mutual feedback system coupled with adequate political will, social will and economic will on the part of the people and the government are more compatible for multiethnic and religious polarised communities and it ensues peace, political stability and sustainable development.

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PREVALENCE OF HIV/AIDS EPIDEMICS IN NIGERIA: IMPLICATION ON THE ACHIEVEMENT OF SUSTAINABLE DEVELOPMENT

Joseph Afolabi Ibikunle Ph.D[10]

ABSTRACT

HIV pandemic has been one of the world's main threats to public health. Approximately 78 million individuals around the globe have been infected since it broke out, 36 million have died from AIDS-related diseases, while 36.9 million are presently living with the disease. Most of these victims are young people in their productive era, as current studies reveal. This research therefore explores the implications of HIV / AIDS incidence in achieving sustainable development in Nigeria. The data used were Adjusted Net Savings, prevalence of HIV total (ages, 15-65), Prevalence of HIV for female and male (ages 15-24), Financial development, consumer price index and per-capita income from 1990 to 2017. Situational analysis, Multiple Regression and the Johansen Cointegration test *were employed. Findings revealed that HIV prevalence is widely spreading in Nigeria and the prevalence occur more in female than male. The regression result shows that HIV prevalence and consumer price index have negative impact on sustainable development, while per-capita income and financial development impacted positively on sustainable development. The cointegration result shows that a long run relationship exists between HIV prevalence and sustainable development. Therefore, HIV prevalence stand as impediment towards achieving sustainable development in Nigeria. The study recommends that government should increase funding and scale up services that will help prevent the epidemics. Also, elimination of gender inequality in employment need to be addressed so as to reduce the rate of sex workers and helps keep both the male and female youth healthy for the attainment of SDGs come 2030.*

1.0.   Introduction

One of the most severe public health challenges in the world is the human immunodeficiency virus (HIV), the virus that causes acquired immunodeficiency syndrome (AIDS).It has now been 39 years since the emergence of the first clinical proof of AIDS. During these years, the death and suffering created by the epidemic is a monumental human tragedy and a significant global threat to public health. An approximately 78 million individuals worldwide have

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been infected since its inception, 36 million have died from AIDS-related diseases, while 36.9 million are presently living with the disease worldwide (Bloom & Mahal, 1997; Essays, 2018; USAID, 2019)

Although prevalence levels of the illness appear to be stabilizing globally on average, with some of Sub-Saharan Africa's most impacted areas experiencing some decreases, it is no longer just a health problem but a significant threat to financial growth and future development, placing a heavy strain on households, communities and ultimately the economy as a whole. It is also observed that the epidemics impact every gender and age group in society and impact the productivity of every country (Cock, 2018, Poku, 2016; WHO, 2017; Lee, Kapogiannis and Allison, 2019). The epidemics ' threat to sustainable development has resulted in the target being included in the Sustainable Development Goals (SDGs) by the United Nation in 2015 after the failure of the Millennium Development Goals (MDGs) at the end of 2015. Objective 3.3 calls for the end of AIDS, tuberculosis, malaria and overlooked tropical diseases and the fight against hepatitis, waterborne diseases and other communicable diseases by 2030.The epidemic has become a serious issue globally and no longer health issue only but a substantial threat to economic growth (Sunday, Ameh and Uchechukwu, 2017)

The decline in AIDS cases in Africa is due to better targeting of risk factors through prevention efforts and the scaling up of antiretroviral therapy in many countries. Nigeria has shown steady progress on increasing access to treatment for people living with HIV, with the adoption of a test and treat policy in 2016. This measure has further accelerated referrals to treatment facilities for people who test positive for the virus. From 2010 to 2017, the country almost tripled the number of people living with HIV having access to antiretroviral therapy, up from 360 000 people in 2010 to more than 1 million people in 2018. However, the new estimates released indicate that more than half of people living with HIV still do not have suppressed viral loads. However, AIDS remains one of the health and developmental challenges in Nigeria. For example, it is reported that Nigeria has the second largest HIV epidemic in the world and one of the highest rates of new infection in sub-Saharan Africa with 3.1 million people with HIV, 2.8percent of adults (ages 15 -49), 210,000 new HIV infections, 150,000 AIDS related deaths and 34percent adults and 26percent children are on antiretroviral drugs. It is also observed that many people living with the virus in Nigeria are unaware of their status indicating that there are still many AIDS-related deaths in Nigeria a situation very devastating and a strong threat to the future of the attainment of any sustainability and (Essay, 2018, Joel, 2005; Nweze, Eke & Nweze, 2017; UNAIDS, 2018).The disease was initially only regarded as a serious health crisis, but it is now clear that the pandemic also holds economic consequences for Nigeria and also have far reaching socio-economic consequences on the future economic growth.

