

PUBLIC DEBT, PRIVATE INVESTMENTS AND UNEMPLOYMENT RATE IN KENYA

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Abstract: The government of Kenya has put efforts to ensure that private investment in the country is boosted and hence reduce the unemployment rate. However, despite the government efforts in increasing the levels of private investment and lowering unemployment rates in the country, with increased government borrowing, private investment has continued to perform below expectations while the rate of unemployment continue to increase. While some researchers have attempted to assess the effect of public debt on private investment and unemployment the studies have found contradicting results. The major goal of this study was to ascertain how Kenya's public debt has affected both private investment and the unemployment. Assessing the impact of governmental debt on private investment and figuring out how it affects Kenya's unemployment rate were the specific objectives of the study. Longitudinal research approach was used where time series data from 2001 to 2021 was gathered. Secondary data was used. The World Bank, the Kenya National Bureau of Statistics, and the Central Bank of Kenya (CBK) provided the data for this report. To analyze the data, descriptive and inferential statistics were applied. The study established that domestic debt has a positive and significant relationship with private investment. However, the relationship between external debt and private investment was found to be negative but significant. On the contrary regarding the effect of public debt on unemployment rate, the study revealed that domestic debt has a negative but significant relationship with unemployment rate. External debt however was found to have a positive and significant relationship with unemployment rate. Based on the above findings the study concluded that public debt has a significant effect on private investment. For the second objective the study concluded that public debt has a significant effect on unemployment rate. Based on this, the government through its policy makers should come up with measures that would control the mount of borrowing by the government.

Keywords: public debt, private investment, unemployment, external public debt, internal public debt.

1. INTRODUCTION

1.1 Background of the Study

In any economy, private investment plays a central role in economic growth. The private sector is an important factor in any economy that contributes to national income and plays a great role in creation of employment. The private sector investment is always pivotal and the primary necessity of developing countries (Sohail & Hussain, 2019). According to Uremadu (2018), private investment benefits an economy through contribution to infrastructure, creation of jobs and income and helps in efficient allocation of resources. Ninety percent of employment in the developing economies come from the private sector. This is both informal and formal jobs. It also avails critical commodities, acts as a source of tax revenues and the efficient capital flow (Venables, 2015). Domestic investment by local investors as well as foreign direct investment is therefore paramount for an economy that is on a journey to grow.

Seth, John, and Dalhatu (2018) indicates that unemployment is a severe challenge faced by majority of economies that are developed and those that are developing, leading to social and economic problems. Unemployment is an economic problem that deprives a country tax revenue and wastes precious time resource that may have been spent working. Given its effects

on all extents and orientations, unemployment happens to be one of the worst conditions a human civilization can face (Adarkwa, Donkor, & Kyei, 2017).

The improvement of economic growth is becoming a major priority in many African nations. This was accomplished through increasing investment following significant reforms made in the 1980s intended to change the direction of their economy (Litchfield, 2018). In least developed nations that have effectively reoriented their economy to make their economies more efficient, private investment continues to be the cornerstone of fresh growth. Therefore, countries must encourage investment and lessen its volatility if they want to set their economies on a quicker and steadier path of growth. It is desirable to have policies that would grow private investment and optimize the mix of private investment because the private sector will power the renewed growth (Ronge & Kimuyu, 2017). Experience has revealed a strong correlation between private investment size and the rate of expansion of the economy. This is so that investment can increase productivity while also opening up new chances to buy new, frequently more effective technology. Therefore, private investment impacts both the pace of accumulation and the expansion of productive capacity (CNUCED, 2018).

The majority of macroeconomic models concur in their forecast that lower private investment should result from fiscal deficits and the ensuing rise in governmental debt. High levels of public debt have been proven to contain no influence on the relationship between investment and cash flow for listed, well-established, and large enterprises, but they do tend to raise it for unlisted, tiny, and new firms, who are more likely to face credit constraints. Corporate investment is impacted by government debt because private companies' access to finance is restricted (Revoltella, et al, 2019).

