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Assessing the Impact of Rwanda Trade Integration on Inclusive Growth

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Abstract:

Purpose: *Moving towards self-sufficient economy is the striving plan for every country, especially less developed countries. This way, this paper analysed the impact of trade integration on inclusive growth in Rwanda using time series data from 1992 up to 2022.*
Design/Methodology/Approach: *This study used the Fully Modified Least Squares approach to internalise the problem of endogeneity due to omitted variables and feedback effect.*
Findings: *This research established evidence of long relationship between the five independent variables (trade integration, Import duties, foreign direct investment, Exchange rate, CPI inflation) and the inclusive growth of the Rwandan economy. Besides, this results indicated that an increase in trade integration is expected to increase inclusive growth in the economy of Rwanda.*
Practical Implications: *Therefore, it is highly recommended to foster all initiatives that bring about effective trade harmonization and exchange rate modalities and policies so as to improve on inclusive economic growth in Rwanda.*
Originality/Value: *The results highlighted that high import duties will reduce inclusive growth in Rwanda.*

Keywords: *Inclusive growth, poverty, income inequality, trade integration.*

JEL Classification: *F10, F15.*

Paper type: *Research article.*

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1. Introduction

The recent decades have been characterized by the foundation of various regional blocks around the world. This is Regional integration has been stressed as the best tool for inclusive and eradication of poverty. Currently, 1 out of 3 countries participate in the regional trade agreements where they are located. Various trade policies and governance Decisions have been taken through regional agreements. This is due to the facts the regional integration has been emphasized as the best tool to achieve inclusive growth.

Evidently, regional integration has highlighted various benefits that has attracted attentions to the individual's states. In addition to that, globalization made the world a village where interdependence and share of resources and opportunities have been crucial for countries to development.

Consequently, states have realized that without interdependence development could become difficult. Finally, the integration has extended beyond trade and commerce. It has gone beyond and then and now countries have been integration in other spheres of development like governance, security, ecosystem protection as well as judicial integration (Grieco, 2000).

The roots of regional integration in Africa can be traced early to the formations of Organization of African Unity by heads of states and government. The general idea was to create the organization that could help Africa to have development after decolonisation as well as creating African unity for all African countries. The Lagos plan of action of 1990 revised the agenda.

According to it, Europeans views that African poverty should be highlighted African failure of governance was not true, the African poverty should be seen to the dependence African states the western states as well as African dependence on international institutions. Generally speaking, the Lagos plan of actions is a root of African union of today and many RECS in Africa. Those include: EAC (Eastern African Community, SADC (southern African development coordination, ECOWAS (Economic community of West African states, Maghreb Union and others.

Despite the formation of African union and various ARECs around the continents the results have been low as expected. This is caused by the facts that many RECs area driven my political motives rather than Inclusive development motives. This has led to failure of some RECs and total collapse of others (Grobbelaar and Meyer, 2017: 73).

The inclusive growth to be attained countries should give the room to the poor in terms of income, vulnerable groups abused on sex ,age and location and the most marginalized groups should play no limited role for nationals development and they should be included in the government policies and development processes Rauniyar and Kanbur, 2009, p. 455).

According to the Huang and Quibria, (2013), the individual government should design and implemented the policies that are related to the women empowerment, youth development policies, rural poverty eradication policies, poverty eradication related policies as well as including the minority groups in all policies that aim to lift up the society hence the sustainable development.

At global level, the inclusive development should aim to lift up the countries that are coming from the conflicts ,less developed countries and international policies and programs should aim to support the middle income countries reduce the inequalities between and among themselves (OECD, 2015; McGregor, 2007; Alkire and Foster, 2011).

2. Problem Statement

The regional trade agreements have been stressed as the best ways to boost trade and stimulate the inclusive growth. In addition to that, the adoption of Regional trade agreement and mutual trade agreements have fostered the economies of many countries and it has led to the plenty results. For instance, regional trade agreements have helped countries to improve their export base, extension of markets, accessibility of raw materials and development of industries.

