



THE IMPACT OF FDI ON ECONOMIC GROWTH IN DEVELOPING COUNTRIES: A CASE STUDY OF ZAMBIA

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ABSTRACT

This study was carried out in order to investigate the impact of Foreign Direct Investment (FDI) on economic growth (GDPGR) in developing countries, and in particular, Zambia. The data used was obtained from the World Bank's world development indicators for the period 1990 to 2020. This paper makes use of times series analysis. A unit root test was carried out in order to determine whether the data was stationary or not. Thereafter, the ARDL model was run in order to test the significance of the variables as the variables were of a mixed order, based on the unit root test results which found that one variable was stationary at level while the other variable was stationary at first difference. Additionally, a Granger-causality test was carried out in order to find out whether FDI Granger-causes GDPGR. The results showed that there was a positive relationship between FDI and economic growth in the short run, but no relationship between the two in the long run. On the other hand, the results of the Granger-causality test found that FDI Granger-causes GDPGR, while GDPGR does not Granger-cause FDI, hence there being only a one-way causality effect.

Keywords: foreign direct investment, stationarity, ARDL model and Granger causality test.

INTRODUCTION

Historically, Foreign Direct Investment (FDI) mainly flowed into developed nations and advanced countries due to their substantial wealth (Hill, 2008). However, nowadays, even underdeveloped and developing countries attract foreign investors seeking diversification and new market opportunities. The OECD Benchmark Definition of Foreign Direct Investment (2008) considers FDI a crucial driver of international economic integration, capable of providing financial stability, promoting economic development, and enhancing societal well-being. FDI fosters direct, stable, and long-lasting connections between economies (OECD, 2008). Cavusgil et al. (2008) view FDI as an internationalization strategy where a company establishes a physical presence abroad by acquiring productive assets like capital, technology, labor, land, and equipment.

Numerous justifications exist for the significance of foreign direct investment (FDI) inflows, such as generating employment opportunities, fostering competition, and facilitating the transfer of skills through training. As a result, developing countries have placed great emphasis on attracting FDI as a means of external financing. Consequently, many governments have formulated policies to promote and attract FDI into their countries. Additionally, FDI offers developing nations the chance to decrease their reliance on foreign aid, thereby strengthening their independence from donor-imposed policies.

Before deciding to invest in a country, investors must analyze the market's attractiveness by identifying and targeting the needs of the people in that country. This requires thorough investigation, considering factors like market potential, political and government regulations, availability of human resources and workforce experience, infrastructural suitability, profit retention and taxation factors, economic stability, and inflation rates.

Another aspect of FDI is Greenfield Investment, which involves establishing a new operation in a foreign country, rather than acquiring existing facilities (Hill, 2008).

Zambia heavily relies on foreign direct investment, particularly in the mining sector. However, based on the 2021 World Investment Report released by the United Nations Conference on Trade and Development (UNCTAD), Zambia witnessed a decrease in investment inflows from \$548 million in 2019 to \$234 million in 2020. The decline was attributed to the adverse effects of the COVID-19 pandemic, which led to the temporary closure of numerous businesses (Standard Bank, 2022).

The government of Zambia aims to diversify the economy and attract more investors by offering tax incentives (Standard Bank, 2022). While Zambia generally allows foreign investment in all sectors without significant restrictions, there are some concerns about taxation and regulatory uncertainties that might impact the investment climate in the future (Standard Bank, 2022). The country's infrastructure is also a barrier to investment, necessitating investments to improve transportation and construction.

Overall, foreign direct investment plays a critical role in Zambia's economic development, but challenges in taxation, regulation, and infrastructure need to be addressed to ensure a favorable investment environment.

LITERATURE REVIEW

This section reviews the literature that is closely related to the study undertaken and tries to provide a framework for establishing the importance of the study as well as the benchmarks for the comparison of the results with other findings. Additionally, it looks at theories that explain the impact of FDI in countries as well as studies conducted in various countries on the impact of FDI on the economic growth of those countries.

In 2013, Eyup Dogan conducted research in Zambia to explore the relationship between Foreign Direct Investment (FDI) and economic growth. The study employed time series analyses to investigate whether FDI inflows have a causal impact on Zambia's economic growth. The research spanned from 1970 to 2011. The results of the Johansen co-integration test indicated

that FDI and GDP growth rate (GDPGR) were co-integrated, suggesting a long-term equilibrium relationship between the two variables. Furthermore, the Granger-causality test findings revealed a one-way causal effect from FDI to GDPGR. In summary, the study supported the notion of a connection between FDI and GDP growth rate in Zambia.

