Revista Científica PROFUNDIDAD Construyendo Futuro

ISSN PRINT: 2422-1783 / ISSN ONLINE: 2422-2518

Vol. 21 No. 21 /Julio-Diciembre 2021/p.62-69 Ocaña, Colombia

DOI: https://doi.org/10.22463/24221783.4637

# The Impact of Foreign Direct Investment on Economic Growth in Zambia: A Comprehensive Analysis

# El impacto de la inversión extranjera directa en el crecimiento económico de Zambia: Un análisis exhaustivo

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**Cómo citar:** Yangailo, T. (2024). El impacto de la inversión extranjera directa en el crecimiento económico de Zambia: Un análisis exhaustivo. Revista Científica Profundidad Construyendo Futuro, 21(21), 62–69. https://doi.org/10.22463/24221783.4637

**Recibido:** 31 de enero de 2024 / **Aprobado:** 26 de abril de 2024

## Abstract

This study examines the long-term relationship between foreign direct investment (FDI), gross national income (GNI) per capita, exports and economic growth in Zambia from 1994 to 2023. The primary objective is to analyse the impact of FDI, GNI per capita and exports on Zambia's economic growth. FDI is recognised as a catalyst for economic development, facilitating technology transfer, capital formation and employment creation. Despite Zambia's his-torical dependence on copper exports and high government expenditure, economic liberalisa-tion since 1991 has aimed to diversify the economy and attract FDI. Using secondary data from the World Bank and regression analysis using Jamovi software, the study assesses the impact of FDI and other macroeconomic factors on Zambia's GDP. The results show that while FDI contributes positively to economic growth, GNI per capita and exports have a more significant impact. In particular, a unit increase in FDI is associated with a moderate but significant increase in GDP, highlighting its role in productivity and sectoral development. The study highlights the need for Zambia to strengthen its institutional framework, improve infrastructure and invest in human capital to sustain FDI inflows and reduce economic vul-nerabilities. Diversifying investment beyond natural resources is critical for long-term growth and resilience. Future research should further explore sectoral and regional dynamics with disaggregated data and qualitative methods to capture detailed impacts on employment, in-come distribution and environmental sustainability. This study contributes to the literature by providing a comprehensive analysis of the role of foreign direct investment (FDI) in Zambia's economic development, and by providing evidence-based insights for policymakers to optimise economic strategies and attract diversified investment for sustainable development.

**Key words:** Foreign Direct Investment, Economic Growth, Export, Gross National Income

## Resumen

Este estudio examina la relación a largo plazo entre la inversión extranjera directa (IED), la renta nacional bruta (RNB) per cápita, las exportaciones y el crecimiento económico en Zambia desde 1994 hasta 2023. El objetivo principal es analizar el impacto de la IED, la RNB per cápita y las exportaciones en el crecimiento económico de Zambia. La IED está reconocida como catalizador del desarrollo económico, ya que facilita la transferencia de tecnología, la formación de capital y la creación de empleo. A pesar de la dependencia histórica de Zambia de las exportaciones de cobre y del elevado gasto público, la liberalización económica desde 1991 ha tenido como objetivo diversificar la economía y atraer IED. Utilizando datos secundarios del Banco Mundial y análisis de regresión con el programa Jamovi, el estudio evalúa el impacto de la IED y otros factores macroeconómicos en el PIB de Zambia. Los resultados muestran que, si bien la IED contribuye positivamente al crecimiento económico, la RNB per cápita y las exportaciones tienen un impacto más significativo. En concreto, un aumento unitario de la IED se asocia a un incremento moderado pero significativo del PIB, lo que pone de relieve su papel en la productividad y el desarrollo sectorial. El estudio subraya la necesidad de que Zambia refuerce su marco institucional, mejore