Sincerely, the trade liberalisation is a tool for country increase of GDP and standards of livings of its citizens(Lawrence, 1995; de Melo and Panagariya, 1992). According to McCarthy, 1994, Hazelwood, 1979), even the regional trade has been stressed as the best tool for development, its outcomes have been positive and negatives. Less developed countries with low economy have gained less than higher developed countries with strong economy. General speaking, the gain from regional integration are less in short and they are enormous in long run.

World Bank (2023) highlights that Rwanda is only sub Saharan country has full achieved millennium development Goals in health. Indeed, Rwandans government established various Policies that eradicated poverty, health issues and other development hurdles. The statistics portrays that the government has also done well on other sectors of economies. For instance, school enrolment has increased. Evidently, it has rose from 73% in 2000 to 98, 5% in 2019.

Moreover, a country achieved impressive results in inclusive growth and women empowerment. Gender policies have been designed and implemented in all organs of government as well as in private sectors. A country has also registered various policies for social protection, social inclusion and poverty and they have led to the enormous results. Those policies include: gender equality policies, VUP, Vision 2020, NST1 and community based health insurance and others.

Existing research indicates that income/consumption inequality increased in Rwanda between 2000 and 2005/06, but then dropped from 2005/06 to 2013/14. Despite this, Rwanda has the greatest level of inequality in East Africa, according to a variety of measures (Gini coefficient, Palma ratios Rwanda's economic performance over the last decade has been largely acknowledged.

The research will thus analyze and record the impact of Rwanda's trade integration on inclusive growth, as well as give recommendations for successful regional integration in Africa.

Specifically, the paper addresses the following research questions:

1. How has trade integration impacted inclusive growth in Rwanda?
2. What impact has import duty had on inclusive growth in Rwanda?

3. Literature Review

3.1 Theoretical Review

Neo Functionalism:
The origins of neofunctionalism can be traced in a fairly fundamental assumption shared by many social science theories: the consequences of certain behavior might explain their existence and development. For whatever cause - physiological, mechanical, ideological, or ethical - humans choose to solve issues by performing specified jobs ("functions"), which frequently need collaboration with others. If the duties are completed satisfactorily, the collaboration will continue and may even become institutionalized.

The theory's original functionalist formulation (Mitrany 1966) emphasized the role of experts in identifying the problem and the means to solve it, the incremental sequence of efforts to accomplish this, and the process of learning from experience in order to apply the method to other problem areas. Later formulations incorporated the potentially autonomous influence of individuals inside regional institutions, as well as the emergence of regionally structured interests.

Spill over:
Spill is the most well-known notion of neo-functionalism, and it is frequently employed by both social scientists and practitioners. according to Lindberg (1963:10), the spill over is the situation where countries political cooperation in the same region lead to the creation of the other gaol that easily contribute to the achievement of the main goal . This means that, once established, political cooperation is extended over time in ways that were not necessarily planned at the outset.

Spill over processes are classified as functional (or technical), political, or cultured (Nye 1971; Tranholm-Mikkelsen 1991; Rose 2005; Moravcsik 2005; Niemann 2006). The single market is an example of functional spill over, in which one step towards one process functionally leads to another.

Political spill over happens when there is a more deliberate political process and national political elites or interest groups argue that supranational collaboration is required to solve specific challenges. National interest groups are more concerned with Europe than with national solutions, and their allegiance is shifting to the supranational level. Interest groups recognise that supporting European rather than national solutions increases their chances of success.

Cultivated spill over refers to scenarios in which supranational actors, particularly the European Commission, advance the process of political integration by mediating between member states (Tranholm-Mikkelsen, 1999; Niemann, 2006). For instance, the Commission During the negotiation process, for example, the Commission may solely pay attention to arguments pointing to more political integration (or "more" Europe), while dismissing arguments based largely on national interests.

