

Public Debt and Economic Growth Nexus in Zimbabwe

Mufaro Andrew Matandare^{1*} Josephine Tito²

1. Faculty of Commerce, BA ISAGO University, Private Bag 149, Suite # 268 , Kgale View Postnet, Gaborone, Botswana

2. Debt Management Programme, Macroeconomic and Financial Management Institute of Eastern and Southern Africa (MEFMI), 9 Earls Road, Alexandra Park, Harare, Zimbabwe

The research is financed by BA ISAGO University. The views in this paper are personal opinions of the authors and do not in any way represent views of their institutions.

Abstract

Zimbabwe's public debt has been increasing over the past decade. There is limited literature analyzing public debt and economic growth nexus in Zimbabwe. This study examines the relationship between public debt and economic growth in Zimbabwe. Ordinary Least Square (OLS) method has been used to analyze 1980 to 2016 time series data for Zimbabwe. The study found that there is a negative significant relationship between external debt and economic growth in Zimbabwe for the period under study. Exchange rate and inflation were also found to have negative significant relationships with economic growth in Zimbabwe. However, external debt service was found to have a significant positive relationship with economic growth. In view of this, the study recommends that the government should step up efforts to boost sources of domestic revenue to finance its growth plans as external debt accumulation weighs down economic growth. The need to diversify the economy is crucial as government should develop new sectors which can generate revenue to contribute towards economic growth.

Keywords: Public debt, Economic growth, GDP, Zimbabwe

1. Introduction

Significant and consistent economic growth entails resources to lay a firm foundation for a smooth take off of any economy. However, despite huge infrastructure gaps that are found in most less developed countries (LDCs), the resource envelope to embark on significant development projects has been very limited. These resources are not readily available in the home country and so a country must naturally look outside to acquire such resources. The resources in the form of external debts have been the main source of financing to fill the savings gap for most developing countries. The natural question is whether such external debts fulfill the purpose for which they are obtained, (Musa, 2014). Zimbabwe, as the case with other LDCs, in its bid to achieve economic growth has also resorted to external borrowing over the years and so faces the same question of whether external debt has contributed to its economic progress.

As far as the relationship between external debt and economic growth is concerned, theoretical and empirical literature have shown that a reasonable level of borrowing is likely to enhance economic growth, through capital accumulation and productivity growth since at early stages of development, countries have small stocks of capital and limited investment opportunities. Debt can be categorized into two classifications i.e. productive debt and dead weight debt, (Ntshakala, 2015). A loan is said to be productive when it is contracted for development purposes e.g. for acquiring factories, infrastructure, refineries etc. However, debt accumulated to finance wars and recurrent expenditures is dead weight debt.

LDCs, in particular, have shortcomings in terms of possessing resources that will enable them to achieve economic growth in respect of increasing their income and production. Financing deficit in public sector and in balance of payments (BOP), i.e. the twin deficit may drive LDCs to external borrowing. Countries may turn towards coinage, taxation or domestic and external debt in order to finance public expenditures. Coinage is not frequently preferred due to the fear of triggering inflation. Instead, countries become indebted through government bonds, treasury bills or external loans, (Korkmaz, 2015). The Public Sector Debt Statistics Guide for Compilers, and Users defines debt liabilities owed by residents to residents of same economy are domestic debt, and debt liabilities owed by residents to nonresidents are external debt, (IMF, 2011). Domestic borrowing has rather an inland financial transfer characteristic whereas external borrowing involves becoming indebted to foreign financial institutions or governments in order to make available additional resources, (Korkmaz, 2015).

Borrowed capital play a key role in the growth process of LDCs. By and large, developing countries fall short of revenues necessary to spur economic growth. High government expenditure vis a vis low domestic revenues escalate the reliance upon external resources and this has mainly been in the form of debt. However, Agnor and Montiel, (2010) criticized debt by pointing out that availability of foreign funds is not sufficient to fuel economic growth, there is also a need of better quality of institutions and good governance that will act as a catalyst and improves the efficiency of capital. Like many developing countries, Zimbabwe, pre and post-independence era accessed external financing through borrowing aimed at financing its development needs. The main aim of this paper will be to answer the question of whether external debt has contributed to economic growth in Zimbabwe.

