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Analysis of the Government Expenditure and Its Effect on Economic Growth in the Gambia

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ABSTRACT

This paper examined the effect of government expenditure on economic growth in the Gambia utilizing annualized data covering the period 1972 – 2019, which were obtained from the World Bank Development Indicators. This study employed secondary data. Some tests were performed to ensure data reliability. Ordinary Least Square (OLS) technique was used to estimate the variables. GDP (annual %) formed the dependent variable, whereas, Gambia National Expenditure as percentage of GDP formed the independent variable. Statistical outcomes were interpreted based on a 5 percent level of significance. The regression results indicated that the Gambia National Expenditure as percentage of the GDP had a negative and non-significant effect on economic growth (measured by GDP-annual %) in the Gambia for the period under reviewed. The study recommended that government should adopt measures that will revolved around the discovery of basic forms of accelerating capital accumulation, for which grass-root capitalism, with all its shortcomings, remains the most suitable system. It also recommended that political leaders should put their support behind the effort to support and empowered the countries young and poor youth population.

Keywords: Government expenditure (% of GDP), Economics
GDP (annual %), Regression, Sampled period.

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1. INTRODUCTION

1.1 Background

The Gambia is a small and poor country in West Africa, with a very narrow economic base and the economy that relies primarily on tourism, rain-dependent agriculture, and Diaspora remittances. It has a free market oriented economy and currently one of the least performing economies in Africa and a high vulnerability to external shocks. Its capital/labor ratio (K/L) is one of the lowest in Africa. The Gambia's natural resources are underdeveloped and are in the hands of foreigners. Its exports are predominantly in the form of few agricultural products such as groundnuts, cotton, etc. In the Gambia over 50% of the population live below poverty line and the country depends on regular foreign aid to balance its budget.

The main sector of the economy is agriculture, 75 percent of population depend on crops and livestock. GDP growth over the years has been volatile, while steady and high growth rates are needed to achieve sustained and inclusive poverty reduction. The goal of the Gambia National Development Plan is among them to transform the economy for the wellbeing of all Gambians". The Strategic Priorities to achieve this goal among them is stabilizing our economy, stimulating growth, and transforming the economy; and making the private sector the engine of growth, transformation, and job creation. This goal of the National Development Plan was implemented through increased government expenditure. The increased government expenditure must come out with improve GDP according to John Meyer Keynes. Therefore, the government expenditure is a variable of interest to the policymaker because it is a component of gross national product and it might have an effect on economic growth, trade, health, education, etc. According to the Expenditure Approach the total demand for domestic output is made up of four components: (1) consumption spending by households (C), (2) investment spending by businesses and households (I), government (federal, state and local) purchases of goods and services (G), and (4) foreign demand for our net exports (NX). The fundamental national income accounting identity is

$$Y_i = C_i + I_i + G + NX \quad \dots \quad (1)$$

According to the Keynes, a country needs to be able to determine its expenditure so that it will be able to measure its growth. In the twentieth century, countries that industrialized, explicitly, the recorded data shows that public spending expanded in those countries as their governments began spending more resources on social security, education, and medical care. Recently public spending additionally shows that governments around the globe regularly depend on the private sector to produce and manage goods and services. The connection between government spending and economic growth has pulled in broad consideration over the course of the years as economists and politicians fight to build up the effect of government spending on economic growth.

1.2 Problem Statement

Rising government sending by government should bring in meaningful economic growth in a country. However, the Gambia is still positioned among the poorest nations on the planet, even though, the government spending was rising. Furthermore, it is no secret that numerous Gambians are in poverty, while it is estimated that more than 50% of population live under US\$2 every day. Hence, against this background, this paper seeks to examine the effect of government expenditure on economic growth in the Gambia. This paper is examined by applying the OLS regression technique using SPSS.



1.3 The objective of the Study

The main objective of this research is to investigate the impact of government expenditure on the economic growth of the Gambia. This is because government expenditure is meant to achieve the stabilization of our economy, stimulating growth, and transforming the economy; and making the private sector the engine of growth, transformation, and job creation. The analyses took account of the magnitude and direction. The overall aim of the research paper is to report the significance of the government expenditure in determining the economic growth of the Gambia and to provide recommendations for policy reviews.

