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Country Trade Openness and Impact on Economic Growth: A Case of Zambia

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ABSTRACT

The paper presents a study undertaken to establish the impact of trade openness on economic growth for Zambia. The study applied simple bivariate regression analysis to establish the correlation between economic growth and trade openness. Economic growth was represented by Gross Domestic Product and the trade openness was represented by the total imports and exports of a country in a particular year. The study used secondary data on Zambia's GDP, Imports and Exports from 1978 to 2021. The regression results show a strong positive correlation between economic growth and the country's trade openness. Caution should however, be exercised in drawing conclusions because imports and exports (trade) are not the only factors that impact on the country's economic growth.

Key Words: Economic growth, Trade Openness, Imports, Exports, Zambia

INTRODUCTION

From literature, classical economic theory posits that a country's trade openness influences its economic growth. Salvatore (2013) and Sharan (2008) have documented that free trade fosters efficient utilization of resources, expand markets and provides countries, access to goods and services that are not produced at home. It also enables countries access resources that they are not endowed with. Trade allows countries to generate income that can be used for national development. It is also said to improve welfare. In this paper, we investigate the relationship between trade openness and economic growth using Zambia as a case study. The study utilizes time series data on Zambia's Gross Domestic Product (GDP), Volume of exports and imports obtained from the World Bank. The data spans from 1978 to 2021. The choreography of the paper includes a section on the objective of the study. A brief economic history of Zambia in Section 3, which leads us into the literature review on this subject matter in Section 4 and in Section 5 we present the methodology. Section 6 presents the data and in Section 7 we have the results of the study and the discussion of the results is held in Section 8. In Section 9 we conclude our discussion.

Research Objective

Free trade or indeed trade openness is argued to be a double-sided sword. It has advantages and disadvantages. On one hand it is argued that free international trade hinders the growth of local industries, creates unemployment and changes people's tastes thereby destroying their culture. The importation of goods and services puts pressure on the country's balance of payment (BoP) and is responsible for imported inflation. Despite its downside, free trade is widely held to bring more benefits than its costs. It creates employment, allows for expanded markets and provides sovereignty to consumers (freedom of choice). It enables a country to raise revenues that it can use for economic development. It can be said that free trade generally improves a country's welfare.

The United Nations Conference on Trade and Development (UNCTAD;2015) has observed that Zambia's development framework is anchored on an export led growth based on market liberalization and international competition. Given this background, the objective of the study is to establish whether there is a correlation between the country's trade openness and economic development. It explores the relationship between Zambia's economic growth represented by its Gross National Product (GDP) and its imports and exports. How do the

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country's imports and exports influence its economic growth and development.

Zambia's Economic History in Brief

At her independence, Zambia inherited a buoyant capitalist-oriented economy with copper export as the mainstay of the economy. Post independence, just after a year, 1965 Ian Smith as leader of Southern Rhodesia made a unilateral declaration of Zimbabwe's independence from Britain and closed the border with Zambia. Most of Zambia's imports and exports were through the Livingstone and Chirundu borders with Zimbabwe. Mudenda (2000) notes that this action by Smith negatively affected Zambia's imports and exports. Further, Zambia became one of the front-line states that spearheaded the independence of other African countries that were still under colonial rule. This had economic ramifications on the newly independent Zambia.

A few years after independence, the United National Independence Party (UNIP) led government introduced economic reforms known as the Mulungushi Reforms which were announced on 19th April, 1968. The reforms were aimed at transforming the economy from free market to commandist centrally planned economic system. Government made a declaration to commence government intervention into the economy and nationalization of previously privately owned companies which extended to retail, transport and manufacturing industries. The government started acquiring 51% control of privately owned companies through its newly created investment vehicle called Industrial Development Corporation (INDECO). Thomas (1968) reported that the Mulungushi Reforms became the nation's economic blue-print. The principle behind these plans was Humanism which Zambia's founding President Kenneth Kaunda espoused as being man-centredness. This was to be achieved through state control of various industries. Government started acquiring majority shareholding in major companies across all sectors.

On 11th August, 1969, came more economic policy promulgations that were dubbed the Matero Reforms. The Government announced the acquisition of 51% shares in copper mining companies. The Government took control of previously privately owned Roan Consolidated Mine (RCM) and the Nchanga Consolidated Copper Mines (NCCM). The Matero Reforms also included the nationalization or zambianisation of the energy, tourism, finance, agriculture, commerce and trade as well as services and construction sectors. Sikamo et al (2016) have documented that the Government created the Mining Industrial Development Corporation (MINDECO) which acquired 51% shareholding in both RCM and NCCM.

