International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

To cite this article: Simon Muwando, PhD and Lauratte Leonard (2025). THE IMPACT OF INFLATION ON FOREIGN DIRECT INVESTMENT (FDI) INFLOWS: EVIDENCE FROM ZIMBABWEAN ECONOMY, International Journal of Research in Commerce and Management Studies (IJRCMS) 7 (1): 133-153 Article No. 333 Sub Id 623

THE IMPACT OF INFLATION ON FOREIGN DIRECT INVESTMENT (FDI) INFLOWS: EVIDENCE FROM ZIMBABWEAN ECONOMY

Simon Muwando, PhD[1] and Lauratte Leonard[2]

[1]Lecturer, Department of Banking and Economics, National University of Science and Technology, Zimbabwe
[2]MSc Candidate, Department of Banking and Economics, National University of Science and Technology.

DOI : https://doi.org/10.38193/IJRCMS.2025.7110

ABSTRACT

Zimbabwe lacks sufficient FDI even though the country is endowed with resources that normally attract FDI inflows. There is underinvestment in all the sectors across the economy as it faces a confidence crisis due to rampant inflationary pressures. This study examined the impact of inflation on foreign direct investment inflows (FDI) in Zimbabwe. The study employed an autoregressive distributed lag (ARDL) technique to estimate the relationship between FDI, inflation and GDP on time series data from 2009 to 2022. The findings of the study revealed that inflation negatively influenced FDI inflows in Zimbabwe. The major recommendations of the study include inflation targeting and control, and implementing favorable exchange rate controls, political stability and combating corruption.

KEYWORDS: Inflation; Foreign direct investment; Gross Domestic Product; Developing economies, ARDL

1. INTRODUCTION

Most developing nations view foreign direct investments (FDI) as a nostrum for increasing domestic savings, creating employment, eradicating poverty, and promoting economic expansion (Jenkins & Thomas, 2002). FDI is important for least developing nations. According to Gochero & Boopen (2020), FDI is critical for industrial development because it generates a rich combination of long-term capital, technology, training, technological innovation, managerial knowledge, and marketing experience. There has been a significant increase in most African nations concern regarding the FDI levels since they highly contribute to their economic expansion (Chaudhuri & Mukhopadhyay, 2014). According to Nicoletti et al. (2003), policy makers are interested in the state of FDI in their countries while questioning the relationship between the volatile inflation, economic growth, and capital preservation of foreign investment.

With its large endowments of resources, Zimbabwe has been seeking to diversify the economy and

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

boost economic growth while running with the mantra "Zimbabwe is open for business". The inflow of foreign investments has not greatly increased despite the strong attempts to develop a favorable investment climate for foreign investment. An analysis of the country's current foreign inflow shows that Zimbabwe is struggling to get inflows of FDI despite a raft of economic reforms undertaken by the government. Even though Zimbabwe is endowed (US Bureau of Economic and Business Affairs Report, 2023; UNCTAD Report, 2014). The Zimbabwe Investment Centre's efforts to encourage international investors through promoting and facilitating investment have not been particularly successful (US Bureau of Economic and Business Affairs Report, 2024). UNCTAD report (2021) corroborates that the recession faced by Zimbabwe in 2019 as a result of Cyclone Idai and the Covid -19 pandemic caused FDI inflows to be significantly below what they could be. Although the country has received significant investment in the mining sector, other critical sectors like healthcare, infrastructure, manufacturing, and agriculture remain under-invested. Gwenhamo (2011) pointed out that the FDI net inflows in Zimbabwe were incredibly low from 1980 to 1990, because of the policy environment and inflation, which was unfavourable to foreign investors. Zimbabwe is still facing inflationary pressures that may be regarded as the after-effects of the 2008 hyperinflation period and the multi-currency regime (Hilmola, 2021). Gochero (2018) also points out that one of the pertinent problems in the Zimbabwean economy is high inflation, which keeps recurring since the 2008 hyperinflationary period. Although inflation stabilized when the country officially dollarized, the era of stability was short-lived. Manda (2022) asserts that inflation began to escalate again in the last quarter of 2018 due to the introduction of bond notes and increased money supply growth, which was not aligned with the level of economic activity. Zimbabwe still faces a confidence crisis due to adverse inflation expectations (Munangagwa, 2009). Given the high uncertainty levels, investors are bound to hedge their exposure to inflationary risks. Could the unstable levels of inflation be a contributing factor to low FDI inflows in Zimbabwe? The Zimbabwean economy is still weak and stagnant as a result of Covid-19 pandemic and is marked by high inflation, severe liquidity issues, high interest rates, huge external liabilities, and low foreign direct investment (Pasara & Gaderira, 2020). According to Kanyenze Chitambara & Tyson (2017), impediments to increased FDI persist in Zimbabwe. From its Vison 2030, the Zimbabwean government is committed to reform initiatives that support its ambitions to advance to an upper middle-class economy by 2030. The low FDI trends are inconsistent with Zimbabwe's potential, the growth of its human capital, and the massive natural resource endowments that are readily available to be tapped into by resource-seeking investors.

2. LITERATURE REVIEW

2.1 The concept of inflation

According to Ariss (2012), inflation is the continued increase in the general price levels of goods and services in an economy over a period. Inflation is regarded as an intricate economic phenomenon since it is linked with structural elements such as high debt obligation and nominal wages in the form of

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

expansionary fiscal deficit and real income reduction. Rafique (2013) explains that the inflation rate is depicted by the consumer price index (CPI) that indicates an increase in goods prices and services prices overall. Inflation can be measured monthly, quarterly or annulally using the percentage change in a CPI. A country's economic environment is tense when inflation is high and is also an indicator of an unstable monetary policy (Kadongo, 2011).

2.2 The concept of FDI

FDI can be defined as a foreign investment that is designed to contribute to a long-lasting engagement in the economy. The investor's intention is to have to have an effective presence in the management of the business residing in the host economy (IMF, 1977).

