Report on Macroeconomic overview of Nigeria and related policy analysis with technology of information

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Abstract. In recent years, the coming of COVID-19 has put numerous countries, like Nigeria, in financial crisis. In this paper, six indicators including GDP, Foreign Direct Investment, GNI, Inflation, Unemployment Rate and Economic growth are used to study the Economic changes and influencing factors in Nigeria in the past 20 years with the technology of information. By studying the changes of fiscal policies, monetary policies and exchange rate policies in the past decade, the adverse consequences and shortcomings of these policies are summarized. By analyzing the financial of Nigerian government in the past 20 years, it is stated that GDP is related to international oil prices, but per capita GDP is not high. In addition, the destruction of oil industry has led to higher unemployment.

Keywords: Nigeria, Unemployment, Economic, Exchange Rate, Technology of information.

1. Introduction

Nigeria is Africa's largest economy. Nigeria is Africa's largest oil producer and the world's sixth-largest oil exporter. It is also a member of the Organization of Petroleum Exporting Countries (OPEC). The oil industry is the backbone of the national economy. Since the 1970s, oil exports have become the country's main economic source. Oil export revenue accounts for 98% of total export revenue and 83% of total national income. To change current situation of being overly dependent on Nigerian economy on oil industry, Nigerian government has implemented a natural gas development strategy and energetically developed the rich natural gas resources in the country, in which case the rich natural gas resources is able to promote rapidly economic development and increase Nigerian fiscal revenue.

In terms of GDP, the Nigerian economy is almost out of recession in 2021. In terms of inflation (CPI), prices have been high in Nigeria in recent years. However, the income of residents has not increased significantly, especially for low-income families. The agriculture in Nigeria is extremely underdeveloped and infrastructure in Nigeria is also behindhand. On the unemployment front, the unemployment rate hit a 13-year high in March 2021. On the debt side, the federal government borrowed heavily to fight its way out of the recession. The most interesting issue in taxation is the dispute between Lagos state and Rivers state and the federal government over the subject and distribution mechanism of VAT and personal income tax. In terms of poverty reduction, the World Bank reported that 10 million more people will live in poverty in Nigeria as a result of COVID-19. (Amos et al.,2021) Additionally, Nigerian economy is likely to be challenged by inflation and exchange rate in the end of this year since 2022 is an election year in Nigeria and the actions of politicians tend to lead to tension. But are these several situations the only reason that the earning of citizens does not keeping growing greatly? It is meaningful for assist poor areas to discuss on these issues. In this paper, six indicators including Foreign Direct Investment, GDP, Inflation, Unemployment Rate, GNI and Economic growth are used to study the Economic changes and influencing factors in Nigeria in the past 20 years to figure out solution to relieving poverty.

2. An Overview of Important Economic Indicators

2.1 Gross Domestic Product

Nominal GDP. Nigeria is the largest economy in Africa. Nigeria is rich in oil resources and is the top oil producing and exporting country in Africa. As can be seen in Figures 1. and 1, Nigeria's nominal GDP rose steadily and rapidly between 2000 and 2008, with year-over-year growth rates essentially remaining at 6%, and reaching a small peak in 2008: $339.47 billion. However, for a country like Nigeria, which relies heavily on net foreign investment and imports for consumption, the severe devaluation of the Nigerian currency and the continued decline in international crude oil prices that led to a sharp drop in Nigeria's oil revenues caused Nigeria's GDP to experience a blow in 2009, as can be seen in the combination of Figures 1. and 1. In response to the international financial crisis, the Nigerian government immediately took measures, they relied on the oil premium fund to vigorously develop domestic infrastructure, this initiative Nigeria's GDP returned to its original level in 2010.

From 2010 to 2014, Nigeria's GDP continued to grow steadily and overtook South Africa as Africa's top economy in 2013. It peaked in 2014-5466.68 billion USD. In 2015, the U.S. shale oil production increased and international crude oil reserves were in surplus, while the international economy slowed down and the demand for oil became weak, with oversupply and the impact of price wars among "oil producing countries", international oil prices fell. The international oil price fell. Second, under the situation of plummeting international crude oil prices, Nigeria's currency, the naira, depreciated by nearly 20%, resulting in low national consumption and national economic recession. 2015-2016, Nigeria's GDP plummeted, with a year-on-year decline of 1.62% in 2016. 2017, under the adjustment of all parties, the international oil prices showed an overall trend of oscillating upward, so although Nigeria's GDP did not rebound relative to 2016, it has slowly stabilized and no longer shows a significant downward trend.

In 2017-2019, as international oil prices continue to stabilize and improve, Nigeria's economy recovers and nominal GDP again shows an upward trend. 2020, due to the impact of the covid-19 epidemic, global crude oil supply is sufficient, but demand is sharply reduced, and international crude oil prices plummet again, and even "negative oil prices" occur. So Nigerian government imposed a massive shutdown of production in the country in 2020.3, while curfews and travel bans also severely impacted the country's domestic and export trade. 2021, under the impact of the pandemic, non-oil sectors such as communications and finance and insurance drive strong economic growth in 2021. These sectors contributed 92.7% to GDP, restoring Nigeria's GDP to $441.5 billion, an increase of 3.4% year-on-year.

Combining all the figures, Nwankwo and Iyeke(2022) came to this conclusion the strong link between Nigeria's GDP and international crude oil prices can be seen, with three plunges in international crude oil prices (2009, 2016, and 2020) leading to a significant decline in nominal GDP over the same period. At the same time, the total production of industry (of which the oil industry is a major part) reached a low point in terms of GDP in these years (21.24%, 18.17%).