In order to resolve the trade impediments created by Zimbabwe and South Africa that were still under the minority white rule in retaliation to Zambia being among front-line states that pushed for the independence of other African Countries, President Kenneth Kaunda engaged Tanzania and with support from China, a rail-line was constructed to the port of Dar es salaam to easy Zambia's imports and exports. Fundanga through Onimode ed. (1989) noted that Zambia's economic reforms of 1960s were expressed in form of import substitution industrialization.

The country needed to be self-reliant especially that it was surrounded by hostile neighbors who were still under minority white rule.

The oil crisis of 1973 which was caused by the geo-political war between the Arab World and Israel did not spare Zambia. The price of oil rose sharply, and this affected Zambia's economy through increased oil import bills. Further, the demand for Zambia's main export copper, declined and its price plummeted. This spelt doom for Zambia which started contracting debt hoping to pay back when the prices for copper rebound. The government turned to the International Monetary Fund (IMF) to borrow funds to support its socialist oriented economy which involved huge bills of social spending (free education, health care and various subsidies and budget support to non-performing state-owned companies). The government embarked on the Structural Adjustment Programme (SAP) with support from the IMF and World Bank. The programme was however, abandoned in 1987 due to the food riots on the Copperbelt and Lusaka. The prices of food skyrocketed because the government had removed subsidies. The country was also heavily indebted at the time with an outstanding total debt of $7 billion as at 1991.

The wind of change that swept Europe in the late 80s were extended to Africa. In 1991, the UNIP government

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led by Kenneth Kaunda lost elections to the newly formed Movement for Multi-party Democracy (MMD) led by Fredrick Titus Jacob Chiluba. The new government embarked on economic reforms which included liberalization of the economy and privatization of state-owned companies. The new government implemented the SAP with support from the IMF and World Bank which was abandoned by its predecessor.

LITERATURE REVIEW

The subject of the relationship between a country's trade openness and economic growth has been widely studied. In literature, it has been stated that international trade facilitates specialization, enhances economic efficiency, productivity, knowledge and technological improvements. David Ricardo' s (1817) theory of comparative advantage argued that trade openness brings economic efficiency. The mordenisation theory propagated by Weber (1864-1920) which was improved upon by Parsons (1902-1979) have been cited by Chokwe et al (2021) and Joshual et al (2020) to have argued that trade openness was a conduit for economic growth. Economic literature also points to the Heckscher-Ohlin theory which emphasises factor endowment as basis for trade through free movement of factors, goods and services.

Were (2015) acknowledged that the discussion on the nexus between trade openness and economic growth has been in existence for a long time. The topic has renewed interest given the advent of globalization. She has highlighted various channels through which trade can contribute to growth. It includes welfare improvement through market liberalization and specialization. She also includes technological diffusion across nations. She has posited that there are dynamic benefits from trade that arise from the accumulation of physical and human capital. Her study on differential effects of trade, economic growth and investment, generally found a positive relationship between trade openness and economic growth.

Parikh (2002) undertook an econometric study on the impact of liberalization, economic growth and trade policies on the countries BoP. He held that trade liberalization could lead to increase in imports in the short run that admittedly, negatively affected the current account. However, in the long run trade liberalization could lead to increased growth rates. Using data from 64 developing countries, his study revealed that trade led to higher growth rates and improvement in the terms of trade in developing countries.

Nguyen (2020) also studied the impact of foreign direct investment (FDI) and international trade on Vietnam's economic growth. The time series data spanned 2000 to 2018. The econometric analysis using the Ordinary Least Square method revealed a strong relationship between FDI, international trade and economic growth. Specifically, exports had a significant impact on Vietnam's economic growth. Imports had a negative impact though it was found not to be significant.

Rubaj (2022) contributed to the debate on the relationship between trade openness and economic growth through his study on international trade as a key factor for sustainable economic development. His finding was that sustainable economic development depended on dynamic international trade and noted that not every item of sustainable development depended on it.

Antunes (2012) undertook a study to establish the effects of international trade on economic growth using time series data from Portugal and Nertherlands for the period 1970 to 2010. The results show that imports and exports had a significant impact on Portugal's economic growth and only exports played a major role for Netherlands. Adeniyi (2020) also conducted the study on the impact of international trade on economic growth in New Hampshire, USA. His conclusion was that trade factors have positive correlation on Hampshire's economic development.