Supranational institutions may exploit special interests to propel the integration process ahead. These special interests may be pushed through so-called package deals, which involve taking steps to treat apparent tangible issues as a single (composite) item, allowing actors (or the majority of actors) to protect their interests (Lindberg and Scheingold 1970, p. 116).

For example, one country can be strongly interested for development of its agriculture and reduction of price of goods and services while another is looking for the markets of agriculture production, in that ways two countries may agree each other cooperation and exchange of goods and services

Criticisms:

Intergovernmentalists criticise neofunctionalism for maintaining the national state's and national interests' primacy. Moreover, they stress that the state is still a dominate agent for international relations and cooperation. Cini believes that having national civil officials in commission and having their states represented is in the interests of the states is very important (2004, p. 89).

Various studies in regional integration emphasizes that there are some setbacks for role of spill over on integration from p basic phases to the final phases of integration. In addition to that, some studies on integration claim that neo functionalism overemphasize and stresses more n changes of integration than other areas of integration.

Intergovernmentalists believe that neo-functionalism misses the larger concept of integration and that it should also consider its international context. According to

Wiener and Diez (2004, p. 51), neo-functionalism does not give a general theory of regional integration in all situations and origins. It follows the model of democratic and developed member countries.

Eventually, this model is not relevant for explanation and study of other types of cooperation's in other areas. According to Eilstrup-Sangiovanni, neo-functionalism also doesn't accept the idea that n there are various ideas at domestic level which can lead to the political development. In his views, he highlights that those groups don't have similar political agenda by other elites in other states and national elites (2006). Finally, neo functionalism has been being criticized of being small and it can't be applied to the other parts of the world except in Europe

Custom Union Theory:
Viner criticised Keynes' theoretical study of liquidity preference because he thought it was a naive theory of aggregate demand. The work that was written by Viner that was about market prices and association between the cost and supply curve either in short run or long run as been one of the best in the world and it has contributed to the economic today and the Viner's work on market prices and the relationships between cost and supply curves in the. The Customs Union Issue (1950) is an essential publication for this idea by Viner.

According to Oslinghton (2013) Viner theory of customs union should be used as a best tool for promoting regional trade as well as enhancing member's states welfare. In his views, full customs union integration is when states agree each other to harmonize tariffs and non-tariffs barriers together and share the tariffs from trade

Viner (1950) proposed the ideas of 'trade creation' and 'trade diversion' in his study, which were crucial tools for analysing and comprehending the impacts of economic integration. Viner (1931) described the trade diversion in his own words generally, trade diversion can be defined as leaving the consumption of goods and services at lower prices to higher prices.

Trade creation is defined moving from consumption of high expensive products to less expensive products. To summarise, the likelihood of trade creation is greater than the likelihood of trade diversion.

The greater the elasticity of demand and supply in a country that want to join a customs union, the bigger the trade creation. When two rival economies form a union, trade creation and benefit are superior. When the new custom union's external tariff imposed on third nations is low, trade diversion will be reduced. The greater the custom union's reach, the less likely trade diversion can be defined as importation of costly products while it was less costly before.

As a result, in terms of global resource allocation, trade creation is advantageous in terms of welfare, whereas trade diversion degrades allocation. Generally customs union is very important for trade development and inclusive growth since it promotes growth, industrial development ,moving of factors of production while trade diversification hamper trade and t discourages the inclusive growly

Many academics believe that trade diversification can really benefit developing economies. For instance, integration can create the new markets of goods and services well as enhance share of raw materials, technology, infrastructures and innovation. Customs and trade integration encourages members' states to invest more on development of their currencies, import, capital investment hence the attraction of feign investment and growth (Linder, 1966; Sakamoto, 1969).

Furthermore, trade diversion allows customers to purchase imported items at lower rates after tariffs are removed, boosting their savings.to do this states should make sure that they will be able to get revenues that can help their citizens to develop (Elkan, 1975, p. 59), which is especially essential for developing countries.

