# EFFECTS OF CAPITAL INFLOW ON ECNOMIC GROWTH IN ZIMBABWE FOR THE PERIOD 1980 – 2016

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#### Abstract

Capital plays a crucial role in economic growth. The economic theory states that capital flow from rich countries to poor nations. Could this imply that the movement of capital from developed to developing nations trigger economic growth? This study investigated the effects of capital inflow on economic growth in Zimbabwe for the period 1980-2016. Capital inflow was categorized into multilateral debt, humanitarian aid, foreign direct investment, and net exports. In addition, the model used incorporated political instability dummy variable to assess its effects on real GDP in Zimbabwe. The study used time series data obtained from World Bank and ZIMSTAT and was subject to various diagnostic tests before estimation. Furthermore, OLS was employed as the estimation technique to determine whether each of the components of capital inflows impacts economic growth in Zimbabwe. The empirical evidence indicated that humanitarian aid, multilateral debt and FDI are negatively related to real GDP growth in Zimbabwe while association between net exports and economic growth is positive. These variables are statistically significant except FDI. Thus, the study concludes that humanitarian aid, multilateral debt and net exports affect economic growth in Zimbabwe. However, the result showed that FDI cannot determine real GDP growth in Zimbabwe. More so, political instability dummy variable was found to have negative effects on economic growth. This means that humanitarian aid, multilateral debt and political instability hinder economic growth in Zimbabwe while net exports promote real GDP growth. Therefore, the government should not rely much on donor funds, it hummers growth of the economy. The government should craft debt management strategies, formulate policies which promote export growth and maintain political stability to accelerate the growth of the economy.

Keywords: - Capital Inflow, Economic Growth, Zimbabwe

## **1.0 INTRODUCTION**

Capital is the major component required for growth of the economy. The accumulation of it is significant since it increases investment levels which in turn trigger growth of the economy (Beck, 1999). Thus, the movement of capital across the globe is important to achieve higher economic growth. However, financial problems in Zimbabwe resulted in many firms to operate below the expected level. This adversely affected production in the country thereby reducing

economic growth. Therefore, the country should supplement financial shortages using external financial flows. These include official flows and private capital flows among others. Mhlanga and Christy (2006) suggest that Official flows such as official development assistance (ODA) and official aid, come in the form of grants or loans. Official flows originate from bilateral and multilateral flows. On the other hand, private capital flows include foreign direct investment (FDI), bank and trade related lending. Among these, FDI is necessary for economic growth in Zimbabwe (Munyanyi, 2017 and Kunofiwa, 2017). However, low levels of capital per worker is affecting economic output in developing nations through reduced savings rate. (Bosworth and Collins (1999). To bridge the gap between domestic demand and domestic supply, developing nations use external financial resources. (Mingiri etal, 2016). Such form of capital flows may enhance welfare, if savings are channeled towards productive use and this will accelerate economic growth (Claeys et al, 2018). However, excessive rely on foreign capital may decrease indigenous innovative capacity and may have no effect on productivity thereby retarding GDP growth. (Porterie and Lichtenberg, 2001). The results from the abovementioned studies are contradicting and most of the studies are cross country. Therefore, we cannot rely on results from cross country studies, since the countries are at different stage of development and the environments are unique. Little is known about the impact of the above various forms of capital inflows on economic growth in Zimbabwe. Thus, the study sought to investigate their effects on economic growth in Zimbabwe from 1980-2016. In particular, the study attempts to find out forms of capital inflow effective in increasing economic growth and recommend policies that directly promote the flow of capital to the country to ensure sustainable economic growth.

## **1.1 Problem statement**

Capital inflows are important part of resource mobilization because of their significant contribution towards growth of the economy through investment (Tyson etal, 2014). The underlying problem is that, Zimbabwe is facing financial problems. The country's credit lines have been cut due to failure to meet its obligation as they due. Banks are also facing financial problems and many firms are operating below capacity. In addition, the hyperinflationary levels and political instability between 2007 and 2008, led to a decline of investment particularly in the manufacturing sector. Many firms in this sector were operating below capacity of 30% (Nyoni and Chikamhi, 2018). Some companies include foreign owned were closed. This further reduces inflows of capital. For instance, between 2007-2009 net exports, multilateral debt and foreign direct investment fell by 14.9%, 1.24% and 0.08% respectively (World Bank, 2017).

Despite government's effort to settle some of its debt obligations and revise some of the macroeconomic policies such as the indigenization policy, to increase capital inflows under the mantra Zimbabwe is open for business. The continued financial crisis is hindering the country's economic progress. It is adversely affecting investment, necessary for the growth of the economy. Several studies (Ikpesu (2019), Martorano *et al* (2018; Issahaku, Abor and Amidu,(2018); Matandare and Tito (2018); Michaelowa (2017); Nieminen(2017), Malima and Nyambe, 2015; Ajilore and Ikhide 2013 Dadla-Noris etal, 2010) investigated the impacts of capital inflows on economic growth. Some of the studies are cross country and findings are contradicting. For example, investigators Combes *et al* (2017) and Ikpesu (2019) have indicated that capital inflows have a positive and significant impact on economic growth whilst Nieminen (2017) found that that there is negative correlation between capital inflow and economic growth across developing countries. Therefore, it is unsound to generalize results particularly from cross country researches, since we have country specific problem need to be addressed.

