thereafter unemployment rate started to decline modestly. The fluctuation in the unemployment rate notwithstanding, remains high and especially among the youths in Kenya. Youths comprises a large group of Kenya's population, representing two thirds of the working age population. Even with robust formal and informal sectors, youth unemployment remains highest in Kenya remains highest in East Africa (World Bank, 2016).

Trends in youth and adult unemployment rates are shown in Figure 1.2.

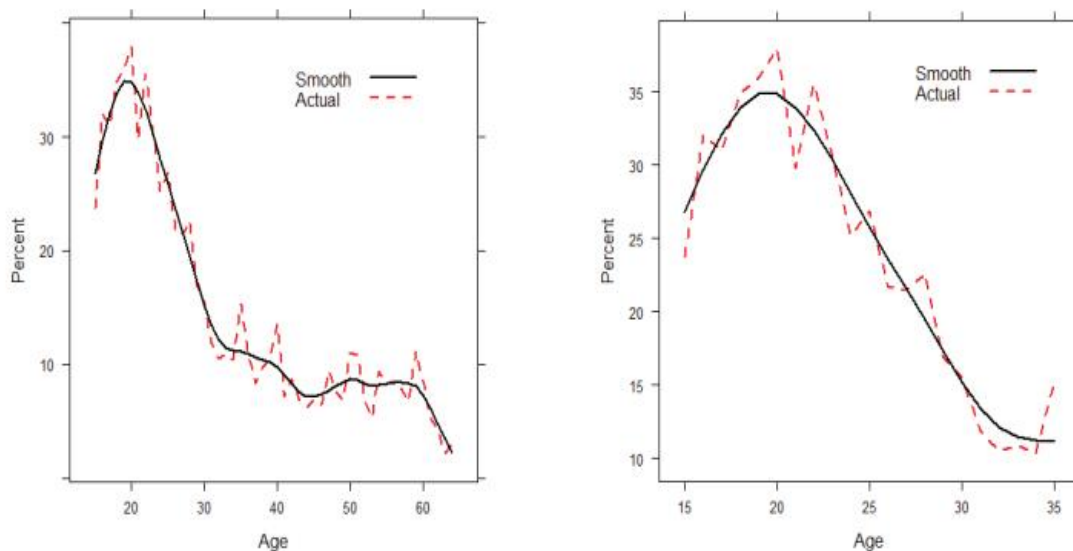


Figure 1. 2: Youth and adult unemployment rates (percent)

Source: KIHBS 2005/06 micro records

Young people around the age of 20 years experienced the highest level of unemployment rates of 35 percent. Youths in the cohort of 15 and 16 years join the labour market at an unemployment rate of 20 percent with the rate increasing with the age bracket up to 18 to 20 years. After that age, a rapid decrease in unemployment rates is observable. Youths aged between 25 and 30 years face an unemployment rate of 25 percent and 15 percent, respectively. Further, as the young people approach adulthood, the rates shrink to 10 percent. Hence, it was valid deducing that unemployment is a major concern in Kenya.

From the above discussion, it is clear there is a policy disconnect in Kenya regarding employment creation. Thus, the government through policy makers ought to revisit the matter and review a new path or harmonize existing policy with the country's economic conditions.

1.4 Efforts to Solve Unemployment in Kenya

Over time, the government of Kenya have devised mechanisms to solve the problem of unemployment. The formal sector has failed in creating employment and income generation prompting for alternative policy measures. In 2006, the government drafted the national youth policy in an initiative to address youth unemployment. Through the initiative, Ministry of Youth and Youth Enterprise Development Fund was created to help resolve youth unemployment by incubating and funding youth enterprises. However, the policy has not yielded remarkable results (Kurgat, 2012).

The national poverty eradication plan 1999-2015 was another national policy plan formulated to curb the rising rates of poverty in Kenya. It was borne after the past failures to combat poverty through national development, planning and special programmes with the purpose of creating productive employment opportunities in Kenya. The program, however failed in creating favourable measures for the informal sector that has the potential to fight unemployment (Kidiga, 2017).

Kenya's economic blueprint, Vision 2030 is another measure that aims at eliminating unemployment in Kenya. It endeavours to enhance equity and wealth creation opportunities for the poor. So far, Vision 2030 has achieved little as the problem of unemployment continues to escalate (UNDP, 2019).

