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COMPANY INCOME TAX REVENUE AND ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM SUB-SAHARA COUNTRIES IN AFRICA

The development level of any country depends on the volume of revenue realised for the infrastructure provisions. For decades ago, local resource mobilization issue has enticed significant attention in Sub-Sahara countries in Africa due to paucity of income generated. The aim of this study is to examine the effect of CIT revenue on the growth of Sub-Sahara counties in Africa. Data from ten Sub-Sahara countries which comprised of Nigeria, Liberia, Sierra Leon, Ghana, South Africa, Senegal, Benin, Burkina-Faso, Guinea and Mali were employed from year 2000 to 2019. However, the data were sourced majorly from World Development Indicator (WDI) and analyzed using Panel data analysis and ARDL. Based on our findings, the Coefficients of all the variables, especially CIT are negative and insignificant, this goes to validate the speed of adjustment of 1.8% (coefficient of -1.86124), meaning that 1% change in CIT absolutely bring down GDP by 1.8% in the long run but in the short run, 1% change in CIT logically bring down GDP by 0.5% (coefficient of 0.596384). Conclusively, company income tax revenue negatively affected the growth of Sub-Sahara countries in Africa over the period of study both in the short and long run. It is recommended that fiscal authorities of respective countries should create database mechanism which will expose annual chargeable profit and tax payable for each company in order to eschew CIT evasion in the country. Regulatory authorities saddled with the monopolistic responsibility of tax collection should be empowered to impose compliance on CIT payers which will upsurge CIT revenue enormously. Lastly, CIT tax collected should be appropriately dispersed to breed growth of economy for effective compliance of taxpayers.

Key words: Sub-Sahara, Countries, CIT, Growth, ARDL, Revenue.

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Корпоративтік табыс салығы және экономикалық өсу: Сахараның оңтүстігіндегі Африкадан алынған эмпирикалық дәлелдер

Кез келген елдің даму деңгейі инфрақұрылымды қамтамасыз етуге іске асырылатын кірістер көлеміне байланысты. Ондаған жылдар бұрын жергілікті ресурстарды жұмылдыру мәселесіне Сахараның оңтүстігіндегі Африка елдерінде табыстың жетіспеуіне байланысты үлкен назар аударылды. Бұл зерттеудің мақсаты Сахараның оңтүстігіндегі Африка елдерінің экономикалық өсуіне табысқа салынатын салықтардың әсерін зерттеу болып табылады. 2000 жылдан 2019 жылға дейін Сахараның оңтүстігіндегі он елдің, соның ішінде Нигерия, Либерия, Сьерра-Леона, Гана, Оңтүстік Африка, Сенегал, Бенин, Буркина-Фасо, Гвинея және Малидің деректері пайдаланылды. Дүниежүзілік Банктің деректері жиналды және панельдік деректерді талдау және ARDL көмегімен талданды. Зерттеу нәтижелеріне сәйкес барлық айнымалылардың коэффициенттері, әсіресе КТС, теріс және статистикалық мағынасы жоқ болып табылады, бұл 1,8% түзету жылдамдығын растайды (коэффициент -1,86124), бұл КТС 1% өзгеруі ЖІӨ-ні ұзақ мерзімді перспективада 1,8%-ға төмендетеді, бірақ қысқа мерзімді перспективада КТС 1% өзгеруі ЖІӨ-ні 0,5%-ға төмендетеді (коэффициент 0,596384). Компаниялардың табыстарына салынатын салықтан түсетін кірістер зерттеу кезеңінде Сахараның оңтүстігіндегі Африка елдерінің қысқа мерзімді және ұзақ мерзімді өсуіне теріс әсер еткенін атап өткен жөн. Тиісті елдердің фискалдық органдарына елдегі табыс салығын төлеуден жалтарудың алдын алу үшін жыл сайынғы салық салынатын кірісті және әр компания үшін төленетін салықты ашатын мәліметтер базасын құру ұсынылады. Салықтарды жинау үшін монополиялық жауапкершілікке тартылған реттеуші органдарға КТС төлеушілерге міндеттемелер жүктеу өкілеттіктері берілуі

керек, бұл КТС кірістерін едәуір арттырады. Қорытындылай келе, жиналған КТС экономиканың өсуіне және салық төлеушілердің тиімді сақталуына ықпал ету үшін тиісті түрде таратылуы керек.