More so according to the researcher's knowledge empirical literature on the effects of capital inflow is limited in the context of Zimbabwe. Recent studies by Munyanyi, (2017); Sikwila, Karedza and Sikwila, (2017); Kunofiwa, (2017) and Mazurura, (2016) have concentrated on the impacts of FDI on GDP growth in Zimbabwe, ignored other components of capital inflow such as humanitarian aid, multilateral debt, net exports and other factors which affect economic growth such as political instability. The researcher is not aware of studies investigated the effects of the abovementioned components of capital inflow on economic growth in the context of Zimbabwe. Therefore, the study seeks to contribute to empirical literature by investigating the impacts of abovementioned components of capital inflow on GDP growth in Zimbabwe from 1980-2016.

## **1.2 Significance of the study**

Ideally, the inflow of financial resources plays a critical role in developing nations since it facilitates economic growth. Nyoni and Bonga (2017) advocated that capital inflows complement other sources of finance necessary for economic growth in developing nations; especially where private investors are reluctant to invest due to higher likelihood of making loses. However, many developing countries including Zimbabwe continued to suffer from financial crisis and socioeconomic problems such as abject poverty, unemployment and high levels of debt. In the previous years (2014-2017), real Gross Domestic Product growth was on decrease as indicated by figure 1.1 above. Sustaining economic growth is the priority for Zimbabwe yet domestic resources are not enough. In Zimbabwe government expenditure still surpasses government revenue. Some of Zimbabwe's credit lines were cut due to the country's failure to meet its obligations as they fall due and public debt is still huge. Another interesting finding is the deficit between investment and savings. The savings rate is low as a result, investment exceeded savings. This led to the country depends on external financial flows to bridge the gap between domestic demand for finance and domestic supply, to rejuvenate the economy. Therefore, there is need to understand the impact of capital inflows in the country. The research is also worth taking since previous studies are cross country and we cannot rely on cross country studies because they are country's specific effects need to be solved, thus findings cannot be generalized. Moreover, some of the studies examined the impact of FDI on economic growth excluded other forms of capital inflows such as humanitarian aid/official development assistance, net exports, and multilateral debt. This study incorporated such components thus contribution to literature by creating new knowledge in the form of new evidence of capital inflow impacts on GDP growth.

#### 2.0 LITERATURE REVIEW 2.1. Theoretical Literature Review

## 2.1.1 McKinnon -Shaw Theory (1973)

This theory argued that capital is necessary for economic growth to take place if financial liberalization is present. Liberalization of the financial sector allows movement of capital from one nation to another without restrictions. This increases the inflow of capital in the form of foreign direct investment. However, removal of capital restrictors could promote capital flight. This would affect a country's foreign currency reserves adversely thereby reducing gross capital formation which in turn decreases the amount available for domestic investment. A fall in investment would hummer economic growth. A repressed financial sector prevents capital flows across boarder thereby hindering foreign direct investment. It also discourages savings and investment due to lower rates of return than in a competitive market. (Loizos, 2017).

# 2.1.2 Heckscher- Ohlin Theory (Factor production Theory)

The theory states that, nations with plentiful capital should sell abroad more capital-intensive goods and trade in labour intensive goods that use its limited factors intensively. The movement of capital from where it is plentiful particularly in developed nations to countries with scarce capital( developing countries) would positively affect investment levels, thereby enhancing economic growth.( Salvatore,2013).Therefore the degree of movement of capital from developed country is higher to developing economies, receiving foreign aid.( Kumar *et al* 2009). However, the extent to which country **A** benefits from country **B** depends on the degree of economic and political relations between these countries. This could be the reason why the Zimbabwe is receiving more investors and aid from country like China.

## 2.1.3 Keynesian theory of Investment. (The I-S and LM model)

In contrast to the Mundell-flaming model, the Keynesian theory states that a decrease in Money supply leads to rise in interest rates, causing inflow of foreign capital. Assuming they are two nations A and B. An increase in interest rate in country A would increase the inflow of capital to that country since high interest rate attracts foreign investors. This increase in foreign investment in A would trigger economic growth. According to Mankiw (2007), the increase in foreign investment improves country A's capital account balance and will be in surplus. However, if the **BOP** is in surplus, interest rates will decline and there will be capital flight from country A to other nations. This retard economic growth in country A. Moreover, lower interest rates increase domestic investment leading to rise in incomes and demand for country A's goods which in turn increase A's exports.

## 2.1.4 The Solow model (1956)

The Solow growth model is an economic model for the long-run economic growth set within the frameworks of the neo-classical economics. The Solow model of growth attempts to explain the long run economic growth by considering the impacts of capital accumulation, labour productivity (population growth) and technological progress. (Snowdon and Howard, 2005). The model assumes that a single good produced with a constant technology, no government or international trade, all factors of production are fully employed, labour force grow at a constant rate, continuous time and initial values of capital and labour are given.