Graham & Krugman (1991) defined FDI as ownership of assets by foreigners with the intention of controlling how the assets are used. As the foreign firm operates in the host country, FDI enhances growth, creates employment and enhances productivity through transfers of human and technological capital. Furthermore, Kariguh (2014) argues that FDI is one of the primary sources of capital flows in most developing economies that reduces the gap of managerial expertise, technology and fosters a competitive business environment. FDI increases national savings, improves access to international technologies and management know-how, raises efficiency and promotes economic growth and prosperity (Chaudhuri and Mukhopadhyay, 2014).

2.3 Theories of FDI

Different scholars and economists have different views about the relationship between FDI and Inflation. This leads to various theoretical propositions on Foreign Direct Investment and inflation.

Vernon (1966) established that every product has its own life cycle, and it goes through several phases from introduction to decline. The product cycle theory explains the different types of foreign direct investment that were done by United States companies in Western Europe after second world war in the manufacturing industry (Denisia, 2010). Froot and Stein (1991) suggest that exchange rates impact wealth for them to influence foreign direct investment. The electric paradigm theory developed by Dunning (1979) is a three-tiered framework that businesses can use to assess whether a given strategy offers more value compared to competing in the domestic market or venturing into foreign production of goods or services.

2.4 Factors that influence FDI

A country's growth has a direct link with the economy's variables such as GDP, interest rate, inflation rate, exchange rates, inflation, GDP, unemployment rate and government policies. According to Adams & Opoku (2015), host countries experience growth from FDI when they have liberalized trade

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

policies, a workforce with a high level of education and a stable macroeconomic environment. These factors can differ from one period to another and the attractiveness of one country differs to that of the other. Nwankwo (2006) stresses that macroeconomic policy failures increase inflationary pressures and deflect FDI flows from Africa. According to Pholphirul (2002), resources are more likely to flow to countries with higher rates of investment as compared to countries with lower rates of return. Singhania & Saini (2018) argue that interest rates are normally adjusted to reflect changes in inflation while Alba, Park & Wang (2009) suggest that FDI can be attracted or discouraged by exchange rate volatility.

According to Bayraktar (2013), FDI is main driven by the GDP per capita because it is a reliable measure of a country's purchasing power. Low GDP is an indication of uncertain purchasing power, which investors could interpret as unattractive in a host country. The investor's main objective is profitability. Hence low production costs such as low wages influence FDI, especially in countries that bear natural resources (Halvorsen, 2012). Developing economies are characterized by high unemployment, which investors use to their advantage.

Pigato (2005) asserts that employees with higher level of education can adapt to new technologies more quickly with low cost of retraining. Furthermore, the legal and regulatory environment influences foreign direct investment. Globerman & Shapiro (2002) argue that trade policies that are restrictive and protective may make it impossible for businesses to compete globally, as they suppress investors' options for managing operations. Openness to trade also attracts FDI. Anderson (2005) affirms that the ease by which goods and services, factors of production can flow in and out of a country freely influences investors' willingness to settle in that country.

2.5 Empirical evidence

Sayek (1999) carried out a study on foreign direct investment and inflation, and concluded that low FDI inflows was as a result of higher inflation rates in host country. Akinboade, Siebrits & Roussot (2006) further states that the host country's internal economic stability is signalled by low inflation. Pigato (2005) states that exchange rate volatility and inflation autonomy affect foreign direct investment. Schneider & Frey (1985) also found that inflation has a negative significant impact on FDI. Furthermore, Lokesha & Leelavathy (2012) explained in the case for India that inflation was detrimental to economic stability and it was a sign of internal economic pressure. The government was incapable of balancing the budget and there was restricted the money supply, thus causing low FDI inflows in host country. However, Ayaya (2017) studied the relationship between Kenya's public debt and foreign direct investment inflows and concluded that there is no linkage between FDI and inflation rates. This assertion agreed with earlier study by Wanjiru (2013) that found no meaningful correlation between inflation volatility and foreign direct investment. On the contrary, Sayek (2009)

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

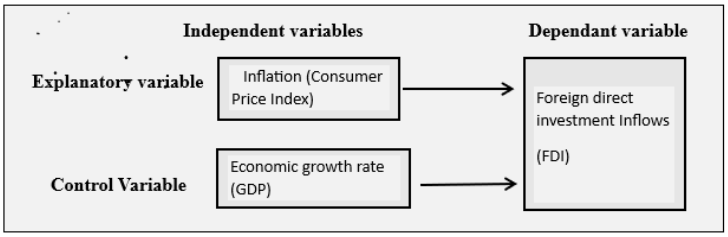
and Coskun (2001) affirm that a higher domestic inflation rate lowers the cost of foreign direct investment (FDI) and increases foreign investment by altering the agent's intertemporal consumption pattern

Most research on the topic in Zimbabwe has primarily examined how the interplay between inflation and FDI affects economic growth, rather than looking into the direct effects of inflation on FDI. Muzurura (2016) concentrated on the determinants of FDI in Zimbabwe and identified inflation as one of the factors that matter. Tsaurai & Odhiambo (2012) focused on conducting a dynamic causality test between FDI and economic growth in Zimbabwean. Tsaurai (2017) also concentrated on the impact of Inflation on FDI in Southern Africa and not particularly Zimbabwe. Therefore, this study aims to address this gap and is guided by the theories of FDI and inflation to investigate the impact of inflation on FDI inflows in Zimbabwe.

Conceptual Framework

The conceptual framework of the study is shown in figure 1 overleaf.

Figure 1: Conceptual Framework



Source: Researchers' own architecture

Figure 1 above shows FDI as a dependent variable is a function of inflation rate and economic growth as independent variables. FDI is measured by yearly FDI inflows into the country. Inflation rate is measured by the yearly consumer price index. The control variable is economic growth and is measured by yearly GDP indicators.