Given the importance of economic growth therefore in the attainment of sustainable development in Nigeria, question that one may then ask is that what are the trend of the

epidemics in the country? What is the effect of the prevalence of HIV on economic growth and is there any long run effect between the prevalence of HIV and economic growth in Nigeria? It is against this backdrop that this study examined the implication of HIV/AIDS prevalence on the attainment of Sustainable Development in Nigeria come 2030. The rest of the paper therefore is divided into four. Section 2 focuses on the literature review while section 3 focuses on the methodology. Section 4 discuss the findings while section 5 concludes and recommends.

2.0.   Literature Review

The human immunodeficiency virus (HIV) infects cells of the immune system, destroying or impairing their function. Infection with the virus results in progressive deterioration of the immune system, leading to "immune deficiency." The immune system is considered deficient when it can no longer fulfil its role of fighting infection and disease. Infections associated with severe immunodeficiency are known as "opportunistic infections", because they take advantage of a weakened immune system. On the other hand, acquired immunodeficiency syndrome (AIDS) is a term which applies to the most advanced stages of HIV infection. It is defined by the occurrence of any of more than 20 opportunistic infections or HIV-related cancers (Cuddington, 1993a, 1995; WHO, 2017).

Human Immune Deficiency Virus (HIV) is a virus that causes many different illnesses such as common cold (catarrh) measles, hepatitis, chicken pox, polio and rabies. The Human Immune Deficiency Virus (HIV) that causes AIDS is a small germ that is too small to see with an ordinary microscope. The virus is spread through certain body fluids that attacks the body's immune system, specifically the CD4 cells, often called T cells. Over time, HIV can destroy so many of these cells that the body can't fight off infections and disease. These special cells help the immune system fight off infections. Untreated, HIV reduces the number of CD4 cells (T cells) in the body. This damage to the immune system makes it harder and harder for the body to fight off infections and some other diseases. Opportunistic infections or cancers take advantage of a very weak immune system and signal that the person has AIDS. During the initial infection, a person may experience a brief period of influenza-like illness. This is typically followed by a prolonged period without symptoms. As the illness progresses, it interferes more and more with the immune system, making the person much more likely to get infections, including opportunistic infections and tumors that do not usually affect people who have working immune systems. When the body can no longer fight infection, the disease is known as AIDS, which stands for Acquired Immune deficiency Syndrome. On average, it takes more than 10 years to progress from initial HIV infection to AIDS. Acquired Immune Deficiency syndrome (AIDS) is defined in terms of either a CD4+ T cell count below 200 cells per or the occurrence of specific diseases in association with an HIV infection. The figure below shows the conceptual framework adopted from the work by Theodore (2001).

