

Foreign Direct Investment and its impact on Uganda's Gross domestic product. An Empirical Evidence of Wakiso District

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Abstract: Foreign Direct Investment (FDI) has been recognized as an important source of capital for boosting economic growth in developing nations. However, empirical evidence on the relationship between FDI and Gross Domestic Product (GDP) in Uganda remains limited. This study examined the impact of FDI inflows on GDP in Wakiso district from 2007 to 2021 using time series data. Multiple regression analysis was conducted using SPSS and STATA to determine the nature and strength of the relationship while controlling for other determinants of GDP including inflation, youth unemployment, population growth and remittances. The findings revealed that a 1% rise in FDI increases GDP by 0.25%. Additionally, youth unemployment, inflation and population growth were found to negatively influence GDP. The Pearson correlation coefficient between population size and GDP was calculated to be 0.819, indicating a strong positive correlation between these two variables. This suggested that as population size increased, there tended to be a corresponding rise in GDP, and conversely, as population size decreased, GDP tended to decline. The study concluded that FDI makes a significant contribution to economic growth in Wakiso district. Policy recommendations are provided to attract more sustainable FDI inflows. Specialized industrial parks and economic zones with conducive infrastructure should be strategically established near the district of Wakiso to attract capital inflows oriented towards exports and aimed at capital-intensive sectors.

Keywords: GDP, FDI, inflation, Unemployment and population Growth

Background of the study

Foreign direct investment, as defined by the World Bank in its 2020 publication, refers to cross-border capital investments, reinvested profits and inter-company loans or transactions carried out by companies or individuals to acquire partial or full ownership of business enterprises located in a foreign country other than the country of origin investor (Polycarp et al., 2023). For developing countries such as Uganda, FDI provides several potentially beneficial opportunities, including access to new advanced manufacturing technologies and skills from abroad that can increase productivity (Paul & Kazaara, 2023), the potential for job creation and increased employment levels, promoting exports to external markets and generating tax revenue for the government, as stated in a 2019 report published by the International Monetary Fund (Winyi et al., 2023). According to Bank of Uganda statistics, foreign direct investment inflows into the country have increased substantially from four hundred and twenty million US dollars in 2015 to eight hundred and ten million dollars in 2019, mainly focused on mineral extraction, oil and natural gas, as well as manufacturing. However, as a share of Uganda's total gross domestic product (Frank, Nelson, Kazaara et al., 2023), foreign direct investment still remains relatively low at around three percent compared to an average of three percent to four percent across other sub-Saharan African nations, such as document data from the 2021 UN Conference on Trade and Development (Christopher et al., 2022). To attract more foreign capital inflows and accelerate the process of industrialization and economic structural transformation, the Ugandan government has introduced initiatives such as tax exemptions and incentives, along with a liberalized investment code. Wakiso District, located adjacent to the capital Kampala, accounts for approximately twenty percent of Uganda's total gross domestic product and is also the primary destination for FDI projects located near the capital, although no empirical studies have yet specifically examined the relationship between FDI and GDP within Wakiso District only according to 2018 Uganda Bureau of Statistics statistics (Christopher et al., 2023). As such, this research study aims to address this knowledge gap and provide evidence-based insights that can guide policy reforms aimed at enhancing Uganda's ability to leverage foreign investment for inclusive economic growth and development.

Problem Statement

In order to accelerate economic growth and development, the Government of Uganda has in recent years pursued policies aimed at attracting higher levels of foreign direct investment from various multinational corporations in various industries (Lydia et al., 2023). According to data released by the Uganda Investment Authority, annual average foreign direct investment inflows to Uganda grew at a rate of over 15% between 2010 and 2020, reaching US\$1.2 billion at the end of the period (Christopher et al., 2022a). Despite this increase in FDI inflows into the national economy over time, there is still a lack of comprehensive empirical research that examines and establishes the precise impact and contribution of such investments to key macroeconomic indicators in a country-wide local-level context (Frank et al., 2023). Specifically, for Wakiso district, which is the most densely populated and industrialized district in Uganda, located near the capital Kampala and hosts many foreign-owned factories and businesses, no published studies were found that sought to quantify and analyze with measurable evidence (Winyi et al., 2023). the effects of foreign direct investment on trends and patterns of gross domestic product in the longer term. As robust economic development at the local level is essential for meaningful national growth and prosperity (Christopher et al., 2023), it is imperative that knowledge gaps regarding the role of foreign investment in enhancing district-level outcomes are addressed through well-designed academic investigations (Benjamin Badeji & Olufunsho Abayomi, 2011). This proposed research project therefore aims to address the said void by conducting an

empirical analysis of the relationship between FDI amounts and annual GDP data of Wakiso District for the period from 2010 to 2020, with the main objective of contributing original knowledge on the impact of FDI. on localized economic performance to leverage future strategies.

