Effect of Macroeconomic Policy Implementation on Unemployment in Kenya

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DOI: https://dx.doi.org/10.47772/IJRISS.2025.905000426

Received: 12 May 2025; Accepted: 16 May 2025; Published: 20 June 2025

ABSTRACT

Policymakers in the majority of the world's economies are concerned about unemployment rates. Numerous models have been created in an effort to address the issue, but none offer a definitive answer. Policymakers in various economies struggle with finding solutions to the unemployment problem. The purpose of this study was to investigate the effects of various macroeconomic policy targets on unemployment in Kenya. More specifically, study objective was to examine the relationship between unemployment and inflation, relationship between government spending growth rate and unemployment and relationship between money supply growth rate and unemployment. The study was informed by the ever increasing unemployment rates, cost of living and the inadequate attention inform of macroeconomic policies made by the policy makers to alleviate the economy from this problem. The study was anchored on the Phillips curve theory. The study adopted an explanatory research design and employed an Auto-Regressive Distributed Lag and Error Correction Model to analyze both short run and long run results. Study sample entailed of annual secondary time series data set for a period of 30 years from 1991 to 2020, sourced from KNBS, Central Bank of Kenya, and World Bank. Findings of diagnostic test demonstrated that there was no multicollinearity among the independent variables, residuals were homoscedastic, and there was no autocorrelation among the residuals. The results of the Shapiro-Wilk normality test showed that the study's variables were normally distributed. The co-integration test and ADF unit root test both showed that there existed a unit root and that the variables had a long-run relationship. Additionally, the model's stability over time was confirmed by the CUSUM test. Findings of the study were: the relationship between unemployment and inflation was positive and insignificant both in the short run and in the long run; government spending growth rate had a positive significant relationship with unemployment; Money supply growth rate had a positive significant relationship with unemployment. The NAIRU was also positive and insignificant. These results suggest that it is difficult for policy makers in Kenya to employ inflation targeting policy mechanism to control and counter unemployment as suggested by Phillips curve. The study recommends that when the Kenyan economy is about to enter a recession or starts to experience sluggish economic growth, policymakers should employ an expansionary government spending policy. This type of fiscal strategy involves increasing government spending to counteract the effects of a recession. Additionally, the government should develop expansionary monetary policy strategies that target a sustainable level of inflation in the economy rather than targeting unemployment level in the economy. This is because reducing unemployment level below the natural rate of unemployment would lead to more inflationary pressures in the economy.

Keywords: Unemployment, Inflation, Government spending, Money supply, NAIRU, Kenya.

INTRODUCTION

According to Heffetz & Reeves (2021), the percentage of a country's non-institutionalized population aged eighteen and older that is unemployed, actively looking for work, and available for work is the measure that is used to calculate the nation's unemployment rate. If a large number of people are required to register for work in order to receive certain benefits but express unwillingness to work, then the unemployment rate will

rise even though the number of people actually looking for work may remain relatively unchanged. This is because registering for work is a prerequisite for receiving benefits. There are a number of factors that contribute to high unemployment rates, the most significant of which is the ongoing economic crisis that has an impact across the board (Choudhry,Marelli & Signorelli, 2012).

The majority of Kenyans feel that the current rate of unemployment is unacceptable (Kamau, 2021). It causes personal misery for the majority of people who are unemployed as well as their families and is steadily altering the nature of our society in ways that are unpleasant. Our societies are witnessing an increase in the number of areas that are economically disadvantaged and poor. A significant number of Kenyan's children are raised in households where their parents do not hold jobs. It appears that a growing proportion of persons of working age are becoming increasingly dependent on welfare and other benefits. At least for the past twenty years, Kenya's unemployment rate has been at an unacceptable level, making it perhaps the country's most significant economic and social challenge (Mouly & Costa, 2022).

It is common knowledge that the four primary goals of economic policy are to achieve full employment, price stability, a high and sustainable rate of economic growth, and maintain equilibrium in the balance of payments. The primary way in which economic policy has an impact on employment is through monetary and fiscal policies, which, through the use of their respective tools, influence aggregate supply and demand for goods and services (Benazić & Rami, 2016).

When a country slips into recession the government works to reduce unemployment by boosting economic growth. The primary methods used are inflation targeting, expansionary monetary and fiscal policies. During an expansionary policy, the Federal Reserve eases monetary policy by reducing the federal funds rate and buying U.S. Treasury and mortgage-backed securities on the open market, which increases the supply of money in the economy. Collectively, these tactics are designed to reduce interest rates across the yield curve, which spurs businesses to borrow money to buy capital equipment and hire more workers. Low-interest rates also tend to boost the housing market, spur auto sales, and increase personal consumption spending. The vast majority of the theoretical models that were developed to cut unemployment in most economies suggest that the credibility-enhancing effects of the adoption of inflation targeting should cause an improvement in the unemployment-inflation trade-off; specifically, that reducing inflation by a given amount should occur with a smaller rise in unemployment (Clifton, Leon & Wong, 2001).

According to Mitchell & Mosler, (2001), high unemployment rate not only hinders the ability of the central government to earn revenue but also has a tendency to dampen overall economic activity. When there are a lot of people looking for jobs, fewer people will pay taxes to the government. At the same time, unemployment results in a reduction in the number of people who have income that is available for discretionary spending on products and services. Reduced levels of consumer spending make it more challenging for firms to prosper and develop, which in turn slows the rate at which the economy grows.

In order to maximize the impact of fiscal policy, Rendahl (2016) proposes that it is necessary to achieve a state of equilibrium in the dynamics of unemployment. Expansionary government expenditure boosts output and reduces the jobless rate in the aftermath of a shock that puts the economy in a liquidity trap. The consequences of present expenditure persist into the future, resulting in a lasting increase in income due to the persistence of fluctuations in unemployment. Because a sustained gain in income leads to increased private demand, an increase in government expenditure triggers a positive employment-spending cycle that has far-reaching implications on macroeconomic aggregates.