II. MATERIALS AND METHODS

To examine and capture the adjusted dynamics of inward foreign investment and inflation, the study adopted an Autoregressive Distributed Lag (ARDL) method on yearly time series data from 2009 to 2022. According to Kripfganz & Schneider (2018), ARDL model is a linear time series model in which the independent and dependent variables are related across lagged values as well as simultaneously. The advantage of ARDL method over other traditional techniques like Vector Autoregressive model (VAR) and Ordinary Least Squares Method (OLS) is that ARDL is used in time series data regardless

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

of the order of integration of the variables (Pesaran and Pesaran, 1997). According to Nkoro & Uko (2016) and Muwando & Nzou (2023), the technique can also test for cointegration using the bounds testing approach and it can test the short-run and long-run dynamics. ARDL captures dynamic effects of lagged dependent variables and those of lagged independent variables (Muwando, Gumbo & Tembo, 2024; Brew, Ettih. & Wiah, 2020). Furthermore, when adequate lags of the regressor and regress and variables are included in the model, omission of variables and autocorrelation in the error term can be eliminated (Pahlavani, Wilson & Worthington, 2005). The method is very reliable and effective with different sample sizes, particularly small samples. Therefore, the study adopted this technique over the traditional approaches because of the above-mentioned advantages.

According to Muwando & Nzou (2023), the general regression model is expressed as follows:

$$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots\ldots \beta_n X_n + \varepsilon_t \quad \ldots\ldots (1)$$

Where: $Y_{1\ represents}$ the dependent variable;

β_0 is an intercept;

$\beta_0, \beta_1, \ldots \beta_n$ are regression parameters;

$X_1, X_2, \ldots X_n$ ***represent*** independent variables;

ε_t is an error term normally distributed with a mean of zero and constant variance

Based on the Autoregressive Distributed Lag Model, the econometric model for the study is expressed as:

$$InFDI_t = \beta_0 + \beta_1 INF_t + \beta_2 GDP_t + \varepsilon_t \quad \ldots\ldots (2)$$

Where: ***FDI*** *represents* the foreign direct investment at time t;

INF *represents* the inflation rate at time t

GDP *represents* the gross domestic product at time t

e_t *represents* the error term.

Inflation and GDP were used in this study as determinants of FDI based on empirical evidence from

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

the studies of Alshamsi, Hussin & Azam (2015), Bayraktar (2013), Tsaurai & Odhiambo (2012) and Muzurura (2016). Parkin & Bade (2016) define inflation as an increase in the average level of prices. The inflation rate was expressed in percentages and was recorded as absolutes to promote accuracy. An increase in inflation is anticipated to reduce FDIs. Gross domestic product (GDP) is the standard measure of the market value of final goods and services produced by a country over a specific time frame (Argandona, 2016).

An increase in real GDP is interpreted by investors as a sign that the economy is performing positively; hence it is expected to increase FDIs. GDP was assumed to be in percentages and recorded as absolutes. UNCTAD (2022) defines FDI as an investment involving a long-term relationship and signifying a lasting interest and control by foreign direct investor or parent company in a business situated in the host economy. FDI was assumed to be in millions of US dollars and the values were lognormalised and transformed to be denoted as lnFDI so that the data may be more normally distributed for accurate results of the model (Bennoit, 2011).

Based on empirical evidence from the studies of Alshamsi, Hussin & Azam (2015), the Error Correction Model (ECM) was expressed as follows:

$$\Delta InFDI_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i}\, \Delta lnFDI_{t-i} + \sum_{i=0}^{n} \beta_{2i}\, \Delta INF_{t-i} + \sum_{i=0}^{n} \beta_{3i}\, \Delta GDP_{t-i} + e_t \quad \text{..... (3)}$$

Where: $lnFDI_{t-i}$ = *transformed FDI values in period t lagged once.*

β_0 = *intercept*

Δ = *first difference operator ;*

INF_{t-i} = *Inflation rate in period t lagged once*

GDP_{t-i} = *Economic growth rate in period t lagged once*

e_t = *Random error term or residual.*

ARDL Bounds Test Procedure

According to Montenegro (2019), the testing procedure can be applied to I (1) or I (0) regressor variables in three steps. Firstly, equation [2] is estimated employing the Ordinary Least Squares (OLS) technique to determine the presence of long run dynamics among the chosen variables. The presence of a long-run equilibrium relationship between FDI and its determinants was examined through a joint F-test of the coefficients based on the one period lagged levels of the variables in Equation 2 (Pesaran, Shin & Smith, 2001).

The hypotheses tested were expressed as follows:

H_0: $\beta_1 = \beta_2 = \beta_3 = 0$

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

$H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq 0$

The asymptotic distribution of critical values is determined for scenarios in which all regressors are purely I (1) as well as when the regressors are purely I(0) or cointegrated with on another (Pesaran, Shin & Smith, 2001). If the long run coefficients of the variables are statistically significant at the 0.05 level, the model would be fit (Dismuke & Lindrooth, 2006). If the F-statistics surpasses the upper limits of the critical value, I(1), then we reject the null hypothesis of no cointegration, concluding that the variables contained in the models exhibit long-run relationships . However, Pesaran, Shin & Smith (2001) states that if the F-statistic is below the lower bounds of the critical value, I(0), we fail to reject the null hypothesis of no cointegration among the variables indicating that the variables lack a significant long-run relationship. Furthermore, if the computed F-statistics lie between the upper and lower bounds of the critical values, we cannot accept or reject the null hypothesis of no cointegration, resulting in conclusive results (Narayan, 2004a).

If cointegration exists, the second step would be estimation of the conditional long run ARDL model as follows:

$$\Delta InFDI_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i}\, \Delta lnFDI_{t-i} + \sum_{i=0}^{n} \beta_{2i}\, \Delta INF_{t-i} + \sum_{i=0}^{n} \beta_{3i}\, \Delta GDP_{t-i} + \delta_1 lnFDI_{t-1} + \delta_2 GDP_{t-1} + \delta_3 INF_{t-1} + e_t \quad \textbf{[4]}$$

Where: Δ refers to the first difference operator;

β_0 *represents* the drift term;

e_t *represents* the error term.;

δ_s *represents* the long-run parameters;

β_{1i} to β_{3i} and represent the short run dynamics of the model.

The orders of the ARDL model in the three variables is chosen using two criterions: Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) (Pesaran. & Smith, 1995; Pesaran, Shin & Smith, 2001).

