

Zimbabwe economic indicators and the global peace index ranking

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Abstract

This study examined the relationship between the Global Peace Index Ranking and Economic Indicators for Zimbabwe. The Global Peace Index Ranking was used as the regressor and Economic Indicators represented by Inflation, Foreign Direct Investment and Interest Rates as the regressand. The data covered period 2010-2018. In this study, we used the Ordinary Least Squares to estimate the regression equation as the data were stationary at levels. After all necessary statistical tests were undertaken, it was determined that the model was reasonably well specified as indicated by the F-statistic results. The estimation results revealed that there is a significant inverse relationship between Global Peace Index Ranking and Foreign Direct Investment, meaning to say, the higher the percentage in the Global Peace Index Ranking the lower the Foreign Direct Investment and vice-versa. The study also determined a positive relationship between Global Peace Index Ranking and Inflation, meaning to say, the higher the percentage in the Global Peace Index Ranking, the higher the Inflation Rate and vice-versa. However, there was no relationship determined for Global Peace Index Ranking and Interest Rates. Basing on these results, the Zimbabwean government should endeavour to decentralise the management of protests, by coming up with structures at community levels that would ensure peace prevails in the country, thus enhancing the acquisition of the much needed Foreign Direct Investment and keeping Inflation at manageable levels.

Keywords: peacefulness, inflation, foreign direct investment, global peace index

Introduction

Global Peace Index (GPI) measures the relative position of nations' and regions' peacefulness (IEP, 2017) ^[3]. The GPI ranks 163 independent states and territories according to their levels of peacefulness. In the past decade, the GPI has presented trends of increased global violence and less peacefulness (Wang and Monica, 2017).

The GPI is a report produced by the Institute for Economics and Peace (IEP) and developed in consultation with an international panel of peace experts from peace institutes and think tanks with data collected and collated by the Economist Intelligence Unit (EIU). The lower the position a country occupies in the ranking, the less peacefulness the country is and vice versa.

The 2017 GPI indicates Iceland, New Zealand, Portugal, Austria, and Denmark to be the most peaceful countries and Syria, Afghanistan, Iraq, South Sudan, and Yemen to be the least peaceful (IEP, 2017) ^[3]. Zimbabwe is ranked 124 out of 163, which is not a safe position (IEP, 2018) ^[2]. Despite the relevant information provided by the IEP, there is no information regarding the extent to which country's peacefulness impacts on key economic indicators of an economy. This study, therefore, sought to determine the extent to which Zimbabwe Economic Indicators which includes, Inflation, Interest Rates and Foreign Direct Investment relate to the Global Peace Index Ranking.

2. Background to the Problem of the Study

For the recent past, Zimbabwe has been experiencing situations of violence which saw people dying and

properties destroyed in the process despite the call by the Head of State His Excellence Emmerson Dambudzo Mnangagwa to observe the need for peace. The cases of violence saw the country plunging in the lowest rankings, according to the GPI (2018) ^[4].

Zimbabwe, whose vision is of becoming a middle economy by 2030, should ensure peace prevails at all cost. However, this paper strongly believes that without attending to issues to do with peace, the dream of becoming a middle economy status will remain illusionary.

In fact, Zimbabwe introduced a myriad of policies all directed towards economic growth, with some being specific to Inflation (Infl), Interest Rate (IR) and Foreign Direct Investment (FDI). This paper gives a theoretical discussion as to how the three indicators relate to countries peacefulness.

i) Inflation and Peace

IEP (2018) ^[2] has it that price instability has negative implications for economic activity through its effects on savings investments and consumption. According to Cilliers, Hughes, and Moyer, (2018), low and stable inflation mean that changes in the general level of prices are small and predictable, which reduces future uncertainty for investors. In contrast, price volatility creates risks, reduces profitability and can lead to a concentration of savings in safer but less-productive assets (Mukoka, 2017) ^[13]. It can also lead to contractionary monetary policies, including higher interest rates which make it difficult for businesses as well as consumers to borrow and invest (Cilliers, Hughes,

and Moyer, 2018).

High peaceful countries have been more effective in maintaining lower inflation and avoiding incidences of hyperinflation (IEP, 2018) [2]. Literature has it that average inflation in very high peace countries are three times lower than in the least peaceful countries. According to the IEP (2018) [2], long-term median inflation in very high peace countries are 3.5 percent compared to 9.7 percent in very low peace countries. In addition, price volatility is also more prevalent in less peace countries (IEP, 2018) [2].

ii) Interest Rates and Peace

Interest rates are an important indicator of macroeconomic stability and are critical to economic success and investment certainty (McVeigh, 2017). Correlation analysis results for some studies which were carried out revealed that when peace deteriorates, interest rates also become more volatile and unpredictable (McVeigh, 2017). This unpredictability arises from political uncertainties perception of risk and higher inflation. According to McVeigh (2017), a higher interest rates inhibits investment by both businesses and households, leading to a decline in economic activity.