This is due to the fact that the majority of the developing countries uses customs revenues as the main sources of income to their economies. The term "effective trade diversion" is coined by Linder and Sakamoto. Trade diversion should not be only considered as total loss to the members states this is due to the fact that the country will start production substitutions that can lead to the innovation, creation and employment

3.2 Definition of Key Concepts

Inclusive growth:

According to Lanchovinchina and Gable (2011), the inclusive growth can be defined as rising the economic growth by increasing the size of economy as well as providing enough job opportunities to the citizens, improve their quality of life, reduce inequality and provide social protection to the citizens.

In his views, Harberger, 2008) states that the inclusive growth can be defined as generating jobs for the poor in order to raise their incomes, assets, and other social benefits, as well as boosting economic competitiveness and aggregate growth.

Amartya Sen (1999) and Martha Nussbaum (2000) expanded the definition of inclusive growth and connected it to the human development by stressing that that it also encompasses the development of human capabilities and freedoms (information, knowledge, and skills), building on ul Haq's idea and his work with the United Nations Development Programme (UNDP).

According to this viewpoint, known as the "capability approach," human development is defined from an individualistic standpoint, i.e., what a person can become or accomplish.

Economist Mahbub ul Haq (UNDP, 1990) initially coined the phrase "human development," defining it as the process of enhancing peoples' freedoms and opportunities and general well-being. The freedom people have to choose who they are, what they do, and how they live is important to human growth.

Because it specifies freedoms, the idea of choice is thus a highly important part of human development. When people are able to fulfil their basic requirements and live long, healthy lives, they have more options. They also have the flexibility to learn and share what they know.

Trade integration:

The word trade integration has the relationship with economic integration, according to the Mutharika (1972) the term economic integration can be defined as process of merging together all trade policies by member's states with the ultimate goal of achieving a sing economic goal (Thalassinos, 2007). This requires the surrender of some trade sovereignties by the member's states to the supranational body so as to stimulate the growth to the member states.

Haas (1971) adds that the economic integration refers to the process where individual states mix and merge their trade policies, tariffs and no tariffs barriers so as to stimulate economy and achieve the inclusive growth by the members' states .by merging their trade policies barrier for trade are either or reduced to the business hence the smooth movements of goods and services hence the development.

Empirical review:

The study that was conducted by Park and Claveria (2019) entitled assessing the impacts of regional integration on inclusive growth in Africa revealed the integration in various dimensions of regional integration have led to the recognizable outcomes. By using the multidimensional index, the study revealed that those dimensions like, finance, trade, infrastructure, security and other can lead to the inclusive growth.

Honestly, the landlocked countries with less resources and less markets for goods and services suffer less for growth. Through integration states gain through gaining markets, opportunities, resources, raw materials, sharing policies, culture technology and other innovative programs. The regional integration has been emphasised as the best tool to reduce the inequality and diminish the poverty.

Through regional integration countries share opportunities, resources, policies as well as outcomes. Less developed countries can get opportunities to learn from higher developed countries hence development. Regional integration can also reduce the poverty and inequality through exchanging goods and services, financing the regional development projects, effective exploitation of resources and creation of the employment opportunities in various spheres of economies hence the inclusive development.

Nonetheless, the countries achievement of growth and eradication of poverty should not be ignored. The countries to gain from trade integration should have strong governance, security, infrastructure and strengths in industrial development.

In their work Berg and Ostry, (2011a), entitled "*Inequality and Unsustainable Growth: Two Sides of the Same Coin? "*They stressed that the country growth should be inclusive as the way of making it sustainable. To achieve inclusive growth, none who should be left behind and development policies should aim to improve qualities of life of people as well as to lift up them from extreme poverty.

Furthermore, the inclusive growth should encompass equity, equality, social protection and opportunities in tall aspects of social life in society. Moreover, the polices and government expenses should enhance the people wellbeing and aim to attain the inclusive society where none who is left behind in the society.

