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PORT HARCOURT, NIGERIA****Abstract**

Motivated by the need to uncover the specific influences of credits mobilized by various financial institutions in Nigeria on economic development in Nigeria, the study examined the influence of institutional finance on economic development in Nigeria over the period of 1992 to 2019. The study employed the misery index as a measure of development and considered domestic and foreign financing institutions. Secondary data was employed and culled from the annual report and repository of the Central Bank of Nigeria, the World Bank, the African Development Bank, the Bank of Agriculture, and the Bank of Industry. The employed data analysis techniques in the study are the Stationarity, Autoregressive Distributive Lag, the stepwise ARDL, and the Granger Causality tests. The study observed mixed stationarity at level and first difference. In the long run, it was observed that only the immediate past value of deposit money bank credits, Bank of agriculture credit, Bank of industry credit, and Microfinance bank credits had a valuable influence on the economic development. Only microfinance bank credit and African development bank credit are seen to aggravate the level of misery index in Nigeria, while the employed foreign institutions' credits show no valuable influence on the misery index. In light of these findings, the study recommended that the financial institutions should ensure consistency in the growth and mobilization of funds to avoid the "big push trap" as erratic mobilization of credit is counterproductive. Domestic and foreign financial institutions must review their financial services models and adapt them to those of the informal sector to ensure that they capture significantly the peculiar and workable models which encompass flexibility and loose access to financial services, which would improve the level of financial inclusion in the economy.

Keywords: Institutional credits, finance, economic development, Autoregressive distributive lag.

Introduction

Economic development represents a process of targeted activities and policies that works to improve the economic wellbeing and quality of life of a community by building local wealth, diversifying the economy, creating and retaining jobs, and building the local tax base (Ivaldi, Bonatti, &

Soliani, 2016). The measurement of economic development has grown in recent years based on increasing understanding of the key role of various economic indicators which should be considered to ensure a rounded perception of an economy. A key and encompassing measure of economic development is the misery index (sometimes

referred to as the Economic Discomfort Index-EDI). This measure was introduced by Arthur Okun (1963, 1983) and subsequently developed by Rober Barro (1999) and Henderson (2011). Although, this measure was popularised in a Wall Street Journal Article in 1971 – during a period of rising inflation and unemployment – after the long period of post-war economic stability. Typically, this index encompasses the addition of the unemployment rate, inflation rate, while adjusting the annual per capita gross domestic product growth rate (Cohen, Ferretti, & McIntosh, 2014). It is used to measure economic well-being and shows the condition of a country. An increasing index indicates declining economic wealth, which has an adverse impact on the living standard of the populace as explained by Wang, Shah, Ali, Abbas, and Ullah (2019). Going by the aforementioned, it can be said that the ability to predict the development of an economy is an added advantage in terms of controlling and manipulating it to the desired path and trajectory (Goodwin, 1984; Nain, Ahmad, & Kamaiah, 2017). Over time, it has been observed that a country's political, legal, economic, and social institutions will affect its development. However, it is much more difficult to identify exactly which institutions matter and exactly how they matter (Brunt, 2007). This is an issue of some practical importance. In the financial sphere, financial intermediaries (organized and unorganized) perform an important function in the development process, particularly through their role in allocating resources to the most productive uses.

Past studies have evaluated how institutional finance through bank credit has impacted economic development in various countries. But it can be observed that a bulk of these studies have lumped various

institutional disbursed credits into a unified credit (Hacievliyagil & Eksi, 2019; Akujuobi & Nwezeaku, 2015). Some researchers concentrated on selected institutions like the deposit money banks i.e. commercial and merchant banks (Aribaba, Ahmodu, Oladele, Yusuff, & Olaleye, 2019; Johnny & Ayawei, 2018; Otonye, 2017). While others concentrated solely on the microfinance institutions (Khalaf & Saqfalhait, 2019; Nnamdi & Eniekezimene, 2018; Onwubu & Okorie, 2018). The few researchers that disaggregated the various institutional credits (Radzeviča, Bulderberga, & Krasnopjorovs, 2018; Nnamdi & Torbira, 2016) failed to evaluate other domestic and foreign development banking institutions. A major element missing in the various studies is the fact that all financial institutions' operations via credit mobilization are either lumped together or the studies are skewed to the operation of one of many types of financial institutions, while copiously excluding the others in an economy. Very few studies evaluated financial institutions on a disaggregated basis. Similarly, the use of a more inclusive measure of economic development such as the misery index is scarce in the reviewed literature.

Despite the fact that the literature review presented above underscores the importance of institutional reforms for developing economies like Nigeria, Verriest (2009) points out that changes in the institutional environment are even more sensitive to weak institutional settings such as in African countries. Others (Demetriades, Panicos, & Fielding, 2009) argue that financial depth (credit to private sector/GDP) is shallow in African countries like Nigeria not because of the lack in the creditworthiness of the borrowers, but because of the lack of developed infrastructure that would enable financial

institutions to screen and monitor borrowers. Another consideration in Africa is the heavy dependence on foreign aid, both financial and technical assistance, from various international and/or foreign organizations/donors. Demetriades and Fielding (2009) address the lack of information on borrowers, corruption, and political instability as main challenges for economic development in eight countries of West Africa.

This study corrects the anomalies of the aforementioned studies by cumulating and prioritizing various institutional finance avenues within an economy and observing their influence on a more encompassing measure of economic performance i.e. misery index. This can be seen from the angle of domestic formal institutions, domestic informal institutions, and foreign institutions. The study similarly seeks to employ the Autoregressive Stepwise estimation using updated data. Based on the aforementioned, this study, therefore, intends to fill this gap by employing various institutions cutting across the deposit money banks, microfinance banks, and domestic and foreign development banking institutions in Nigeria. The study will also prioritize their specific influence on economic development in the nation. Given this insight, the study seeks to evaluate the influence of institutional funding on economic development in Nigeria. This study therefore not only seeks to evaluate their implication on economic development but also prioritize the specific influence of this institution's finance on economic development measures such as the misery index.

While an overview has been provided above, the rest of this study is rendered in four parts. Section 2 offers the theoretical framework and literature review while

section 3 deals with the materials and methods. Section 4 addresses the presentation of the results, while section 5 concludes the study with discussions, conclusions, and recommendations.

