

Impact of Foreign Direct Investment on Solid Minerals Industry in Nigeria

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Abstract

One of the arguments for pursuing Foreign Direct Investment (FDI) by countries is the belief that FDI bridges the gap between rich and poor nations by promoting economic growth and development in addition to generation of technological transfers. Thus, this paper examines the impact of Foreign Direct Investment on Solid Minerals Industry in Nigeria using time series data from 1992 to 2016. It aimed at determining functional relationships that exist between Foreign direct Investment (FDI), Exchange Rate, and Inflation Rate which were the independent variable while Solid Minerals contribution to gross Domestic Product (SGDP) which stood as the dependent variable. The paper contributes to existing studies by using the multiple regression analysis to formulate the model and an Ordinary Least Square method of estimation was used in testing whether the set of independent variables explained the dependent variable. SPSS version was the scientific tool used. The findings of this study reveals that the predictors of solid minerals industry in Nigeria as employed in this study showed that foreign direct investment and inflation rate has no impact on solid minerals industry in Nigeria, while only exchange rate had a significant impact on solid minerals industry in Nigeria. The study however concluded with the analysis of variance result which clearly showed that FDI is responsible for the growth of the solid minerals industry in Nigeria. The study recommends amongst others that in order to attract FDI, government must review policies that have a bearing on trade and other financial transactions like customs and banking regulations. This will engender investor confidence and encourage inflow of FDI.

Key Words: Foreign Direct Investment, Solid Minerals, Inflation Rate, Exchange Rate, Impact.

Introduction

For the growth of any society, there is always the need for substantial resources to sustain it. Investment being the most important part of an open and effective economic system also serves as a major factor that facilitates economic growth of most economy. Over the years, emphasis has been placed on foreign direct investment (FDI) for economic sustainability, particularly in developing countries of Africa, Asia and Latin America (Abdulmumini and Tukur, 2012). Foreign direct investment has been described as investment made so as to acquire a lasting management interest (for instance, 10% of voting stocks) and at least 10% of equity shares in an enterprise operating in another country other than that of investors' country (Mwillima, 2003; World bank, 2007). FDI as an issue of economic policy is an integral part of economic development policies of most countries. FDI helps in bridging the capital shortage gap and complement domestic investment especially when it flows to high risk areas of new firms where domestic resources are limited. The enormous increase in FDI flows across countries is clearest sign of globalization of the world over the past 20 years and it offers an unprecedented

opportunity for developing countries to achieve faster economic growth through trade and investment (Iya&Aminu, 2015).

Over a considerable number of years, Nigeria has been a dominant economy in Sub Sahara Africa after South Africa and the 10th largest producer of crude oil in the world with about 2.4 million barrels of crude oil per day. Before the Arab Israel war of 1970s, Nigerian economy was basically an agriculturally-based economy and with some little commercial activities (Danmola and Abba, 2013). Falade, (2016) explains that prior to the ‘oil boom’ in Nigeria, agriculture and mineral exploration were the main stay of Nigeria’s economy; the major mineral being coal, tin, columbite, monazite, limestone and gold. Lead and zinc were also exported in large quantities and Nigeria was the world largest exporter of columbite (FOS, 1996). However, the advent of the oil industry with its alluring ‘quick and easy cash’ led to a neglect of the sector. Nigeria is an oil producing country also well-endowed with solid minerals. Proven solid minerals reserves have been found in over 500 locations across the country. All of the 36 states of Nigeria including the Federal Capital have more than one type of mineral. However, solid minerals exports constitute less than one percent of Nigeria’s GDP due to the government’s neglect and its concentration on the development of the oil and gas sector which contributes three percent of global production and 95 percent of Nigeria’s foreign exchange reserves. This extremely low share of solid minerals’ contribution to GDP is further attributed to the underdevelopment of the mining sector due to inadequate and insufficient policies for solid minerals exploration and development.

