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FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN RWANDA

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ABSTRACT

This paper aimed to empirically Analyze the Foreign Direct Investment and economic growth and other relatively important factors which stimulate the process of economic growth in the economy of Rwanda between the periods of 2007 to 2017 by conducting descriptive statistics, unit root test, and Autoregressive Distributed Lag (ARDL) Bounds testing approach, and error correction model for analyzing the growth model derived. In order to explain the changes occurred in real GDP over the study period, the model retained three domestic factors (export, saving and inflation), and one external factor Foreign Direct Investment (FDI) as independent variables. Secondary data was used; the model has been estimated to determine the short and long-term elasticities and their significance. The empirical results points out that in the short and long-term, FDI, DEX, SAV represent the driving forces for economic growth in Rwanda. In addition, FDI was found to have a positive and significant impact on economic growth in both the long and short-term period. Error-correction model has been used to support the existence of a stable long-term relationship and confirm a deviation from the long-term equilibrium following a short-term shock corrected by approximately 32.9 percent after each year. The correlation analysis revealed that there is a strong positive correlation between FDI and economic growth during 2007-2017.

The study recommends strong institutional framework need to be reviewed and policies to attract FDI should be reviewed since empirical evidence do not support the importance of policies like tax incentives including tax cut and tax holidays since these appears to be negatively affecting FDI attraction and hence may be growth deterrence.

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Key words: Foreign direct investment, economic growth, Gross Domestic Product, Savings, Domestic exports

INTRODUCTION

Over recent decades, foreign direct investment (FDI) by multinational corporations (MNCs) has become a prime source of external financing for developing countries. This is important because, given the smallness of the economies of these countries, the revenue collection is small and hence FDIs supplement domestic saving efforts and narrow down the resource gaps. FDI are also important to developed and emerging economies (2016).

FDI is defined as business investment in another country, which often takes the form of setting up local production facilities (through Greenfeld) or purchase of an existing business through merger and acquisitions (Rutherford, 1992: pp 178; 1995: pp 178-179) FDI are normally undertaken by multinational enterprises (MNEs) also known as transnational corporations (TNCs) which must have at least 10 percent of the equity shares (Obwona, 2008)

The OECD has defined FDI to be a category of cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor." The "lasting interest" is defined as an investment that allows the investor to own at least 10 percent of the voting power of the target enterprise. FDI do not include the purchase of shares (OECD benchmark definition of FDI-fourth edition, 2008).

In theory, the mechanism by which FDI may affect host country's economies is largely through externalities. The mechanisms for these externalities are the adoption of foreign technology and know-how which can happen via licensing agreements, imitation, employees training, and the introduction of new processes, and products by foreign firms; and the creator of linkages between foreign and domestic firms (Alfaro &Canda, 2006). Due to its potential knowledge transfer, job creation, boost overall productivity and enhance competitiveness and entrepreneurship, attracting FDI to developing countries is an important endeavor to boost GDP growth, achieve sustainable development and hence reduce poverty (Barro 1991).

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Empirical evidences show that FDI stimulates growth. However, the extent to which the growth of a nation can be accredited to FDI remains a subject of debate,(UNCTAD 2012).

Thus, lack of FDI in the agricultural sector which is among the driving forces of Rwanda's growth, prompts the need to research on whether FDI really effects economic growth of Rwanda.

Objective of the study.

General objective

The general objective of this study is to analyze Foreign Direct Investment (FDI) and economic growth at Rwanda Development Board between 2007-2017.

Specific objectives

i) To examine the FDI and economic growth of Rwanda between 2007-2017.

ii) To analyse the causal link between domestic export, domestic saving and inflation on economic growth of Rwanda.

iii) To find out the relationship between Foreign Direct Investment (FDI) and economic growth in Rwanda between 2007-2017.

1.4 Research Hypotheses

This study was guided by the following null hypotheses (H0) and alternative hypotheses (H1).

1.4.1 Null Hypothesis

H0a. FDI and economic growth in Rwanda between 2007-2017 are not correlated

H0b. There is no causal link between domestic export, domestic saving and inflation on economic growth in Rwanda

H0c. There is no relationship between Foreign Direct Investment (FDI) and economic growth in Rwanda between 2007-2017

1.4.2 Alternative Hypothesis

H1a. FDI and Economic growth in Rwanda are correlated

H1b. There is a casual Link between domestic export, domestic saving and inflation on economic growth in Rwanda

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H1c. There is a relationship between Foreign Direct Investment (FDI) and economic growth in Rwanda

Theoretical review

Product Life Cycle Theory

The theory of product life cycle was established by Vernon (1966), and it provided a rational framework to explain the reasons behind the establishment of operations in a foreign country. This theory employs the theory of comparative advantage, and it analyzes the relationship between product lifecycle and possible FDI flows. Vernon in this theory explained certain types of FDI for US companies in Western Europe after the World War II in manufacturing industry; He believes that there are three stages of production cycle (Dunning and Lundan, 2008).