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las infraestructuras e invierta en capital humano para mantener las entradas de IED y reducir las vulnerabilidades económicas. Diversificar la inversión más allá de los recursos naturales es fundamental para el crecimiento y la resistencia a largo plazo. La investigación futura debería explorar más a fondo las dinámicas sectoriales y regionales con datos desglosados y métodos cualitativos para captar los impactos detallados sobre el empleo, la distribución de los ingresos y la sostenibilidad medioambiental. Este estudio contribuye a la bibliografía al proporcionar un análisis exhaustivo del papel de la inversión extranjera directa (IED) en el desarrollo económico de Zambia, y al aportar ideas basadas en pruebas para que los responsables políticos optimicen las estrategias económicas y atraigan inversiones diversificadas para el desarrollo sostenible.

**Palabras claves:** Inversión Extranjera Directa, Crecimiento Económico, Exportación, Renta Nacional Bruta.

## 1. Introducción

Over the past few decades, emerging economies have placed great emphasis on economic growth and its drivers (Pegkas, 2015). Among these determinants, both domestic investment and foreign direct investment are recognised as key drivers of economic growth. In particular, foreign direct investment plays a crucial role in increasing productivity by introducing new investments, advanced technology and superior managerial skills to host countries (Pegkas, 2015). Foreign direct investment is more productive than local investment due to the combi-nation of modern technology and human capital (Lim, 2001). Moreover, foreign direct in-vestment not only boosts capital formation but also increases export potential, strengthens the quality of capital stock and creates new employment opportunities (Stamatiou & Dritsakis, 2013). However, the ability of a host country to attract and fully benefit from foreign direct investment is significantly influenced by its level of human capital (Adefabi, 2011).

Zambia's fiscal strategy has been challenged by high government spending and the country's reliance on copper exports as a source of revenue (Yangailo, 2024). Zambia's economic liberal-isation in 1991 was an important milestone that nurtured the local private sector and encour-aged foreign investment (Ndaba, 2015). As a developing country with abundant natural re-sources, affordable labour and significant market opportunities, Zambia has been a notable recipient of foreign direct investment. Despite mixed research findings regarding how foreign direct investment affects economic growth, stakeholders such as the government, policymak-ers, and multilateral agencies have consistently advocated for foreign direct investment through targeted policies (Ndaba, 2015).

This study attempts to examine the relationship between economic growth, gross national in-come per capita, exports and foreign direct investment in Zambia from 1994 to 2023. Under-standing these dynamics is critical for formulating effective economic policies that leverage foreign direct investment to promote sustainable growth in Zambia. This study fills a gap in literature by providing an in-depth examination of the long-term effects of foreign direct in-vestment on economic growth in Zambia, controlling for a number of macroeconomic varia-bles.

The main objective of this study is to examine the long-term relationship between foreign di-rect investment and economic growth in Zambia from 1994 to 2023, taking into account the impact of key macroeconomic indicators such as exports and gross national income per capita. The study aims to fill gaps in the literature by providing a thorough analysis of these links and evidence-based suggestions for policy makers to enhance the ability of foreign direct invest-ment to support sustainable economic growth.

This study is significant because it provides an in-depth analysis of the long-term impact of foreign direct investment on economic growth in Zambia, a developing country with substan-tial natural resources and market opportunities. By focusing on a period of almost three dec-ades, the research provides a comprehensive view of how foreign direct investment, together with other macroeconomic variables, influences economic development. The findings will help policymakers, investors and stakeholders to understand the critical factors that drive economic growth and to formulate strategies to attract and optimise foreign direct investment for sustainable development. This study also contributes to broader literature on foreign direct investment and economic-growth in developing countries, highlighting the importance of di-versified economic policies and strong institutional frameworks.