Finally, the last step involves the estimation of the Error Correction Model (ECM) to capture the short-run dynamics of the model. The ECM is specified as follows:

$$\Delta InFDI_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i}\, \Delta lnFDI_{t-i} + \sum_{i=0}^{n} \beta_{2i}\, \Delta INF_{t-i} + \sum_{i=0}^{n} \beta_{3i}\, \Delta GDP_{t-i} + \lambda EC_{t-1} + e_t \quad \textbf{[5]}$$

Where: $lnFDI_{t-i}$ = *transformed FDI values in period t lagged once.*

β_0 = *drift term*

$\Delta = first\ difference\ operator$;

INF_{t-i} = *Inflation rate in period t lagged once ;*

GDP_{t-i} = *Economic growth rate in period t lagged once;*

$EC_{t-1} = Error\ correction\ term\ in\ period\ t\ lagged\ once;$

$e_t = Random\ error\ term\ or\ residual.$

The one period lagged for dynamic error correction term represents the residuals derived from the

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

cointegration of the long run equation of equation **[4]** while the error correction term (ECT), λ, refers to the speed of adjustment to long run equilibrium or the extent of disequilibrium correction (Alshamsi, Hussin & Azam, 2015). The error correction term (ECT) needs to be statistically significant at the 0.05 level.

Units of measurement

The table 1 below shows the unit of measurement for the variables used in the study.

Table 1: Units of measurement

Variable	Units of measurement
FDI	USD '000 000' (millions)
Inflation	%
GDP growth	%

Source: Researcher's own architecture

Table 1.1 shows that inflation rate was expressed percentages and were recorded as absolutes to promote accuracy. GDP growth was expressed as a percentage and recorded as absolutes. FDIs were measured in millions of US dollars. However, natural logarithms introduced on FDI values for the data to follow a normal distribution (Bennoit, 2011). Thus, FDI was finally denoted at lnFDI.

Residual Diagnostics

Before dealing with the ARDL bounds test, the researcher tested all the variables if they had a unit root. This was done to determine whether they are stationary at level or at the first difference. This is to ensure that the variables are not *I* (2) process to escape spurious regression results in time series analysis (Pesaran, Shin & Smith, 2001). Augmented Dickey-Fuller (ADF) unit root test was done to detect stationarity. The following hypothesis was tested:

H_0: The variable is not stationary or has a unit root

H_1: The variable is stationary or does not have a unit root

We reject H_0 at the 5% level of significance if p-value is less than 0.05 and conclude that the variable is stationary or lacks a unit root and integrated at the relevant orders., vice versa.

To check for serial autocorrelation, the Breusch-Godfrey Serial Correlation LM Test and Correlogram Q statistics were used. The following hypothesis was tested:

H_0: there is no serial correlation among residuals

H_1: there is serial correlation among residuals

If the p-value is greater than 0.05, we fail to reject the null hypothesis and conclude that the model does not suffer from serial autocorrelation, vice versa.

To test for heteroscedasticity among the residuals, the Breusch-Pagan-Godfrey test was conducted. The following hypothesis was tested:

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

H_0: There is homoscedasticity in the model
H_1: There is heteroscedasticity in the model
The decision rule is that if the p-value is greater than 0.05, we fail to reject the null hypothesis and conclude that the errors of model are homoscedastic, vice versa.
Jarque Bera test was conducted to establish whether the residuals, hence the data is normal distributed. The hypothesis for normal distribution was expressed as follows:
H_0: The data is normally distributed
H_1: The data is not normally distributed
If the p-value is greater than 0.05, we fail to reject the null hypothesis at the 0.05 level and conclude that the data is normally distributed, vice versa.

Lag Selection

The lag length specification is a crucial practical concern for the ADF test's implementation (Nkoro & Uko, 2016). According to Dritsakis & Stamatiou (2016), information criteria are utilized to compare and select among many models that share the same dependent variable. Akaike Information Criterion (AIC) and Schwarz Information Criterion (SIC) were used to establish the optimum lag length. However, SIC offers better estimates than AIC when using ARDL framework with a small sample (Pesaran & Smith, 1995). Additionally, the AIC criterion tends to overestimate the number of lags that should be included, which is unfavorable for small samples because adding lags reduces the number of observations (Ivanov & Kilian, 2005).

III. RESULT ANALYSIS AND DISCUSSION

1. Descriptive statistics

The results for descriptive statistics of the study are shown in table 2 below.

Table 2: Descriptive statistics

	FDI	GDP_	INFL
Mean	0.315385	0.017738	0.717892
Median	0.34	0.0175	0.0302
Maximum	0.72	0.0396	5.572
Minimum	0.11	0.0059	-0.0243
Std. Dev.	0.166664	0.008841	1.629258
Skewness	0.876436	0.96631	2.350142
Kurtosis	3.730877	3.92801	7.288942
Jarque-Bera	1.953651	2.489622	21.93084

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

Probability	0.376504	0.287995	0.000017
Sum	4.1	0.2306	9.3326
Sum Sq. Dev.	0.333323	0.000938	31.85378
Observations	13	13	13

Source: Researcher's own analysis using EViews 10

Table 2 shows that FDI inflows had a mean of 0.315, inflation had a mean of 0.718 and GDP had a mean of 0.0177. From the study findings, the median for FDI, inflation rate and GDP is 0.34, 0.0302 and 0.0175 respectively. Table 2.1 also shows that GDP had a lower standard deviation of 0.008 compared to FDI inflows which had a standard deviation of 0.166 and inflation which had a standard deviation of 1.62. Using the Jarque-Bera test, FDI inflows, GDP and inflation rate have probabilities of 0.37, 0.28, and 0.000017 respectively. Since the Jarque–Bera test p-value for FDI inflows and GDP are greater than 5% level, we fail to reject the null hypothesis and conclude that FDI inflows and GDP are normally distributed. Since the p-value for inflation is less than 5%, we reject the null hypothesis and conclude that inflation rates are not normally distributed. This might be due to the size of the sample

2. Stationarity Test

The results for ADF unit root tests for GDP, inflation and FDI are shown in table 3 overleaf.