Stage one:

Innovation (New product): At this stage, local companies create new innovative products mainly for local consumptions and export the surplus to serve the foreign markets. In this stage, the product is not standardized regarding costs and final specification (Peltoniemi, 2011).

Stage two:

Growth products

At this stage, the volume of demand is increased, and products become more standardized, as well as the local market reach to saturation level. Hence, the local firms start to expand their operations abroad in different locations, where the cost of production is cheap, and the competitiveness is enhanced. (A. Musabeh, 2018)

Stage three:

Maturity products

In this stage of product lifecycle, the characteristics of products

become fully standardized, and price's considerations represent a vital role in the competition

Hence, the number of foreign firms that expand abroad increased, especially in counties that create value-add for its productions.

Therefore, firm's export position becomes threatened, and the firm is induced to produce goods in the host country through its foreign subsidiaries (Chen et al., 2017).

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Stage Four

Foreign firms start to export to other countries and the process starts again.

Peter Nunnenkamp and J.Spartz (2013) assert that industry characteristics such as technology intensity, factor requirements, linkages to local and foreign markets, and the degree of vertical integration of the foreign affiliates are likely to shape the growth impact of FDI in various ways. To them, industry characteristics may influence (a) the extent to which FDI supplements (crowds in) or displaces (crowds out) local investment, (b) the amount of technology and know-how transferred from parent companies to foreign affiliates, (c) the compatibility of technology transfers to the host countries' factor endowment and, hence, the degree to which local suppliers, competitors, and buyers can benefit through spillovers, (d) the amount of foreign exchange earnings generated through FDI-induced exports or lost through the repatriation of funds, (e) the extent to which foreign affiliates foster competition in the host countries by breaking up oligopolistic market structures, or stifle competition through their market power, and (f) the degree to which the locational competition for FDI increases or decreases distortions in the host countries' economic policies.

2.3.2 Internationalization Theory

The internationalization theory sought to provide another explanation for FDI through concentrating on intermediate inputs and technology. This theory was founded by Buckley and Casson (1976) based on the seminal work of Coase (1937), where they attempted to answer the question why production is carried out by the same firm in different locations. In this context, Buckley and Casson (1976) and Hennart (1982) developed the theory of internalization which relied mostly on the assumption of market imperfections, where the firms expand their activities abroad to overcome the market failure, and to enhance their monopolistic advantage (Kang and Jiang, 2012).The central assumption of this theory is that the established multinational enterprises are motivated to reduce transaction cost related to failures in the market for intermediate products, the matter that raises the profitability of these firms. Buckley and Casson (1976) classified several types of market failure that result in internalization. For example, the government interventions in markets create an incentive for transfer pricing as well as the inability to estimate the prices correctly. According to Buckley and Casson (2009) internalization takes place as a result of the market failure in intermediate input markets, which lead to horizontally integrated MNEs (horizontal

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FDI).Moreover, due to market failure in the intermediate output markets which lead to a vertical integrated MNEs (vertical FDI).

2.3.3 Industrial Organization Theory

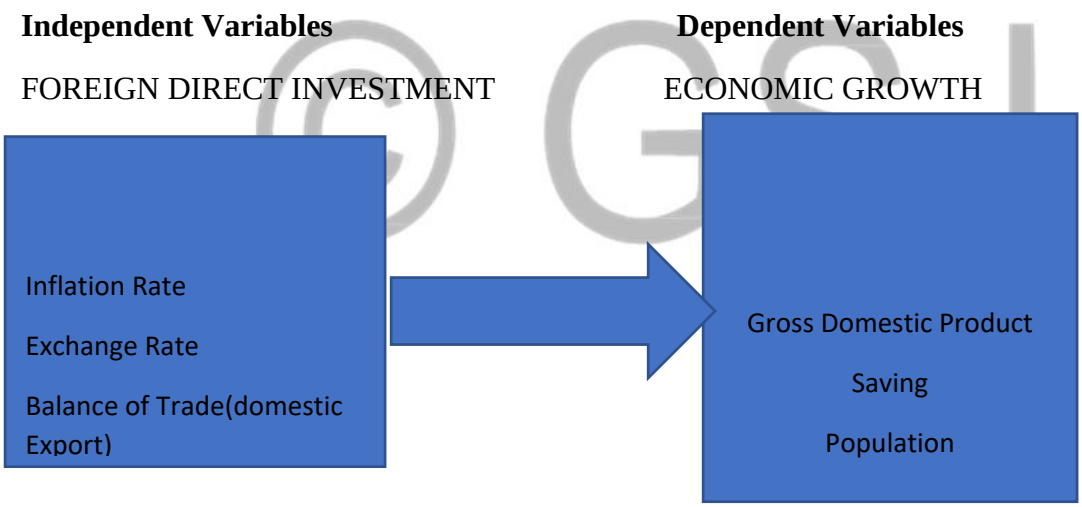
The industrial organization theory of Hymer (1976) is seen as a core to provide sufficient explanation for the motivations of an active multinational corporation.