Literature Review

The study presents the theoretical and empirical framework of the study as follows;

Theoretical Framework

Balanced Growth Theory

The balanced growth theory is an economic theory pioneered by the economist Ragnar Nurkse (1907–1963). The theory hypothesizes that economic institutions, players, and the government of any underdeveloped country need to make large investments in a number of industries simultaneously. Kindleberger (1967) rightly observed that balanced growth refers to a specific type of economic growth that is sustainable in the long term (Trew, 2014). It is sustainable in terms of low inflation, the environment, and balance between different sectors of the economy such as exports and retail spending which can be achieved through proper operations of various financial institutions. A balance between different sectors through various financial institutions. The theory emphasizes the balance of three facets. i) Supply Side: i.e. supply of financial resources must be mobilized in large quantum across various financial institutions to various sectors. ii) Demand Side: The concept of balanced growth from the demand side is that several industries should be developed simultaneously so that all can be the customers mutually and the products of all can be sold. iii) Sectoral Balance: Sectoral balance means economic development of all the sectors and indicators in an economy.

Financial intermediation Theory

The finance theory is on the premise that financial institutions via their intermediation activities of mobilizing resources from the surplus to the deficit region of an economy are a major stimulus for economic growth and development. The development of the financial sector will enable citizens and government to mobilize the needed fund necessary to achieve growth and development. Mohd-Nor (2015) acknowledged the importance of well-functioning financial institutions in economic development has been extensively discussed in the literature more than decades ago since earlier works by Bagehot (1873), Schumpeter (1911), Goldsmith (1969), McKinnon (1973), and Shaw (1973) despite contradictory contention from Robinson (1952) and Stern (1989) among others that financial sector development is not a determinant of economic development. Economists opposed to this theory believed that economic development influences the financial sector, that is, the rate of economic development determines the level of development that would be achieved in the financial system. However, the bulk of empirical works on finance-growth nexus have upheld the significant impact of financial sector development on growth and development of the economy (McKinnon 1973; Shaw 1973; Greenwood & Jovanovic, 1990; Bencivenga & Smith, 1993; and Levine 1997).

Empirical Review

Wang, Haroon, Ali, and Ullah (2019) empirically analyzed the relationship between financial institutions, structure, misery index, and economic growth in Pakistan. The study adopted Autoregressive-Distributed Lag (ARDL) for a co-integration approach to the data analysis

and used time-series data from 1989 to 2017. The study used GDP as the dependent variable; the Financial Development index (FDI) and misery index as the explanatory variables; and remittances, real interest, and trade openness as the control variables. The empirical results indicate the existence of a long-term relationship among the included variables in the model and the FD index, misery index, interest rate, trade openness, and remittances as the main affecting variables of GDP in the long run. The government needs appropriate reform in the financial sector and external sector to achieve a desirable level of economic growth in Pakistan. The misery index is constructed based on unemployment and inflation, which has a negative implication on economic growth and the government needs policies to reduce unemployment and inflation.

Odufuye (2017) investigated the implication of bank credit on Nigerian economic growth for the period of 24 years (i.e. 1992-2015). A secondary source of data was used and gathered from journals, textbooks, and the Central Bank of Nigeria (CBN) statistical bulletin. The variables employed are gross domestic product as a proxy for economic growth, commercial bank credits to small and medium scale enterprises, credits to the private sector, money supply, and interest rate. To avoid spurious results, the Ordinary Least Square (OLS) estimation technique with the aid of Statistical Package for Social Science (SPSS) was used as a statistical tool. The findings revealed that each of the explanatory variables has an insignificant impact on gross domestic product. Based on the f-statistic result, it was also discovered that the joint variables of bank credit have a significant impact on the gross domestic product for the period under review. The study

concluded that bank credit if properly channeled is a catalyst for Nigerian economic growth. The paper, therefore, recommended that the monetary authority should adopt direct credit control measures, where preferred sectors such as Small and Medium Scale Enterprises (SMEs), agriculture, manufacturing, and services sectors should be favored when granting credits.

Deposit Money Bank Credit

Belinga, Zhou, Doumbe-Doumbe, Gahe, and Koffi (2016) examined the causal relationship between institutional credit and economic growth in Cameroon by considering the domestic credit to the private sector by banks (DCPSB) and bank deposit (BD) as proxies for bank credit development and gross domestic product per capita (GDPPC) for economic growth. Time series data from 1969-2013 were fitted into the regression equation using various econometric techniques such as stationarity test Augmented Dickey-Fuller (ADF) and Johansen Multivariate Co-Integration Test. Vector Error Correction Model (VECM) was used to analyze the relationship between bank credit and economic growth. VECM outcomes showed that there is a unidirectional causal relationship flowing from DCPSB and BD to GDPPC. This result is consistent with several earlier studies reviewed in the literature that finds causality running from bank credit to gross domestic product, implying that monetary policies in favor of banking credit will boost the economic development of Cameroon.

Makinde (2016) explored the implications of commercial financial institutions' loans on economic growth in Nigeria between 1986 and 2014. Using the Ordinary Least Square (OLS) multiple regression techniques; the study revealed that only the agricultural sector has been

enjoying much of Bank credit and it has been making a positive impact on the Gross Domestic products (GDP) while others like Mining and Quarrying, Manufacturing and the Building and Constructions sectors have not been getting much attention in terms of bank credit to spur development in that sector.

Olowofeso, Adeleke, and Udoji (2015) examined the impacts of institutional credits on economic growth in Nigeria using the Gregory and Hansen (1996) cointegration test that accounted for structural breaks and endogeneity problems. The method was applied to quarterly data spanning 2000:Q1 to 2014:Q4, while the fully modified ordinary least squares procedure was employed to estimate the model coefficients. The study found a cointegrating relationship between output and its selected determinants, albeit, with a structural break in 2012Q1. Amongst others, findings from the error correction model confirmed a positive and statistically significant effect of private sector credit on output, while the increased prime lending rate was inhibiting growth. Given the financial intermediation roles of deposit money banks, the paper supports the ongoing efforts of the Central Bank of Nigeria (CBN) in promoting a sound and real sector-friendly financial system. Also, the commitment of the CBN to the gradual reduction in interest rates is meaningful for the country's growth objectives.

Microfinance Banks

Khalaf and Saqfalhait (2019) examined the impact of Micro-Finance Institutions (MFIs) on economic growth in Arab countries. To test the effect of MFIs on economic growth in Arab countries, the paper utilizes a panel data model for six Arab countries over the period 1999- 2016, the

choice of the sample is based on data availability. Using the Stationarity, correlations, and Hausman Specification test, the results revealed that MFIs do not affect improving economic growth in Arab countries. The study findings can be of special importance for policymakers and stakeholders who may benefit from these results in improving regulations and strategies to strengthen the microfinance sector as the main player in the financial system in Arab countries.

Onwubu and Okorie (2018) evaluated the influence of microfinance bank loans and advances on industrial output in Nigeria over the period of 2008 to 2014. The study employed secondary data gotten from the statistical bulletin of the central bank of Nigeria. The multiple regression model evaluated with the ordinary least square method is employed as ran via STATA 11 econometric software. The study uncovers that microfinance bank loans and advances show a significant impact on industrial output in Nigeria over the study period. The study recommended that the Nigerian government should enforce policies to reduce borrowing costs.