Түйін сөздер: Сахараның оңтүстігіндегі елдер, КТС, өсу, ARDL, табыс.

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Корпоративный подоходный налог и экономический рост: эмпирические данные стран к югу от Сахары в Африке

Уровень развития любой страны зависит от объема доходов, реализуемых на обеспечение инфраструктуры. Десятилетия назад проблема мобилизации местных ресурсов привлекала значительное внимание в странах Африки к югу от Сахары из-за нехватки получаемого дохода. Целью данного исследования является изучение влияния доходов от налога на прибыль на экономический рост стран к югу от Сахары в Африке. С 2000 по 2019 год использовались данные из десяти стран к югу от Сахары, включая Нигерию, Либерию, Сьерра-Леону, Гану, Южную Африку, Сенегал, Бенин, Буркина-Фасо, Гвинею и Мали. Были собраны данные Всемирного банка и проанализированы с использованием панельного анализа данных и ARDL. Согласно результатам исследования, коэффициенты всех переменных, особенно КПН, являются отрицательными и незначительными, что подтверждает скорость корректировки 1,8% (коэффициент -1,86124), что означает, что изменение КПН на 1% абсолютно снижает ВВП на 1,8% в долгосрочной перспективе, но в краткосрочной перспективе изменение КПН на 1% логически снижает ВВП на 0,5% (коэффициент 0,596384). В заключение следует отметить, что доходы от налога на прибыль компаний негативно повлияли на рост стран Африки к югу от Сахары за исследуемый период как в краткосрочной, так и в долгосрочной перспективе. Фискальным органам соответствующих стран рекомендуется создать механизм базы данных, который будет раскрывать ежегодную налогооблагаемую прибыль и налог, подлежащий уплате для каждой компании, чтобы избежать уклонения от уплаты налога на прибыль в стране. Регулирующие органы, обремененные монопольной ответственностью за сбор налогов, должны быть наделены полномочиями налагать обязательства на плательщиков КПН, что значительно увеличит доходы КПН. Наконец, собранный КПН должен быть надлежащим образом распределен, чтобы способствовать росту экономики и эффективному соблюдению налогоплательщиков.

Ключевые слова: страны к югу от Сахары, КПН, рост, ARDL, доход.

Introduction

The development level of any country depends on the volume of revenue realised for the infrastructure provision. Within decades ago, local resource mobilization issue has enticed significant attention in Sub-Saran countries in Africa (Izuchukwu and Patricia, 2015). Globally, governments are burdened with the duties and responsibility of giving some essential foundations to their citizens. Functions or commitments the government owe her citizens include but are not limited to adjustment and stabilisation of the economy, income redistribution and provision of essential services in form of public goods (utilities) (Abiola and Asiweh, 2012). Taxation is among the significant tools of government revenue throughout the world and governments use income generated from it to render their conventional functions, such as the provision of good transport networking system, upkeep of peace, barrier against outer animosity, regulations and stimulation of trade and business to guarantee social and economic supports (Appah and Eze, 2015). Taxation therefore, is regarded as probably the oldest means by which the expense of giving basic necessities to the generality of individuals living in a given geographical territory is supported (Okoye and Raymond, 2014).

Offiong et al. (2016) posited that tax is a mandatory payment fulfilled by individuals and organisations to the constituted authority (government) by foreordained criteria for which no immediate or explicit advantage is gotten by the taxpayer. Through the imposition of a tax, government creates essential goods and services; generates employment, secures the infant industry from the danger of dumping and curtail inflation. It is regarded as a compulsory payment, upheld by-laws and paid by a predetermined rate. The provisions of essential and social amenities to the citizenry are mostly financed by government revenue of which tax tends to contribute essentially. At the point when social amenities are given to the citizens, it supports voluntary compliance, stimu-

lates business activities that stabilise economy, and generate revenue to the government.

