Trade Liberalisation-Capital Inflow: An Inclusive Framework for Zimbabwe

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Abstract

This study sought to determine a framework of upholding trade liberalism for increased capital inflows in the form of Foreign Direct Investment (FDI) for Zimbabwe. The study used the ARDL-ECM in the determination of the nexus between the two variables, for the data covering 1980 to 2021. E-views Version 9.0 Statistical Package was used to run the regressions. Data were obtained from the Reserve Bank of Zimbabwe, International Monetary Fund and World Bank. The study found that in the short-run, trade openness has a significant inverse relationship with capital flows (FDI), whilst in the long-run there is a significant positive relationship between them for Zimbabwe. The study recommends that there be duty free on capital goods, that the government give incentives on exporters, that all goods exported go through the process of value addition, that the government provide subsidies on exporters and, that the government ensure efficiency at ports through infrastructure development.

Keywords: Trade Liberalisation; Capital Flows; ARDL

Introduction

Policy reforms to eliminate obstructions on trade and kindle capital flows in various economies, is now a cause of concern in both policy and academic circles. Advocates of trade liberalization contend that the drive provide enticements for capital inflows that create positives in the domestic economy. In fact, trade liberalization policies are often intended to open an economy to international business activities. Despite the seemingly benefits that come along with trade liberalization, Zimbabwe trade liberalization policies have been marred by inconsistencies, thus, limiting capital inflows. This study, therefore, seeks to determine a framework that enhances a growth in the capital inflows (FDI) through trade liberalism for Zimbabwe.

Background of the Study

It is remarkable from the postulates of international trade theories, that economies are better off in a free trade system than in autarky, taking cognizance of the different levels of specialization in production from which economies enjoy comparative advantage. The Neo-Classists contend that capital flows from rich economies to poor economies are due to the high marginal productivity of capital in poor economies. Lukas (1990) found no evidence to sustain the assertion, citing that structural rigidities add to the variables that inhibit a free flow of

capital. Antras and Caballero (2007), as well as Shah and Samdani (2015), gave weight to trade integration as an ideal policy for developing economies given that they provide basis for improved output growth and inflow of capital. Ude and Agodi (2015) posit that although trade liberalization tends to diminish the governments' fiscal space through tariff reduction, the benefits outweigh the costs. There are, however, still some differences in the economics circles as to whether or not, countries are better-off with the adoption of liberalisation policies. This paper, therefore, seeks to determine a framework of upholding trade liberalism for increased capital inflows in the form of Foreign Direct Investment (FDI) for Zimbabwe, as guided by the works of Galan (2006), and Ude and Agodi (2015).

- Trends of Zimbabwe Exports and Imports

The volumes of exports and imports in Zimbabwe has not been increasing in a consistent manner since 1980. Figure 1.1 below depicts the trend of the volumes of imports and exports in Zimbabwe for the period 1980 to 2020. From 1980 to 1998, an upward trend was recorded in both export and import volumes. In this period, imports were more than exports for several years, only exports exceeded imports in the period 1984 to 1989. The difference between exports and imports in this period was also low. However, starting in 2000, it witnessed a very large disparity between exports and imports. The trend then increased slightly until 2008, when they suddenly decreased. The trend continued to decline until 2010 and then began to rise again for the remainder of the study period. Some of the variability in the trend is a result of changing trade policies, where economic entities that import and export goods and services have been affected by some trade policies that include changes in import duties and tariffs and other barriers to international trade. Given that this study seeks to determine the connection between trade liberalism and capital flows, the following section discusses capital flows in the context of Foreign Direct Investment.

- Trends of Zimbabwe Capital Flows

The government of Zimbabwe inherited a highly introverted economy at independence in 1980. However, to encourage FDI, the government of Zimbabwe adopted the IMF-funded Economic Structural Adjustment Program (ESAP). The policy was designed to liberalize trade by removing controls and trade restrictions, thereby increasing FDI flows (Robinson, 2002). In a bid to provide FDI, the country introduced the Zimbabwe Development Agency (ZIDA) Bill in 2019. This resulted in the growth FDI inflows from economies such as China and Russia. Intra-Regional FDI also played a role, with countries such as South Africa, Mauritius, Botswana, Kenya, and Zambia contributing significantly. However, though seemingly increased capital flows, there is still subdued FDI to Zimbabwe. This study, therefore, seeks to recommend a trade liberalisation-Capital Flow Framework which seeks to grow the inflow of capital to Zimbabwe.