LITERATURE REVIEW

According to the findings of a study that was conducted by Epstein and Yeldan (2009), contemporary central banking institutions should have more room for policy maneuvering in order to strike a better balance between a variety of goals and instruments. In particular, the creation of new jobs, the reduction of poverty, and the

acceleration of economic growth should be included to the list of primary goals of central bank policy in addition to the stabilization of inflation and the economy more generally.

A significant portion of the existing body of research on the effectiveness of Inflation Targeting has focused primarily on two questions: first, whether systemic risks and the accompanying volatility have been reduced in Inflation Targeting economies; second, whether inflation has actually come down as a response to the adoption of the framework itself, or whether it has come down due to a set of "exogenously welcome" factors. On the one hand, there is a good deal of consensus that advances in information technology have been linked to declines in price levels. In addition to this, there have been reports of a reduction in the effects of currency rate pass-through, and fluctuations in consumer prices have become less likely (Edwards, 2006). In spite of this, the evidence that is currently available suggests that Inflation Targeting has not resulted in inflation levels that are lower than the levels attained by industrial non-targeters who have opted for other monetary regimes (Ball and Sheridan, 2003). In addition, even while the country's monetary policy has been successful in lowering inflation, the anticipated increases in economic growth and employment have, for the most part, not been realized. According to Akyuz (2006, page 46), "the source of macroeconomic instability now is not instability in product markets but asset markets, and the main challenge for policy makers is not inflation, but unemployment and financial instability." In other words, unemployment and financial instability are the primary problems that policy makers face.

De-industrialization, substantial informalization, and a subsequent worsening of the position of wage-labor have afflicted a large number of developing nations, leading to a worsening of income distribution and an increase in poverty. This has resulted in a worsening of the position of wage-labor. The advent of neoliberal conditionalities, which impose rapid liberalization of trade and premature deregulation of the indigenous financial markets, has coincided with the occurrence of many of these events. Neoliberal conditionalities have forced rapid liberalization of trade (Acar, Voyvoda, & Yeldan, 2018).

Maintaining price stability is often prescribed as the proper inflation target according to its proponents; nevertheless, there are fewer consensuses on the meaning of this phrase and on its precise measurement. This is despite the fact that there is widespread support for the idea. Many practitioners simply adopt the widely cited definition of Alan Greenspan, the former Governor of the US Federal Reserve, which was issued at the meeting of the Federal Open Market Committee in July 1996 (Siekmann, 2022). Greenspan defined inflation targeting as "a rate of inflation that is sufficiently low that households and businesses do not have to take it into account in beyond inflation targeting making every day decisions." ‘The public announcement of inflation targets, coupled with a credible and accountable commitment on the part of government policy authorities to the achievement of these targets’ (Setterfi eld, 2006, p. 653).

During the '90s, inflation targeting gained prominence as a method for guiding monetary policy. While there were no official inflation targets for any country prior to 1990. The United States stands out as an outlier because its central bank, the Federal Reserve, is tasked with achieving both price stability and full employment. Fearing that the Fed may try to drive unemployment below its "natural rate," its lowest sustainable level, and ignite rapid inflation is a major reason why some economists propose inflation targeting for the United States. Over the past decade, however, the natural rate theory has been discredited as a reliable basis for policy decisions. As a result, inflation remained low while the unemployment rate dropped two percentage points below estimates of the natural rate in 2000. It is debatable whether the United States should adopt an inflation-targeting regime, as this strategy relies heavily on the theory of the natural rate. The apparent success of monetary policy under the dual mandate only serves to further fuel these concerns (Thorbecke, 2004).

According to a study by Ball, Mankiw & Nordhaus, (1999), when asked about unemployment, conventional economists provides a response that makes a clear distinction between what is known as "short run" unemployment and "long run" unemployment. The conventional view maintains that short-run variations in unemployment are heavily impacted by monetary policy and other factors of aggregate demand; nevertheless, in the long run, unemployment levels return to a natural rate, often known as the nonaccelerating-inflation rate

of unemployment (NAIRU). The NAIRU is calculated based on the frictions that exist in the labor market. The NAIRU is subject to fluctuate over time for a variety of microeconomic reasons, including but not limited to shifts in the institutions that govern the labor market. The prevailing opinion, on the other hand, is that aggregate demand has no effect on the NAIRU, and that as a result, demand does not play a role in the development of long-term unemployment trends. The authors Ball, Mankiw, and Nordhaus (1999) contend that monetary policy and other factors that determine aggregate demand have significant effects not just on long-run but also on short-run fluctuations in unemployment rates.

The Sustainable Development Goals acknowledge the significance of fiscal policy in terms of its contribution to development. Specific Sustainable Development Goals (SDGs) have been established in the domain of development, including the elimination of poverty (SDG1) and hunger (SDG2), the reduction of inequality (SDG3) and education (SDG4), the achievement of gender equality (SDG5), and the enhancement of infrastructure (SDGs 6,7,9,11). It is customary for the private sector to play only a little role in these spheres, in part due to the fact that the returns on investment may be very speculative or may take a significant amount of time. Wagner's law describes a pattern in which public spending and tax revenue tend to rise with rising levels of per capita income (Wagner 1958). This indicates that the role of redistribution through taxes and income-related transfers is played by fiscal policy, which also plays a role in equalizing opportunity through in-kind spending on areas such as infrastructure, education, and health (Gaspar et.,al, 2019).

In a study spanning March 1980 to March 2005, Alexius and Holmlund (2007) used an SVAR model and quarterly data on domestic output gap, unemployment, and monetary conditions index (MCI), foreign output gap, technology, and government deficit to examine the correlation between monetary policy and unemployment fluctuations in Sweden. It appears that the output gap and unemployment rate both benefit from monetary policy that is more accommodative to economic growth.