At independence, 1980, Zimbabwe's external public debt stood at US\$700 million, (Jones, 2011). This rose to an estimated US\$7,231 million by December 2016, (IMF, 2017). Important to note, is that, due to economic crisis facing Zimbabwe, the debt situation in the country has been worsening with foreign exchange shortages leading to the cessation of external debt repayments beginning in 2000, (IMF, 2004).

Zimbabwe is currently in debt distress with its total public and external debt unsustainable. Stronger growth or more concessional financing and debt relief will be key elements for the country to return to sustainable external debt path, (IMF, 2017). The accumulation of arrears due to non-payment of debt service obligations resulted in the dwindling of funding from most multilateral and bilateral creditors as it has negatively impacted on relations with traditional creditors and also affected the country's credit worthiness. The July 2017 IMF article IV report noted that "Zimbabwe's large external arrears, including to multilateral institutions, have limited [its] access to financing and increased the country's international isolation". Over the years, minimal external funding has been accessed from emerging financiers namely China, India and Brazil. In addition to the minimal inflows from new funding sources, increase in external debt has also been attributed to penalty on non-payment. Debt payment arrears stood at US\$ 5,014 million or 69% of total external public debt as at end 2016, (IMF, 2017).

Arguments proposing that foreign indebtedness stimulates growth usually involve a complementary role that foreign aid plays to domestic savings and thus to resource mobilization, capital accumulation, and industrialization (Chowdhury, 2001). On the other hand, external debt can bring negative impacts to the economic growth through interest payment of the debt. The rate of debt accumulation and increase in debt servicing are highlighted as major factors affecting the growth rate of output, (Siddiqui and Malik, 2001). Increase in foreign debt creates financial pressure on the public budget as rising debt servicing cost normally leaves little room for developmental expenditure in the public sector, (Muhammad Ramzan Sheikh, 2015).

The causes of the external indebtedness of developing countries and their subsequent failure to meet contractual international debt obligations have generated heated debates both in the academic circles, policy makers, and in the broader international community since the outset of the debt crisis in 1982, (Tiruneh, 2004). External debt sustainability is believed to be one of the major challenges of the new millennium. This study thus seeks to analyze the quantitative effect of public debt on economic growth in Zimbabwe.

2. Literature review

2.1 Theoretical literature review

The relationship between external debt and growth can either be direct or indirect. Direct relationship is when externally sourced funds are used for social programs such as education, unemployment benefits, old age security allowance or health. Indirect linkage is explained via investments which results in economic growth where external borrowing is used to fill the investment savings gap. Due to low savings in most LDCs and in an attempt to stimulate economic growth, nations have often relied on external funding sources to complement the shortages of domestic resources, (Mustapha-Abdullahi 1, 2016).

Krugman (1988) and Sachs (1989) postulated that huge external debt stocks lead to debt overhang, which consequently result in lower growth through reduced investment. Debt overhang arises when countries are unable to meet their debt service obligations in a normal way. Both public and private investment will be low as huge amounts of resources will be committed to debt servicing. The IMF further pointed out that the debt overhang hypothesis does not describe a situation where foreign debt is merely large, but one in which the existence of foreign debt distorts the relevant margins considered for production and investment decisions, (IMF, 1989).

According to the debt overhang hypothesis, the debt burden negatively impacts on capital formation, consumption and liquidity. Debt overhang slows down growth as countries lose their pull on investors, (Krugman, 1988 and Sachs, 1989). In addition, debt overhang may result in a disincentive to invest because the effective return on investment is reduced as the debtor country "shares only partially in any increase in output and export because a fraction of the increase will be used to service debt", (IMF, 1989). Governments are also likely to be discouraged to undertake adjustment policies through actual or expected economic policies, this is likely to spread to the private sector, affecting its incentives to invest or accumulate domestic assets, (Borensztein, 1989).