Research Methodology

The study adopted the ARDL for the long-run results, and an unrestricted Error Correction Model (ECM) for the short-run relationships. The data which covered the period 1980-2021, were obtained from RBZ, IMF and WB databases. In line with theoretical literature, with some modifications, the functional form of the model that was used in this study in relation to trade liberalization and capital flows is as specified below:

$$FDI_t = \beta_0 + \beta_1 LTO_t + \beta_2 RGDP_t + \beta_3 INFL_t + \beta_4 EXD_t + \varepsilon_t$$

Where: ε_t is an error term with zero mean and a constant variance, β's are parameters to be estimated.

FDI_t : Foreign Direct Investment

$RGDP_t$: Real GGDP

LTO_t : Trade Openness

$INFL$: Inflation

EXD_t : External debt

As borrowed from studies which were done by Dhaliwal et al. (2011), Dhaliwal et al. (2012), Zhou et al. (2017) and Vitolla et al. (2019b), the following variables were included in the regression analyses in order to determine the relationship between them. In analysing the effect of trade openness on capital flows, the study adopted the ARDL model as proposed by Pesaran and Shin (1998) and Pesaran et al. (2001). The study preferred the ARDL because the ARDL can be applied to series that are integrated of order (1) and order (0). This means that the ARDL is appropriate regardless of the order of integration of variables. The ARDL model used was specified as follows:

$$\Delta FDI_t = \emptyset_o + \sum_{k=_i}^{n} \emptyset_1 FDI_{t-1} + \sum_{k=_i}^{n} \emptyset_2 \Delta LTO + \sum_{k=_i}^{n} \emptyset_3 \Delta RGDP_t + \sum_{k=_i}^{n} \emptyset_4 \Delta INFL_t + \sum_{k=_i}^{n} \emptyset_5 \Delta EXD_t + \mu_t$$

If the null hypothesis is rejected, it implies that there is cointegration and the error correction model (ECM) is estimated. The ECM is used to assess the speed of adjustment towards long-run equilibrium and is specified as follows:

$$\Delta FDI_t = \beta_0 + \sum_{i=0}^{p} \beta_1 \Delta LTO_{t-1} + \sum_{i=0}^{q} \beta_2 \Delta RGDP_{t-1} + \sum_{i=0}^{r} \beta_3 \Delta INFL_{t-1} + \sum_{i=0}^{s} \beta_4 \Delta EXD_{t-1} + ECM_{t-1} + \mu_t$$

Where, *ECM* is the error correction term, β_0 is the constant, β_1 to β_4 are the short-run impact multipliers and *p, q, r, s* are the lag length which were determined by the Akaike information criterion.

Results and Discussion

Normality Test

Table 4.1: Normality Test Results

	FDI	RGDP	LTO	EXD	INFL
Mean	124797983.7	15153009556	0.401689	59.91536	3613272.43
Median	4000000000	14976453900	0.332151	61.11235	3.91015261
Standard Deviation	175139154.4	3033880452	0.183936	25.65727	2.30488654
Kurtosis	2.057640141	-1.349018108	-0.154431	2.462666	40.9990011

Skewness	1.571545928	-0.118155154	1.045597	0.963112	6.40301028
Minimum	-30506683.75	9582735200	0.201870	12.03111	-2.40950000
Maximum	717865322.2	20114560000	0.860019	146.5215	147597576
Jacque-Bera	33.18396	4.521546	3.224618	56.76471	33.59876
P-Value	0.082868	0.902854	0.756395	0.068456	0.00018
Observations	41	41	41	41	41

Source: E-Views Statistical Packages Version 9.0

Table 4.1 above shows the mean, median, minimum, maximum and standard deviation values of the variables used in the regression model. The mean values of FDI, RGDP, LTO and INFL are greater than their medians and the data of these variables are positively skewed except for RGDP which is negatively skewed. The mean value of EXD is lower than its median. The coefficient of variation of FDI of 1.4 (standard deviation divided by the mean) is greater than 1, which means that FDI has high variability around its mean. The coefficient of variation of RGDP is 0.20 which is less than 1. This means that RGDP is not very volatile. The coefficient of variation of LTO is 0.45 which is less than 1. This means that LTO is not very volatile. In the same manner, the coefficient of variation of EXD is 0.43 which is less than 1. This means that EXD is not very volatile. The coefficient of variation of INFL is 6.37 which exceeds 1. This means that INFL is very volatile.