Public debt can be seen as an alternative to money creation and, hence, as an instrument of fiscal policy during times of unemployment (Farley, et al., 2013). The use of external debt is thought to help close the domestic savings gap, particularly when internal government revenue is declining. This becomes particularly true in light of the fluctuating prices of export of basic goods and the resulting loss in foreign exchange gains. External debt is thought to be a means of assisting emerging economies in increasing their rate of real investment rate alongside spurring economic growth. As a result, public debt contributes to capital development and, indirectly, to the creation of job opportunities. Domestic debt controls the money supply by releasing surplus funds into the public sphere, acting as an anti-inflationary policy. Such unused monies may be transferred from ineffective to effective investment channels, which would help the economy create more jobs (Igberi, Odo, Anoke & Nwachukw, 2016).

1.2 Statement of the Problem

The importance of private investment in an economy cannot be underestimated as it serves as an important contributor to Gross Domestic Income (GDI), creates employment and helps in efficient allocation of resources (Sohail & Hussain, 2019). On its own, unemployment deprives a country from receiving revenue in the form of tax levied on income and also results in the loss of productive hours and thus considered as one of the worst challenge a society go through (Adarkwa, Donkor, & Kyei, 2017). All economies have public debt since it is a significant source of funding for budget deficits (Woo & Kumar 2015). The Government of Kenya has put efforts to ensure that private investment in the country is boosted and hence reduce the unemployment rate. In Vision 2030, Kenya projected the level of private investment to be above 24% of Gross Domestic Product (GDP) by 2030 (National Planning Commission, 2013). Additionally, the Kenya Vision 2030 Sector Plan for Labor and Employment formulated the policies, programs and projects for implementation with key focus areas being; optimal utilization of human resources and promotion of employment.

However, despite the government efforts in increasing the levels of private investment and lowering unemployment rates in the country, with increased government borrowing, private investment has continued to perform below expectations and has not achieved the targeted level of 24% of GDP (Mundia, 2014). More so latest statistics indicate that the rate of unemployment continue to increase especially in the last five years where there has been a 2.98 percent increase from 2016 to 2021 (Central Bank of Kenya, 2021). It was therefore important to assess how private investment and unemployment rate is affected by public debt in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of this study was to assess the effect of public debt on private investment and unemployment rate in Kenya.

1.3.2 Specific Objectives

The following were the study's specific goals:

1. To determine the effect of public debt on private investment in Kenya.
2. To assess the effect of public debt on unemployment in Kenya.

2. LITERATURE REVIEW

2.1 Theoretical Review

The study was anchored on the Keynesian Theory of Fiscal Policy. Keynes created the Keynesian Theory of Fiscal Policy (1930). According to this Keynesian model, investment drives both effective demand and unemployment. According to Keynes' General Theory, effective demand dictates investment, which causes unemployment, and the labor market has a minimal impact (Smith & Zoega, 2009). The core tenet of Keynes' theory is the assertion that aggregate demand—a total of business, consumer, and government expenditures—is the most crucial determinant of the economy. To defend government intervention, Keynesian economists support public policies whose aim is to achieve price stability and full employment. According to Keynes lack of general demand can cause extended periods of high unemployment (Jahan, Mahmud & Papageorgiou, 2014).

Theoretically, an economy's commodities output is equal to the total of four factors: net exports, government purchases, investment, and consumption (the difference between imports and exports). One of these four elements must be the cause of every increase in demand. However, strong forces usually suppress demand during a slump since spending is down. Businesses may make less investments due to consumers making fewer purchases because there is less demand for goods they make. It therefore becomes the responsibility of the government to increase output. Government intervention is required to moderate the business cycle (Dean, Elardo, Green, Wilson & Berger, 2020).

Based on three key principles, the Keynesian theory describes how the economy works. First, actions made in the private and public sectors of the economy affect overall demand. Private sector choices can often experience a fall in consumer spending during a recession. The government must occasionally take aggressive steps to correct these market flaws, such as fiscal stimulus programs. Therefore, Keynesian economics is in favor of a socialist economy, one that is run to a large extent by the private sector and partly by the government. Second, it takes time for prices, and salaries in particular, to adapt to supply and demand changes. As a result, labor surpluses and shortages occur from time to time. The main short-run beneficiaries of changes in aggregate demand, whether they are planned or unexpected, are employment and real production, not prices. According to Keynesians, since prices are a little rigid, adjustments to any part of spending, including government spending, investment, or consumption, have an impact on output (Blinder, 2008). All of the study's variables, including governmental debt, private investment, and unemployment rate, are explained by this theory.

