FISCAL IMBALANCE AND ECONOMIC DEVELOPMENT OF NIGERIA: MONETARY AND DEBT POLICY RESPONSE FROM 1983 TO 2019

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ABSTRACT

This paper investigated the effect of fiscal imbalance on the economic development of Nigeria with a specific focus on monetary and trade policy responses from 1983 to 2019. Monetary policy was controlled (broad money supply and interest rate) and debt policy (total debt to GDP ratio) responses. Data was from the Central Bank of Nigeria (CBN, 2019) and the World Bank Development Index (WDI, 2019), alongside others. The augmented Dicker fuller test, Johanson Cointegration tests were used to analyze the sourced data while the Parsimonious Error Correction Model was used to test the research hypothesis. Result evidenced that past values of fiscal imbalance have adverse though significant effects on the economic development of Nigeria over the study period. Again, current fiscal dominance sticks at monetary policy. Further, past values of debt policy proxies and interest rate positively yet significantly mediate between fiscal imbalance and economic development while broad money supply did not. Conclusively, fiscal imbalance, debt policy and interest rate are major determinants of economic development. In recommendation, instead of encouraging excessive spending, the Nigerian government should focus more on capital projects. More so, trade policy and sustained prime lending rate should target the economy.
Keywords: Fiscal Imbalance, Economic Development, Monetary and Debt Policy Response

INTRODUCTION

Fiscal imbalance remains one of the major policy issues facing developing economies like Nigeria over the years. Although, the construct is not regressive it disrupts the whole monetary and fiscal policy transmission process. This is because fiscal imbalance affects both the supply (monetary) and demand (fiscal)

sides of the economy. Hence, short-term financing vis-à-vis the minting of currency, credit extension from the domestic market, and deficit financing are needed to correct such imbalances (Mashkoor & Ahmed, 2015). However, these parameters may be extremely dangerous and may make the monetary policy transmission process extremely fragile (Bezabeh, 2012).

In Nigeria, every government has its economic plans, which are explicitly and implicitly stated in its mandate. Given that their performance is strongly reliant on the present state of an economy and that if any aspect of the economic plans falls short, this signposts that such government has failed woefully. More so, there may be some situations whereby certain policies which are supposed to be very successful in fiscal terms caused so much pressure on the monetary policy transmission process. All these overall have some policy implications for the Nigerian economy.

In comparison to the United States, Canada, and other developed countries, Nigeria's fiscal system is yet to spur the desired level of economic development. Possible attributable reasons why the Nigerian economy still faces economic and fiscal instability is linked to the country's over-dependence on oil as her main source of revenue alongside over-reliance on federal government subventions. Accordingly, the overreliance on federal government subventions is so significant that even the different states are unable to cover their recurrent expenditure (Babalola, 2015). Again, the issue of persistent increase in her external debt burden, high-interest rate, stoic inflation rate, and currency depreciation caused by high demand for foreign currency (say Dollar) as against the low supply of domestic currency (Naira) has also aggravated this issue (Kameda, 2014; Jooste, Liu, & Naraidoo, 2013; Murwirapachena, Maredza & Choga, 2013; Oseni&Onakoya, 2013). Meanwhile, various attempt in combating this menace has proved inefficient in recent. Also, it has caused further imbalances in the financial system (Mosley, 2014; Wosowei, 2013).

Furthermore, Babalola (2013) submitted that the various enactments in Nigeria were watershed, which indicates that the problem with the country's fiscal system is a product of compromise and can only be handled politically. Additionally, a run through extant studies reported that much vacuum is yet to be filled given that none of the prior studies are exhaustive and that they are limited in geographical scope, time scope, and methodology. Against these perceived gaps, this paper is targeted at examining the effect of fiscal imbalance and

monetary policy variation on the economic development of Nigeria from 1983 to 2019. This period was chosen since the study period being (1983-1998) of the military regime and 21 years (1999-2019) of civilian rule. Again, these periods are also considered the pre and post-structural adjustment periods. The regressor is a fiscal imbalance (vertical fiscal imbalance) whereas the regressed is economic development (GDP per capita growth rate). We also controlled for monetary (broad money supply and interest rate) and debt policy (total debt to GDP ratio) response.