1.4 Research Questions and Hypotheses

Base on the objective of the study, we have the following research questions:

1. Is there any relationship between government expenditure and economic growth?
2. Is the relation significant?
3. What will be the policy recommendations?

1.5 Motivation of the Study

The current situation in the Gambia as regards to the slow economic growth, high government expenditure, poor health services and high level of poverty is a concern for an average citizen as well as policymakers. Thus, this study is meant to provide policy recommendations for the authorities concern and also fill in the missing gap in the literature as far as the Gambia is concerned.

1.6 Organization of the paper

The rest of the paper is organized as follows. The next chapter discussed the literature review on the effect of government expenditure on economic growth and chapter three discusses the research methodology adopted and the econometric model and techniques used as well as the data source. Chapter four gives the presentation and analysis of the results and conclusion and recommendation in chapter five. And Reference is given at the end of the last section of the paper with other appendixes.

2: LITERATURE REVIEW

This part review relevant literature and theoretical framework on the connection between economic growth and government expenditure. Keynesian economics is a theory that says that government should increase demand to boost economic growth. Keynesians believe that consumer demand is the primary driving force in an economy. As a result, the theory supports the expansionary fiscal policy. Its main tools are government spending as a booster of economic growth. Similarly, the wager theory also states that for any country, that public expenditure rises constantly as income growth expands. The theory predicts that the development of an industrial economy will be accompanied by an increased share of public expenditure in gross national product.

However, contrary to this view, the neo-classical growth models state that economic growth is the result of three factors—labor, capital, and technology. The theory argues that government fiscal policy does not have any effect on the growth of national output. However, it has been argued that government fiscal policy (intervention) helps to improve failure that might arise from the inefficiencies of the market.



2.1 Concept of Economic Growth

Economic growth is the increase in the market value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product (GDP). An increase in growth caused by more efficient use of inputs is referred to as intensive growth. GDP growth caused only by increases in inputs such as capital, population or territory is called extensive growth. Growth is usually calculated in real terms, that is, inflation-adjusted terms – to eliminate the distorting effect of inflation on the price of goods produced. Since economic growth is measured as the annual percent change of gross domestic product (GDP), it has all the advantages and drawbacks of that measure. For example, GDP only measures the market economy, which tends to overstate growth during the change over from a farming economy with household production. Also, there is no allowance in GDP calculations for depletion of natural resources.

2.2 The Concept of Multiplier

By how much a unit dollar increase in autonomous spending raise the equilibrium level of income? To answer this question is not all that easy. Since, in equilibrium income equals aggregate demand, it would seem that a \$1 increase in (autonomous) demand or spending would raise equilibrium income by \$1. That answer is wrong. Let us now see why. Suppose first that output increased by \$1 to match the increased level of autonomous spending. This increase in output and income would in turn give rise to further **induced** spending as consumption rises because level of income has risen. Out of the additional dollar of income, a fraction (c) is consumed. Assume then that production increase further to meet this induced expenditure, that is, that output and thus income increased by 1 + c. That will still leave us with excess demand, because the expansion in production and income by 1 + c will give rise to further induced spending. This process will go on and on. Thus the cumulative change in aggregate spending is equal to a multiple of the increase in autonomous spending.

The multiple $1/(1- c)$ is called the **multiplier**. Mathematically

$$\alpha = \frac{1}{1-c} \quad \dots \quad (2)$$

where α = multiplier and c = marginal propensity to consume.

The multiplier is the ratio of the change in real GDP to an initial change in any component of aggregate expenditures, including consumption, investment, government spending, and net exports.