Blanchard (2016) carried out research on the economy of the United States utilizing data from the 1960s in order to assess the reliability of the Phillips curve. He desired a fresh look at how inflation and unemployment were behaving in the economy of the United States. As Phillips had predicted, it was discovered that low unemployment had the impact of driving up inflation, while high unemployment had the effect of driving down inflation. This finding was consistent with Phillips's predictions (1958). To put it another way, the Phillips curve was in good shape and functioning well in the US economy. He also discovered that inflation expectations had become steadily anchored, and that the Phillips curve more closely resembled the one from the 1960s than the accelerationist Phillips curve from the latter time. Both of these discoveries were made by him. He also discovered that the slope of the Phillips curve, which showed the relationship between unemployment and inflation, had significantly decreased over the years. This was another discovery that he made. The last thing he discovered was that the standard error of the residual in connection was quite high. The decision-makers in charge of executing monetary policy were faced with additional obstacles as a result of these four conclusions.

When the Philips curve is flat, Beaudry, Hou, and Portier (2020) state that it is possible to achieve inflation at a level below its target while at the same time achieving low unemployment rates through the use of aggressive monetary policy. This is possible in situations where the Philips curve is flat. These conclusions will be determined by the degree to which aggregate demand is sensitive to changes in interest rates, in addition to the parameters of the Phillips curve models that were utilized in the research. When it comes to the implementation of monetary policies in the economy, Beaudry, Hou, and Portier (2020) urge for the application of the "Go Big or Stay Home" idea as a guiding principle. This means that in order to ensure that the economy achieves sustainable rates of inflation and unemployment without being negatively impacted by external shocks, policymakers had to pursue bold and aggressive monetary policies to combat these issues. When monetary policy is seen to be ineffectual, policymakers should refrain from taking any action at all rather than taking incremental steps.

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

RESEARCH METHODOLOGY

Research Design

Explanatory research design was used for this study in order to determine the amount and type of the relationships between the variables under consideration as well as their causes and effects. With inflation, government spending, and the money supply as proxies, this study tried to determine the causal relationship between unemployment and various macroeconomic policy proxies.

Data Type and Source

This research study made use of a secondary type of data. Unemployment, inflation, government spending, and the money supply were used in data analysis. The World Bank, the Central Bank of Kenya, and the Kenya National Bureau of Statistics (KNBS) were consulted for the statistics. A time series technique was used, and the project's study period spanned from 1990 to 2020.

Model specification

The focus is to examine the linkage among unemployment, inflation, government spending and money supply in Kenya. The model is adapted from macroeconomic model stated as:

$$U = f(\Pi, GEGR, MSGR) \quad (1)$$

Where:

U = unemployment rate,

Π = inflation rate,

GEGR = government expenditure growth rate,

MSGR = Money supply growth rate.

The model specification in a stochastic form is stated as:

$$U = \beta_0 + \beta_1\Pi + \beta_2 GEGR + \beta_3 MSGR + \mu \quad (2)$$

U = unemployment rate,

Π = inflation rate,

GEGR = government expenditure growth rate,

MSGR = Money supply growth rate,

μ = error term.

Data Analysis Method

The unit test of the specified model was tested using the Augmented Dickey- Fuller Unit Roots Test (ADF). Heteroscedasticity was tested using the Breusch-Pagan test of heteroscedasticity. The study employed the Variance Inflation (VIF) factor test to test whether the independent variables of the regression model are correlated. The Pesaran/Shin/Smith (2001) ARDL bound tests was used to determine co-integration. Autocorrelation was tested using the Breusch-Godfrey test of Autocorrelation. The Akaike Information Criterion (AIC), Final Prediction Error (FPE), Hannan-Quinn Criterion (HQIC), and Schwartz Information

Criterion (SIC) were used to determine the best lag duration of the ARDL model in this work. Parameter stability test of the time series model was also tested using the cumulative sum of recursive residuals (CUSUM) test.

ANALYSIS AND DISCUSSION

Descriptive statistics

The research variables under study for the years 1991 to 2020 are shown in Table 1 raw summary descriptive statistics.

Table 1: Descriptive statistics

Variable	Inflation	Unemployment	Money supply Growth rate	Government Expenditure Growth rate
Observation	30	30	30	30
Mean	11.4	7.07	15.827	13.1596
Standard deviation	9.55	.7276	8.5586	9.2567
Minimum	1.55	6.19	2.931	1.981
Maximum	45.98	10.4	39.021	51.241

Source: Author, 2022

From the table above, the mean of unemployment rate was 7.07 (standard deviation =.7276; Minimum=6.19; Maximum= 10.4. The gap between the minimum value and the maximum value of unemployment was relatively small as indicated by the difference between the minimum and the maximum values. This was also supported by a relatively small value of standard deviation of .7276.

Figure 1 below shows a graphical representation of unemployment from the year 1990 to 2020. Unemployment rate rose gradually from the year 1990 to 2018 and rose sharply from 2018 to 2019 then dropped sharply to the year 2020.

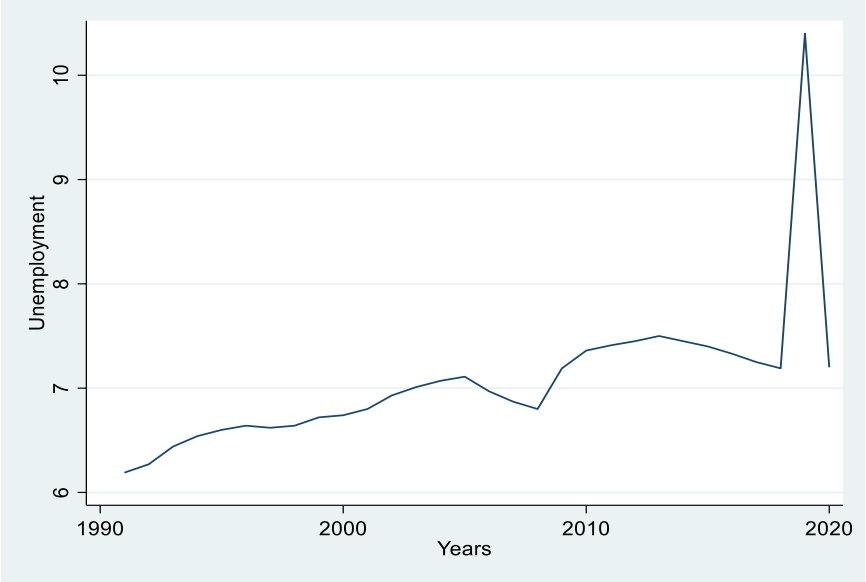

Figure 1: Unemployment trend from 1990 to 2020

The mean of inflation rate was 11.4 (standard deviation =9.55; Minimum= 1.55; Maximum=45.98). This indicates that the inflation rate on average was 11.4. The deviation from the mean of inflation rate was huge as supported by a standard deviation of 9.55.