Holistically, this study is summed into five (5) sections. The first (1st) section was devoted to the introduction. The second ((2nd) section covered the literature reviews. The third (3rd) section covered the methodology; the fourth (4th) section covered the results and discussion. Further, the last (5th) section covered the conclusions and recommendations.

LITERATURE REVIEW

Conceptually, "fiscal imbalance" is simply a situation whereby the government's future debt obligations exceed its expected (future) income stream. In other words, it is a situation whereby public future debt obligation exceeds public future income stream. When such imbalance is sustained over time, it would increase the tax burden shortly which in turn reduces both present and future household consumption rates.

Fiscal imbalance is categorized into vertical and horizontal fiscal imbalances. A vertical fiscal imbalance occurs if revenues are lower than public expenditure. Added that situation occurs if the local government is faced with a poor tax collection system. Meanwhile, horizontal fiscal imbalances occur if there is public revenue exceeds expenditure (Investopedia, 2020).

Furthermore, an economy is said to be developed if it experiences holistic growth. Simply put, economic development is the process by which low-income countries transform into an industrialized country. Accordingly, economic development is measured in terms of the level of production within the economy, technological change, physical capital accumulation, RGDP, human capital development, real GDP per capita, and the likes (Haller, 2016). However, for this study, we used RGDP per capita and human capital development to measure economic development. In other words, it measures the standard of living.

Theoretically, the basic tenets of this study are hanged on the Keynesian, Monetarist, and Ricardian Equivalence Theory (RET). Accordingly, the Keynesian theorists argued that fiscal imbalance spurs growth only in the short-run in that encourages both capital formation and domestic savings (Dalyop, 2010; Okpanachi & Abimiku, 2007). However, sometimes fiscal imbalance deters growth (Neaime, 2008; Okpanachi & Abimiku, 2007; Monacelli & Perotti, 2006).

In practice, though, the theoretical postulations of Keynes seem to yield positive results but also generate lots of arguments. With the huge quantum of debt, the Nigerian government accommodates on yearly basis, can one emphatically says that to believe the assertions of Keynes (Akinmulegun, 2014). Osaku and Achinihu (2014) reported that external debt increases increases debt servicing cost. To the monetarists, the private sector is more efficient than the public sector and that increased government spending financed by monetary policy expansion raises aggregate demand for imported commodities which in turn gives rise to trade imbalance (Okpanachi & Abimiku, 2007). Lastly, proponents of the RET; fiscal imbalance does not trigger private investment and trade balance. Overall, this theory holds that fiscal imbalance does not trigger economic development (Barro, 1989).

The Ricardian equivalence theorem emphasis that increases in the deficit-financed by fiscal spending will be matched by a future increase in taxes and so this will leave interest rates and private investment unchanged. The choice is therefore between tax now and tax later. At this juncture, one wonders why empirical evidence and theoretical underpinning justifies the fact that deficit financing stimulates economic growth especially when an economy is facing persistent unemployment rate. However, this is not so in Nigeria.

Although, studies exist on fiscal imbalance and economic growth they are not exhaustive and are limited in geographical scope, time scope, and methodology. For example, Ubi and Inyang (2018) reappraised the effect of fiscal imbalance on the economic development of Nigeria from 1980 to 2016. Various economic development indicators considered include per capita income, RGDP, unemployment rate, Balance of payment, and inflation rate. The researchers discovered that fiscal imbalance only affected per capita income, RGDP, Balance of payment but did not affect unemployment and inflation rate. Hence, the study opted for investment in capital projects as against recurrent projects. However,

the study did not capture present fiscal policy issues in Nigeria but this study did.

In a similar study, Ohiomu and Oluyemi (2017) studied if fiscal federalism spurs the economic growth of Nigeria from 1984 to 2015. The study specifically focused on revenue shared acrossthe federal, state, and local government and also controlled for inflation and lending rate. The study evidenced are short and long-run relationships exist among revenue allocated to federal, state, and local government, inflation, lending rate, and economic growth over the studied periods. However, the researchers failed to consider the impact of imbalance on the economic development of the Nigerian economy which the present study did.

Again, Ahmed and Mashkoor (2016) ascertained if fiscal imbalance spurs the Pakistan economy from 1980 to 2013 or not. The researchers discovered that fiscal imbalance can only spur economic growth only when the right monetary policy tools are adopted. Further, the inflation rate and GDP deflator did not adequately fasten the country's growth process. However, this study is faced with the issue of variation perturbation.