It is crucial to develop the solid minerals sector for Nigeria’s economic growth through foreign direct investment, because these minerals’ potential can generate additional internal revenue as well as increase foreign exchange, employment opportunities, capital and technology transfer. According to Todaro and Smith, (2003) foreign direct investment has proven to have the capacity to increase tax revenues and improve management, technology, as well as labour skills in host countries. In addition, rise in FDI inflow has the tendency to assist the host country to break out of the vicious cycle of underdevelopment as observed by (Hayami, 2001). Despite this great potential, some sectors such as the solid minerals industry have been overlooked by the government of the Federal Republic of Nigeria.

Today, the Nigerian solid minerals industry faces external and internal challenges. The sector has underperformed since the 1970s, initially as a result of poor policy choices which subsequently

became compounded by deterioration in the fiscal regime, infrastructure, and the shortage of investment quality geosciences data. Stretched over two decades, these challenges have since become a growth limiting constraint on the sector's full potential. This aforementioned problem has necessitated the need to conduct a research study on the topic impact of foreign direct investment on the solid mineral industry in Nigeria.

It is against this backdrop that this study has developed the following research questions as its roadmap: First, what is the effect of foreign direct investment on contribution of solid minerals industry to GDP in Nigeria? Second, how does exchange rate affect the contribution of solid minerals industry to GDP in Nigeria? Third, to what impact does inflation rate have on the contribution of solid minerals industry to GDP in Nigeria?

This research paper is divided into five categories. The first is the introductory part. The second category is the review of related literatures. The research methods employed is the third category, while the fourth borders on data analysis and interpretation. The study then presents the conclusion and policy recommendations in the final part.

Review of Related Literatures

Concept of Foreign Direct Investment

Foreign Direct Investment (FDI) is a major component of international capital flows. According to Thirlwall (1994), FDI refers to investment by multinational companies with headquarters in developed countries. This investment involves not only a transfer of funds (including the reinvestment of profits) but also a whole package of physical capital, techniques of production, managerial and marketing expertise, products advertising and business practices for the maximization of global profits.

Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD), FDI is conceptualized as net financing by an entity in a developed country, which has the objective of obtaining or retaining a lasting interest in an entity resident in a developing country. The notion of lasting interest connotes a long-term relationship where the direct investor has a significant influence on the management of the enterprise, reflected by ownership of at least 10 percent of the shares of the enterprises, or equivalent in voting power or other means of control.

Broadly, foreign direct investment includes "mergers and acquisitions, building new facilities, reinvesting profits earned from overseas operations, and intra company loans". In a narrow sense, foreign direct investment refers just to building new facility, and a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor (World bank, 2012).

All the conceptualizations given above in respect of FDI are the same with little differences. FDI therefore, should be seen as the sum of the following components:

- a. New equity from the foreign company in the home country to the company in the host country,
- b. Reinvested profits earned from the company; and
- c. Long-and short –term net loan from the foreign to the host company.

Solid Minerals Industry in Nigeria

Nigeria possesses myriads of solid minerals that have the potential of fostering economic growth additional revenue vis-à-vis industrialization, technological diffusion and employment generation. Though there are strong indications that mining activities commenced in Nigeria before the colonial era, records show that organized exploration activities started in 1903 and 1904, when the Secretary of State for Colonies inaugurated mineral surveys of the Southern and Northern Protectorates respectively. The preceding years witnessed the influx of British and German companies that introduced technological innovation to mining which consequently boosted productivity and efficiency. Modern mining of tin ore was initiated by the Royal Niger Company in 1905. Gold mining began in 1914, in present day Niger and Kogi State while coal exploration began in Enugu in 1916. By 1919 the Geological Survey of Nigeria was established as a department of government to take over and continue mineral surveys of the country, though the legal basis for the development of minerals and metals were established through the Minerals Ordinance of 1946, and the Coal Ordinance No. 29 of 1950. By 1940s, Nigeria had become a major producer of tin, columbite and coal. In sum, there are about 34 minerals that have been identified in Nigeria; only 13 are being actually mined, processed and marketed (Falade, 2016).