The country has adopted expansionary fiscal policy by increasing government expenditure or reducing taxes over the years. The fiscal measures aim at influencing the economic growth of the country to create more job opportunities. However, in the recent past since 2014, the government has increased both its spending and tax.

The measures have failed to stimulate aggregate demand leading to increased unemployment that stood at 9.31 percent in 2018 as compared to 9.19 in 2017 (Makau, 2019).

1.5 The Statement of the Problem

Developing countries are faced with threats and challenges ranging from nuclear proliferation, drugs and human trafficking, money laundering, poor governance, corruption but none of these problems has hampered their countries' economies like unemployment. Thus, unemployment remains a major problem to be addressed among developing countries. While this challenge of involuntary idle persons within their populations willing but unable to find work at the prevailing wages exists in many developing countries and may be attributed to; lack of market information, changes in demand of industrial products, changes in technology and effects of recession or depression in industrialized economies. The rate of unemployment has remained resistant and a great challenge for the Kenyan government, there is evidence of fluctuation in the unemployment rate in the recent past but data shows that the levels remain high and especially among the youths.

This social and economic challenge has persisted despite different government regimes pegging their fiscal and monetary policy on empowering the economy through creation of employment. States have employed other mechanisms like entrepreneurship creation, adoption of labor-intensive technology, and advocacy for technical skills training.

Various governments worldwide keenly use expansionary fiscal policy to spur economic growth through increasing aggregate demand to ensure full employment. Evidence from Kenya shows although there has been sustained increase in government expenditure and tax revenue over the period under consideration, total unemployment rate remained on an upward trend throughout except between 1998 and 1999. It is also evident that young person's working age population is increasing overtime. Therefore, this provides some indication that government expenditure and taxation may not be successively affecting unemployment in Kenya. Hence the importance of assessing the effectiveness of Kenya's fiscal policy on unemployment. The existing literature reveals a gap of knowledge in this area; little effort has been made to discuss the effects of fiscal policy in Kenya, which was the core of this study determined to discuss the effect of Kenya's fiscal policy on unemployment.

II. Relevant Empirical Literature

Moreno (2014) estimated the employment and the wage effect of the tax credits at varying moments in an individual's life cycle in Spain. A difference in difference analysis and regression discontinuity design was used to analyse administrative data. The findings revealed that employment for employees below 30 increased by 2.42%. Moreover, the findings indicate that the gains in new job creations were not made at the expense of non-subsidized workers; hence, it can be deduced that the policy led to net employment creation. The study further established that tax cut at 45 did not affect employment. The elasticity labour demand was -0.63 for those below 30 and zero for those above 45 years old. However, the study focuses on the effect of taxation on the general public rather than focusing on the youth. This study research is bigger in Kenya as there is limited literature on the effect of taxation on unemployment. Consequently, this study aimed at filling this study gap.

World Bank report (2014) on the unemployment state in Egypt established that the job issues in the country surpassed the recent economic crisis. Nevertheless, the crisis was significantly evident through other labor market metrics. Similarly, a weak relationship was found to exist between growth and unemployment in particularly among men. The weak relationship was associated with detrimental industrial policies that discouraged investment in employment-generic activities that are known to enhance employment growth. The study provides insights into the current study on the factors affecting unemployment.

Nwosa (2014) examined the effect of government expenditure on unemployment and poverty rates in Nigeria for the period 1981 to 2011. OLS was used to estimate the model with unemployment as the dependent variable while government expenditure, public debt, and GDP were the independent variables. The researcher found a positive and significant relationship between government expenditure and unemployment but it had a negative and insignificant effect on poverty rate. The study recommends that the government initiate nationwide empowerment programs targeting unemployment.

Gehrke and Hartwig (2015) also investigated how public works programmes create sustainable employment. Public works programs can affect investment, skills, wages and employment. Evidence suggests that only large public work programmes may be expected to have a positive wage effects. Therefore, programmes which absorb large numbers of beneficiaries over a reasonable amount of time. However, if a public work program is implemented in contexts where unemployment is already low, then smaller programmes might lead to wage increase in the private sector. Furthermore, skills development courses outside public works programs are becoming popular. However, evidence show that these programmes do not have increased employability. The study further found that the dropout rates tend to be high, particularly among the youths yet the programs are costly with an average cost being between USD 1,000 to 2,000 per person. Literature on how

public works influence youth employment is limited and the current research will seek to improve the existence of literature.