Since it was formulated from the neo-classical economics, the Production function of the model can be formulated as

Where  $Y_t$  is the income level,  $K_t$  the level of capital,  $L_t$  representing labour?

 $A_t$  The level of knowledge (technology)

According to Beck *et al* (1999), capital accumulation is one of the major vital factors that can lead to higher rate of economic growth. It is categorized into human capital and physical capital. However, the extension of the Solow model recognizes human capital. The production function is formulated as

 $Y_t = K^{\beta}_{t} H^{\beta}_{t} A_t L^{(1-\alpha-\beta)}_{t}$  .....(1.2) where  $\alpha + \beta < 1$ ,  $H^{\beta}_{t}$  is the augmented human capital, which is determined by years of education. That is an individual acquire skills through education. (Debasish, 2013)

Human capital refers to qualities such as education and health that enable a worker to produce more output. (Koutun and Karabona, 2013). Additionally, workers are equipped with different skills during training as a result, their contribution to output is different. Skilled workers are highly productive than unskilled ones. Thus a skilled workforce enhances economic growth through an increase in productivity per worker.

To add on that workers with high educational qualifications usually get higher salaries because they are more productive. More production raises the level of output. An increase in income increases savings and investment which in turn lead to an increase in capital stock. Therefore, movement of capital in the form of human capital from where it is plenty to where it is scarce enhances economic growth. However, the level of education differs between nations because of different policies and institutions that affect access to schooling. (Acemoglu and Dell, 2010). Failure to access education will result in low per worker productivity. Low output per worker affect the level of a nation's output.

The above equations clearly show that increase in capital can lead to higher rate of economic growth. Therefore, the flow of capital from one country to another should enhance economic growth.

# 2.2 Empirical Literature

The following empirical literature seeks to answer objectives of the study. Martorano *et al* (2018) investigated the effects of Chinese development assistance on household welfare in 13 Sub-Saharan African countries. They employed difference-in-difference design in order to investigate the impact of Chinese aid on households' wealth and education. They concluded that the effects of Chinese project assistance on household welfare are positive. In the similar vein, Humphrey and Michaelowa (2017) discovered that China's role in African development finance is indeed substantial and growing. In contrast, Mingiri *et al* (2016) empirically examined the relationship between external financial flows and economic growth in the SADC region for the period 1980-2009. They found that other forms of external financial flows are significant in determining economic growth in this region (SADC) and they concluded that Official Developmental Assistance is insignificant.

Jacobo and Jalile, (2017) examined the impact of government debt on GDP in sixteen Latin American countries over a period of fifty years (1960-2016). They found a positive impact of debt on GDP in the short run. However, Bonga *et al* (2015) examined the growth-debt nexus in Zimbabwe for the period 1980-2013 and found a negative relationship between external debt and economic growth. The study employed Ordinal Least Squares (OLS) method and suggested that countries with high public debt tend to grow slow. Therefore, the government should relate the cost and benefits of debt before deciding to borrow since borrowing would retard GDP growth. In the similar vein, Mashingaidze (2014), Munzara (2015) and Matandare and Tito (2018) also analyzed the effects of external debt on economic growth in Zimbabwe. The researchers found that a negative association between external debt and economic growth. However, Mashangaidze employed Vector Autoregressive Approach (VAR) using annual time series data for the period 1980-2012.

Munyanyi (2017) examined the relationship between FDI and economic growth in Zimbabwe applying an Autogressive Distributed Lag (ARDL) cointegration approach from 1975 to 2007. A positive effect of FDI on economic growth was discovered in both short and long run periods. Similar results also confirmed by Kunofiwa (2017) and Moyo, (2010). On the other hand, Kunofiwa (2017) examined the issue by employing the OLS-Heteroskastic and Standard Error Consistent White Test approach using annual time series data ranging from 1994-2015. While Moyo (2010), employed the OLS approach to find the impacts of FDI on economic growth. In contrast, Malima and Nyambe (2015) tested the direction of causality between FDI and economic growth in Zambia using Granger causality procedure. They have indicated that FDI does not granger cause economic growth.

Furthermore, Aisen and Francisco (2011) empirically investigated the effects of political instability on economic growth. They found that higher degree of political instability reduces rates of real GDP. Therefore, instability of politics hinders economic growth up to a certain level. In addition, the study used GMM estimator for linear dynamic panel data models on a sample of 169 countries. The period of study was 1960-2004. Furthermore, the investigators, Aisen and Francisco (2011) discovered that variables such as economic freedom and ethnic homogeneity contribute to growth of the economy whilst the effects of democracy are found to be negative. In the similar vein, Alesina *et al* (1996) supported this view. They investigated the relationship between political instability and per capita GDP growth using a sample of 113 countries from the period 1950-1982. In contrast, Husan (2004) discovered that the effects of political instability on economic growth are negative in South Africa, but is through a transmission mechanism. Husan (2004) concluded that there is a strong linkage between the political instability and economic growth. Overall, the above studies indicate that political instability negatively affects growth of the economy although the rate depends with the degree of instability of politics.