According to Danmola and Abba, (2013), the following are some of the solid minerals in Nigeria:

- i. Bitumen: The total amount of bitumen deposit in Nigeria is about 45 billion tones. The figure doubles the total existing crude oil reserve in the country.

- ii. Coal: There are about 2.8 billion tones in identified 17 coal field and over 700 million tons of proven reserves.
- iii. Rock salt: The demand for the table salt, chlorine sodium bicarbonate, hydrogen etc exceeds one million tons. There are salt springs at Awe (Plateau state), Abakiliki and Uburu (Ebonyi state). Also rock salt is also available in Benue state.
- iv. Iron ore: There are over 2.5 billion of iron ore deposits found in Kogi, Enugu, Niger, Zamfara and Kaduna states. At present iron ore is being mined at Itakpe (Kogi state).
- v. Talc: An estimated reserve of over 100 million tons of talc has been discovered in Niger, Kogi, Kwara, Ogun, Taraba and Kaduna states. There are only two medium size talc processing plants currently operating in Nigeria.
- vi. Gold: There are proven reserve of both alluvial and primary gold in the southern part of Nigeria, located in the south western part of the country. The deposits are mainly alluvial and currently being exploited on a small scale.
- vii. Gemstones: Gemstone mining are booming in various part of Plateau ,Kaduna and Bauchi states for years, some of these gemstone include sapphire, ruby, aquamarines emerald, tourmaline, topaz, garnet etc. good prospects exist in this area for variable investment
- viii. Kaolin: An estimated reserve of 3 billion tons of good Kaolinitic clay has been indetified in many localities in Nigeria.

Foreign Direct Investment and Solid Minerals Industry in Nigeria

Since 1990, the Nigerian governments have taken measures necessary to woo foreign investors into the country in order to augment domestic resources to finance planed growth. The measures include the repeal of laws that are inimical to foreign investment, promulgation of investment laws, various over sea trips for image laundry by presidents. Foreign direct investment has been described as investment made so as to acquire a lasting management interest (for instance, 10% of voting stocks) and at least 10% of equity shares in an enterprise operating in another country other than that of investors“ country (Mwillima, 2003; World Bank, 2007). The amount of foreign direct investment inflow into Nigeria according to Ayadi (2002) has reached US\$ 2.23billion in 2003 and it rose to US\$ 5.3 billion in 2004 (9.13% increase) the figure rose again to US\$9.92 billion (87% increase) in 2005. The figure however declined slightly to US\$ 9.44 billion in 2006.

Ricardo, Hwang and Rodrick (2005) argued that Foreign Direct Investment (FDI) provide a path for emerging nations to export the products developed economies usually sell, in effect increasing their export sophistication. Many developing countries pursue FDI as a tool for export promotion, rather than production for the domestic economy. Typically foreign investors build plants in nations where they can produce goods for export at lower costs. There have been some studies on investment and growth in Nigeria with varying results and submissions. For example, Odozi (1995) reports on the factors affecting Foreign Direct Investment(FDI) flow into Nigeria in both the pre and post structural adjustment programme (SAP) eras and found that the macro policies in place before the SAP were discouraging foreign investors. This policy environment led to the proliferation and growth of parallel markets and sustained capital flight. (FDI) is pro-consumption and pro-import and negatively related to gross domestic investment. Akinlo (2004) found that foreign capital has a small and not statistically significant effect on economic growth in Nigeria. However, these studies did not control for the fact that most of the Foreign Direct Investment (FDI) was concentrated in the extractive industry. In other words, it could be put that these works assessed the impact of investment in extractive industry (oil and natural resources on Nigeria's economic growth). On firm level productivity spill over, Ayanwale and Bamire (2001) assess the influence of Foreign Direct Investment (FDI) and firm level productivity in Nigeria and report a positive spill over of foreign firms on domestic firm's productivity.

