

Impact Of Non-performing Loans and Recalcitrant Debtors on Economic Growth In Nigeria



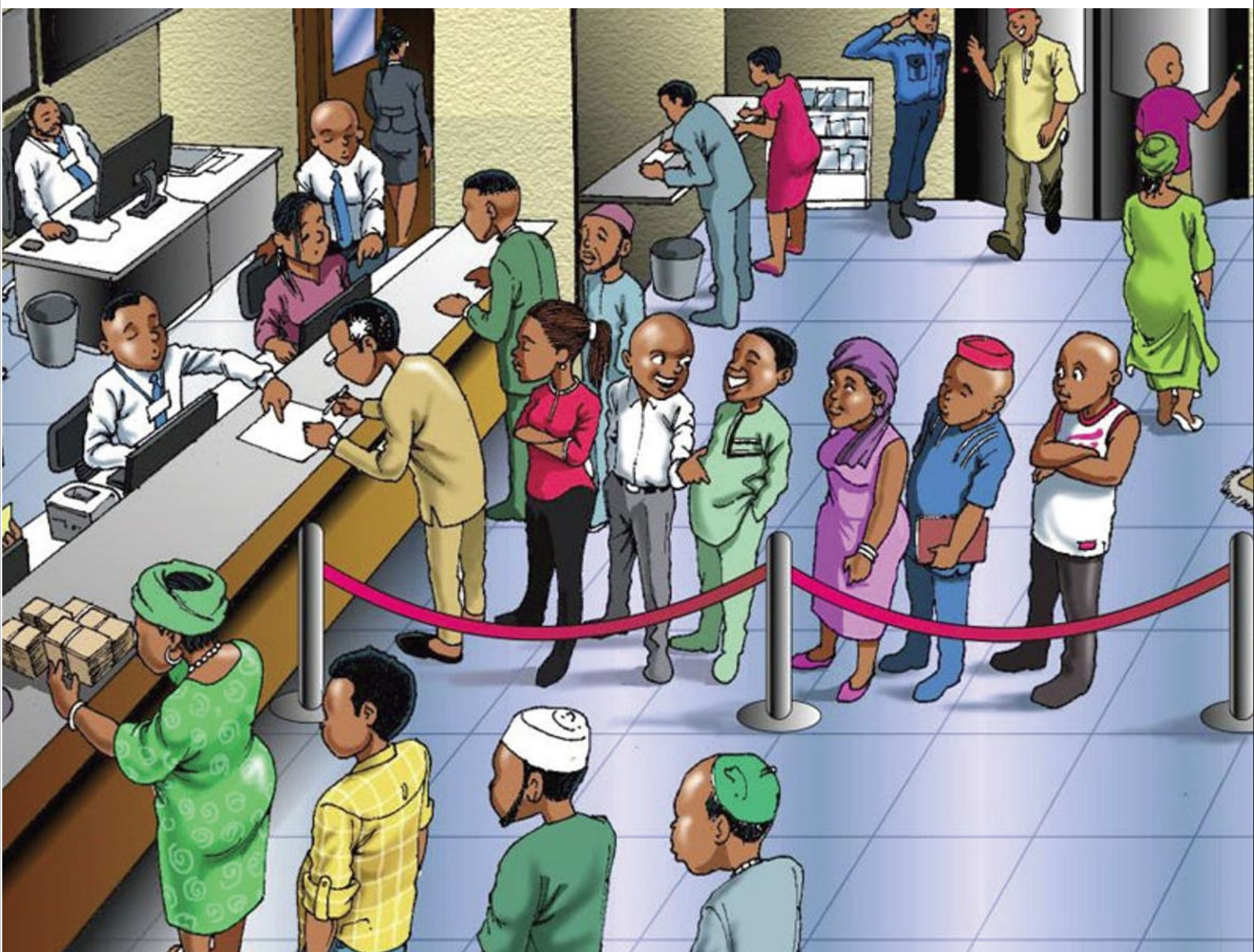
Abstract

The banking sector plays a pivotal role as financial intermediary and is often seen as the lifeblood of the economy. For this reason, major disruptions such as those brought about as a result of non-performing loans and even worse, recalcitrant debt would likely affect the economy. The aim of this study is to determine the relationship between NPLs and the Nigerian Economy as well as the impact of this relationship. The study employed the use of three modes of analysis, a trend analysis, correlation and regression analysis. Secondary panel data spanning a period of 20 years- from 1998 to 2018 extracted from the World Bank Database. The study also conducts an empirical review of literature to investigate the nature of recalcitrant debtors. As a result of the review, theoretical deductions are made based on previous findings on the belief systems of debtors. For the trend analysis, the Correlation of Variance and Augmented Dickey Fuller Test were conducted to test volatility and stationarity of

data. Correlation and regression analysis provided evidence of a strong impact and significantly negative relationship between bad debt and the Nigerian economy. The trend analysis reveals that although there have been major fluctuations in the movement of NPLs over the past 20 years there is an overall downward trend in the NPLs of Nigerian Banks. Results also imply that movements in NPLs are non-volatile and move in a predictable manner. The paper recommends the need for background checks or character assessment tests to determine the belief system of the individual debtor. This would guide the credit analyst or loan officers in making optimal decisions with regards to loan disbursements.

KEYWORDS:

Non-Performing Loans, Recalcitrant Debtors, Nigerian Banking Sector, Trend Analysis, Economic Growth, Hedonism, External Locus of Control, Financial Deepening, Bi-Directional Led Growth, ADF Test, Coefficient of Variance



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Introduction

Background to Study

The banking sector plays a pivotal role as financial intermediary and is often times seen as the lifeblood of the economy.

Furthermore, the sector is responsible for providing much needed funding for key growth sectors while maintaining financial systems stability. In view of this, any major disruption to its functions or operations would no doubt have significant effects.