Kartikasari (2017) analyzed the effects of export, imports and investment on economic growth in Indonesia. The study used quarterly regional data for the period of 2009-2016. The study concluded that exports do not impact economic growth whilst import had a significant positive effect on GDP growth. Moreover, export and import were on free board. Conversely, Ruba, Sharta and Thikrait (2014) examined the relationship between economic growth and exports in Jordan for the period 2000-2012. The study discovered that export granger causes economic growth. On the other hand Foud(2005), found examined the effects of export led growth on economic growth in Egypt for the period 1977-2003. They analyzed the effects of exports using various analytical tools such as the vector auto-regression(VAR) cointegration test, unit root and conclude that exports cause GDP of a country to grow.

The above literature shows conflicting results on the impacts of various forms of capital inflows on economic growth. That is, some researchers found a positive relationship between various forms of capital flow and economic growth, while others found a negative association. Moreover, other studies found that some forms of capital inflow do not affect economic growth.

# 2.3 Research Gap

Empirical literature on the impacts of capital inflows is giving conflicting results and is limited in the context of Zimbabwe. For instance, Mingiri *etal* (2016) found that apart from official developmental assistance, other forms of external financial flows are significant in determining economic growth in the SADC region whilst Martorano *etal* (2018) and Michaelowa (2017) discovered a positive contribution of humanitarian aid on economic growth in Sub Sahara Africa. On the other hand, the researchers Jacobo and Jalile, (2017) have found a positive contribution of government debt on economic growth in Latin America whilst researchers like Bonga et al (2015), Munzara (2015) and Matandare and Tito (2018) have discovered that external debt hinder economic growth in Zimbabwe. More so, the investigators Kunofiwa (2017) and Munyanyi (2017) found a positive effect of FDI on economic growth in Zimbabwe. However, Kunofiwa (2017) examined the issue using the OLS-Heteroskastic and standard error consistent white test approach while Munyanyi (2017) applied Autogressive distributed lag (ARDL) cointegration approach. In contrast, Malima and Nyambe (2015) found that FDI does not granger cause economic growth in Zambia. Furthermore, studies by Ruba, Shatha and Thikrait (2014) and kartikasari (2017) have concluded that exports do not impact economic growth whilst Foud (2005) discovered that exports cause economic growth. Foud (2005) used vector auto-regression (VAR) cointegration test approach whilst Ruba, Shatha and Thikrait (2014) employed johansen cointegration test. Some of the above-mentioned studies are cross country. Thus, results cannot be generalized because environments are unique and methodologies used are different. In addition, recent studies by Matandare and Tito (2018), Munyanyi (2017), Kunofiwa (2017) and Mazurura, (2016) concentrated on the effects of FDI on economic growth, disregard other forms of capital inflows like humanitarian aid multilateral debt and net export. In addition, recent studies investigated other institutional variables through which capital flows affect economic growth but ignored political instability. This study would go beyond the work of the previous investigators in the following manner, by investigating the impacts of humanitarian aid, multilateral debt, net export and political instability on economic growth in Zimbabwe. The study also contributes to academic literature by challenging the generalization of previous findings by verifying using a different approach or using similar method in a different setting.

## **3.0 METHODOLOGY**

## **3.1 Theoretical framework**

Based on literature review, the study used the Solow growth model to find the impact of various forms of capital inflow on economic growth in Zimbabwe for the period 1980-2016. The theoretical model is formulated as

 $Y_t = K^{\alpha}_t A_t L^{(1-\alpha)}_t$  Where  $Y_t$  = income level,  $K^{\alpha}_t$  = capital,  $L_t$  = Labour and  $A_t$  is the level of technology.

## **3.2 Empirical Framework**

Based on the theoretical framework discussed above, the study employed a model used by Mingiri *et al* (2016), but with slight modifications. That is, it included forms of capital inflow such as humanitarian aid (Official development assistance), multilateral debt, net exports and other factors like political instability which determine the flow of capital and influence economic growth.

Thus, economic growth indicated by  $rGDP = f \{Humanitarian aid (HI), foreign direct investment (FDI), multilateral debt(MD), net export(NE) political environment(POL)\}. Therefore econometric model will be specified as follows;$ 

 $rGDP_t = \beta_0 + \beta_1 HI_t + \beta_2 FDI_t + \beta_3 MD_t + \beta_4 NE_t + \beta_5 POL_t + \mu_{t...}(1.2)$ 

# **Dependent variable**

Where  $rGDP_t$  = is real Gross Domestic Product, a proxy for economic growth.

## **Independent Variables**

 $HI_t$  = Humanitarian aid measured by net official development assistance as a % of Gross National Income.

 $FDI_t$  = Foreign Direct Investment measured by net FDI inflow % of rGDP

*MD*<sub>*t*</sub> = Multilateral Debt.

 $NE_t$  = net exports

 $PL_t$  = Political environment. This has a qualitative effect, must be captured. Therefore, is a dummy variable defined as equal to 1 if political instability occurred or zero otherwise in included.

 $B_{0}$ ;  $B_{1}$ ,  $B_{1}$ ,  $B_{4}$  are parameters to be estimated, whilst  $\mu_{t}$  is the error term.

