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THE DETERMINANTS OF DOMESTIC PRIVATE INVESTMENT IN MALAWI: AN EMPIRICAL INVESTIGATION

ABSTRACT

The study investigated the determinants of domestic private investment in Malawi using the autoregressive distributed-lag (ARDL) bounds testing approach for the period from 1980 to 2018. The findings show that in the long run, inflation and interest rate are the negative determinants of private investment. In the short run, private and public investment from the previous period and trade openness are found to be the positive determinants. Inflation and interest rate are found to be the negative determinants in the short run. The study also found that economic growth and domestic credit to the private sector are insignificant in determining private investment. The study recommends that the government develop and adopt policies that will create a conducive environment for the private sector to invest.

Keywords: Private Investment; Determinants; ARDL Approach; Malawi

JEL Classification: E22; H54

RIASSUNTO

Le determinanti degli investimenti privati in Malawi: un'indagine empirica

Questo articolo esamina le determinanti degli investimenti privati interni in Malawi utilizzando l'approccio ARDL per il periodo 1980-2018. I risultati dimostrano che nel lungo periodo l'inflazione e il tasso d'interesse influiscono negativamente sugli investimenti privati. Nel breve periodo, i risultati mostrano che gli investimenti privati sono influenzati positivamente dagli investimenti privati e pubblici del periodo precedente e dall'apertura commerciale, e negativamente dall'inflazione e dal tasso d'interesse. Lo studio riscontra anche che la crescita economica e il credito interno al settore privato sono insignificanti nel determinare gli

investimenti privati. Lo studio raccomanda ai governi di sviluppare e adottare politiche che possano creare le condizioni adatte a stimolare gli investimenti del settore privato.

1. INTRODUCTION

Many studies have been conducted to identify the determinants of private investment but with little consensus. The debate on which macroeconomic variables are the determinants of private investment is still ongoing. Studies such as Greene and Villanueva (1991); Oshikoya (1994); Ghura and Goodwin (2000); Ndikumana (2000); Acosta and Loza (2005); Ajide and Lawanson (2012); Michael and Aikaeli (2014); Ngoma *et al.* (2019) and Ayeni (2020) among others have studied the determinants of private investment. In literature, the findings on the determinants of private investment are mixed and inconclusive. For example, Frimpong and Marbuah (2010) found that the determinants of private investment are public investment, real interest rate, inflation, real exchange rate, openness and a regime of constitutional rule in the short run, while in the long run, it is inflation, real output, openness, real interest rate, external debt and real exchange rate. In another study, Naa-Idar *et al.* (2012) found that the determinants are GDP, inflation, public investment, exchange rate, trade openness, private sector credit, foreign aid and external debt in the short and long run.

Many countries are looking at involving the private sector in achieving sustainable economic growth. However, the determinants of private investment have not been consistent across the available studies to date. This emphasises the need for further empirical investigation. Therefore, the study will re-examine the determinants of private investment using Autoregressive Distributed Lag (ARDL) methodology in Malawi.

The motivation for the study focusing on Malawi is that the country has over the years, developed policies and strategies to increase the level of investment. As the country want to increase the level of investment, the current study aims to establish which macroeconomic variables determine private investment. The findings of the study will also add to the literature on the determinants of private investment in Southern African countries. It is against this backdrop that the current study attempts to investigate the determinants of private investment in Malawi using the ARDL approach for the period from 1980 to 2018.