2.2 Empirical Literature Review

2.2.1 Public Debt and Private Investment

In a study conducted in China by Huang, Pagano and Panizza (2016) sought to determine how public debt affect funding in private firm in cities of China between 2006 and 2013. According to the report, while it had no impact on state-owned or foreign companies, the public debt restricted private manufacturing companies' ability to invest by tightening their finance requirements. These findings are established in three different ways by the study using unique data for local public debt issue. First, there exists a negative relationship between city-level investment ratios of domestic private manufacturing enterprises and governmental debt. This connection is causal, as demonstrated by regressing employing instrumental variables. Second, local governmental debt possesses a more detrimental impact on investment by private company in sectors that depend heavily on outside finance. Last but not least, it has been shown that investments at the business level are more sensitive to internal funding in cities with large government debt, even when the sensitivity is calculated together with the risk that the firm will be credit-constrained. Overall, the findings indicated that issuance of huge debt reduced private investment, undermining China's long term growth prospects.

A similar study was done by Ogunjimi (2019) to determine how public debt affects investment in Nigeria. Specifically, Autoregressive Distributed Lag (ARDL) framework was used in the study to examine how various public debt components

affected Nigeria's various investment forms during the course of the years 1981 to 2016. The results demonstrated that private investment was crowded out by external debt in the short and long terms. Furthermore, overseas debts have a bigger influence on all types of investment than domestic debt in Nigeria. Also, the findings showed that interest rates drive all types of investment whereas real GDP determines private investment.

Similarly, Mabula and Mutasa (2019) conducted a study in Tanzania to determine how public debt affected the country's private investment. The study investigated both internal and foreign debt and data as obtained from National Bureau of Statistics of Tanzania, the Bank of Tanzania, the World Bank, and academic publications and covered the period from 1970 to 2016. In order to establish this relationship, Autoregressive Distributed Lag (ARDL) bound was used. The study's findings showed that neither long-term nor short-term effects of domestic debt on private investment were particularly substantial.

A similar study conducted by Lidiema (2018) sought to determine how government borrowing from internal sources affects private investment in Kenya. The study used Gross Fixed Capital Formation to quantify private investment, whereas financial development, GDP per capita, real interest rates and domestic debt were used to measure domestic government borrowing. The obtained data covered the years 1995 through 2014, and the independent and dependent variables' short- and long-term cointegration relationships were determined using the auto-regressive distributed-lag technique. The study indicated that public domestic causes a negative and significant effect on private investment in the short run. On the other side, it was discovered that financial development, as indicated by domestic debt to the private sector, had a short- and long-term significant and positive link with gross fixed capital formation. The study ultimately concluded that excessive government borrowing has a detrimental impact on private investment.

Using empirical investigation, Were (2001) determined how public foreign debt affects both economic growth and private investment in Kenya. According to the report, Kenya's government is primarily responsible for its external debt, the majority of which originates from multilateral sources. With indicators of the debt load continuously increasing in the early 1990s, this external debt has been increasing over time. The empirical findings, which were based on years 1970 to 1995 time series data, which showed that the accumulation of foreign debt detrimentally affects private investment. This demonstrates the cause of Kenya's problem with excessive debt. However, the findings suggested that present debt inflows encourage private investment. Debt servicing also crowds out private investment.

2.2.2 Public Debt and Unemployment

Sweis and Sabri (2016) attempted to understand how the public debt in the Palestinian economy affected employment and GDP. To achieve the study's goals, the researchers used simple regression analysis and employed data from 1999 to 2014. The findings showed that independent variable, share of debt to gross domestic debt, and unemployment rates have a statistically significant link.

Igberi, Odo, Anoke, and Nwachukw (2016) employed the Wald test and auto-regressive distributed lag model econometric analytical techniques to examine how Nigeria's rising state debt affected unemployment (1980–2015). The results revealed a long-term connection between unemployment and governmental debt. The long run test of ARDL showed that an average increase in public debt by 1% will cause an increase in the unemployment rate by 1%.

Iwuoha (2020) used 1981 to 2019 time series data to conduct a study to determine whether unemployment would be reduced by borrowing will help Nigeria. Using the VECM model, the researcher ran the stationarity test which indicated the stationarity of all variables at 1. The cointegration test demonstrated an inverse link between unemployment and public debt, respectively. Even though the stationarity test merely demonstrated that all variables were stationary at 1, cointegration was also demonstrated, showing an inverse link between unemployment and public debt. A high ECM value was found. The results showed that unemployment contributes to the cost of servicing debt and government debt.