GDP per capita. Can be seen from Figures 2 and 3, Nigeria's GDP per capita is much the same as nominal GDP both in terms of numerical and growth trends. Nigeria's GDP per capita is not high because of its large population base.~~,~~ It only relies on the population advantage, making the total GDP ranked highest in Africa.

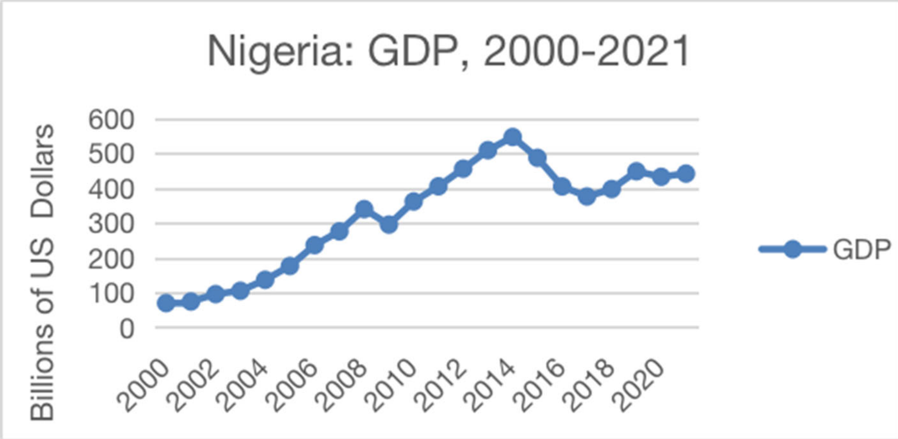

Fig. 1 Nigeria: GDP, 2000-2021 [Owner-draw]
Data Source: World Bank

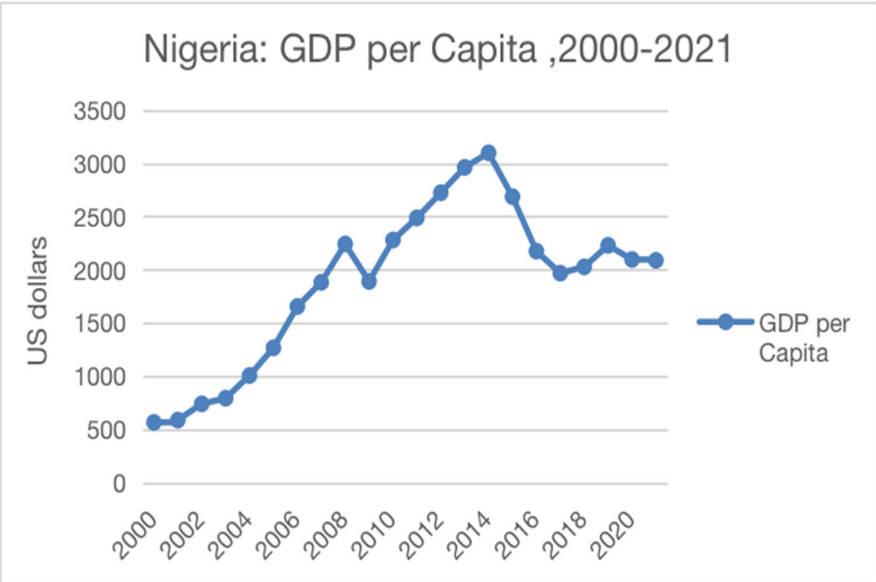

Fig. 2 Nigeria: GDP per capita, 2000-2021 [Owner-draw]
Data Source: World Bank

2.2 Inflation (visualizations)

Inflation in Nigeria for 20 years. Figure 3 shows that inflation rate in Nigeria rises in fluctuation between 2007 and 2022, reaching its peak in 2022.

According to Tole, M. et, al. (2019), given that the structure of the Nigerian economy is fundamentally dependent on oil revenues, we believe oil prices are a good proxy for the supply side of inflation.

In 2007, global oil prices skyrocketed, and Nigeria, as the most important oil producer and exporter in Africa, experienced rapid economic development in this year, and the inflation rate reached the lowest point. Since then, with the advent of the global financial crisis in 2008, inflation in Nigeria has increased again. From 2019 to 2021, as the outbreak and impact of COVID-19 deepens globally, the global economy has been hit hard, inflation is again trending higher. In 2022, with the economic recovery and the war between Russia and Ukraine, the global oil price will soar again, which is undoubtedly an important reason for the downward trend of Nigeria's inflation rate in 2022. (Mehmet, Useman & Agbede, 2019)