Furthermore, it should be noted that an increase in debt service drains much of the indebted country's revenue to the extent that the potential of returning to growth paths is abridged, (Mustapha-Abdullahi 1, 2016). Excessive increase in debt service may result in the credit rationing effect where a country is unable to access new loans because it is not able or willing to service its debt, (Borensztein, 1989). To narrow the savings investment gap to generate surplus for debt repayment, Government may increase interest rate. This may affect new investment and thus depress future growth prospects, (Wijeweera, 2005).

The maturity of external debt is also important in explaining the relationship between external debt and growth. The increase in short-term loan creates many disadvantages to the holder. Greater reliance on short-term debt is associated with a higher frequency of debt crises as this is associated with vulnerability to sudden changes in market sentiment and worsening perceptions of the country's creditworthiness. These can quickly feed into higher interest costs, which often lead to vicious circles, (Eduardo, et al. 2004). A country's exposure to sharp

increases in interest rates may have additional negative consequences to the economic growth as governments may need to increase taxes in order to service the debt, (Alfaro and Kanczuk, 2009).

2.2 Empirical literature review

Numerous empirical works have been carried out on the role of external debt on economic growth especially in developed countries using different econometrics models and statistical tools. Conversely, these studies indicate some contradictory results in their conclusions on the role of external debt on economic growth.

A study by the World Bank (1989) argues that the large debt service payments made by indebted Less Developed Countries (LDCs) hold back their growth and adjustment. Cunningham (1993), used debt service as a primary factor of production in a standard production function in trying to investigate the relationship between external debt and growth. Cunningham argued that a country's significant indebtedness to foreign creditors adversely affects capital and labour productivity. Sachs, (1990); Kenen (1990) and Bulow and Rogoff (1990) examines the key analytical issue of whether external debt burden is a symptom or a cause of economic slowdown. Sachs (1990) and Kenen (1990) are of the view that the external debt overhang is a main root cause of economic slowdown. Bulow and Rogoff (1990) argue that the external debt is a symptom of bad economic management and performance and it's not a primary cause of economic growth.

Chowdhury (1994) estimation results indicate that the full effects of the public and private external debt on GNP are small and of an opposite sign, whereas an increase in the GNP level raises substantially the public and private external debts. Fosu (1996) study estimates the extent to which debt might have adversely influenced economic growth of Sub-Saharan African (SSA) nations over the "long term" by examining data between 1970 and 1986 period. Results indicated that external debt accumulation has a negative impact on economic growth and private investment.

By utilizing data from Nigeria, Iyoha (1997) study results confirmed the 'crowding out' and the 'debt overhang' effects of debt servicing. He concludes that these two effects apparently explain, to a large extent, the low level of investment in the Nigerian economy. Were (2001) used time series data for the period 1970 to 1995 for SSA countries. The empirical results of these studies confirmed that external debt accumulation has a negative effect on economic growth.

Edo (2002) analyzed the African external debt problem in Morocco and Nigeria. The findings showed that external debt is negatively related to investment. Result also revealed that fiscal expenditure, balance of payments, and global interest rates were the main factors that explained debt accumulation in the two countries. Another study revealed that foreign borrowing has a positive impact on investment and growth of a country up to a threshold level but external debt service can potentially affect the growth as most of the funds will go in the repayment of the debt rather at the investments, (Clements, et al., 2003). As a matter of fact, although external debt is supposedly to contribute positively to economic growth, debt servicing payment cause challenges for the country in the future.

Theoretical arguments that indicate high public debt has a negative effect on GDP are related to empirical studies that in general show a negative, nonlinear relationship between public debt and economic growth in both developed and emerging economies. However, some studies revealed a positive correlation between public debt and economic growth which could be obtained by the fact that economic growth causes levels of higher debt, (Reinhart et al., 2012).

