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AN ANALYSIS OF THE IMPACT OF INVESTMENT ON ECONOMIC GROWTH IN ZIMBABWE

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ABSTRACT

The study seeks to find out the impact of investment on economic growth from 1980 to 2013. The model used is a linear function. It has been discovered that investment positively affect economic growth in Zimbabwe. It is recommended that the investment authorities should check and monitor the magnitude of the contribution made by investment in Zimbabwe to adequately provide investment incentives to those with the resources to do so.

Keywords: Investment, Incentives, Foreign direct investment, Economic growth, Development, Government investment, Labour force.

Contribution/ Originality

This study is one of very few studies which have investigated the impact of investment on economic growth in Zimbabwe spanning a longer period from 1980 to 2013. The study utilised private investment, government investment and foreign direct investment as the main components of investment in the study.

1. INTRODUCTION

The Zimbabwean economy has been struggling since the early 1990s at the inception of the Economic Structural Adjustment Programme (ESAP). Looking from an economic perspective, the total of all government efforts had not led to meaningful progress. All efforts brought the economy to a crisis with adverse effects mostly felt from 2008 to 2010. During the period, Zimbabwe witnessed its currency failing to maintain its functions. Despite all this, investment had been flowing into the country. Zimbabwe as a country with hard working labour force, tried to invest the little they had, that is domestic private investment. The government also tried its

best. Taking into account economic theories, investment theories state that investment has a positive relationship with economic growth. So if investment was increasing, then economic growth would also have to increase. So, what went wrong in the processes which have brought up such results?

1.1. Purpose of Study

To find out the effects of investment on the economy of Zimbabwe from 1980 -2013, and to assess the suitability of the policies adopted.

1.2. Significance of the Study

The study is intended to show the relationship between investment and economic growth in Zimbabwe. This goes all the way to benefit the investors in the country, the government bodies and the community at large. Thus the study is meant to benefit the whole community so that it could come to realize the importance of investment and the current trend it is following.

2. REVIEW OF LITERATURE

The absolute advantage theory focused on increasing productivity through the division of labour and specialization, which enhanced greater productive efficiency. Profits from agriculture and industry would be saved and then invested leading to economic growth. Harrod and Domar Growth Model (1939 and 1946) in Meijerink and Roza (2007), focused on determining the rate of growth from one growth to another which is enough to maintain full employment. The model shows the importance of the rate of investment on economic growth.

Aschauer (1989) was the first to hypothesize that the decrease in productive government services in the United States of America was crucial in explaining the general decline in productivity growth. Based on the results, a one percent increase in public capital stock would raise total factor productivity by less than one percent. The implication of the results is that public investment should go up to give a positive effect on the economy. This proved that there is a positive relationship between public capital and economic growth.

Other researches were fueled by the idea which was brought by Aschauer, for instance researches such as those showing relationship between public capital stock and private investment. Thus, in most cases, governments do not specialize in activities directly linked to productivity, they invest in managing the environment, regulatory systems and setting preliminary work so as to enhance potential investors and lure more investment. This include enacting infrastructure such as public goods like roads, where no one is willing to undertake investment save for the government. This clearly shows that government investment is important when we are to consider economic growth.

Barro (1991) also pointed out that several factors influenced economic growth and that also included the ratio of investment. The results were supported by Martin (1997) who also gave

growth of investment in addition to degree of economic openness and level of education as economic growth factors.

3. MATERIALS AND METHODS

3.1. Model Specification

The dependent variable in the study is Economic Growth which is represented by GDP The independent variables are Private Domestic Investment, Government Investment and Foreign Direct Investment, which are represented by the symbols PDI, GI and FDI respectively. Thus the model has the following form: $GDP = \beta_0 + \beta_1 PDI + \beta_2 GI + \beta_3 FDI + \varepsilon_i$

Where; β_0 represents autonomous investment, whereas β_1, β_2, and β_3 are coefficients and ε_i is the error term. The logged function takes the form $ln\ GDP = \beta_0 + \beta_1 lnPDI + \beta_2 lnGI + \beta_3 lnFDI$. The given variables are in different units and their effects to the model will be different. The logging removes the effects of the different units of measurement. Often when logarithms are used, the distributions are better behaved. Taking logarithms also reduces the extremes in the data, and controls the effects of outliers.

3.2. Justification of Variables

3.2.1. Economic Growth (Gdp)

In many studies gross domestic product is used as a proxy to economic growth. It captures all economic activities that would contribute to the well being of the economy of a country.

3.2.2. Private Domestic Investment and Government Investment (PDI and GI)

Private domestic investment and government investment play a major role in enhancing economic growth. A country whose residents do not invest suffers from stagnant growth. In this case, growth can only be realized if large funds are reserved for this. A positive relationship with economic growth is expected.

3.2.3. Foreign Direct Investment (Fdi)

Despite domestic investment being of much significance, foreign direct investment is also one crucial component that influences economic growth, especially in developing countries. A country which attracts significant amounts of foreign direct investment usually does well on the growth side. Also a positive relationship of the variable with economic growth is expected.