Mortazavi Far and Saeedi (2015) conducted a study in Iran on the effect of government expenditure on unemployment for the period 1997 to 2003. The researchers used two models with unemployment as the dependent variable. Independent variable in the first equation was government development expenditure with the second equation being government spending on economic development and social development. The equations were using VECM. Results of estimation indicated negative and significant relationship between unemployment rate and the variables. Therefore, government needs to spend more on civil, social and economic affairs.

III. Material And Methods

The study was anchored on the Fiscal Policy Theory as discussed by Musgrave (1959). According to the theory, economic indicators such as employment, economic growth, inflation, poverty levels, income distribution, and productivity growth can be influenced by changes in specific policy instruments including exchange rates, taxes, and consumption, among others. Hence, each economic indicator is a function of the policy instruments. In an equation, this can be summed up as follows;

$$y_i = f(x_1, x_2, x_3 \dots x_j) \dots \dots \dots (3.1)$$

Where:

y_i = economic indicator and

$x_1 \dots \dots \dots j$ = policy instrument.

Concisely, a particular instrument is efficient in influencing a specific indicator (Musgrave, 1959). This means that the change in an instrument (Δx) is necessary to change an indicator by a given amount (Δy). If a small change in an instrument can produce a significant change in an indicator, then the instrument is considered efficient for that indicator. When efficient instruments are available to promote desirable objectives, economic policy becomes easier.

To measure the effect of fiscal policies on employment, the study adopted the model outlined in Baxter and King (1993), as discussed by Murwirapachena et al. (2010) which asserts that employment is a function of government taxation, government investment, and government consumption (variables of fiscal policy).

Following the analysis in Battaglini and Coate (2008), it can be interpreted that in productivity state θ with initial debt level b , the equilibrium levels of taxation, public good spending, and new borrowing $\{T_\theta(b), g_\theta(b), b'_\theta(b)\}$ solve the maximization problem:

$$\max_{(T, g, b')} \left\{ B(T, g, b', b, \omega_\theta) + n_e v_{e\theta} v + n_\omega v_{\omega\theta} + \beta E V_{\theta'}(b') \right\}$$

$$s. t. B_\theta(T, g, b', b, \omega_\theta) \geq 0 \& b' \leq \bar{b}$$

Where $V_{\theta'}(b')$ equilibrium aggregate lifetime citizen is expected utility in state with debt level b' . The equilibrium level of spending on transfers is equal to the budget surplus associated with the policies $\{T_\theta(b), g_\theta(b), b'_\theta(b)\}$, which is $B_\theta(T_\theta(b), g_\theta(b), b'_\theta(b), b, \omega_\theta)$. The equilibrium value functions $V_H(b)$ and $V_L(b)$ in problem (12) are defined recursively by the equations:

$$V_\theta(b) = B_\theta(T_\theta(b), g_\theta(b), b'_\theta(b), b, \omega_\theta) + n_e v_{e\theta} v + n_\omega v_{\omega\theta} + \beta E V_{\theta'}(b'_\theta(b)) \dots \dots \dots (3.2)$$

The equilibrium policies are characterized by solving problem (3.2)

3.4 Model Specification

Following the conceptual arguments in section 3.3 and considering our scope of study, unemployment (economic indicator) expressed as a function of the policy instruments of government expenditure, tax revenue, GDP growth, public debt, population growth rate and inflation rate. However, the author approached the situation from revenue and expenditure side. This is expressed as follows using two equations:

$$UNEMP_t = \beta_0 + \beta_1 TREV + \beta_2 PD + u \dots \dots \dots (3.3)$$

$$UNEMP_t = \beta_0 + \beta_1 GEXP + \beta_2 EG + \beta_3 POPN + \beta_4 INFL + u \dots \dots \dots (3.4)$$