3. Data and model

The dataset in this study is time series with observations covering the period from 1980 to 2016. Data was collected from the World Development Indicators (WDI) database. The debt-growth model is estimated using annual data and the basic model is:

$$Y_t = \alpha_0 + \alpha_1 Pt + \alpha_2 Xt + \alpha_3 Et + \alpha_4 It + \mu \quad (1)$$

In the debt-growth model, Gross Domestic Product per capita (Y_t) is the dependent variable and is a proxy for economic growth. Whereas, the public external debt (Pt) is a measure expressed as the public debt to GDP and attempts to capture the direct effect of public debt on the economic growth. The model consists of a set of other indicators of debt burden with a proven impact on economic growth as well as control variables. The impact of debt burden is captured by external debt service (Xt). The control variables are exchange rate (Et) and inflation rate (It). Estimated coefficient results can be read as elasticities. α_1 to α_4 are the coefficients to be estimated, all else remain as defined above.

4. Findings and discussion

4.1 Correlation results

Table 1 presents the correlation matrix results. Generally, there is a relatively low correlation between the independent variables, as shown in the table 1. The results of Table 1 also show that there are no issues of multicollinearity between predictor variables in the model. The GDP per capita appears to be negatively correlated with the public debt to GDP. Thus, it suggests that public debt impedes growth. A negative correlation between

debt and growth is consistent with Panizza and Presbitero (2014). Negative correlations are found between GDP per capita and inflation as well as exchange rate with the correlation coefficients of -0.581037 and -0.515741 respectively. However, the correlation between the GDP per capita and external debt service is positive.

Table 1: Correlation matrix

	Y	P	I	E	X
Real GDP per capita (Y)	1				
Public External Debt (P)	-0.529403	1			
Inflation (I)	-0.581037	0.129266	1		
Exchange rate (E)	-0.515741	0.750590	0.088460	1	
External Debt Service (X)	0.232237	0.445400	-0.357916	0.381153	1

Source: Author's computations E-views 8.

4.2 OLS regression results

The result of the ordinary least square regression (OLS) method is presented in Table 2. The linear function best fit the model as it has four independent variables with significant effects on real GDP per capita. The R-squared value of 0.693810 implies that 69.38 percent of total variance in GDP is explained by the regression equation. Coincidentally, the goodness of fit of the regression remained high after adjusting for the degrees of freedom as indicated by the adjusted R-squared which is 0.655536 or 65.56 percent. F-statistic of 18.12758, which is the measure of the joint significance of the explanatory variables, is found to be statistically significant at 1 percent as indicated by the corresponding probability value (0.000000).

Table 2: OLS regression results

Dependent Variable: Y, Method: Least Squares

Sample: 1980 2016, Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1230.612	77.70417	15.83714	0.0000***
P	-7.63E-08	2.79E-08	-2.730546	0.0102**
X	3.35E-07	9.79E-08	3.417418	0.0017***
E	-1.15E-08	5.29E-09	-2.176721	0.0370**
I	-0.007816	0.002530	-3.089543	0.0041***

R-squared	0.693810	Adjusted R-squared	0.655536
F-statistic	18.12758	Durbin-Watson stat	0.842397
Prob(F-statistic)	0.000000		

Source: Author's computations E-views 8. Key: *** and ** denote significance at 1% and 5% respectively.

4.3 Discussion of results

Coefficients of the independent variables have the expected signs except external debt service. The results show that the impact of the public debt on GDP is negative and significant. This means that a rise in public debt is associated with a drop in GDP. This result supports the findings of the earlier studies that public debt affects the economics of growth negatively (Saungweme and Mufandaedza, 2013; Lee and Ng, 2015; Munzara, 2015). When a country has a high public debt burden, the investors would worry about the ability of that country to pay the debts of the creditors. This would cause crowding out of investments. In addition, the creditors may also demand higher interest rates, as a safety measure due to increased risk, for them to keep financing the deficits (Cerra et al., 2008). This is not a good situation because a sharp increase in interest rate can harm the economic growth and would create a financial crisis. Further, a country with a high level of debt would have a high probability of experiencing the debt overhang problem.

Furthermore, the negative relationship between external debt and growth in the findings may also reflect the impact of the high accumulation debt through payment arrears and penalty interest. This resulted from suspension of Overseas Development Assistance (ODA) and nonaccrual status (i.e. disbursements are suspended) of the country with multilateral institutions e.g. with the World in October 2000, (IMF, 2004) which affected the inflow of machinery and equipment which are critical elements for growth.