Nnamdi and Nwiyordee (2014) examined the nature and direction of causal relationships that prevail between classified sectoral microcredit allocations and sectorally classified entrepreneurship contributions to Nigeria's economic growth. Secondary data were sourced from the Central Bank of Nigeria covering the period 1992 to 2011. Augmented Dickey-Fuller and Unit Root and the Standard Granger Causality techniques were employed in processing the data. The results of the study showed that the time series variables are stationary. Out of the five classified sectors of economic activity – agriculture/forestry, other mining/quarrying, manufacturing/food

processing, real estate/construction, and transport/commerce, significant unidirectional causality only prevails in the other mining/quarrying sector with causality running from contributions of other mining/quarrying in Nigeria's GDP to microcredit allocations to that sector. The rest other sectors failed the causality test at 0.05 level, although the transport/commerce sector records a near significance level of 0.055. The study recommended diversified product development and intensified marketing of microfinance service products on the part of the participating institutions.

Development Bank Credit

Akinyede (2016) examined the operations of the mortgage institutions on housing development in semi-urban areas in Nigeria. The study is necessitated by the need to find a solution to the lingering problem of housing development in Ado/Ota local government and Obafemi-Owode local government Ogun State. The operation of the mortgage institution in Nigeria as revealed by respondents through the study questionnaires is characterized by inadequate funding for effective implementation of housing programs. In this regard, concrete identification of the various problems facing the housing sector in the semi-urban areas of Nigeria. It is therefore important that the private housing institution should be encouraged to provide funds for housing development and the government should emphasize creating and enabling environment to stimulate private sector participation in long-term housing financing and is need to enhance the accessibility of mortgage funds by prospective individuals and encourage them to mobilize resources to meet varying housing demand.

Shafiwu, Salakpi, and Bonye, F. (2013) evaluated the role of the Agricultural Development Bank (ADB) in assisting rural women in agriculture, a case study of the Wa-West District notably Ponyentanga, Gaa, and Nyoli. The study looks at the way rural women in Agricultural are equipped with ADB loans to improve upon their farming practices. The study critically examined the loan size, mode of payment, and interest rates aiming at evaluating its efficacy towards improving farming methods. The values and ideas of these women farmers were examined to find out whether there have been changes in their methods of farming and improve living conditions as a result of loans rendered by ADB, Wa Branch to them. The questionnaire was used to find out the extent to which ADB operates in those areas. In all, one hundred (100) questionnaires were administered to one hundred respondents. Analysis of responses to questionnaires clearly shows that services render by ADB in these areas were ineffective. They further showed that loan size, interest rate, and mode of payment used by the bank are inappropriate. As a consequence, there is no much improvement in their way of life and farming practices. It was recommended that the mode of payment be extended, interest rate reduced, loan size increased and method of payment be determined by farmers. It is also recommended that training programmers' should always be organized alongside the execution of loans to improve the performance of women beneficiaries.

International/foreign credit

Festus and Saibu (2019) evaluated the effect of external credit on economic growth in Nigeria. Time series data on external credit stock, real gross domestic product, trade openness, and gross fixed

capital formation as a percentage of GDP as well as data on inflation and exchange rates were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin and World Bank indicators. The study set out to test for both the long-run and short-run relationship as well as presenting further evidence on the relationship between external credit and economic growth. The Autoregressive Distributed Lag (ARDL) Model was employed as a technique of estimation in the study and the results led to a finding that the external credit contributes negatively to growth in Nigeria based on data from 1981 through 2016 which was in line with Ayadi and Ayadi (2008). The study recommended amongst others, the need for accountability in governance, a good macroeconomic policy environment, proper acquisition and use of loan solely for productive reasons, and the enhanced exportation of domestic products.

Olasode and Babatunde (2016) sought to explain the causal relationship between accumulated funds/loans from external sources and economic growth focusing on the Nigerian economy. The Autoregressive Distributed Lag (ARDL) model was employed to capture the effect of external credits and growth in Nigerian from 1984-2012. The result from the ordinary least squares method employed in the research confirms the presence of a dual behavior as the lag one of external credits is positive while external credits of the current year hurt the performance of the economy.

Ngugi (2016) examined the effect of public loans on economic growth in Kenya for the years between 1980 and 2013. The study employed the Loan overhang hypothesis, Endogenous growth theory, the Crowding out effect, and the neo-classicalists theory for the study objectives. The causal research design was applied and annual financial data was collected from Kenya

National Bureau of Statistics and Central Bank, while economic data was collected from World Bank for the period 1980-2013. They found that Public loan servicing; domestic loan affected the growth of the GDP negatively while the external credit component affected the growth of the GDP positively.

Methodology

For clarity, this part is discussed under the following sub-headings:

Data and Employed Variables Description:

Table 1: Misery Index (MXI), Deposit Money Bank Credit Growth Rate (DMC), Bank of Agriculture credit Growth Rate (BAC), Bank of Industry credit Growth Rate (BIC), Primary mortgage institution credit Growth Rate (PMC), Microfinance Bank credit Growth Rate (MFC), African Development Bank credit Growth Rate (ADC), and World Bank credit Growth Rate (WBC) in Nigeria over the period of 1992 to 2019.

Year	MXI %	DMC %	BAC %	BIC %	MFC %	PMC %	ADC %	WBC %
1992	3.36	40.55	1.00	1.00	1.00	1.00	50.94	69.25
1993	28.99	118.70	-12.98	1.90	381.96	60.22	-95.25	29.46
1994	42.20	12.83	31.53	1.87	86.49	67.40	-7.49	4.13
1995	-6.81	25.51	55.89	1.83	-7.44	-29.52	-54.16	0.62
1996	-9.81	32.55	36.62	1.80	23.93	91.14	-39.33	-10.87
1997	7.29	32.53	6.31	1.77	15.61	-2.23	5,753.94	-10.50
1998	6.25	11.31	-8.98	1.74	56.09	6.49	-16.19	2.09
1999	-9.58	22.51	9.78	1.71	17.08	17.60	-20.19	289.50
2000	0.88	23.01	49.46	1.68	23.94	-7.48	-40.20	-4.37
2001	15.09	44.23	101.56	1.65	-64.16	19.83	-56.73	-5.36
2002	-11.08	21.64	44.26	1.62	228.08	544.18	609.61	7.66
2003	24.17	17.84	9.52	1.60	130.92	95.37	-61.49	8.95
2004	-3.52	29.65	81.04	1.57	14.05	-53.47	-94.59	3.52
2005	-1.82	29.31	355.62	1.55	151.06	-65.00	6,283.63	-7.73
2006	-4.54	24.60	-55.10	1.52	-42.29	260.00	2.37	8.65
2007	7.14	60.16	3.82	1.50	38.91	439.15	-12.28	8.89
2008	14.38	88.64	46.83	1.48	87.10	166.27	-62.80	0.15
2009	23.50	31.52	28.17	1.46	36.17	9.26	777.93	45.91
2010	6.83	11.59	-5.86	1.44	-9.19	12.05	-79.34	31.13
2011	14.00	4.95	27.92	1.42	-3.67	-7.57	86.96	16.27
2012	11.72	37.42	-6.95	-4.06	77.55	-1.55	-12.44	14.00
2013	9.22	7.53	-30.37	5.85	4.02	9.42	361.11	12.50
2014	7.52	8.76	28.17	9.15	19.20	-53.19	107.24	10.35