## **3.3 Variables and Expected signs**

## i. Economic growth.

This is the dependent variable. It is an increase in the country's national output over a given period, usually one year. Economic growth can be measured by real Gross domestic product (rGDP) or Gross national income (GNI). However, the researcher used real GDP as a proxy for economic growth because it is highly preferred by most researchers. This is because it is more concerned about, where the production took place than who produced it (Mehmood, 2012).

## ii. Humanitarian Aid (Official development assistance).

This is the transfer of resources from developed to developing nations in the form of grants and loans to facilitate economic development until their rate of growth is self-sustained (Dagne, 2014). Official development assistance is also known as humanitarian aid. Therefore, the two terms can be used interchangeable. Humanitarian assistance can be conditional or unconditional. Cheang(2009) advocates that, conditional aid refers to emergency loans involves the use of attachments while the unconditional aid is the assistance given to a country for political reasons. That is helping without considering the quality of governance. This usually affects economic growth adversely because the aid will be used for the consumption of domestic goods other than investment. On the other hand, conditional aid tends to affect economic growth rate in a positive manner since it is used for the intended purpose (investment purposes). Furthermore, most developing nations do not practice the savings culture due to low per capita income. Thus, humanitarian assistance helps to reduce the savings gap. Many theories such as the Harrod-Domar model, Solow growth model, the Keynesian theory of savings, the neoclassical theory of savings and investment among others; support the view that savings play a critical role in financing investment which in turn impact economic growth. However, literature show mixed results on the impact of Official developmental assistance on GDP growth. Some studies indicate that the effect are negative while others show a positive impact. Consequently, the humanitarian aid is expected to impact economic growth either positively or negatively. Official development assistance as a percentage of GDP was used as a proxy.

## iii. Multilateral debt (MD).

Debt owed to a country experiencing economic or financial crisis by foreign lenders such as IMF and World Bank, denominated in foreign currency. If the borrowed fund is used for the purpose it was borrowed for, can trigger economic growth (Ayadi and Ayadi, 2008). However, if the borrowed funds are used for other purpose, may retard the level of economic growth (Mahmoud, 2015). Thus, both negative relationship and positive relationship is expected between multilateral debt and economic growth. The study will use multilateral debt as percent of GDP as a proxy.

## iv. Foreign direct Investment (FDI)

Moyo(2012) defined FDI as the net inflows of investment to acquire lasting management interest of 10% or more of voting stock in an enterprise operating in an economy other than that of an investor. According to the HO theory, the movement of capital from where it is abundant to countries with scarce capital would positively affect investment levels thereby enhancing economic growth. Therefore, the accumulation of it is necessary for investment to take place. (Snowdon and Howard, 2005). Investment is one of the major components of economic growth. So, an increase in FDI investment through capital accumulation will increase economic growth levels. Thus, FDI is expected to impact GDP growth positively. The study will use Gross fixed capital formation as proxy for capital.

## v. Net Export (NE)

Net export is another source of capital inflow. It is the difference between export and imports. Export is a source of foreign exchange like grants, loans, FDI and international aid. (Makochekanwa, Hurungo and Kambani, (2012)) Therefore, an increase in the value of exports more than proportionate increase in the value of imports will result in trade surplus and current account surplus. This will increase a country's foreign currency reserves which in turn contribute positively to capital formation of the nation. Exports affect economic growth through imports. That is if production activities of a country based on the inputs and capital equipment from other nations, the purchases are made using foreign currency earned from exports. The importation of inputs and capital equipment can be used to produce goods and services of nation thereby increasing its real GDP. However, if the value of imports is greater than the value of exports, it means that a country has a trade deficit and a current account deficit. This also implies that a nation's foreign currency reserves have been depleted and decline in capital formation. To add on that, a decline in capital formation, consequently impact the level of investment thereby hammering economic growth. Therefore, both a positive and negative relationship is expected between net export and economic growth.

## vi. Political Instability (POL)

According to Dagne(2014) political instability is the propensity of government collapse. Poor governance, the existence of differences and competition among political parties could lead to an unexpected change of government. In addition, political instability is associated with violence due to intense election and a regular amendments and introductions of new macroeconomic policies which create economic instabilities. This usually hinders investment climate, trade and political relations between nations. Thus violence, persistent adjustments and crafting of new macroeconomic policies may hinder the flow of capitals thereby affecting GDP growth. In, Zimbabwe there were periods of political distortions since 1980 and up to date. This affected investment decisions, political relations between nations and has led to capital flight. According to Dagne (2014), a few distortions in macroeconomic variables such as trade openness and inflation would promote capital flows and investment levels tend to be high. Dagne (2014)

further postulates that, distortionary policies such as trade restrictions decrease efficiency of capital flow which in turn adversely impact investment and growth rate of gross domestic product (economy). To capture the effects of political instability on economic growth, a dummy was incorporated into the model defined as equal to one if Zimbabwe experience political instability during a year or zero otherwise. A negative relationship is expected between political instability and economic growth.

