

Comparative Analysis of International Trade and Economic Growth in Nigerian and Ivory Coast

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Abstract

This study investigate comparative analysis of international trade and economic growth in Nigeria and Ivory Coast covering 1981 to 2020. Data for the study were obtained from World Bank indicators the study formulated two model (Nigeria & Ivory Coast) which were subjected to unit root test, using the Augmented Dickey fuller unit root test. The ADF test revealed a mixed order of integration. This means that some of the variables were stationary at levels 1(0) while others became stationary after first difference (1). The scenario necessitated the use of Autoregressive Distributive Lag (ARDL) model. Thus the result revealed that the regression estimate of exchange rate (EXR) and real gross domestic product (RGDP), is negative and significant to influence real gross domestic product in Nigeria and Ivory Coast. Also, it was also revealed that foreign direct investment (FDI) have a negative but significant relationship with real gross domestic product (RGDP) in Nigeria at the previous year's lag period. However, the regression result for Ivory Coast revealed that there is negative and statistically insignificant relationship between foreign direct investment (FDI) and real gross domestic product (RGDP) both in the previous and second year period. The coefficient of export trade in Nigeria revealed a positive relationship between the variables both in the current and previous year period in the short-run but is insignificant to dissemble real gross domestic product (RGDP) while the regression result of Ivory Coast showed a positive but insignificant correlation with real gross domestic product (RGDP). Similarly, the result of import trade revealed a positive but negligible to influence real gross domestic product (RGDP) in Nigeria, while the result for Ivory Coast indicates a positive but insignificant relationship between import trade (IMPT) and real gross domestic product (RGDP). the study recommemd among others that government should take measures that would make the mining and agricultural sub-sector attractive. Because they are the feeders and buffers of other sectors of the economy.

Keywords: Exchange Rate, Foreign Direct Investment, Export Trade, Import Trade, Real Gross Domestic

1.0 Introduction

In today's world, no nation exists in economic isolation. All aspect of an economy, like industries, service sector, level of income, employment, and living standards can be linked to the rest of the world. These linkages take the form of movement of goods and services across the border known as international trade. International trade allows the

exchange of goods and services to foster healthy relations among countries irrespective of their level of economic growth and development. According to Kasim (2020), international trade is a trade between an international element where the buyer and seller are established in different countries and also covers broadly with all aspects of economic activities between nations, whether

these nations are contained within a larger national unit. In the view of Gbosi (2010) described international trade as a cross border trade between two countries and the rest of the world, since nations are interdependency on nation's economic activities.

A country involved in international trade need not have fear of hegemony or loss of its sovereignty because it is a mutual agreement to engage in trade across their borders. A nation not participating in international trade is at risk of a slow pace of economic growth and development due to the cogent fact that the country cannot be fully endowed with all the resources essential to be utilized for sustainable economic growth and development (Muhammad & Benedict, 2018). It is imperative to note that countries would be limited to goods and services produced within their territories without international trade. International trade is directly related to globalization because increase in trade activities across border is paramount to the globalization process. The globalized nature of an economy enhances its direct participation in the world market consequently leading to market expansion. International trade is very important and forms the key to government revenue. As a major factor of openness, international trade has made an increasingly significant impact to economic growth.

The openness of a nation influences the country's growth rate by impacting upon the level of economic activities and facilitating the transfer of resources across borders. Nigeria is basically an open economy with international transactions constituting a significant proportion of her output (Emeka, et al, 2012). Nigeria's trade openness has increased the participation of foreigners in the economy by allowing the inflow of foreign capital and expertise, thereby impacting on her economic growth. Therefore, economic growth can be defined as an increase in an economic variable normally persisting over successive periods. It is important to note that growth of an economy is very important but its importance is largely dependent on international trade which lies in the ability to obtain goods which cannot be locally produced in the country or which can only be

produced at a greater expense.

It is a well-known fact that international trade is very important to an economy particularly a growing economy like Nigeria. This is evident to the fact that international trade allows countries to expand their markets and access goods and services that otherwise may not have been available domestically making the imports and exports of the economy represent a significant share of her gross domestic product. International trade plays a life-sustaining role in coordinating socio-economic performance and the possibilities for less developed countries. Also there is no country which has grown without the useful tool of trade. This is because trade ensures steady generation of income, create jobs, reduce crime rate and contribute meaningfully to growth of the economy. However, it has been observed that trade of whatsoever guise has not contributed to the growth of the Nigerian economy.

A close look at the Nigerian growth rate showed that the country has not fared well. For instance, the Nigerian growth rate was just 8.0% in 2010, it declined to 2.70% in 2015 and nosedived to -3.49% in 2020 but managed to improve a little to 3.4% in 2021. While Nigeria's total export in 2019 was about # 235 billion and decline to #137 billion in 2020 contributing to the high unemployment rate of 33.3% in the country. As a result of this ugly situation the researcher evaluated related literature to ascertain the extent of work done. The empirical review of the comparative analysis of international trade and economic growth in Nigeria and Ivory Coast has revealed contradictory findings. Some of the findings posit significant influence from component of international trade particularly the moderating impact of exchange rate, foreign direct investment, and export (Atoyebi et al (2012; Emehelu, 2021; Ajayi and Araoye, 2019; Agbo et al, 2018; Muhammad and Benedict, 2018; Elias et al, 2018; Adegboyega, 2017; Lawal and Ezeuchenne, 2017; Uwubanmwun, and Ogiemudia, 2016; Ezeagba and Francis, 2015; Yakubu and. Akanegbu, 2015; Awe, 2013; Atoyebi et al, 2012; Felix et al, 2018. Despite agreeing that international trade enhances economic growth, these studies are at

variance to the direction of the effects.

For instance, Emehelu, 2021; Ajayi and Araoye, 2019; Agbo et al, 2018; Muhammad and Benedict, 2018; Adegboyega, 2017; Lawal and Ezeuchenne, 2017 reported a positive impact between international trade and economic growth which means that increase in international trade will galvanize economic growth; as against the belief from literature such as Elias et al, 2018; Uwubanmwun, and Ogiemudia, 2016; & Awe, 2013. Also, this study found out that the literature reviewed adopted different techniques to analyze the hypotheses. For instance, some literature used ordinary least square while other either used autoregressive distributive lag (ARDL) or vector error correction model (VECM). The review also reported that literature either evaluated import/export, foreign direct investment, exchange rate or international trade with respect to economic growth in Nigeria. None of these studies carried out a comparative analysis between Nigeria and Ivory Coast with respect to international trade and economic growth, therefore a gap exist in literature which deserved to be filled.