Table 3: ADF Unit root test

Variables	At level P-value	At first difference P-value	Order of integration
GDP	0.1090	0.0087*	I(1)
Inflation	0.0009*		I(0)
FDI	0.0096		I(0)

At 5% level of significance

Source: Researcher's own findings using EViews 10

Table 3 shows that GDP is stationary at first difference since its p-value of 0.0087 is less than 5%. Inflation is stationary at level since its p-value of 0.0009 is less than 5%. FDI is also stationary at level since its p-value of 0.0096 is less than 5% level of significance. Therefore, we reject the null hypothesis and conclude that the series does not have a unit root.

3. Lag Selection criterion

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

The results for lag selection criterion are shown in Table 4 below:

Table 4: Lag Selection Criterion

Lag	LogL	LR	FPE	AIC	SC	HQ
0	12.12788	NA	4.39E-05	-1.521314	-1.400087	-1.566196
1	33.26088	28.17733	6.28E-06	-3.54348	-3.058573	-3.72301
2	59.04991	21.49086*	5.86e-07*	-6.341652*	-5.493065*	-6.655829*
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Source: Researcher's own findings using EViews 10

Table 4 shows that LR, FPE, AIC, SC and HQ lag selection criterions suggest lag 2 as the optimum lag length.

4. Estimation of the Long run model

Ordinary Least Squares (OLS) technique was used to determine the long run relationship between FDI, inflation and economic growth. The results are shown in table 5 below.

Table 5: Long run ARDL model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.62811	0.361889	51.47481	0.000
INF	-0.00361	0.000928	-3.89346	0.003
GDP	0.500855	0.170955	2.929757	0.015

Source: Researcher's own findings using EViews 10

The results in Table 5 above show that inflation has a statistically significant negative impact on FDI in the long run since its p-value is less than 5%. It was also discovered that GDP has a statistically significant positive impact on FDI in the long run since its p-value is below 5%. These findings converge with Mostafa (2020) and Valli & Masih (2014) who found that the inflation rate has a significant negative impact on FDI inflows in the long run. The findings of the study established that inflation has a negative impact on FDI inflows in Zimbabwe. Inflation negatively affects FDI in the short run and long run. The study found that investors can easily translate the high inflation rates to poor economic conditions, and this results in a wave of investor despondency. The findings from the

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

Error Correction Model showed that there is a negative correlation between FDI and inflation in the short run. The results from the Ordinary Least Squares method showed that inflation also has a negative impact on FDI in the long run. On the contrary, the results indicated that there is a positive relationship between GDP and FDI. This converges with Harada (2024) who affirms that most developing economies experience erratic inflation, which subsequently hinders FDI inflows from highly effective foreign investors.

5. Tests for heteroskedasticity serial correlation and Model Misspecification test

The results of the tests for heteroskedasticity and serial correlation are shown in table 6 below.

Table 6 Diagnostics tests

Test	Results	P-Values
Heteroscedasticity *(Breusch -Pagan Godfrey test)*	F-Statistics 1.97704 Obs*R-squared 3.68373 Scaled Explained SS 2.56011	0.1890 0.1585 0.2779
Auto correlation *(Breusch Godfrey Serial Correlation LM Test)*	F-Statistics 0.75815 Obs*R-squared 2.071375	0.4994 0.3550
Model misspecification *(Ramsey RESET Test)*	F-statistic 0.962237 Likelihood ratio 1.286197	0.3498 0.2567

Source: Researcher's own analysis using EViews 10

Table 6 above indicate that the error term is homoscedastic since the p-value for the Breusch -Pagan Godfrey test is greater than 5%. It was also found that the model is free from serial correlation since the p-value for the Breusch Godfrey Serial Correlation LM Test is greater than 5%. The Ramsey RESET Test further shows that the model is correctly specified as the p-value of 0.3498 is more than the 5% level of significance.

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

6. ARDL bounds test

The results of the ARDL bounds test are displayed in table 7 below.

Table 7: ARDL Bounds Test

F-Bounds Test				
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	1379.371	10%	2.63	3.35
K	2	5%	3.1	3.87
		2.50%	3.55	4.38
		1%	4.13	5

Source: Researcher's own analsyis using EViews 10

Table 7 above shows that, at the 5% level of significance, the F-statistic value, 1379.371 is greater than the lower bound value, 3.1, and the 5% upper bound value, 3.87, and this implies cointegration exists among the variables. This shows that there is a long-run relationship between FDI, inflation and GDP.

7. Error Correction Model

The results of a short run dynamics of the model are displayed below in Table 8 overleaf.

Table 8: Error Correction Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LN_FDI(-1))	-0.046572	0.008915	-5.22405	0.0347
D(INF)	-0.000396	3.67E-05	-10.7814	0.0085
D(INF(-1))	-0.025699	0.000209	-122.715	0.0001
D(GDP)	0.39767	0.002147	185.2344	0.0032
D(GDP(-1))	-0.01949	0.0063	-3.0937	0.0905
CointEq(-1)*	-0.751759	0.006401	-117.447	0.0001
R-squared	0.999989	Mean dependent var		0.031664
Adjusted R-squared	0.999978	S.D. dependent var		1.297458

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153

S.E. of regression	0.00607	Akaike info criterion		-7.06847
Sum squared resid	0.000184	Schwarz criterion		-6.85144
Log likelihood	44.87658	Hannan-Quinn criter.		-7.20528
Durbin-Watson stat	1.904798	Probability F-statistic		0.000072
Jarque –Bera	0.506787			
correlogram Q statistics	0.912			

Source: Researcher's own findings using EViews 10

The results in table 8 above show that inflation has a statistically significant negative impact on FDI in the short run since its p-value is less than 5%. It was also found that GDP has a statistically significant positive impact on FDI in the short run since its p-value is less than 5%. However, GDP has a statistically insignificant negative impact on FDI in the first lag since its p-value is greater than 5% level of significance. The results for the negative short run relationship between inflation and FDI contradict Mostafa (2020) who concluded that inflation rate has a significant negative impact on FDI in the long-run but an insignificant relationship in the short-run. Meftah & Nassour (2019) and Hong & Ali (2020) also argue that there is no impact on FDI in the short run. The error correction term [CointEq(-1)] has a negative coefficient that is statistically significant at the 5% level since its p-value of 0. 0001 is less than 5%. The Durbin -Watson value of 1.904798 confirms that the model does not suffer from auto correlation since the Durbin Watson test lies between 1.5 and 2. It was also concluded that the model is a good fit since its R -squared value is 0.99 and the F-value is less than 5% level of significance.