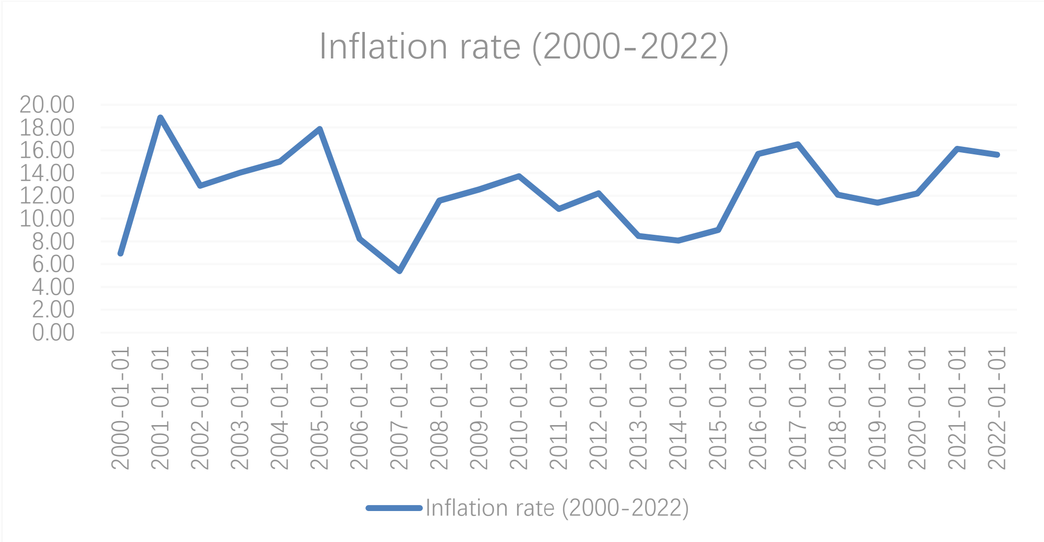

Fig. 3 Inflation rate (2000-2022) [Owner-draw]
Data source: World Bank

Compare to inflation of the World(Figure 4) over the same period. Nigeria's inflation rate is higher than the world average, and the general trend is not consistent with the world trend. It is not only closely related to historical factors, but also to Nigeria's rapidly growing population and the shortage of food resources in recent years. Just like the World Bank says that, “High inflation caused by soaring food prices has pushed 7 million people into poverty”.

Fig. 4 Inflation, consumer prices for the World, Percent, Annual, Not Seasonally Adjusted [Owner-draw]
Source: World Bank

2.3 Unemployment Rate (visualizations)

Unemployment in Nigeria for 20 years. As the figure 5. shown, the unemployment rate in Nigeria was very stable before 2013, basically stable at around 4%, fluctuated in a small range from 2013 to 2015, increased sharply to more than 8% from 2015 to 2017, and also increased in a small range from 2019 to 2020.

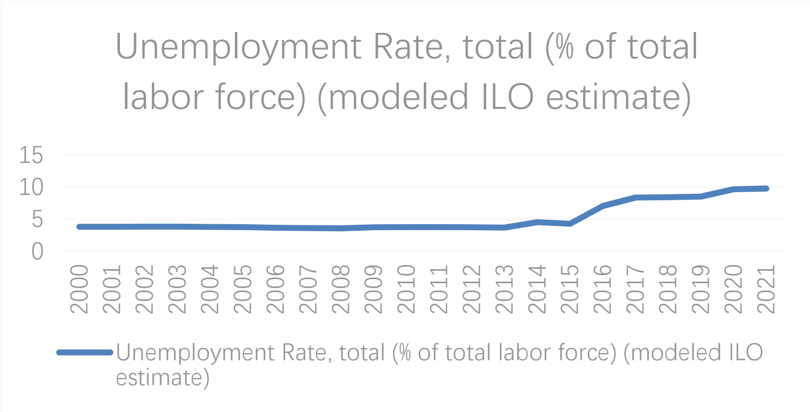

Fig. 5 Unemployment Rate, total (% of total labor force) (modeled ILO estimate) [Owner-draw]
Source: World Bank

The oil industry's damage has greatly reduced jobs. Regarding the surge in unemployment in 2016, Ogbeide & Kadiri (2016) believe that the damage to the oil industry, rising inflation, insufficient foreign exchange reserves and the devaluation of the national currency, the naira, are the main reasons for Nigeria's recession.

The oil and gas industry accounts for 25% of Nigeria's GDP and is the main source of government revenue. The current slump in global oil prices and a drop in domestic crude oil production have made Nigeria's oil industry extremely shrinking. (Onoh,2017)

Impact of COVID-19 on Unemployment. The fall in international oil prices caused by COVID-19, another unknown infectious disease and the outbreak of civil conflict during this period have led to business closures and layoffs in Nigeria, either indirectly or indirectly. According to Nigeria's "Today", 17% of university graduates have lost their jobs due to the 2020 pandemic.(Amos et al.,2021)

2.4 Economic growth (visualizations)

Economic growth in Nigeria for 20 years. In the past 20 years, Nigeria's economic growth has fluctuated greatly, but it is basically positive growth, reaching the highest point of economic growth in 2002, and negative growth in 2016 and 2020.

The 2002 World Cup was held in Nigeria, which brought a lot of economic benefits to Nigeria. At the same time, it also plays a certain role in promoting consumption.

The same reasons for the negative growth in 2016 and 2020 are related to the depreciation of international oil prices and social turmoil. In addition, COVID-19 in 2020 has had a negative impact on the global economy.

Fig. 6 Nigeria Economic Growth 2000-2020[Owner-draw]
Source: World Bank

2.5 Foreign Direct Investment

FDI (Foreign Direct Investment) refers to the investment of foreign capital in the country, which is one of the main forms of modern internationalization of capital.

GDP is a comprehensive reflection of a country's economic environment, and the choice of a region for foreign investment depends largely on the development of the region's GDP, which is fast and well developed, and then attracts more foreign investment, and vice versa, FDI will decline. Combining Figure 1. and Figure 7., we can also see that from 1999 to 2008, with the rapid increase of Nigeria's GDP, foreign investors saw the potential of Nigeria's development and increased their investment in it, so its FDI also increased rapidly to $8.56 billion from 2000 to 2009. With a slight decline in GDP in 2009, its FDI also experienced an immediate hit the following year, falling to $6.03 billion. But as GDP returned to its normal level of development, its FDI also returned to or even exceeded its original level in 2011, reaching $8.84 billion.

However, while Nigeria's GDP steadily improved from 2011 to 2014, its FDI plummeted (but still steadily inflows) between 2012 and 2014. From Figure 4, it can be seen that the Nigerian currency has been depreciating slightly and consistently since 2009, which has also affected FDI inflows to some extent. By 2015 to 2017, the devaluation of the Naira was huge, which also led to a sharp decrease in FDI that lasted until 2018. By 2019, the Naira exchange rate stabilized and with the recovery in GDP brought about by the recovery in international oil prices, FDI also started to rise again.