3.1 Definition and Measurement of Variables

Variable	Definition	cronym	Measurement
Tax Revenue	Total amount of tax resources (income) that the government collects in order to meet its obligations	TREV	Measured as a per cent of GDP
Government Expenditure	Total amount spent by government in recurrent and development expenditures	GEXP	Measured as a per cent of GDP
Public Debt	What the government owes to the people. It includes both domestic and external debt	PD	Measured as a per cent of GDP
Inflation	Year to year change in consumer price index	INFL	Measured as a per cent change per annum
Unemployment	Year to year changes in absolute unemployed	UNEMP	Measured as a per cent change in

			population per year
Gross Domestic Product	Year to year changes in real GDP growth	EG	Measured as a per cent change in year to year values of real GDP
Population	Year to year change in absolute population growth	POPN	Measured as a per cent in population changes from one year to another

3.2 Data type and sources

The study relied on secondary time series data from the year 1985 to 2017. The researcher obtained specific data on employment rates from Kenya National Bureau of Statistics (KNBS) annual reports as well as economic survey reports such as World Bank and International Labour Organization reports. Data on fiscal policies was obtained from KNBS, Economic outlook reports and reports from the Ministry of Devolution and Planning.

3.7 Data Analysis

To achieve the objectives, unemployment was regressed against taxation, public debt, government expenditure, GDP growth rate, and fiscal deficit. However, before conducting the regression, the researcher carried out descriptive statistics, pairwise correlation tests, and stationarity test. The tests results indicated the data was normally distributed, absence of multicollinearity and that all variables were stationary at level. Thus, a multiple regression was justified. However, diagnostic tests were necessary to ascertain the soundness of regression results. The diagnostic tests included autocorrelation, normality, heteroscedasticity, and model stability tests. All the tests were positive and hence the models were sound.

II. Result

Stationarity Test

The Augmented Dickey Fuller (ADF), the Phillips (PP), and the Kwiatkowski Philips Schmidt–Shin (KPSS) tests are the most common measures of unit root in time series data. Of these, KPSS is most preferred as it easily identifies near unit root processes better than the other tests (Greene, 2012). KPSS was therefore adopted in this study to carry out the unit root tests. The variables were checked for unit root systematically: first at level assuming trend and intercept, and if the intercept was not significant, the presence of unit root was checked without it. If the variables were found to be non-stationary, the same process would have been repeated at first difference (all variables were found to be stationary at level). The optimal lags were automatically selected using the Newey West Bandwidth.

The KPSS unit root test equation is given as follows:

$$H_t = \delta + \alpha t + \rho U_t + \varepsilon_t \tag{4.1}$$

Where;

ε_t is a stationary process,

U_t is an i.i.d. series with mean of zero and a variance of one,

α is a time trend coefficient,

ρ is the coefficient of U_t and

δ is a drift term

The null hypothesis is that the series is stationary. This hypothesis is accepted if the test statistic is less than the asymptotic critical value (Greene, 2012).

Table 4.3 below display the results.

Table 4. 3: KPSS Root tests at Level

Variable	Test Statistic: LM statistic			Bandwidth
	Intercept	Trend and Intercept	Conclusion	
Unemployment	–	0.10*	Stationary	4
Tax revenue (% of GDP)	–	0.11*	Stationary	4
Public debt (% of GDP)	–	0.8*	Stationary	3
Government expenditure (% of GDP)	–	0.13**	Stationary	4
GDP growth rate	0.31**	–	Stationary	3
Population growth rate	–	0.20***	Stationary	4
Inflation (%)	–	0.07*	Stationary	3

Source: Author’s illustration

Notes: Asymptotic critical values (ACV) using trend and intercept are 0.22 at 1%, 0.15 at 5% and 0.12 at 10% level of significance. Using intercept only are 0.74 at 1%, 0.46 at 5% and 0.35 at 10% level of significance.

he results show that the population growth rate is stationary at one per cent. Government expenditure (percentage of GDP) and economic growth are stationary at five per cent and the rest of the variables are stationary at ten per cent. Since all variables are stationary at level, a multiple regression can be used to address

the objectives of the study without the fear of spurious results (Gujarati and Porter, 2010, Enders, 2010; Greene, 2012).