Figure 1. Conceptual framework for the impact of HIV/AIDS on the economy
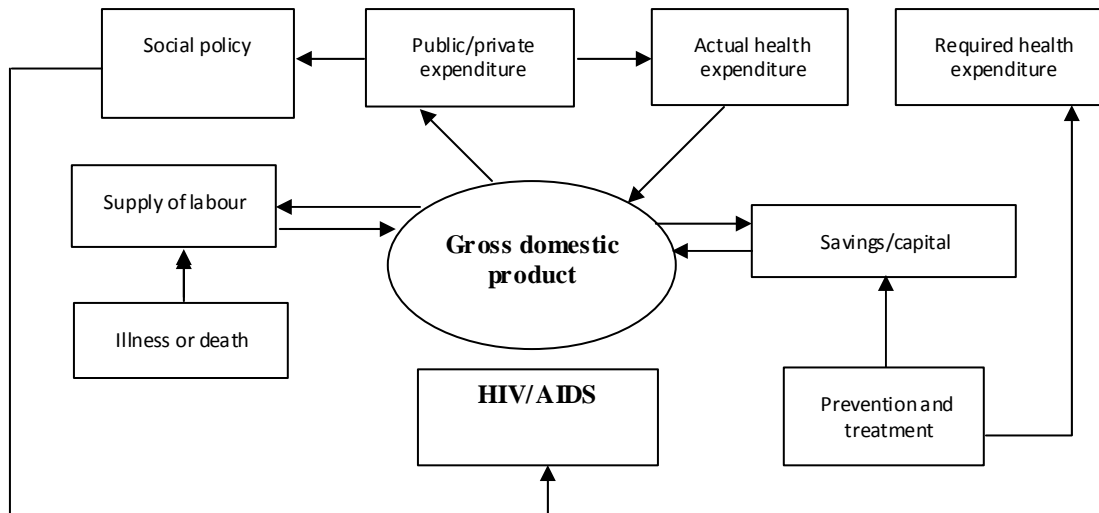
Source: Karl Theodore, (2001).

Figure 1 shows the conceptual framework adopted from the work of Theodore (2001) on the impact of HIV/AIDS on the economy. From the figure, Theodore identified four major channels through which HIV/AIDS may affect the development of an economy. The first is the production channel which refers to the mechanisms through which HIV/AIDS affects labour and capital which are the main factors of production in an economy. The effects on labour and capital causes the production process to be less fruitful than it would have been in the absence of HIV/AIDS. The second channel is the allocation channel. The main economic problem of the society is how to allocate resources efficiently so that no aspect of the country is better off while others are worse off. HIV/AIDS redirects some of those resources to medical expenses and away from other productive uses.

The third channel is the distributive channel, specifically on the area of income distribution. In the face of an epidemics that tends to increase health expenditure and weakens the income base, the lowest income group may fare the worst. However, while the rich may have other assets such as savings, land or capital, often the only productive asset of the poor is their own labour, which HIV/AIDS attacks in most cases. The upper income groups, though also affected may be better placed to protect themselves and better able to afford treatment. This reveals that HIV/AIDS epidemic has the potential not only to affect all groups but also has the tendency to widens the gap between social levels. The fourth channels according to him is the regeneration channel. This channel refers to the

investments in human capital, physical capital and new technology and innovations that are needed to keep the economy growing. However, if the threat of HIV/AIDS epidemics disrupts the saving capacity and the human capital of the economy, then it will undercut the process of economic development in such a country.

2.1.   HIV/AIDS related deaths in Nigeria

Over, the years, since the breakdown of the disease, the rate of deaths in Nigeria has been on the increase. This is because, little amount is been budgeted to the health sector and the funds are not really utilized due to corruption. Nigeria, is blessed with a high population with over 200million citizen and a growth rate of projected population and HIV/AIDS related deaths is presented in Table 1.

Table 1: Projected Population and projected AIDS related Deaths in Nigeria 2017 - 2030

Year	Projected Population	Projected AIDS related Death
2017	190836000	150000
2018	195797736	161790
2019	200888477	173581
2020	206111578	185371
2021	211470479	197161
2022	216968711	208951
2023	222609898	220741
2024	228397755	232532
2025	234336096	244322
2026	240428835	256112
2027	246679985	267902
2028	253093664	279693
2029	259674100	291483
2030	266425626	303273

Note: The computation was made with 2017 AIDS related Deaths as a percentage of population

Table 1 shows that over the years, the growth rate of population in Nigeria is increasing. This is also accompanied with an increase in the AIDS related death. This is due to the fact that with increase in population with no effective treatment and means to curb the menace,

there is the tendency for more death associated with HIV. Most pregnant women that are contacted with the diseases and the high rate of sex workers among female due to unemployment and poor access to make a livelihood. It is also projected from the table that in 2030 where the country is hoping to achieve good health, about 303273 deaths will be recorded. This no doubt affects the economy badly. The loss of young adults in their most productive years will affect overall economic output. If HIV/AIDS is more prevalent among the economic elite, then the impact may be much larger than the absolute number of AIDS deaths indicates. The direct costs that AIDS may cost the country in the future if the projection come to pass include increase in health expenditures for medical care, drugs, and funeral expenses while the Indirect costs may likely include lost time due to illness, recruitment and training costs to replace workers, and care of orphans. If costs are financed out of savings, then the reduction in investment could lead to a significant reduction in economic growth and as a result affect the economy in their quest to attain sustainable development.