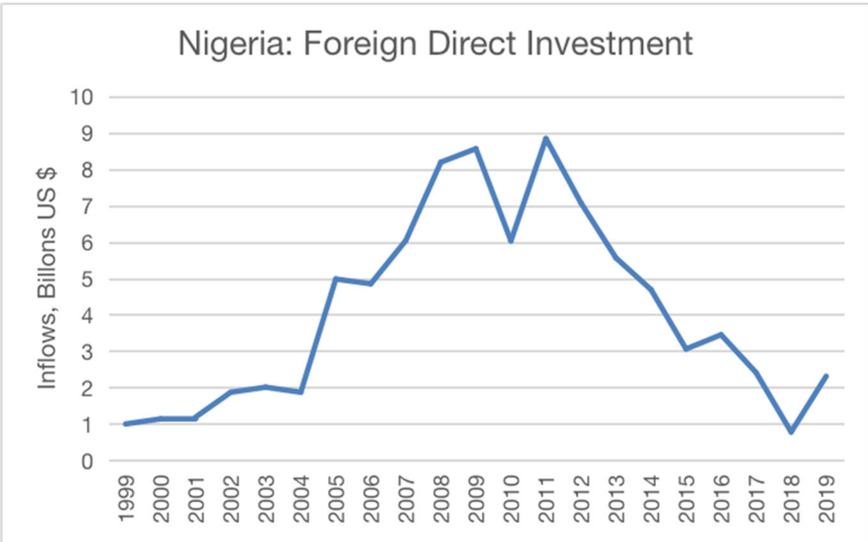

Fig. 7 Nigeria: Foreign Direct Investment [Owner-draw]
Data Source:World Bank

2.6 Gross National Income

Combining Figure 1, Figure 6 and Figure 8, it can be seen that the trend and value of GNI is much the same as GDP (the difference is similar to FDI data.) From 2000 to 2014, GNI has been rising steadily and the growth rate has been optimistic. Among them, from 2009 to 2011, the growth rate of GNI slowed down due to the decline in international oil prices. And from 2015 to 2018, GNI in Nigeria was on a downward trend because of the devaluation of the naira currency and the renewed decline in international oil prices, which gradually recovered again from 2019 to 2020 (in 2020, the GDP of non-oil industries grew, so despite the decline in oil prices, there was still a steady inflow of FDI).(Onoh,2017)

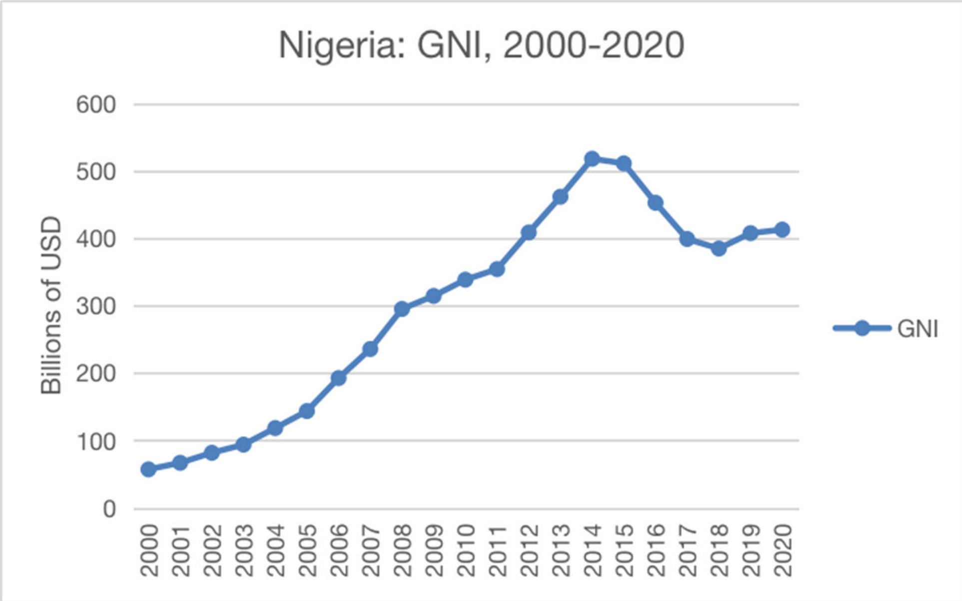

Fig. 8 Nigeria: GNI, 2000-2020[Owner-draw]
Data Source: World Bank

3. Important Macroeconomic Policies in the past 10 years

3.1 Fiscal Policy

Apply for Special Loans from the World Bank (2020). The Nigerian CDC has received $90 million in funding from the World Bank. The Federal government, through THE CDC and the Ministry of Health, will also request an additional $100 million in dedicated immunization funding from the World Bank to meet the immunization needs of 36 districts and the Federal Capital Region.

Seek us $6.9 billion budget from international Financial institutions (2020). The Nigerian government will seek $6.9 billion from the INTERNATIONAL Monetary Fund, World Bank and African Development Bank to finance the 2020 budget. Of this, us $3.4 billion has been drawn from the IMF, US $2.5 billion has been loaned to the World Bank and US $1 billion has been loaned to the African Development Bank.

Suspend loan payments. Federal and state loan repayments and related interest payments will be suspended when the average monthly income in Nigeria's appropriation account falls below a certain threshold.

Cut the size of the 2020 budget. The benchmark oil price for the 2020 budget is 57 dollars, and the fall in international oil prices has caused the budget to lose its foundation. Non-oil revenues are also falling.