Therefore, the prevalence of non-performing loans and recalcitrant debtors has long been a cause for concern. On the global scene, the most reported and significant case of Non-Performing Loans (NPLs) resulted in the 2008/2009 Global financial crisis. The crisis was brought about primarily due to bankers offering mortgage loans to borrowers with high credit risks at a low-interest rates. The effects of this were so catastrophic that banks bailouts became the order of the day. As part of the Emergency Economic Stabilization Act of 2008 and the Troubled Asset Relief Program, the United States Government released \$700 billion in purchase of toxic assets from banks (Congressional Budget Office, 2012). The United Kingdom also released a bank rescue package totalling sum of £500 billion as a response to the global financial crisis. (Swaine, 2008). The relationship between economies and NPLs is indeed dire as has been proven in recent research. For example, a study by Ari, Chen, and Ratnovski (2019) reveals a close relationship between unresolved NPLs and the severity of post-crisis recessions.

The continent of Africa has also historically struggled with high NPLs. Chironga, Cunha, De Grandis and Kuyoro (2018) find that despite the buoyant performance of Africa's banks, they have the second worst cost of risk in the world, at 1.8% of assets in 2016

compared to 1.4% in 2011. This is due to the relatively lower crude oil prices and lower demand for commodities. Only Latin America's banks have a higher risk cost, at 2.8% of assets. Mpofu and Nikolaidou (2019), found in their study that this sort of risk has significant effects on the economy. The study which investigated the effect of high NPLs on 8 (eight) African countries including Ghana, Botswana and Angola found that the level of NPLs are significantly affected by macro-economic variables.

Nigeria is not immune to the effects of NPLs. A recent and well documented example is case of Skye Bank whose license was revoked by the Central Bank of Nigeria as a result of Non-Performing Loans amounting to N370 billion and later, N800 billion after a forensic audit was conducted (Udo, 2018). According to a report issued by the Nigerian Bureau of Statistics in 2019, the total non-performing loans figure of banks in Nigeria for 2018 amounted to N8.17trillion. This figure reflects an increment of almost double the value compared to a decade earlier. In 2008 the rate of NPLs to GDP was approximately 7% (data.worldbank.org). As of 2018 however, the rate of NPLs to GDP is approximately 12% almost (data.worldbank.org) These figures reflect a potential danger not only to the financial system but to the economy.