2.2   Empirical Framework

A number of studies exist on the effects of HIV prevalence on economic growth in the literature; however, some of the studies are largely beyond the shore of Africa. Most of the studies are carried out in the developed countries, some in Africa and few in Nigeria. However, they all found different result based on different methodologies adopted and numbers of years used.

Sunday, Ameh and Uchechukwu (2017) assess the impact of HIV/AIDS on the Nigerian economy. Their findings reveal that HIV/AIDS has a significant negative impact on productivity and by implication affected the economic growth. However, government spending on health has a significant positive effect on the economic growth. The study however failed to examine whether a long run relationship exist between the prevalence of HIV and economic growth in the economy. This would have given rooms to determine if the country can achieve sustainable development in the future. The study fails to look at the long run relationship between HIV/AIDS and the economic development.

Arndt and Lewis (2000, 2001) focus on the sectoral impact of HIV/AIDS. They find that all sectors are affected negatively with the greatest impact on the Construction and Equipment sectors. A characteristic of these sectors is that investment demand accounts for 62 per cent and 34 per cent of total demand in the respective sectors. With such high investment shares, these sectors are sensitive to the decrease in savings. On the other hand, medical services

and government services are not so severely affected by the epidemic. In the same vein. Tarahdar *et al.*(2011) examine socio-economic consequences of HIV/AIDS in the family. Applying cross sectional descriptive study among patient admitted. They concluded that HIV/AIDS can lead to poverty affecting particularly women and young people and can halt or reverse socioeconomic development of a country.

Danjuma, Shamzaeffa and Shazida (2015) studies in 42 sub-Saharan African countries using data from 1990 to 2013. Applying the Generalized Method of Moment (GMM) estimation technique, findings show that current HIV prevalence rate at the time of the study associated with morbidity has a negative impact on GDP per capita growth. They concluded that conversely, AIDS – associated with higher mortality in addition to morbidity, increases per capita GDP growth. The study however, fails to examine the implications on the attainment of sustainable development

Levi, Pozniak, Heath and Hill (2018) examine the impact of HIV prevalence, conflict, corruption and per capita on treatment cascades in 137 countries. The data used for the study were available for diagnosis for 84 countries, ART coverage for 137 countries, and viral suppression for 94 countries. Regions with the lowest ART coverage were South-east Asia and Pacific (36%), Eastern Europe and Central Asia (17%), and Middle East and North Africa (13%). Lower HIV prevalence was associated with poorer cascade results. Countries with higher GDP/capita achieved higher ART coverage ($P<0.001$). Furthermore, countries with lower levels of peace and higher corruption had lower ART coverage ($P<0.001$). Countries with a GPI >2.5 all had ART coverage of <40%. The study also fails to look at the long run relationship between the prevalence of HIV and economic growth on all the countries used. The study focuses on the developed countries but have little contribution to the developing countries.

2.3   Theoretical Framework

Brundtland et al., (1987) defines sustainable development as - "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This concept aligns with modern economic theory proposed by revisiting the earlier Solow growth model (Solow, 1974, 1986) and (Hartwick, 1977) which suggested that resources extracted or damaged should be reinvested to achieve optimal growth and intergenerational equity. Moreover, endogenous growth theory by (Romer, 1990) also suggested that technological change was the result of capital investment that would prolong and maintain sustainability. The World Bank, in 1997 designed the measurement of wealth,

by including the rate of saving as the important element to the economic growth and further arrive to sustainability. The World Bank constructs the estimation of adjusted net saving rate for various countries by making adjustments to the Gross Domestic Product and Gross National Savings figures, respectively. Ando & Modigliani (1963) and (Carroll & Well, 1993) were among the first authors that presented a theoretical construction of ANS rate through national savings; with practical methods applied by World Bank in estimating the indicator. The calculation method was conducted similarly on every country and is publicly available on the World Development Indicator, (WDI).