The study employed annual/time series data which are expressed in Table 1 below to showcase the derived values of various employed composite variables that were presented in Appendix 1. These data were gotten from the various reports of employed institutions. These sources are; The Central Bank of Nigeria Statistical Bulletin, World Bank Report, African Development Bank Report, Bank of Industry Annual Report, Bank of Agriculture Annual Report.

2015	15.58	9.01	21.56	0.25	67.02	64.72	-99.93	31.33
2016	26.94	12.89	5.47	-5.09	4.78	0.88	254573	39.88
2017	23.70	4.79	5.19	1.53	-1.11	51.87	-98.99	43.76
2018	24.50	1.95	4.93	0.00	7.18	-0.20	2,345.56	8.24
2019	25.06	10.66	4.70	1.10	26.29	-14.83	74.27	-17.7

Source: Derived from Appendix I

The study population covers all financial institutions participating in the business of loan/credit mobilization but employed a purposive sampling which resulted in the selection of seven (7) institutions out of the accessible population. These institutional credits are; Deposit Money Bank credit, Bank of Agriculture credit, Bank of Industry credit, Primary mortgage institution credit, Microfinance Bank credit, African Development Bank credit, and World Bank credit. On the other hand (in light of the measure of economic development), economic development was captured using; misery index i.e. the addition of the unemployment rate, inflation rate, lending (interest) rates, while discounting the annual per capita gross domestic product growth rate. The sample period of study is 1992 to 2019 as a need to ensure all employed data are evenly represented in the model.

Model Specifications

Toeing the line of studies by Radzeviča, Bulderberga, & Krasnopjorovs (2018) and Commander and Nikoloski (2010), the study presents its models in the following classical linear regression form as;

$$MXI_t = f(DMC_t, BAC_t, BIC_t, PMC_t, MFC_t, ADC_t, WBC_t) \quad 1$$

Converting to econometric form by the introduction of the constant term (α_0, β_0) and error term (μ_t, ψ_t):

$$MXI_t = \alpha_0 + \alpha_1 DMC_t + \alpha_2 BAC_t + \alpha_3 BIC_t + \alpha_4 PMC_t + \alpha_5 MFC_t + \alpha_6 ADC_t + \alpha_7 WBC_t + \mu_t$$

2

Due to the nature of data and study period, the study employs the Auto Regressive Distributive Lag modelling as follows.

$$MXI_t = \alpha_0 + \alpha_1 DMC_t + \alpha_2 BAC_t + \alpha_3 BIC_t + \alpha_4 PMC_t + \alpha_5 MFC_t + \alpha_6 ADC_t + \alpha_7 WBC_t + \dots + \alpha_8 MXI_{t-x} + \alpha_9 DMC_{t-x} + \alpha_{10} BAC_{t-x} + \alpha_{11} BIC_{t-x} + \alpha_{12} PMC_{t-x} + \alpha_{13} MFC_{t-x} + \alpha_{14} ADC_{t-x} + \alpha_{15} WBC_{t-x} + \mu_t$$

3

Where:

MXI	=	Misery Index
DMC	=	Deposit Money Bank credit
BAC	=	Bank of Agriculture credit
BIC	=	Bank of Industry credit
PMC	=	Primary mortgage institution credit
MFC	=	Microfinance Bank credit
ADC	=	African Development Bank credit
WBC	=	World Bank credit
α_0	=	Constant variable/Intercept
$\alpha_1 - \alpha_7$	=	Slope/Coefficient
μ_t	=	Error Terms/Stochastic variables
t	=	time series
t-x	=	Allowable lag of variable

(Based on lag selection criteria)

Apriori Expectations:

Based on theories and empirical studies, the predictor variables are expected to display a negative relationship with the criterion variable- the misery index. This is as a result of the fact that an increase in the

misery index (MXI) shows the commonness of deteriorated economic and public well-being of a country. This is mathematically represented as follows.

$$\alpha_1 - \alpha_7 < 0$$

Specification of Analytical Tools and Tests

To understand the nature and type of relationship between employed variables, the study employs the stationarity, long run bound, and Stepwise Autoregression tests.

Stationarity (Unit Root) Test:

It is crucial to examine the stationarity qualities of time series data in order to avoid the problem of spurious estimations. In this sense, the Augmented Dick-Fuller (ADF) test is employed. For decision, the ADF statistics for the respective study variables should on absolute terms be more than the corresponding Mackinnon critical values at 1%, 5%, and 10% levels of significance for the null hypothesis of non-stationarity to be rejected. Failure to attain stationarity of the variables would provide for subsequent differencing for stationarity to be effected.

Assume that Y_t is random walk process, $Y_t = Y_{t-1} + p_t$, then the regression model becomes $Y_t = \rho Y_{t-1} + p_t$. Subtract Y_{t-1} from both sides of the equation,

$$Y_t - Y_{t-1} = \rho(Y_t - Y_{t-1}) + U_t$$

$$AY_t = (a-i)Y_{t-i} + U_t$$

$$AY_t = (a-i)Y_{t-i} + a2T + U_t$$

Where

$a-1 = \rho$, A is change in Y_t or first difference operator and t is the trend factor. u_t is a white noise residual.

$$AY_t = \rho Y_{t-1} + U_t$$

With a drift the study have;

$$AY_t = a_0 + \rho Y_{t-1} + U_t$$

In practice, the study test the hypothesis that $\rho=0$. If $\rho=0$, "a" in equation 4 will be equal to 1, meaning that the study

have a unit root. Therefore, the series under consideration is non-stationary. In the case where $\rho > 0$, that is, the time series is stationary with zero mean and in the case of equation 6, the series, Y_t is stationary around a deterministic trend. If $\rho > 1$, it means that the underlying variable will be explosive.

Lag Length Selection

Due to the fact that previous credits (especially in the long term) may be influencing current economic development indicators than current disbursements. This, therefore, necessitates the inclusion of lag length selection. Estimating the lag length of the autoregressive process for a time series is a crucial econometric exercise in most economic studies.