Taxation especially company tax in developing countries is a pertinent tool to make decision on fiscal responsibilities of government. It finances public goods provision such as infrastructure, health, education, and justice, which are pertinent for nation growth (Adegbite, 2021). Besides, CIT affects decisions in education, work, individual savings, and private sectors. Others are job creation, production, business innovation, investment, as well as the decision on savings instruments and investors' assets (OECD, 2009). These decisions are invariably affected not only by CIT taxes, but also by virtue in which fiscal instruments are planned, combined, and designed to create government revenues (Gbato, 2017).

Taxation in Sub-Saharan Africa is observed as a tool to fight economic depression which yields growth of nation. Countries in this region have lay hands on the reforms aiming to alleviate tax structures' burden that hinder economic growth (Acosta, 2016). These reforms create tax environments which encourage savings, entrepreneurship, investment, and labour. These CIT reforms are not targeting at lowering the burden of tax but to redefining CIT structure that would cushion the negative taxes' effect on growth while conserving fiscal revenues**.**

It is therefore important for any firm to assist government financially through subscribing certain proportion as tax to government for updating social amenities of the country and the continuity of government responsibilities. This is a reciprocal of gestures to the government that provides healthy and enabling environment for the survival of the business which made the impact CIT to be felt on the growth attainment in the country. Therefore, this study examines the effect of CIT on growth of Sub-Sahara counties in Africa.

Literature Review

Company Income Tax (CIT)

CIT is referred to as one of the varieties of taxes under direct tax where the profit realized by companies are taxable. It is levied on the income of all the companies with the exemption all the companies that engaged in petroleum operations, accruing in, derived from, brought into or received in Nigeria with regard to any form of business or trade, premium, rent, dividends, loyalties, interest, and other sources of annual profit. According to the study of Adegbite (2015), every Company registered under the CITA which engage in business activities for profit motive must pay CIT on their profits annually. CIT as a tax on company profit was introduced in Nigeria in 1961which is administered by the FIRS. The rate of CIT is 30% currently on assessable income of the companies registered in Nigeria and operate which varies according to the turnover per annum.

Economic growth

Economic growth epitomizes the enlargement in country's potentiality which is proxed by GDP. It is a steady and gradual variation in the output of the counties in the long-run which emanates by general increase in savings rate and population (Jhingan, 2011). It is also refers as the positive change in goods and services production level of the country for specific period of time. It is measured by the changes in the values goods and services that produced within the country. An economy is considered as growing economy when productive capacity of such economy is increased, and ultimately yielded more goods and services production. Economic growth is regularly leads to technological innovation, standard of living increment, and reduction in income distribution inequalities.

Effects of CIT on Economic Growth

According to Adegbite (2015), CIT is legally charged on corporate organizations' profit. Every government can attain the optimal level of economic growth which can be gotten through effective implementation and administration CIT. this invariably improves infrastructural development, standard of living, wealth redistribution economic output increment, industrial development, and economic sustainability. Through CIT revenue, government have potentiality and capability to develop and enhance the existing mechanism to stabilize economic growth. CIT is the reliable component of tax depended by government for revenue realization, infrastructural development and economic growth enhancement. Revenue realized through CIT are utilized by Sub-Sahara countries on both capital projects, and expenditures such as defense, general administration, education, social and infrastructural services, and other ingredient of economic growth.

According to Adegbite (2015), CIT provides Sub-Sahara countries with established and anticipated fiscal environment to stimulate growth, finance, social and physical infrastructural necessities. Garba (2014) perceived that a country's major determinant of revenue is a tax system apart from oil income. For instance, Ghana economy is highly dependable on revenue realised from taxes as the determinacy of government expenditure for country develop-

ment (Takumah, 2014). In Nigeria, according to Garba (2014), CIT has assisted the government extensively to discharge its demanding obligations. It has also reduced long-term reliance on oil revenue, aids and nevertheless enhances good governance by increasing government accountability to their country inhabitants**.** CIT is an essential and vital taxation component employed by government in promoting country economic growth. Therefore it is hypothesised that

HO_1: CIT revenues significantly improve economic growth of Sub-Sahara Countries in Africa in short run.