## 4.0 DATA PRESENTATION, ANALYSIS AND DISCUSSION

#### 4.1 Diagnostic Tests Results

The following diagnostic tests were performed to ensure reliability and validity of results. Failure to perform these tests results in biasness of OLS estimators. This in turn leads to the provision of false recommendations. Biased recommendations may cause policy makers to implement wrong policies to the right problem (type three errors). In addition, type three errors, would cause policy failures which in turn lead to policy cycles.

#### 4.1.1 Unit root test results (Augmented Dickey-Fuller Test).

If you use time series data, it is important for the researcher to perform stationarity test to be sure that series are indeed stationary. This is because if they are not, you run spurious regression. That is non-stationary series means that the data generating process does not evolve around the mean zero. The unit root was tested based on the hypothesis that a series has unit root. The unit root test was initially conducted in levels and then differenced where possible until the variable is stationary. The results summarized in the table 4.1 as follows.

Variable	ADF statistic	ADF Critical values	Order of integration
GDP	-3.805	-3.675 ***	1(0)
		-2.969**	
		-2.617*	
HI	-2.683	-3.675 ***	1(0)
		-2.969 **	
		-2.617*	
FDI	-3.607	-3.675 ***	1(0)
		-2.969**	
		-2.617*	
MD	-2.700	-3.675 ***	1(0)

 Table 4.1: Shows unit root test results

		-2.969**	
		-2.617*	
NE	-2.002	-2.441 ***	1(0)
		-1.691**	
		-1.307*	
POL	-2.338	-2.441 ***	1(0)
	and the second	-1.691**	
		-1.307*	

From table 4.1, \*\*\* means significant at1%, \*\* significant at 5% and \* significant at 10%. Table 4.1 shows that above, all variables are stationary at levels. The order of integration is 1(0). Variables such as foreign direct investment (FDI), net export (NE) and political instability (POL) are stationary at 5% while humanitarian aid (HI) and multilateral debt (MD) are stationary at 1%. This means that all the series has no unit root. Therefore, the data can be used for prediction. Estimation using stationary data would give valid and reliable results.

# 4.1.2 Multicollinearity test

This test is important in order to avoid the problem of having large standard errors and few significant individual coefficients. To detect the exact linear relationship among the regressors in the model, the study used the pair wise correlation matrix. If a correlation coefficient between the individual variables is above 0.8, implies that multicollinearity is a serious problem. On the other hand, if coefficient is less than 0.8 it means that multicollinearity is not a serious problem. A pair wise correlation matrix is shown by table 4.2 below.

	GDP	MD	FDI	HI	NE	POL
GDP	1.0000					
MD	-0.4292	1.0000				
FDI	0.1129	0.2308	1.0000			
HI	-0.1868	0.2261	0.2171	1.0000		
NE	-0.1473	0.6217	0.5810	0.5778	1.0000	
POL	-0.6131	0.5085	-0.0562	0.0904	0.368	1.0000

Table **4.2** indicates that, all coefficients between variables are less than 0.8. Therefore, we reject the null hypothesis of multicollinearity and conclude that the **MD**, **FDI**, **HI**, **NE** and **POL** are not related to each other. That is, they contain unique information about the economic growth (**real GDP**).

## 4.1.3 Heteroscedasticity.

According to (Gujarati, 2004) variance of the error term should be constant. If ignored, the OLS estimators will be inefficient while unbiased. To check the presents of herescadasticty, the study employed the Breusch Bargan test which is said to be more appropriate for time series data (Murray, 2006). The results are given by a table 4.3 bellow.

Table 4.3: Shows heteroscedasticity results.



The decision rule: Reject the **Ho** if the p-value of the Breusch-Bargan test statistic is less than 5% level of significant. From the table above the p-value of the Breusch-Bargan test is 0.2509, greater than 0.05. Therefore, we accept the null hypothesis (**Ho**) and conclude that data is free from heteroscedasticity. This means that variance of error terms is constant.

## 4.1.4 Autocorrelation

To determine whether the successive values of the error term are correlated, the researcher used Breusch-Godfrey LM test for autocorrelation and the results are shown by the table below.



Breusch-Godfrey	LM	test	for
autocorrelation			

lags(p)	chi 2 Prob>chi2	df
1	0.000 0.9908	1

The hypothesis test is;

H<sub>0</sub>: Error terms are not correlated

H<sub>1</sub>: Error terms are correlated

The decision rule: Reject the null hypothesis if the p value of the Breusch Godfrey LM test is less than 0.05.We accept the null hypothesis and conclude that autocorrelation is not a problem. This implies that errors are not correlated. Absents of autocorrelation is also confirmed by the value of the DW statistics (d-statistic=1.958011) is close to 2 and is greater than the value of the R squared. (R squared= 0.544). See appendix A4. Therefore, OLS estimators will be efficient.

# 4.1.5 Model misspecifications

The model to be used should be correctly specified. To find whether the model omitted important variables or not, the RESET test was performed, and results are shown by a table below.

 Table 4.5: Shows model specification results.