The ANS idea was officially introduced by the World Bank in 1992. It is in fact an extension from the traditional calculation of gross national saving – where this 'augmented' GNS rate incorporates the calculation of natural resources depletion and environmental degradation (such as pollution) along with the addition of human capital formation. The derivation of ANS rate calculation is shown in Figure 2.
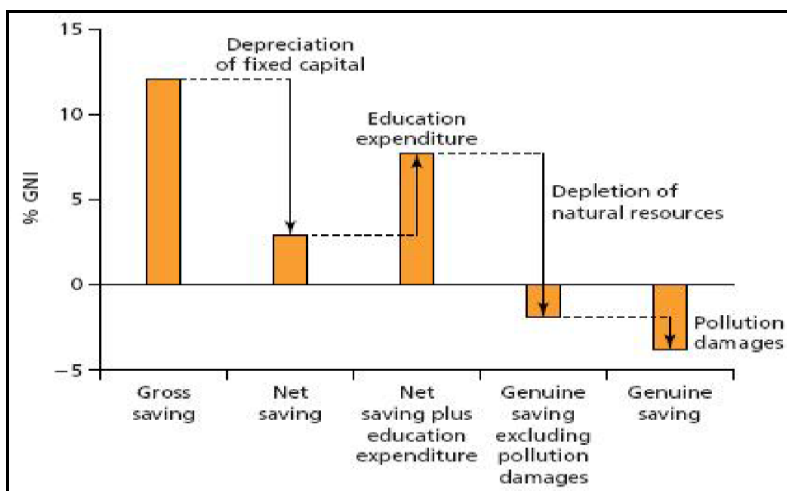
Figure 2: Method of Calculation for Adjusted Net Saving Rate

Source: World Bank, 2018, Faridah, et al, 2014

The above figure shows that the adjusted net savings is computed from the depreciation of fixed capital, expenditure on education, depletion of natural resources and pollution damages. The adjusted net savings is calculated thus