2.3 Overview of the Gambian economy

In 2014, the economy experienced exogenous shocks caused by erratic rainfall and spillover effects of the regional Ebola crisis, causing GDP growth to fall from 5.6% to -0.2%. Growth rebounded to 4.4% in 2015 but declined to 2.2% in 2016 due to policy slippages, electoral uncertainty, an unusually short rainy season, and a three-month border blockade by Senegalese transporters. GDP growth rebounded to an estimated 5.1% in 2017, driven primarily by agriculture and services, and is projected to stabilize around 4% over the medium-term, depending on the new administration’s ability to conduct a robust transition, attract investors, and lay the foundations for economic transformation. (African Economic Outlook 2018 by African Development Bank Group)



2.4 Keynes and Classical Theorists

Debates have been whether the government should intervene to address for short-run fluctuation in economic activity. While the Classical is against intervention, the Keynesian way of thinking advocates the utilization of fiscal policies to support activities in times of recessions. The classical advocate that market forces changes bring the economy to long run equilibrium through change in the labor market, while Keynesians claim that the expected self-regulating mechanisms in the economy neglect to lead the economy back to equilibrium basically because of rigidities in the labor market thus, Keynesians advocates expansionary fiscal policies to avoid long recession.

Classicals and Neoclassicals consider fiscal policies ineffective on the grounds of the notable crowding-out phenomenon, for example as public spending rises, public goods are exchange for private goods, consequently causing lower private spending on schooling, wellbeing, transportation and other different goods and services. Besides, when governments borrow heavily to support spending, pressures in the credit market bring about higher loan fees which hamper private investment. In practice, the viability of fiscal policies might be hindered by the relatively long-time lags from perceiving a need for action until realizing the results of the policies.

The augment that fiscal policies enhance economic growth has acquired extra support with the introduction of new growth theories. Unlike to the Neoclassical growth model as detailed by Solow (1956), which didn't recommend the channels through which government spending may have an impact on long run economic growth, the new growth theorists propose that there is both temporary impact from government intervention during the transition to equilibrium, and a potential long-term impact from government spending on economic growth.

2.5 Empirical Evidence

From the theoretical points of view, the Keynesians advocate that government spending do have positive effects on economic growth but the Classicals and the Neoclassicals, otherwise, postulate that government spending do have negative effects on economic growth (Romer,1986; Lowenberg, 1990). Indeed, even on an empirical front, the conceivable effect of government spending on economic growth has been fluctuated also. A few studies have discovered the effect on be positive (Attari, Javed, 2013; Kimaro,) while others have discovered a negative effect (Nurudeen, Usman, 2010; Sáez Álvarez-García,). There are additionally a few studies that inferred that government spending has no significant impact on economic growth (see Schaltegger, Torgler, 2006; Hasnul, 2015 Akpan). The discussion on whether government spending has a positive, negative or impartial effect on economic growth is still raging today – for certain studies going an additional mile in disaggregating government expenditure into different parts. All things considered; the result has been to a great extent inconclusive.

Gregoriou and Ghosh, studies investigate the impact of government expenditure on growth, in a heterogeneous panel for 15 developing countries. Using GMM techniques, they show that countries with substantial government expenditure have strong growth effects, which vary considerably across the nations. Sáez et al (2017) result obtained based on regression and panel techniques suggest that government expenditure is not related to economic growth in the European Union countries over the period 1994–2012. Akpan studies found no significant relationship between most of the components of government expenditure and economic growth. The estimation results were mixed, in particular, some of the variables were weakly significant.



The goal of this study is to review the literature available to date on the effect of government spending on economic growth. The point of this literature-based study is to gauge the current augments regarding whether government expenditure has any impact on economic growth or not; and further find out whether government expenditure has a positive or negative effect on economic growth, in the situations where a relationship is set up between these two key variables. In accordance with this point, the hypothesis of the study is that government expenditures have no effect on economic growth. The study is to add to the body of knowledge in the appraisal of existing perspectives on the effect of government spending on economic growth across different study nations. This study is a potential suggestion to policy makers on how government spending is probably going to affect economic growth. Other than offering policy implication of the public expenditure and economic growth relationship, this study likewise helps the future researchers by assembling related literatures regarding the study in a logical way, making related future studies simpler.

3. METHODOLOGY

This research paper is designed to investigate and test the effect of government expenditure on the economic growth of The Gambia. This section of the paper showed the data set sample size and variables definition as well. This paper extracted the given data, interpreted as well as tested it and drove a conclusion to the topic. This section looks at how the data analysis method is employed, which was examined by applying the OLS regression technique using SPSS. The econometrical Model that will be used for this research paper is stated below.