Effect of Government Expenditure on Unemployment in Kenya

The second objective of this study was to determine the effect of government expenditure on unemployment in Kenya. A multiple regression was used to address this objective as all the variables were stationary at level. All the coefficients of the model are jointly significant since the probability value of the model is 0.00 (this shows that the overall model is significant). The adjusted R squared is 74 per cent. This implies that the variables included in the model explain 80 per cent of all the model’s variations. Table 4.7 presents the regression results.

Table 4. 7: Effect of government expenditure on unemployment in Kenya

Variable	Coefficient (standard error)	Prob.
Dependent variable: unemployment (%)		
Government expenditure (% of GDP)	0.16*** (0.04)	0.00
GDP growth rate	0.07 (0.05)	0.14
Population growth rate	-1.30*** (0.25)	0.00
Inflation (%)	-0.005 (0.01)	0.73
Constant	10.59*** (1.12)	0.00
R-squared	0.77	---
Adjusted R-squared	0.74	---
S.E. of regression	0.42	---
Sum squared residuals	4.94	---
Log likelihood	-15.49	---
Durbin-Watson stat	0.66	---
Prob (F-statistic)	0.00	---

Source: Author’s Calculation

Notes: *, ** and *** means significance at ten, five and one per cent, respectively.

4.8 Diagnostic Tests

Similar to the previous objective, diagnostic tests were conducted to ensure sound results before the interpretations of the variables was done.

4.8.1 Autocorrelation Test

Breusch Godfrey autocorrelation test showed presence of autocorrelation. To address the autocorrelation problem, the study adopted Newey test heteroscedasticity and autocorrelation consistent robust standard errors (HAC- Newey test). Table 4.8 presents the HAC-Newey test results.

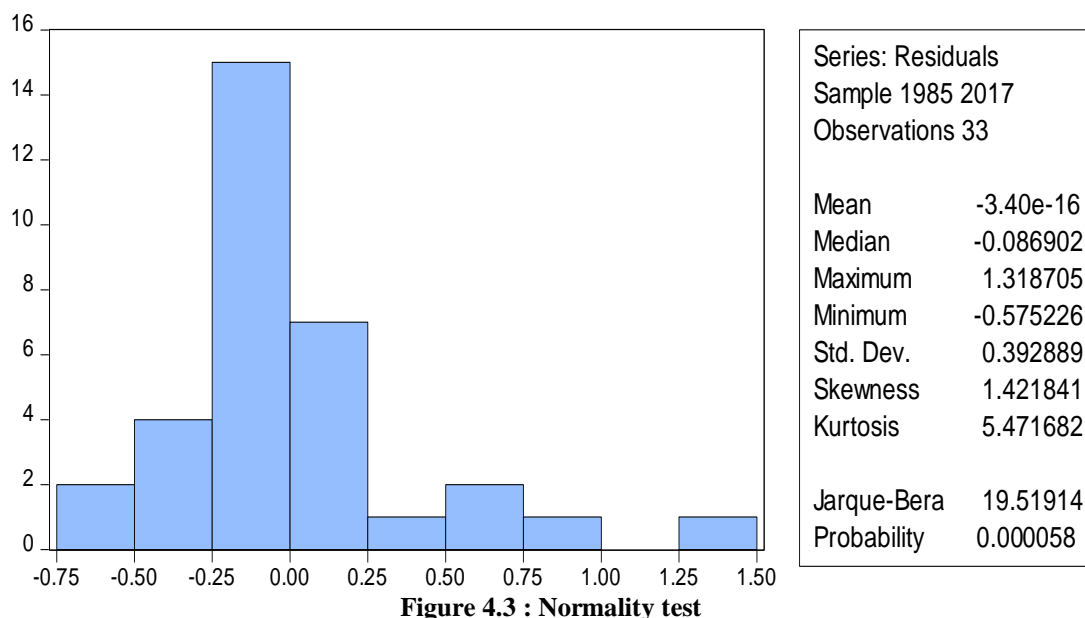
Table 4. 8: Autocorrelation test

F-statistic	13.51	Prob. F(2,26)	0.00
Obs*R-squared	16.82	Prob. Chi-Square (2)	0.00

Source: Author’s computations

4.8.2 Normality Test

Jacque Bera has a value of 19.52 with a probability of 0.00. This means that the residuals are not normally distributed. The study used Huber White heteroscedasticity consistent standard errors to rectify the problem. Figure 4.3 displays the normality test results.