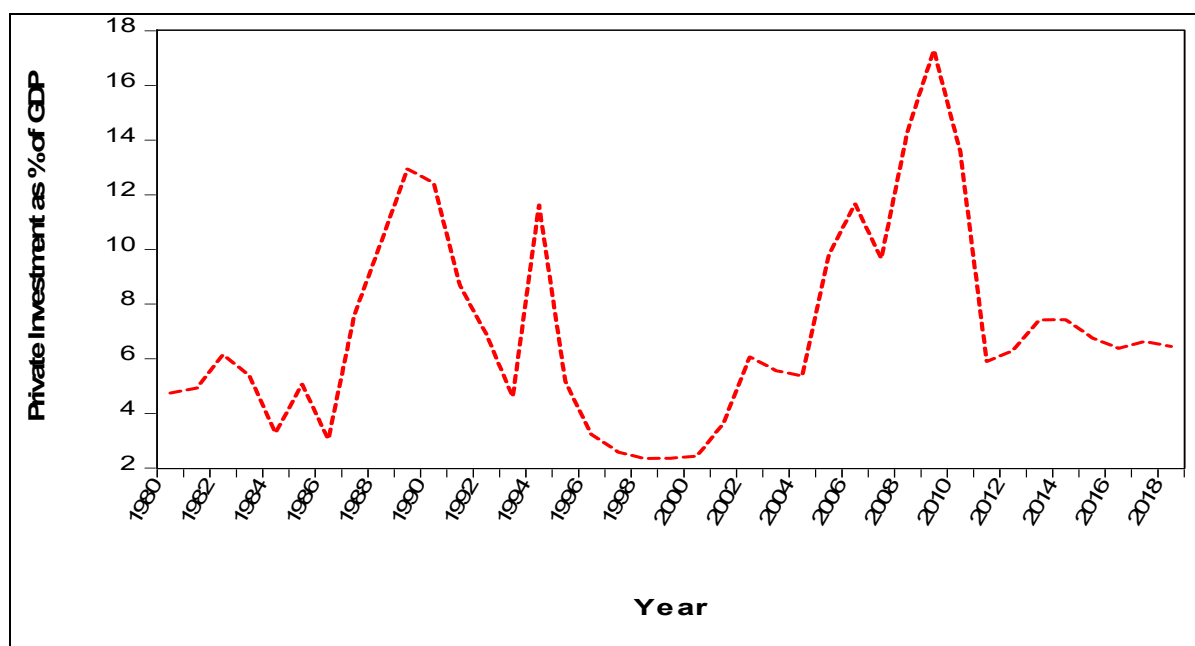
The rest of the study is organised as follows: Section 2 presents the overview of private investment policies and trends in Malawi. In Section 3, literature on the determinants of private investment is reviewed. Section 4 presents the methodology used and the empirical findings and Section 5 concludes the study.

2. AN OVERVIEW OF PRIVATE INVESTMENT DYNAMICS IN MALAWI

In its efforts to increase the level of investment by both domestic and foreign investors, the Malawi government has over the years developed policies and strategies. The policies aim to create a conducive environment for the private sector to invest in the economy. The strategies such as the Malawi Economic Growth Strategy of 2004-2008, Malawi Growth and Development Strategy (MGDS) of 2006-2011, the MGDS of 2011-2016 and MGDS of 2017-2022 have been developed. These strategies have focused on promotion of the private sector in achieving the goal of sustainable economic growth.

The government of Malawi has also established institutions in order to make it easier for investors to access the services offered by Malawi and to stimulate private investment. It includes the Malawi Investment Trade Centre (MITC) whose aim is to promote and facilitate sustainable inclusive and transformative investment and trade in Malawi. Its objectives in terms of investment is to provide support to both domestic and foreign investors in all the sectors that have been prioritized for developing the country. Some of the services that are provided by the centre in order to promote investment include: facilitation of joint venture, general business advice, business retention and after care services, marketing of investors and incentives of exporters, inward and outward investment promotion mission (MITC, 2022). Figure 1 presents the trends of private investment as a percentage of GDP from 1980 to 2018.

Private investment as a percentage of GDP has been fluctuating since 1980, as can be seen in Figure 1. The initiatives and policies that have been developed by the government to promote private sector investment could have contributed to the increase in investment levels. Even though private investment has been higher in some years from 1980 to 2018, it is not clear which macroeconomic variables have had a significant impact on the level of private investment. Hence, the objective of the study is to empirically examine the determinants of private investment in Malawi.

FIGURE 1 - *Private Investment as a Percentage of GDP in Malawi (1980 -2018)*

Source: Own compilation from World Bank Development Indicators (2021).

3. LITERATURE REVIEW

There are several theories that explain the factors that determine the level of investment. The theories include the Accelerator theory of investment, Neoclassical theory and the Q-theory of investment. The Accelerator theory makes investment a linear proportion of changes in output and expectations, profitability and the cost of capital do not play a part in the accelerator model (Serven and Solimano, 1992). In the Neoclassical theory of investment, the desired capital stock is determined by output and the price of the capital. The price of the capital in turn depends on the price of capital goods, the real interest rate and the depreciation rate (Serven and Solimano, 1992). The Q-theory of investment suggests the relationship between the increase in the value of the firm due to the installation of an additional unit of capital and its replacement cost is what matters in investment (Serven and Solimano, 1992). This means that businesses will invest if the increase in the market value of the additional unit exceeds the cost of replacement, and if it is less than the replacement cost, they will decrease their existing capital stock.