A study was also conducted by Shuaibu (2021) to assess the effect Nigeria's public debt had on unemployment as well as inflation in the country. Data for the period from 1985 to 2020 was used. Autoregressive Distributive Lag model (ARDL) Error Correction Model (ECM) were the choice data analysis methods in the study. The study findings indicated a persistent link between unemployment and Nigeria's public debt. The analysis finds that while increasing governmental debt worsens unemployment, external debt actually worsens unemployment more than domestic debt.

3. RESEARCH METHODOLOGY

Longitudinal research approach. The Keynesian Fiscal Policy theory was used in the study. Time series data from 2001 to 2021 was gathered. Secondary data was used. The World Bank, the Kenya National Bureau of Statistics, and the Central Bank of Kenya (CBK) provided the data for this report. To analyze the data, descriptive and inferential statistics were applied. Diagnostic tests, such as residual autocorrelation, heteroscedasticity of errors, and multicollinearity, were carried out as part of the study.

4. RESEARCH FINDINGS, DISCUSSION CONCLUSIONS AND RECOMMENDATIONS

4.1 Descriptive Statistics

The descriptive statistics that were analyzed was the mean, standard deviation, minimum and maximum values. Table 4.1 presents the results.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Domestic Debt	21	1284431	1150985	221984	4032368
External Debt	21	1323466	1210637	369729.8	4174372
Population growth	21	2.583074	0.194328	2.233332	2.768549
Lending rates	21	14.90333	2.605121	12.02	20.04
Government expenditure	21	550928.5	416310.1	102161	1364879
Inflation rate	21	8.639181	5.140502	1.9613	26.2398
Unemployment Rate	21	3.348	0.964485	2.76	5.742
Private investment	21	19.47272	1.863348	15.83821	23.88473
GDP	21	4.433333	2.136196	-0.3	8.1

Source: Research Data (2023)

From the results, it was observed that domestic public debt averaged Kenya shilling 1284431 million for the period from 2001 to 2021. The minimum value was Ksh 221984 million while the maximum value was Ksh4032368 million. External public debt was observed to be higher than the domestic debt where the mean value for the period was Ksh1323466 million with a standard deviation of 1210637. The amount ranged between Ksh369729 and Ksh4174372 million. This implied that the government has been borrowing more form external sources and less from the internal sources.

The results for the population growth rate revealed that it ranged between 2.23 and 2.77 averaging at 2.58 and a standard deviation of 0.194. This implies that the population growth rate in the country has been high and increasing over the years. Lending rates for the period averaged 14.90 ranging between 12.02 and 20.04. This indicated that the lending rates have never been constant and have been changing over the years based on the prevailing economic situations.

The results further revealed that government expenditure was highest at Ksh1364879 million and lowest at 102161 million. The average amount however was Ksh5500928 million. This means that government expenditure has been quite high compared with the GDP. Inflation rate according to the results ranged between 1.96 and 26.23 and had a mean of 8.64 and a standard deviation of 5.14. As per the results, unemployment rate was lowest at 2.76 and highest at 5.74. This implied that there have been significant changes in the inflation rates with some years recording very high inflation rates and others significantly lower. The mean of unemployment rate however was 3.35 with a standard deviation of 0.96. Unemployment rate was therefore observed to be high. Furthermore it was revealed that private investment for the period ranged between 15. 84 and 23. 88. The mean of private investment was 19.47. Private investment is therefore very low. GDP averaged at 4.3 which is still very low.

4.2 Diagnostic Tests

4.2.1 Stationarity Test

If a time series statistical characteristics or methods used to create it do not change over time, it is then said to be stationary. To determine whether a variable follows a unit-root process the study used Augmented Dicker Fuller test (ADFT). The null hypothesis is that a variable has a unit root; the alternative is that it was produced by a stationary process. If the ADFT statistic is more negative than the table value reject the unit root null hypothesis.