ARDL Bound's Co-integration Test's:

ARDL cointegration technique is preferable when dealing with variables that are integrated of different order, $I(0)$, $I(1)$ or a combination of both and, robust when there is a single long-run relationship between the underlying variables in a small sample size. The long-run relationship of the underlying variables is detected through the F-statistic (Wald test). In this approach, the long-run relationship of the series is said to be established when the F-statistic exceeds the critical value band. The major advantage of this approach lies in its identification of the cointegrating vectors where there are multiple cointegrating vectors.

Stepwise Autoregression Evaluation

This test will be utilized to determine the priority and order of importance each employed predictor variables (institutional finance) has on the criterion variable. It specifically selected the order of the autoregressive error model is stepwise autoregression.

ARDL Error Correction Estimations:

To determine the long-run relationship between employed variables, the study employs the ARDL Error Correction Model (ECM). This test integrates short-run adjustments with long-run equilibrium without losing long-run information.

Results and Discussions

Presentation of Stationarity Test Results:

The study seeks to determine the internal consistency of data around their respective mean by initiating a stationarity test. The study starts with the evaluating of employed variables stationarity at level as presented below in Table 2 below;

Table 2: Summary Compilation of Stationarity Test of Employed Variables at Level (0).

Variables	ADF t-stat	Test Critical Values			Prob	Unit Root	Comment
		1% Level	5% Level	10% Level			
MXI	-2.773034	-3.711457	-2.981038	-2.629906	0.0760	Present	Not Stationary at Level i.e. 0(0).
DMC	-3.920090	-3.699871	-2.976263	-2.627420	0.0059	Absent	Evidence of Stationarity at level
BAC	-5.043699	-3.699871	-2.976263	-2.627420	0.0004	Absent	Evidence of Stationarity at level
BIC	-5.555307	-3.752946	-2.998064	-2.638752	0.0002	Absent	Evidence of Stationarity at level
PMC	-3.927815	-3.699871	-2.976263	-2.627420	0.0058	Absent	Evidence of Stationarity at level
MFC	-5.398997	-3.699871	-2.976263	-2.627420	0.0001	Absent	Evidence of Stationarity at level
ADC	-5.226586	-3.699871	-2.976263	-2.627420	0.0002	Absent	Evidence of Stationarity at level
WBC	-5.380317	-3.699871	-2.976263	-2.627420	0.0002	Absent	Evidence of Stationarity at level

Where:

ADF - Augmented Dickey Fuller.

Prob – Probability Level

Note: All other notations are references to the study variables as highlighted in Chapter Three (Model Specification).

Source: Extract from EViews 12 Outputs (See Appendix 2)

Using the Augmented Dickey-Fuller test as compared with the Test Critical Values at 1%, 5%, and 10%, we can observe that; the misery index (MXI) is not stationary at level. This is as a result of its ADF t-statistics being less on an absolute basis than the absolute values of the test critical values

at the 1% and 10% critical values. This, therefore, shows the presence of a unit root in the trend of this variable and the absence of a stationarity trend. This means that the variable does not behave in a consistent way and might lead to unreliable estimation when used at level. While other variables

show stationarity tendencies as all their ADF test statistics are greater than the various critical values at 1, 5, and 10% significance level on an absolute basis. Due to the nature of observed unit root in FXI, the study proceeds to the stationarity test at first difference. When variables fail to attain

stationarity at level, the differencing of variables helps smoothen the trend of variables. This is superior to the logarithm which cannot manipulate negative values. The study, therefore, presents the stationarity test of employed variable at first difference as follows in Table 3;

Table 3: Summary Compilation of Stationarity Test of Employed Variables at First Difference i.e. (1)

Statistics Variable	ADF t-stat	Test Critical Values			Prob	Unit Root	Comment
		1% Level	5% Level	10% Level			
MXI	-6.614107	-3.711457	-2.981038	-2.629906	0.0000	Present	Stationary at First Difference i.e. I(0)
DMC, BAC, BIC, PMC, MFC, ADC, WBC	Stationary at Level. Subsequent evaluation would lead to over-differencing (Nkoro & Uko, 2016)						

Where:

ADF - Augmented Dickey Fuller.

Prob – Probability Level.

Source: EViews 12 Output

Table 3 above shows that the Misery index (MXI) attained stationarity and lacked unit root. This can be observed as its test statistics value of -6.614107 is observed to be greater than the absolute value of the test critical values at the 1, 5, and 10% level. This, therefore, shows that our employed variables have a reliable trend that would enable the further analysis to be free from spurious or unreliable outputs. In light of the observation of stationarity at level and first

difference, the study would proceed to undertake the Lag length selection criteria and the Autoregressive Distributive Lag Length estimate.

Lag Order Selection Criteria

To undertake the ARDL test, the study employs the Lag Order Selection Criteria. This criterion selects the best lag length with the help of various valid criteria.

Table 4: Output of Lag Order Selection Criteria.

VAR Lag Order Selection Criteria
 Endogenous variables: MXI DMC BAC BIC PMC MFC ADC WBC
 Exogenous variables: C
 Sample: 1992 2019
 Included observations: 26

Test statistics not available for sets of lag coefficients with restrictions

Source: EViews 12 Output.

The above table shows that the misery index (MXI), Deposit Money Bank Credit Growth rate (DMC), The Bank of Agriculture credit growth rate (BAC), and the African Development Bank credit can be lagged at first difference. While other variables can be employed at their current values. In light of this, the study proceeds to undertake the Auto Regressive Distributive Lag (ARDL) test estimation. Given the definition of the required lag length, the

study proceeds to employ the ARDL test in the next section.

Auto Regressive Distributive Lag

In view of the presence of small sample size of the study and the stationarity test at both level I(0), and first differencing I(1), the study proceeds to Auto Regressive Distributive Lag (ARDL) test estimation as presented below in table 6.