Ramsey RES	SET	
<b>F</b> (12, 19) =	2.08	
<b>Prob</b> > <b>F</b> =	0.0741	
Ho: Model is correctly spe	ecified	

H<sub>1</sub>: Model is not correctly specified

Decision rule: Reject the p-value of the RESET test is less than 0.05. From table value of the RESET test (p=0.0741) is greater than 0.05 we accept the null hypothesis and conclude that the model is correctly specified. This means that the model used has no omitted important variables.

# 4.1.6 Descriptive Statistics

The table **4.6** below shows descriptive statistics obtained using stata 14. Indicated are measures of dispersion like the standard deviation, range and some measures of central tendencies such as the mean.

**Table 4.6:** Shows descriptive statistics.

Variable	Obs	Means	Std.Dev	Min	Max
GDP	37	2.222698	7.967226	-17.66895	15.44573
MD	37	22.75895	9.854695	.4029	35.5591
FDI	37	9738947	1.39316	4525398	6.940053
Ш	37	5.485444	2.947063	2.216238	15.42544
NE	37	66.62156	18.83017	35.91686	109.5216
POL	37	.2702703	0.4502252	0	1

The table **4.6** shows that, the mean of **MD**, **FDI**, **HI**, **NE** and **POL** are22.75895, 9738947, 9738947, 5.485444, 66.62156and 0.4502252 respectively. Among the explanatory variables Net exports have highest standard deviation (18.83017) and a range of 73.60474, Whilst multilateral debt (9.854695), Gross Domestic Product GDP(7.967226), Humanitarian aid(2.947063), Foreign direct investment FDI(1.39316) and Political instability(0.4502252) in that order.

## **4.2 Regression Results**

Regression results were computed using stata 14 and results are given by the table 4.7 below. These results were used to answer research objectives stated in chapter one.

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Variable	Coefficient	Standard error	t-statistic	P-value		
С	1.18725	4.416665	0.27	0.790		
н	-1.013326	.4458757	-2.27	0.030**		
MD	2622162	.1446147	-1.81	0.079 *		
FDI	5743024	0.9880963	-0.58	0.565		
NE	0.2428038	0.1070526	2.27	0.030 **		
POL	-11.30315	2.834012	-3.99	0.000 ***		
Significance at 1% ***; Significance at 5% ** Significance at 10% *						
Prob > F =0.0003						
R-squared =0.5144 Adjusted R-squared =0.436						

**Table 4.7:** Shows regression results.

## **Durban Watson statistics= 1.958011**

## 4.2.1 Regression model

Using information from Table **4.7**, the regression equation is as follows,  $rGDP_t = 1.18725 - 1.013326HI_t - 0.2622162MD_t - 0.5743024FDI_t + 0.2428038 NE_t - 11.30315POL_t$ 

Regression results from Table **4.7** shows that the value of the Durban Watson statistics is 1.95 which is close to 2. This means that the model is correctly specified. The value of the R- squared  $(R^2)$  is 0.5144. Other factors being equal, it means that about 51.44% variations in real GDP is being explained by changes in multilateral debt(MD), humanitarian aid (HI), foreign direct investment(FDI), net export(NE) and political instability(POL) whilst the remaining 48.56 % explained by other factors outside the model. Capital components such as humanitarian aid (HI) and net export (NE) are statistically significant. However, foreign direct investment (FDI) is not statistically significant in determining economic growth. Table **4.7** also shows that political instability (POL) is negatively related to economic growth in Zimbabwe.

## 4.3 Interpretation and Discussion of Results

This section of the study involves the interpretation and discussion of results of the study.

**4.3.1 Humanitarian aid** The coefficient of Humanitarian aid is -1.013326. This means that a negative relationship exists between official development assistant and real GDP in Zimbabwe. For example, other things being equal, if humanitarian aid increases by one-unit, real GDP falls by 1.013326 units. Mingiri (2006) found the same results. In contrast to this, Humphrey and Michaelowa(2017) discover a positive relationship between humanitarian and economic growth. Humanitarian aid is statistically significance at 5% with a p-value of 0.030. This means that it is important in determining economic growth in Zimbabwe. However, the economic interpretation is that, the aid could be unconditional usually given to a country for political reasons. In addition, there is element of corruption. For example, in previous years aid inflow into the country which was managed by Zimbabwe government resulted in half of the aid amounts reaching the intended beneficiaries whilst the other proportions were lost due to corruption activities within the government. (Makochekanwa, 2007). Therefore, the first specific objective of determining the relationship between official development assistance (HI) is answered.

# 4.3.2 Multilateral debt

From table 4.6, the results show that coefficient of MD is -0.262216, found to have negative impacts on economic growth with the probability value(p-value) of which is statistically significant at 10 %. These results obtained indicate that a one unit increase in MD reduces real GDP growth by 0.262216 units. Therefore, multilateral debt affects economic growth negatively. The economic interpretation of this is that a negative sign reflects overhang debt. The results are consistent with the overhang debt theory which states that debt is beneficial up to a certain level. Beyond that threshold, further borrowing retard economic growth. A negative sign could mean that the borrowed funds could have been diverted or used for consumption purposes or personal gains by government officials due to corruption. These findings are supported by Kyrumyan(2016) and Mahmoud(2015) proved that if the borrowed funds is used for other

purpose, may retard the level of economic growth. In addition, studies by Tito(2018), Munzara (2015), Bonga (2015) and Mashingaidze (2014) support the view that external debt hinders economic growth in Zimbabwe. This has answered the second objective of the study.