3.1 Source of Data

For the purpose of this research, the researcher collected and used both primary and secondary data. The primary data contributed toward the formation of background information and to comprehend more thoroughly the research outcome while the secondary data contributed towards estimating the parameter coefficients of the relationship between government expenditure and economic growth in the Gambia. This paper assessed using annual time series data from the year 1988-2019 with data gotten from World Bank development indicators (WDI).

3.2 Data Analysis

The data analyzed using both descriptive and inferential. The elucidating measurements in this piece of the examination showed an investigations in the information by utilizing the coefficient of the variables (parameters), the standard errors, ANOVA table, coefficient of determination (R^2) and the t-statistics. The process took two steps; firstly, we found out the right explanatory variables which were used with the growth rate of domestic savings, secondly, used the variables with growth rate of personal remittances on the GDP of the Gambia.



3.2.1 The model

The study used both descriptive and inferential statistical approaches. The statistical tool used to analyze data was Econometric views. According to the expenditure approach in the determination of the National Income, we stated as follows:

$$Y = C + I + G + NX$$

$$Y = a + cY + I + G + NX$$

$$\text{where } C = a + cY$$

$$(1 - c)Y = I + G + NX \text{ or } Y = \frac{1}{1-c}I + \frac{1}{1-c}G + \frac{1}{1-c}NX$$

The objective of this study is to generally explore the relationship between government expenditure and economic growth. Therefore, the economic models to be used to attain these objectives are;

$$Y^* = \alpha + \beta G^* + \mu \quad \dots \dots \quad (3)$$

where Y^* = GDP (annual %), G^* = Gambia National Expenditure, α , and β are the constant and parameter coefficient of government expenditure, μ is the disturbance term.

We will obtain coefficients using the simple OLS regression. The simple hypothesis embedded in this model is as follows:

$H_0: \beta = 0$; in other words, government expenditure give no explanation to the economic growth of the Gambia.

$H_0: \beta \neq 0$; in other words, government expenditure give explanation to the economic growth of the Gambia.

where, H_0 and H_1 are the null hypothesis and alternative hypothesis, respectively.

In order to apply the standard tests of significance we executed, the standard error test and the 't' test for judging the statistical significance of the estimates. The researcher used 95% confidence interval.

4: INTERPRETATION OF RESULTS AND ANALYSES

4.1 Analyses

The researcher investigated the impact of the government expenditure on the economic growth of the Gambia. According to the economic theory, the relationship between the government expenditure and GDP growth rate are direct and significant, that is, high government expenditure would result to high GDP growth rate.

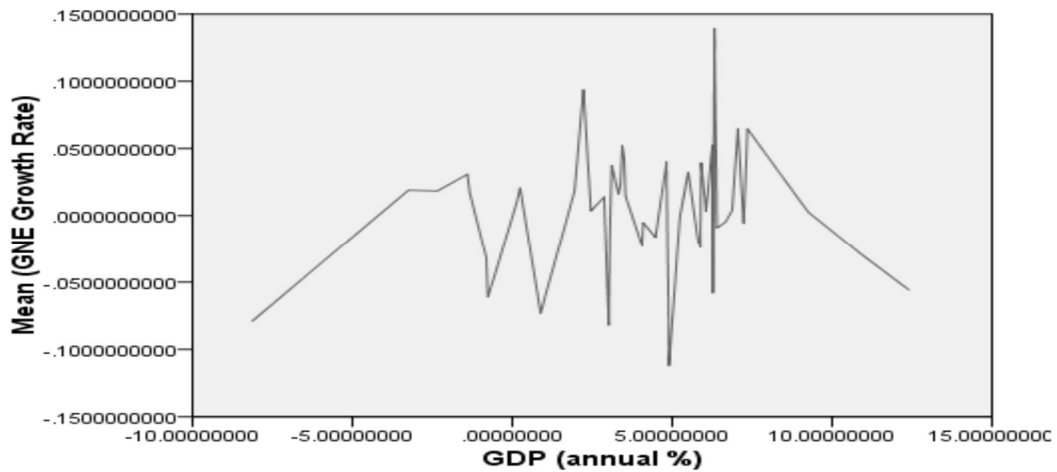


Figure 4.1: Graph –GNE Growth Rate on GDP (annual %)
 Source: Own computation from the WDI data aided by SPSS

The graph presents pictorially the trend of GNE Growth Rate on GDP (annual %) in the Gambia for the sampled period. The trend is linear and as a result we specified the model linear and used OLS simple regression. This research paper investigated the impact of the government expenditure on the economic growth of the Gambia. Limited number of studies on the impact of the government expenditure on economic growth of the Gambia has created a gap in knowledge. It is against this backdrop that this empirical assessment sought to find out both direction and magnitude between the relevant dependent and independent variable that constitute the model over 1972– 2019 sampled periods.