The relationship between private investment and its determinants has been an ongoing debate for some time now. Several studies have used different methodology to examine the determinants

of private investment. The findings have been inconclusive. In Ghana for the period from 1970 to 1992, Asante (2000) found that the growth of real credit to the private sector has a positive and statistically significant influence on private investment. Private and public investment are found to complement each other. In another study for Ghana, Ibrahim (2000) found that there is some significant relationship between private investment and the factors such as mark-up, general price level, aggregate demand and the cost of investment in the long run.

Using the ARDL methodology, Ouattara (2005) examined the determinants of private investment in Senegal using data from 1970 to 2000 and found that public investment, real GDP and foreign aid flows have a positive effect on private investment, while credit to private sector and terms of trade have a negative impact.

In a study for Ethiopia, Ambachew (2010) examined the determinants of private investment for the period from 1950 to 2003. The findings of the study indicate domestic market, trade openness, return to capital and liberalization measures, infrastructural facilities and FDI have a positive impact while government expenditure, political instability and macroeconomic uncertainty have a negative influence on private investment.

In 18 sub-Saharan African countries, Misati and Nyamongo (2011) examined the relationship between financial sector development and private investment from 1991 to 2004. The results reveal that there is a negative relationship between interest rate on deposits and private investment while the credit to the private sector have a positive impact and turnover ratio on investment is found not to be significant. The study also found that the informal sector has a positive influence on private investment and that in Africa, institutional variables play an important role in determining the level of private investment.

In Nigeria using the ARDL approach, Ajide and Lawanson (2012) investigated the determinants of domestic private investment for the 1970 to 2010 period. The study found that real GDP, public investment, real interest rate, credit to the private sector, terms of trade, exchange rate and external debts are the determinants in the long run while in the short run real GDP, public investment and terms of trade are the determinants of private investment.

Aduugna (2013) using the ordinary least square and data from 1981 to 2010 in Ethiopia found that public investments, real GDP *per capita* and external debt have a positive influence on private

investment. In the short run, inflation rate was found to have a negative impact. Other variables such as lending interest rate and exchange rate had an insignificant long-run effect which was negative while it was positive for economic openness and corporate tax. Using ARDL approach for the period from 1992 to 2010 also in Ethiopia, Ambaye *et al.* (2013) found that domestic saving, exchange rate and domestic credit have a negative significant influence while government expenditure and external debt are found to have significant positive effect on domestic private investment.

In Tanzania, Michael and Aikaeli (2014) examined the determinants of private investment using error correction model for the period from 1975 to 2010. The study found that the variables that have an influence on the growth of private investment are GDP growth, public investment and credit to private sector while there was no evidence to suggest that exchange rate, degree of openness of the economy and interest rate have an impact on the growth of private investment.

In Lesotho using data from 1982 to 2013 and the ARDL methodology, Molapo and Damane (2015) investigated the determinants of private investment. The study found that economic growth and public investment have a positive impact on private investment while an increase in the general price level have a negative impact on private investment in the long run. Public investment has a positive effect while general price level and economic growth has an insignificant impact in the short run. For the period from 2000 to 2017, Ngoma *et al.* (2019) investigated the macroeconomic determinants of private investment for 35 sub Saharan African (SSA) countries. The findings of the study reveal that public investment, GDP growth rate, inflation rate and interest rate are the determinants of private investment in the 35 SSA countries.

4. METHODOLOGY AND EMPIRICAL ANALYSIS

4.1 ARDL Bounds Testing Approach

In this study, the autoregressive distributed lag (ARDL) - bounds testing approach developed by Pesaran *et al.* (2001) is used to examine the determinants of private investment in Malawi. The approach has advantages over the other cointegration techniques such as the Engle-Granger (1987) approach and the Johansen-Juselius (1990) approach. First, is that it is perfect for a small sample. Second, the variables included in the model do not have to be integrated of the same order, it can be a mixture of $I(0)$ and $I(1)$. The empirical model used to investigate the determinants of

private investment follows that of Oshikoya (1994), Karagoz (2010), Ngoma *et al.* (2019), among others. In this study, the ARDL model is expressed as follows:

$$\begin{aligned}\Delta PrvI_t = & \alpha_0 + \sum_{i=1}^n \alpha_{1i} \Delta PrvI_{t-i} + \sum_{i=0}^n \alpha_{2i} \Delta Y_{t-i} + \sum_{i=0}^n \alpha_{3i} \Delta PubI_{t-i} + \sum_{i=0}^n \alpha_{4i} \Delta Cred_{t-i} \\ & + \sum_{i=0}^n \alpha_{5i} \Delta Int_{t-i} + \sum_{i=0}^n \alpha_{6i} \Delta Inf_{t-i} + \sum_{i=0}^n \alpha_{7i} \Delta TO_{t-i} + \beta_1 PrvI_{t-1} + \beta_2 Y_{t-1} \\ & + \beta_3 PubI_{t-1} + \beta_4 Cred_{t-1} + \beta_5 Int_{t-1} + \beta_6 Inf_{t-1} + \beta_7 TO_{t-1} + \mu_{1t}\end{aligned}\quad (1)$$

Where: *PrvI* - private investment; *Y* - economic growth; *PubI* - public investment; *Cred* - credit to private sector; *Int* - real interest rate; *Inf* - inflation; *TO* - trade openness; μ_{1t} - error term; α_0 - constant term; α and β - the respective coefficients; Δ - difference operator; n - lag length.

The error correction model (ECM) of the ARDL model is expressed as follows:

$$\begin{aligned}\Delta PrvI_t = & \alpha_0 + \sum_{i=1}^n \alpha_{1i} \Delta PrvI_{t-i} + \sum_{i=0}^n \alpha_{2i} \Delta Y_{t-i} + \sum_{i=0}^n \alpha_{3i} \Delta PubI_{t-i} + \sum_{i=0}^n \alpha_{4i} \Delta Cred_{t-i} \\ & + \sum_{i=0}^n \alpha_{5i} \Delta Int_{t-i} + \sum_{i=0}^n \alpha_{6i} \Delta Inf_{t-i} + \sum_{i=0}^n \alpha_{7i} \Delta TO_{t-i} + \theta_1 ECM_{t-1} + \mu_t\end{aligned}\quad (2)$$

Where ECM_{t-1} the error correction term is lagged once and θ is the coefficient. The ECM coefficient is expected to be negative and statistically significant in order to further confirm that there exists a cointegration relationship.

The dependent variable is domestic private investment, which is measured by the private sector's gross fixed capital formation and the independent variables are public investment, economic growth, domestic credit to private sector, inflation rate, real interest rate and trade openness. The motivation for the inclusion of the variables in the model is based on the theoretical and empirical literature that explains the relationship between private investment and its determinants.

The study makes use of GDP *per capita* as a proxy of economic growth. Some studies such as Tan and Tang (2012) have found that economic growth positively influences the level of private investment. This is because when economic growth improves and there is development in the country, the aggregate demand will increase and business will invest more to producing more

goods and services. Therefore, the expected relationship between the two variables is positive.

Government capital expenditure, which is measured by the gross fixed capital formation by the public sector, is used as a proxy for public investment. Public investment is included in the model to determine whether public investment crowds in or out private investment. According to Greene and Villanueva (1991), at theoretical level, public investment may be complimentary to private investment, particularly where public investment involves useful infrastructure. It can also crowd out private investment especially when governments invest in goods that are in competition with the private sector (Green and Villanueva, 1991). Studies such as Makuyana and Odhiambo (2018), have found public investment to crowd out private investment. Therefore, public investment can either be a positive or a negative determinant of private investment in this study.

The domestic credit to private sector has also been found to influence the level of private investment. Access to credit by the private sector has been found to increase the investment level by studies such as Oshikoya (1994). The study expectation is that domestic credit to private sector is a positive determinant of private investment.

Real interest rate is used as a proxy for user cost of capital. The impact of interest rates on private investment is ambiguous. This is because under the neoclassical investment model, real interest rate effect on private investment can be negative as it is regarded as an important component of user cost of capital. It can also have a positive effect as some argue that real interest rate increases the flow of bank credits which complements private investment – this is the McKinnon and Shaw complementary hypothesis (see Frimpong and Marbuah, 2010). Therefore, real interest rate is expected to be either a positive or a negative determinant of private investment in this study.

