

# Validity of The Short Run and The Long Run Phillips Curve in Macroeconomic Policy Implementation in Kenya

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## Abstract

Levels of unemployment is of great concern to policy makers in most world economies. Many models have been developed to address the problem but no clear solution has been found. Closely related to unemployment is the problem of inflation. Stagflation, a condition where both unemployment and inflation are high at the same time has resulted to ineffectiveness of policies issued by monetary authorities in Kenya. Solutions to unemployment and inflation are challenges experienced by policy makers in many economies. The purpose of this study was to empirically analyze validity of short and long run Philips curve in macroeconomic policy implementation in the Kenyan. More specifically, the study objective was to examine the short and long run relationship between unemployment and inflation, the relationship between government spending and unemployment and the relationship between money supply 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 Expectation theory and the Lucas critique theory. The study adopted an explanatory research design and employed an Auto-Regressive Distributed Lag and Error Correction Model to analyze both the short run and the long run results. The 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. The findings of the diagnostic test demonstrated that there was no multicollinearity among the independent variables ( $vif=1.31$ ), the residuals were homoscedastic ( $p=0.8312>0.05$ ), and there was no autocorrelation among the residuals ( $p=0.3470>0.05$ ). 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. The findings of the study were: the relationship between unemployment and inflation was positive and insignificant both in the short run ( $\beta_{3i} = 0.0006$ ,  $p = 0.974$ ) and in the long run ( $\beta_{2j} = 0.0007$ ,  $p = 0.974$ ); government spending had a negative significant relationship ( $\beta_{3j} = 0.0281$ ,  $p = 0.045$ ) with unemployment; Money supply had a negative insignificant relationship ( $\beta_{4j} = 0.002$ ,  $p = 0.900$ ) with unemployment. Gregory Hansen test also indicated that the model suffered from structural period during 2009, 2013 and 2016. Dummy variables that modeled the structural breaks were significant ( $\beta_{5j} = 0.8766$ ,  $p = 0.031$ ) in the long run. The study concluded that the short run and the long run Phillips curves are invalid in the Kenyan economy. The study therefore recommends that expansionary fiscal policy of government spending can be used to reduce unemployment levels in the short run and the government should come up with a supplementary policy of cushioning the economy against the harsh effects of structural breaks on unemployment.

**Key words:** Long Run, Phillips Curve, Macroeconomic Policy, Implementation