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

Figure 2 below shows the graphical representation of inflation rate from the year 1990 to 2020. The inflation rate has been fluctuation throughout the years between 1990 and 2020 with some years experiencing a sharp rise and drop while some periods having mild fluctuations. The year 1994 and 2008 recorded the highest inflation rate of about 46 percent and 28 percent respectively.

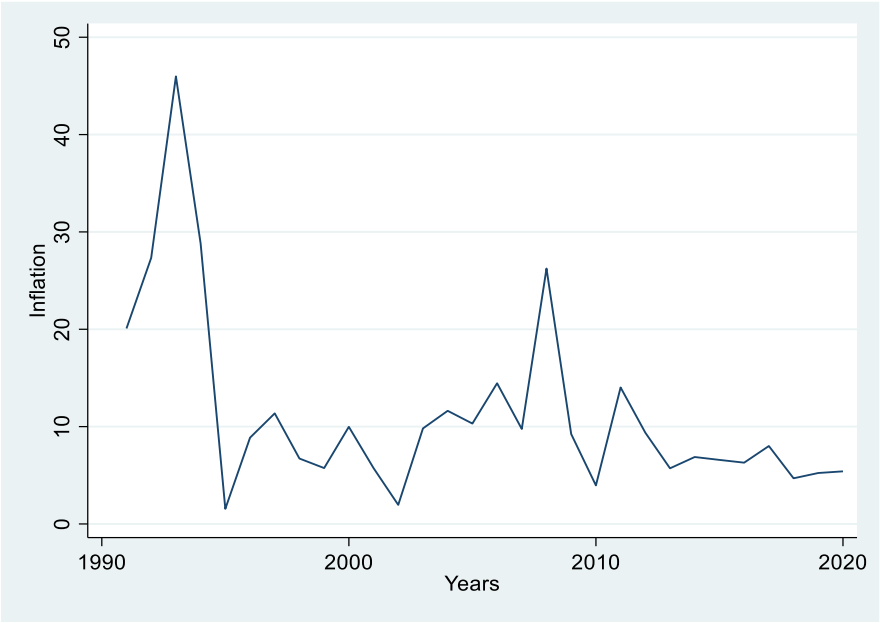

Figure 2: Inflation trend from 1990 to 2020

The mean of money supply growth rate was 15.827 (standard deviation =8.5586; Minimum= 2.931; Maximum=39.021). This indicates that the money supply growth rate on average was 15.827. The deviation from the mean of money supply growth rate was relatively larger as supported by a standard deviation of 8.5586.

Figure 3 below shows a graphical representation of money supply growth rate from the year 1990 to 2020. The money supply growth rate rose between 1990 and 1993 then reduces between 1993 and 1998 where it rose again between 1998 and 2013 but with some periods recording fluctuations. A downward trend was observed between 2013 and 2015 and a small rise 2015 and 2020.

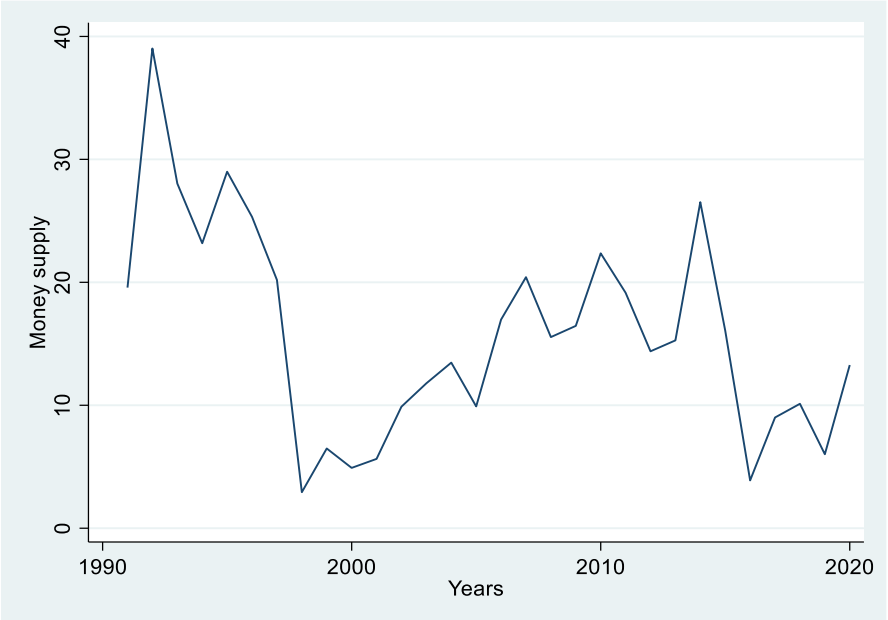

Figure 3: Money supply growth rate trend from 1990 to 2020

The mean of government expenditure growth rate was 13.1596 (standard deviation =9.2567; Minimum= 1.981; Maximum=51.241). This indicates that the government expenditure growth rate on average was 13.1596. The deviation from the mean of government expenditure growth rate was relatively larger as supported by a standard deviation of 9.2567.