Okun (1975) investigated the relationship between equality and efficiency .by using economic model, he revealed that in the past, the inclusive growth was measured by separating poverty and inequality however he highlighted that no need to separate income and income and growth or poverty and inequality while measuring the inclusive growth. Both elements should be given the value while measuring the inclusive growth, poverty reduction, efficiency and inequality.

Finally, this study also stresses that there is critical relationship between promotion of equality in society and increasing the people's efficiency in society.by doing that the vulnerable groups are empowered and they are given the opportunities to participate in the economy hence the sustainable development.

Ortiz and Cummins (2011) in their work called *"Global Inequality: Beyond the Bottom Billion– a Rapid Review of Income Distribution in 141 Countries"* discovered how the inequality and unfair income distribution can be catalyst for poverty ,and unsustainable development.

According to this study, inequality and social exclusion have increased in many developing countries since few decades ago. In addition, the inequality has led to underdevelopment and poverty in many developing countries in the world. Many people around the world are suffering from Poverty, lack of education, unemployment, hunger caused by inequality.

This study also stresses the policies agenda should aim to alleviate from all vulnerable groups since they are the one who struggle more than others. The inclusive growth can handle the problems faced by various groups in society like poverty, gender inequality, all types of violence, human rights abuse and others

Harberger (2008) evaluated the vision of growth process in America, by attributing the each factors of marginal product measured by its economic reward, this study shows that there should be the distinction between inclusive growth and inclusive development. Individual wealth accumulation takes precedence over social well-being, and short-term benefits take precedence over long-term sustainability). GDP/capita growth, the proportion of the population living below the national poverty line, growth diagnostics are among its indicators.

Dasgupta and Duraiappah (2012) portray that Growth methods are founded on exclusive beliefs and qualities that are not structurally inclusive, and trickle-down economics fails for institutional and structural.

They propose a possible answer to this issue by enlarging the scope of inclusive growth to include the process of growth and expanding the policy discussion beyond the necessity for social protection.

Based on macro statistics, inclusive wealth calculates physical, human, and natural per capita wealth and includes ‘reproducible capital, human capital, knowledge, natural capital, population, institutions, and time'.

Hazelwood (1979) in his study entitled the end of East African community: what are the reasons for regional integration schemes revealed that high developed countries gain more in short run during regionalism and trade integration while countries with less developed economies gain less in short run.

High developed countries tend to gain more since they have high developed infrastructure, strong technology and innovation, capital and knowledge whereas less developed countries tend to lose since they have less economy poor infrastructure and inability to compete during the trade liberalisation.

Furthermore, the strong industries will prefer to be located in the countries with high level of infrastructure and development and they prefer to use less developed economies as the markets of their goods and services. Less developed economies can also suffer through losing income since they depend of customs revenues as the source of income. This can lead to the total demise of agreements and failure of economies. This is what’s happened to the early EAC.

Langhammer (1992) investigated the impacts of regionalism on development of developing countries. He demonstrated that regionalism can lead to the reduction of price of goods and services, free movement of people, exchange of technology and knowledge and to lead to the inclusive growth he adds that high developed countries should compensate the low developed countries through various ways like, changing the location of firms, compensating through taxes sharing, transfers of technology and knowledge as well as improving the infrastructure in low developed countries nonetheless this has been one of the serious issue for development of many regional blocks around the world.

Inclusive growth in Rwanda:
The period after the Genocide against Tutsi was characterized by rigorous policies that aimed to handle poverty issues and promote country inclusive growth. Similarity, the policies aimed to promote security, welfare, human rights and wellbeing of the citizens'. Attain that Rwanda government development midterms policies that would lead to the achievement of vision 2020.

Those policies include: EDPRS (Economic Development and Poverty Reduction Strategies 1 and 2, National Strategy for Transformation 1 and other midterms policies. According to the government of Rwanda report (2019) NST1 is a midterm strategy for achieving vision 2020 as well as a path for vision 2050 agenda. Rwandan government adds that hose policies have led to the tremendous results. Indeed, those development policies have led to the rise of GDP per capita from 225 in 2000 USD to 797 USD in 2018.