3.2 Monetary Policy

Digital currency (2021). Nigeria's central bank has announced it will begin piloting a digital currency, eNaira, on October 1, 2021. ENaira will play an important role in The Nepali economy, including macroeconomic regulation and growth, cross-border trade facilitation, financial inclusion, monetary policy effectiveness, improved payment efficiency, taxation, improved remittances and targeted social interventions. Financial experts support eNaira's pilot as a way to facilitate instant international transfers between Nigeria's domestic and international banks.(Apanisile, 2021)

The move comes after Nigeria's central bank tightened controls on digital currencies. In February, Nigeria's central bank issued a notice to commercial banks warning them of the risks of accepting cryptocurrencies, and some banks halted cryptocurrency transactions. Nor does its central bank currently insure or regulate virtual currencies.

Nigeria's central bank raises benchmark lending rate to 13% from 11.5% (2022). On 24 May 2022, the Monetary Policy Committee of the Central Bank of Nigeria announced an increase in the benchmark lending rate to 13%, 150 basis points higher than the previous rate, marking the first change in the country's benchmark lending rate since September 2020. Other monetary policy indicators were unchanged. The country's one-year deposit guidance rate was 5.82% in March 2022, according to the central bank's website.

Nigeria's central bank Governor Godwin said the move was aimed at controlling the country's rising inflation rate. In Recent years, Nigeria's inflation rate has been running at a high level. In April 2022, Nigeria's inflation rate rose 16.8% year on year, hitting an eight-month high. (Afolabi & Bakar ,2016)

3.3 Exchange Rate Policy

Change from fixed exchange rate policy to floating exchange rate policy (2016). In the future, the exchange rate of the Naira will be determined by the market in order to form an "open and transparent" exchange rate formation mechanism and reduce speculation, Central Bank Governor Emeffele Said at a press conference in Abuja, Nigeria, June 15, 2016. Nigeria used to have a fixed exchange rate. But the continuing fall in crude prices has hit oil-dependent Nigeria hard, with an economic downturn and a shortage of foreign exchange putting downward pressure on the naira. It is estimated that Nigeria's central bank has spent about $5bn in reserves over the past three years supporting the naira exchange rate, equivalent to a fifth of its current reserves, according to local media reports.

Change from multiple Exchange rate policy to single Exchange Rate Policy (2021). The WTO has raised concerns about Nigeria's multiple exchange rate regimes and their impact on trade, and some members have complained about Nigeria's use of balance-of-payments agreements to protect foreign exchange. In March 2020, Nigeria's central bank said it would scrap the multiple exchange rate policy that determined the value of the local currency in favor of a single exchange rate.

4. Macroeconomic Policies and Undesirable Consequences in the past 10 years

4.1 Fiscal Policy

Suspend loan payments. It is a way for the government to spend less and it's a way for people to consume less. For the market to reduce the supply of market goods, improve the relationship between supply and demand. For society, it increases social conflicts. For the country, it can make the national budget surplus. In short, the overall economy of the country is depressed.

In this case, the Nigerian government is simply keen to keep the cost of government agencies within budget limits, but forgets that its primary responsibility is to achieve the country's goals.(Afolabi & Bakar ,2016)

Cut the size of the 2020 budget. As can be seen from the table above, the Nigerian government's general revenue in 2020 decreased by 0.5444% compared to the previous year. In previous years, government spending had generally risen.

This can lead to liquidity problems and eventually to bank failures. The loans that should have been collected in the balance sheet become uncollected receivables due to maturity, so it is necessary to increase the provision of risk reserves, the corresponding cash assets will be reduced, the ability to deal with large-scale maturity or newly redeemed deposits will be weakened, and the capital adequacy ratio will decline. Taking people's consumption as an example, in the table below, we can find that from 2020 to 2021, the consumer price index of Nigeria decreased by 7.91891

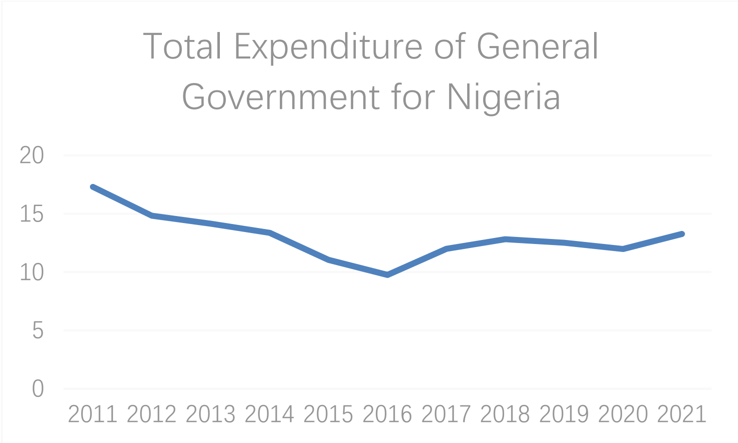

Fig. 9 Total Expenditure of General Government for Nigeria [Owner-draw]
Source: International Monetary Fund

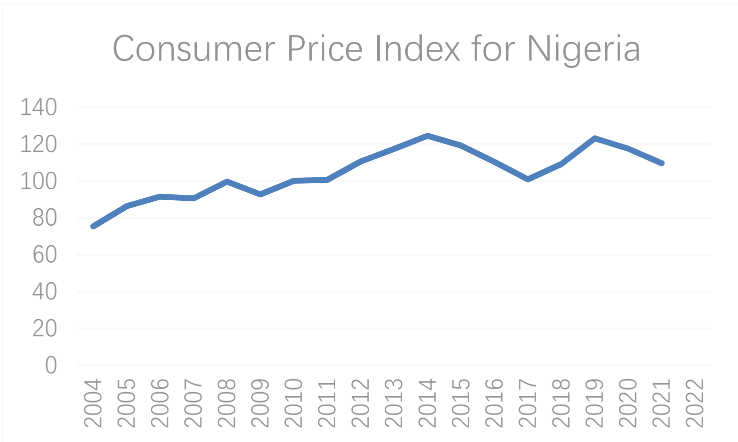

Fig. 10 Consumer Price Index for Nigeria [Owner-draw]
Source: International Monetary Fund

As the capital adequacy ratio is a mandatory requirement of the regulation, banks will liquidate part of other high-risk assets, such as the borrowed funds in other banks, and actively lose part of the interest to guarantee the repayment of deposits.

