Impact of Foreign Debt on Economic Growth in Zimbabwe

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Abstract*: The study investigates the impact of foreign debt on economic growth in Zimbabwe. Time series data covering the period 1980 -2013 is analysed using ordinary least squares regression. Labour force, capital investment, and trade openness are used as control variables. The results show that external debt and trade openness impact negatively on economic growth in Zimbabwe while capital investment and labour force growth has a positive effect. The study recommends that the country should not heavily rely on foreign borrowing to finance economic growth but should rather create a conducive environment for alternative sources of foreign funds such as project finance and foreign direct investment. It is further recommended that the country should curb excessive imports of consumables and encourage value-added exports by local manufacturers.*
Key words: *foreign debt, economic growth, debt crisis, debt forgiveness*

I. Introduction

Zimbabwe is a heavily indebted country with the stock of public and publicly guaranteed debt standing at a staggering US$8.4 billion as at June 2015 (Chinamasa, 2015). As shown in Table 1, external debt alone amounted to US$6.7 billion representing about 47% of GDP. The country is struggling to service its debt obligations and has since accumulated huge external payment arrears which are over 82% of the total external debt. The country's debt burden is unsustainable as evidenced by the high external debt to export ratio which is around 200%. The debt overhung has impacted negatively on the country's credit rating making it difficult for the country to further borrow on international capital markets and to attract concessional funding from bilateral lenders. Yet Zimbabwe desperately requires external support in order turn around its economic fortunes which are currently faltering in the face of low domestic savings and depressed revenue streams.

Table 1: Public and Publicly Guaranteed Debt as at June 2015

	DOD	Arrears	Total Debt
External Debt	**1 174**	**5 528**	**6 703**
Bilateral Creditors	802	2 743	3 545
o/w: Paris Club	229	2 607	2 836
: Non-Paris Club	574	135	709
Multilateral Creditors	372	2 199	2 571
RBZ- External		587	587
Domestic Debt	**1 722**		**1722**
Total Debt	**2 896**	**5 528**	**8 425**

Source: Ministry of Finance and Economic Development

Zimbabwe owes money to multilateral lenders such as the International Monetary Fund (IMF), World Bank, African Development Bank (ADB), and the European Investment Bank. According to Zimbabwe's Minister of Finance and Economic Development, Hon. Patrick Chinamasa, the country is also indebted to every country in Europe and also to China, Japan, India, South Korea, and Kuwait among other bilateral creditors.

The source of the debt crisis in Zimbabwe is threefold. Firstly, at independence the country inherited a debt of US$700million from the former colonial government. Secondly, in the years following independence the government had to borrow heavily as it sought funding to correct colonial imbalances by improving access to social services such as health and education by the majority of the people. Mostly, the loans were used to finance recurrent expenditures such as paying government workers' salaries or to pay existing debts instead of being invested in capital projects. As a result the loans did not generate returns to fund repayment of the loans. A significant portion of foreign loans were also channelled to setting up state enterprises but these turned out to be loss making entities and an embarrassing drain on the fiscus. Thirdly, poor policies by the government also compounded the debt crisis. For example, the country involved itself in an unsanctioned and expensive war in the Democratic Republic of Congo (DRC) in the late 1990s.

External debt, if properly utilised, has some benefits to an economy. For example, through borrowing foreign funds, a country would be able to purchase advanced equipment and modernised technologies which are essential to spur efficient production of goods and services. External funds provide new money which would enable a country to invest in provision of public infrastructure such as roads, railways, power stations and dams among others. Such infrastructure developments in turn create more employment opportunities. According to

Tchereni, Sekhampu and Ndovi (2013), foreign debt serves as a means of breaking bottlenecks in the economy, thereby permitting fuller utilisation of all resources and a continuation of development in an economy.

However, opponents of foreign debt argue that external debt depress investment in two ways: through both a disincentive effect and a crowding out effect. Panth et al. (2006) argues that public investment is crowded out by debt servicing, thereby adversely affecting productivity growth. This argument is supported by Fosu (2010) who contends that constraining debt servicing would shift public expenditure away from important social services such as health and education. The government would be forced to increase internal borrowing in order to meet external debt servicing obligations. In the process government will hog borrowings on the domestic market thereby depriving private investors of the much needed funds for investment. Increased borrowing on the domestic market also has the effect of pushing interest rates up making the cost of borrowing for investment prohibitive.

The impact of foreign debt on economic growth can either be positive or negative depending on whether debt is efficiently utilised or not. If properly utilised, foreign debt acts as a lubricant in the economy providing liquid capital for investment, facilitating employment creation and increasing national output for domestic use as well as for export. In a study conducted in Sri Lanka, Paudel and Perera (2009) found that foreign debt, trade openness, and labour force impacted positively on economic growth. Geiger (1990) found a statistically significant negative relationship between external debt and economic growth for Latin American countries. Were (2001) investigated the impact of Kenya's external debt on its' economic growth and found that economic growth was negatively affected by high external debt. In the case of Malawi, Tchereni et al. (2013) found a statistically insignificant negative relationship between foreign debt and economic growth.