The worry over the dangers posed by NPLs is exacerbated by the prevalence of recalcitrant debtors who are unwilling to pay for debts owed to the bank and other financial institutions. Recalcitrant debtors remain a major issue making headlines in Nigeria. The Asset Management Corporation of Nigeria (AMCON) reports that as of 2019 only 350 Nigerians account for N4.3 trillion (80%) of the N5.4 trillion debt portfolio (Agency Report, 2018). Due to the

unprecedented high amounts of bad debt and the conduct of unethical borrowers, President Muhammadu Buhari in 2019 assented to a new Act giving AMCON more power to enforce recovery of debt from prominent Nigerians and corporate organisations.

One may ask what sectors are most affected by NPLs in Nigeria. According to the National Bureau of Statistics, as of Quarter 3, 2019, the Oil and Gas sector had the highest NPLs levels in Nigeria with N738.15 billion in NPLs recovered in 2019 compared to Manufacturing (N43.67 billion); Information and Communication (N39.40 billion), and Finance and Insurance (N34.42 billion). This is likely due to the high exposure to the sector at approximately 31% and the volatile nature of the sector. It is important to note at this juncture that figures for the first and

second quarter of 2020 are not quoted given the emergence and impact of the Covid-19 Pandemic which has exacerbated the rate of NPLs in the sectors mentioned.

The paper seeks to investigate the impact of Non-Performing Loans as a result of recalcitrant debtors on the Nigerian Economy. Though ample sources of literature exist to trend in NPLs, few papers examine the attitude of recalcitrant debtors and how this contributes to the high rate of NPLs. Hence the paper;

- reviewed empirical literature on recalcitrant debtors and make theoretical deductions
 - analysed the patterns in NPLs trends in Nigeria
 - determined the relationship between NPLs and the Nigerian Economy
- assessed the impact of NPLs on the Nigerian Economy





Literature Review

Theoretical Underpinning Theories Linking Finance and Economic Growth

There are several theories linking NPLs to economic growth. Such theories include the Liquidity Preference, Deflation and Financial Instability Theories. While these theories are significant, they speak to effects of NPLs as a result of macroeconomic and monetary contingencies. For the sake of relevance and noting that this paper tackles the impact of NPLs as a result of recalcitrant debtors, theories explaining the link between the finance system as a whole and economic growth would be tackled in this section. While reading through the various theories, it is important to keep in mind the negative relationship between NPLs and the finance sector and subsequently, the potential adverse effects on economic growth. (Rehman, Zhang & Ahmad, 2016) (Khan, Siddique, & Sarwar, 2020) (Atoi, 2018)

Morakinyo and Sibanda (2016) in their paper mention 4 theories which explain the relationship between the two variables which are as follows:

- i. Supply Leading/Finance-Led Growth
- ii. Demand Following/Growth-Led Finance
- iii. Bi-Directional Led Growth
- iv. Independent Led Growth

Due to limitations with regards to available literature, this paper would tackle the first three theories.

- i. Supply Leading/Finance-Led Growth**
In their study on the developing economy, Adeyeye, Fapetu, Aluko and Migiyo (2015) describe the Supply Leading Theory one in which financial deepening is the determining cause of economic growth. That is, causality flows from finance to economic growth

and a well-developed finance sector is a pre-condition for economic growth. Stolbov (2012) explains that the theory came about due to the substantial increase of financial markets depth in the early 1900s and the variety of assets available for investments. The theory gained traction after Joseph Schumpeter in 1912 published a paper on the Theory of Economic Development. The paper which was recognized as the next stage of finance-growth nexus analysis, proposed “new combinations” that could potentially drive economic development. At present, this argument still holds significance with several findings pointing in favour of this school of thought. As stated by Levine and Ross (1997) and Choong and Chan (2011), it is generally admitted that the evolution of the domestic financial sector is significant in affecting the pattern of economic growth