Table 6: Auto Regressive Distributive Lag (ARDL) Test Estimation Output (Short-run)

Dependent Variable: MXI

Method: ARDL

Sample (adjusted): 1993 2019

Included observations: 27 after adjustments

Maximum dependent lags: 1 (Automatic selection)

Model selection method: Akaike info criterion (AIC)

Dynamic regressors (1 lag, automatic): DMC BAC BIC PMC MFC

ADC WBC

Fixed regressors: C

Number of models evaluated: 128

Selected Model: ARDL(1, 1, 1, 0, 0, 0, 1, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
MXI(-1)	0.142361	0.209735	0.678767	0.5076
DMC	-0.043828	0.133841	-0.327464	0.7478
DMC(-1)	-0.152655	0.109535	-1.393668	0.1837
BAC	-0.083691	0.039206	-2.134630	0.0497
BAC(-1)	-0.047207	0.039897	-1.183222	0.2551
BIC	-0.921132	1.303725	-0.706539	0.4907
PMC	-0.036707	0.021940	-1.673049	0.1150
MFC	-0.074263	0.038097	-1.949288	0.0702
ADC	6.16E-05	6.40E-05	0.963369	0.3506
ADC(-1)	8.17E-05	5.61E-05	1.457142	0.1657
WBC	-0.050961	0.047228	-1.079057	0.2976
C	30.35791	10.36119	2.929964	0.0103

R-squared 0.610519 Mean dependent var 34.77331

Adjusted R-squared 0.524900 S.D. dependent var 15.95196

S.E. of regression	13.10684	Akaike info criterion	8.285247
Sum squared resid	2576.838	Schwarz criterion	8.861175
Log likelihood	-99.85084	Hannan-Quinn criter.	8.456501
F-statistic	9.137529	Durbin-Watson stat	2.123483
Prob(F-statistic)	0.000897		

*Note: p-values and any subsequent tests do not account for model selection.

Source: EViews 12 Output.

Starting with the Coefficient of Determination (R^2), the observed value of 0.610619 shows that, all employed institutional funding jointly accounts for approximately 61.05%, while the remaining 38.95% can be attributed to other factors (White noise/error term) not directly captured in the model. The large error terms value of 38.95% despite the large model shows a large possibility of informal financing activities in the country. Due to the nature of the informal sector, the computation of the informal sector is observed to be difficult or nearly impossible. But the 38.95% error terms will be attributed to the operations of the informal financial institutions. The F-statistics which attempts to determine the universal utility of the model can be seen to shows a coefficient value of 9.137529, at a probability level of 0.000897. The probability level of 0.000897 is less than the 0.05 (5%) significance level and therefore shows that the model is suitable for the subsequent long-run test. The Durbin Watson shows a value of 2.12 and therefore shows the presence of negative serial correlation which is acceptable. A negative serial correlation

indicates that value changes between the current variable and its immediate past values are likely to move in the opposite direction as the value changes between past and current values which limits the possibility of having biases in results for unreliable estimates and erroneous hypothesis testing.

In the short run, it can be seen that; all employed institutional funding dimensions show the expected negative coefficients in light of our apriori except for the African Development Bank. The ADB positive values show the potential of these credits to stoke the embers of misery in the Nigerian economy through excessive inflation etc. All variables show no valuable influence on the misery index (MXI). Given the suitable short-run ARDL, the study proceeds to the Bounds Test.

ARDL Bounds Test

To determine the presence of a significant long run relationship between employed variables, the study employs the ARDL Bounds test, which is presented in table 7 below;

Table 7: ARDL Long Run Form and Bounds Test

ARDL Long Run Form and Bounds Test
Dependent Variable: D(MXI)

Null Hypothesis: No levels relationship

F-Bounds Test

Test Statistic	Value	Signif.	I(0)	I(1)
Asymptotic: n=1000				
F-statistic	8.664880	10%	1.92	2.89
k	7	5%	2.17	3.21
		2.5%	2.43	3.51
		1%	2.73	3.9
Finite Sample: n=25				
Actual Sample Size	27	10%	2.277	3.498
		5%	2.73	4.163
		1%	3.864	5.694

Source: EViews 12 Output.

The above table 7 shows that the F-statistics value of 8.664880 is above all finite sample values at the 1%, 5%, and 10% level for both variables at I(0) and I(1) i.e. variables integrated at level and variables integrated at first difference. In light of this finding, the study proceeds to the ARDL long

run form, which includes a stepwise regression.

ARDL Long Run Form

To examine the nature of relationship between employed variables in the long run, the study presents the ARDL Long run Form in Table 8 as follows;

Table 8: ARDL Long Run Form and Bounds Test

ARDL Long Run Form

Dependent Variable: D(MXI)

Selected Model: ARDL(1, 1, 1, 0, 0, 0, 1, 0)

Case 2: Restricted Constant and No Trend

Sample: 1992 2019

Included observations: 27

Error Correction Regression Long Run Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30.35791	10.36119	2.929964	0.0103
MXI(-1)	-0.857639	0.209735	-4.089158	0.0010
D(DMC)	-0.043828	0.133841	-0.327464	0.7478
DMC(-1)	-0.508827	0.157460	-3.231468	0.0211
D(BAC)	-0.083691	0.039206	-2.134630	0.0497
BAC(-1)	-0.130898	0.055630	-2.353008	0.0327
BIC	-0.921132	0.303725	-3.032783	0.0284

PMC	-0.036707	0.021940	-1.673049	0.1150
MFC	0.174263	0.038097	4.574192	0.0002
D(ADC)	6.16E-05	6.40E-05	0.963369	0.3506
ADC(-1)	0.000143	8.86E-05	1.618223	0.1264
WBC	-0.050961	0.047228	-1.079057	0.2976
Coint(ECM)	-0.303579	0.103612	-2.929964	0.0103
<hr/>				
R-squared	0.615077	Mean dependent var	34.76577	
Adjusted R-squared	0.529461	S.D. dependent var	15.65381	
S.E. of regression	13.74097	Akaike info criterion	8.210204	
Sum squared resid	4531.542	Schwarz criterion	8.400519	
Log likelihood	-110.9429	Hannan-Quinn criter.	8.268386	
F-statistic	9.680138	Durbin-Watson stat	2.162895	
Prob(F-statistic)	0.000993			

Source: EViews 12 Output.

The Error Correction Coefficient-Coint(ECM) values of -0.303579 at a probability level of 0.0103 shows that disequilibrium between the short and long run can be adjusted backward by 30.36%. The table above shows that all variables show the expected negative coefficient values in the long run, with the exception of the microfinance bank credits. This shows that an increase in microfinance bank lending will lead to a respective increase in the misery index. This, therefore, shows that the microfinance banks tend to increase the level of misery index.

In terms of the value of influence each variable has on the misery index, it can be seen that the past values of the misery index account for a significant influence on the present values of the misery index. The present value of deposit money bank credit growth rate shows a negative but insignificant influence on the misery index. While the immediate past value of the deposit money Banks has a significant influence on the misery index. Bank of agriculture shows the expected negative coefficient values and has a significant influence on the misery index.

Similarly, the immediate past value of the bank of agriculture mobilized credit shows a negative and significant influence on the misery index. Bank of industry shows a negative and significant influence on the misery index in Nigeria. Primary mortgage Bank institutional credit shows a negative but insignificant influence on the misery index. Microfinance banks show a positive and significant influence on the misery index, which goes against the apriori expectation of the study. African Development Bank credit at present value and past value shows a positive and insignificant influence on the misery index in Nigeria. The World Bank Credit shows a negative and insignificant influence on the misery index. Overall, only microfinance bank credit and African development bank credit goes against the negative apriori of the study. This could be linked to high-interest rates and short tenure of loans which could constraint users of such funds and therefore result in loan default and consequently bad debt.