Table 2: Unit Root Test of Stationarity

Variable	Test Statistic	1% Critical	5% Critical	10% Critical
Private Investment	-4.823	-4.38	-3.6	-3.24
Unemployment Rate	-4.672	-4.38	-3.6	-3.24
Domestic Debt	-4.015	-4.38	-3.6	-3.24
External debt	-4.509	-4.38	-3.6	-3.24
Population Growth	-7.64	-4.38	-3.6	-3.24
Lending Rates	-4.192	-4.38	-3.6	-3.24
Government Expenditure	-4.242	-4.38	-3.6	-3.24
Inflation Rate	-4.609	-4.38	-3.6	-3.24
GDP	-4.532	-4.38	-3.6	-3.24

Source: Research Data (2023)

The results showed that all the variables depicted a test statistic that was more negative than all the critical values. Therefore, it was concluded that the data was stationary and hence useful for ordinary least square regression analysis.

4.2.2 Autocorrelation Test

The autocorrelation measures a time series' similarity over time to a lagged version of itself. Autocorrelation measures how a variable's present value and its past values are linked. It was examined using Durbin-Watson test. The test statistic for Durbin-Watson tests ranges from 0 to 4. A value closer to 0 implies greater positive while a value close to 4 implies a negative autocorrelation. Numbers closer to 2 show less autocorrelation. The outcomes were matched in Table 3.

Table 3: Durbin-Watson test Results for Autocorrelation

Model	Durbin Watson Statistic
First Model	2.037854
Second model	1.737281

Source: Research Data (2023)

As a general rule, the values of Durbin-Watson test statistic ranging between 1.5 and 2.5 are considered to be relatively typical. The results showed that the Durbin-Watson value was 2.038 and 1.737. Therefore, the results show no autocorrelation in the data.

4.3 Public Debt and Private Investment

The first objective of the study was to determine the effect of public debt on private investment in Kenya. Domestic and foreign debt were the independent variables for this objective, while private investment was the dependent variables and lending rates, and government spending were the control variables. The outcomes of the tests are covered in more detail below.

4.3.1 Correlation Analysis

Correlation analysis was carried out to demonstrate the strength of the link between the variables. The results are shown in Table 4.

Table 4: Correlation Matrix

	Private Investment	Domestic Debt	External Debt	Lending Rates	Government Expenditure
Private Investment	1				
Domestic Debt	-0.3234	1			
External Debt	-0.6111	0.8864	1		
Lending Rates	0.3177	-0.6404	-0.4852	1	
Government Expenditure	-0.1664	0.5777	0.4377	-0.1511	1

Source: Research Data (2023)

Table 4's findings, shows a weak but negative correlation between domestic public debt and private investment, with r value of -0.3234. The table also showed a negative association ($r=0.6111$) between private investment and external debt. Additionally, there is a strongly negative association ($r=0.1664$) between government spending and private investment. Contrarily, it was shown that there is a weak but positive correlation between lending rates and private investment ($r=0.3177$).

4.3.2 Regression Analysis

In particular, the study examined the relationship between the dependent and independent variables using regression analysis. The outcomes are shown in Table 5.

Table 5: Regression Analysis

Source	SS	Df	MS	Number of obs	21	
Model	53.31076	4	13.32769	F(4, 16)	13.22	
Residual	16.13057	16	1.00816	Prob > F	0.0001	
				R-squared	0.7677	
				Adj R-squared	0.7096	
Total	69.44133	20	3.472066	Root MSE	1.0041	

Private investment	Coef.	Std. Err.	t	P>t	[95% Conf. interval]	
Domestic Debt	0.406426	0.079295	5.13	0.000**	0.238329	0.574524
External DEBT	-0.30245	0.045495	-6.65	0.000**	-0.3989	-0.20601
Lending rates	0.418971	0.126705	3.31	0.004**	0.15037	0.687573
Government expenditure	-0.19958	0.089153	-2.24	0.040**	-0.38858	-0.01059
_cons	13.84051	2.442993	5.67	0.000**	8.661595	19.01942

** $p < 0.05$

Source: Research Data (2023)

The R squared was 0.7677, according to the regression analysis. Thus, 76.77% of private investment can be attributed to the factors of domestic debt, external debt, lending rates, and government spending. Other elements that were not looked into in the study may have contributed to the remaining 23.23%. The entire model that was utilized to demonstrate the association had a significant p value of 0.0001.