$$ANS = \frac{GNS - Dh + CSE - \sum R_{n.i} - CD}{GNI}. \qquad (1)$$

Where

ANS = Adjusted Net Saving Rate

GNS = Gross National Saving

Dh = Depreciation of produced capital

CSE = Current (non-fixed-capital) expenditure on education

Rn,i = Rent from depletion of natural capital *i*

CD = Damages from carbon dioxide emissions

GNI = Gross National Income at Market Prices

Although, some studies criticized the ANS as a 'weak' indicator for sustainability, however, (Thiry & Cassiers, 2010), opined that the ANS rate indicator is among the best satisfactory techniques accepted by economist due to its unique characteristic of augmenting the net GNS rate calculation by including human capital development (indicated by public expenditures on education) and deducting depletion on natural resources together with environmental degradation (pollution) (See also, Faridah, et al 2014 for more explanation). Theoretically, a basic framework for sustainable development by Faridah, et. al (2014) is depicted below:
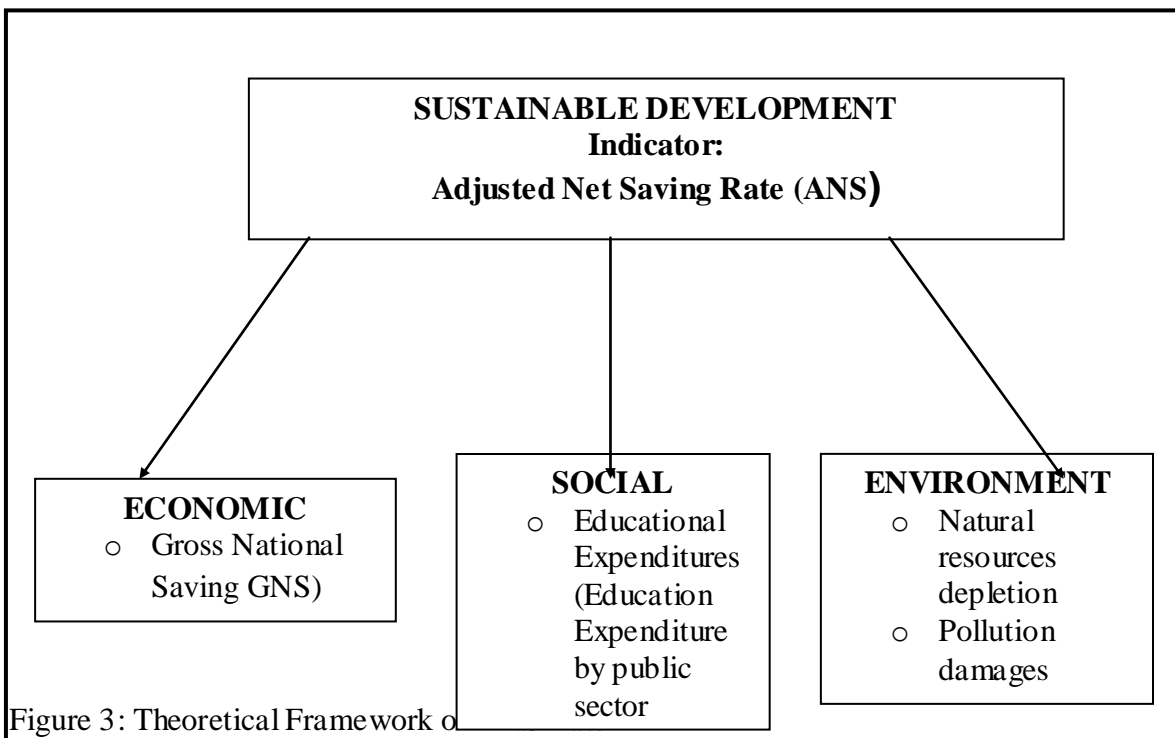

Figure 3: Theoretical Framework o

(Source: World Bank, 1997; Faridah, *et al* 2014)

Figure 3 shows the sustainable development division. The sustainable development is divided into three major aspect namely: Economic, social and environment. The Economic aspect deals with the gross nation savings which is the difference between the final consumption expenditure and the gross national disposable income. The income consists of personal saving plus business saving, plus government saving but excludes foreign saving. The second division of sustainable development is the social aspect. This focuses on education mainly education expenditure by public sector, quality of life, equal opportunity, law and ethics. The third dimension is that of environmental. This aspect deals with resource management, pollution damages, habitat restoration and preservation etc. The three dimensions can be used for sustainable development for any country as supported by the World Bank.

3.   Methodology

3.1   Data requirements and source

The study sample used is Nigeria. The time period covered extends from 1990 to 2017. The choice of country used and the time frame is the fact that Nigeria has the second highest HIV prevalence in West Africa and time frame selected is based on data availability for the variables needed. In order to examine the effect of the prevalence of HIV on the sustainable development in Nigeria, five variables were used. These includes the sustainable development, prevalence of HIV, consumer price index, per-capital income and financial development. Sustainable development data, inflation rate, per capital income and prevalence of HIV data were retrieved from the World Development Indicators (http://data.worldbank.org). Data for financial development were sourced from (http://data.world/imf/financial-development-fd). The adjusted net savings is used as a proxy for sustainable development (World Bank, 1997, Farida, Arifin and Abdol. 2015)

3.2   Model specification and estimation techniques

The purpose of this paper is to examine the impact of the prevalence of HIV on sustainable development in Nigeria. There are several models in the literature but most of them proxied sustainable development by the Gross Domestic Product which is not a good proxy for sustainability. Therefore, following Faridah and Abdol (2015), we specify a typical sustainable development equation that takes the functional form:

$$SD = f(HIV, FD, PCI, CPI). \hspace{3cm} (2)$$

Where

SD = Sustainable development proxy by the adjusted net savings

HIV = Prevalence of HIV total (15-45 years)