Finally, the tests of cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMSQ) are performed to assess the stability of the parameters in the ARDL model. This is shown belowFigure 1 and Figure 2 overleaf.

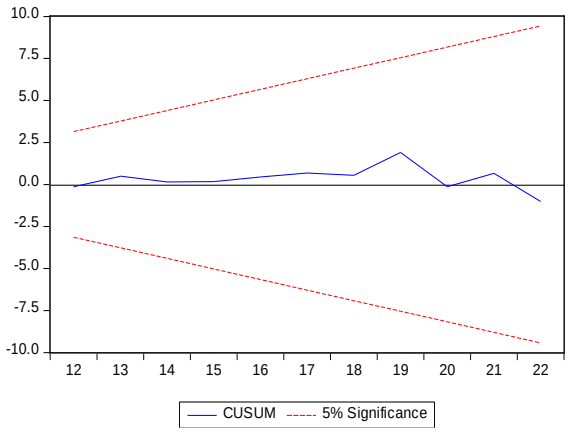
Figure 2: CUSUM

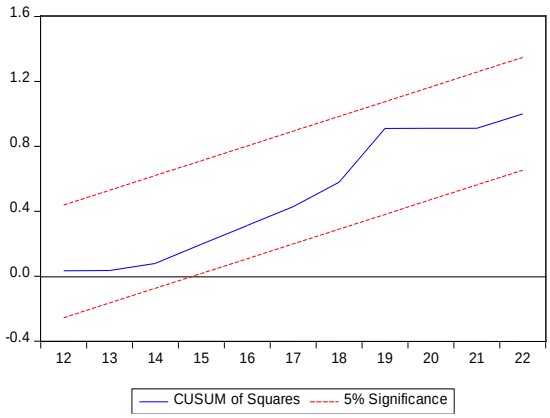
Figure 3: CUSUMSQUARE

International Journal of Research in Commerce and Management Studies

ISSN 2582-2292

Vol. 7, No. 01 Jan-Feb; 2025 Page. No. 133-153





Source: Researcher's own findings using EViews 10

Source: Researcher's own findings using EViews 10

Figure 2 shows that the CUSUM line is within its critical lines at 5% level of significance. It proves the stability of the model. Figure 3 shows that the CUSUMSQ line does not cross its two critical lines and this also indicates that the model is stable.

IV. DISCUSSION

The results of the research confirmed that inflation negatively impacts on FDI inflows in Zimbabwe. Inflation negatively affects FDI in the short run and long run. The study found that investors could easily translate the high inflation rates to poor economic conditions, and this result in a wave of investor despondency. The results from the Error Correction Model showed that there is a negative relationship between FDI and inflation in the short run. The results from the Ordinary Least Squares method showed that inflation also has a negative impact on FDI in the long run. On the contrary, the results indicated that there is a positive relationship between GDP and FDI. The study revealed that FDI is of great significance in Zimbabwe. It was found that is FDI very critical for boosting economic performance and the nation's productivity.

V. CONCLUSION

The aim of the study was to examine the impact of inflation on foreign direct investment (FDI) inflows in Zimbabwe from 2009 to 2022. An ARDL technique was employed to evaluate the dynamics of the relationship in the long run and short run. The study concluded that inflation has a negative impact on FDI inflows in Zimbabwe. Inflation negatively affects FDI in the short run and long run. The study also concludes that high inflation rates significantly constrict FDI inflows into the country. High inflation rates discourage international investors as they adversely affect the business profits. The study concluded that FDI inflows are of great significance to Zimbabwe as the country currently needs

FDI inflows to boost economic performance and improve the nation's productivity. This study may be used by economists to contribute to the on-going discussion about FDI's relationship with inflation. Other students in the same area of study may find a reference basis and use the findings as a starting point for future research about FDI inflows and inflation. These results may help policy makers to devise monetary policies that cater for the consistency of inflation rates, with the goal of increasing the inflows of foreign direct investment into Zimbabwe as well as assisting international investors, to make informed decisions about penetrating the Zimbabwean market. Although this study achieved its objectives, there are still gaps where further research can be conducted. Future researchers can use a larger set of data over a longer period of time. Independent variables like exchange rates, political stability, technology, government policies and interest rates should be considered. The consequences of over reliance on FDI inflows for the progression of an economy can also be explored. It can also be considered to investigate how developing economies like Zimbabwe can boost economic growth on domestic capital rather than completely relying on foreign direct investment.

REFERENCES

Adams, S. & Opoku, E. E. O.(2015). Foreign direct investment, regulations and growth in sub-Saharan Africa. *Economic Analysis and Policy*, 47(C), 48-56.

Argandona, A. (2016).Gross Domestic Prduct (GDP) and Gross National Product (GNP). *IESE Business School-University of Navarra. Working Paper WP-1153-E September, 2016*

Alshamsi, K. H., Hussin , M. R. b. & Azam, M. (2015). The impact of inflation and GDP per capita on foreign direct investment: the case of United Arab Emirates. *Journal on Investment Management and Financial Innovations, 12(3-1), 132-141*

Alba, J. D., Park, D. & Wang, P. (2009). The Impact of Exchange Rate on FDI and the Interdependence of FDI over Time. *ADB Economics :Working Paper Series.*

Anderson, E. (2005). Openness and Inequality in Developing Countries:A Review of Theory and Recent Evidence. *World Development,* 33(7), 1045-1063.

Ariss, R. T. (2012). *Understanding Inflation and Revising National Price Data.*. Beirut- Lebanon: Lebanese Economic Association,.

Akinboade, O.A., Siebrits, F.K & Roussot, E.W.N. (2006). Foreign Direct Investment in South Africa. *(In Ajayi, S.I. ed. Foreign Direct Investment in Sub-Saharan Africa: Origins, targets, impact and potential. City Square, NRB: African Economic Research Consortium, 2006, 177 – 208).*

Ayaya, V. W. (2017). *The Effect of Public Debt on Foreign DirectInvestments Inflows in Kenya,* A research projetc submitted in partial fulfillment of the requirements for the award of Msters of Science in Finance Degree, University Of Nairobi.