To achieve this, the study carry out a comparative analysis of international trade and economic growth in Nigeria and Ivory Coast. The comparative analysis was carried out between Nigeria and Ivory because, Nigeria is an Anglophone speaking country while Ivory Coast is a francophone speaking country. The both countries have areas of comparative advantage. Nigeria is known for its crude oil production while Ivory Coast is the largest exporter of cocoa beans.

2.0 Literature Review

Theoretical Literature

Factor Endowments Theory

The Factor Endowments Theory was propounded by Heckscher–Ohlin (1919). The theory postulate that countries will export those goods that make intensive use of those factors that are locally abundant, while importing goods that make intensive use of factors that are locally scarce. The Heckscher–Ohlin theory is recognized as one of

the most important models of international trade. It was developed upon the Richardian model largely by introducing a second factor of production. In its two-by-two-by two variant, meaning two goods two factors, and two countries, it represents, one of the simplest general equilibrium models that allows for interactions across factor markets, goods markets and national markets simultaneously. These interactions across markets are one of the important business lessons displayed in the results of this model. The Heckscher–Ohlin model, illustrate how changes in supply or demand in one market can feed their way through the factor markets and with trade, the national markets can influence both goods and factor markets at home and abroad.

In other words all markets are everywhere interconnected. Therefore, since the Heckscher–Ohlin theory is of the view that all the markets are interconnected, that means that the trade relationship between Nigeria and other countries of the world in one way or the other adds value to the world's economic growth through market activities.

Harrod-Domar Growth Model

The Harrod-Domar Growth Model was propounded by Roy Harrod (1924). This model sees growth as an outcome of the equilibrium between savings and investment. The fundamental variables in the model include capital (K) accumulation and the ratio of increase in output (Y) to increase in investment (I). The change in output is as a result of change in capital stock ($\Delta Y = \Delta K$) and that the change in capital stock is due to investment, thus $\Delta K = I$. Harrod and Domar assigned a key role to investment in the process of economic growth and laid emphasis on the dual character of investment. Firstly, it creates income, and secondly, it augments the productive capacity of the economy by increasing its capital stock. The former may be regarded as the “demand effect” and the latter the “supply effect” of investment. Hence, so long as net investment is taking place, real income and output will continue to expand. However, for maintaining a full employment

equilibrium level of income from year to year, it is necessary that both real income and output should expand at the same rate at which the productive capacity of the capital stock is expanding. Otherwise, any divergence between the two will lead to excess or idle capacity, thus forcing entrepreneurs to curtail their investment expenditures.

The model sees investment as pivotal to any economic growth as it provides the needed capital to increase the productive capacity of the economy, as long as this process of investment and capital injection continues, the economy will also expand at the same rate in order to maintain full employment equilibrium level. (Jhingran, 2006). The Harrod-Domar has three key elements: (i) the model is based on an unstable equilibrium growth rate, also known as knife-edge stability, such that investors respond either with more or less investment or production depending on the growth rate in a particular period. The instability is based on an assumption of fixed labour and capital coefficients in the production functions

Empirical Literature Review

Emehelu (2021) analyzed the effects of international trade on the economic growth of Nigeria from 1981-2018 using the Ordinary Least Squares (OLS) technique. The study was anchored on the theory of comparative cost and the Factor Endowment theory. Independent variables such as, policy changes (dummy), exchange rates and liberalization/openness were regressed on real Gross Domestic Product (GDP) of Nigeria using secondary data from Central Bank of Nigeria Statistical Bulletin 2018. The econometric diagnostics for presence of unit roots in the series was conducted using the Augmented Dickey-Fuller technique and the tests indicate that the variables were integrated in order of 1(1). Findings from the study revealed that exchange rates in the country had negative and insignificant relationship with economic growth. Consequently, the study recommends that since import and export trade have no significant effects on growth in Nigeria, the federal government should embark on programmes and policies to promote local

production and discourage importation of certain essential products for trade to have the desired impact on the growth of Nigeria's economy.

Ajayi and Araoye (2019) examined the effect of trade openness on economic growth of Nigeria using data from 1970 to 2016. The study used secondary data obtained from world development data base (2000), World Bank and International Financial Statistics, IFS- International Monetary Fund Data Base (2010) and Central Bank of Nigeria Statistical Bulletin 2014. Using the Augmented Dickey-Fuller (ADF) and Phillip-Peron (PP) unit root test, it was discovered that all the series are non-stationary at levels. However taking the variables at first difference, results shows that all are I(1) at 5% for ADF and 1% for PP level of significance except the labour input which was not stationary at first difference in ADF. The findings from Co-integration test showed that an equilibrium relationship exists among the variables and using the Co-integration test in line with Engel and Granger (1987) which believed that there is a long-run relationship among economic variables. Thus, all the coefficient were correctly signed and stationary at 5% level. Trade openness and economic growth depicted a positive relationship but a negative relationship existed between economic growth and exchange rate but this was expected especially for a country that engaged in international trade.

Agbo et al (2018) evaluated the impact of international trade on the Nigeria economic growth. The objectives of this study were to ascertain the impact of export trade on the Nigerian economy and to determine the impact of import trade on the Nigerian economy. Multiple regression analysis technique was employed in estimating the various components of foreign trade. The data used for the study was extracted from the 2012 edition of the CBN statistical bulletin, covering the period from 1980 – 2012. The results of the study showed that there is a significant impact of Export trade on the Nigerian economic growth. The study also revealed that there is no significant impact of import trade on the Nigerian economic growth. The researchers

among other things recommended that conscious efforts should be made by government to fine-tune the various macroeconomic variables in order to provide an enabling environment to stimulate foreign trade by engaging in more of export trade and in effect curtail on import trade which has a negative effect or strain the economy, the underground economic activities of bunkering, smuggling, child and drug trafficking, and other related illegal activities should be properly checked.

Muhammad and Benedict (2018) examined the impact of trade openness on economic growth in Nigeria for the period 1981-2017. Using degree of openness as independent variable, the ordinary least squares technique was used on series data to examine the impact of trade openness on Gross Domestic Product (GDP). The series data were extracted from World Bank data 2017. The result of the Analysis shows that all the variables Real Gross Domestic Product (RGDP) Degree of Openness (DOP), FX and Per Capita Income (PCI) were positive and statistically significant at first difference, the study found that the variables are cointegrated and unidirectional causality was found from RGDP to DOP. Therefore, the study recommends that policy makers should adopt policies on trade liberalization such as reduction of non-tariff barriers, reducing tariffs, reducing or eliminating quotas that will enable the economy grow at spectacular rates.