FD = Financial development

PCI = GDP per capita

CPI = Consumer price index

Equation 2 is re - specified in econometric form

$$SD_t = \beta_0 + \beta_1 HIV_t + \beta_2 FD_t + \beta_3 PCI_t + \beta_4 CPI_t + \varepsilon_t. \qquad (3)$$

Where β_0= constant, $\beta_k (\beta_1, \beta_2, \beta_3 \text{ and } \beta_4)$= coefficient of the independent variables ε_t = error term. On apriori, we expect $\beta_1 < 0$, $\beta_2 > 0$; $\beta_3 < 0 \text{ and } \beta_4 > 0$. The variables used and their units are presented in Table 2

Table 2: Variables and their expected sign

Variable	Measure	Notation	Expected Impact
Dependent Variable			
Sustainable Development	Adjusted net savings	SD	
Independent Variables			
Prevalence of HIV	% of population total (15 -49)	HIV	-
Per Capita income	% of GDP	PCI	+
Financial Development	% of GDP	FD	+
Consumer price index	2010 = 100	CPI	-

3.3 Estimation Techniques

Time series data are prone to spurious regression and a way out of this is to carry out a unit root test in order to test for the stationarity property of the variables. In other to avoid a spurious regression, the study will first of all carry out a unit root test, the augmented Dickey Fuller unit root test. If all the variables are not integrated at levels, then the study will carry out a cointegration test. There are different types of cointegration test such as the Johansen, Johansen and Jusselius, Engle Granger and the Westerlund (2008) cointegration

test. However, this study employs the Johansen cointegration test, this is because the test permits more than one cointegrating relationship so is more generally applicable than the Engle Granger test which is based on Dickey – Fuller (or the augmented) test for unit roots in the residual from a single cointegrating relationship. There are two types of Johansen test either with trace or with the eigenvalue and the null hypothesis for the trace test is that the number of cointegration vector $r = r^* <$ k, versus the alternative that $r = k$. Testing proceed sequentially for $r^* = 1, 2, …, n$ and the first non-rejection of the null is taken as an estimate of r. The null – hypothesis for the maximum eigenvalue test is as for the trace test but the alternative is $r = r^* + 1$ and again testing proceeds sequentially for $r^* = 1, 2, …, n$ with the first non – rejection used as estimated for r.

The general $VAR(\rho)$ model is specified as

$$X_t = \mu + \Phi D_t + \Pi_\rho X_{t-\rho} + \cdots + \Pi_1 X_{t-1} + e_t, \qquad t = 1, …, T.$$
$$(4)$$

The long run VECM for the study takes the form

$$\Delta X_t = \mu + \Phi D_t + \Pi_{t-\rho} + \Gamma_{\rho-1} \Delta X_{t-p+1} + \cdots + \Gamma_1 \Delta X_{t-1} + \varepsilon_t, t = 1, …, T.$$
$$(5)$$

Where

$$\Gamma_i = \Pi_1 + \cdots + \Pi_i - I, \quad i = 1, …, p - 1.$$

In other to determine the effect of prevalence of HIV on sustainable development, the Fully Modified Ordinary Least Square (FMOS) regression estimation techniques will be employed.

4.   Discussion of Findings

4.1.   Summary statistics

Table 3 shows the summary statistics of all the variables. For SD, the mean is 19.43, minimum 0.07 and the maximum value reported is 43.92. For HIV prevalence, the average is 2.95, the minimum value is 1.20 while the maximum is 3.70. in terms of FD, the reported mean is 0.12 with standard deviation of 0.03. The minimum value is 0.07 while the maximum is 0.19. CPI recorded a higher mean value of 65.87 and the minimum value is 2.44 while the maximum is 185.21. In the case of PCI, the summary statistics reveal an average value of 2.06, standard error of 3.95, minimum value of -4.66 and a maximum value of 12.45.

Table . Summary statistics

Variables	Mean	Stand. Dev	Min.	Max.
SD	19.43	12.61	0.07	43.92
HIV	2.95	0.69	1.20	3.70
FD	0.12	0.03	0.07	0.19
CPI	65.87	55.69	2.44	185.21
PCI	2.06	3.95	-4.46	12.45

Source: Authors computation, using Stata13

4.2. Unit Root Test

The unit root test presented in this paper follows the Augmented Dickey-Fuller procedure. The test was carried out to examine the stationary nature of each of the variables used in the models of this study in order to avoid the consequence of having a spurious regression result arising from conducting Ordinary Least Squares method with non-stationary series.