Bayraktar , N. (2013). Foreign Direct Investment and Investment Climate. *Procedia Economics and Finance,* 5, 83-92

Bennoit, K.. (2011). Linear regression models with logarithmic transformations. *London School of Economics,* 22(1), 23-36.

Brew, L., Ettih, K. B. & Wiah, E. N. (2020). Cointegration Analysis of the Relationship between the Prices of Crude Oil and Its Petroleum Products in Ghana. *Journal of Mathematical Finance,* 10(4).

Chaudhuri, S. & Mukhopadhyay, U. (2014). *Chapter 10: Sketching the future research path of FDI in Developing Countries, 1-15*. DOI: 10.1007/978-81-322-1898-2_10

Coskun, R.(2001). Determinants of direct foreign investment in Turkey. *European Business Review, 13(4):221-227*

Denisia, V. (2010). Foreign Direct Investment Theories: An Overview of the main FDI theories. *European Journal of Interdisciplinary Studies,* 2(2), 104-110.

Dismuke, C. & Lindrooth, R. (2006). *Methods and designs for outcomes research,* 93 (1), 93-104.

Dritsakis, N. & Stamatiou, P. (2016). The effects of unemployment on economic growth in Greece : An ARDL bound test approach. *The Romanian Economic Journal,* 19(62), 53-72.

Dunning, J. H. (1979). Explaining Changing Patterns of International Production: In Defence of the Eclectic Theory. *Bulletin of Economics and Statistics, 41, 269-295.* http://dx.doi.org/10.1111/j.1468-0084.1979.mp41004003.x

Froot, K. A. & Stein, J. C. (1991). Exchange rates and foreign direct investments:An imperfect Capital Markets Approach. *Quaterly Journal of Economics,* 106(4), 1191-1217

Gwenhamo, F. (2011). Foreign direct investment in Zimbabwe: the role of institutional and macroeconomic factors. *South African Journal of Economics,*, 79(3), 211-223.

Globerman, S & Shapiro, D. (2002). Global Foreign Direct Investment Flows: The Role of Governance Infrastructure,*World Development,* 30(11), 1899-1919,

Gochero , P. & Boopen, S. (2020). The effect of mining foreign direct investment inflow on the economic growth of Zimbabwe. *Journal of Economic Structures,* 9(54).1-17

Gochero, P. (2018). Econometric Analysis of Foreign Direct Investment in the Zimbabwean Mining Sector 2005-2014.*Theoretical Economics Letters, 8, 3157-3177. DOI: 10.4236/tel.2018.814196.*

Graham, E.H. and Krugman, R. (1991). Foreign Direct Investment in the United States. Washington, D.C.: *Institute for International Economics, 44(3), 476-478.*

Halvorsen, T. (2012). Size, Location and Agglomeration of Inward Foreign Direct Investment (FDI) in the United States. *EconPapers :Regional Studies,* 46(5), 669-682.

Harada, T. (2024). Developing Countries after the COVID-19 Shock: Inflation, Debt Crisis and Future Outlook. *JICA Ogata Sadako Research Institute for Peace and Development, HST, 2, 18-33.*

Hilmola, O.P. (2021). Inflation and Hyperinflation Countries in 2018–2020: Risks of Different Assets and Foreign Trade. *Journal of risk and financial management.14(12), 618; https://doi.org/10.3390/jrfm14120618*

Hong, T. Y. & Ali, D. H. A. (2020). The Impact of Inflation Towards Foreign Direct Investment in Malaysia And Iran. *International Journal of ACademic Research in Business and Social Sciences,*

10(6), 210-216.

IMF (1977). *International Monetary Fund Annual Report 1977*.

Ivanov, V. & Kilian, L. (2005). A Practitioner's Guide to Lag Order Selection For VAR Impulse Response Analysis. *Studies in Nonlinear Dynamics & Econometrics,* De Gruyter, 9(1), 1-36

Jenkins, C. and Thomas, L. (2002). *Foreign Direct Investment in Southern Africa: Determinants, Characteristics and Implications for Economic Growth and Poverty Alleviation*. CSAE, Oxford.

Kadongo, O. C. (2011). *Foreign Exchange Risk and the Flow of International Portfolio Capital: Evidence from Africa's Capital Markets.,* Witwatersrand: University of the Witwatersrand.: Unpublished PhD.

Kanyenze, G., Chitambara, P & Judith Tyson, J. (2017).*The Outlook for the Zimbabwean Economy. Supporting Economic Transformation (SET).*

Kodongo, O. & Ojah, K. (2016). Does Infrastructure Really Explain Economic Growth in Sub-Saharan Africa?. *Economic Research Southern Africa.6(2), 105-125*

Kripfganz, S. & Schneider, D. C. (2018). *ardl: Estimating autoregressive distributed lag and equilibrium correction models. TUPD Discussion Papers 18*, Graduate School of Economics and Management, Tohoku University

Lokesha, B. K. & Leelavathy, D. S. (2012). Determinants of foreign direct investment :A macro persperctive. *Indian Journal of Industrial Relations, 47(3), 459-469*

Manda , S. (2022). Assessing Money Supply, Exchange Rate and Inflation Dynamics in Zimbabwe. *Inyternational Journal of Management Studies and Social Science Research,* 4(4), 153-164.

Mason, R. L. & Vracheva, V., 2017. The impact of inflation targeting on attracting foreign direct investment. *Journal of Applied Business and Economics,* 19(4), 79-94.

Meftah, S. & Nassour, A. (2019). Macroeconomic Variables and Foreign Direct Investments in Turkey. *Jurnal IIumi Ekonomi,* 8(2), 195 - 206.

Montenegro, A. (2019). The Ardl Bounds Cointegration Test: Tips for Application and Pretesting *(July 24, 2019). Available at SSRN: https://ssrn.com/abstract=3425994 or* [*http://dx.doi.org/10.2139/ssrn.3425994*](http://dx.doi.org/10.2139/ssrn.3425994)

Mostafa, M. M. (2020). Impacts of Inflation and Exchange Rate on Foreign Direct Investment in Bangladesh. *International Journal of Science and Business,* 4(11), 53-69.