Younus et al. (2014) discovered that trade openness is considered an important pathway for host countries to benefit from FDI. Consequently, developing countries are advised to pursue trade liberalization to maximize gains from foreign investment.

Moyo (2013) conducted a research study to examine the influence of Foreign Direct Investment (FDI) on the economic growth of Zimbabwe. The study employed a multiple regression model that connected FDI with various macroeconomic variables, including government expenditure and private saving, to determine their impact on the country's gross domestic product (GDP). The findings revealed a highly significant positive relationship between foreign direct investment and economic growth in Zimbabwe.

In a similar vein, Simeo (2004) investigated the impact of FDI on economic growth and savings in Zambia. Employing a conventional growth model, the study found that FDI can contribute positively to economic growth, especially when the host country possesses a well-educated workforce capable of leveraging FDI spillovers. Notably, Simeo (2004) highlighted that richer countries tend to experience greater FDI spillovers, while poorer countries often face limitations in reaping the benefits of technological spillovers due to the mismatch between available technologies and the specific needs of their economies.

Libanda, Marshall, and Nyasa (2017) conducted a research study to examine the impact of foreign direct investment (FDI) on the economic growth of developing countries, with a focus on Zambia. The study aimed to uncover the negative effects of FDI on specific sectors, such as employment, and explore whether FDI is the optimal form of capital inflow for Zambia or if there are better alternatives. The researchers employed a combination of qualitative and quantitative research methods, including a review of existing literature and the distribution of questionnaires. The findings of the study indicated a significant level of criticism towards foreign firms operating in Zambia, particularly Chinese firms. The researchers discovered widespread issues related to poor working conditions and various workplace malpractices within these foreign firms. The questionnaires revealed that 95% of the workers expressed dissatisfaction due to several factors, including the absence of annual leave, mandatory work on weekends, disregard for national holidays, inadequate wages during illness despite providing medical documentation, among other grievances. Based on their observations, the researchers concluded that FDI can sometimes exploit developing nations by depleting their resources and treating the host country as a dumping ground for unwanted products. Although investors established plants in the host country, the researchers noted that this was often done primarily for display purposes. In reality, these investors intended to sell their own substandard or counterfeit products in the host countries, replicating goods they manufacture and sell in their more developed home countries or other established markets (Libanda, Marshall, and Nyasa, 2017).

Moura and Forte (2010) examined the adverse impact of foreign direct investment (FDI) on economic growth. They suggested that while FDI does offer advantages such as increased tax revenue, technical expertise, and employment opportunities, these benefits are not always guaranteed. One aspect to consider is that the introduction of foreign technology can negatively affect a country's research and development (R&D) efforts, as it creates a reliance on external

technology. Conversely, it can also be argued that FDI eliminates the need for a country to invest in expensive R&D, as the technology is provided by foreign investors.

In particular, several empirical studies have provided evidence supporting the relationship between Foreign Direct Investment (FDI) and Gross Domestic Product Growth Rate (GDPGR), and these include ones like Guidotti and De Gregorio (1992) who conducted a panel study of 12 Latin American countries using industry-level annual data for US firms in the early 1970s. They found a significant and positive impact of FDI on GDPGR, Mello (1999) used panel data methods and discovered a positive long-run relationship between FDI and GDPGR as well as Zhang (1999a) investigated ten East Asian countries individually and found a strong Granger-causal relationship between FDI and GDPGR in the long run for five countries and in the short run for one country.

However, in as much as most studies suggest that there is a positive relationship between FDI and economic growth, some studies have not found any relationship at all. For example, according to Carkovic and Levine's research in 2002, there was no significant impact of foreign direct investment (FDI) on GDPGR if the home and foreign countries had different levels of openness to trade. In a similar vein, Tekin's study conducted in 2012, which utilized co-integration and causality techniques, did not find any causal relationship between the variables in the least developed countries, including Zambia. Furthermore, Umeora's study in 2013 examined the case of Nigeria from 1986 to 2011 and discovered that FDI did not have any influence on the GDP growth rate.

In a study conducted by Maliwa and Nyambe (2015), the impact of foreign direct investment (FDI) on economic growth in Zambia was examined over a 30-year period from 1980 to 2012. The results revealed a long-term relationship between the variables studied. However, the study concluded that FDI does not cause economic growth in Zambia based on Granger causality analysis. It was suggested that unless the Zambian government undertakes policy reforms, FDI alone would not initiate the desired economic growth.