Elias et al. (2018) evaluated the impact of international trade on the Nigeria economic growth. The objectives of this study were to ascertain the impact of export trade on the Nigerian economy and to determine the impact of import trade on the Nigerian economy. Multiple regression analysis technique was employed in estimating the various components of foreign trade. The data used for the study was extracted from the 2012 edition of the CBN statistical bulletin, covering the period from 1980 – 2012. The results of the study showed that there is a significant impact of Export trade on the Nigerian economic growth. The study also revealed that there is no significant impact of import trade on

the Nigerian economic growth. The researchers among other things recommended that conscious efforts should be made by government to fine-tune the various macroeconomic variables in order to provide an enabling environment to stimulate foreign trade by engaging in more of export trade and in effect curtail on import trade which has a negative effect or strain the economy, the underground economic activities of bunkering, smuggling, child and drug trafficking, and other related illegal activities should be properly checked.

Adegboyega, (2017) examines the impact of import and export on economic growth in Nigeria using Vector Autoregressive (VARs) technique through various types of structural analysis of Granger causality tests, impulse response functions, and forecast error variance decompositions to examine the dynamic effects of various shocks on macroeconomic variables. The results of VAR show that the predominant sources of Nigeria economic growth variation are due largely to “own shocks” and import-export trade innovations. While Johansen Cointegration results showed that there is a stable, long- run relationship between import-export and economic growth, but the magnitude is minimal. In conclusion, the study agreed that government should always embark on policies that will encourage exports with proper implementation of import control measures.

Lawal and Ezeuchenne (2017) examined the impact of international trade on the economic growth. Variables used in the measurement of international trade include: Imports, exports, balance of trade and trade openness while real gross domestic product was used as a measure for economic growth using periodic data from the years 1985-2015. The econometric tests employed made use of the Unit Root Test to establish stationarity of the variables, the Johansen Cointegration Test was used to determine the long run relationship between the variables while the Vector Error Correction Model (VECM) was used to analyze the data so as to determine the speed of adjustment of the variables. The result showed

that there is a long run relationship between international trade and economic growth, import and trade openness are both insignificant in the short run but significant in the long run while export and balance of trade are significant in both the short and long run. The granger causality test showed that economic growth is independent of imports, exports and balance of trade but economic growth is unidirectional with trade openness. Therefore, the study recommends that government should increase its exploration of finished goods and reduce importation of finished goods to increase economic growth.

Uwubanmwun, and Ogiemudia (2016) examines the effects of Foreign Direct Investment (FDI) on economic growth in Nigeria. Employing the Error Correction Model (ECM), annual secondary time series data covering the period of 1979 to 2013 were analyzed using an ECM technique to determine the short and long run effect of FDI on economic growth of Nigeria. Granger causality methodology was used to analyze and establish the nature of relationship (if any) between FDI and economic growth in Nigeria. Our empirical analysis reveals that Foreign Direct Investment (FDI) has both immediate and time lag effect on Nigeria economy in the short run. And FDI has a non-significant negative effect on the Nigerian economy in the long run during the period under review. This was further confirmed by the causality test which shows that FDI granger causes RGDP and not the other way. Thus FDI has a significant positive effect on the growth as well as the development of the Nigerian economy only in the short run during the period under review. We therefore conclude and recommend that government should ensure stable macroeconomic policies as a stabilization tool to propel the attraction of more FDI into Nigeria and dependency on foreign direct investment should remain limited.

Ezeagba and Francis (2015) determined the relationship between foreign direct investment, exchange rate and gross domestic product. Using time series data, data for the study were collected from CBN Statistical Bulletin from 2008 to 2013.

Pearson Correlation was used to test the hypothesis with aids of SPSS version 20.0. The findings revealed that there is a significant relationship between FDI, EXR and GDP, indicates that economic growth in Nigeria is directly related to foreign direct investment and exchange rate. The paper thereby recommends among others that there is need for government to be formulating investment policies that will be favorable to local investors in order to compete with the inflow of investment from foreign countries.

Yakubu and. Akanegbu (2015) examined the impact of international trade on economic growth in Nigeria for the period 1981 to 2012. Using degree of openness to proxy international trade, the ordinary least squares technique was employed to estimate the impact of international trade on Gross Domestic Product. The broad objective of this paper is to analyze the impact of international trade on economic growth in Nigeria based on time series data on variables considered relevant indicators of economic growth and international trade. The analysis was based on data extracted from World Bank data and Central Bank of Nigeria Statistical Bulletin. The result of the analysis shows that all the variables except interest rate were statistically significant. Therefore, the study recommends that policy makers should adopt policies on trade liberalization such as reduction of non-tariff barriers, reducing tariffs, reducing or eliminating quotas that will enable the economy to grow at spectacular rates.

Awe (2013) examines the impact of foreign direct investment on economic growth in Nigeria during the period 1976 – 2006, using the two-stage least squares (2SLS) method of simultaneous equation model. The findings of the study revealed a negative relationship between economic growth proxied by Gross Domestic Product (GDP) and Foreign Direct Investment (FDI) as a result of insufficient FDI flow into the Nigerian economy. It is therefore, recommended that Nigeria should encourage domestic investment to accelerate growth rather than relying on FDI as a prime mover of the economy and develop a code of conduct on

FDI to curb the restrictive business practice of multinationals and limit their repatriation of profits from Nigeria.

Atoyebi et al. (2012) examine the impact of international trade on economic growth in Nigeria from 1970-2010. Being a time series data, to avoid spurious regression result, the first step was to test for stationary of the data by using Phillips Peron unit root test. Then Johansen (1988) technique was used to establish if the non-stationary variable are cointegrated. The result of stationary and normality test reveals that the model is fairly well specified and could be used for policy analysis. Empirical investigations reveal that three variables are statistically significant at 5% and these variables are export, foreign direct investment and exchange rate and they are positively related to real GDP while other variables such as import, inflation rate, openness exert a negative influence on real GDP. The study demonstrates that increase participation in global trade helps Nigeria to reap static and dynamic benefit of international trade despite non conformity of the coefficient of the openness. Both international trade volume and trade structure towards high technology export result in positively effect on Nigeria economy. We therefore recommend that the government should design appropriate strategy by diversifying the economy through export promotion, stimulating foreign direct investment and exchange rate stability in order to boost productivity of Nigeria economy by raising the standard of living of the citizens.