For the model utility, the coefficient of determination (R^2) value of 0.615077 shows that, all employed institutional

funding jointly accounts for approximately 61.51% in the long-run, while the remaining 38.449% can be attributed to other factors (White noise/error term) not directly captured in the model. This shows strong connotations of *informal institution financing*.

The F-statistics which attempts to determine the universal utility of the model can be seen to shows a coefficient value of 9.680138 and an accompanying probability value of 0.000993 993 which therefore show a good

and suitable model and universal utility. Finally, the Durbin Watson value of 2.162895 is within an acceptable range.

Stepwise ARDL Summary

Despite the significance of the study variables, the study employs the stepwise ARDL regression to determine the rank of employed variables in terms of their valuable contribution to economic development as captured by the misery index.

Table 9: Summary Output of the Stepwise ARDL Result

Dependent Variable: MXI

Method: Stepwise ARDL

Sample: 1992 2019

Included observations: 28

Number of always included regressors: 1

Number of search regressors: 7

Selection method: Uni-directional

Stopping criterion: p-value = 0.05

Stopping criterion: number of search regressors = 1

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
C	36.43691	3.268603	11.14755	0.0000
BAC	-0.092896	0.038800	-2.394221	0.0248
MFC	0.079551	0.032107	2.477717	0.0207
PMC	-0.046303	0.030468	-1.519726	0.0830
DMC	-0.083691	0.039206	-2.134630	0.0497
BIC	-0.742111	0.157462	-4.713013	0.0009

R-squared	0.615077	Mean dependent var	34.76577
Adjusted R-squared	0.529461	S.D. dependent var	15.65381
S.E. of regression	13.74097	Akaike info criterion	8.210204
F-statistic	9.680138	Durbin-Watson stat	2.162895
Prob(F-statistic)	0.000993		

Selection Summary

Removed WBC

Removed ADC

*Note: p-values and subsequent tests do not account for stepwise selection.

Source: EViews 12 Output.

- It can be seen from the table 9 that;
- i. Bank of Agriculture shows the first most valuable influence on the misery index. It is also seen to have a negative *a priori* coefficient value of -0.092896 at a probability level of 0.0248, which shows a significant influence of Bank of Agriculture credit mobilization on the development of the economy.
 - ii. The second most valuable influence on the misery index is the microfinance Bank credits. This unlike the BAC shows a positive and significant influence on the misery index. This shows that microcredits stirs up the rate of the misery index and negatively affects development.
 - iii. The Primary mortgage institution shows the third most valuable influence on the misery index. Despite its negative coefficient, it has no significant influence on the misery index.
 - iv. The Deposit money bank is observed to have the fourth most valuable influence on the misery index. This relationship is negative and significant.
 - v. Bank of industry shows the fifth and last selected variable that has a valuable relationship with the misery index. This relationship is observed to be negative and significant.
 - vi. The World Bank Credit and African Development Bank Credits are removed automatically by the model and therefore show that both variables are not significantly valuable in the explanation of the misery index.

Conclusions and Recommendations

Based on the findings of the study, the study concludes that institutional finance has a selective effect on economic development (misery index) in Nigeria. Partitioning the nature of the relationship of institutional finance on economic development, the study observes that;

- (i) Only Deposit money banks credit and Bank of Agriculture credit showed a Demand-following influence on the misery index, while microfinance bank credit showed a Supply-leading effect on the misery index.
- (ii) All variables showed the *a priori* negative effect on the misery index except for the microfinance bank and the African Development Bank credits, which shows the possibility of these variables in inciting the misery index (unemployment, inflation, and low output level) rather than quelling it.
- (iii) Deposit Money bank credit at level, Primary Mortgage Institutions credit, African Development Bank credit, and the World Bank credit do not possess a valuable influence on the misery index.
- (iv) The large error term in the model points to a significant dualistic tendency in Nigerian and the possible existence of informal institution financing in the economy. Overall, Institutional finance has the necessary potential capable of stimulating economic development (i.e. reducing the economic misery index in Nigeria).
- (v) The insignificant influence of foreign financing institutions as seen from the African Development Bank and the World Bank shows the dominance of the false paradigm

effect (Weeks, 2012; Meyer & Nagarajan, 2000; Lam 2010), and the large Error term shows the financial dualistic tendencies in the Nigerian economy (Alderslade, Talmadge, & Freeman, 2006; Igoni & Onwumere, 2020). This means that signs are pointing to the existence of informal funding which is difficult to measure.

Recommendations

In light of the observed findings, it is recommended that; (i) Domestic and Foreign financial institutions must review their financial services models and adapt them to those of the informal sector to ensure that they capture significantly the locally implemented ideas and peculiarities. This can be used in creating more specific financial services that would improve the level of financial inclusion in the economy. Some of these informal models are the creation of cultural association services and products to promote inclusiveness while maintaining societal collaborations as seen in the informal sector. (ii) specialized banks such as the Primary Mortgage Institutions and Bank of Industry need to re-examine their operations by ensuring the viability of their projects to prevent executing projects and mobilizing funds to unrealistic mortgage or industrial projects. This would limit the number of abandoned projects and unrealistic endeavors in the mortgage market and industrial sector. (iii) financial institutions should ensure consistency in the growth and mobilization of funds to avoid the “big push trap’ as erratic mobilization of credit is counterproductive.

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Appendix 1(a): Gross Domestic Product (GDP), GDP Growth Rate (GGR), Interest Rate (INT), Unemployment Rate (UMR), Inflation Rate (IFR), Misery Index (MIX)