Hymer's theory is based on the idea that firms extend their operations abroad to compete with local companies and to capitalize on specific

capabilities and advantageous position regarding consumer's preference, the legal system, and culture that are not shared by other competitors in foreign countries, which is called "monopolistic advantage."

However, expanding abroad exposes foreign firms to various risks originating from market imperfection (market failure) (Rugman et al., 2011.

Conceptual framework



Source: (Researcher Conceptualization, 2022)

METHODOLOGY

Research design

According to Kerlinger F. (2011), a research design is a plan, structure and strategy of investigation so conceived as to obtain answers to research questions.

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According to Larry B. (2012), a descriptive study is an intensive description and analysis of single individual, organization or events based on information obtained from a variety of sources such as interviews, documents, test results and archival records.

Population

The target population of this research is 10 Years of investment in Rwanda through Rwanda Development Board (RDB).

Sample size

A sample itself is defined as all the Ten Years of Investment or cases selected to take part in a research study.

Data Analysis

Content analyses were used to compare and analyze the state of documents, and then discover the causes and relationship in order to come with useful conclusions.

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

The impact of FDI on economic growth of Rwanda, 2007-2017.

The first objective of the study was to assess whether foreign direct investment influences economic growth at Rwanda Development Board in the past ten years from 2007-2017. Data from different website.

Table 4.1Descriptive Statistics of the Variables

Variables	**Obs (Years)**	**Log_{GDP}**	**Log_{S}**	**log_{FDI}**	**log_{EX}**	**Log_{INFL}**
Maximum	10	5.5382	3.0849	5.4673	2.0563	-3.5761

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Minimum	10	4.2674	3.6351	5.1400	6.5245	-2.3839
Mean	10	3.0563	3.0424	4.496	5.6302	-3.3260
Std. Deviation	10	5.0897	3.3217	4.873	4.0891	-2.1684
Skewness	10	.5632	3.7839	.4398	0.67346	-.4563
Kurtosis-3	10	.7563	3.4267	.756	0.65478	-.1608
Coeff.variation	10	0.8531	3.7832	0.7845	0.8865	0.2480

Source: Established by the researcher using SPSS21

The results in table 4.1 show the overall mean and standard deviation for the documents assessed whether the foreign direct investment in Rwanda promote the economic growth.

The causal link between domestic export, domestic saving and inflation on economic growth of Rwanda.

To verify the second objective, first examines the degree of linear relationship between the variables. In this study, five variables have been used.

		GDP	FDI	DEX	SAV	INFL
GDP	Pearson Correlation	1				
	Sig. (2-tailed)	.000				
	N	10				
FDI	Pearson Correlation	.674*	1			
	Sig. (2-tailed)	.000	.000			

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	N	103	10			
DEXP	Pearson Correlation	.546*		1		
	Sig. (2-tailed)	.000		.000		
	N	10		10		
SAV	Pearson Correlation	.792*			1	
	Sig. (2-tailed)	.000			.000	
	N	10			10	
INFL	Pearson Correlation	-.008*				1
	Sig. (2-tailed)	-.534				-.534
	N	10				10
*. Correlation is significant at the 0.05 level (2-tailed).						

The table shows that the correlations relationship between the dependent variable and the explanatory variables (foreign direct investment, export and saving) are slightly high while that between explanatory variable (inflation) is very low. This follows the assumption of the classical linear model that no any explanatory variable has a perfect linear relationship with another explanatory variable.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary of findings

FDI and economic growth

The study sought to explain the measurements of both FDI and economic growth, the impact of FDI both negative and positive, policies used to improve FDI to increase economic growth. It elaborates the research problem, its objective and its value to other researchers and the economy as a whole. The study presented the theories regarding FDI and economic growth. The theoretical studies on FDI and economic growth led to a better understanding of the economic mechanism and the behavior of economic agents, both micro and macro level, The study by conducted by Mwega and Ngugi (2007) FDI and economic growth performance Rwanda showed that through human capital channel FDI may be beneficial for growth and that it had a positive effect on economicgrowth. This study corresponded well with the study done by Har (2008) aimed

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tostudy the relationship between FDI and economic grouth, results showed a positive impact of FDI to real GDP.

Link between domestic exports, domestic savings and inflation on economic growth

The study findings revealed that there is a strong and significant relationship between domestic exports, domestic savings andeconomic growth, this implies that an increase in domestic exports and domestic savings really brings about an increase in economic growth. However, the study findings showed a negative relationship between inflation and economic growth.

Suggestions and Recommendations

Following the results obtained in this research work, the study recommends that Rwanda should enact initiatives to attract and promote FDI into the economy as FDI has had a positive impact on growth. The past being a good predictor of the future, it is conceivable that FDI will enhance economic growth in Rwanda in the years to come.

Moreover, strong institutional framework need to be reviewed and policies to attract FDI should be reviewed since empirical evidence supports the importance of policies like tax incentives including tax cut and tax holidays since these appears to be positively affecting FDI attraction and hence may be growth accelerator.

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