Felix et al. (2018) investigate how international trade can maximize economic growth of Ivory Coast which is the biggest French speaking economy in the West African geographical region. To do that we formulated econometric models with GDP per capita growth rate as proxy for economic growth as the dependent variable, while the Independent Variable is International Trade, is proxied as export, import, export plus import, exchange rate premium, net capital flow (FDI), trade openness, tariff, time to clear goods, ease of doing business indicator. We utilized panel data for our variables within two time periods of 1980-2005, and 2006-2016, and tested their long run

empirical relationships using Autoregressive distributed lag (ARDL) cointegration and granger causality test. Our results showed no significant and positive linkage between international trade and economic growth for Ivory Coast during the study period of 1980 – 2016. The negative correlation is due to unchecked population growth with limited human capital development in the face of price volatilities since the country heavily relied on primary products exports. Our study also found that the country, unlike the South East Asian economies, did not invest in its teeming labour force to take advantage of the technological, knowledge and skill transfers from trade openness. The country also lacked active and inclusive participation of the private sectors in the mainstream economy, as it was also heavily dependent on public sectors, that led to gross institutional and governance abuses, evidenced as military rules and unstable civil/democratic that precipitated into series of political crises and civil wars, corruption, and poor infrastructural development during the period of study.

Summary of Literature Reviewed

The empirical review of the comparative analysis of international trade and economic growth in Nigeria and Ivory Coast has revealed contradictory findings. Some of the findings posit significant influence from component of international trade particularly the moderating impact of exchange rate, foreign direct investment, and export (Atoyebi et al (2012; Emehelu, 2021; Ajayi and Araoye, 2019; Agbo et al, 2018; Muhammad and Benedict, 2018; Elias et al, 2018; Adegboyega, 2017; Lawal and Ezeuchenne, 2017; Uwubanmwun, and Ogiemudia, 2016; Ezeagba and Francis, 2015; Yakubu and. Akanegbu, 2015; Awe, 2013; Atoyebi et al, 2012; Felix et al, 2018. Despite agreeing that international trade enhances economic growth, these studies are at variance to the direction of the effects.

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will galvanize economic growth; as against the belief from literature such as Elias et al. (2018); Uwubanmwen, and Ogiemudia (2016); & Awe (2013). Also, this study found out that the literature reviewed adopted different techniques to analyze the hypotheses. For instance, some literature used ordinary least square while other either used autoregressive distributive lag (ARDL) or vector error correction model (VECM). The review also reported that literature either evaluated import/export, foreign direct investment, exchange rate or international trade with respect to economic growth in Nigeria. None of these studies carried out a comparative analysis between Nigeria and Ivory Coast with respect to international trade and economic growth, therefore a gap exist in literature which deserved to be filled.

To achieve this, the present study carry out a comparative analysis of international trade and economic growth in Nigeria and Ivory Coast. The comparative analysis was carried out between Nigeria and Ivory because, Nigeria is an Anglophone speaking country while Ivory Coast is a francophone speaking country. The both countries have areas of comparative advantage. Nigeria is known for its crude oil production while Ivory Coast is the largest exporter of cocoa beans.

3.0 Methodology

This study used secondary source of data, and were mainly annual time series data that were obtained from World Bank data and Central Bank of Nigeria Statistical bulletin, from 1981 to 2020. The dependent variable of the study is real gross domestic product (RGDP) as a proxy for economic growth while the explanatory variables are, exchange rate (EXR), foreign direct investment (FDI), export trade (EXPT), and import trade (IMPT) as proxy for international trade). This study adopt the Ex-post facto research design. The ex-post facto research can be defined as an empirically based investigation which does not involve the researchers' direct control over the independent variables because they have already led to effects which cannot be manipulated.

Model Specification

The model of this study is based on the

modification of Agbo et al. (2018), when investigating the Impact of International Trade on the Economic Growth of Nigeria. Their model was;

$$RGDP = f(EXPT, IMPT)$$

Where,

RGDP = Real Gross Domestic Product

EXPT = Export Value

IMPT = Import Value

Therefore, to achieve the objective of this study, the researcher modified the model to accommodate other variables. These include, Exchange rate (EXR), and foreign direct investment (FDI). These two variables are incorporated to capture monetary international trade. The new expanded model is thus stated as follows;

Model One: Nigeria International Trade and Real Gross Domestic Product Model

$$RGDP = f(EXR, FDI, EXPT, IMPT) \quad (3.1)$$

$$RGDP = \beta_0 + \beta_1 EXR + \beta_2 FDI + \beta_3 EXPT + \beta_4 IMPT \quad (3.2)$$

$$RGDP = \beta_0 + \beta_1 EXR + \beta_2 FDI + \beta_3 EXPT + \beta_4 IMPT + \mu. \quad (3.3)$$

The sign of β_1 and β_4 is expected by theory to have a negative relationship with real gross domestic product as a proxy for economic growth, since increase in EXR, will reduce the growth level of the economy, while β_2 and β_3 are expected by theory to have a positive relationship with nominal gross domestic product as a proxy for economic growth.

$$RGDP = f(EXR, FDI, EXPT, IMPT) \quad (3.4)$$

$$RGDP = \beta_0 + \beta_1 EXR + \beta_2 FDI + \beta_3 EXPT + \beta_4 IMPT \quad (3.5)$$

$$RGDP = \beta_0 + \beta_1 EXR + \beta_2 FDI + \beta_3 EXPT + \beta_4 IMPT + \mu. \quad (3.6)$$

The sign of β_1 and β_4 is expected by theory to have a negative relationship with real gross domestic product as a proxy for economic growth, since increase in EXR, will reduce the growth level of the economy, while β_2 and β_3 are expected by theory to have a positive relationship with nominal gross

domestic product as a proxy for economic growth,
Where:
NGDP = Real Gross Domestic Product (Proxy for Economic Growth) **EXT**= Exchange Rate, **EXPT** =

Export **FDI** = Foreign Direct Investment **IMPT** = Import Trade, μ = Error term, β_0 = Constant β_1 - β_3 = Estimated Parameters

4.0 Empirical Data Analysis

Data Analysis

4.1.1: Unit Root Test on Nigerian International Trade and Real Gross Domestic Product Model

The Augmented Dickey Fuller (ADF) unit root test is use to establish the stationarity of the time series data used in the study. The result in table 4.3.1 are shown below;