Although numerous studies have been conducted in other countries and regions to investigate the impact of foreign debt on economic growth, very few studies on this topic have been conducted in Zimbabwe. One such study by Masere and Chikaza (2013) found a negative relationship between external debt and economic growth. The purpose of this research paper is to investigate the impact of foreign debt on economic growth in Zimbabwe using slightly different control variables from those used by Masere and Chikaza. The later used human capital, capital stock, lagged GDP and debt service as control variables and their study covered the period 1980 -2009. The current study is different in that it makes use of labour force growth, capital investment, and trade openness as control variables and also extends the period of study to 2013.

II.   Methodology

The study analyses annual data for the period 1980 – 2013. The impact of foreign debt on economic growth is measured using OLS time series regression analysis. The data is sourced from several publications made by the Reserve Bank of Zimbabwe and the Ministry of Finance and Economic Development. This data is supplemented by data from TheGlobalEconomy.com.

To avoid spurious regression results, the data is tested for the presence of unit roots using the Augmented Dick-Fuller (ADF) and Philips Peron (PP) tests. The results of the unit root tests are shown in Table 2. The following diagnostic tests are conducted to avoid any estimation bias in the results: Ramsey's RESET test for model misspecification, Jarque- Bera test for non-normality, Breusch-Pagan-Godfrey test for heteroscedasticity, and Breusch-Godfrey LM test for serial correlation. The results of the diagnostic tests are shown in Table 4.

Model Specification

The Solow growth model identifies three sources of economic growth which are capital accumulation, labour force growth and technological progress. Capital investment, whether in machines or in people, makes a direct contribution to production. Baumol and Blinder (2009) contends that "for a given technology and a given labour force, labour productivity will be higher when capital stock is larger". Improvements in technology lead to economic growth because superior technology leads to higher productivity of workers. A higher population growth rate leads to a higher steady-state economic growth rate because, in the long-run equilibrium, all aggregate variables (production, capital, and labour) increase at the rate of population growth. Moreover, economic growth tends to be related to the international trade patterns of a country because the opening of trade enlarges the size of the market such that domestic firms can grow through exporting to the rest of the world. Again, if economies are closed to trade they are also closed to new ideas and technologies from other regions of the world.

Economic growth as measured by the annual gross domestic product (GDP billions of US dollars) is the dependent variable. The independent variables are external debt (as a percentage of gross national income, GNI), labour force growth (population size in millions), capital investment (billions of US dollars), and trade openness (ratio of imports plus exports to GDP).
The following model is estimated:

$$LGDP_t = \beta_0 + \beta_1 LK_t + \beta_2 LEXD_t + \beta_3 LTR_t + \beta_4 LPOP_t + \varepsilon_t$$

where,

GDP = Gross domestic product
K = Capital investment
EXD = External debt
TR = Trade openness
POP = Labour force

L represents the natural logarithm of the variable, and ε_t is an error term which takes into account the impact of other determinants of economic growth omitted in the model.

In the model, technological progress is proxied by trade openness while labour force growth is represented by population growth. Capital investment, trade openness, and labour force are expected to have a positive impact on economic growth while external debt is predicted to have a negative impact.

III. Results And Discussion

The unit root tests show that all variables were non-stationary at levels. All the other variables became stationary after first differencing except population which became stationary after second differencing. Table 2 shows the results of unit root tests.

Table 2: Results of Unit Root Tests

		ADF Test		Phillips Peron Test		Overall Conclusion
		Test	Conclusion	Test	Conclusion	
LGDP	τ_τ	-1.11		-1.11		Non Stationary
	τ_μ	-1.09	Non Stationary	-1.37	Non Stationary	
	τ	0.65		0.57		
Δ LGDP	τ_τ	-5.04***		-26.11***		Stationary
	τ_μ	-8.56***		-21.89***		
	τ	-8.71***	Stationary	-22.46***	Stationary	
LK	τ_τ	-4.07**		-1.93		Non Stationary
	τ_μ	-1.74	Non Stationary	-1.97	Non Stationary	
	τ	-1.77*		-1.99**		
Δ LK	τ_τ	-7.03***		-12.22***		Stationary
	τ_μ	-7.15***	Stationary	-12.46***	Stationary	
	τ	-7.29***		-12.71***		
LnEXD	τ_τ	-3.41*		-3.09	Non Stationary	Non Stationary
	τ_μ	-3.72***		-3.88***		
	τ	1.44	Non Stationary	1.44		
Δ LnEXD	τ_τ	-4.72***		-19.64***		Stationary
	τ_μ	-7.48***		-15.38***	Stationary	
	τ	-7.58***	Stationary	-12.63***		
LPop	τ_τ	-2.30		-2.50	Non Stationary	Non Stationary
	τ_μ	-1.68	Non Stationary	-4.66***		
	τ	1.56		3.36		
Δ LPop	τ_τ	-2.54		-2.55	Non Stationary	Non Stationary
	τ_μ	-1.13		-1.25		
	τ	-1.58	Non Stationary	-1.29		
LTR	τ_τ	-2.62		-2.79	Non Stationary	Non Stationary
	τ_μ	-0.99		-1.04		
	τ	-1.25	Non Stationary	-1.25		
Δ LTR	τ_τ	-8.43***		-12.15***	Stationary	Stationary
	τ_μ	-8.09***		-11.57***		
	τ	-8.24***	Stationary	-11.79***		