Figure 4 below shows a graphical representation of government expenditure growth rate from the year 1990 to 2020. The government expenditure growth rate has been fluctuating between 1990 and 1920 with some years experiencing a rise in the government expenditure growth rate while others experiencing a decrease. 1995 recorded the highest ever government expenditure growth rate at about 51.241 percent while the year 2000 recorded the lowest ever government expenditure growth rate of 1.981 percent. However, government expenditure growth rate has remained relatively constant from 2016 to 2020.

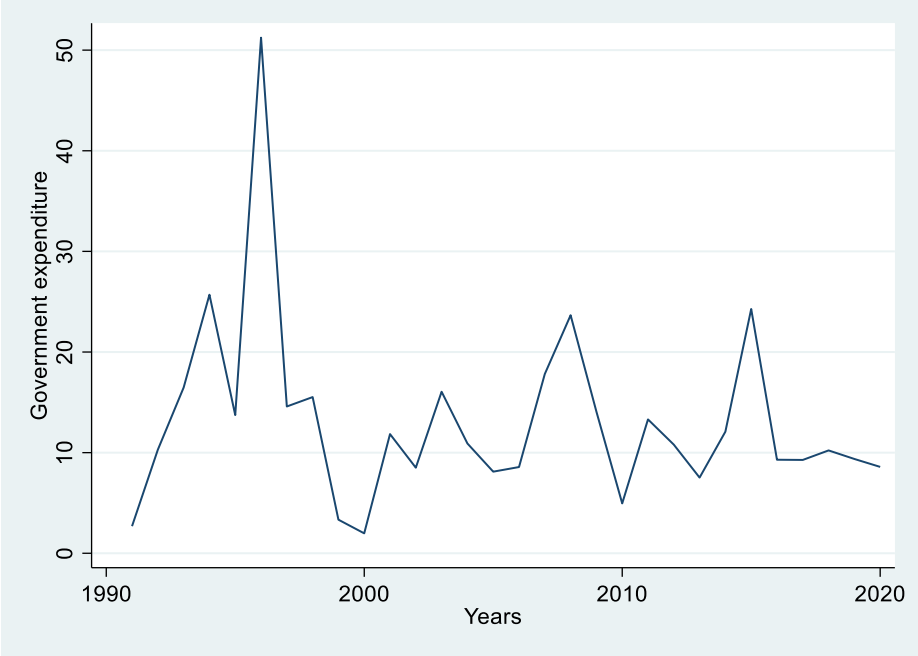

Figure 4: Government expenditure growth rate trend from 1990 to 2020

Optimum Lag selection criteria

Table 2 displays the criteria for lag selection order for the ARDL model based on the Akaike Information Criterion (AIC), the Final Prediction Error (FPE), the Hannan-Quinn Criterion (HQIC), and the Bayesian Information Criterion (SBIC). According to the Akaike Information Criterion (AIC), the Hannan-Quinn Criterion (HQIC), and the Bayesian Information Criterion (BIC), it is suggested that the ARDL model should have four ideal lags.

Table 2: Optimum Lag selection criteria

Lag	LL	LR	df	P	FPE	AIC	HQIC	SBIC
0	-433.982				5.0e+09	33.6909	33.7466	33.8845*
1	-418.041	31.881	16	0.010	5.2e+09	33.6955	33.9741	34.6632
2	-405.203	25.677	16	0.059	7.3e+09	33.9387	34.4403	35.6806
3	-380.929	48.546	16	0.000	5.1e+09	33.3023	34.0268	35.8184
4	-339.487	82.885*	16	0.000	1.3e+09*	31.3451*	32.2926*	34.6355

(*) Indicates that the selected lag criteria that is statistically significant at 95 percent confident interval.

Source: Author, 2022

ISSN No. 2454-6186 | DOI: 10.47772/IJRISS | Volume IX Issue V May 2025

Stationarity

The results of the table 3 below indicate that the null hypothesis of unit root of inflation, unemployment, money supply growth rate, and government expenditure growth rate cannot be rejected at a level of significance of 5 percent. This would imply that non-stationary variables such as inflation, unemployment, money supply, and government expenditure all have a unit root. The findings presented in table 3 indicate that the ARDL bounds test should be carried out to determine whether or not there is a level relationship.

Table 3: Stationarity results

Variable	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Inflation	-3.314	-4.343	-3.584	-3.230
Unemployment	-3.402	-4.362	-3.592	-3.235
Money Supply	-2.813	-4.352	-3.588	-3.233
Government Expenditure	-4.896	-4.343	-3.584	-3.230

Source: Author, 2022

Cointegration

As can be seen in the table above, the null hypothesis that there is no level relationship was not accepted. The reason for this is that the F statistics, which came in at a value of 9.177, were higher than the critical value of the upper bound (I 1), which was 4.85. Based on these findings, it appears that there was a level relationship among the variables, and as a result, there was a relationship over the long term. The results were consistent, according to the t statistics. As a consequence of these findings, it was decided that the model would be estimated by the use of the ARDL Error Correction Model (ECM) in order to determine the variables' long-term connection.

Table 4: Cointegration results

K-2		(I_0) (L_1)	(I_1) (L_1)	(I_0) (L_05)	(L_1) (L_05)	(I_0) (L_01)	(I_1) (L_01)
F-Statistic Case	(9.177*)	3.17	4.14	3.79	4.85	5.15	6.36
t-statistics	(-5.240*)	-2.57	-3.21	-2.86	-3.53	-3.43	-4.10

Source: Author, 2022

Autocorrelation

The outcomes of both the Breusch Godfrey Lm test and the DW test for serial correlation are presented in the table 5 below. Since the p value that corresponds to chi-square in the preceding table is 0.3470, which is greater than the level of significance of 5% (0.05), the null hypothesis that there is no serial correlation is consequently accepted. The null hypothesis that there is no serial correlation is supported further by the statistic obtained from the Durbin Watson test, which is 2.299125. If the values of the test statistic are in the range of 1.5 to 2.5, it is safe to assume that there is no serial correlation. This is the rule of thumb that is generally followed.