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.118	0.014	(0.008)	3.736	2.093

a. Predictor: (Constant), GNE (% of GDP)

b. Dependent Variable: GDP (annual %)

Source: Own computation from the WDI data aided by SPSS.



Considering the value of the R^2 ; the Table 4.1 indicates that the government expenditure growth rate are responsible for only 1.4% of total variation in the GDP growth (annual %), while the remaining 98.6% variation in the GDP growth (annual %) is traced to some other factors outside the model. The Durbin Watson statistic (DW Stat. =2.093) by “rule of thumb” has not presented a serious suspicion of autocorrelation.

Table 4.2: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.499	9.708		1.185	0.242
	GNE (% of GDP)	(0.070)	0.087	(0.118)	(0.805)	0.425

a. Dependent Variable: GDP (annual %)

Source: Own computation from the WDI data aided by SPSS.

Table 4.2 shows the coefficients of the independent variable (GNE as a % of GDP) that were regressed on the dependent variable (GDP annual %). From the table 4.2 above, the established regression equation stated below investigated the impact of government expenditure on economic growth in the Gambia.

$$\hat{Y}^* = 11.499 - 0.07G_i^* \quad \dots \quad (4.1)$$

(9.708) (0.087)

The equation (4.1) indicates that the government expenditure growth rate has a negative and non-significant effect on GDP growth rate of the Gambia for the period under review. This is described by the negative coefficient value -0.07 of our independent variable - GNE (% of GDP) with a corresponding t-statistic value of -0.805 which is more than the theoretical t-statistics value of -1.96 critical value (i.e. -0.805 > -1.96) at 5% significant level. This means that government expenditure has no effect on the economic growth of the Gambia, in other words, it is statistically insignificant to explain the economic performance of the Gambia.

Table 4.3: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.0352	1.0000	9.0352	0.6474	0.4252
	Residual	642.0123	46.0000	13.9568		
	Total	651.0476	47.0000			

a. Dependent Variable: GDP (annual %)

b. Predictor: (Constant), GNE (% of GDP)

Source: Own computation from the WDI data aided by SPSS.

The F-statistic is used to check the overall significance of the model. The F-statistic of our estimated model is 0.6474, which is less than the theoretical F-statistics value of 4.00 (i.e. 0.6474 < 4.00) at 5% significant level. This means that the model is not significant, that is, growth in government expenditure is not a good reason to explain the reason for growth in the Gambia.



Also the probability of the significance is 0.4252. Since the probability of the significance is more than 0.05, it is concluded that the independent variables – GNE (% of GDP) has insignificant effects on the GDP (annual %) in the Gambia over the period under consideration.

4.2 Discussion of the Results

From the theoretical points of view, the Keynesians advocate that government spending do have positive effects on economic growth but the Classical and the Neoclassicals, otherwise, postulate that government spending do have negative effects on economic growth (Romer,1986; Lowenberg, 1990). The Gambia is a poor and small West African country with a very narrow economic base and the economy traditionally relies on tourism and rain-dependent agriculture. The Gambia's natural resources are underdeveloped and are in the hands of foreigners. Its exports are predominantly in the form of few agricultural products such as groundnuts, cotton, etc.

Indeed, this study found that, the effect of government expenditure on economic growth of the Gambia was negative and has no significant impact on the economic growth. This study contradicted what the Keynesians advocated that government spending do have positive effects on economic growth but supported the Classical and the Neoclassicals, who postulated that governments spending also do have negative effects on economic growth.