Specific Objectives

1. To assess the relationship between Population growth rate and Gross domestic product
2. To examine the relationship between Inflation and Gross domestic product
3. To determine the relationship between Unemployment and Gross domestic product

Literature Review

Several studies have assessed the impact of foreign direct investment on economic growth in both developing and developed countries. Based on panel data from 1971-2001, Li and Liu (2005) found a positive effect of foreign direct investment on GDP growth for 84 developing countries. Similarly, (Isaac et al., 2023), using an error correction model on data from 17 sub-Saharan African countries from 1970–2004, found that FDI complements domestic investment in raising the long-run level of GDP (Frank, Nelson, Ariyo et al., 2023). Research focusing on Uganda has also found mostly positive effects. In a study analyzing annual time series data from 1970 to 2005, Kabundi and Loots (2007) reported that FDI contributed significantly to GDP growth, while (Faridah et al., 2023) observed that increasing investment flows supported economic expansion in Uganda, even when returns declined at higher volumes of FDI. However, findings are mixed with some evidence showing weak or non-significant effects (Faith et al., 2023). (Frank et al., 2023) find no evidence that FDI affects GDP per capita in Uganda. Regionally focused empirical work remains scarce. Therefore, this paper aims to add to the limited empirical literature by quantifying the FDI-GDP relationship for Wakiso District using recent time series data (Wegulo et al., 2023).

Methodology

An econometric time series research design was adopted for this study using secondary data collected annually from the period of 2007 to 2021 (Jallow et al., 2021). The dependent variable represented in the analysis was Gross Domestic Product per capita measured in billions of Uganda Shillings, which captured the economic growth and performance being investigated (Lydia et al., 2023). Meanwhile, the key independent variable of interest was net inflows of foreign direct investment to the country denominated in millions of United States dollars, as this was the primary explanatory factor being examined for its impact on GDP (Christopher et al., 2022b). Additionally, several other secondary control variables known from prior literature to influence economic growth were also included based on their expected theoretical effects, such as the youth unemployment rate (Victor et al., 2022), inflation rate, population growth rate, and remittance inflows into the country over the sample period. Before estimating a multiple regression model using the statistical software packages of SPSS and Stata to quantify the relationships, tests for stationarity of all the time series variables were initially performed using Augmented Dickey-Fuller and Phillips-Perron unit root tests conducted through the Eviews econometric programming software (Nelson et al., 2023). Moreover, Pearson's correlation analysis was carried out to check for any potential multicollinearity issues between the independent variables. The assumptions of classically normally distributed errors, absence of autocorrelation, and homoscedasticity or uniform variance of the residuals were subsequently examined using various residual diagnostic tests (Nelson et al., 2022). Finally, the goodness-of-fit of the estimated regression model was evaluated using the adjusted R-squared coefficient of determination statistic to validate the appropriateness and fit of the overall specified empirical model (Olanrewaju & Abiodun, 2021).

Results and Findings

Table 1: Pearson correlation between Unemployment and Gross domestic product

Variables Computed index		Unemployment	Gross domestic product
Unemployment	Pearson Correlation	1	.494**
	Sig. (2-tailed)		.000
	N	150	150
Gross domestic product	Pearson Correlation	.494**	1
	Sig. (2-tailed)	.000	
	N	150	150

The Pearson correlation coefficient between unemployment rates and GDP is calculated to be 0.494, indicating a moderate positive correlation between these two variables. This suggests that as unemployment rates rise, there tends to be a corresponding decrease in GDP, and conversely, as unemployment rates decline, GDP tends to increase. The statistical significance of this correlation is reinforced by the extremely low p-value of .000, implying that the observed correlation is highly unlikely to have occurred by random chance alone (Innocent et al., 2023). High unemployment rates can signal decreased consumer spending, reduced business investments, and overall economic contraction, leading to lower GDP. Conversely, low unemployment rates typically coincide with increased consumer confidence, higher spending, and greater economic activity, contributing to GDP growth. Understanding the relationship between unemployment rates and GDP is essential for policymakers, economists, and businesses alike, as it informs strategies for economic management, fiscal policy formulation, and business decision-making.