HO_2: CIT revenues significantly improve economic growth of Sub-Sahara Countries in Africa in long run.

Theoretical Underpinning

Resource Dependence Theory

Pfeffer and Salancik introduced this theory in 1978 to explain and expatiate on how country's structure, strategy, and survival relied on its resources. According to this theory, the vital key to country survival is the potency to acquire, effectively maintain and utilize the resources. The level of dependence experienced by the countries, according to the resource dependence view, is measured by the importance and absorption of its resources. From the viewpoint of economic growth and taxation revenue, the major available resources in the country apart from oil revenue is tax revenue in which if it is effectively utilized will breed infrastructural facilities provision, education development, revenue generation, economic growth, sustainability , and other essential services for the improvement country inhabitants. This advocates for the effective and efficient utilization of the resources at hand to generation revenue for enhancement of economic growth.

Empirical Review of Related Studies

Stoilova and Patonov (2012) also identified the taxation impact on twenty seven (27) European Union countries economic growth using data which were spanned from 1995 to 2010. It was discovered that revenue from direct tax revenue is more efficient in impacting EU economic growth positively than revenue from indirect taxes. This study was done in EU countries but not extended to Sub-Sahara countries in Africa.

Chiumia and Simwaka (2012) analysed taxation effects in sub-Saharan Africa. The study found that corporate, personal income taxes significantly reduced economic growth. From their study, it was concluded that tax structure was irrelevant in less developed countries. Saima et al. (2014) utilized Johansen's co-integration tests to estimate time series data gathered from 1973 to 2010. The study found that high taxes have negative effects on consumption, investment and finally on GDP in Pakistan. In Botswana, negative significant relationship between income tax and economic growth were confirmed after thorough analysis of data gathered from Botswana. In contrast, Sekou (2015) found that a positive and significant correlation occured between the collection of taxes and growth in Mali as authenticated from regression employed in analyzing the effects of taxes on growth in Mali. This study was done in Mali, but other Sub-Sahara countries were not incorporated into the study

Okoli et al. (2014) examined effect of taxation on Nigeria economic growth adopting granger causality tactic to analyse data from 1994-2012. The results revealed that significant and positive connection exists between Nigeria economic growth and taxation. The study revealed further that all components of taxation employed in this study were found having significant connection with Nigeria tax revenue. Chigbu and Njoku (2015) investigated taxation connections with Nigerian economy employing data which is time series ranging from 1994 to 2012. OLS analysis was engaged to empirically analyze the data collected through FIRS and CBN. The results revealed that positive connections were visible among Custom and Excise Duties, CIT, Personal Income Tax, PPT and GDP. This study, however, employed Nigeria as a scope which was not done on entire Sub- Sahara countries in Africa.

Lababatu (2014) determined the effects of tax revenue on Nigeria economic growth. The study extended to 2010 from 1981. The data on PPT, CIT, VAT and custom and excise duty as well as GDP were realized from CBN using multiple linear regression and VECM to analyze the data. The findings revealed that PPT, CIT, VAT have positive effects on Nigeria economic growth whereas custom excise and duties has negative effect but significant on Nigeria economic growth. Examination of tax revenue impacts on Nigerian economy was done by Cornelius, Ogar, and Oka, (2016). Their finding showed significant relationship amid PPT and growth of Nigeria economy but also publicized that significant connection was absent between CIT and growth of Nigeria economy. The study endorsed that government should put more efforts on social amenities provision to every area in the country. This study was confined to 2010 as against the current study.

Confidence and Ebipanipre (2016) examined taxation as the major tools for Nigeria economic growth. Annual time series data were sourced through CBN Statistical Bulletin starting from 1980 to 2013. OLS techniques were engaged to analyse the effects of CIT, and VAT and Economic Growth (GDP). The empirical outcome concluded that significant link exists among CIT, VAT and economic growth in Nigeria. Thus, it was emphatically established that taxation is the major tools for Nigeria economic growth. The policy of this study cannot be lengthened to Sub-Sahara countries in Africa because it was mainly focused Nigeria.