Variable	Levels			First Difference			Order of integration
	ADF statistics	1% critical value	5% critical value	ADF statistics at First Difference	1% critical value	5% critical value	
LNRGDP	-1.275781	-3.621023	-2.943427	-3.865910	-3.632900	-2.948404	1(1)
LNEXR	-2.032150	-3.610453	-2.938987	-5.615631	-3.615588	-2.941145	1(1)
LNFDI	-1.780446	-3.610453	-2.938987	-9.520856	-3.615588	-2.941145	1(1)
LNEXPT	-1.171770	-3.610453	-2.938987	-6.856552	-3.615588	-2.941145	1(1)
LNIMPT	-4.429556	-4.211868	-3.529758				1(0)

Source: Author Computation 2022 * Level of significance at 5%

This study employs the Augmented Dickey-Fuller (ADF) unit root tests to check the order of integration of the variables and the results are presented in Table 4-1.1a The results of Augmented Dickey-Fuller (ADF) showed that the variables are integrated in different order or a combination of I(0) and I(1) series. The ADF result

revealed that LNIMPT is stationary at levels 1(0) while, LNRGDP, LNFDI, LNEXPT and LNEXR, are stationary after first differencing 1(1). This condition makes the Autoregressive Distributive Lag (ARDL) Bounds test approach to co-integration appropriate for investigating the long-run relationship among these variable.

Co-integration Test

Table 4.1.2a ARDL Bound Test

Test Statistics	Value	K
F-statistics	5.257705	4

Significance	I (0)	1(1)
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Authors computation 2022

From table 4-1.2a, the bound test result indicates that there exist long run relationships amongst the variables as the F-statistic value of 5.257705 exceeds both the lower and upper bound critical values. Thus we reject the null hypotheses of no

long run relationship and accept its alternative. This means that there is a long-run relationship between international trade and economic growth in Nigeria.

Table 4.2.2b ARDL Bound Test

Test Statistics	Value	K
F-statistics	4.260299	4

Significance	I (0)	1(1)
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Authors computation 2022

From table 4-3.2, the bound test result indicates that there exist long run relationships amongst the variables as the F-statistic value of 4.260299 exceeds both the lower and upper bound critical values. Thus we reject the null hypotheses of no

long run relationship and accept its alternative. This means that there is a long-run relationship between international trade and economic growth in Ivory Coast.

Table 4.2.3a: ARDL Long-run Result

Variable	Coefficient	Std. Error	t-Statistics	Prob
LNEXR	1.202078	0.316401	3.799222	0.0010
LNFDI	0.491076	0.479955	1.023173	0.3173
LNEXPT	-0.567373	0.892558	-0.635670	0.5315
LNIMPT	0.085344	0.934428	0.091333	0.9281

Source: Authors computation 2022

The Autoregressive Distributive Lag (ARDL) Long run result in table 4-2.3a shows that the coefficient of the log of exchange rate (LNEXR) is 1.202078 is positive with real gross domestic product (RGDP) as a proxy for economic growth in Nigeria. This implies that a unit increase in exchange rate (EXR) will result to about 1.20 unit increase in real gross domestic product (RGDP). The p-value of 0.0010 indicates that there is a statistical significant relationship between exchange rate (EXR) and real gross domestic product (RGDP). This result negate economic theory. It is expected that a unit increase in exchange rate (EXR). Will lead to decline in real gross domestic product (RGDP). The implication of this is that, despite the increase in exchange rate, investors particularly in the real sector such as manufactures will still access loanable funds and make profit. Through this scenario, more hands would be needed in the production process, this will in turn reduce unemployment rate and contribute positively to the Nigerian economy.

However, the log of foreign direct investment (LNFDI) in Nigeria reported a positive (0.491076) relationship with real gross domestic product (RGDP) as a proxy for economic growth. This means that a unit increase in the log of foreign direct investment (LNFDI) in Nigeria will lead to 49% increase in real gross domestic product (RGDP).however, the p-value of 0.3137 implies

that there is no statistical significant relationship between foreign direct investment and real gross domestic product (RGDP). The economic implication is that, proceeds of FDI sent back home in terms of technology, liquid and fixed assets does not impact significantly on the Nigerian economy.

Also, the log of export trade (LNEXPT) showed a negative (-0.567373) relationship with real gross domestic product (RGDP) in Nigeria. This implies that a unit increase in the log of export trade (LNEXPT) will result to about 56% decline in real gross domestic product (RGDP) in Nigeria. The probability value of 0.5315 shows that the log of export trade (LNEXPT) is not significant to influence real gross domestic product (RGDP). The implication of this result is that as long as investor continue to export goods and services across the borders of the Nigerian economy, the growth of the economy will decline. This might be as a result harsh economic environment and in particularly increase in exchange rate. Finally, the log of import trade (LNIMPT) revealed a positive (0.085344) relationship with real gross domestic product (RGDP). This means that a unit rise in import trade will lead to 9% increase in real gross domestic product. However, the p-value of 0.9281 indicates that there is no statistical relationship between import trade and real gross domestic product in Nigeria.

Table 4.2.3b: ARDL Long-run Result

Variable	Coefficient	Std. Error	t-Statistics	Prob
LIEXR	9.173905	4.449507	2.061780	0.0512
LIFDI	-170.6376	2613.163	-0.065299	0.9485
LIEXPT	-22.54575	356.7280	-0.063202	0.9501
LIIMPT	134.6692	2080.658	0.064724	0.9489

Source: Authors computation 2022

The Autoregressive Distributive Lag (ARDL) Long run result in table 4-2.3b shows that the coefficient of the log of exchange rate (LIEXR) is 9.173905 is positive with real gross domestic product (RGDP) as a proxy for economic growth in Ivory Coast. This implies that a unit increase in exchange rate (EXR) will result to about 9.17 unit increase in real gross domestic product (RGDP). The p-value of 0.0512 indicates that there is a statistical significant relationship between exchange rate (EXR) and real gross domestic product (RGDP). This result negate economic theory. It is expected that a unit increase in exchange rate (EXR). Will lead to decline in real gross domestic product (RGDP). The implication of this is that, despite the increase in exchange rate, investors particularly in the real sector such as manufactures will still access loanable funds and make profit. Through this scenario, more hands would be needed in the production process, this will in turn reduce unemployment rate and contribute positively to Ivory Coast economy.

However, the log of foreign direct investment (LIFDI) in Ivory Coast reported a negative (-170.6376) relationship with real gross domestic product (RGDP) as a proxy for economic growth. This means that a unit increase in the log of foreign direct investment (LIFDI) in Ivory Coast will lead to 170.6 unit increase in real gross domestic product (RGDP). Similarly, the p-value of 0.9485 implies that there is no statistical significant relationship

between foreign direct investment and real gross domestic product (RGDP). The economic implication is that, proceeds of FDI sent back home in terms of technology, liquid and fixed assets does not impact significantly on Ivory Coast economy.