Nunnenkamp and Spatz (2003) argue that the effects of FDI on economic growth are contingent upon the economic and technological conditions of the host country. They propose that countries with better human capital endowments are more likely to benefit from FDI through technology spillovers from foreign enterprises to local ones. When foreign companies establish themselves in developing nations, they introduce more efficient technologies to the local markets. This can lead to knowledge transfer and increased production efficiency as local producers adopt advanced practices from their foreign counterparts. The potential direct effect of FDI on growth lies in its role as a facilitator of technology and knowledge transfer. However, developing countries need to attain a certain level of development in education and infrastructure to fully harness the benefits associated with FDI. The impact of FDI on economic growth is diminished in countries with a larger technology gap between the host and home country. Consequently, less technologically advanced countries may experience limited effects of FDI on economic growth.

With the various pieces of literature on the topic of discussion, be it the positive, negative or even the zero effect, this paper can go further to analyse the data that has been collected in order to conduct this research.

METHODOLOGY

This study uses data from the year 1990 to 2020, obtained from the World Bank's World Development Indicators. Time series analysis will be used to analyse the data. The variables chosen for the purpose of this research are total net inflows of foreign direct investment (FDI) as a percentage of GDP and annual percentage growth rate of GDP (as a proxy for economic growth) at market prices based on the constant local currency.

For model selection, this study will make use of a technique suggested by Pesaran et al (2001) known as the Autoregressive Distributed Lag Model (ARDL). This model was initially developed and introduced by Pesaran and Shin (1995 and 1998) and then later revised by Nayaran (2005) for the case of small sample sizes between 30-80 observations. Since economic analysis suggests that there is a long-run relationship between variables under consideration, the ARDL model is adopted as a method of estimation for this study due to the fact that it is used as a co-integration technique. The econometric model of this study is a function of the variables as follows:

$$FDI=f(GDPGR)$$

Where;

FDI: Foreign Direct Investment i.e FDI net inflows as a percentage of GDP

GDPGR: Gross Domestic Product Growth Rate i.e annual percentage growth rate of GDP based on constant local currency.

The model above can be written in an econometric equation as follows:

$$FDI_t = \beta_0 + \beta_1 GDPGR_t + \varepsilon_t$$

Where β_0 is a constant, β_1 is an estimated coefficient of GDPGR and ε_t is the error term.

RESULTS AND DISCUSSION

Unit Root Test

Regressions systems with non-stationarity have serious problems. Among these problems is the fact that the t-ratios and the adjusted R-squares tend to be overestimated, which is the case of spurious regressions. Non-stationarity implies data is trended. When data is trended, standard ordinary least squares (OLS) regression processes are likely to produce incorrect inferences indicating that the mean and variance calculated from non-stationary variables would be biased estimates of the unknown population mean and variance (Touny, 2014). The unit root test is then carried out to check for non-stationarity and it uses quite a number of techniques. One of these techniques is the Augmented Dickey-Fuller (ADF) test which handles bigger, more complex models. Another technique that can be used is the Phillips-Perron test, which is a modification of the Dickey-Fuller test and corrects for autocorrelation and heteroscedasticity in the errors (Glen,

2016). This study makes use of the Phillips-Perron unit root test. GDPGR was logged. This was done in order to help reduce the problem of heteroskedasticity (Gujarati, 2003).

The results of this test are as given in the table below:

Table 1: Unit root test results in levels and first differences

Variable	PPerron at level t-statistic	PPerron at 1 st level t-statistic	Order of integration
FDI	-4.426		0
IGDPGR	0.318	-3.720	1

The null hypothesis of the Phillips-Perron unit root test is that there is a unit root, while the alternative hypothesis is that there is no unit root. Therefore, according to the results given in the table, I reject the null hypothesis in the case of FDI and accept the null hypothesis in the case of GDPGR, until such a point when it is differenced. This simply means, FDI is stationary at level, while GDPGR is stationary at first difference and is therefore integrated of level 1.

Cointegration Test

I chose to use the ARDL bounds test for cointegration due to the fact that my variables are of different orders, that is I(0) and I(1), and therefore, it is a more suitable approach. Additionally, most studies employ the Johansen cointegration test, therefore, I decided to take a different route to obtain my results.

Table 2: Bounds test for cointegration

F-STATISTIC	CRITICAL BOUNDS AT 5%	
	LOWER BOUND	UPPER BOUND
10.560	4.04	7.84

The computed F-statistic 10.560 lies above the upper bound 7.84. This result indicates that the F-statistic is above the 5% upper critical bounds computed by Pesaran/Shin/Smith (2001) thereby confirming the existence of a long-run relationship between the variables in the model. Therefore, the null hypothesis of no cointegration is rejected and a long-run relationship exists between the variables.