Andrasic et al. (2017) employed empirical approach to examine the empirical impacts of taxes on United State economic growth using data from United States. Findings after regression analysis and other diagnostic tests advocated that personal income tax and social security contributions are inadequately impacted GDP growth. But corporate income tax is also insignificant to GDP growth of United States. Thus, the study was implemented in United States not Sub-Sahara countries in Africa.

Ayeni et al. (2017) appraise tax revenue impacts on Nigeria economic growth for thirty years, employing data collected from CBN Statistical Bulletin from 1986 to 2015. The study employed Paired Sample T-test and descriptive. The study finalized that revenue generated from taxes improved economic growth positively and significantly. Vatavu et al. (2019) employed a Granger causality analysis and established that taxes funding economic growth. Moreover, Piketty et al. (2011) also established that personal income highest tax rates are confidently influenced OECD countries economic growth positively. Similarly, Milasi and Waldmann (2017) established a linear relationship which is positive between GDP and highest tax rates from 1980 to 2009 at the level of 18 OECD countries.

Kalas et al. (2018) inspected effects of taxes on Croatian and Serbian GDP growth. Relevant Data were gotten from Croatian and Serbian National Bureau of Statistics and Revenue Authority. Panel regression approach was employed to adequately detect the effect of taxes on GDP growth. Findings showed that social security and corporate income tax had positive and significant impacts on Croatian and Serbian GDP growth. More so, the study only investigated taxes effects on Croatian and Serbian GDP growth which was not extended to Nigeria.

Osho et al. (2019) examined the degree of tax revenue influence on government economic growth and Nigeria capital expenditure. It specifically assessed CIT, VAT and petroleum profit tax (PPT) effects on capital expenditure of government in Nigeria from 2009 to 2018. Data spanned from 2009 to 2018 extracted from different series of CBN statistical bulletins were tested using descriptive analysis and inferential statistics (multiple regression, T-Test, and Johansen co-integration test). Findings exposed that CIT had positive effect on capital expenditure while PPT had negative effect on government development project. In addition, VAT exposed insignificant positive effect on total government capital expenditure (CAPEX). Conclusion made from the study was that tax revenue did not influence capital expenditure. The recommendation advocated in the study was that effective utilization and accountability of tax revenue on public goods would encourage prompt tax payment by taxpayers.

Twesige and Gashega (2019) examined tax incentive effects on Rwanda SMEs growth. The population up to 49,000 SMEs were considered via survey design. The study discovered after thorough analysis that tax incentives had strong and significant effects on Rwanda SMEs growth. However, this study was carried out bin Rwanda not Nigeria.

Adegbite (2020) examined the effects of non-oil taxation inflow on West African countries' economic growth by employing World Bank panel data between 1999 and 2018. The study selected ten West African countries from five Anglophone countries and five Francophone purposefully between 1999 and 2018. The data were analyzed by using Panel data analysis. The study concluded that taxation had significant impacts on economic growth of West African countries. This study suggested among the recommendations that West African countries should put more efforts nonoil taxation administration positively, and effectively, especially VAT and CIT revenue prudently to augment and enrich populace. However, this study involved four components of taxation, and limited to 2018. Emmanuel and & Gabriel (2020) examined the effects of direct taxes on Nigerian debt burden. The study examined the critical factors affecting direct taxation and Nigeria debt burden. The study conclusion is that taxation as a source of revenue in Nigeria had been under utilize despite it is formidable to generate massive revenue to erase or reduce debt burden in Nigeria and encourage economic growth.

Adegbie and Fakile (2011) explored the relationship amid CIT and Nigeria economic development. The study employed both primary and secondary data to achieve the motive behind the study. Regression analysis and Chi-square were used to analyze

secondary data and primary collected through CBN and questionnaire respectively. The findings exposed the significant relationship between CIT and economic development of Nigeria. The study further revealed that tax evasion as well as avoidance are the major stoppages to revenue realization in Nigeria. The study recommended integrated tax computerization for revenue collections improvement.