3.3. Estimation Procedure

The Ordinary Least Squares (OLS) method of research has been used in this study since the function to be estimated is linear. The simple advantage of least squares estimators is that they are computationally straightforward.

3.4. Diagnostic Tests

3.4.1. Unit Root Tests

Time series data may be characterized by challenges of non-stationarity which leads to meaningless results. To test for stationarity, unit roots tests were conducted for the data.

3.4.2. Autocorrelation

To check for autocorrelation, the Durbin-Watson (DW) statistic is analyzed. The DW statistic gives the linear relationship between adjacent residuals from a regression model. The DW statistic will be around 2 if there is no autocorrelation.

3.5. Data Sources

The data used in this research was obtained from Zimbabwe National Statistics Agency (ZIMSTAT) and the Zimbabwe's Ministry of Finance.

4. DATA PRESENTATION AND ANALYSIS OF RESULTS

4.1. Diagnostic Tests

4.1.1. Unit Root Tests

Unit root tests were undertaken and the following results were obtained.

Table-1. Unit root test results for differenced variables

Variable	ADF Statistics	Critical level	Order of Integration	Decision
GDP	-5.970334	-3.7204	I(2)	Stationary
PDI	-2.952800-3	-2.9850	I(1)	Stationary
GI	-3.584463	-3.7204	I(1)	Stationary
FDI	-4.817696	-3.7204	I(1)	Stationary

After first differencing all variables become stationary except GDP which become stationary at 2nd difference. The first and second order differencing technique was applied after the level differencing technique failed to produce stationary variables.

Table-2. Regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.6838	0.4929	15.5887	0.0000
LNPDI(-1)	0.0911	0.0329	2.7714	0.0111
LNGI(-1)	0.0488	0.0205	2.3787	0.0265
LNFDI(-1)	0.0694	0.0285	2.4336	0.0235

F-statistic = 63.3041   DW Statistics = 1.1755
R-squared = 0.8962   R-Squared (Adjusted) = 0.8821
Given the model $\ln GDp = \beta_0 + \beta_1 \ln PDI + \beta_2 \ln GI + \beta_3 \ln FDI$, thus the estimated model becomes: $\ln GDP = 7.6838 + 0.0911 \ln PDI + 0.0488 \ln GI + 0.0694 \ln FDI$.

4.1.2. Regression Results

After testing the relationship between Gross Domestic Product (GDP) and the following explanatory variables private domestic investment (PDI), government investment (GI) and foreign direct investment (FDI)), the following regression results were obtained.

All coefficients have expected signs thus GDP increases with increase in private investment, government investment and foreign direct investment.

R^2 is 0.8962 indicating that the fitted model highly explains the variations in GDP. We also obtained a DW statistic value, 1.1755. This is not much in line with the rule which governs non-auto correlation which says that it should be close to 2 or between 1.5 and 2. However since the value is not equal to zero, hence we can say there exists no positive auto correlation. Furthermore, since our DW statistic is greater than the coefficient of determination R^2, this certainly rules out the possibility of spurious regression results. It therefore gives a reliable explanation of the effect of investment on the changes in economic growth in Zimbabwe for the given period from 1980 to 2013.

The F- statistic of the model is 63.3041. This statistic measures the significance of the whole model. Since the F- statistic is greater than 5, by the rule of thumb, it implies that the model is significant at 5% level. In the absence of the explanatory variables, the level of GDP is 7.6838 units. The level of exogenous GDP is positive as expected from the model specification. This figure could be a result of other factors that are not explained by the model or a result of the time trend.

The Private Domestic Investment (PDI) had the highest coefficient as compared to the other two variables. This shows that it had a greater influence to the change in GDP. Also a coefficient of 0.0911 implies that a 100% change in PDI will increase GDP by 9.12%. This is also in line with the expected relationship, thus PDI has a positive relationship with GDP.

Government investment (GI) showed to be the least contributor to GDP with a coefficient of 0.0488. The government has many other obligations which it has to fulfil especially with the greater part of the people being poor. Thus they can sacrifice to offer services even if they result in loss, just to fulfil a social responsibility.

The GDP and FDI have a positive relationship as indicated by the coefficient of 0.0694. This means that a 100% increase in FDI result in 6.94% increase in GDP. Theoretically this result is valid since foreign direct investments are payments into the country which are entered as positive numbers in the BOP. The variable is also highly significant as supported by its probability of 0.0235.

5. CONCLUSIONS AND POLICY RECOMMENDATIONS

5.1. Conclusions

From the study, it has been discovered that investment positively affect economic growth in Zimbabwe. The basis of the argument was to find out whether investment inflow was

contributing effectively to enhance welfare through economic growth or not. However the results show that all the components of investment have a positive relationship with economic growth.

5.2. Policy Recommendations

It is recommended that the investment authorities should check and monitor the magnitude of the contribution made by investments in Zimbabwe. Thus, the authorities should not just be concerned about increasing number of investors only but should also try to maintain an optimum contribution of investment to economic growth, and also maintain the foreign investors in the country.

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