Also, the log of export trade (LIEXPT) showed a negative (-22.54575) relationship with real gross domestic product (RGDP) in Ivory Coast. This implies that a unit increase in the log of export trade (LIEXPT) will result to about 22.5 unit decline in real gross domestic product (RGDP) in Ivory Coast. The probability value of 0.9501 shows that the log of export trade (LIEXPT) is not significant to influence real gross domestic product (RGDP). The implication of this result is that as long as investor continue to export goods and services across the borders of the Ivory Coast economy, the growth of the economy will decline. This might be as a result harsh economic environment and in particularly increase in exchange rate. Finally, the log of import trade (LNIMPT) revealed a positive (134.6692) relationship with real gross domestic product (RGDP). This means that a unit rise in import trade will lead to 134.7 unit increase in real gross domestic product. However, the p-value of 0.9489 indicates that there is no statistical relationship between import trade and real gross domestic product in Ivory Coast.

Table 4.2.4a: ARDL Short-run Result

Variable	Coefficient	Std. Error	t-statistics	Prob
D(LNEXR)	0.045364	0.057097	0.794510	0.4354
D(LNEXR(-1))	-0.073960	0.066280	-1.115872	0.2765
D(LNFDI)	-0.025347	0.033586	-0.754684	0.4548
D(LNFDI(-1))	-0.111388	0.036239	-3.073684	0.0056
D(LNEXPT)	0.078929	0.057713	1.367619	0.1852
D(LNEXPT(-1))	0.046451	0.057356	0.809858	0.4267
D(LNIMPT)	-0.046451	0.066463	-1.111249	0.2785
D(LNIMPT(-1))	-0.023669	0.064370	-0.367701	0.7166
Ecm (-1)	-0.138161	0.024787	-5.573891	0.0000

Adj R² = 0.513649, F-statistics = 0.513699 (0.000508), DW = 2.250647

Source: Authors computation 2022

Table 4-2.4a shows the short-run result of the model. It is indicated that the log of exchange rate (LNEXR) in Nigeria reported a negative (-0.073960) relationship with the log of real gross domestic (LNRGDP) in the previous year lag period. This means that a unit increase in exchange rate will result to 7% decrease in the log of real gross domestic (LNRGDP). However, the p-value of 0.2765 showed that there is an insignificant relationship between exchange rate and real gross domestic product in Nigeria. Similarly, the log of foreign direct investment (LNFDI) in the previous year lag period showed a negative (-0.111388) relationship with the log of real gross domestic (LNRGDP). However, the probability value of 0.0056 indicates that there is statistical significant relationship between foreign direct investment (FDI) and real gross domestic product (RGDP). The implication of this result is that, individual or corporation's investment across the borders of the Nigerian economy will negatively affect the economy in terms of technology, capital flight etc.

The log of export trade (LEXPT) in Nigeria revealed a positive (0.078929 & 0.046451) with the log of real gross domestic (LNRGDP) in the current and previous years lag period. This implies that a unit increase in export trade will result to about 7% and 5% increase in the log of real gross domestic (LNRGDP). However, the p-value of 0.1852 and 0.4267 showed that there is no statistical significant relationship between export trade and real gross domestic product in Nigeria. Finally, the log of import trade (LNIMPT) in Nigeria reported that there is a negative (-0.046451 & -0.023669) relationship with the log of real gross domestic

product (LNRGDP) in Nigeria. Also, the p-value of 0.2785 and 0.7166 shows that there is an insignificant relationship between the log of import trade (LNIMPT) and the log of real gross domestic product (LNRGDP) in Nigeria. The implication of this result is that as long as the investor in Nigeria continues to massive import foreign goods and services, economic activities such as production of goods and service will decline, unemployment rate and prices of goods and services will move up. This situation will slow down economic activities.

This result agree with Philip et al. (2012) who in their investigation of influence of monetary policy variables on loan supply to medium scale enterprises reported negative but significant relationship between monetary policy rate and medium scale enterprises. However, this result is against the findings of Abere *et al.* (2020) and Salihu (2020) who reported positive and significant relationship between monetary policy rate and small and medium scale enterprises. Also, Hussaini *et al.* (2020), Salihu (2020) and Adeniji (2017) who carried a similar investigation on money supply and medium scale enterprises share of gross domestic product. They all reported that money supply impacted positively on medium scale enterprises.

The ECM (-1) which is the error correction term has a coefficient estimate which is negative and also significant at 0.05 level of significant. It indicates the model to adjust toward long run equilibrium at a speed of 14% annually. This implies that the previous year's error can be corrected with an

adjustment speed of 14% annually. The adjusted R-Square (R^2) value indicates that 51% of the total variation in the dependent variable (LRGDP) is explained by the independent variables (LNEXR, LNFDI, LNEXPT & LNIMPT). The F-statistics is

statistically significant at 5% level of significance indicating the overall model is significant. The Durbin-Watson statistics of 2.250647 which is approximately 2 reveals the absence of serial correlation in the model.

Table 4.24b: ARDL Shortrun Result

Variable	Coefficient	Std. Error	t-statistics	Prob
D(LIEXR)	-0.572518	0.082312	-6.955467	0.0000
D(LIEXR(-1))	0.108056	0.078063	1.384247	0.1790
D(LIFDI)	0.045022	0.019921	2.260001	0.0332
D(LIFDI(-1))	0.005826	0.022514	0.258770	0.7980
D(LIEXPT)	0.081810	0.119849	0.682607	0.5014
D(LIEXPT(-1))	0.165116	0.097933	1.685014	0.1048
D(LIIMPT)	-0.218408	0.129368	-1.688265	0.1043
D(LIIMPT(-1))	-0.226386	0.119531	-1.893811	0.0704
Ecm (-1)	-0.002499	0.000688	-3.631126	0.0013

Adj R² = 0.741426, F-statistics= 11.64659 (0.000000) DW = 2.231339

Source: Authors computation 2022

Table 4-3.4b shows the short-run result of the model. It is indicated that the log of exchange rate (LIEXR) in Ivory Coast reported a negative (-0.572518) relationship with the log of real gross domestic (LIRGDP) in the current year lag period. This means that a unit increase in exchange rate will result to 57% decrease in the log of real gross domestic (LIRGDP). However, the p-value of 0.000 showed that there is significant relationship between exchange rate and real gross domestic product in Nigeria. Similarly, the log of foreign direct investment (LIFDI) in the current year lag period showed a positive (0.045022) relationship with the log of real gross domestic (LIRGDP). Also, the probability value of 0.0332 indicates that there is statistical significant relationship between foreign direct investment (FDI) and real gross domestic product (RGDP). The implication of this result is that, individual or corporation's investment across the borders of Ivory Coast economy have a positive affect the economy in terms of technology, capital flight etc.