Source: Author’s computations

4.8.3 Heteroscedasticity Test

The null hypothesis of homoscedasticity was accepted as all the probability values are greater than 0.05. The errors have a constant variance. Table 4.9 shows the results.

Table 4.9: Heteroscedasticity test

F-statistic	0.54	Prob. F(4, 28)	0.71
Obs*R-squared	2.36	Prob. Chi-Square(4)	0.67
Scaled explained SS	3.80	Prob. Chi-Square(4)	0.43

Source: Author’s computations

4.8.4 Coefficient Stability Test/Model Stability Test

Figure 4.4 shows that the model is stable as the coefficient estimates remain within the bounds (meaning they remain close to their true values). This indicates the absence of structural break (Greene, 2012). The results are displayed in Figure 4.4.

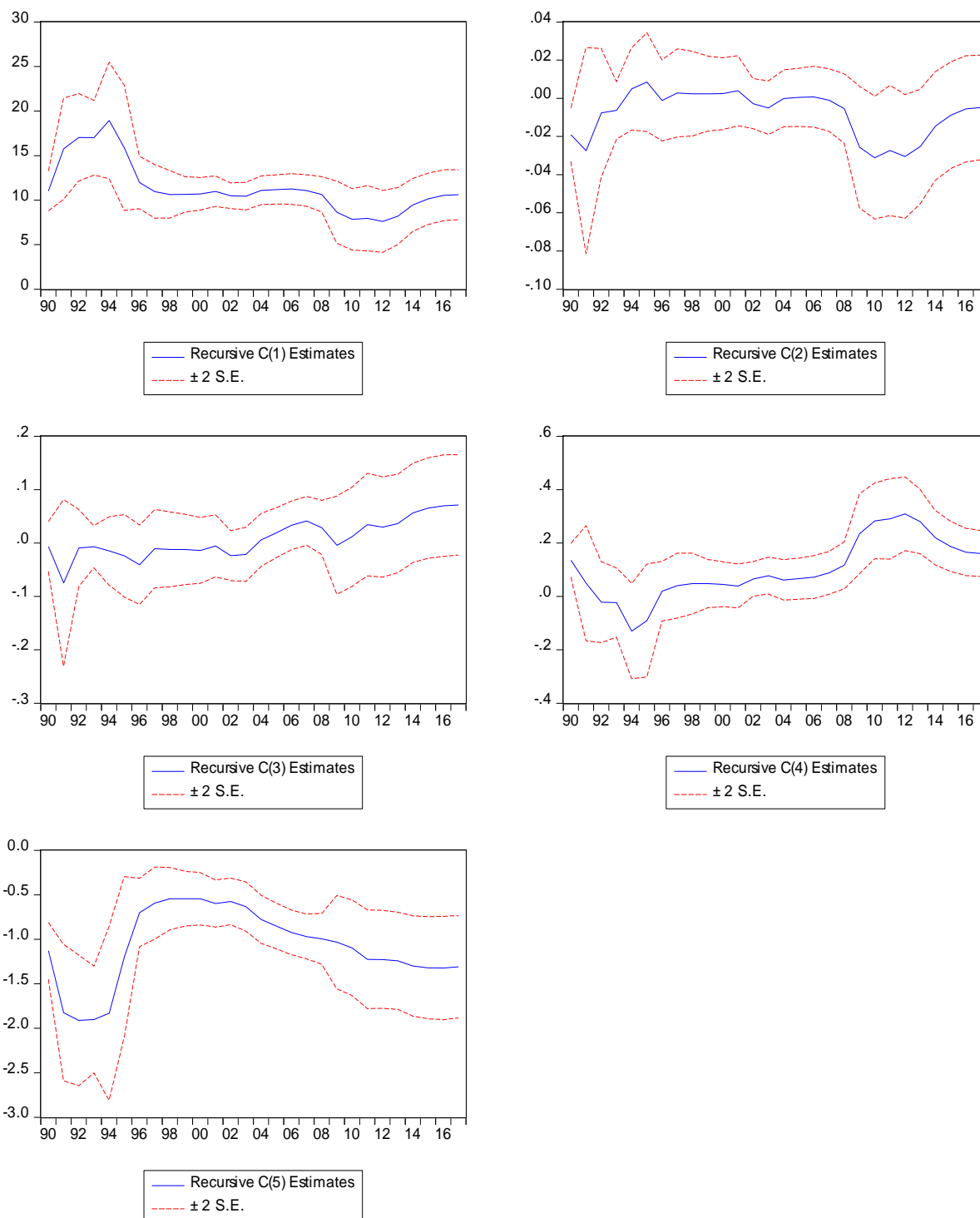


Figure 4. 4: Model stability test

Source: Author’s calculation

Having ascertained the soundness of the regression results, the research interpreted the results accordingly. The coefficient of government expenditure, the main variable of interest, is positive and highly significant. A one per cent increase in government expenditure was found to lead to an increase in unemployment by 0.16 per cent. Schclarek (2007) found that an increase in government expenditure increases employment. UNDP (2013a) and Mahmood and Khalid (2013) found similar results. Nwosa (2014) found a positive and significant relationship between government expenditure and unemployment in Nigeria. Gehrke and Hartwig (2015) found that public works programmes do not create sustainable employment. Instead, they lead to wage increases in the private sector. Other studies that have found a positive relationship between government expenditure and unemployment are Gelber, Isen and Kessler (2013), and Grimaccia and Lima

(2013). However, Mortazavi, Far and Saeedi (2015) found a negative effect of government expenditure on unemployment in Iran. Saeidi and Valizadeh (2012) found that deficit spending has a negative effect on unemployment.

Coccia (2013) found a positive relationship between government expenditure on education and employment. Mortazavi Far and Saeedi (2015) argue that it matters where the government spends money on employment creation (unemployment reduction): recurrent or development. The author calls for governments to spend more on civil, social and economic affairs. A positive and significant coefficient of government expenditure obtained in this study means that the government expenditure has not been job creating.