Furthermore, poverty has drastically diminished from 60.4% in 2001 to 38.2% in 2017. In terms of inequality government that have reduced it in all aspects of life. For instance, inequality reduced from 0.52 in 2005 to 0.42 in 207. According to UNDP (2018), a country has also marked positive results in other human development indicators.

For example, life expectancy increased from 49 to 67 in the period between 2000 and 2017. Rwanda has also extensively invested in infrastructure development where it has been widely considered as a better place with infrastructure facilities. To achieve sustainable development goals, Rwanda also incorporated home grown solutions policies that have roots in Rwandan culture.

Methodology and Data Used:
This study investigated the relationship between Rwanda trade integration and inclusive. Secondary were used dung this study. To get data, a researcher consulted reports by international recognized institutions, regional bodies and national institutions. In addition to that , Books, online journals, published books, reports, libraries and other research papers from 1992-2022 were consulted.

Source of data used:
The study employed secondary data from the World Development Indicators (WDI) expanding from the period 1992 to 2022 (30years) which is significantly meaningful to assess the impact of Trade integration on inclusive growth.

Econometric model:
This study used several techniques such as analytical, comparative and statistical techniques where researcher used them for different theories, analysis and empirical cases. Generally, data that were collected during this study were analyzed where quantitative data collected were analyzed to get the tangible relationship between trade integration and inclusive economic growth.

Thus, multiple linear regression model was used to assess the linkage between variables under study. Thus, research model expresses trade integration as dependent variable and Import duties, foreign direct investment, Exchange rate, and CPI where all these variables represent inclusive economic growth.

Then, the multilinear model to be estimated will be written as follows:

$$LQ_t = \beta_0 + \beta_1 Y_t + \beta_2 I_t + \beta_3 F_t + \beta_4 X_t + \beta_5 C_t + u_t.$$

Where Q_t=GDP per Employed, LY_t=Trade integration, I_t=Import duties, Ft=Foreign direct Investment, X_t=Exchange rate, C_t=CPI Inflation, Ut=Error term, β_0 is an intercept of the model and β_1, β_2, β_3, β_4, and β_5 are coefficients to be estimated.

According to the economic theory, there is either a positive or negative relationship between Trade integration and inclusive economic growth of the country. After all, we shall find if the relationship is positive or negative. These coefficients β_1, β_2, β_3, β_4, and β_5 will finally prove the relationship between variables either significantly positive or negative.

We employed the Fully Modified Least Square (FMOLS) method which will definitely provide the model estimates that will help to conclude the relationship between the variables, we will be able to identify the relationship between variables and draw conclusion about results. The FMOLS will also help solve the problem of endogeneity that could result from omitted variables and feedback effect.

4. Estimation Procedures

4.1 Model Estimation Procedures

Since it is important to test for stationarity of time series data used, all variables have been tested for stationarity and all variables of the econometric model under study have been found non stationary at level o, and were integrated once, i.e. at first difference, all variables have been proved stationary. Cointegration also has been tested and the data are found to be cointegrated which allows for FMOLS estimation of the model.

4.2 Presentation of the Findings

Based on the above table that shows the results of stationary test, it clearly shows that the null hypothesis for stationarity test states that the variables under study are not stationary and the alternative agree that the variables are stationary. Critical value approach or the p-value approach (Mackinnon approximate p-value) are the means that can be used to test these hypotheses.