Maganya (2020) studied the effect of taxation on Tanzania economic growth using pair-wise Granger causality test, ARDL bounds to analyze the data collected from National Bureau of Statistics and Revenue Authority of Tanzania from 1996 to 2019. Findings displayed that domestic goods and services taxes imparted GDP growth positively but Income taxes negatively impacted GDP growth. The study advised that government should focus on the sustaining, nurturing, growing of tax base to drive positively the Tanzania economic growth extensively. This study was ignited on Tanzania economic growth but not on Sub- Sahara countries in Africa.

Adegbite (2021) gauged the effects of taxation on Nigeria transportation ranging from 1981 to 2019 in which causality test was also investigated. Analytical tools employed were not limited to VECM, Johanson Test, and Vector Autoregression but also extended to granger causality Wald (GCW). The study pinpointed that corporate tax, both in short run and long run, positively influenced transportation. The study further predicted that transportation would perform outstandingly on economic development, social and employment generation if the incomes realized from it are utilized and monitored properly and effectively.

Previous studies examined the effects of taxation on economic growth. However, these studies present mixed findings. Most of the study reviewed, examined taxation effects on a single country with the exception of Adegbite (2020) who examined the effects of taxation on West African countries. This study emphatically examined four components of taxation on economic growth of West Africa which is different to this study. No extant study has ever examined the effects of CIT revenue on economic growth of Sub-Sahara countries in Africa. This study is exceptional and remarkable because it employed Panel data to observe the effect of CIT revenue on economic growth of Sub-Sahara countries in Africa

Methodology

The study is focused on analyzing the effect of CIT on revenues generated by Sub-Sahara counties in Africa. Data from ten developing countries from Anglophone and francophone countries such as Nigeria, Liberia, Sierra Leon, Ghana, South Africa, Senegal, Benin, Burkina-Faso, Guinea and Mali were employed from year 2000 to 2019. However, the data were sourced majorly from World Development Indicator (WDI), and analyzed using Panel data analysis and ARDL. The sourced data are GDP, which is the proxy of economic growth, company income tax (CIT), exchange rate and inflation rate of all involved Sub Sahara countries in Africa. These data were scrutinized using ARDL, and Panel data analysis (including Panel unit root and Panel cointegration analysis).

Results and Discussion

Descriptive Statistics on the effect of CIT revenue on the growth of Sub-Sahara counties in Africa.

This depicts the statistical properties of the variables in terms of mean, standard deviation, mean median, maximum and minimum. The descriptive of the variables employed were measured in natural log form. The overall mean of growth rate of gross domestic product is 358.9512, possessing standard deviation of 92.05453 with minimum and maximum value of 205.6019 and 477.1618 respectively. CIT has a mean of 73.64779 median of 20.65513, while Inflation, having a mean value 11.97418 and standard deviation of 3.191007 which is quite large, due to the varying monetary policy stance of different countries, minimum and maximum values of 5.388008 and 17.86349.

Exchange rate has a mean of 100.1452, a standard deviation of 15.41940, this is high due to the volatile nature of the variable, minimum and maximum values of 73.64779 and 124.4656 respectively, this could only portray how competitive the exchange rate is in various selected countries, which is largely dependent on the growth level of their GDP. All the variables are normally distributed as their Jarquebera probability values are less than 5% except for inflation rate.

Unit Root Test

The a priori expectation when using the LLC and HT tests is that a variable is stationary when their respective statistic are higher than 5% critical value. All of the variables, except GDP at first difference. The below empirical test in Table 2 shows that all the variables are integrated at level 1(0) with intercept and trend, meaning that they are all integrated at the same first level with the exception of the dependent variables, GDP, which is integrated

at the first level. Since the stationarity of all the variables is a combination of the I(0) and I(1), which is a necessary requirement for a bounds co-integration test, we then proceed to carry out the cointegration test to examine the long run relation among the variables.