The log of export trade (LEXPT) in Ivory Coast revealed a positive (0.081810) relationship with the log of real gross domestic (LNRGDP) in the current years lag period. This implies that a unit increase in export trade will result to about 8% increase in the log of real gross domestic (LIRGDP). However, the p-value of 0.5014 showed that there

is no statistical significant relationship between export trade and real gross domestic product in Ivory Coast. Finally, the log of import trade (LIIMPT) in Ivory Coast reported that there is a negative (-0.218408 & -0.226386) relationship with the log of real gross domestic product (LNRGDP) in Ivory Coast. Also, the p-value of 0.1043 and 0.0704 shows that there is an insignificant relationship between the log of import trade (LNIMPT) and the log of real gross domestic product (LIRGDP) in Nigeria. The implication of this result is that as long as the investor in Ivory Coast continues to massive import foreign goods and services, economic activities such as production of goods and service will decline, unemployment rate and prices of goods and services will move up. This situation will slow down economic activities.

This result agree with Philip *et al.* (2012) who in their investigation of influence of monetary policy variables on loan supply to medium scale enterprises reported negative but significant relationship between monetary policy rate and medium scale enterprises. However, this result is against the findings of Abere *et al.* (2020) and Salihu (2020) who reported positive and significant relationship between monetary policy rate and small and medium scale enterprises. Also, Hussaini *et al.* (2020), Salihu (2020) and Adeniji (2017) who

carried a similar investigation on money supply and medium scale enterprises share of gross domestic product. They all reported that money supply impacted positively on medium scale enterprises.

The ECM (-1) which is the error correction term has a coefficient estimate which is negative and also significant at 0.05 level of significant. It indicates the model to adjust toward long run equilibrium at a speed of 002% annually. This implies that the previous year's error can be corrected with an

adjustment speed of 002% annually.

The adjusted R-Square (R^2) value indicates that 74% of the total variation in the dependent variable (LRGDP) is explained by the independent variables (LNEXR, LNFDI, and LNEXPT & LNIMPT). The F-statistics is statistically significant at 5% level of significance indicating the overall model is significant. The Durbin-Watson statistics of 2.231339 which is approximately 2 reveals the absence of serial correlation in the model.

Diagnostic Test (Nigeria)

Table 4.2 .5a: Ramsey Reset Test, Serial Correlation LM Test and Homoscedasticity Test Results for Model One (Nigeria)

	F-Statistic	Prob.Value
Ramsey Reset Test	0.254052	0.6195
Breusch-Godfrey Serial Correlation LM Test	2.735149	0.0891
Breusch-Pagan-Godfrey Heteroskedasticity Test	0.852914	0.6071

Source: Authors computation 2022

From Table 4.3.5a above, the results of the diagnostic test shows that the linearity test using Ramsey reset test indicates that the f-statistic (0.254052) with computed p-value of 0.6195 which is greater than 5 percent (0.05) critical value, hence the study reject the null hypothesis and conclude that the model is correctly specified.

The result of the serial or autocorrelation test using Breusch-Godfrey Serial Correlation LM Test shows that the f-statistic is 2.735149, with a Chi-Square probability value is 0.0891. This indicates that the probability value of about 8 percent

(0.0891) is greater than 5 percent (0.05) critical value; hence the study confirms no serial correlation in the model.

The result of the heteroscedasticity test using Breusch-Pagan-Godfrey test shows that the f-statistic is 0.852914 with a Chi-Square probability value of 0.6071. The result suggests that there is no evidence of heteroskedasticity in the model since the probability Chi-square value is more than 5 percent ($P > 0.05$). So, residuals do have constant variance which is desirable in regression meaning that residuals are Homoscedastic.

Diagnostic Test (Ivory Coast)

Table 4.3.5b: Ramsey Reset Test, Serial Correlation LM Test and Homoscedasticity Test Results for Model Two (Ivory Coast)

	F-Statistic	Prob.Valu e
Ramsey Reset Test	1.804999	0.1922
Breusch-Godfrey Serial Correlation LM Test	1.348346	0.2803
Breusch-Pagan-Godfrey Heteroskedasticity Test	1.483236	0.1949

Source: Authors computation 2022

From Table 4.3.5b above, the results of the diagnostic test shows that the linearity test using Ramsey reset test indicates that the f-statistic (1.804999) with computed p-value of 0.1922 which is greater than 5 percent (0.05) critical value, hence the study reject the null hypothesis and conclude that the model is correctly specified.

The result of the serial or autocorrelation test using Breusch-Godfrey Serial Correlation LM Test shows that the f-statistic is 1.348346, with a Chi-Square probability value is 0.2803. This indicates that the probability value of about 28 percent (0.2803) is greater than 5 percent (0.05) critical value; hence the study confirms no serial correlation in the model.

The result of the heteroscedasticity test using Breusch-Pagan-Godfrey test shows that the f-statistic is 1.483236 with a Chi-Square probability value of 0.1949. The result suggests that there is no evidence of heteroskedasticity in the model since the probability Chi-square value is more than 5 percent ($P > 0.05$). So, residuals do have constant variance which is desirable in regression meaning that residuals are Homoscedastic.

Conclusions and Recommendations

Conclusion

Following the findings, the study draws the conclusion that consistent increase of the exchange rate will negatively affect the growth of the respective economy (Nigeria & Ivory Coast). From the regression estimate of exchange rate (EXR) and real gross domestic product (RGDP), is negative and significant to influence real gross domestic product in Nigeria and Ivory Coast. Also, it was revealed that foreign direct investment (FDI) have a negative but significant relationship with real gross domestic product (RGDP) in Nigeria at the previous year's lag period. However, the regression result for Ivory Coast revealed that there is negative and statistically insignificant relationship between foreign direct investment (FDI) and real gross domestic product (RGDP) both in the previous and second year period. The coefficient of export trade in Nigeria revealed a positive relationship between the variables both in the current and previous year period in the short-run but is insignificant to disassemble real gross

domestic product (RGDP) while the regression result of Ivory Coast showed a positive but insignificant correlation with real gross domestic product (RGDP). Similarly, the ARDL regression estimate of import trade revealed a positive but negligible to influence real gross domestic product (RGDP) in Nigeria, while the result for Ivory Coast indicates a positive but insignificant relationship between import trade (IMPT) and real gross domestic product (RGDP)