According to Onwuemenyi (2011) many stakeholders in the nation's mining and minerals sector have expressed concern that Nigeria has not been able to take advantage of its vast mineral resources, showing a clear unpreparedness to stake its claim in the rush by international investors for the natural wealth of countries, especially as witnessed in neighbouring African countries. Like Nigeria, neighbouring countries in West Africa including Ghana, Sierra Leone, Mali, Guinea and Liberia, have a rich history of mining which has endured for several years. However, unlike Nigeria, most of these countries did not discover crude oil in commercial quantities early, a fact that has been blamed for the downward slide of mining and minerals exploration in Nigeria. In fact, many experts believe that with the discovery of petroleum began the decline in other productive aspects of the economy including mining and agriculture. To this extent, the country is seen to have relegated the mining and minerals sector in pursuit of petro-dollars, and as a result lost its competitive edge in the sector. Thus, while Ghana prospered from its exploration of gold and Sierra Leone got relatively wealthy from mining diamond, the same cannot be said about Nigeria in these sectors. This phenomenon, therefore, greatly impeded the country's potential in

mining while leaving it bereft of investors who deem the country unserious about developing its solid minerals sector. Even as Nigeria quickly lost the exploration dollars to its smaller neighbours – some of them with even far less mineral resources compared to Nigeria – it, over the years, also lost its competitive advantage in metals development to more serious economies. According to the Managing Director of Fugro Geophysical Services Ltd, a leading service provider for the collection and interpretation of data relating to mining and minerals research, Dr. Godwin Ofune, the once dominance Nigeria enjoyed prior to the discovery of oil “faded away because the people in authority did not consider the potential in the mining industry to bring about development and economic empowerment. The leaders then were all of a sudden enamoured by the idea of cheap and easy money coming from the exploration of crude, and abandoned the solid minerals sector.

Theoretical Review

The Market Imperfections Theory

The market imperfections theory as developed by Hymer, (1970) stated that firms constantly seek market opportunities and their decision to invest overseas is explained as a strategy to capitalize on certain capabilities not shared by competitors in foreign countries. The capabilities or advantages of firms are explained by market imperfections for products and factors of production. That is, the theory of perfect competition dictates that firms produce homogeneous products and enjoy the same level of access to factors of production. However, the reality of imperfect competition, which is reflected in industrial organization theory (Porter, 1985), determines that firms gain different types of competitive advantages and each to varying degrees. Nonetheless, market imperfections theory does not explain why foreign production is considered the most desirable means of harnessing the firm’s advantage.

International Production Theory

International production theory was propounded by Dunning (1980) and Fayerweather (1982). The theory suggests that the propensity of a firm to initiate foreign production will depend on the specific attractions of its home country compared with resource implications and advantages of locating in another country. This theory makes it explicit that not only do resource differentials and the advantages of the firm play a part in determining overseas investment activities, but foreign government actions may significantly influence the piecemeal attractiveness and entry conditions for firms. A related aspect of this foreign investment theory is the concept of

internalization which has been extensively investigated by Buckley (1982, 1988) and Buckley and Casson (1976, 1985).