Further aggravation would be dangerous. Consider raising capital and selling some of the best (and high-risk weighted) assets, such as better-rated corporate loans, medium - and long-term home mortgages and equity investments to fund deposits.

If bad loans get worse, banks could also liquidate some low-risk long-term investments, such as government bonds.

4.2 Monetary Policy

Digital currency. The International Monetary Fund said in a recent report that eNaira could raise new money laundering and terrorist financing risks as its use extends to cross-border money transfers and correspondent banking networks. Therefore, the IMF recommends that the Nigerian Central bank proactively address the risks associated with eNaira through a tiered identity verification system, strengthened anti-money laundering and anti-terrorist financing regulations, and enhanced anti-corruption governance.

Apanisile(2021)mentioned that, like other digital currencies, "eNaira" carries a number of hidden risks, including the impact on the implementation of monetary policy, cyber security, whether it is sufficiently resilient when used in practice, and the impact on financial compliance and stability. The eNaira wallet, for example, could be seen as, or even really be, a kind of central bank deposit, reducing the need for commercial bank deposits. In addition, due to its reliance on digital technology, eNaira requires effective management of network security and operational risks.

4.3 Exchange Rate Policy

Change from fixed exchange rate policy to floating exchange rate policy. Nigeria's currency, the Naira, tumbled 24 per cent against the dollar on Monday after the country's central bank scrapped a fixed exchange rate for a freely floating exchange rate.

The report says Africa's biggest oil producer is facing a severe shortage of foreign currency, which is hampering economic growth. Traders said on Monday they were concerned about foreign exchange liquidity under the new regime. For the past 16 months, Nigeria's central bank has pegged the naira between 197:1 and 199:1 against the dollar. As of press time Monday, the naira was trading at 260.5:1. The country introduced a fixed exchange rate last year.

Black market rates rose as much as 10 percent from Friday as traders anticipated that more abundant foreign exchange liquidity in the interbank market would reduce private demand. The central bank has said it may inject foreign currency into the interbank market to boost liquidity.

Nigeria's central bank says there is a $4bn backlog of demand that could take four weeks to clear. The central bank said there were "grounds for optimism" that the naira would eventually stabilise at around 250 to the dollar. Nigeria has been reluctant to devalue its currency for more than a year, despite plummeting oil prices. By contrast, major oil producers such as Russia, Kazakhstan and Angola have allowed their currencies to fall sharply. Nigeria's economy, Africa's largest, contracted by 0.4 per cent in the first quarter of this year and faces its worst crisis in decades. As you can see from the chart below, Nigeria had a floating exchange rate in 2016, while inflation rose from 15.68% to 16.52% in 2017. (Onoh,2017)

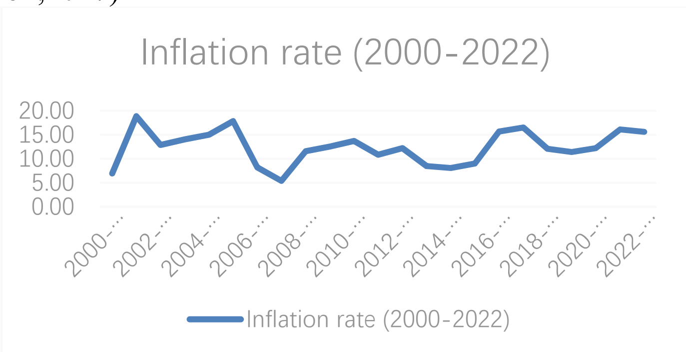

Fig. 11 Inflation rate (2000-2022) [Owner-draw]
Data source: World Bank

The prospect of a sharp fall in the Naira would make Nigeria's exports relatively cheap and its imports more expensive. That would stimulate the domestic economy but could also fuel inflation, which is already rising.

The floating naira is bad news for banks and companies with foreign currency loans. According to Nigeria's central bank, 10.1% of loans in the country's banking system have gone bad. About 45 per cent of that was in foreign currency, Moody's estimates. The loans were made to domestic oil and gas companies when oil was trading at $100 a barrel. Between 2012 and 2014, $10 billion is expected to be lent to domestic oil companies to buy assets from major overseas oil companies. Once the naira starts floating, banks must adjust the value of these loans in naira terms on their books. Accordingly, the increased burden of debtors may lead to an increase in non-performing loans.

Once freely floating, the exchange rate would reflect the fundamentals of the economy, which would lay the foundation for a resumption of foreign investment, especially net capital inflows. Nigeria's net inflows fell from $13.2 billion in 2013 to $2.5 billion in 2015. Investments in government bonds are also likely to benefit, but will also be affected by yields and inflation.

Change from multiple Exchange rate policy to single Exchange Rate Policy. Cannot flexibly reflect the foreign exchange supply and demand relationship, so that the marketability of exchange rate lost or weakened; The loss or weakening of the marketability of the exchange rate makes it impossible to adjust the supply and demand of foreign exchange sequentially, and its automatic adjustment function is greatly reduced. The government can only adjust the exchange rate. But the drawbacks of government-determined exchange rates are obvious. One is subject to subjective influence. If the government's regulatory capacity is not strong, there will be a major mistake. Secondly, due to the constraints of objective factors, the determination and change of exchange rate involve the interests of all parties, so the government must give full consideration to it.