In fact, while interest rates have declined significantly in most countries, highly peaceful countries experienced the largest declines (IEP, 2018) [2]. According to the IEP (2018) [2] report, the median lending rate in the least peaceful countries are more than two times of that in the most peaceful countries since 1990, with the average lending interest rate in the most peaceful countries being 8.7 percent, compared to 20 percent in very low peace countries.

Interest rates are, therefore, affected by many factors, including the business environment, risk, inflation rates and consumption preferences. Therefore, premiums for inflation and risk partially explain the mark-up on interest rates in less peaceful countries (Edmond, 2017) [1].

iii) Foreign Direct Investment (FDI) and Peace

According to IEP, (2018) [2], since 1980, the most peaceful countries outside of the OECD or China have received the equivalent of 2 percent of their GDP in FDI on average, compared to 0.84 percent in the least peaceful countries.

They went on to say empirical research has shown that the FDI is not only a source of much needed finances but also brings new technologies and managerial know-how. Therefore, FDI is an important determinant of economic growth in developing countries. In addition, FDI also facilitates integration with the global economy by increasing trade flows. According to IEP, (2018) [2] country's peacefulness plays a vital role in attracting FDI.

Given this brief background, it is evident that there is need for the study to be carried out to determine the extent to which Global Peace Index Rankings impacts on key economic indicators for a country so that policies that promotes economic growth, through reduction of incidences that enhances violence or protests are enhanced. This study, therefore, seeks to determine the extent to which Inflation, Interest Rates, and FDI relate to the peacefulness (Global Peace Index Rankings) in the Zimbabwe context.

3. Statement of the Problem

Zimbabwe experienced different forms of violence and or protests. This violence and or protests resulted in the loss of

human life as well as destruction property. On the 1st of August 2018 there was violence which led to loss of life and destruction of property. This saw the government setting up a commission of inquiry to determine the cause of violence. Another violence followed on the 14th to 15th February 2019, which saw the destruction of property and loss of life. This was despite the President of Zimbabwe's mantra of observing peace in the country.

According to the IEP Report (2018) [2] Zimbabwe is currently ranked 124 out of 163, which is not a pleasing position. Sadly, it would seem the perpetrators of these violence are ill informed about the detrimental effects the violence has on economic development.

This study believes that understanding the relative importance of a range of potential determinants of growth to peacefulness, influences the nurturing of peaceful societies, both internally and externally. This study, therefore, sought to determine the relationship between Global Peace Index Rankings and Inflation, Interest Rate and Foreign Direct Investment.

4. Research Objectives and Hypothesis

The objective of this study is to determine the relationship between Global Peace Index Rankings and Inflation, Interest Rates and Foreign Direct Investment in the Zimbabwean context, so that informed policies that seeks to enhance peace and economic growth may be recommended. The null hypothesis that pinned this study is that Inflation, Interest Rates and Foreign Direct Investment is negatively related to highly peaceful economy.

5. Method of Analysis

This section explores the methodology applied in the study to determine the relationship between Inflation, Interest Rates, Foreign Direct Investment and country's peacefulness (Global Peace Index Rankings). The study uses secondary yearly data for only four variables, namely, Inflation, Interest Rate, Foreign Direct Investment and Global Peace Index Rankings.

Nine observations were considered since the period under study covers from 2010 to 2018. The data was collected from International Monetary Fund (IMF) Data Base, Global Economy Data Base and Institute of Economics and Peace. In analysing the data, Ordinary least squares (OLS) were used since the data were stationary at levels. The method is useful in developing quantitative relationship between variables, which can be used for prediction. This is the most appropriate technique in view of the test for fitness and simplicity in understanding (Saunders *et al.*, 2018).

To estimate the parameters in the model, we assumed that the assumptions of the OLS hold. This analysis helps us to determine the extent to which the exogenous or policy variables explain the endogenous variable. The test of the explanatory parameters was carried out using the t-statistic which determines the strength of the relationship between the independent variables in the model. It ascertains if each estimated parameters is individually significantly different from zero. The co-efficient of determination (R-squared) was computed. R-squared is used to measure the goodness of fit. It is used to reinforce F-statistic. It takes into account, the degree of freedom and tests the significance of the explained variation in the regressand by the regressor. Based on the theoretical framework, the model used on this study

could be represented mathematically as:

$$Y_t = \beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \mu_t$$

Where;

Y_t = Global Peace Index Rankings, β_0 = Regression Constant, β_1-3 = Coefficient and X_1-3 = Inflation, Interest Rate and Foreign Direct Investment and μ_t = Error term subject to the usual stochastic assumptions.