Further, Elakhe (2016) did a comparative analysis on the effect of monetary and fiscal policy measures on the Nigerian economy from 1981to 2014. Variables considered include government expenditure, interest rate, and money supply, and RGDP. The study evidenced that none of the regressors affected the Nigerian economy significantly in the short run but in the long run they did. However, the researchers failed to consider the impact of imbalance on the economic development of the Nigerian economy which the present study did. Momodu and Monogbe (2016) reported that mismanagement and misappropriation of borrowed funds is a major impediment in the Nigerian economy and hence, deters development. Onwioduokit and Inam, (2018) reported that fiscal imbalance over time deters economic development by crowding out private investment.

In another development, Babalola (2015) studied the reason why the Nigerian economy is yet to be developed with a central emphasis on the country's fiscal position. The researcher discovered that the major reason why the country's fiscal system is yet to spur the desired level of economic development is linked to the country's over-reliance on oil revenue and federal government subventions. However, the study was just explorative research.

The various literature reviewed above clearly suggests that the nexus between fiscal imbalance and economic development is yet to be given much attention in the Nigerian context and that existing studies are faced with various setbacks. Against these perceived backdrops, this current study examined how fiscal imbalance affects the economic development of Nigeria.
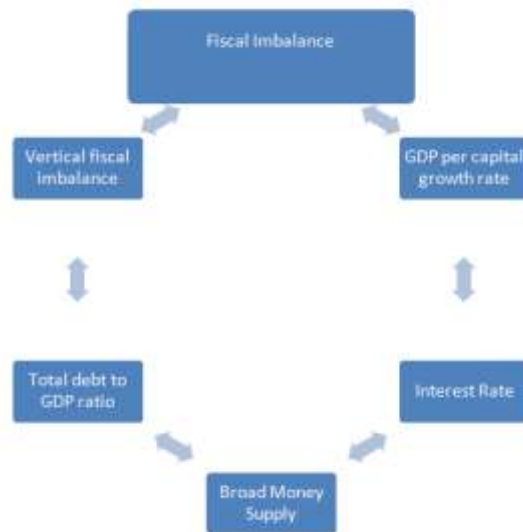

Figure 1: Fiscal Imbalance, it Determining Factors, and Economic Development Proxies Nexus
Source: Researcher's Model (2020)

The schematic model in figure 1 above replicates that linkage exists among fiscal imbalance proxy, GDP per capita growth rate, interest rate, total debt to GDP ratio, and broad money supply. This further revealed that the best way to address the fiscal imbalance and economic downturn is by ensuring that the country's GDP per capita growth rate, interest rate, total debt to GDP ratio, and broad money supply are efficient.

METHODOLOGY
We sourced data from the CBN statistical bulletin (2019) and WDI (2019), alongside published journals, and documentaries using the archival-retrieval approach. These data replicate both the economic and financial conditions of Nigeria. Considering the fundamental economic shocks associated with both

time series variables, we captured the stationary of the study variables using the augmented dicker fuller (ADF) test. Then, we checked if the study variable exhibits a long-run stable relationship and that if they granger causes each using the Johansson Cointegration test. More so, we used the Parsimonious Error Correction Modelto test the research hypothesis.

The econometric form of the model is therefore presented below:

$$GDPPC = \beta_0 + \beta_1 FIMB + \beta_2 INT + \beta_3 TDEGDP + \beta_4 BRMS + ECM + \mu_t$$

Where:

GDPPC	=	GDP per capita growth rate
FIMB	=	Fiscal imbalance (vertical fiscal imbalance) measured by difference between federal government income streams and expenditure
TDEGDP	=	Total debt to GDP ratio
	=	interest rate (prime lending rate)
BRMS	=	Broad money supply
ECM	=	Error correction Model
β_0	=	Constant
β_1 to β_4	=	Coefficients
μ_t	=	Error term

Hypothetically,

$H0 = \beta_1 \beta_2, \beta_3, \beta_4 = 0$

$H1 = \beta_1 \beta_2, \beta_3, \beta_4 \neq 0.$

Finally, we expect that:

$\beta_2, \beta_3, \beta_4 > 0; \beta_1 < 0$

Variable Operationalization

In this paper, all the target variables were grouped into three (3). The first sub-group is the regressed (dependent variable). The regressed is economic development measured by real GDP per capita growth rate. The second group is the regressor which is a fiscal imbalance (vertical fiscal imbalance) measured by calculating the difference between federal government income streams and expenditure every year. The third group is the mediating variable. The mediating variables are the Total debt to GDP ratio, interest rate (prime lending rate), and broad money supply (proportion of M2 to GDP). They are explicitly represented below:

Table 1: Variable Operationalization

S/N	Variables	Proxy	Definition	Nature of Variable	Denotation	Source
1	Economic Development	Real GDP per capita growth rate	Percentage change in Real GDP per capita.	Dependent	GDPPC	CBN (2019); WDI (2019)
2	Fiscal Imbalance	Vertical fiscal imbalance	Difference between federal government income streams and expenditure every year	Independent	FIMB	CBN (2019)
3	Trade	Total debt to GDP ratio	The proportion of total debt to GDP	Mediating	TDEGDP	WDI (2019)
4	Monitory Policy Response	Interest rate	prime lending rate	Mediating	INT	CBN (2019);
		broad money supply	the proportion of M2 to GDP	Mediating	BRMS	CBN (2019)

Source: Researcher's Compilation Based on Extant Studies (2020)

RESULTS AND DISCUSSION

Pre-Estimation test

Considering the underlying economic shocks associated with both time series variables and that which are associated with error terms, we captured the stationary of the study variables using the ADF test. The unit root result is therefore presented in table 2:

Table 2: Summarized Augmented Dicker Fuller Test

Test Variables	ADF Test Statistic Value	Mackinnon Critical Value			P-Value	Order of Integration	Decision
		@ 1%	@ 5%	@ 10%			
GDPPC	-3.5064	-3.6268	-2.9458	-2.6115	0.0135	1(1)	Stationary
FIMB	-5.2230	-3.6268	-2.9458	-2.6115	0.0001	1(1)	Stationary
INT	-4.4533	-3.6268	-2.9458	-2.6115	0.0011	1(1)	Stationary
TDEGDP	-4.6544	-3.6268	-2.9458	-2.6115	0.0006	1(1)	Stationary
BRMS	-5.8834	-3.6268	-2.9458	-2.6115	0.0000	1(1)	Stationary

Source: Computed from E-Views 9.0 (2020)

The ADF test reported that none of the target variables attained Stationarity at their natural level (i.e. 1(0)). However, they all became stationary at first differencing (i.e. 1(1)). At this point, the ADF test statistic values for all the target variables were greater than their Mackinnon Critical Values. Meanwhile, their P-values were less than a 5% significant level. Hence, we tested for Johansen Co-integration Test. The summarized Co-integration result is presented in table 3:

Table 3: Summarized Johansen Co-integration Test Output

Hypothesized No. of CE(s)	Unrestricted Co-integration Rank Test (Trace)				Unrestricted Co-integration Rank Test (Maximum Eigenvalue)			
	Eigenvalue	Trace Statistic	5% Critical Value	Prob.**	Eigenvalue	Max-Eigen Statistic	5% Critical Value	Prob.**
None *	0.8201	152.6278	103.8473	0.0000	0.8201	61.7616	40.9568	0.0001
At most 1 *	0.6762	90.866	76.9727	0.0030	0.6762	40.5907	34.8059	0.0091
At most 2	0.4697	50.2756	54.0790	0.1047	0.4697	22.8383	28.588	0.2280
At most 3	0.3205	27.4372	35.1928	0.2673	0.3205	13.9087	22.3000	0.4704
At most 4	0.2188	13.5286	20.2618	0.3231	0.2188	8.8881	15.8921	0.4459
At most 5	0.1209	4.6405	9.16455	0.3251	0.1209	4.6405	9.1645	0.3251

Trace test indicates 2 cointegratingeqn(s) at 5% level
 * denotes rejection of the hypothesis at 5% level
 **MacKinnon-Haug-Michelis (1999) p-values
Source: Computed from E-Views 9.0 (2020)

The cointegration result above reported two (2) co-integrating equations. This premised on the fact that in both instances the trace statistic and Eigenvalue values were higher than the critical value. More, theirP-values were less than 5% significant level. Therefore, we can conveniently assert that long-run relationships exist between the regressor and the regressed. The presence of cointegration rules out the issue of spuriosity. However, that cointegration (long-run relationship) exists among a group of variables may not imply that such group of variables granger causes each.