Supporters of this theory include Karimo and Ogbonna (2017) who investigated the nexus between financial deepening and economic growth in Nigeria. Their findings suggested that, to grow the Nigerian Economy, special attention should be paid to the finance system. They recommended that policies which led to the establishment of institutions such as AMCON should further be strengthened in order to free the deposit money banks from a high incidence of NPLs. Ogwumike and Salisu (2017) who investigated from the Nigerian context also supported this theory. They also recommended appropriate regulatory and macroeconomic policies that would foster the expansion and development of the Nigerian financial institutions. Other supporters of this theory include

Adayley (2018) who investigated the significance of Finance Led Growth hypothesis in the Jordanian economy for the period between 1992 -2016. In their findings they confirmed the existence of finance –led growth hypothesis in the Jordanian economy. Murinde and Eng (2010) also investigated the relationship between the two variables in the context of the Singaporean economy. Their findings also supported the Supply Leading Growth theory. However, they state that this is true only when board monetary aggregates and a monetization variable are used as surrogates for financial development. Marashdeh and Al-Malkawi (2014) also supported these findings by using the context of the Saudi Arabian economy with panel data spanning from 1970-2010.

Opponents of the Supply-Led theory include Adeyeye, Fapetu, Aluko and Migiyo (2015) who investigated the relevance of the supply led theory in developing countries from 1981-2013. Findings from their research suggested that contrary to the null hypothesis of supply-led causality, a bi-directional causality exists between financial development variables and indices of economic growth. Odhiambo (2007) sought to determine if financial development in sub-Saharan African countries exhibits a supply leading or demand-following causality. The study used three countries including Tanzania, South Africa and Kenya as case studies. Interestingly, their findings suggested that though Tanzania displayed supply-leading theory of causality, the demand-following school of thought was more dominant in South Africa and Kenya.

There exists a generous amount of

literature on the subject matter. However, due to the variances in scope, context and methodology, the results determining the significance of the supply-led growth theory produce varying results within the same article/research project. In view of these realities, this paper would not support the supply-led theory as it does not unanimously reflect the viewpoint of all authors.

ii. Demand Following/Growth-Led Finance

The Demand-Following hypothesis was pioneered by Robinson (1952) who contended with Schumpeter (1912) on the causality between financial development and economic growth. Robinson argues that increasing demand for financial services deepens the financial sector as the economy. Other authors have attempted to explain this relationship. Calderon and Liu (2003) and Yildiz and Atasaygin (2015) explain that as the real economy experiences expansion, it needs more financial intermediaries. Banerjee and Ghosh (1998) provide a similar definition for hypothesis explaining that as the real sector develops, there is an increased demand for financial services which induces growth.

Supporters of the theory include Alkhuzaim (2014) who investigated the nexus of finance and economic growth in the context of the Qatari economy. Their findings suggested a causality which runs from real GDP to domestic credit provided by the banking sector. Alternatively, Ndubuisi (2017) who investigated from the context of the Nigerian Economy found a long run unidirectional causality running from

economic growth to liquid liability and deposit money bank assets.

Opponents of the theory are few and far between, particularly in the African context. However, findings from Ginevičius, Dudzevičius, Schieg, Peleckis, Ginevi, Dudzevi and Peleckis (2019) reveal interesting results. The study which investigated the inter-linkages between financial and economic development in the European Union found interesting results. While findings showed a unidirectional causality running from real GDP to financial development in Denmark, Portugal and Latvia, unidirectional causality running from financial development to real GDP was found in Austria.

As earlier stated, variances in scope, context and methodology of research projects result in different findings. This is well articulated by Eschenbach (2004) who reviewed a large amount of literature regarding the causality between financial development and economic growth. Evidence from their research suggests an enormous heterogeneity across countries, regions, financial factors which in turn affect the direction of causality.

iii. Bi-Directional Led Growth

The Bi-Directional growth hypothesis which was introduced by Patrick (1966) states that the issue of causality between financial development and economic growth changes over the course of development. The argument put forth by this theory is that both supply-led and demand led growth hypothesis are significant.