Azeez et al (2014) undertook a study on the effect of international trade on Nigerian economic growth. They used time series data for a period of 2000 to 2012 which was analysed using the econometric Ordinary Least Square method and established that international trade significantly impacted on Nigeria's economic growth. They concluded that trade openness has significant effect on the country's economy. Adeleye et al (2015) also conducted a similar but more robust study using data spanning 1988 to 2012 and they too, had similar results and conclusions.

METHODOLOGY

The study used the bivariate regression analysis to establish the relationship between the two variables which was built from the simple two variable equation 1.

$Y = \beta_0 + \beta_1 X_i$ ....(1)

The equation means that Y is the dependent variable and is a linear function of the independent variable X_1. The slop is represented by β_1 while β_0 is the Y intercept and collectively are referred to as regression coefficients. Our study is to establish the impact of trade openness on economic growth. We use GDP as the proxy for economic growth and trade openness is the summation of imports and exports. Given the above background in equation 1, to build our analytical model or equation, we can say that GDP is the function of trade openness (imports + exports). It is however, recognized that imports and exports are not the only factors that influence GDP. Therefore, we add another variable to represent other factors. Our model is therefore summarized in equation 2.

GDP = f (IMP + EXP, U) .... (2)

Where GDP represents Gross Domestic Product as a proxy for economic growth, IMP represents imports, EXP represents exports and the sum of the two represents Trade Openness. U represents other factors. Given that this is a two variable model and that the regression has not been extended to other factors, the equation can be reduced as in equation 3 for the purpose of representing the actual two variable regression analysis that has been conducted.

GDP = f (IMP + EXP) .... (3)

The GDP, import and export data is usually presented in monetary terms. This creates noise in the data, therefore to reduce this problem, the monetary figures were transformed into logarithms and the regression model is as shown in equation 4.

Log GDP = f (log IMP + log EXP).................................. (4)

The regression analysis to establish the correlation between GDP and trade openness (IMP +EXP) was conducted using Microsoft Excel.

Data

The study used secondary panel data on GDP, Imports and Export for Zambia obtained from the World bank website. The data is presented in USA dollars using constant prices. The intention was to collect data from 1964, the year Zambia got here independence up to date. However, data was only available from 1978. There is also a gap between 1992 to 1996. It continues from 1997 to 2021 which gives us 39 observations. The data is presented in appendix 1 and the transformed data into logarithms is presented in Appendix 3. Figure 1 and 2 show the trends in the GDP, Imports, Exports and Trade openness (Imp + Exp).