## Literature Review

The link between foreign direct investment and economic growth has been studied extensive-ly, with a general consensus on the positive impact of foreign direct investment on economic development. However, different contexts and time periods yield different results, indicating the complexity of this relationship. For example, Ndlovu and Haabazoka (2024) examined economic growth in Zambia from 1996 to 2020 and found that foreign direct investment had a positive impact on overall economic growth, mainly by reducing inflation. However, while foreign direct investment had the potential to improve unemployment, interest rates and na-tional savings, its impact on these areas was insignificant. The study also highlighted a declin-ing trend in foreign direct investment inflows due to factors such as the global pandemic and reduced mining activity, emphasising the need for Zambia to maintain strong links with for-eign investors to sustain economic growth.

Within a larger regional framework, Zekarias (2016) examined the 34-year relationship be-tween foreign direct investment and economic growth in 14 East African countries. Accord-ing to the study, foreign direct investment and economic growth are positively correlated, with foreign direct investment promoting economic convergence in these countries without discouraging domestic investment. To maximise the benefits of foreign direct investment, the report recommends improving the investment climate, strengthening regional cooperation, in-vesting in infrastructure and human capital, and promoting export-oriented sectors. Further-more, according to current policy, industrialisation in Zambia has a major impact on economic growth (Yangailo & Chambani, 2023).

Similarly, Claudio-Quiroga et al. (2022) examined the relationship between Chinese foreign direct investment and economic expansion in five African countries. Only in Nigeria did the analysis find a statistically significant positive relationship between Chinese FDI and econom-ic growth. Although similar relationships were found in South Africa and Kenya, the overall impact of Chinese FDI on economic growth was less pronounced in these countries. The pa-per emphasises the need for tailored foreign direct investment policies and offers explanations for these findings.

Focusing on Zambia, Mukupa et al. (2016) analysed the drivers of economic growth between 1973 and 2013, emphasising investment, infrastructure, diversification and human develop-ment. They found that foreign direct investment significantly boosted economic growth; for every unit increase in foreign direct investment, real domestic output increased fourfold. Fur-thermore, the study found a strong correlation between gross national income and economic growth.

Ndaba (2015) examined the relationship between foreign direct investment and economic growth in Zambia, focusing on the country's dependence on natural resources. The study, which examined data from 1990 to 2013, found that while foreign direct investment boosted output in the mining sector, its overall impact on economic development was minimal. The positive impact of foreign direct investment on growth was more pronounced before 2000, when investment was more diversified across sectors. The study concludes that Zambia's over-reliance on the mining sector, which is heavily influenced by foreign direct investment, has hindered broader economic development and increased the country's dependence on nat-ural resources.

Pegkas (2015), on the other hand, focused on the Eurozone and aimed to determine the rela-tionship between foreign direct investment and economic growth between 2002 and 2012. Using panel data analysis, the study finds a long-term positive correlation between foreign direct investment and economic growth. A 1% increase in the stock of foreign direct invest-ment is associated with an increase in gross domestic product of between 0.054% and 0.147%, according to additional research using specific econometric models. These results show that foreign direct investment has a significant impact on economic growth in the euro area.

Popescu (2014) provided a thorough summary of the research on the contribution of foreign direct investment to economic growth, with a focus on Central and Eastern European (CEE) countries. The study examined how previous research has examined the relationship between foreign direct investment and economic growth, the effect of foreign direct investment on gross domestic product, and the impact of fiscal policy and the institutional framework on foreign direct investment inflows. The study advanced knowledge on the role of foreign di-rect investment in the economic transformation of the CEE countries, the differences in the FDI-led development approaches of these countries and the impact of foreign direct invest-ment on economic growth and productivity.

Nistor (2014) investigated the relationship between foreign direct investment inflows and economic expansion in Romania. The purpose of the study was to determine whether foreign direct investment inflows and gross domestic product growth are positively correlated in Ro-mania and, more specifically, whether foreign direct investment has a positive impact on gross domestic product growth as a proxy for economic growth. The results show that foreign di-rect investment has a positive impact on host economies; however, the magnitude of this im-pact differs depending on the specific conditions of each country.