Table 4: Augmented Dickey Fuller Unit Root Test

Variable	Crit. Value 5%	Level	1st Diff.	Order of Integration
SD	-2.972	-1.962	-6.957	I(1)
HIV	-2.992	-4.923		I(0)
FD	-2.986	-1.545	-5.154	I(1)
CPI	-2.981	-1.116	-3.295	I(1)
PCI	-2.981	-1.564	-5.738	I(1)

Source: Authour's computation, 2019 using E views 9

The result of the unit root test shown above showed that at levels only HIV was stationary. After their first difference, all other variables were stationary. Since all variables are not stationary at levels, a cointegration test is required to determine whether there is a long-term relationship between the variables. Cointegration tests such as the Johansen, Johansen and Jusselius, Engle Granger as well as the cointegration test Westerlund (2008) are available in the literature. For this study, however, the Johansen Cointegration test is used and the outcomes are shown in Table 5.

Table 5: Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.682218	84.28256	69.81889	0.0023
At most 1 *	0.581279	54.47641	47.85613	0.0105
At most 2 *	0.515075	31.84209	29.79707	0.0287
At most 3	0.390634	13.02431	15.49471	0.1139
At most 4	0.005583	0.145577	3.841466	0.7028

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Table 5 shows the result of the cointegration text by Johansen. This was performed since not all variables at levels are stationary. Therefore, it becomes necessary to test whether a long-run relationship exists among the variables. The outcome above demonstrates a long-term connection in Nigeria between HIV and Sustainable Development. The cointegration test by Johansen revealed that there are 3 cointegrating equations. Since there is a long-term connection between the incidence of HIV and sustainable development, this indicates that the incidence of HIV will be a significant factor in the nation in its search for sustainable development in 2030.

5.0.   Regression Result

In order to determine the impact of the prevalence of HIV on sustainable development in Nigeria, the fully modified ordinary least square estimation techniques was employed and the result obtained is presented in Table 6

Table 6: Fully Modified Regression (Dependent VAR: SD)

Variables	Coefficient	t-Stat.	Prob.
C	2.179	0.334	0.741
Log (HIV)	-4.345	-3.433	0.002
Log (FD)	0.560	0.400	0.693
Log (CPI)	-1.905	-3.813	0.000
Log (PCI)	0.571	0.891	0.382
R-Squared	0.662		
$\bar{R}^2$	0.603		
F-Stat.	11.262		
Prob.	(0.000)		
D.W	2.121		

Source: Author's computation, 2019 using Eviews 9

The fully modified regression outcome acquired from the given model is shown in Table 6 above. The findings are consistent with the theoretical expectations. Sustainable development was negatively affected by HIV prevalence. The outcome shows that a 1 percent increase in HIV incidence will result in a 4.35 percent drop in Nigeria's sustainable development. At 1 percent ($p<0.01$), the outcome is also significant. This implies that HIV incidence is a significant variable that determines Nigeria's achievement of sustainable development.

Financial development has a positive impact on Nigeria's sustainable development. The outcome also corresponds to the expectation of a priori. As a consequence, a rise of 1% in Nigeria's financial development will lead to a rise of 0.56% in sustainable development. However, the outcome is not significant. This suggests that while financial development will assist attaining sustainable development in Nigeria, it is not a significant factor that determines the country's sustainable development.

Sustainable development was negatively affected by consumer price index. The consumer price index is a metric that examines a basket of consumer goods and services such as transportation, food, and medical care's weighted average prices. The outcome indicates that high consumer goods prices will decrease sustainability by 1.91 percent. The outcome is significant as well. While this implies that CPI has a negative impact on sustainable development, it is a significant factor that determines Nigeria's sustainable development in the future.

Per capita income from the result impacted positively on sustainable development but was not significant. The result shows that a 1percent increase in per capita income in the country will lead to about 0.571 increase in sustainable development in Nigeria.