Brief Empirical Review

It should be noted that there are very few studies that have been conducted on the topic of foreign direct investment and solid mineral industry in Nigeria. Therefore, in this part, the researcher reviewed some works relating to FDI and economic growth and some theoretical papers on solid mineral industry in Nigeria. Amongst these review is that of Iya and Aminu (2015), in their paper which investigated the impact of both foreign direct investment and domestic investment on economic growth in Nigeria. The time series data were derived from various secondary sources such as: the Central bank of Nigeria statistical bulletins, Economic and Financial Review and Annual reports and statement of accounts and Federal Office of Statistics (FOS). The macroeconomic data cover real gross domestic product (RGDP), foreign direct investment (FDI) domestic investment, total foreign exchange rates, and trade liberalization from 1992-2013. The estimated techniques include the Ordinary Least Square (OLS) method, Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) unit root test, Error Correction Method (ECM), Breusch-Godfrey serial correlation test, after which Breusch-Pagan-Godfrey test of heteroskedasticity, was used. The results of the OLS revealed that foreign direct investment (FDI), domestic investment (DIN), total foreign exchange rate (TEX) and trade liberalization (TP) impacted positively on economic growth (RGDP) in the Nigeria. Unit root results suggest that all the variables in the model are stationary at first difference $d(1)$. The ECM result revealed the existence of long run relationship between the variables. The paper found a positive and significant relationship between economic growth, domestic investment and total foreign exchange rates in Nigeria, but found positive and insignificant relationship between foreign direct investment and trade liberalization. The paper recommended that concerted effort be made by government and relevant authorities to formulate policies aim at creating a conducive investment environment so that Nigerians and non-Nigerian investors alike will be encourage to increase their propensity to invest in the country.

Ammassoma and Ogbuaga (2014) in their work sought to verify the interactions and transmission mechanism between FDI, private direct investment and public direct investment in Nigeria with time series data ranging from 1970-2012. The co integration result indicates that there is no long

run relationship between these variables. In addition, the variance decomposition result shows that 46 percent of innovations in FDI were explained by its own past values, while 21 percent of the innovations were due to shocks, to private domestic investment with 31 percent due to public investment. The response of public and private investment to shocks in FDI is positive and significant in the short run and so is consistent with the findings of Jansen (1995), Misun and Tomsik (2002). The study recommend that efficient infrastructure in terms of public investment in basic infrastructure cannot be overemphasized amongst others.

Danmola and Abba (2013) researched on the mining of solid minerals resources in Nigeria The study found out those solid minerals accounts for only 3% of its GDP, due to the influence of its vast oil resources. The domestic mining industry is grossly underdeveloped and that necessitate the need to import mineral resources that could be produced at home such as bitumen, iron ore, salt etc. The Nigeria government presently controls the sector but given rights to corporate organizations to mine and sell mineral resources. The paper also expose the potentiality in solid mineral resources as viable alternative to the petroleum sector, which production in Nigeria is unpredictable and the crisis in the region that produce the oil make unreliable as source earning for the country. The paper further showed areas where full private ownership or in partnership with federal, state or local communities can be encouraged, so as to fully developed the sector and generate a reasonable foreign exchange for the government and serve as an input to other sectors of the Nigerian economy.

Iduh (2011) in his paper titled foreign direct investment:challenges and prospects in solid minerals development in Nigeria. The paper explained that mineral development in Nigeria has been highly focused on the oil industry. Nigeria is the largest oil producer in Africa and contributes three percent of global oil production. As a result, the mining industry has been highly neglected, leading to a current contribution of less than one percent to Nigeria's GDP. The Nigerian federal government decided to enhance the role of this sector in the Nigerian economy by using foreign direct investment (FDI). However, taking into account the enormous solid minerals resources yet to be fully untapped, this sector's performance to date is abysmal. In the light of the above, this paper examines challenges and prospects facing the solid mineral development in Nigeria. The findings show that if there is a conducive socio-economic environment- good policy, high incentives, infrastructure, and political stability- FDI is

associated with growth of capital, creation of wealth and increase in foreign exchange for Nigeria's economy.

Methodology

The main purpose of methodology is to present and explain the nature of, and procedure adopted in collecting data required for this project work, and how the data gathered will be analyzed to provide answers to the research questions earlier proposed in the first part of this study.

Collected data on this topic covers a period of 25 years starting from the year 1992 to 2016. This data were sourced on relevant dependent and independent variables. The dependent variable is solid minerals contribution to GDP while the independent variable is foreign direct investment, exchange rate and inflation rate. Source of data is Central Bank of Nigeria Statistical Bulletin of 2016.