Correlation Test

Table 4.2: Karl Pearson Correlation Matrix Test Results

	FDI	**LTO**	**RGDP**	**INFL**	**EXD**
FDI	1.000000				
LTO	0.68	1.000000			
RGDP	0.58	0.24	1.000000		
INFL	-0.05	-0.01	-0.18	1.000000	
EXD	0.09	0.14	0.03	0.36	1.0000000

Source: E-Views Statistical Packages Version 9.0

The above correlation matrix shows that there is no multicollinearity between the variables because all the correlation coefficients are less than the 0.8 which is the rule of thumb of multicollinearity (Gujarati, 2003). The correlation matrix also shows that LTO, RGDP and EXD are positively correlated with FDI, whilst INFL has a negative association with FDI.

Unit Root Test

Table 4.3 ADF Unit Root Test Results

Variable	**ADF test statistic**	**Critical value 1%**	**Critical value 5%**	**Critical value 10%**	**Probability**	**Comment**
FDI	-2.6698	-3.6056	-2.9369	-2.6069	0.0008	I(0)
LTO	-4.6778	-3.6105	-2.9389	-2.6079	0.0005	I(1)
RGDP	-3.2769	-3.6329	-2.9484	-2.6128	0.0023	I(0)
INFL	-6.3039	-3.6056	-2.9369	-2.6068	0.0000	I(0)
EXD	-6.3790	-3.6104	-2.9389	-2.6079	0.0000	I(1)

Source: E-Views Statistical Packages Version 9.0

The ADF test results above shows that FDI, RGDP and INFL are stationary in their level form. INFL is stationary in levels at 1% level of significance. RGDP is stationary in its level form at 5% level of significance. FDI is stationary in its level form at 10% level of significance. EXD and LTO are non-stationary in its level form.

Lag length Selection Criteria

The Akaike information criteria was used to select the lag length of the variables in the ARDL specification. Table 4.4 below shows the results of the lag length selection.

Table 4.4: Akaike Information Criteria Lag Length Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-736.0789	NA*	1.46	40.05832	40.27601*	40.13506*
1	-735.6348	0.744062	1.51	40.08837*	40.34960	40.18047
2	-735.4911	0.233141	1.58	40.13465	40.43942	40.24210
3	-734.3824	1.737872	1,58	40.12878	40.47709	40.25157
4	-734.3814	0.001577	1.67	40.18278	40.57462	40.32092

Source: E-Views Statistical Packages Version 9.0

The lag length for the study was informed by AIC. Hence, a lag length of one (1) was adopted for this study.

Cointegration Test

Table 4.5: Cointegration Test Results

Significance level	I0	I1
10%	2.67	3.44
5%	3.15	4.07
2.5%	3.21	4.23
1%	4.13	5.09

F-Statistic 6.395738

Source: E-Views Statistical Packages Version 9.0

The results for the study confirm the existence of cointegration amongst variables, as supported by an F-statistic value of 6.395738, which is above the upper bound critical value at 5% levels. These results are enough to motivate study to adopt the ARDL for the long-run results, and an unrestricted Error Correction Model (ECM) to determine the short-run relationships.

ARDL-ECModel

Table 4.6 ARDL-ECM Model Test Results

Dependent Variable: Foreign Direct Investment (LNFDI)

Variable	Short-Run Co-efficient	Probability	Decision
LnLTO	-0.0113	0.007	Significant
LnRGDP	0.0391	0.021	Significant

LnINFL	0.2023	0.496	Significant
LnEXD	0.0054	0.036	Significant
ECT	-0.8431	0.000	Significant
Variable	**Long-Run Co-efficient**	**Probability**	**Decision**
LnLTO	0.1007	0.0016	Significant
LnRGDP	0.8031	0.0429	Significant
LnINFL	-0.0174	0.024	Significant
lnEXD	-0.0609	0.047	Significant

Source: E-Views Statistical Packages Version 9.0

The results presented in the table 4.6 above shows error correction term (ECT) of 84% which is plausible for policy responsiveness. For the ECM, the trade openness has a significant negative coefficient of 0.0113. This suggest that a 1% increase in trade openness, results in a decrease in FDI by 1%. For the ARDL, the trade openness recorded a significant positive coefficient of 0.1007. This suggest that a 1% increase in trade openness, result in 10% increase in FDI. The results could have been due to that since Zimbabwe is still growing, the increased importation of capital goods, and exportation of minerals and agricultural products stimulate the desire to invest in the country in the form of capital inflows (FDI). The high coefficient of the ECT motivates policy makers to formulate policies that promote trade openness so as to grow the much-needed FDI for Zimbabwe.