Table 1. *Test for Stationarity*

Variable	Test statistic (Z)	1% Critical value	5% Critical value	10% Critical value	order of integration
LQ_t	-8.573	-3.730	-2.992	-2.626	I (1)
	MacKinnon approximate p-value for Z (t) = 0.0000				
Yt	-3.630	-3.730	-2.992	-2.626	I (1)
	MacKinnon approximate p-value for Z (t) = 0.0052				
It	-4.928	-3.730	-2.992	-2.626	I (1)
	MacKinnon approximate p-value for Z (t) = 0.0000				
Ft	-3.871	-3.730	-2.992	-2.626	I (1)
	MacKinnon approximate p-value for Z (t) = 0.0023				
Xt	-3.849	-3.730	-2.992	-2.626	I (0)
	MacKinnon approximate p-value for Z (t) = 0.0024				
Ct	-5.536	-3.730	-2.992	-2.626	I (0)
	MacKinnon approximate p-value for Z (t) = 0.0000				

Source: *Computed by the Researcher using E-Views.*

For instance, taking LQt that represents GDP per employed, we can realize that the calculated Z statistic (-8.573) is greater than the 5% critical value (-2.626), rejecting the null hypothesis. In addition, if we consider Xt that represents Exchange rate we can realize that the calculated Z statistic (-3.871) is greater than the 5% critical value (-2.626), rejecting the null hypothesis and shows that these data are stationary at first difference.

The last column of Table 1 hosts the level of integration of each variable, indicating the level of stationarity as well. All variables of the model the variable, like LQt, Yt, Xt, It, Xt, Ct, have the level of integration I (1) indicating that they have achieved stationarity at first difference.

More essentially, the Mackinnon approximate p-values are less than 5%, thus, we reject the null hypothesis of the presence of a unit root and conclude that the variable was generated by a stationary process.

4.3 Descriptive Statistics

The figures in Table 2 explains the descriptive statistics of the six variables under study in terms of their mean, standard deviation, minimum and maximum values. From the table above for instance, we observe that GDP on average stood at 4504.01 billion USD which is close to the maximum value of 8047.11 billion USD indicating that over the years GDP have been improving and more effort is needed in all most variables that positively affect GDP to keep sky rocketing the economic growth of the nation.

Table 2. *Represents the Descriptive Statistics of the Variables Used in the Paper*

Variable in billions of US$	Obs	Mean	Std. Dev.	Min	Max
GDP	31	4504.01	1759.917	1748.91	8047.11
Trade Int.	31	0.00047	0.0001923	0.0002181	0.000826
Import duties	31	4.27e+10	5.87e+10	7041000	1.95e+11
FDI	31	1.18e+08	1.28e+08	1000	3.99e+08
Exchange rate	31	558.8384	248.6397	133.94	1035.73
CPI inflation	31	8.847419	10.27352	-2.41	55.97

Source: *Computed by the Researcher using E-Views.*

Moreover, on an average, Exchange rate stood at 558.8384 billion US$ which is close to its maximum value of 1035.73 billion US$ indicating that exchange rate have been improving fairly over the years to positively influence inclusive growth. Again, on average trade integration stood at 0.00047 level towards its maxim level of 0.000826 implying the positive approach towards economic integration in trade activities over the years. These trade initiatives affected positively inclusive growth over the years.

On import duties, according to the results in the table, they have been increasing to the high rate over the years, as on average, we have 4.2 billion USD which is far greater to its maximum of 1.95 billion US. Foreign direct investment has not increased much as the results in the table above shows, where on average, foreign direct investment rates 1.18 billion USD in middle towards its expected maximum of 3.99 billion USD

Additionally, CPI inflation did not rise much to its maximum of 55.97 billion US$ as it stood at 8.88 billion US$ which is a good sign for inclusive growth with no inflationary economy.

4.4 Presentation of Co-integration test Results

Table 3 represents the Johansen test for co-integration. It is used toexamine for evidence of a long run relationship among the variables under the study to move ahead with regression analysis.

Table 3. *Co-integration test Results*

Null Hypothesis: No long run relationship exist					
Maximum Rank	**Parms**	**LL**	**Eigenvalue**	**Trace statistic**	**5% critical value**
0	42	-1510.1719	-	111.1727	94.15
1	53	-1483.9375	0.83623	58.7040*	68.52
2	62	-1471.1384	0.58634	33.1057	47.21
3	69	-1462.7872	0.43783	16.4032	29.68
4	74	-1456.128	0.36821	3.0866	15.41

5	77	-1454.6638	0.09610	0.1565	3.76
6	78	-1454.5855	0.00518	-	-

Source: *Computed by the Researcher using E-Views.*

With the above results it is clear that there is evidence of a long run relationship between variables as trace statistic of 58.7040 is less than 5% critical value which proves that our variables under consideration are cointegrated using Johansen test of Cointegration.