Literature avails a generous number of

findings from various geographical, methodological contexts which support this theory. For example, Adeyeye et al (2015) investigated the theory of supply leading hypothesis within the context of the Nigerian Economy from 1981-2013. Findings rejected the supply leading theory in favour of bi-directional growth due to evidence of an independent relationship between financial development and economic growth. Also using the Nigerian context, Udo, Jack, Abner, Idogen, and Ndubuaku (2019) investigated the relationship over a period between 1999 and 2017. They find that the causal relationship between the two variables is influenced by the stages and level of economic and financial sector growth through the appropriate policy mixes in Nigeria. Acaravci, Acaravci and Ozturk (2009) investigated the causality of the relationship using panel data from 24 Sub-Saharan African Countries from 1975 – 2005. Their findings also supported the bi-directional relationship implying that African countries can accelerate growth by improving the financial system and vice-versa. Likewise, as earlier mentioned, Ginevičius et al (2017) found a two-way causal relationship between financial and economic development in Luxembourg, France, and United Kingdom. Al-Malkawi, Marashdeh and Abdullah (2012) investigated from the context of the United Arab Emirates (UAE) economy between 1974 -2008 also supported this theory. In their paper financial development is defined by indicators including the financial depth or size of the financial intermediaries' sector and credit provided to private sector by commercial banks. Their findings indicated a bi-directional

causality between the aforementioned indicators and economic development.

Evidence of research refuting the Bi-Directional Led Growth are few and far between, however Majid and Mahirzal (2007) provided an extensive study of the short and long run nexus between financial development and economic growth in four Asian Countries including Indonesia, Malaysia, Philippines and Thailand. Out of the four countries only Thailand reported bidirectional growth patterns. The other countries reported either no causality (Indonesia) or unidirectional growth (Malaysia & Philippines).

This paper supports the Bi-Directional Led Growth given that there is a generous amount of literature in various geographical contexts with evidence of this type of relationship between the two variables. That is to say that a well-functioning finance sector would fuel financial growth and vice-versa. A well-functioning and successful financial system would be supported by low NPLs rates

Empirical Review and Hypothesis Development

This section features a brief review of empirical literature on NPLs and their effect on the economy. The section is divided into two parts accordingly as follows:

Trend Analysis on NPLs in Nigeria

In their study of Non-Performing Loans in Nigeria, Umoren, Nwosu, and Akpan (2016) examine the trend and growth rates of Non-Performing Loans in the Nigerian Banking System within two periods, pre-consolidation (1979-2004) and post

consolidation (2005-2014). Their findings reveal irregular fluctuations in the NPL trends in both periods. The authors suggest this to be the result of the prevalence high credit risk and a reduction in the lending capacity in the country.

Gudu and Dhaliwal (2019) investigate the trends in bank lending and non-performing loans from 2005 – 2017 using both public and private Ethiopian Banks as case studies. Their investigation employed the use of both a trend analysis and a regression analysis for the investigation. Similar to the results of Umoren et al (2016), Gudu and Dhaliwal (2019) found fluctuations in NPLs of public banks in Ethiopia. Private Banks showed minor fluctuations but overall displayed a relatively stable trend in NPLs. Fluctuations in public banks are largely attributed to poor management and corporate governance. The minor fluctuations in NPLs of private banks are attributed to political unrest and instability during the period of fluctuation recorded. Gudu and Dhaliwal (2019) suggest that risk defaults be swiftly followed up with prudent lending policies and government policy interventions.

Alternatively, Joseph, Edson, Manuere, Clifford and Michael, (2012). who studied trends in NPLs using a Zimbabwean Bank (CBZ Bank Ltd) as a case study found an upward trend in NPLs between 2009 and 2011. The upward trend in NPLs was mainly attributed to the poor performance of loans in the agricultural and manufacturing sectors of the Zimbabwean economy and the adoption of multicurrency transactions in 2009.

Nsobilla (2015) examined the trend of NPLs using six rural banks in Ghana as a case study. The trend analysis spanned 9 years from 2004- 2013. Similar to Joseph et al (2012),

findings from Nsobilla (2015) also reveal an upward trend in NPLs within the period under review, this is attributed to poor credit management processes.