There are many gaps in knowledge about foreign direct investment and economic growth. The long-term impact of foreign direct investment on economic growth, particularly in the context of developing countries such as Zambia, has been little studied, with most research focusing on the short- to medium-term effects. There is also a need for more thorough assessments that take into account the interactions between various macroeconomic determinants and foreign direct investment, even though some research emphasises the sectoral impact of foreign direct investment. This study seeks to fill these gaps by providing an in-depth analysis of the long-term relationship between foreign direct investment and economic growth in Zambia, using a range of macroeconomic indicators over a period of almost three decades.

## 2. Methodology

The analysis uses secondary data from the World Bank database for the years 1994 to 2023. Gross domestic product, exports of goods and services, foreign direct investment and gross national income per capita are the factors of interest. As the World Bank database is a reliable and comprehensive source of economic indicators, the data used in the analysis are valid and robust.

Jamovi software was used for data analysis. Jamovi is an open-source statistical software with a user-friendly interface and robust analysis capabilities, making it suitable for conducting re-gression analyses and other statistical tests required for this study.

Regression analysis was used to analyse the model. In order to approximate the parameters of the model, only data on gross domestic product, exports of goods and services, foreign direct investment, government final consumption expenditure and gross national income per capita were required.

## Specification of the Model

GDP=f(X1, X2, ...,Xn)+Ut

Where GDP (Y) is gross domestic product; X1 is exported goods and services; X2 is foreign direct investment; X3 is Gross National Income (GNI) per capita; while Ut is the error.

## Data Analysis and Interpretation

**Table 1:** Model Fit Measures

| Model | R | $R^2$ | Adjusted $R^2$ | Overall Model Test | | | |
|---|---|---|---|---|---|---|---|
| | | | | F | df1 | df2 | p |
| 1 | 0.990 | 0.981 | 0.978 | 440 | 3 | 26 | < .001 |

**Table 2:** *Model Coefficients - GDP (current Million US$)*

| Predictor | Estimate | SE | t | p | Stand. Estimate |
|---|---|---|---|---|---|
| Intercept | -6417.40 | 1868.839 | -3.43 | 0.002 | |
| GNI per capita, PPP (current international $) | 5.59 | 1.225 | 4.56 | < .001 | 0.4702 |
| Exports of goods and services (current Million US$) | 1.14 | 0.246 | 4.63 | < .001 | 0.4831 |
| Foreign direct investment, net inflows (BoP, current million US$) | 1.39 | 0.498 | 2.79 | 0.010 | 0.0874 |

The overall fit of the model is shown in Table 1. The independent variables in the model ac-count for about 98.1% of the variation in the dependent variable (GDP), according to the R-squared ($R^2$) value of 0.981. A good fit is also indicated by the adjusted R2 value of 0.978, which takes into account the number of predictors in the model. Overall, the model is statisti-cally significant, as indicated by the highly significant ($p < 0.001$) F-statistic (440).

The estimated coefficients, standard errors, t-values, p-values and standardised estimates are presented for each predictor variable in Table 2 of the model.

**Gross National Income per capita**

The coefficient of 5.59 indicates that for a unit increase in gross national income per capita, gross domestic product is predicted to increase by USD 5.59 million, holding constant all other variables. The coefficient is statistically significant ($p<0.001$), indicating a strong rela-tionship between gross national income per capita and gross domestic product.

**Exports of Goods and Services**

The coefficient of 1.14 indicates that a unit increase in exports is predicted to increase gross domestic product by US$1.14 million, holding constant all other variables. This coefficient is also statistically significant ($p < 0.001$), indicating a strong relationship between exports and gross domestic product.

**Foreign Direct Investment**

The coefficient of 1.39 indicates that a unit increase in foreign direct investment is predicted to increase gross domestic product by US$1.39 million, holding constant all other variables. This coefficient is statistically significant ($p = 0.010$), suggesting a moderate relationship between foreign direct investment and gross domestic product.