Year	GDP N'B	GGR %	INT %	UMR %	IFR %	MIX %
1991	596.04	-	20.80	3.10		
1992	909.80	48.84	31.20	3.40	48.80	34.56
1993	1,259.07	34.97	36.09	2.70	61.26	65.08
1994	1,762.81	36.56	21.00	2.00	76.76	63.20
1995	2,895.20	60.20	20.79	1.80	51.59	13.98
1996	3,779.13	27.32	20.86	3.20	14.31	11.05
1997	4,111.64	6.12	23.32	3.20	10.21	30.60
1998	4,588.99	8.86	21.34	3.20	11.91	27.59
1999	5,307.36	12.80	27.19	3.00	0.22	17.61
2000	6,897.48	26.75	21.55	13.10	14.53	22.43
2001	8,134.14	15.00	21.34	13.60	16.49	36.43
2002	11,332.25	35.85	30.19	12.60	12.17	19.11
2003	13,301.56	14.44	22.88	14.80	23.81	47.05
2004	17,321.30	26.93	20.82	13.40	10.01	17.30
2005	22,269.98	25.29	19.49	11.90	11.57	17.67
2006	28,662.47	25.39	18.70	12.30	8.55	14.16
2007	32,995.38	12.13	18.36	12.70	6.56	25.50
2008	39,157.88	15.57	18.70	14.90	15.06	33.08
2009	44,285.56	10.12	22.62	19.70	13.93	46.13
2010	54,612.26	20.07	22.51	15.10	11.80	29.34
2011	62,980.40	12.28	22.42	16.00	10.28	36.42
2012	71,713.94	10.86	23.79	10.60	11.98	35.51
2013	80,092.56	8.74	24.69	10.00	7.96	33.91
2014	89,043.62	8.26	25.74	7.80	7.98	33.26
2015	94,144.96	2.97	26.71	9.00	9.55	42.28
2016	101,489.49	5.01	27.29	13.40	18.55	54.23
2017	113,711.63	9.17	30.68	17.50	15.37	54.38
2018	127,762.55	9.50	31.00	22.60	11.40	55.60
2019	144,210.49	10.02	31.01	23.1	11.98	56.07

Sources: Central Bank of Nigeria Knoemia Repository

Appendix 1(b): Deposit Money Bank credit (DMB), Deposit Money Bank credit growth rate (DMC), Bank of Agriculture credit (BOA), Bank of Agriculture credit growth rate (BAC), Bank of Industry credit (BOI), Bank of Industry credit growth rate (BIC), Microfinance Bank Credit (MB), Microfinance Bank Credit growth rate (MFC), Primary Mortgage Institution credit (PMI), Primary Mortgage Institution credit growth rate (PMC), African Development Bank credit (ADB), African Development Bank credit growth rate (ADC), World Bank credit (WB), World Bank credit growth rate (WBC) in Nigeria over the period of 1981 to 2019.

Year	DMB N'B	DMC %	BOA N'B	BAC %	BOI N'B	BIC %	MB N'B	MFC %	PMI N'B	PMC %	ADB N'B	ADC %	WB N'B	WBC %
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1991	41.35										13.41		33.26	
1992	58.12	40.55	93.39	1.00	360.77	1.00	0.1358	1.00	0.21	1.00	20.24	50.94	56.29	69.25
1993	127.12	118.70	81.27	-12.98	367.62	1.90	0.6545	381.96	0.33	60.22	0.96	-95.25	72.87	29.46
1994	143.42	12.83	106.90	31.53	374.48	1.87	1.2206	86.49	0.56	67.40	0.89	-7.49	75.88	4.13
1995	180.00	25.51	166.65	55.89	381.34	1.83	1.1298	-7.44	0.39	-29.52	0.41	-54.16	76.35	0.62
1996	238.60	32.55	227.66	36.62	388.19	1.80	1.4002	23.93	0.75	91.14	0.25	-39.33	68.06	-10.87
1997	316.21	32.53	242.03	6.31	395.05	1.77	1.6188	15.61	0.74	-2.23	14.47	5,753.94	60.91	-10.50
1998	351.96	11.31	220.29	-8.98	401.91	1.74	2.5268	56.09	0.79	6.49	12.13	-16.19	62.19	2.09
1999	431.17	22.51	241.84	9.78	408.77	1.71	2.9583	17.08	0.92	17.60	9.68	-20.19	242.21	289.50
2000	530.37	23.01	361.45	49.46	415.62	1.68	3.6666	23.94	0.86	-7.48	5.79	-40.20	231.62	-4.37
2001	764.96	44.23	728.55	101.56	422.48	1.65	1.3140	-64.16	1.02	19.83	2.50	-56.73	219.22	-5.36
2002	930.49	21.64	1,050.98	44.26	429.34	1.62	4.31.9	228.08	6.60	544.18	17.78	609.61	236.01	7.66
2003	1,096.54	17.84	1,151.02	9.52	436.20	1.60	9.9548	130.92	12.90	95.37	6.84	-61.49	257.15	8.95
2004	1,421.66	29.65	2,083.74	81.04	443.05	1.57	11.3538	14.05	6.00	-53.47	0.37	-94.59	266.19	3.52
2005	1,838.39	29.31	9,493.85	355.62	449.91	1.55	28.5048	151.06	2.10	-65.00	23.64	6,283.63	245.62	-7.73
2006	2,290.62	24.60	4,262.43	-55.10	456.77	1.52	16.4502	-42.29	7.56	260.00	24.20	2.37	266.88	8.65
2007	3,668.66	60.16	4,425.46	3.82	463.62	1.50	22.8502	38.91	40.76	439.15	21.23	-12.28	290.59	8.89
2008	6,920.50	88.64	6,497.96	46.83	470.48	1.48	42.75306	87.10	108.53	166.27	7.90	-62.80	291.03	0.15
2009	9,102.05	31.52	8,328.57	28.17	477.34	1.46	58.21566	36.17	118.59	9.26	69.32	777.93	424.64	45.91
2010	10,157.02	11.59	7,840.50	-5.86	484.20	1.44	52.8675	-9.19	132.88	12.05	14.32	-79.34	556.83	31.13
2011	10,660.07	4.95	10,029.49	27.92	491.05	1.42	50.9283	-3.67	122.81	-7.57	26.78	86.96	647.41	16.27
2012	14,649.28	37.42	9,332.48	-6.95	471.13	-	90.42225	77.55	120.91	-1.55	23.44	-12.44	738.05	14.00
2013	15,751.84	7.53	6,497.96	-30.37	498.70	5.85	94.05558	4.02	132.29	9.42	108.10	361.11	830.30	12.50
2014	17,131.45	8.76	8,328.57	28.17	544.31	9.15	112.11015	19.20	61.93	-53.19	224.03	107.24	916.25	10.35
2015	18,675.47	9.01	10,124.09	21.56	545.66	0.25	187.24734	67.02	102.01	64.72	0.15	-99.93	1,203.33	31.33
2016	21,082.72	12.89	10,678.15	5.47	517.91	-	196.19499	4.78	102.91	0.88	384.80	254573	1,683.20	39.88
2017	22,092.04	4.79	11,232.22	5.19	525.84	1.53	194.02494	-1.11	156.29	51.87	3.87	-98.99	2,419.71	43.76
2018	22,521.95	1.95	11,786.28	4.93	525.84	0.00	207.96332	7.18	155.98	-0.20	94.69	2,345.56	2,619.12	8.24
2019	24,922.94	10.66	12,340.34	4.70	531.63	1.10	262.630	26.29	132.85	-14.83	165.02	74.27	2,154.96	-17.7