Table 1 – Descriptive Statistics

	GDP	CIT	EXR	INFLR
Mean	358.9512	21.46748	100.1452	11.97418
Median	371.0495	20.65513	100.2594	12.15626
Max	477.1618	37.64007	124.4956	17.86349
Min	205.6019	9.771501	73.64779	5.388008
Std.dev.	92.05453	7.747766	15.41940	3.191007
Skewness	-0.225828	0.413486	-0.125082	-0.132885
Kurtosis	1.577030	2.278312	1.994436	2.423408
J- Bera	16.71627	9.035369	8.053051	3.023188
Prob.	0.000234	0.010914	0.017836	0.220558
Sum	64611.22	3864.146	18026.13	2155.353
Sum sq. dev.	1516853.	10744.99	42558.65	1822.672
Obs.	180	180	180	180
Note – compiled by authors				

Table 2 – Unit Root Test

Variables	Levin- Liu- Chi (LLC) Test Statistics Level		Harris Tzavalis (HT) Test Statistics Level		HT Test Statistics 1st Difference	Order of integration
	Statistical value	5% critical. Value	Statistical value	5% critical value	Statistical value	
GDP	4.22279	0.0000	-0.6828	-0.02744		I(0)
CIT	-0.50727	0.3060	0.3550	0.000000		I(1)
INFLR	-2.875893	0.00000	-8.1129	0.39260	0.00000	I(1)
EXR	-8994	-0.1842	-0.666666	-0.2204	0.00000	I(1)
Note – compiled by authors						

Panel co-integration Test

The different co-integration tests were run as seen above from the Pedroni, rho and PP, as their Probability Values were below the 5% significance, therefore; the Null hypothesis (H_o: No co-integration) was rejected for all tests, which implies that all variables in the model exhibit a trend relationship in the long Hence, the existence of co-integration in the model necessitates the use of the ARDL.

ARDL Long run Estimates

In the long run, the Coefficients of all the variables, especially CIT are negative and insignificant, this goes to validate the speed of adjustment of 1.8% (coefficient of -1.86124), meaning that 1% change in CIT absolutely bring down GDP by 1.8%. This is a threat indication that is if others things are held constant, further increase in CIT would drastically impact the development of the individual's firms negatively which are likely to reduce production and staff strength which will invariably hamper the growth of the economies. Conclusively the relationship between CIT and GDP is negative and insignificant in the long run.

Table 3 – Panel co-integration Test

Pedroni Residual Cointegration Test

Newey-West automatic bandwidth selection and Bartlett kernel

Alternative hypothesis: common AR coefs. (within-dimension)

	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	-4.902344	0.0000	-4.902344	0.0000
Panel rho-Statistic	-4.294116	0.0000	-4.294116	0.0000
Panel PP-Statistic	-5.480633	0.0000	-5.480633	0.0000
Panel ADF-Statistic	-3.913909	0.0000	-3.913909	0.0000

Alternative Hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	-4.077250	0.0000
Group PP-Statistic	-5.846445	0.0000
Group ADF-Statistic	-3.878489	0.0001

Table 4 – ARDL Long run Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
CIT	-1.86124	142.0130	-0.013107	0.9896
EXR	8.204991	229.4294	0.035763	0.9716
INFLR	-72.28510	4340.770	-0.016653	0.9868
Notes: 1) Dependent Variable = Gross Domestic Product; 2)compiled by authors				

ARDL Short run Estimate

In this result, the Error Correction Term appears with statistically significant coefficients with the appropriate negative signs as required for dynamic stability at -0.080443, which implies that the speed of adjustment is fast at about 0.08%, return to equilibrium. This translated that 1% change in CIT absolutely bring down GDP by 0.5% (coefficient of 0.596384). This is consistent with the validity of an equilibrating relationship among the variables in the cointegrating equations, as seen from the bounds test of cointegration.

Discussion of Findings

To elude spurious regression results, the stationarity tests were run using LLT and HT. It was revealed that all the variables are integrated at level 1(0) with intercept and trend, meaning that they are all integrated at the same first level with the exception of the dependent variables, GDP, which is integrated at the first level. Since the stationarity of all the variables is a combination of the I(0) and I(1), which is a necessary requirement for a bounds cointegration test, we then proceed to carry out the cointegration test to examine the long run relation among the variables.