Table 5: Autocorrelation results

Source	chi2	Df	Prob>chi2
Breusch Godfrey LM test for Autocorrelation(lags(1))	0.844	1	0.3470
Durbin Watsin Test d statistic			2.299125

Source: Author, 2022

Heterescedasticity

According to the findings of this test, which are outlined in Table 6, the residuals of the model are of a homoscedastic distribution. This is substantiated by the p values that correspond to the chi-square test statistics of 0.8312, which is greater than the criterion of significance of 5 percent (0.05). As a consequence of this, it can be deduced that the model's residuals have a constant variance.

Table 6: Heterescedasticity results

Source	chi2	Df	Prob>chi2
Heteroscedasticity	8.19	13	0.8312

Source: Author, 2022

Multicollinearity

A check for multicollinearity in the model was carried out with the use of the variance inflation factor (VIF). The VIF is a metric that analyzes how the independent variables in a model are connected to one another. When it comes to multi-collinearity, a good rule of thumb to follow is that numbers that are larger than 10 suggest that there is multi-collinearity present in the model, whilst values that are less than 10 indicate that there is not multi-collinearity present in the model. The results of multicollinearity are displayed in the table 7 below. The VIF for is 1.31, which is less than the generally accepted rule of thumb of 10, indicating that there is no multicollinearity among the independent variables.

Variable	VIF	1/VIF
Government expenditure	1.14	0.875756
Money supply	1.43	0.700689
Dummy	1.19	0.843225
Inflation	1.50	0.667955
Mean VIF	1.31	

Source: Author, 2022

Model stability

We used the CUSUM test to check for internal consistency among the model's variables. It allowed for monitoring the changing estimates of the coefficients under consideration as the sample size of the underlying data grew. There are two error bars, one on each side of the estimated coefficients. A sign of system instability is a large coefficient shift after adding new information to the estimating equation. If the blue line is found to be outside of the two red lines, then stability is not present. A closer look at the graph revealed that the blue lines were situated within the red lines. This indicates that the variables that were utilized in the model were consistent over the course of time. The graph of the residuals of the variables that were employed in the model can be found in Figure 5. The variables' residuals are moving in a circular fashion around the mean. This satisfies the requirement that the mean of the residuals be zero, which is a prerequisite for the normalcy assumption.

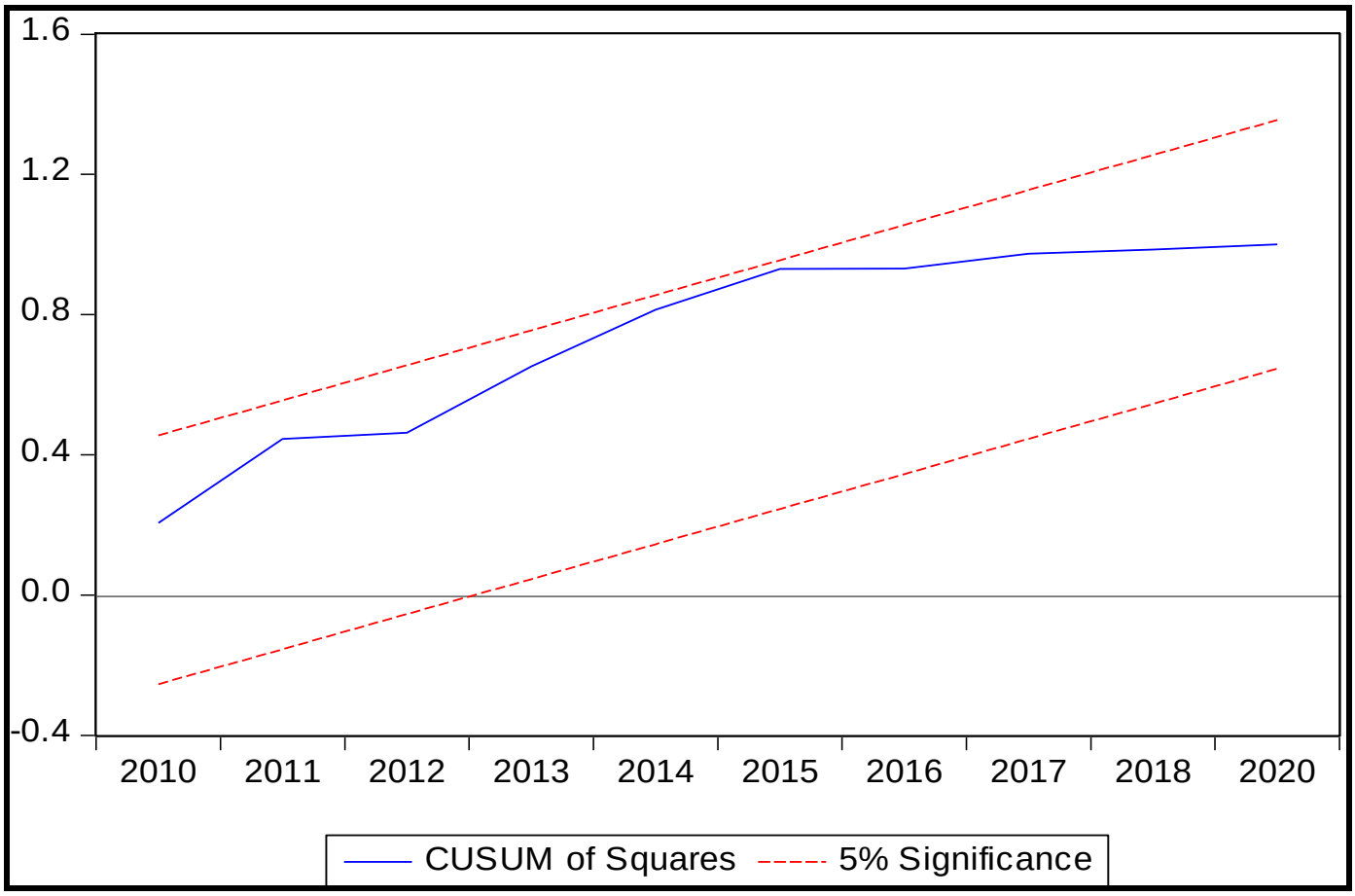

Figure 5: Cusum sum of squares model stability check

Correlation

Table 7 summarizes correlation findings. Even though the independent variables have a high R-squared, they can still cause large standard errors, low t-statistics, and unexpected coefficient sign or magnitude changes, so their correlation is evaluated. The pair-wise correlation matrix in the table below shows no highly correlated independent variables. The empirical model prevents multicollinearity by separating pairs in equations.