Stability Tests

The model was diagnosed to determine if it is well specified.

Table 4.7: Stability Test Results

Test	P-value	Comment
Ramsey RESET Test	0.8089	The model is correctly specified
Serial-Correlation Test	0.9575	There is no serial correlation
Heteroskedasticity Test	0.3735	There is no Heteroskedasticity

Source: E-Views Statistical Packages Version 9.0

Conclusion and Recommendations

The study found that the trade openness coefficient is statistically significant at influencing capital inflow (FDI). This means that, trade openness is important in determining capital flows in Zimbabwe. Due to globalization, most of the countries, especially developing countries have been ratifying some trade policies that had saw most countries removing trade barriers that have been in existence for so many years. The most obvious reason is that most developing nations have realized that they do not live in isolation and can grow their economies through engaging in international trade. This could create a chance for improved capital flows into Zimbabwe since the study support that trade openness could attract capital inflows into the country.

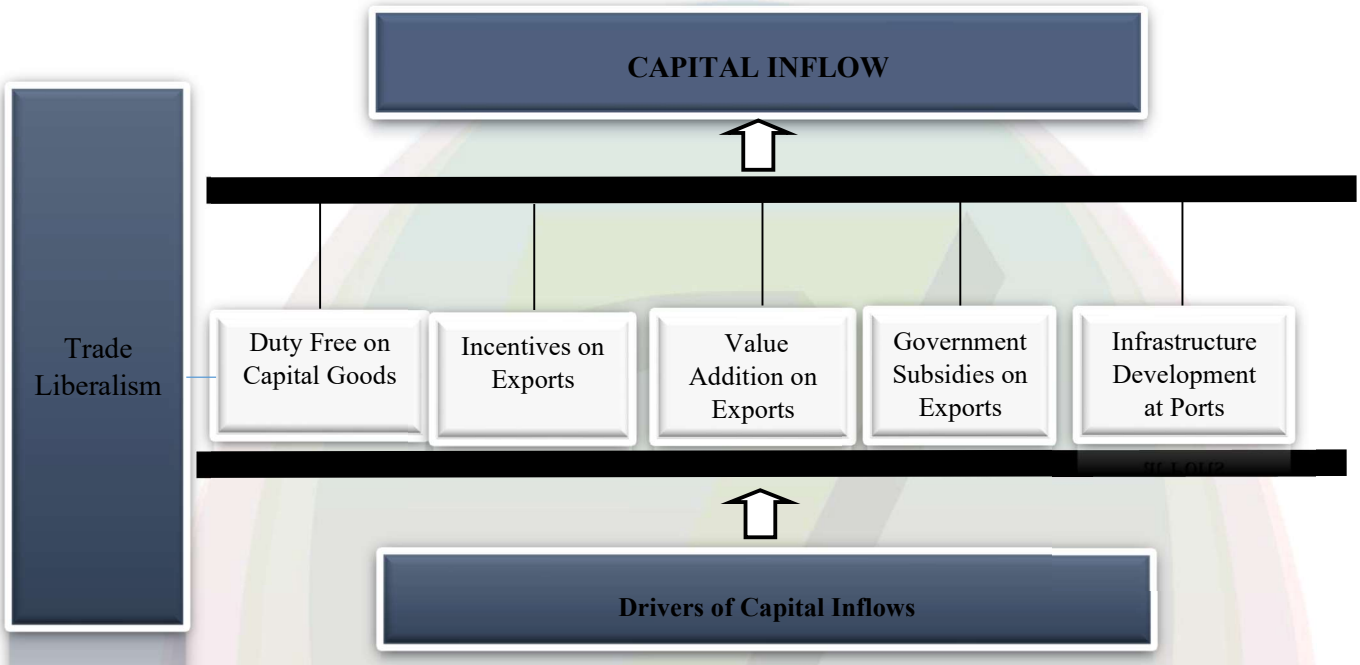

Figure 5.1: Trade Liberalism-Capital Inflow Framework (Self, 2022)

Explanation of the Framework

In an endeavour to grow the capital inflow in the face of trade liberalism, the study recommends the following;

- that there be free duty on capital goods;
- that the government give incentives on exporters;
- that all goods exported must have gone through the process of value addition;
- that the government provide subsidies on exporters and;
- that the government ensure efficiency at ports through infrastructure development

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