Overall, the model suggests that gross national income per capita and exports of goods and services are the strongest predictors of gross domestic product in this analysis.

## 3. Result y Discussion

### Relationship between FDI and Economic Growth in Zambia

By providing a thorough examination of the long-term relationship between foreign direct investment (FDI) and economic growth in Zambia, covering nearly three decades from 1994 to 2023, the study's findings bring a distinctive perspective to the existing literature. Con-sistent with previous research (Ndlovu & Haabazoka, 2024; Mukupa et al., 2016), our find-ings confirm a positive relationship between FDI inflows and GDP growth. The unique con-tribution of this study lies in its detailed examination of how FDI, together with other macro-economic factors such as gross national income (GNI) per capita, and exports, collectively affect economic growth in Zambia over a longer period of time.

The regression analysis shows that GNI per capita and exports of goods and services are the most important predictors of GDP growth, while FDI also has a statistically significant, albeit moderate, impact. The coefficient estimates indicate that a unit increase in FDI is associated with a US$1.39 million increase in GDP, highlighting the role of FDI in increasing productivi-ty through technology transfer, managerial expertise and capital formation (Lim, 2001; Stama-tiou & Dritsakis, 2013). These findings are consistent with the regional analysis by Zekarias (2016), which showed that FDI contributes to economic convergence without crowding out domestic investment.

### Policy Implications

The policy implications derived from this study highlight the need for Zambia to create an enabling environment for sustained FDI inflows. Given the historical volatility of FDI due to global economic conditions and local policy changes (Ndaba, 2015), it is critical that policy-makers focus on diversifying the economy to mitigate sector-specific risks. Strengthening the institutional framework, improving infrastructure and investing in human capital are essential strategies to maximise the benefits of FDI (Zekarias, 2016; Claudio-Quiroga et al., 2022).

In addition, tailored policies that attract FDI in sectors beyond mining and natural resources could help reduce economic vulnerability and promote broader development. This diversifica-tion is essential to ensure that the positive impacts of FDI are felt across different sectors and regions within Zambia.

Limitations and Future Research Directions

While this study sheds light on how FDI affects Zambia's economic growth in the long run, there are some important caveats to be aware of. The use of aggregate data may mask sectoral and regional variations in the impact of FDI. In addition, the study period includes significant global and local economic changes that may have affected FDI patterns differently over time.

Future research should explore these sectoral and regional dynamics in more detail. Disaggre-gated data and qualitative techniques, such as interviews with policymakers and investors, can be used to build a more comprehensive picture of the causes and effects of FDI in Zam-bia. To gain a fuller understanding of FDI's contribution to economic development, longitu-dinal studies should also examine how FDI affects employment, income distribution and en-vironmental sustainability.

## 4. Conclusions

This study provides a comprehensive analysis of the long-term relationship between foreign direct investment (FDI) and economic growth in Zambia from 1994 to 2023. The results show that FDI, gross national income (GNI) per capita and exports are important drivers of eco-nomic growth in Zambia. The positive but moderate impact of FDI underscores its role in rais-ing productivity through technology transfer, managerial expertise and capital formation. However, the stronger impact of GNI per capita and exports on GDP suggests that while FDI is important, a more balanced approach is needed to fully exploit its potential.

For Zambia to sustain and increase the benefits of FDI, it is imperative to focus on creating an enabling environment that attracts diversified investment beyond the mining sector. This in-cludes strengthening the institutional framework, improving infrastructure and investing in human capital. By doing so, the country can reduce its economic vulnerability and ensure that the positive impact of FDI is felt across sectors and regions.

Moreover, this study highlights the importance of developing policies that not only attract FDI but also improve the overall investment climate and economic infrastructure. Future re-search should explore the sectoral and regional variations in the impact of FDI, as well as its effects on employment, income distribution and environmental sustainability, to provide a more holistic understanding of the role of FDI in Zambia's economic development.

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