On the other hand, Mundell's Triangle believes that free capital flow, fixed exchange rate and monetary policy cannot be realized at the same time. One must be sacrificed to preserve the other. Because if under fixed exchange rates and capital flows freely implement tight monetary policy, interest rates will rise, on the basis of the exchange rate, the rise in domestic investment speed increase, a large number of foreign capital inflows, currency appreciation pressure, in order to maintain a fixed exchange rate, the government of selling its own currency to buy foreign currency intervention, the monetary tightening is expanded, monetary policy is invalid.

5. Conclusion

By studying the changes and fluctuations of six economic indicators in Nigeria over the past 20 years, this paper concludes that:

First, GDP is related to international oil prices, but per capita GDP is not high. And for GNI, there are many investment institutions and the financing scale increases in recent years. Second, FDI is influenced by GDP and exchange rate, while the inflation rate fluctuates widely and is higher than the world average. Besides, the destruction of the oil industry has led to higher unemployment.

In general, economic growth was volatile but basically positive.

Some of Nigeria's macroeconomic policies in the last decade. We have to draw the following conclusions:

Fiscal policies include applying for funds from the World Bank and financial institutions, suspending loan payments, and cutting the budget scale. But this limits Nigerians' flexibility and reduces bank liquidity. Based on Nigeria‘s situatio， its monetary policy has piloted digital currency and raised benchmark lending rates, but has brought new financial risks. In addition to these， the form of exchange rate policy has changed, but it has reduced the liquidity of foreign exchange and the marketability of exchange rates.

References

[1] AFOLABI, L.O.,& BAKAR,N.A.A.,(2016). Causal Link between Trade, Political Instability, FDI and Economic Growth - Nigeria Evidence. Journal of Economics Library, Vol.3, No.1, pp.100–

[2] Mehmet, B., & Useman, O. & Agbede, E. A.A. ,(2019). Revisiting the Exchange Rate Pass-Through to Inflation in Africa’s Two Largest Economies: Nigeria and South Africa. African Development Review, Vol.31 ,No.2, pp.245–257.

[3] Nwankwo, E. & Iyeke, S. (2022). Analysing the impact of oil and gas local content laws on engineering development and the GDP of Nigeria. Energy Policy, Vol.163, pp.112-836

[4] Ogbeide,F. & Kanwanye, H., & Kadiri, S.,(2016). Revisiting the Determinants of Unemployment in Nigeria: Do Resource Dependence and Financial Development Matter: Revisiting the Determinants of Unemployment in Nigeria. African Development Review, Vol.28, No.4, pp.430–443.

[5] Onoh, J.K., (2017).The Nigerian Oil Economy: From Prosperity to Glut(First edition.). London: Croom Helm

[6] Apanisile, O. T. (2021). Remittances, financial development and the effectiveness of monetary policy transmission mechanism in Nigeria: a DSGE approach (1986–2018). Indian Economic Review, 56(1), 91–112. https://doi.org/10.1007/s41775-021-00110-z

[7] Tule, M. & Salisu, A., & Chiemeke, C., (2019). Improving Nigeria’s Inflation Forecast with Oil Price: The Role of Estimators. Journal of Quantitative Economics: Journal of the Indian Econometric Society, Vol.18, No.1, pp.191–229.

[8] Amos, O. A., Adebisi, Y. A., Bamisaiye, A., Olayemi, A. H., Ilesanmi, E. B., Micheal, A. I., Ekpenyong, A., & Lucero-Prisno, D. E. (2021). COVID-19 and progress towards achieving universal health coverage in Africa: A case of Nigeria. The International Journal of Health Planning and Management, 36(5), 1417–1422. https://doi.org/10.1002/hpm.3263

Appendix

Fig. 12 Nigeria: Annual Growth on GDP and GDP per Capita, 2000-2020[Owner-draw]
Data Source:World Bank

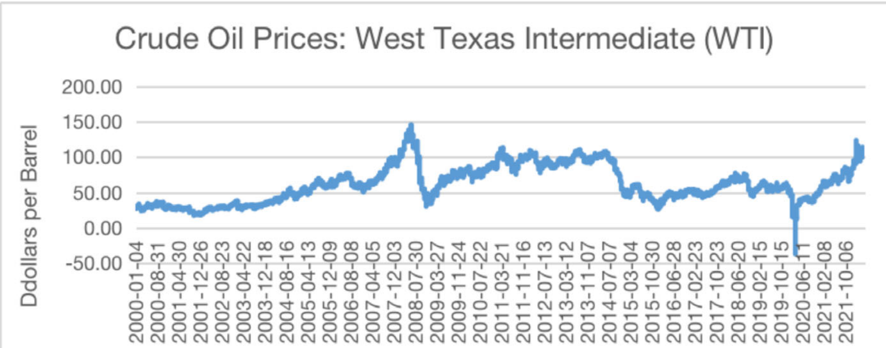

Fig. 13 Crude Oil Prices: West Texas Intermediate [Owner-draw]
Data Source: U.S.. Energy Information Administration

Fig. 14 Niergia: Industrial production as a percentage of GDP [Owner-draw]
Data Source:CEIC