Results in table below indicate that unemployment rate is negatively related with inflation rate($r = -0.3689$, $p < 0.05$). Consequently the higher the unemployment rate the lower the inflation rate in Kenya. The results also indicate that money supply growth rate is positively related with inflation rate in Kenya($r = 0.4883$, $p < 0.05$).As a result the higher the money supply growth rate, the higher the inflation rate in Kenya.

Table 7: Correlation results

Variable	Inflation	Unemployment	Money Supply Growth rate	Government Expenditure Growth rate
Inflation	1.0000			
Unemployment	-0.3689* 0.0449	1.0000		
Money supply	0.4883* 0.0062	-0.3443 0.0624	1.0000	
Government expenditure	0.1915 0.3108	-0.1465 0.4397	0.3249 0.0798	1.0000

Source: Author, 2022

ARDL Results

Table 8: ARDL results

ARDL (4,4,4,4) regression			Number of obs		=	30
			R-squared		=	0.9011
Log Likelihood = -3.9295623			Adj R-squared		=	0.5877
			Root MSE		=	0.5859
D.unemployment	**Coef.**	**Std. Err.**	**z**	**p>t**	**[95% Conf.**	**Interval]**
Adj						
Unemployment L1.	2.629128	1.11057	2.37	0.056	-.0883384	5.346595
Long run						
Inflation (β_1)	.0082862	.0388848	0.21	0.838	-.0868614	.1034339
Money supply growth rate(β_2)	.0092107	.0025216	3.65	0.011	.0030406	.0153807
Government expenditure growth rate (β_3)	-.1482931	.0581785	-2.55	0.044	-.2906508	.0059354
Short run						
Unemployment (β_4)						
LD.	-3.663381	1.119456	-3.27	0.017	-6.40259	-.924172
L2D.	5.285639	3.988249	1.33	0.233	-4.473256	15.04453
L3D.	-2.304859	2.508544	-0.92	0.394	-8.443046	3.833328
Inflation (β_5)						
D1.	-.0177863	.0925396	-0.19	0.854	-.2442226	.20865
LD.	-.0186329	.0857892	-0.22	0.835	-.2285516	.1912858
L2D.	.0819157	.0911106	0.90	0.403	-.141024	.3048553
L3D.	.010665	.0395776	0.27	0.797	-.0861779	.1075079
Money supply growth rate (β_6)						
D1.	.0399291	.0142915	2.79	0.031	.0049591	.0748992
LD.	.0128954	.0096731	1.33	0.231	-.0107738	.0365647
L2D.	.0191759	.0069432	2.76	0.033	.0021864	.0361653
L3D.	-.0041492	.0070105	-0.59	0.576	-.0213033	.0130049
Government expenditure growth rate (β_7)						
D1.	-.2948736	.1152707	-2.56	0.043	-.5769309	-.0128164
LD.	-.177335	.0636595	-2.79	0.032	-.3331041	-.0215659
L2D.	-.1129729	.0496956	-2.27	0.063	-.2345737	.0086278
L3D.	-.0968975	.0385027	-2.52	0.045	-.1911102	-.0026848
_cons (β_0)	-20.73231	8.528541	-2.43	0.051	-41.6009	.1362792

Source: Author, 2022

DISCUSSION OF THE FINDINGS

Table 8 above shows the findings of relationship between inflation rate and unemployment rate in Kenya in the short run and long run. The results indicate that the inflation had an insignificant positive relationship with unemployment in the long run (β_1) = .0082862, ρ>0.05) and an insignificant negative relationship with unemployment in short run (β_5 = -.0177863, ρ>0.05). The results of this study were in contradiction with that done by Blanchard (2016) that concluded that low unemployment had an effect of pushing inflation high and high unemployment had a decreasing effect on inflation just as was predicted by Phillips (1958). This finding therefore suggests that Phillips proposition does not hold in the Kenyan economy.

Table 8 above also shows the findings of relationship between money supply growth rate and unemployment rate in Kenya in the short run and long run. The results indicate that the money supply growth rate had a significant positive relationship with unemployment in the long run (β_2) = .0092107, $\rho<0.05$) and a significant positive relationship with unemployment in short run (β_6 = .0399291, $\rho<0.05$). The results of this study were in agreement with those done by Mankiw & Nordhaus, (1999) that outlines that monetary policy and other factors that determine aggregate demand have significant effects not just on long-run but also on short-run fluctuations in unemployment rates.

Table 8 above also shows the findings of relationship between inflation rate and unemployment rate in Kenya in the short run and long run. The results indicate that the inflation had an insignificant positive relationship with unemployment in the long run (β_3) = .0082862, $\rho>0.05$) and a significant positive relationship with unemployment in short run (β_7 = .0399291, $\rho>0.05$). The results of this study were in agreement with those done by Rendahl (2016) that proposes that it is necessary to achieve a state of equilibrium in the dynamics of unemployment. Expansionary government expenditure boosts output and reduces the jobless rate in the aftermath of a shock that puts the economy in a liquidity trap. The consequences of present expenditure persist into the future, resulting in a lasting increase in income due to the persistence of fluctuations in unemployment. Because a sustained gain in income leads to increased private demand, an increase in government expenditure triggers a positive employment-spending cycle that has far-reaching implications on macroeconomic aggregates.