In the long run, the Coefficients of all the variables, especially CIT are negative and insignificant, this goes to validate the speed of adjustment of 8% the coefficient of -18.61239, an indication theat if others things are held constant, further increase in CIT would drastically impact the development of the individual's firms which are likely to reduce production and staff strength which will further hamper the growth of the economies as negated the findings of Adegbie and Fakile (2011), Adegbite (2015), Sekou (2015), and Gbato (2017) but in line with Chiumia and Simwaka, (2012), Saima et al. (2014) and Maganya (2020). Conclusively, the effect of CIT on Sub-Sahara GDP is negative and insignificant in the long run.

Table 5 – ARDL Short run Estimate

Dependent Variable: Growth rate of Gross Domestic Product				
Method: ARDL				
Sample (adjusted): 1989 2019				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Ecm(-1)	-0.080443	23.99919	-7.033523	0.01375
D(GDP(-1))	-0.229816	0.031809	-7.224838	0.0055
D(CIT)	1.361217	539.5939	0.002523	0.9981
D(CIT(-1))	0.596384	269.0076	0.002217	0.9984
D(CIT(-2))	0.657703	68.74090	0.009568	0.9930
D(EXR)	0.614727	220.0911	0.002793	0.9979
D(EXR(-1))	-0.311130	25.68042	-0.012115	0.9911
D(EXR(-2))	-0.860755	8.845565	-0.097309	0.9286
D(INFLR)	4.258332	1.800236	2.365430	0.0989
D(INFLR(-1))	3.271260	0.631643	5.178966	0.0140
D(INFLR(-2))	2.848424	8.332048	0.341864	0.7550
C	79.83431	690808.5	0.000116	0.9999
Adjusted R-squared	0.946870	Prob (F-statistic)	0.000000	
Durbin-Watson	2.396986			
Note – compiled by authors				

The lag 1 of Gross domestic Product asserts a negative and significant relationship with the present level of Growth rate of the real gross domestic product, while real exchange rate is negative and insignificant in the short run, this implies that about 1% increase in the lag value of the gross domestic product will reduce the present value of the gross domestic value by about -0.229816. It is interesting to note that, company income tax revenue negatively impacts the development of the country, but their effect and impact are all insignificant in the short run, it therefore implies the fiscal effect of the tax revenue has not yielded the desired effect on the development of the countries, this could be due to mismanagement of public funds, and tax evasion and avoidance, while exchange rate has also impacted negatively in the development of their different economies this is down t the fact that many of the African countries are import dependent such as Nigeria in the first period of inflation, the coefficient is negative at -0.311130. While the second lag is -0.860755. This is an indication that a further depreciation of their currencies would reduce the growth rate of the economy by about 3.1% and 8.6% respectively. However, the present value of exchange rate which is negative, and insignificant ignited because of currency devaluation against US dollars, balance of trade declines, fall in value of the currency, competitiveness and weak production. The cost of production has made productive activities weak, decline and inefficient in which they could hardly compete externally. Inflation levels for all the countries are positive but insignificant except for the first lag, the positive coefficient implies that the GDP are largely driven by inflation which is caused by imported inflation via exchange rate and not by increased productivity level.

Conclusion

From the empirical findings it can deduced that the revenue from company income tax has not been effective in developing the economies of Africa, as they have not leveraged on the benefit of the fiscal tool. Based on our findings, it was gathered that company income tax revenue negatively affected the growth of Sub-Sahara countries in Africa over the period of study both in the short and long run, it therefore becomes expedient that feasible and proactive policies are made

in order to boost the impact of CIT in Africa. It is recommended that fiscal authorities of respective countries should create database mechanism which will expose annual chargeable profit and tax payable for each company in order to eschew CIT evasion in the country. Regulatory authorities saddled with the monopolistic responsibility of tax collection should be empowered to impose compliance on CIT payers which will upsurge CIT revenue enormously. Lastly, CIT tax collected should be appropriately dispersed so that secret the growth of economy.

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