Table 2 also shows that inflation and exchange rate both have a negative effect on economic growth in Zimbabwe. Since the coefficient of inflation is negative, it means that it has an inverse relationship with economic growth. This implies that a change in inflation has a detrimental effect on economic growth in Zimbabwe. This is in line with studies carried by Barro, 1996; De Gregoria, 1993 and Easterly and Levine, 1993 which showed that inflation and exchange rate has an inverse relationship with economic growth.

Of the four independent variables in the model, only external debt service is positively significant. This is contrary with Lee and Ng (2015) result of a negative relationship between debt service and economic growth. This is also in contrast to overhang and credit rationing theory which postulates that increase in debt service is expected to adversely affect growth. Given that Zimbabwe has not been servicing its external debt obligation since early 2000s, (IMF, 2004), debt service is not likely to have a significant relationship with growth post 2000.

5. Conclusion

This article examined the relationship between public external debt and economic growth in Zimbabwe. The empirical results show that there is a negative relationship between debt and economic growth as in many existing studies. Moreover, external debt service has a positive influence on economic growth in Zimbabwe. However, inflation and exchange rate have a negative effect on economic growth.

The most important element that allows countries to grow is capital accumulation. An increase in capital accumulation will result in an increase in the income in economy. The increase in income allows the savings volume to increase as well, and this will increase investments in the economy in return. The biggest deficiency in developing countries is insufficient capital accumulation. The reason that countries resort to external borrowing is to provide resources for their economy. However, empirical findings above show negative relationship between public debt and economic growth.

Although the empirical findings of the relationship between debt service and growth may be irrelevant in the study due to the accumulation of arrears, it is important to note that arrears presents immediate debt service obligations on the of Government which may further weaken growth in the event that government resumes honouring its debt service. The IMF notes that in “absent of much stronger growth or more concessional financing and debt relief, Zimbabwe has little chance of emerging from its debt problems even in the long term, (IMF, 2017). In addition, the high accumulation of arrears indicates an increase in risk premium which presents higher borrowing cost to the country. In this regard, the need for stepped up re-engagement process cannot be overemphasised.

More sustainable ways of funding growth should be explored. Therefore, the government of Zimbabwe should gear up efforts finance development through non debt creating initiatives. This could be done through creating an environment which is conducive to foreign direct investment inflows through implementing reforms that will improve the current Ease of Doing Business ranking from the current rank of 159 out of 190, (World Bank, 2017). In addition, the government may need to diversify the economy through supportive policies that allow for the development of new sectors which will aid in generating additional revenues to contribute towards economic growth of Zimbabwe.

References

- Agnor P. and Montiel, P. J. (2010). “*Development Macroeconomics.*” 3rd Edition, Princeton University Press
- Albert Wijeweera, B. D. (2005). “*Economic Growth and External Debt Servicing: A. Cointegration Analysis of Sri Lanka, 1952 to 2002.*” England: University of England.
- Alfaro L, and Kanczuk F., (2009). “Debt maturity: Is long term debt optimal?” *Rev. Int. Econ.*, 17: 890-905.
- Ashinze, J. O. and Onwioduokit, E.A. (1996). “Economic Growth and Foreign Debt: A Case Study of Nigeria.” *CBN Economic and Financial Review*, 34, 523-540.
- Borensztein, E. (1989). “*Debt Overhang, Credit Rationing and Investment.*” Washington DC: IMF.
- Chowdhury, K., (1994). “A Structural Analysis of External Debt and Economic Growth: Some Evidence from Selected Countries in Asia and the Pacific,” *Applied Economics*, 26 (12), 1121-1131.
- Clements, B. J., Bhattacharya, R., and Nguyen, T. Q. (2003). “External Debt, Public Investment, and Growth in Low-Income Countries.” *IMF Working Paper*, No.03 (249), 1-25.
- Cunningham, (1993). “The Effects of Debt Burden on Economic Growth in Heavily Indebted Developing Nations.” *Journal of Economic Development*, 18, (1).
- Edo S. E., (2002). “The external debt problem in africa: a comparative study of Nigeria and Morocco.” *African Development Review*, 14: 221-236.
- Eduardo, B., Chamon, M., Jeanne, O., Mauro., P, and Jeromin Zettelmeyer, J. (2004). “*Sovereign Debt Structure for Crisis Prevention.*” International Monetary Fund (IMF). Washington DC.
- Ferraro, V., Rosser, M. (1994). “*Global Debt and Third World Development*”: in Klare, M., Thomas, D., eds., *World Survey: Challenges for a New Century.* New York: St. Martin’s Press.
- Fosu, A.K., (1996). “The Impact of External Debt on Economic Growth in Sub-Saharan Africa,” *Journal of Economic Development*, 21 (1), 93-118.
- IMF. (1989). “*World Economic Outlook.*” Washington DC: IMF.
- IMF. (2004). “*Zimbabwe: 2004 Article IV Consultation—Staff Report; Staff Statement; and Public Information Notice on the Executive Board Discussion*”. Washington DC: IMF.
- IMF. (2011). “*Public Sector Debt Statistics Guide for Compilers and Users.*” Washington DC: IMF.