6. Data Analysis and Interpretation of Results

This section focuses on the empirical estimation, presentation and economic interpretation of the regression results carried out using the methodology highlighted in section 6.0 above and the E-Views (10) Software was used.

Preliminary Tests

Table 1, shows descriptive statistics of the dependant and explanatory variables used in the study for the period 2010 to 2018. Maximum and minimum statistics rule out the possibility of outliers in the data used as the data were transformed logarithms to reduce its variability and enable direct estimation of the parameters. Classical linear regression requires that the residuals be normally distributed and judging by the information in Figures 1 to 4 and the Descriptive Statistic in table 1, all the variables residuals follows a normal distribution, therefore,

Normality Test

This section has been discussed with the aid of the histograms for each variable of the study, so that understanding of the concept of normality can be enhanced.

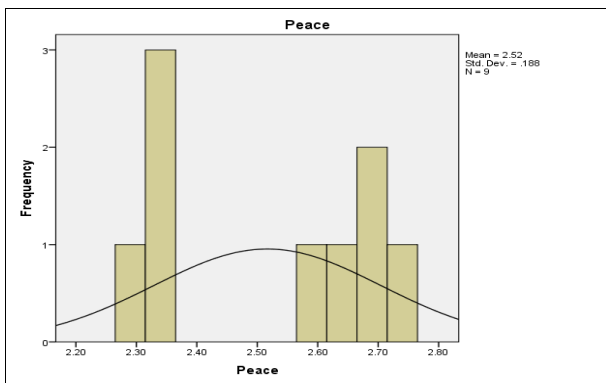


Fig 1: Historical Graph for Peacefulness Variable

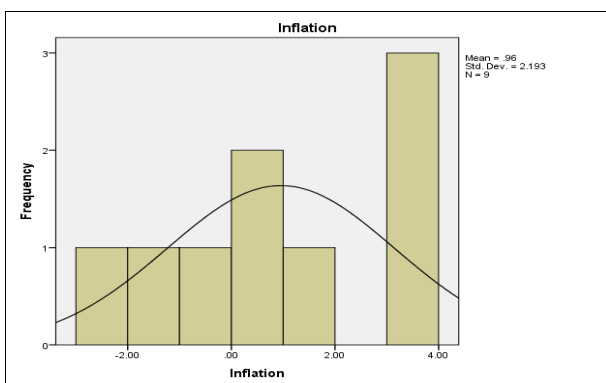


Fig 2: Historical Graph for Inflation Variable

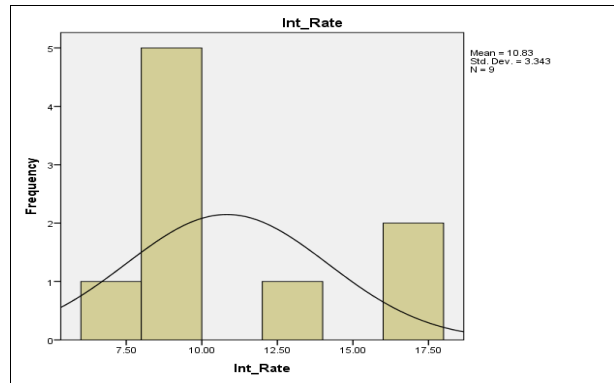


Fig 3: Historical Graph for Interest Rate Variable

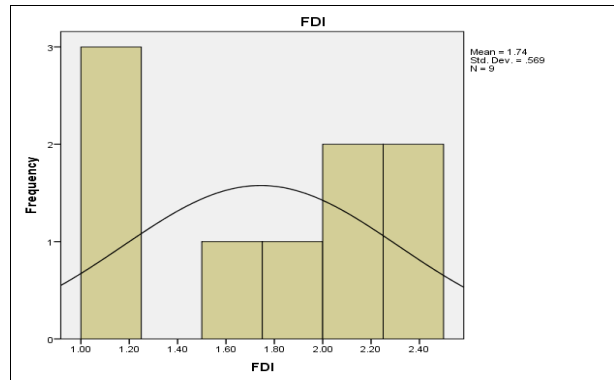


Fig 4: Historical Graph for Foreign Direct Investment Variable

According to Singpirwalla, (2015) [15] ‘...a continuous random variable ‘X’ has a normal distribution if its values fall into a smooth curve that is bell shaped. Therefore, figures 1 to 4 have variables whose data are normally distributed. This is supported by the descriptive statistic shown in table 1 below.