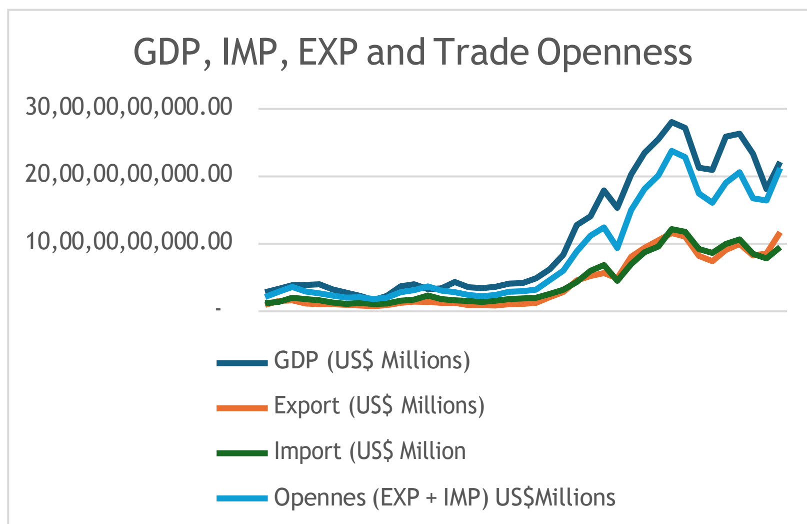

Figure 1: Trend in Zambia's DGP, Imports, Exports and Trade Openness

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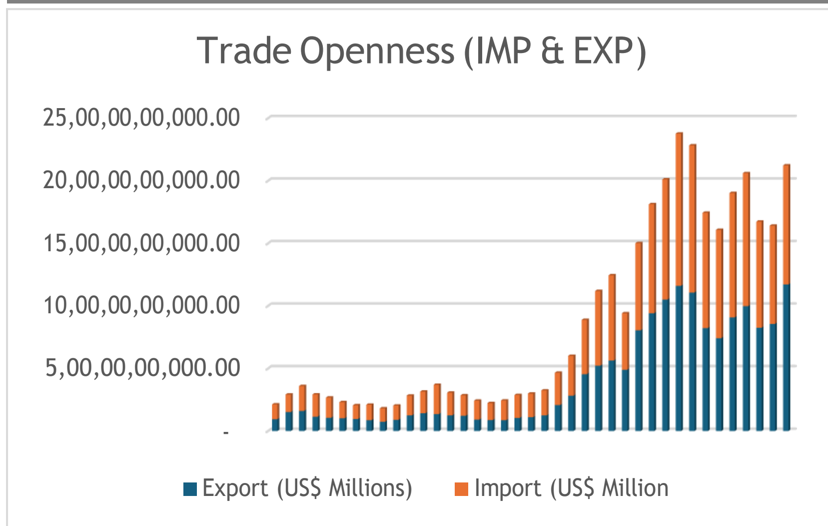

Figure 2: Trend in Zambia's trade openness

STUDY RESULTS

As earlier stated, the regression analysis was conducted in Microsoft Excel and the results are as shown in Table 1.

Table 1: Regression Results

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.988852089
R Square	0.977828454
Adjusted R Square	0.977229223
Standard Error	0.060250382
Observations	39

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	5.92363143	5.923631	1631.8056	3.2866E-32
Residual	37	0.134314016	0.00363		
Total	38	6.057945445			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	0.063299232	0.24023138	0.263493	0.79363273	-0.42345578
X Variable 1	0.982593794	0.02432427	40.39561	3.2866E-32	0.933308142

The regression results show that there is a positive correlation between GDP and trade Openness. This can be interpreted that trade openness has a positive impact on economic growth which in our analysis was represented by GDP. The residual output which is part of the analysis results is presented in appendix 4.

DISCUSSION

Our regression results show that Zambia's trade openness has an impact on its economic growth. This is consistent with the widely held view that despite the pitfalls of free international trade, its benefits far much outweigh its downside. The results are consistent with similar studies that have been undertaken in other countries. Kaheo and Wang (2017) undertook a similar study in Cote DÍvoire and found that trade openness had

an impact on that country's economic growth. Studies undertaken elsewhere outside Africa also point to similar results. Nguyen (op cit) undertook the study in Vietnam and found similar result. Antunes (op cit) undertook a similar study in Portugal and Netherlands and got same results.

Though the results show a positive correlation between economic growth and trade openness, we should be careful not to take correlation for causality. Correlation does not always mean causality, Gujarati (2004). Trade openness has been presented by the summation of imports and exports. The study has not examined the correlation between GDP with imports and exports as separate variables. The studies conducted elsewhere have shown that exports are strongly positively correlated with economic development. Nguyen (op cit) found exports to be positively correlated with economic growth and imports had a negative correlation though it was insignificant. This is consistent with economic theory (Salvatore; 2013 and Shara; 2008) which postulates that imports are recorded as debit transaction in the current account and negatively affect the BoP. On the other hand, it can be argued that imports equally contribute to economic growth. For example, for a country like Zambia which entirely depends on fuel imports to power its economy, the country's economy cannot function without fuel imports. A lot of equipment and sometimes even materials used in the construction, manufacturing and agricultural industries are imported from abroad. These imports are important ingredients in the country's recipe for national development. Therefore, a conclusion that imports affect economic growth needs to be carefully analysed and perhaps decomposed so that the import elements that may be harmful to the economy are isolated.

It is important to also note that Imports and Exports are not the only factors that contribute to economic growth. From economic theory, the national income equation also includes government expenditure, consumption and investment as constituencies for national income which in our study can be represented by GDP. Beyond the variables in the national income equation, there are also other exogenous and endogenous factors that have an impact on the country's economic growth. These include technology, political stability or instability, resource endowment and other external phenomena outside the boundaries of a country.

CONCLUSION

Given the regression results of our study using panel data for Zambia, we draw the conclusion that trade openness positively impacts on economic growth. Therefore, the government should enact policies that enhance trade. We however, note that trade openness is a double sided sword. It has both advantages and disadvantages. Therefore, government policy should be focused on minimising the negative effects of trade openness. The data analysis only looked at trade openness which is total imports and exports. Future studies for Zambia should therefore examine the relationship to economic growth, of imports and exports as separate variables to establish each ones impact on economic growth. There are also other variables that impact on economic growth beyond imports and exports. Therefore, future studies should be extended to other factors beyond imports and exports.

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