*(**)[***] Statistically significant at a 10(5)[1] % level
τ_τ = Means Trend and Intercept, τ_μ = Means intercept, τ = Means None

As shown in Table 2 population is integrated of order 2 whereas all the other variables are integrated of order 1.The differenced series is used in the regression analysis. The results from the regression analysis are shown in Table 3 below.

Table 3: Results of Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.050495	0.014468	3.490134	0.0017***
DLK	0.094623	0.028573	3.311575	0.0026***
DLNEXD	-0.525087	0.091146	-5.760943	0.0000***
DLTR	-0.319642	0.135363	-2.361365	0.0257**
DDLPOP	11.89841	5.275785	2.255287	0.0324**
R-squared	0.790432			
Adjusted R-squared	0.759385			
F-statistic	25.45915	Durbin-Watson stat		1.887577
Prob(F-statistic)	0.000000			

, * means statistically significant at 5% and 1% respectively

As shown in Table 3, the regression coefficient on external debt is negative and highly significant (-0.525087, p =0.0000). This result shows that higher levels of foreign debt are associated with lower levels of economic growth in Zimbabwe. The result confirms the finding by Masere and Chikaza (2013). The result suggests that there was inefficient use of foreign debt capital in Zimbabwe over the period under review since a negative coefficient on external debt is often associated with misuse of foreign debt while a positive coefficient is often linked to efficient use of foreign debt.

Capital investment and labour force are both found to have a significant positive impact on economic growth. The coefficient associated with capital investment (0.094623) is positive and statistically significant at 1% level of significance (p= 0.0026) while that of labour force growth (11.89841) as represented by population growth, is statistically significant at 5% level of significance (p = 0.0324). The signs of the coefficients are not at variance with those predicted from theory. The results are in agreement with those obtained by Paudel and Perera (2009) in the case of Sri Lanka.

The relationship between economic growth and trade openness is found to be negative and statistically significant (-0.319642, p = 0.0257). The sign is not as expected. A possible explanation could be that the country's export sector did not perform well during the period under review and as a result the volume of imports is excessively higher compared to the volume of exports. Moreover, a larger proportion Zimbabwe's imports consists of consumer goods instead of capital goods and technologies. Unfortunately, because of the later, trade openness tends to harm Zimbabwe's economic growth instead of propping it up as would be expected.

The adjusted R- squared, as shown in Table 3, is quite high ($\overline{R}^2 = 0.759385$) and the F-statistic is also highly significant(p = 0.000000), suggesting that the model can be relied upon to explain the relationship between economic growth and foreign debt. The model is also subjected to diagnostic tests as detailed in Table 4.

Table 4: Results of Diagnostic Tests

Test	Test statistic	p-value	Conclusion
Jarque-Bera	0.0290	0.9856	Residuals are normally distributed
Breusch-Godfrey LM	F= 0.3266	0.7244	No serial correlation
Breusch-Pagan-Godfrey	F = 4.0935	0.0601	No heteroscedasticity
Ramsey RESET	T = 1.7854	0.0859	There is no mispecification

As shown in Table 4, none of the assumptions of classical linear regression are violated and the model is correctly specified.

IV. Conclusion And Recommendations

The study concludes that external debt and trade openness impacts negatively on economic growth in Zimbabwe while capital investment and labour force growth has positive effects. The huge external debt burden has the effect of stifling the much needed economic growth and has become a barrier preventing the country from accessing further lines of credit. Zimbabwe needs to find ways of reducing its external indebtedness which does not include further borrowing abroad to finance debt payments because this will worsen the debt burden. In the likely event of failing to secure debt forgiveness and given also that the country failed to qualify for the HIPC programme, it is recommended that the country should rather leverage on its huge mineral resources to retire the debt. The study also recommends that the country should rely on other forms of development finance like foreign direct investment (FDI) and project finance instead of heavily relying on foreign borrowing. The

study further recommends that country needs to curb excessive imports of consumer goods and encourage value-added exports by local manufacturers.

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