- IMF. (2017). “*Zimbabwe-2017 Article IV Consultation—press release staff report; and statement by the executive director for Zimbabwe.*” Washington: International Monetary Fund.
- Iyoha, M.A. (1997). “An Economic Study of Debt Overhang, Debt Reduction, Investment and Economic Growth in Nigeria.” *NCEMA Monograph Series*; No. 8.
- Jones, T. (2011). “*Uncovering Zimbabwe's Debt.*” London: Jubilee Debt Campaign.
- Korkmaz, S. (2015). “The Relationship Between External Debt and Economic Growth”: in Turkey. Proceedings of the Second European Academic Research Conference on Global Business, Economics, Finance and Banking, Zurich: *Global Business Research Journal*.
- Krugman, P. (1988). “Financing versus forgiving a debt overhang.” *Journal of Development Economics*, Vol.29, pp.253-68.
- Lopes, P.S. (2002). “A comparative analysis of government social spending indicators and their correlation with social outcomes in Sub-Saharan Africa.” *IMF Working Paper* 02/176. Washington: International Monetary Fund.
- Muhammad Mustapha Abdullahi, N. A. (2016). “Debt Overhang versus Crowding Out Effects: Understanding the Impact of External Debts on Capital Formation in Theory.” *International Journal of Economics and Financial Issue*. 6.
- Muhammad Ramzan Sheikh, M. N. (2015). “Is External Debt a Boon or Curse? Evidence from Pakistan.” *Journal of Managerial Sciences*, X (1).
- Ntshakala, P. L. (2015). “Effects Of Public Debt On Economic Growth In Swaziland.” *International Journal of Business and Commerce*, 13.
- Presbitero, A. F. (2005). “*The Debt-Growth Nexus: a Dynamic Panel Data Estimation.*” Ancona: Università Politecnica delle Marche.
- Reinhart, C. M., Rogoff, V. R., & Rogoff, K. S. (2012). “Public debt overhangs: Advanced-economy episodes since 1800.” *Journal of Economic Perspectives*, 26 (3), 69–86.
- Sachs, J. D. (1989). “*The Debt Overhang of Developing Countries.*” In *Debt, Stabilization and Development*. by Calvo, Guillermo A., Ronald Findlay, Pentti Kouri, and Jorge Braga de Macedo, Oxford: Basil Blackwell.
- Sachs, J., Berg, A. (1988). “The Debt Crisis: Structural Explanations of Country Performance.” Cambridge, MA, *NBER Working Series*, 2607.
- Schwartz, A. J. (1988). “International Debts: What’s Fact and What’s Fiction.” *Economic Inquiry*, 27(1), 1-19.
- Were, M., (2001). “The Impact of External Debt on Economic Growth in Kenya: An Empirical Assessment.” *UNU-WIDER Research Paper*, DP2001/116.
- World Bank. (1989). “*Africa’s Adjustment and Growth in the 1980s.*” World Bank.
- World Bank. (2017). “*Doing Business 2018-Zimbabwe: Reforming to Create Jobs.*” Washington DC: World Bank.