Regression Result
Before conducting the regression result properly, we subjected our regression model to various robustness checks to the inclusion of Heteroskedasticity Test: Breusch-Pagan-Godfrey, Normality test, and Cumulative SUM Test.

Table 4: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.185532	Prob. F(4,32)	0.3359
Obs*R-squared	4.775412	Prob. Chi-Square(4)	0.3111
Scaled explained SS	4.201203	Prob. Chi-Square(4)	0.3795

Source: Econometric Views Version 9.0 (2020)

The Heteroscedasticity tested presented in the table above clearly revealed that the model is Homoskedastic (has equal mean and variance). Hence, the model is deemed to have retained its Best Linear Unbiased Estimate Properties. On this note, we can confidently conclude that the model is fit for prediction.
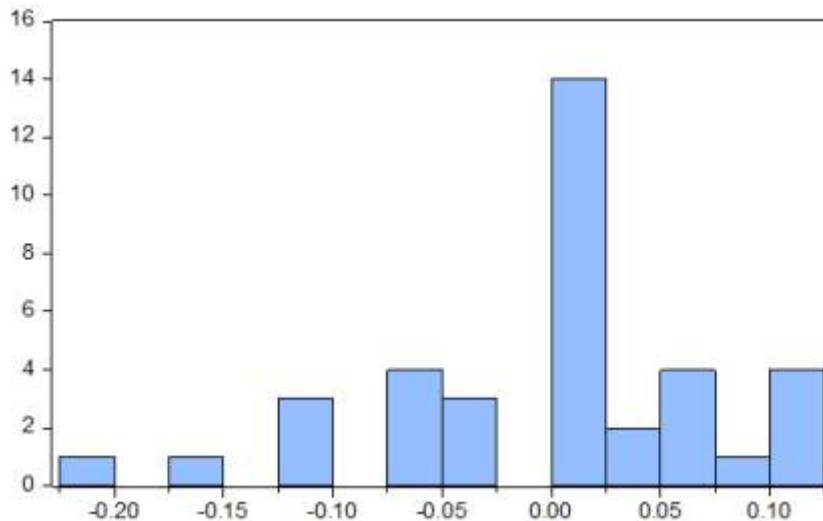

Figure 2: Cumulative SUM Test
Source: Econometric Views Version 9.0 (2020)

The normality test above clearly revealed that the model is normally distributed and thus fit for prediction. This further reaffirmed the classical assumption of normal distribution.
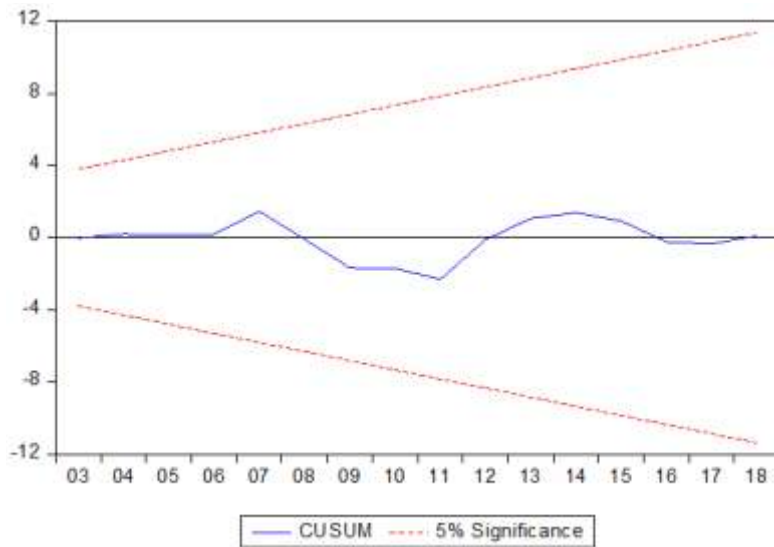
Figure 2: Cumulative SUM Test
Source: E-Views 9.0 Output (2020)
The stability test in figure 2 above clearly revealed that the model is relatively stable over the study period. This further revealed that the regression results are reliable.
Sequel to the above robustness check, we proceeded immediately to the regression result (Parsimonious Error Correction Model) proper as presented in table 5:

Table 5: Summarized Parsimonious Error Correction Model
Dependent Variable: GDPPC

Variable	Coefficient	Std. Error	t-Statistic	Prob.	
ECM (-1)	-0.802917	0.090293	-8.892381	0.0000	R^2= 93.25%
Constant	-56800.62	14340.42	-3.960874	0.0004	Adj. R^2= 92.20%
D(GDPPC(-1))	-0.030150	0.096706	-0.311768	0.7574	Prob.(F-stat.) = 0%
D(FIMB)	-3409.046	1166.240	-2.923108	0.0063	D.W. Stat. = 1.6508
D(INT)	10054.55	2040.043	4.928597	0.0000	
D(TDEGDP)	1363.292	437.3062	3.117477	0.0038	
D(BRMS)	561.3509	1624.511	0.345551	0.7319	

Source: Computed from E-Views 9.0 (2020)

Table 5 evidenced that if all the regressors are held constant, the regressed were both negative and statistically significant. This is premised on the negative constant-coefficient and p-value estimated at -56800.62 and 0.0004 respectively. More so, the global statistics (F-statistic) reported a low p-value estimated at 0% suggesting that the model overall is highly significant. Meanwhile, the Durbin-Watson statistic value of 1.650804 is within the acceptable threshold of the absence of serial correlation. This indicates that the model retainedits optimal characteristics. Again, both the Adj. $R^2$and Adj. R^2 reported that the repressors were able to explain 93.25% and 92.20% changes in the regressed.

Individually, previous values of total debt to GDP ratio, interest rate, and broad money supply exerted a positive impact on GDPPC while the previous value of financial imbalance exerted a negative impact on GDPPC. This implies that fiscal imbalance deters growth even if the monetary policy instruments are efficient. This reaffirmed the basic tenets of the Keynesian theorists and Monetarists but disprove the RET.

Statistically, fiscal imbalance, total debt to GDP ratio, and interest rate are statistically significant given that their p-values (0.0063, 0.0000, and 0.0038) are less than a 5% level of significance. This suggests that while fiscal imbalances, total debt to GDP ratio, interest rate are strong economic development determinant proxies. However, the broad money supply is not.

Further, the ECM coefficient value is rightly signed in that it has a negative coefficient value and a low p-value. This reaffirmed the cointegration test result which depicted the existence of the long-run relationship. Lastly, the past value of GDPPC negatively affected itself but failed the test of significance woefully.

CONCLUSIONS AND RECOMMENDATIONS

This paper empirically investigated the effect of fiscal imbalance on the economic development of Nigeria with a specific focus on monetary and trade policy responses from 1983 to 2019. The regressed is fiscal imbalance while the regressor is economic development (GDP per capita growth rate). Meanwhile, we controlled for monetary (broad money supply and interest rate) and debt policy (total debt to GDP ratio) responses. Data was the Central Bank of Nigeria (CBN) and the World Bank Development Index (WDI) among other secondary

sources.To ensure that the model is well-fitted, we subjected the model tovarious robustness checks to the inclusion of Heteroskedasticity Test: Breusch-Pagan-Godfrey, Normality test, and Cumulative SUM Test. The regression result specifically evidenced that past values of fiscal imbalance have an adverse though the significant effect on the economic development of Nigeria over the study period. Again, the study evidenced that the current fiscal dominance sticks at monetary policy. Further, past values of total debt to GDP ratio and interest rate positively yet significantly mediate between fiscal imbalance and economic development while broad money supply did not. Hence, we conclude that fiscal imbalance, total debt to GDP ratio, and interest rate are strong determinants of economic development. To this end, we suggest that instead of encouraging excessive spending even when faced with fiscal imbalance, the Nigerian government should focus more on the capital project than on recurrent projects as this would help to correct such fiscal imbalances which in turn would spur the development of the Nigerian economy. More so, the Nigerian government must ensure that trade policy must be targeted at improving the Nigerian economy and that the current lending rate should be continued. Lastly, future studies may as well look at the interplay between monetary and fiscal policy shock and economic development.

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