Recommendations

Given the findings of the study, the following recommendations are suggested

- (1) Government should take measures that would make the mining and agricultural sub-sector attractive. Because they are the feeders and buffers of other sectors of the economy. They extract and supply raw materials to sectors of the economy that convert them to finished goods before distributing them domestically and internationally. Through this process jobs are created and the economy is impacted positively.
- (2) Also, government should monitor the market to ensure that product manufactured can compete favourable in the international market before they are sent out and possibly give investors incentives like tax holidays to encourage them.
- (3) The monetary policy should also be mandated to make foreign currency available at a single digit to enable the inventors massively carry out investment outlay that will help the government achieve some macro-economic objective such as price stability, full employment and favourable balance of payment.
- (4) Organizations such as the manufacturing association of Nigeria (MAN) should partner with countries that can provide them with cheap raw material and other consumables and luxury goods with same satisfaction with the very expensive once.

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**APPENDIX
MATERIALS**

4.1 Presentation of Data

Table 4.1: Nigeria Real Gross Domestic Product (NRGDP), Nigeria Exchange Rate (NEXR), Nigeria Foreign Direct Investment (NFDI), Nigeria Export (EXPT), and Ivory Coast Real Gross Domestic Product (IRGDP), Ivory Coast Exchange Rate (IEXR), Ivory Coast Foreign Direct Investment (IFDI), Ivory Coast Export (IEXP) spanning from

Year	NRGDP'#B	NEXR%	NFDI'#B	NEXPT	NIMPT
1981	137.93	0.64	0.54	14.13	15.76
1982	147.57	0.67	0.43	9.56	10.12
1983	157.18	0.75	0.36	5.37	4.38
1984	164.21	0.81	0.19	4.67	2.23
1985	185.98	1.00	0.49	5.23	2.43
1986	196.17	3.32	0.19	2.88	2.13
1987	242.26	4.19	0.61	6.77	3.50
1988	312.50	5.35	0.38	5.55	2.87
1989	410.77	7.65	0.88	11.11	3.93
1990	489.77	9.00	0.59	11.33	5.38
1991	584.25	9.75	0.71	11.91	6.27
1992	897.12	19.6	0.90	11.46	6.81
1993	1244.80	22.63	1.35	5.57	3.79
1994	1751.28	21.89	1.96	4.58	3.22
1995	3069.43	21.89	0.34	10.64	6.77
1996	4045.32	21.89	0.50	11.76	8.80
1997	4374.50	21.89	0.47	15.60	12.42
1998	4756.71	21.89	0.30	9.91	11.54
1999	5426.47	92.53	1.00	12.67	7.79
2000	6990.62	109.55	1.14	25.02	9.01
2001	8150.02	113.45	1.19	20.91	15.86
2002	11383.66	126.90	1.87	22.17	16.02
2003	13418.01	137.00	2.01	28.07	23.69
2004	17938.38	132.85	1.87	27.62	15.88
2005	22.884.90	129.00	4.98	37.05	21.18
2006	30063.96	127.00	4.85	69.69	30.81
2007	34318.67	116.80	6.04	58.53	49.89
2008	39542.43	131.25	8.19	86.52	51.35
2009	43012.51	148.10	8.56	54.38	51.42
2010	54612.26	148.81	6.03	92.75	63.83
2011	62980.40	156.70	8.84	128.05	87.73
2012	71713.94	155.76	7.07	143.70	59.15
2013	80092.56	155.74	5.56	91.82	66.12
2014	89043.62	168.00	4.69	100.78	68.08
2015	94144.96	197.00	3.06	51.92	51.92
2016	101489.49	305.00	3.45	37.30	46.55
2017	113711.63	306.00	2.41	49.49	49.51
2018	127736.83	307.00	0.78	61.55	69.55
2019	194210.49	307.00	2.31	63.73	88.74
2020	152324.07	381.00	2.40	38.17	93.71

Source: World Development Indicators (WDI), Historical data from 1981-2020.

Years	IRGDP	IEXR	IFDI	IEXPT	IIMPT
1981	8.433	271.73	32750000	35.2	42.3
1982	7.567	328.61	47470000	36.4	39.3
1983	6.838	381.07	37530000	37.0	35.7
1984	6.842	436.96	21740000	45.3	31.8
1985	6.978	449.26	29160000	46.8	32.4
1986	9.158	346.31	70750000	39.5	30.2
1987	10.09	300.54	87510000	33.4	29.6
1988	10.26	297.85	51700000	30.5	27.9
1989	9.757	319.01	18490000	32.0	29.1
1990	10.8	272.26	48434430	31.7	27.0
1991	10.49	282.11	18524886	30.0	28.1
1992	11.15	246.69	69053844	31.9	28.1
1993	11.05	283.16	175153533	29.4	25.9
1994	8.314	555.2	117538567	40.5	29.3
1995	11.00	499.15	211760840	41.8	34.4
1996	12.14	511.55	269194530	28.1	24.7
1997	11.72	583.67	415458076	28.2	25.8
1998	12.61	589.95	760099127	27.2	26.5
1999	12.38	615.47	235348766	28.7	27.2
2000	10.74	710.21	234701732	27.8	27.2
2001	11.2	732.4	272679898	27.5	25.6
2002	12.41	693.71	212580418	31.4	24.5
2003	15.34	579.9	165390571	28.7	24.5
2004	16.58	527.34	282979831	30.1	28.0
2005	17.09	527.26	349059587	31.9	30.9
2006	17.82	522.43	350964619	32.8	30.8
2007	20.37	478.63	443801751	30.5	30.9
2008	24.32	446.0	468377744	31.0	30.9
2009	24.38	470.29	397624744	35.4	31.3
2010	24.91	494.79	358468317	33.5	34.0
2011	25.41	471.25	301972463	35.3	29.4
2012	26.79	510.56	330255521	35.0	35.3
2013	31.27	493.9	407592122	29.2	29.2
2014	35.36	493.76	439356961	35.0	25.5
2015	45.81	591.21	494408756	27.4	25.4
2016	47.96	592.61	577871524	24.6	22.9
2017	58.01	580.66	975014999	24.9	23.6
2018	58.01	555.45	623330654	22.6	23.4
2019	58.54	585.91	848881139	23.8	22.6
2020	61.35	575.59	712915894	21.6	20.5

Source: World Development Indicators (WDI), Historical data from 1981-2020.