Inflation is used as a proxy for uncertainty in the economy, which can have adverse impact on private investment. According to Hassan and Salim (2011), inflation reduces the purchasing power of money so people save less and this leads to less funds available for investment purposes through the banking system. In this study, inflation is expected to be a negative determinant of private investment.

Trade openness is measured by the ratio of imports plus an export to GDP and is considered as a determinant of private investment. It is also an indicator of external shocks in the economy

(Oshikoya, 1994). The motivation for using trade openness as the determinant of private investment is because the proxy has been included in previous studies such as Oshikoya (1994), Acosta and Loza (2005) and Hamuda *et al.* (2013). Therefore, trade openness is expected to be a positive determinant of private investment.

The study considers time series annual data for analyses. The data covers the period from 1980 to 2018. The data for all the variables included in the study is obtained from the World Development Indicators (WDI). Data for the credit to the private sector for Malawi in 2017 and 2018 were calculated from the annual economic report (Malawi Ministry of Finance, Economic Planning and Development, 2019).

4.2 Empirical Analysis

The first step before starting the empirical analysis is to test for stationary properties of private investment and its determinants. The determinants are public investment, economic growth, credit to the private sector, interest rate, inflation and trade openness. This is to ensure that all the variables included in the model are not integrated of order two or higher. To test for stationarity, the study utilizes the ADF, DF-GLS and PP unit root test. The results of the stationarity tests in levels and at first difference for all the variables are presented in Table 1.

The results show that the stationarity of the variables is different for each variable depending on whether a trend is included or not and the stationarity test used. Public investment, inflation and trade openness are integrated of order zero while private investment, economic growth and credit to the private sector are integrated of order one when using the PP test. All the variables included in the model are found to be stationary at either $I(0)$ or $I(1)$, therefore the analysis can be performed using the ARDL bounds testing approach.

Since the stationarity of the variables has been established, the step that follows is to conduct the cointegration test, which will determine if there exists a long-run relationship between private investment and its determinants. The ARDL model is used to examine the evidence of cointegration between private investment and its determinants. The results of the cointegration test are presented in Table 2.

TABLE 1 - *Stationarity Test Results*

Variable	Augmented Dickey-Fuller (ADF)				Dickey-Fuller Generalized Least Square (DF-GLS)				Phillips-Perron (PP)			
	Level		1 st Difference		Level		1 st Difference		Level		1 st Difference	
	Without trend	With Trend	Without trend	With Trend	Without trend	With Trend	Without trend	With Trend	Without trend	With Trend	Without trend	With Trend
<i>Prvl</i>	-2.57	-2.54	-6.08***	-6.00***	-1.12	-2.61	-6.16***	-6.18***	-2.58	-2.56	-6.13***	-6.05***
<i>Y</i>	-0.20	-2.28	-6.83***	-7.22***	-0.01	-1.60	-1.99**	-3.26**	0.311	-2.26	-6.76***	-7.22***
<i>Publ</i>	-2.31	-2.16	-5.04***	-4.20**	-1.05	-2.48	-2.13**	-3.92***	-4.97***	-6.01***	-	-
<i>CRED</i>	-2.48	-2.28	-6.22***	-6.24***	-1.49	-1.96	-6.21***	-6.42***	-2.48	-2.28	-6.22***	-6.24***
<i>INT</i>	-1.98	-3.08	-4.68***	-4.76***	-1.26	-3.16*	-4.20***	-4.26***	-5.34***	-6.93***	-	-
<i>INF</i>	-2.25	-2.35	-7.49***	-7.42***	-1.522	-1.708	-7.55***	-7.62***	-3.45**	-3.35*	-	-
<i>TO</i>	-2.41	-2.78	-5.69***	-5.59***	-1.857*	-2.024	-8.77***	-9.01***	-4.21***	-4.68***	-	-

Notes: ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

TABLE 2 - *Bounds F-Test for Cointegration Results*

Model			F-Statistic		Cointegration Status	
$F(PrvI Y, PubInfr, CRED, INT, INF, TO)$			4.005**		Cointegrated	
Asymptotic critical values						
Pesaran <i>et al.</i> (2001), p.300, Table CI(iii) Case III	10%		5%		1%	
	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
	2.12	3.23	2.45	3.61	3.15	4.43

Notes: ** denote statistical significance at 5% level.