Table 3: ARDL results

As observed from the above results, the p-value of FDI, which is 0.035 is less than the 0.05 level of significance, which means the null hypothesis that lags of FDI do not affect GDPGR is rejected. Therefore, FDI is said to Granger-cause GDPGR. However, looking at the p-value of GDPGR, it is evident that GDPGR does not Granger-cause FDI as the p-value has exceeded the recommended 0.05 level of significance. Therefore, this relationship is unidirectional.

CONCLUSION

This paper analysed the effect of FDI on GDPGR and the results revealed that there exists a positive relationship between the two in the short run, while there is no significant relationship known to exist between them in the long run according to the ARDL model. However, the cointegration test revealed that there is a long-run relationship between the two variables. Additionally, the causality test revealed that FDI does Granger-cause economic growth (GDPGR). This is in tandem with majority of the studies that have been conducted on the relationship between foreign direct investment and economic growth. Therefore, in view of this, the government should see to it that more FDI is brought into the country in order to bring about economic growth. This should however be closely monitored so as not to neglect local firms and also not to bring about the crowding out effect which might result in local firms being pushed out of the market. Zambia should be made a place that attracts FDI into it if economic growth is to be achieved. This can be done through the government adopting policies that foster a stable economic and political climate. Furthermore, in order to inspire confidence in foreign investors, the country should focus on good governance, ensuring fiscal and monetary responsibility, promoting transparency, and combating corruption. The more FDI, the more employment creation, among many other things that have been earlier alluded to.

REFERENCES

- al, Y. e. (2014). Impact of Foreign Direct Investment on Economic Growth in Pakistan. *World Journal of Economics and Finance* 1(1), 2-5.
- Blomstrom, M. R. (n.d.). What explains developing country growth? NBER Working Paper 4132.
- Carkovic, M. &. (2002). *Does foreign direct investment accelerate growth?* MIMEO, University of Minnesota.
- Cavusgil, S. K. (2008). *International Business: Strategy, Management and the New Realities*. New Jersey: Pearson Education Inc.
- Charles, W. L. (2009). *International Business, Competing in the Global Marketplace*. New York: McGraw.
- Dogan, E. (2013). Foreign Direct Investment and Economic Growth in Zambia. *International Journal of Economics and Finance*, 148, 153.
- Eugene Maliwa, J. M. (2015). Investigating the Impact of FDI on Economic Growth in Zambia:1980-2012. *European Journal of Business, Economics and Accountancy*, 41-42.
- Guidotti, P. E. (1992). *Fianncial Development and Economics*. Working Papers 92/101, International Monetary Fund.
- Juliet Libanda, D. M. (2017). The Effect of Foreign Direct Investment on Economic Growth of Developing Countries: The Case of Zambia. *British Journal of Economics, Management and Trade*, 1, 11-12.

- Moura, R and R.Forte (2010). The Effects of Foreign Direct Investment on the Host Country Economic Growth - Theory and Empirical Evidence FEP Working Papers 390.
- Mello, L. R. (1999). Foreign direct investment-led growth: Evidence from time series and panel data . *Oxford Economic Papers, New Series*, 51(1), 133-151.
- Moyo, T. (2013). The Impact of Foreign Direct Investment on Economic Growth: The Case of Zimbabwe(2009-2012). *International Journal of Economics, Finance and Management Sciences: 1(6)*, 323-329.
- Nunnenkamp, P. a. (2003). Foreign Direct Investment and Economic Growth in Developing Countries: How relevant are host countries and industry countries? *Kiel Working Paper 1175*, 3-38.
- (2008). *OECD Benchmark Definition of Foreign Direct Investment*.
- SA, E. E. (2022). *Standard Bank Trade Club*. Retrieved from Standard Bank: <https://www.tradeclub.standardbank.com/portal/en/market-potential/zambia/investment#>
- Simeo, F. (2004). *Foreign Direct Investment and its Impact on Economic Growth and Gross Domestic Savings-The Case of Zambia, 1970-200* . Lusaka.
- Tekin, R. B. (2012). Economic Growth, Exports and Foreign Direct Investment in Least Developed Countries: A Panel Granger Causality Analysis . *Economic Modeling* 29, 868-878.
- Umeora, C. E. (2013). *Effects of Foreign Direct Investment (FDI) on Economic Growth in Nigeria*. SSRN Working Papers.
- Wallis, K. F. (1968). The E. E. C. and United States Foreign Investment:Some empirical evidence re-examined. *The Economic Journal* 78(311), 717-719.
- World Bank Development Indicators*. (n.d.).
- Zhang, K. H. (1999a). FDI and Economic Growth: Evidence from Ten East Asian Economies. *Economia Internazionale*, 11(4), 517-535.