Additionally, the findings indicated that the coefficient of domestic debt was positive and significant at 95% confidence interval ($=0.4064261$ $p=0.000$). With a coefficient of 0.4064261, an increase in domestic debt of 1 unit would lead to a rise in private investment by 0.4064261. This can be explained through the interest rates paid by the government to service the loans. The interest rates would translate to an increased amount available for lending for private investment. These findings agreed with those of Bista (2013), who discovered that domestic borrowing has a positive and significant effect on private investment over the short and long terms. The results, however, went against those of King'wara (2014), who found a bad effect by domestic debt on private investment. The outcomes also contradicted those of Mwakima (2017) and Lidiema (2018), who discovered that high state domestic debt levels have a detrimental impact on private investment.

However, it was found that the coefficient of foreign debt was a negative and significant at 95% confidence interval ($\beta=-0.302$ $p=0.000$). This implied that a 0.302 decline in private investment would result from an increase of 1 unit of external debt. This means that when the government increases borrowing from the outside sources, it leads to decreased private investments. This would be explained to results from the high cost of servicing debt. The interest rates paid out for loan borrowed from external sources reduce the amount available for borrowing for purposes of private investment. The results concurred with those of Were (2001) and Masabo (2015), who discovered that the buildup of foreign debt has a detrimental effect on private investment. Similar findings supported those by Akram (2014), who found that the debt overhang and crowding out effect of governmental external debt have a detrimental impact on private investment. However, the results diverged with those of Apere (2014), who found statistical significance in the relationship between external debt and private investment.

On the control variables, it was discovered that the coefficient of loan rates was significant and positive at 95% confidence interval ($\beta=0.419$ $p=0.004$). This suggested that a rise in loan rates of one unit would result in an increase in private investment of 0.419 units. This could be explained by the fact that interest rates on loans to government increase the amount of fund available for lending to the private sector. Therefore, the private sector is able to access more loans hence increase on their investments hence an increase in private investment.

In contrast, it was discovered that the coefficient for government spending was negative and significant at 95% confidence interval ($\beta=-0.199$ $p=0.040$). Accordingly, an increase in government spending by a unit would lead to a drop in private investment by 0.199. The increase in government spending means that the government will use all available funds and hence will be forced to borrow more either externally or internally. As inferred in the findings above, external borrowing will lead to a decrease in private investment since money is paid out of the country.

4.4 Public Debt and Unemployment

The second objective of the study was to assess the effect of public debt on unemployment in Kenya. The independent variables were domestic public debt and external public debt. The dependent variable was unemployment while the control variables were population growth and inflation rate. The discussion is provided herein.

4.4.1 Correlation Analysis

Table 6 presents the correlation analysis results.

Table 6: Correlation Matrix

	Unemployment Rate	Domestic Debt	External Debt	Population Growth	Inflation rate
Unemployment Rate	1				
Domestic Debt	0.8768	1			
External Debt	0.9048	0.9944	1		
Population Growth	-0.8118	-0.9694	-0.9718	1	
Inflation Rate	0.0052	0.0996	0.102	-0.0492	1

Source: Research Data (2023)

The results of correlation analysis revealed that the association between domestic debt and unemployment rate is strongly positive ($r=0.8768$). The results of the correlation between external debt and unemployment rate were also observed to be strongly positive ($r=0.9048$). Population growth was however observed to have a strong negative association with unemployment rate ($r=0.8118$). Inflation rate was revealed to have a weak correlation with unemployment rate ($r=0.0052$).

4.4.2 Regression Analysis

Table 7 shows the results of the regression analysis between the variables domestic debt external debt population growth and unemployment rate.

Table 7: Regression Analysis Results

Source	SS	df	MS	Number of obs = 21	
Model	17.79617	4	4.449044	F(4, 16) =	88.05
Residual	0.808467	16	0.050529	Prob > F =	0.000
				R-squared =	0.9565
				Adj R-squared =	0.9457
Total	18.60464	20	0.930232	Root MSE =	0.22479
Unemployment Rate	Coef.	Std. Err.	t	P>t	[95% Conf. interval
Domestic Debt	-1.45E-06	4.16E-07	-3.49	0.003**	-2.33E-06 -5.68E-07
External Debt	3.08E-06	4.14E-07	7.44	0.000**	2.20E-06 3.95E-06
Population growth	6.240055	1.131045	5.52	0.000**	3.842348 8.637763
Inflation rate	0.009365	0.089153	-2.89	0.011**	-0.04689 -0.00718
_cons	13.84051	3.141711	-4.69	0.000**	-21.3949 -8.07466

** $p < 0.05$

Source: Research Data (2023)

The R square for the analysis was found to be 0.9565 which means that domestic debt, external debt, population growth and inflation rate explain 95.65 percent of unemployment rate. The remaining 4.35% could be explained by other factors that the study did not investigate. Moreover, the whole model was found to be statistically significant at 5% confidence interval with $p=0.000$.