The F-statistic is 4.005 and indicates that the variables are cointegrated. This is shown by the F-statistic which is higher than the Pesaran *et al.* (2001:300) critical values. Therefore, the study rejects the null hypothesis of no cointegration and concludes that there is a long-run relationship between private investment and its determinants. After cointegration has been confirmed, we proceed to determine the short and long run relationship between private investment and its possible determinants. The first step is to determine the optimal lag length that will be used for the model. The study used the Akaike information criterion (AIC) or the Schwarz information criterion (SIC) to determine the optimal lag length for the model. The selected lag length for the model is ARDL (2,0,3,0,0,1). The short and long run results are presented in Table 3.

The long-run empirical results reveal that real interest is found to be a negative determinant as expected. This means an increase in real interest rate will lead to a decrease in domestic private investment in the long run. The findings are consistent with findings of Magableh and Ajlouni (2016) and Akçay and Karasoy (2020). In the long run, inflation is found to be a negative determinant in Malawi as expected. This implies that an increase in inflation will result in a decrease in domestic private investment in the long run. The negative relationship between inflation and private investment is consistent with findings of Karagoz (2010). Economic growth, public investment, domestic credit to the private sector and trade openness are found not to have a significant effect on private investment in Malawi in the long run.

TABLE 3 - Results of Long- and Short- Run Estimation

Panel A: Long-run Results		Dependent Variable is PrvI
Regressor	Coefficient	T-ratio [prob]
Y	-0.0128	-0.413 [0.683]
$PubI$	0.2821	-0.335 [0.741]
$CRED$	-0.2018	-0.577 [0.569]
INT	-0.2198*	-1.916 [0.068]
INF	-0.3752**	-2.410 [0.024]
TO	0.2311	1.010 [0.323]
Panel B: Short-run Results		Dependent Variable is $\Delta PrvI$
Regressor	Coefficient	T-ratio [prob]
C	5.3992	0.946 [0.354]
$\Delta PrvI(-1)$	0.4047***	2.711 [0.013]
ΔY	-0.0054	-0.424 [0.675]
$\Delta PubI$	-0.234	-0.944 [0.355]
$\Delta PubI(-1)$	0.1144	0.527 [0.603]
$\Delta PubI(-2)$	0.4970***	3.067 [0.006]
$\Delta CRED$	-0.0861	0.623 [0.539]
ΔINT	-0.0937**	-2.037 [0.053]
ΔINF	-0.1601***	-3.175 [0.004]
ΔTO	0.2170***	3.658 [0.001]
$ECM(-1)$	-0.4266***	-5.946 [0.000]
Test Statistic		
R-Squared	0.684	
Adjusted R-Squared	0.619	
F-Statistic [Prob]	10.470 [0.000]	
SE of Regression	1.824	
Residual Sum of Squares	96.478	
DW Statistic	2.147	
Akaike Info. Criterion	4.213	
Schwarz Bayesian Criterion	4.520	

Notes: ***, ** and * denote statistical significance at 1%, 5% and 10% levels, respectively.

The short-run findings show that private investment and public investment in the previous period are positive determinants of the current level of private investment. This means that the performance of the investments in the previous year have a significant influence on the level of private investment in the current year in Malawi. The public investment in the current period has an insignificant impact on private investment.

The findings further reveal that in the short run, real interest rate is a negative determinant as expected in Malawi. This suggests that an increase in real interest rate will lead to a decrease in private investment in Malawi. Inflation is also found to be a negative and statistically significant determinant of private investment as expected, which implies that an increase in inflation will lead to a decrease in private investment in the short run. As expected, trade openness is found to be a positive determinant. This means that in the short run, the openness of the economy can boost the level of private investment in Malawi.

As expected, the coefficient of the ECM is negative and statistically significant at 1 percent level of significance. This means that domestic private investments adjust to equilibrium at a speed of 42.66 percent per annum in Malawi in the event of a shock in the economy. Table 4 summarises the results of the diagnostic tests over the study period.