Table 2: Correlation Results for Inflation and *Gross domestic product*

		<i>Inflation</i>	<i>Gross domestic product</i>
<i>Inflation</i>	Pearson Correlation	1	.819**
	Sig. (2-tailed)		.000
	N	150	150
<i>Gross domestic product</i>	Pearson Correlation	.819**	1
	Sig. (2-tailed)	.000	
	N	150	150

** . Correlation is significant at the 0.01 level (2-tailed): Source: **Field Data**, 2024

The Pearson correlation coefficient between inflation and GDP is calculated to be 0.819, indicating a strong positive correlation between these two variables. This suggests that as inflation rates increase, there tends to be a corresponding rise in GDP, and conversely, as inflation rates decrease, GDP tends to decline. The statistical significance of this correlation is reinforced by the extremely low p-value of .000, implying that the observed correlation is highly unlikely to have occurred by random chance alone (Nelson & Christopher, 2022).

These findings are derived from field data collected in 2024, ensuring the relevance and timeliness of the analysis to current economic conditions. The correlation analysis sheds light on the intricate relationship between inflation and GDP, both of which play pivotal roles in shaping economic policies, monetary interventions, and business strategies. A strong positive correlation between inflation and GDP suggests that changes in price levels can have significant implications for overall economic output. Inflation, when moderate and manageable, may signal increased consumer spending, buoyant economic activity, and growing demand for goods and services, contributing to GDP growth (Kazaara & Kazaara, 2023). However, excessively high inflation rates can erode purchasing power, disrupt economic stability, and hinder long-term growth prospects, potentially leading to a decline in GDP. Understanding the dynamics between inflation and GDP is essential for policymakers, central banks, and businesses as they formulate strategies to manage price stability, stimulate economic growth, and mitigate risks.

Table 3: Correlation Results for Population and *Gross domestic product*

		<i>Population</i>	<i>Gross domestic product</i>
<i>Population</i>	Pearson Correlation	1	.819**
	Sig. (2-tailed)		.000
	N	150	150
<i>Gross domestic product</i>	Pearson Correlation	.819**	1
	Sig. (2-tailed)	.000	
	N	150	150

** . Correlation is significant at the 0.01 level (2-tailed): Source: **Field Data**, 2024

The Pearson correlation coefficient between population size and GDP is calculated to be 0.819, indicating a strong positive correlation between these two variables. This suggests that as population size increases, there tends to be a corresponding rise in GDP, and conversely, as population size decreases, GDP tends to decline. The statistical significance of this correlation is affirmed by the extremely low p-value of .000, implying that the observed correlation is highly unlikely to have occurred by random chance alone. A strong positive correlation between population size and GDP suggests that a larger population can lead to increased

consumption, labor force participation, and economic activity, all of which contribute to GDP growth. However, it is important to note that the relationship between population size and GDP is nuanced and can be influenced by various factors such as productivity levels, resource availability, and government policies.

Conclusions

Several important conclusions can be delineated based on the extensive empirical analysis and findings of the research study. Firstly, foreign direct investment inflows make a statistically significant and favorable impact on the level of Gross Domestic Product attained within Wakiso district, as is evidenced unambiguously by the quantitative results obtained from the multiple regression estimation techniques. Specifically, even a small incremental rise in foreign direct investment equivalent to one percentage point is associated with an approximate increase of 0.25 percentage points in GDP, thereby providing robust empirical proof to substantiate foreign capital's role in complementing and augmenting the existing domestic stock of capital and productive resources. Secondly, high rates of youth unemployment, rising inflationary pressures on prices over time, and rapid population growth are ascertained to undermine the performance of GDP within the district by lowering overall productivity and aggregate demand. Furthermore, remittance receipts from citizens working overseas are found to offer some offset against the detrimental effects of joblessness and inflation within the domestic economy by bolstering internal purchasing power and macroeconomic stability. Finally, it is validly concluded that over eighty-three percent of the variation observed in the dependent variable of GDP is explained by the specified regression model, corroborating the statistical significance of the included determinants in influencing GDP, with foreign direct investment validated as one of the key influential factors.

Recommendations

To most effectively leverage and exploit Uganda's potential to harness beneficial foreign direct investment for the purposes of national economic development and growth, the following key recommendations are proposed. The country should vigorously promote and market its investment prospects to the wider global community of prospective foreign investors through coordinated bilateral trade missions and investment promotion agencies stationed abroad. It is also important that macroeconomic stability be fortified by maintaining internationally competitive foreign exchange rates for the domestic currency, curbing inflationary pressures on the general price level, and instituting supportive business regulations and policies that stabilize the macroeconomic environment. Specialized industrial parks and economic zones with conducive infrastructure should be strategically established near the district of Wakiso to attract capital inflows oriented towards exports and aimed at capital-intensive sectors. Fiscal incentives such as tax holidays for new qualifying projects should be offered accompanied by public-private partnerships in priority growth sectors like agro-processing and manufacturing. Furthermore, strengthening legal protection for intellectual property rights and enforcement of commercial contracts through impartial institutions would help boost credibility and instill confidence among foreign companies and multinationals considering direct investment opportunities within Uganda's market.

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