Table 1: Descriptive Statistics

	Peace	Infl. Rate	Int. Rate	FDI
Mean	2.51670	0.95560	10.83110	1.74330
Maximum	2.73000	3.70000	16.40000	2.44000
Minimum	0.22900	-2.40000	7.11000	1.02000
Std. Dev	0.18802	2.19266	3.34323	0.56941
Observations	9	9	9	9

Having described the normality of the data, Table 2 presents the correlation results.

Correlation Test

Table 2: Correlation Matrix

	Peace	Inflation	Inter Rate	FDI
Peace	1.000000	0.739000	0.144000	-0.234000
Inflat	0.739000	1.000000	0.618000	-0.283000
Int rate	0.144000	0.618000	1.000000	-1.185000
FDI	-0.234000	-0.283000	-0.185000	1.000000

The results shown in table 2 suggests both a positive and negative association. For the variables Peace (GPI), Inflation and Interest Rate, there is a positive association, meaning to say, when the Global Peace Index Ranking for

Zimbabwe low, both inflation and interest rates figures are high and vice-versa. On the other hand, there is a negative association between Peace (GPI) and FDI. This means that when the Global Peace Index Rankings is low, FDI tend to be high. These results are conflicting as suggested by the theory relating to the independent variables discussed in the background to the problem of the study in section 2.0 above. Basing on the correlational results, it is difficult for the study to come up with conclusive results regarding the relationship between the variable, hence the need for the regression test.

Regression Analysis Test

Table 3: Ordinary Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob
Inflation	1.044000	0.270000	3.305000	0.0021
Int. Rate	-0.509000	0.170000	-1.647000	0.1610
FDI	-0.330000	0.830000	-0.130000	0.0410
C	2.759000	0.235000	11.718000	0.0000

Dependent Variable: (Peacefulness)

NB***(an increase in GPI Rankings suggests low peacefulness)

R-Squared= 0.707

Adjusted R-Squared = 0.531

F-Statistic = 4.013

Table 3 shows the estimated results exhibiting the coefficient values of the explanatory variables as well as indicating through the probability value whether each respective variable is significant. According to the estimated model above, Inflation and Foreign Direct Investment are statistically significant as shown by the p-values of 0.0021 and 0.0410 respectively. The results entails that 1 percent increase in Global Peace Index Ranking for Zimbabwe results in 33 percent decline in Foreign Direct Investment. Furthermore, 1 percent increase in in Global Peace Index Ranking for Zimbabwe results in 104 percent increase in Inflation. However, Interest Rates are not statistically significant in explaining peacefulness in Zimbabwe as shown by the p-value of 0.1610.

The value of the adjusted R-squared is 53 percent, suggesting that 53 percent variation in Global Peace Index Rankings is explained by the independent variables. The F-Statistic of 4.013 suggests that the model is well specified for the study.

7. Conclusion and Policy Recommendations

Basing on the results of this study, there is great need for the government to take a leading role in ensuring that peace prevails in Zimbabwe.

The Government of Zimbabwe

Whilst efforts can be made to build a peaceful Zimbabwe, emphasis should be directed towards service delivery. It is the responsibility of the government of any country of ensuring that effective and efficient services are provided for its citizens. This entails that the local authorities, the town and municipal councillors must be conscientised to provide at least desired service for its citizens. In fact, the government must promote the setting up of positive peace, which includes the attitudes, institutions, and structures that pre-empt conflict and facilitate functional societies.

The eight pillars of positive peace that the Zimbabwe government should priorities are that of well-functioning government, sound business environment, acceptance of the rights of others, good relations with neighbours, free flow of information, high levels of human capital, low levels of corruption, and equitable distribution of resources. The government should also;

- i) Strengthen data collection, analysis, monitoring and evaluation to support evidence-based policy-making.
- ii) Address the structural drivers of conflict.
- iii) Direct interventions to address ‘stressors’ in violence
- iv) Assess and strengthen the effectiveness of laws governing cases of violence and order institutions.
- v) Strengthen coordination and strategic partnerships at the national, provincial and local level by allowing peace to be managed at Chieftainship levels. This involves;

In the Rural Areas

Through the Local Government, Chiefs, Village Heads and Kraal heads should be allowed to come up with structures that ensures peace prevails in their communities. This would enhance the generation of constructive ideas and principles of accountability. People involved in destructive protests are people who are known, hence giving responsibility to Chiefs, Village Heads and Kraal heads to control the behaviour of their subordinates would be ideal.

In Towns and Cities

Through the Town Councils and Municipalities, Councillors should be given latitudes to control the behaviour of their subordinates and this would enhance the building of a peacefulness Zimbabwe.

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