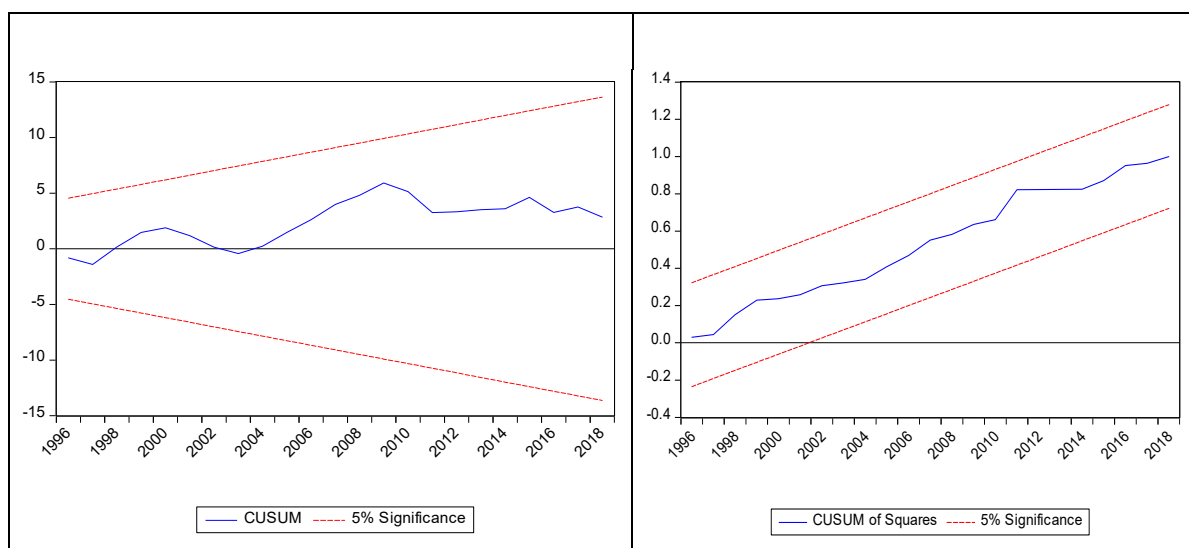
TABLE 4 - *Diagnostic Tests Results*

LM Statistics	P-value
Normality	0.342 [0.843]
Serial Correlation	0.329 [0.723]
Heteroscedasticity	0.911 [0.551]
Functional Form	6.233* [0.021]

Notes: Normality test using the Jarque-Bera test; Serial correlation using the Lagrange Multiplier test; Heteroscedasticity using the Breusch-Pagan-Godfrey test; Functional form using the RESET test; the value in parenthesis is p-values; and * signifies significance at 5% level.

The results for the diagnostic tests confirm that the estimated model passes all the tests for normality, heteroscedasticity and serial correlation but fails the Reset test which shows the functional form of the model is well specified. The cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMQ) are conducted to found out whether the model parameters are stable or not. The CUSUM and CUSUMQ results presented in Figures 2 suggest that the estimated model is stable. This is confirmed by the CUSUM and CUSUMQ plots, which are found to be within the confidence band at 5 percent level of significance.

FIGURE 2 - Plot of *Cusum* and *CusumQ*



5. CONCLUSION

The study examined the determinants of private investment in Malawi for the period from 1980 to 2018. Although there are many studies that have been done to establish the determinants of private investment, the findings have been mostly varied and inconclusive. The study used the ARDL bounds testing approach, which has the best small sample size properties to examine the determinants of private investment. The findings show that in the short run, private and public investment from the previous period are the positive determinants. The findings suggests that public investment from the previous year in Malawi crowds in private investment. This suggests that government investments in infrastructure, such as telecommunications and roads, lead to an increase in private investment.

The study confirms that trade openness is a positive determinant of private investment in the short run. This indicates that the openness of the economy in Malawi leads to an increase in the level of private investment. As expected, inflation and interest rate are found to be the negative determinants in the long and short run. When interest rates are low, the cost of borrowing funds is low and can lead to an increase in the level of private investment and there is a decrease when interest rates are high. Accordingly, the study recommends that governments adopt monetary policies to ensure that interest rates are kept low in order to promote investment. Low interest rates will encourage investments, as it will be cheaper for investors to borrow money to finance their businesses. The country should also develop policies that will reduce the inflation rate. Trade openness is found to be a positive determinant of private investment in the short run. The study recommends that the trade policies in the country should focus on reducing or removing tariffs with other countries. This will make it easier for local businesses to export their goods and services and to import machinery and equipment that they utilise in the production of goods and services.

As with any empirical study, this study has some limitations as it examined the macroeconomic determinants of private investment using the aggregate private investment. The inclusion of institutional factors may result in a different outcome. Therefore, future studies could examine both the macroeconomic and institutional determinants of private investment. It would be interesting to note how the outcomes of these future studies would differ from those of this study.

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