The model specification for the research is given below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots \beta_n X_n + \mu \dots \dots \dots (1)$$

Applying the above multiple linear regression equation to the study, we will first have a functional relationship as follows:

$$GDPS = f(\text{FDI}, \text{EXR}, \text{IFR}) \dots \dots \dots (2)$$

The econometric model is then given as:

$$GDPS = \beta_0 + \beta_1 \text{FDI}_1 + \beta_2 \text{EXR}_2 + \beta_3 \text{IFR}_3 + \mu \dots \dots \dots (3)$$

Where,

GDPS = Solid Mineral Industry Contribution to Gross Domestic Product

FDI = Foreign Direct Investment

EXR = Exchange Rate

IFR = Inflation Rate

β_0 = Constant Term

$\beta_1 - \beta_3$ = coefficient of independent variables

μ = Error term

Data Analysis and Interpretation of Results

Table 1

Correlations

		GDPS	FDI	EXR	IFR
Pearson Correlation	GDPS	1.000	-.185	.800	-.401
	FDI	-.185	1.000	-.347	.498
	EXR	.800	-.347	1.000	-.608
	IFR	-.401	.498	-.608	1.000
Sig. (1-tailed)	GDPS	.	.189	.000	.023
	FDI	.189	.	.045	.006
	EXR	.000	.045	.	.001
	IFR	.023	.006	.001	.
N	GDPS	25	25	25	25
	FDI	25	25	25	25
	EXR	25	25	25	25
	IFR	25	25	25	25

SPSS 20

Table 2

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.809 ^a	.655	.606	21.96477	.655	13.283	3

SPSS 20

Table 3

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-23.720	14.802		-1.602	.124
	FDI	.000	.001	.072	.485	.633
	EXR	.488	.089	.887	5.481	.000
	IFR	.196	.335	.102	.585	.565

SPSS 20

Table 4

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19224.705	3	6408.235	13.283	.000 ^b
	Residual	10131.475	21	482.451		
	Total	29356.180	24			

SPSS 20

From Table 1, correlation between GDPS and FDI is at -0.185 which shows a low negative relationship between the two variables. Also, correlation between GDPS and EXR is at 0.800 which indicate that both variables have a strong relationship with one another. Correlation between GDPS and IFR is also at a negative percentage of -40.1% which shows that the relationship existing between the variables is very low.

Table 2 shows that model validity with R-value of 0.809 i.e. 80.9%. This shows that there is a fairly high positive relationship between the dependent variable and the joint effects of the three independent variables. The R^2 is 0.655 which indicates that 65.5% change in SGDP is caused or can be attributed to the joint effect of FDI, EXR, and IFR. Also, adjusted R-square is 60.6%, which is an indication that if any of the variables is removed or added, the effect of the independent variable will still account for 60.6% variation in the contribution of solid minerals to gross domestic product in Nigeria.

From Table 3, the model can be re-written as:

$$-23.720 + 0.000\text{FDI} + 0.488\text{EXR} + 0.196\text{IFR} + \mu$$

The model above indicates that if all the independent variables remain constant, then, solid mineral will not contribute to the growth of Nigerian economy (where GDP is proxy for the economy) because the figure is in negative. Furthermore, the recalled model shows that a unit increase in foreign direct investment will neither increase nor decrease solid mineral contribution to GDP. Also, if the second independent variable (exchange rate) experiences any unit increase, then SGDP will also increase with 0.488units. Conclusively, the coefficient of inflation rate is 0.1961. This means that, leaving other variables constant, a unit increase in INF will trigger a positive unit increase of 0.196 of solid mineral contribution to GDP.

Also, from the Coefficients table, the model shows that two of the predictor/independent variables (FDI and IFR) are statistically insignificant because their P-values (0.633 and 0.565 respectively) are greater than 0.05 critical values.