The results indicated that the coefficient of domestic debt was negative but significant at 95% confidence interval ($\alpha=-1.45$ $p=0.003$). This shows that an increase in domestic debt by one unit would decrease unemployment rate by 1.45. This implied that where the government borrows internally the rate of unemployment would reduce significantly. This is as a result of increasing the amount of funds available for loans through the cost of debt servicing. This would mean more funds for investment which would mean creation of jobs. Findings disagreed with those by Sweis and Sabri (2016) who found a statistically significant correlation between unemployment rates and gross domestic debt.

It was however established that external debt has a positive and significant coefficient at 95% confidence interval ($\alpha=3.08$ $p=0.000$). This implied that a unit increase of external debt leads to 3.08 increase in unemployment rate. This indicates that with increased borrowing by the government from external sources the unemployment rate increased. This would be as a result of money going out of the economy which would have otherwise been used for private investment which eventually create jobs. This was in accordance with the findings of Igberi, Odo, Anoke, and Nwachukw (2016) who confirmed that unemployment and state debt have a long-term relationship. The findings also agreed with those by Shuaibu (2021) who showed a long-term association between state debt and unemployment. According to the study, rising public debt makes unemployment rate worse, but external debt makes unemployment rate worse than domestic debt.

Population growth was found to have a positive and statistically significant coefficient at 95% confidence interval ($\alpha=6.24$ $p=0.000$). This meant that an increase in population growth of just one unit would result in an increase in the unemployment rate of 6.24. An increase in population means an increase in the labour force. Although the population increase, the resources may not increase. Therefore, there will be a deficit of resources needed to create jobs and therefore less people in the labour force will be employed, therefore this explains the increase in unemployment with increase population growth.

The findings also showed that inflation rates have a favorable and significant coefficient at 95% confidence interval ($\alpha=0.0094$, $p=0.0110$). This suggested that an increase in inflation by a unit would only result in a 0.0094 increase in the unemployment rate. Inflation rates have a negative impact on the prices of goods. The increased inflation rates lead to increase in the price of goods and services. This means that companies will use more resources to purchase goods needed to run a company and this will lead to less funds available to pay salaries. This explains the negative effect of increased inflation rates on employment leading to increased unemployment.

5. CONCLUSIONS

The study draws the conclusion that governmental debt significantly affects private investment based on the aforementioned facts. While external debt shows a negative but considerable impact on private investment, domestic debt has a positive and significant impact on it. It was determined that if the government borrowed more money from domestic sources, it would boost private investment by expanding the money supply and lowering interest rates. Borrowers for private investment would therefore be able to have more access to funds. However, government borrowing from external sources means that it pays the interest rates outside the economy hence reducing the money supply. Therefore, increasing the levels of external debt leads to decreased private investment.

For the second objective the study concludes that public debt has a significant effect on unemployment rate. The effect of domestic debt on unemployment rate is negative hence increasing government borrowing internally will translate to decreased unemployment rate. On the contrary the effect of external debt on unemployment rate is positive and significant. Hence government borrowing externally will lead to increased unemployment rate. Similar to the effect of public debt on private investment it can be concluded that domestic borrowing increases the money supply through payment of interest rates hence more funds for private investment thereby creating jobs. However external borrowing means that funds are paid outside of the economy hence money supply is reduced and therefore no enough funds for private investment discouraging creation of jobs.

6. RECOMMENDATIONS

Based on the study findings, the study suggests that the government through policy makers should come up with measures that would control the amount of borrowing by the government. The policy makers should formulate policies that will encourage more of domestic borrowing as opposed to external borrowing. The policy makers should also regulate the lending rates by domestic borrowers in order to make domestic borrowing sustainable and effective in driving private investment. The study also recommended that the government should increase its borrowing from domestic sources as opposed to external borrowing. This will be in order to create more jobs thereby decreasing the unemployment rate. Therefore, policy makers in the government should formulate policies that will guide the government to borrow more internally and that will regulate the lending rates imposed on such loans.

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