The findings also contradicted the finding made by Gregoriou and Ghosh, which found that the impact of government expenditure on growth, in a heterogeneous panel for 15 developing countries, using GMM techniques, they show that countries with substantial government expenditure have strong growth effects, which vary considerably across the nations. Our study is in line with Akpan studies, which found no significant relationship between most of the components of government expenditure and economic growth. The estimation results were mixed, in particular, some of the variables were weakly significant. This research found no significant relationship between the government expenditure and economic growth. The research also found that a unit change in the growth in government expenditure even though brought about an increase in economic growth by only -0.07 times of GNE (% of GDP) in the Gambia.

5: RECOMMENDATIONS AND CONCLUSION

From the theoretical points of view, according to the Keynesian theorists, government spending do have positive and significant effects on economic growth but the Classical and the Neoclassicals, otherwise, postulate that government spending do have negative effects on economic growth. The Gambia is a poor West African country and its economy traditionally relies on tourism and rain-dependent agriculture. The Gambia's natural resources are underdeveloped and are in the hands of foreigners. In this study, we utilized an OLS model to analyze the relationship between government expenditure and economic growth of the Gambia from 1972 to 2019. In analyzing the relationship, significant tests have been conducted and few essential discoveries have been made. The data is a source from the World Bank database and the data we used the Gambia National Expenditure (% of GDP) and the GDP (annual %) of The Gambia. This paper has reviewed several literatures on the connection between government expenditure and economic growth, with a particular spotlight on the effect of the previous on the last mentioned. What emerged from the literature reviews was that the effect of government expenditure on economic growth was not clear.



It went from being positive to negative and to no effect all. This study has uncovered that in the Gambia, government expenditure do have insignificant effect on economic growth. The Gambia like most African countries, development requirements at independence – conditions that for the most part remain unchanged into the 2000s, which revolved around the discovery of basic forms of accelerating capital accumulation, for which grass-root capitalism, with all its shortcomings, remains the most suitable system. The policy implication of these outcomes is that there is a need for the Government of the Gambia to assist the grass-root (local) population to acquire capital so that the benefits of government expenditure could have realizable effects on our economic growth. Most contracts and business opportunities are grabbing by businesses that are not grass-rooted and the gains earned are most of the times leave the country in the form of capital flight. Although this review considers all the relevant study on the effect of public expenditure on economic growth, future studies may benefit by grouping public expenditure into different sectors of the government spending and carefully review the effect of each type of public expenditure on economic growth.

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APPENDIX

YEARS	GDP (annual %)	GNE(% of GDP)
1972	0.2417	106.9826
1973	9.2503	107.2786
1974	5.8788	104.7425
1975	12.3934	98.9060
1976	7.3512	105.2980
1977	3.4396	110.7816
1978	6.3164	126.2068
1979	(1.3282)	128.2957
1980	6.2701	120.8623
1981	3.3219	122.7959
1982	(0.7646)	115.3038
1983	10.8832	111.9939
1984	3.5353	113.6643
1985	(0.8123)	110.0518
1986	4.0911	109.4742
1987	2.4543	109.8688
1988	4.4768	108.0876
1989	5.8957	110.2174
1990	3.5589	111.6799
1991	3.1070	115.8475
1992	3.3787	118.6075
1993	3.0121	108.8932
1994	0.1543	110.1400
1995	0.8818	102.0819
1996	2.2235	111.6533
1997	4.9000	99.1437
1998	3.5000	103.2951
1999	6.4000	102.3547
2000	5.5000	105.6660
2001	5.8000	103.7441



YEARS	GDP (annual %)	GNE(% of GDP)
2002	(3.2500)	105.7191
2003	6.8700	106.1253
2004	7.0500	112.9857
2005	(2.3517)	115.0611
2006	(0.5556)	109.8754
2007	3.0432	107.7673
2008	6.2559	113.4184
2009	6.6657	112.8885
2010	5.9083	117.3240
2011	(8.1304)	108.0668
2012	5.2416	108.0167
2013	2.8728	109.5297
2014	(1.4074)	112.9132
2015	4.0581	110.3376
2016	1.9434	112.3497
2017	4.8226	116.8500
2018	7.2349	116.2019
2019	6.0568	116.5918

Source: WDI data