Conclusively, table 4 confirms the validity of the derived model where the researcher obtains the ANOVA table with P-value 0.000 which is less than 0.05. This indicates the model is adequate in relating the dependent and independent variables together and that the researcher agrees with the alternative hypothesis of the study which says that foreign direct investment has a significant impact on solid minerals industry in Nigeria.

Findings and Conclusion

Nigeria has made bold steps towards the implementation of market-oriented reforms to attract FDI into the solid minerals sector; however, Nigeria has a long way to go. Despite Nigeria's free-market reforms and attractive incentives, not many investors have invested in the solid minerals sector. However, the findings of this study reveals that the predictors of solid minerals industry in Nigeria as employed in this study showed that foreign direct investment and inflation rate has no impact on solid minerals in Nigeria, while only exchange rate had a significant impact on solid minerals industry in Nigeria. The study however concluded with the analysis of variance result which clearly showed that FDI is responsible for the growth of the solid minerals industry in Nigeria. This shows that there is rising momentum, impetus, fresh dynamism and imperative for sustainable investment through FDI. Within this context of attracting investment in the solid mineral sector, Nigeria is offering good incentives to encourage investment. However, they have not succeeded in reforming the sector. The reasons are because development in Nigeria is tied to many national issues. Nigeria is facing daunting challenges which could negatively affect FDI in the solid minerals sector.

Recommendations

The study recommended the following major points:

Firstly, Nigerian government should ensure to initiate programs that which ensure investment assurance and incentives in the solid mineral sector because investors are likely to be attracted to an economy that is open and receptive to trade.

Secondly, in order to attract FDI, government must review policies that have a bearing on trade and other financial transactions like customs and banking regulations. This will engender investor confidence and encourage inflow of FDI.

Thirdly, government should pursue reforms to address issues in general administrative, fiscal and monetary policies. Issues like procedures for registration, approvals, licensing of businesses, land and tax administration, dispute resolution

Additionally, Federal government should consider making a legislative amendment for joint ownership of minerals resources and land between the federal and state governments in which the

latter will have some measures of ownership and control of solid minerals resources in their lands.

Finally, since it is the function of the federal government to provide geological surveys on Nigeria's minerals resources, the government should strengthen the Nigeria Geological Survey Agency (NGSA) by positioning it to meet the challenges of 21st century geoscientific research and advanced knowledge and information sharing on mineral deposits.

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Appendix

Data Presentation: Data on Solid Minerals GDP, Exchange rate, Foreign Direct Investment, and Inflation Rate (1992-2016)

Year	Solid Minerals GDP	Foreign Direct Investment	Exchange Rate	Inflation Rate
1992	6.83	14463.10	17.30	44.6
1993	4.45	29660.30	22.05	57.2
1994	5.98	22.20	21.89	57
1995	4.10	75.90	21.89	72.8
1996	4.85	111.30	21.89	29.3
1997	5.41	110.50	21.89	8.5
1998	6.41	80.70	21.89	10
1999	7.03	92.80	92.69	6.6
2000	7.81	116.00	102.11	6.9
2001	8.98	132.40	111.94	18.9
2002	9.29	225.20	120.97	12.9
2003	10.65	258.40	129.36	14
2004	15.68	248.20	133.50	15
2005	19.97	654.20	132.15	17.9
2006	30.38	624.50	128.65	8.2
2007	35.33	759.40	125.83	5.4
2008	40.94	971.50	118.57	11.6
2009	45.99	1273.80	148.88	11.5
2010	51.88	905.70	150.30	13.7
2011	59.57	1360.30	153.86	10.8
2012	71.49	1113.50	157.50	12.2
2013	84.64	875.10	157.31	8.5
2014	100.27	738.20	158.55	8.1
2015	109.59	602.10	193.28	9.01
2016	102.22	1124.10	253.49	15.7

Source: Central Bank of Nigeria statistical bulletin of 2016.