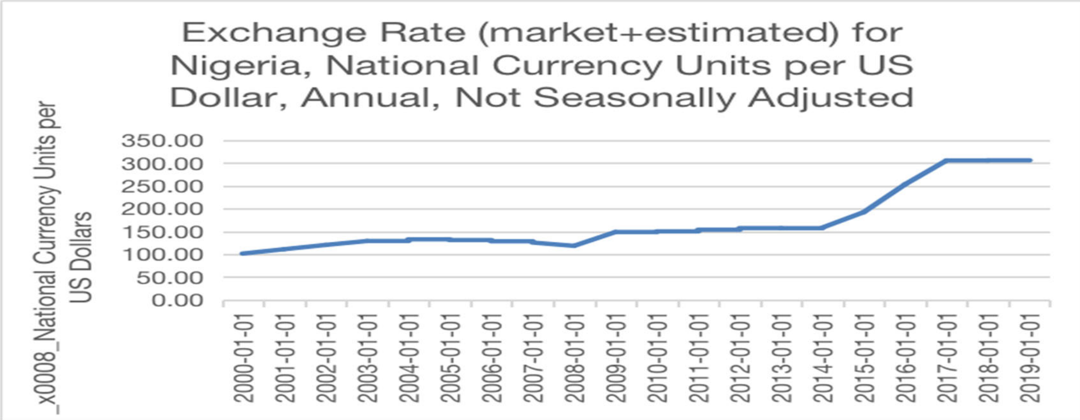

Fig. 15 Exchange Rate for Nigeria National Currency Units per US Dollar, Annual, Not Seasonally Adjusted [Owner-draw]
Data Source: University of Groningen

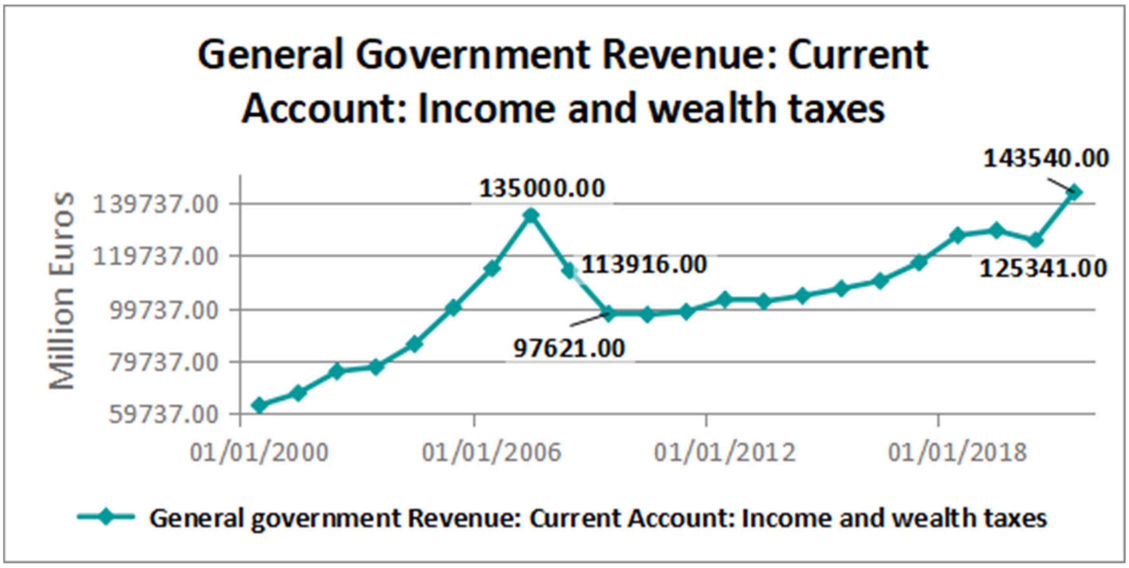

Fig. 16 General Government Revenue: Current Account: Income and wealth taxes

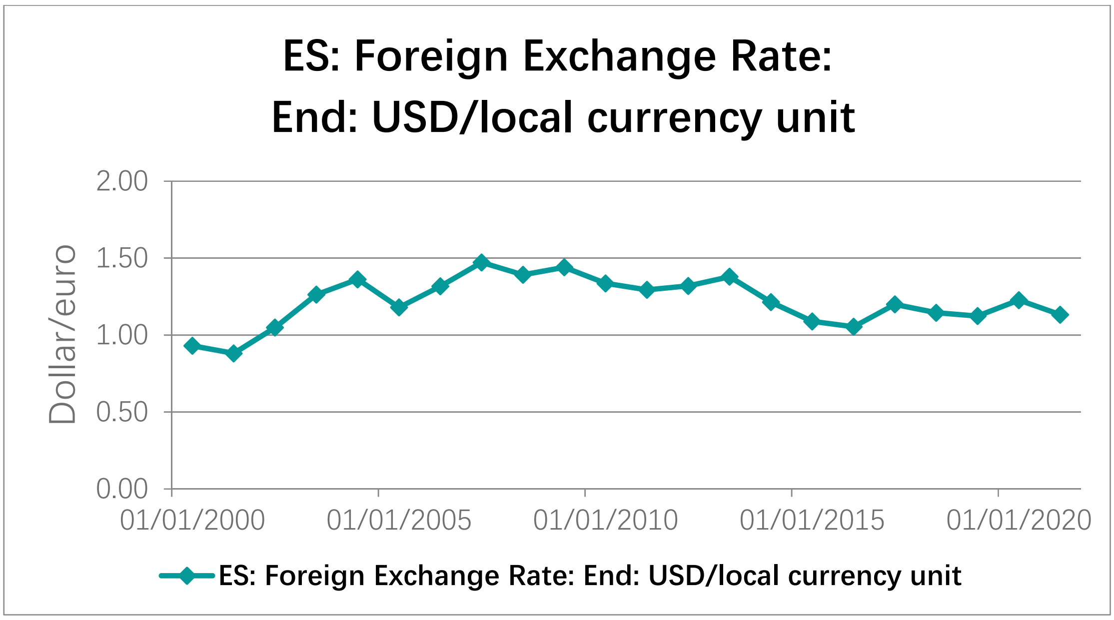

Fig. 17 ES: Foreign Exchange Rate: End: USD/local currency unit