#### 4.3.4 Foreign direct Investment (FDI)

Foreign direct investment is negatively related to economic growth. The coefficient of foreign direct investment is -0.5743024. This means that if FDI increase by one unit reduces economic growth by 0.5743024 units. However, the results contradict postulations of the HO theory which states that the movement of capital from where it is abundant to countries with scarce capital would positively affect investment levels thereby enhancing economic growth. (Snowdon and Howard, 2005). However, the variable is not statistically significant in determining economic growth in Zimbabwe. Similar results also found by Mbulawa (2015).

#### 4.3.5 Net export

Additionally, the coefficient of net exports is positive. This means that if net exports decrease by one unit, Zimbabwe's economic growth falls by 0.2428038 units. However, net export is statistically significant at 5% with a p value of 0.030. A positive coefficient means that the impact of net exports on economic growth is positive. For that reason, the second objective of the study is answered. The results are in line with findings found by Makochekanwa, Hurungo and Kambani, (2012). They discover a positive relationship between net exports and real GDP in Zimbabwe. The possible explanation of this is that an increase in the value of exports more than the value of imports will result in trade surplus and current account surplus. This will increase a country's foreign currency reserves which in turn contribute positively to capital formation of the nation. For instance, production activities of Zimbabwe are based on the inputs and capital equipment from other nations and the purchases are made using foreign currency earned from exports. The importation of inputs and capital equipment can be used to produce goods and services thereby increasing real Gross Domestic Product of a country.

#### **4.3.6** Political instability

Finally, political instability is statistically significant at 1% with a coefficient of is -11.30315. This means that political instability reduces growth by 11.30315 as compared to where politics is stable. This variable is statistically significant at 1% level with a p-value of 0.00. The significance of political instability shows that instability of politics occurred during the period 1980-2016 had negative impacts on real GDP. In Zimbabwe, there were periods of political distortions since 1980 and up to date. This affected inflow of capital, investment decisions, and political relations between nations and has led to capital flight. According to Makochekanwa (2007) political instability has been tense since september1999, caused capital flight. This is because instability of politics is associated with regular amendments and introductions of new macroeconomic policies which create economic instabilities. As a result, some residence chose to hold their assets outside of Zimbabwe due to lack of confidence in the country. Studies by Arisen and France (2011); Husan (2011) and Alesina *et al* (1996) support the view that the effect of political instability on economic growth is negative.

## 5.0 CONCLUSION AND RECOMMENDATIONS

## **5.1 Conclusions**

The results of the study confirmed that components of capital inflows such as humanitarian aid, multilateral debt and FDI are negatively related to real GDP in Zimbabwe while net export is positively linked to economic growth. These variables are statistically significant expect FDI. Therefore, the study concludes that humanitarian aid, multilateral debt and net exports affect economic growth in Zimbabwe. However, the result showed that FDI cannot determine real GDP growth in Zimbabwe since is not statistically significant. The study also incorporated political instability as the institutional variable and was found to have negative effects on economic growth. Furthermore, the results showed that political instability has the greatest influence on economic growth indicated with the highest coefficient of -11.303 followed by humanitarian aid with a coefficient value of -1.013326. Therefore, this leads to a conclusion that political instability and humanitarian aid are major factors which affect economic growth in Zimbabwe.

## 5.2 Recommendations

The effect of humanitarian aid on economic growth is negative. Therefore, humanitarian aid should be freed from rigorous stringent. That is, a nation given aid must be left to decide on how to use the funds. In addition, depending much on donor funding would cause dependence syndrome. The researcher recommends policy makers to craft and implement strategies to solve current socio-economic ills such as absolute poverty and high levels of unemployment by empowering youths. That is, the government should continue giving financial support to the youths to do various projects such as poultry, farming and mining to reduce unemployment and poverty. Furthermore, the government of Zimbabwe should design policies that encourage people to practice the savings culture. That is people should stop living like birds and learn to save from the little they get. Policy makers should, craft effective debt management policies to avoid overhang debt. Government should ensure that responsible authorities monitor the use of borrowed funds effectively. That is ensuring that the borrowed money from multilaterals used for the intended purposes. Policy makers should also implement a sound macroeconomic policy that reduces country risk, political instabilities in order to promote exports and foreign direct investment. An increase in exports reduce trade deficit, increase the foreign exchange reserves which can be used to import inputs and capital equipment necessary to facilitate production in the country. More so, the government should continue giving incentives and subsidies to firms exporting products to boost net exports which in turn increase foreign currency reserves of the country. Furthermore, the government should put trade restrictions to reduce importations of some products to increase exports. For instance, a complete burn of some products imported from other countries. This would increase the value of net exports and protect domestic companies from stiff competition as well. The government of Zimbabwe should maintain a stable political and economic environment to attract investors into the country. This can be achieved by crafting policies that are investor friendly under Zimbabwe is open for business mantra.

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