Munangagwa, C. L. (2009). The Economic Decline of Zimbabwe.Gettysburg Economic Review, 3(9). https://cupola.gettysburg.edu/ger/vol3/iss1/9

Muzurura, J. (2016). Determinants of foreign direct investment (FDI) in Zimbabwe: What factors matter? *MPRA Paper 99873,* University Library of Munich, Germany, revised 04 Jun 2016.

Muwando, S,& Nzou, A. (2023). Impact of external debt on foreign direct investments (FDI) inflows in Zimbabwe. *Journal of Business, 9(1),* 1-13

Muwando, S., Gumbo, V & Tembo, G. (2024). Modelling the Country Risk of Zambia. *Journal of Political Risk, 12(8).*

Narayan, P. K. (2004a). *Reformulating critical values for the bounds F -statictics approach to cointegration: an application to the tourism demand model for Fiji, Department of Economics Discussion Papers No. 02/04*, Monash University, Melbourne, Australia

Nicoletti, G., Golub, S., Hajkova, D., Mirza, D. and Yoo K. (2003). Policies and International Integration: Influences on Trade and Foreign Direct Investment. OECD Working Paper No. 359.

Nkoro , E. & Uko, A. K. (2016). Autoregressive Distributed Lag (ARDL) cointegration technique:application and interpretation. *Journal of Statistical and Econometric Methods*, 5(4), 63-91.

Nwankwo, A. (2006). The Determinants of Foreign Direct Investment Inflows (FDI) in Nigeria. 6th Global Conference on Business & Economics.

O'Meara, G. (2015). Examining the determinants of foreign direct investment. *Undergraduate Economic Review*, 11(1), 529-540.

Pasara , M. & Gaderira, R.(2020). The Boomerang Effects: An analysis of the Pre and Post Dollarization Era In Zimbabwe. *Journal of International Economics*, 8(32), 1-20

Pahlavani, M., Wilson, E. & Worthington, A. C. (2005). Trade-GDP Nexus in Iran:An Application of the Autoregressive Distributed Lag (ARDL) Model. *American Journal of Applied Sciences* , 2(7), 1158-1165.

Pesaran, H. M. & Smith, R. (1995). Estimating long-run relationships from dynamic heterogeneous panels. *Journal of Econometrics*, 65(1), 79-113.

Pesaran, M., Shin , . Y. & Smith, R. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 289–326.

Pholphirul, P. (2002). *Foreign Direct Investment, Exchange Rate Pass-through, and Exchange Rate Volatility:A Perspective of Spatial Panel Data.* Georgia: Georgia State University

Pigato, M. A. (2005). Foreign direct Investment in Africa: Old tales and New Evidence. *Africa Region Working Paper Series No.* 8.

Rafiq, S. (2013). What do Energy Prices tell us about UK inflation? *Economica, London School of Economics and Political Science, 81(322), 293-310*

Sayek, S., 1999. FDI and inflation: Theory and evidence. Available from: http://ejbe.org/EJBE2010Vol03 No06p27AZAM.pdf, accessed on: 12.06.2024.

Sayek, S. (2009). Foreign direct investment and inflation.. *Southern Economic Journal*, 76(2), 419-443.

Schneider, F. and Frey, B. (1985) Economic and Political Determinants of Foreign Direct Investment. World Development, 13, 161-175; https://doi.org/10.1016/0305-750X(85)90002-6.

Singhania, M. & Saini, N. (2018) . Determinants of FPI in Developed and Developing Countries. *Global Business Review*, 19(1), 187-213.

Tapera, J. (2016). African industrial revolution and strategies for attracting foreign direct investment for sustainable economic growth & development in African Countries: The Zimbabwean case.

International Journal of Economics, Commerce and Management, 44, 31-43.

Tsaurai, K. (2018). Investigating the Impact of Inflation on Foreign Direct Investment in Southern Africa. *Journal Of Economics*, 14(4), 597-611.

Tsaurai, K. (2017). Investigating the Impact of Inflation on Foreign Direct Investment in Southern Africa. *ACTA UNIVERSITATIS DANUBIUS*, 14(4).

Tsaurai, K. & Odhiambo, N. M. (2012). Foreign direct investment and economic growth in Zimbabwe: a dynamic causality test. *International Journal Economic Policy in Emerging Economies*, 5(2), 183-194.

United Nations Conference on Trade and Development (UNCTAD)(2014). 2014 World Investknet Report. Investing in the SDGs: An Action Plan.

United Nations Conference on Trade and Development (UNCTAD)(2021). Economic Development in Africa Report 2021: Reaping the Potential Benefits of the African Continental Free Trade Area for Inclusive Growth. https://unctad.org/system/files/official-document/aldcafrica2021_en.pdf

United Nations Conference on Trade and Development (UNCTAD)(2022). Methodoligical Note:World Invetsmnet Report 2022. https://unctad.org/system/files/official-document/wir2022_chMethodNote_en.pdf

US Bureau of Economic and Business Affairs Report (2023). 2023 Investment Climate Statements: Zimbabwe. https://www.state.gov/reports/2023-investment-climate-statements/zimbabwe, accessed on 24/11/24

US Bureau of Economic and Business Affairs Report (2024). 2024 Investment Climate Statements: Zimbabwe. https://www.state.gov/reports/2024-investment-climate-statements/zimbabwe, accessed on 10/11/24

Valli, M. & Masih, M. (2014). Is there any causality between inflation and FDI in an 'inflation targeting' regime? Evidence from South Africa. *MPRA Paper 60246, University Library of Munich, Germany.*

Vernon, R. (1966). International Investment and International Trade in the Product Cycle. *Quarterly Journal of Economics*, 80, 190-207. http://dx.doi.org/10.2307/1880689

Wanjiru, R. (2013). Free Trade Zones and the Attraction of FDI to New Locations in Peripheral Regions; perspectives from SubSuharan Africa. *Regions Magazine*, 291(1), 13-15.