Others studies have also established a negative relationship between government expenditure and employment include Murwirapachena, Choga and Maredza (2013) found a positive relationship between government consumption expenditure and unemployment in South Africa. However, Humberto et.al, (2013) found that the transfer payments negatively impacted on employment as their financing called for government finances adjustment. Mortazavi Far and Saeedi (2015) found a negative and significant relationship between unemployment rate and government expenditure.

Coefficient of inflation was found to be negative and significant. The results are in line with Phillips Curve postulation. Muhammad, Saidu and Nwokobia (2013) found similar results indicating a negative relationship between unemployment and inflation in Nigeria. Further, Jaradat (2013) confirmed the same for Jordan using time series data for the year 2000 to 2010. Economic growth rate and unemployment have a positive and significant relationship. The results are in line with Hussain, Siddiqi and Iqbal (2012) who found similar results. However, Jaradat (2013) found contrary results with the study.

The study found coefficient of population to be negative and highly significant. A one per cent increase in population growth reduces unemployment by 1.3 per cent. These results are contrary to the theory where it is expected that an increase in population is expected to increase unemployment. These results suggest that population increase is not a cause of unemployment in Kenya: population is an asset to the country and not a burden. It means that the increase in population is associated with increasing employment, meaning that the population is generating jobs for itself as it increases. However, Imoisi, Olatunji and Ubi-Abai (2016) found a negative relationship between the two variables in Nigeria. Economic intelligence (2018) has also linked high population growth to unemployment in India.

IV. Conclusion

The study concludes that taxation revenue and government expenditure positively and significantly affects unemployment in Kenya. This implies that fiscal policy does not contribute much as far as the unemployment situation in Kenya is concerned.

In addition, it was concluded that population and economic growth rates in the second model have a significant effect on unemployment while inflation have an insignificant effect on unemployment rate together with government expenditure growth rate. The effect of population growth rate is positive while that of economic growth is negative.

Further, the study concludes that unemployment will still exist even though the factors used in the study such as taxation revenue, government expenditure, population growth, public debt, inflation and economic growth are not considered. As such, other factors influence unemployment rate in Kenya.

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