4.5 Presentation of Fully Modified Least Squares Regression Estimation

After testing stationarity of the variables under study and test for Cointegration, OLS method was use to estimate the value of the coefficients of our econometric model of the research**. The following are the results of computation using E-views software.**

Table 4. *Results with E-views*

Dependent Variable: LOG(GDP_PER_EMPLOYED)
Method: Fully Modified Least Squares

Included observations: 28 after adjustments
Cointegrating equation deterministic: C
Long-run covariance estimate (Bartlett kernel, Newey-West fixed bandwidth
= 4.0000)

Table 4: Presentation of Fully Modified Least Squares Regression Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TRADE_INT	593.6667	169.6840	3.498659	0.0019
IMPORT_DUTIES	-1.23E-13	2.35E-13	-0.523255	0.6058
FDI	2.37E-10	2.38E-10	0.996842	0.3292
EXC_RATE	3.34E-06	2.98E-07	11.22979	0.0000
C	7.348854	0.055470	132.4835	0.0000

R-squared	0.975340	**Mean dependent var**	8.338384
Adjusted R-squared	0.971051	**S.D. dependent var**	0.383660
S.E. of regression	0.065278	**Sum squared resid**	0.098007
Long-run variance	0.003538		

Source: *Computed by the Researcher using E-Views.*

These results show the coefficients results of the regression analysis**.** Fully modified OLS results. The variable trade integration (TRADE_INT) relates positively and significantly (P-value of 0.0019 < 5%) to inclusive growth. This indicates that an increase in trade integration is expected to increase inclusive economic growth in Rwanda. The coefficient of trade integration is 593.67 showing that a unit increase in trade integration will boost inclusive economic growth in Rwanda by 59367.0 units.

Additionally, the variable import duties have no significant relationship (P-value of 0.6058>5%) to inclusive growth. Which means there is no relationship between these variables.

Moreover, according to the results, Foreign direct investment (FDI) has no relationship with inclusive growth as its P-value is greater than critical significance level of 5% (0.3292>0.005). Hence the relationship with inclusive growth is insignificant.

The variable Exchange rate (EXC_RATE) relates positively and significantly (P-value of 0.00 < 5%) to inclusive growth. This indicates that an increase in trade integration is expected to increase inclusive economic growth in Rwanda. The coefficient of exchange rate is 3.34 showing that a unit increase in trade integration will boost inclusive economic growth in Rwanda by 334.35 units.

The results also show a good fit (R^2) which is equal to 0.975340 showing that how strong the model is. The adjusted R^2 is also equal to 0.971051.

5. Conclusion and Policy Implications

The ultimate purpose of this study was to analyse the effects of Rwanda's trade integration on inclusive growth. It was generally conducted with the following goals in mind: to ascertain the effect of trade integration on income inequality in Rwanda and to assess the effect of trade integration on poverty reduction in Rwanda.

Secondary data were used in this study to evaluate the link between trade integration and inclusive growth in Rwanda.by using Fully Modified Least squares, this study found a strong link between Rwanda's trade integration and inclusive growth. For example, it stimulates trade through custom union and other regional agreements, it allows individual states to attract investors through tariff harmonization and trade barriers, and it stimulates employment by promoting free movement of people, goods, and services in the region.

However, it was revealed that there are significant obstacles to Rwanda's trade integration. These include a lack of access to the ocean, a regional infrastructure development deficit, and insecurity in some parts of the region. As a result, this study would like to recommend that Rwanda empowers industries to compete with other states in the region, that Rwanda continues to sign regional infrastructure agreements, and that all blocks member states strengthen their commitment to regional treaties and other agreements.

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