CONCLUSION AND RECOMMENDATION

The results of this study revealed that there is a positive insignificant relationship between unemployment and inflation. These results suggest that it is difficult for policy makers in Kenya to employ inflation targeting policy mechanism to control and counter unemployment as suggested by Phillips curve. This result therefore concludes that inflation targeting by monetary authorities in Kenya cannot yield positive results of curbing unemployment. The analysis of the study also suggests that NAIRU cannot participate more directly in the formulation of policies. The NAIRU may be particularly significant in an inflation targeting program since it aids in future inflation forecasting. The NAIRU's measurements are significant because they can assist policymakers in determining how far the economy is from reaching capacity and what this means for wage growth, inflation, and the results of the labor market. The results of the study however indicate that NAIRU is insignificant and therefore cannot be relied upon.

The study recommends that when the Kenyan economy is about to enter a recession or experiencing sluggish economic growth, policymakers should employ an expansionary government spending policy. This type of fiscal strategy involves raising spending on the government, or doing both to counteract the effects of a recession. Governments primarily employ this when attempting to stabilize the business cycle's contraction phase. Increasing government spending on public projects (such building schools and roads) and providing tax breaks to citizens of the economy in order to boost their purchasing power in order to counteract a decline in aggregate demand are two common examples of expansionary fiscal policy measures.

Additionally, the government should develop expansionary monetary policy strategies that target a sustainable level of inflation in the economy rather than targeting unemployment level in the economy. This is because reducing unemployment level below the natural rate of unemployment would lead to more inflationary pressures in the economy. Finally, the government should come up with a supplementary policy of cushioning the economy against the harsh effects of structural breaks in the economy. These supplementary policies would gradually adjust the recovery process to stability in the economy by maintaining unemployment levels at a sustainable level and inflation level at their targeted levels.

REFERENCES

1. Acar, S., Voyvoda, E., & Yeldan, A. E. (2018). Patterns of growth in dual economies: challenges of development in the 21st century. In Macroeconomics of climate change in a dualistic economy: a regional general equilibrium analysis (pp. 13-63). Academic Press.

2. Adelowokan, O. A., Maku, O. E., Babasanya, A. O., & Adesoye, A. B. (2019). Unemployment, poverty and economic growth in Nigeria. Journal of Economics & Management, 35, 5-17.
3. Akyüz, Y. (2006). From liberalization to investment and jobs: lost in translation. Turkish Economic Association.
4. Alexius, A., & Holmlund, B. (2007). Monetary policy and Swedish unemployment fluctuations. Economics Discussion Paper, (2007-34).
5. Ball, L., Mankiw, N. G., & Nordhaus, W. D. (1999). Aggregate demand and long-run unemployment. Brookings papers on economic activity, 1999(2), 189-251.
6. Beaudry, P., Hou, C., & Portier, F. (2020). Monetary Policy when the Phillips Curve is Locally Quite Flat.
7. Benazić, M., & Rami, J. (2016). Monetary policy and unemployment in Croatia. Economic research-Ekonomska istraživanja, 29(1), 1038-1049.
8. Blanchard, O. (2016). The Phillips Curve: Back to the'60s?. American Economic Review, 106(5), 31-34.
9. Clifton, E., Leon, G., & Wong, C. H. (2001). Inflation targeting and the unemployment-inflation trade-off.
10. Choudhry, M. T., Marelli, E., & Signorelli, M. (2012). Youth unemployment rate and impact of financial crises. International journal of manpower.
11. Edwards, S. (2006). The relationship between exchange rates and inflation targeting revisited.
12. Epstein, G., & Yeldan, A. E. (2009). Beyond inflation targeting: assessing the impacts and policy alternatives. In Beyond Inflation Targeting. Edward Elgar Publishing.
13. Feriyanto, N., El Aiyubbi, D., & Nurdany, A. (2020). The impact of unemployment, minimum wage, and real gross regional domestic product on poverty reduction in provinces of Indonesia. Asian Economic and Financial Review, 10(10), 1088-1099.
14. Gaspar, V., Amaglobeli, M. D., Garcia-Escribano, M. M., Prady, D., & Soto, M. (2019). Fiscal policy and development: Human, social, and physical investments for the SDGs. International Monetary Fund.
15. Hammond, G. (2012). State of the art of inflation targeting. Handbooks.
16. Heffetz, O., & Reeves, D. (2021). Measuring unemployment in crisis: Effects of COVID-19 on potential biases in the CPS (No. w28310). National Bureau of Economic Research.
17. Kamau, P. (2021). Kenyans Grow more Discontent with Country's Economic Performance.
18. Mashele, J. G. (2012). Appropriateness of inflation targeting in South Africa (Doctoral dissertation, University of Pretoria).
19. Mitchell, W. F., & Mosler, W. (2001). Unemployment and fiscal policy. Unemployment: the Tip of the Iceberg, 219-232.
20. Mouly, J., & Costa, E. (2022). Employment policies in developing countries: a comparative analysis. Taylor & Francis.
21. Muhammad, S. A. L. I. M. O. V. (2020). The impact of inflation targeting on inflation volatility (Doctoral dissertation, Ritsumeikan Asia Pacific University).
22. Rendahl, P. (2016). Fiscal policy in an unemployment crisis. The Review of Economic Studies, 83(3), 1189-1224.
23. Setterfield, M. (2006). Is inflation targeting compatible with Post Keynesian economics?. Journal of Post Keynesian Economics, 28(4), 653-671.
24. Siekmann, H. (2022). Inflation, price stability, and monetary policy: On the legality of inflation targeting by the Eurosystem (No. 172). IMFS Working Paper Series.
25. Svensson, L. E. (2010). Inflation targeting. In Handbook of monetary economics (Vol. 3, pp. 1237-1302). Elsevier.
26. Thorbecke, W. (2004). Inflation Targeting and the Natural Rate of Unemployment.
27. Wagner, A. (1958). Three extracts on public finance. In Classics in the theory of public finance (pp. 1-15). Palgrave Macmillan, London.