Likewise, Sarker (2019) analysed the trends in NPLs in the Bangladeshi banking sector between 2006 and 2017. They found an upward trend in NPLs in the Bangladeshi banking sector. Similar to Gudu and Dhaliwal (2019), that found that State-Owned/Public banks and development finance Institutions have the highest exposure to NPLs. The upward trend in NPLs is attributed to the reluctance of Bangladeshi State- Owned Banks and Development Finance Institutions in writing off bad debt.

On the other hand, Deloitte (2019) revealed alternative findings. They conducted a large-scale trend analysis on the NPL Portfolios Markets in fifteen Central and Eastern European Countries. Among the countries analysed included Albania, Bulgaria, Slovakia, Poland and the Ukraine. Their findings show a general decrease in total NPL stock and a slowdown in NPL transactional activity throughout the entire region between 2015 and 2017. This reduction in NPLs is attributed to active credit portfolio management through write-offs, bad debt restructuring agreements and the sale of distressed NPL portfolios. This is contrary to the findings of Sarker (2019) and therefore reveals significant differences in debt recovery processes.

The empirical review reveals varying results of the trend analysis which is due to the varying scope, case studies and time frames of study. This study would comply with the methodology of Umoren et al (2016) which conducts their trend analysis using the Nigerian banking industry as the case study. In view of this, we hypothesize that

Ho: Nigerian NPL rates do not fluctuate and are predictable

H1: Nigerian NPL rates fluctuate and are unpredictable

Impact of NPLs On the Economy

There are vast amounts of literature on the effects of Non-Performing Loans on the economy. Most share a unanimous view of a long-run negative or inverse relationship between NPLs and the economy. For example, Adigun and Okedigba (2017) used quarterly data spanning from 2007-2016 to investigate this relationship. In their findings they not only confirm a negative relationship but sight inflation and increasing lending rates as the major reasons for the occurrences of NPLs. As a solution, they suggested the moderation in interest rate policies and an improvement in the production environment.

Chude and Chude (2014) also confirmed a significant relationship between GDP and NPLs, sighting inflation in particular as the major fuel driving NPLs in Nigeria. Clementina and Isu (2014) also shared this view, they advocated that the government pay outstanding bills on time and introduce policies with moderating effects on the economy. They also recommended that banks performed due diligence and adhered to the 5Cs of credit in modern banking practice during the process of granting loans. Morakinyo and Sibanda (2016) in their study recommended that banks should drive the majority of credit facilities to the economy's private sector.

Interestingly, Idewe (2016) found that GDP is not a significant determinant of bad debt ratio but poor risk management. Ugoani (2016) also found a negative relationship between GDP and NPLs sighting poor risk

management as the major cause of NPLS in Nigeria. Alternatively, John (2018) investigated the cause and effect relationship between NPLs and their determinants. Their findings showed a positive relationship between the GDP and Return on Assets (ROA) Ratio. The paper recommended the need for political stability and effective measures to be put in place to combat corruption.

Our empirical review of the relationship between NPLs and economic growth reveals a largely negative impact despite the various methodologies and scope of studies analysed in this review. In view of foregoing, this study would hypothesize as follows:

H0: NPLs do not have a negative impact on the Nigerian Economy

H1: NPLs have a negative impact on the Nigerian Economy

Recalcitrant Debtors

Literature regarding recalcitrant debt is few and far between. However, there are major studies which seek to explain the behaviour of such debtors. For example, Diomin, Kireeva and Pedanova (2018). In their research on debtors' attitude towards creditors identified 4 types of debtors as follows: The a) Rational Debtor, b) Hostages of External Life Circumstances, c) Low-Resource Vigilant Debtor, d) Low-Resource Hedonistic Debtor. In their findings, they reported that these types of debtors differ significantly in their motivation for applying for credit, education levels and way of coping with over-indebtedness. Their findings showed that the Low-Resource Hedonistic Debtor is the most problematic.

Jalonen and Takala (2018) investigated the debtor's ethical perception of debt

collectors. In their findings, they found that debtors perceive debt collectors as greedy, extortionate, and threatening thus causing them to avoid debt collection activities and debt collectors themselves. This view is supported by Custers and Stephen (2019) who in their findings described the debt recovery process as emotional for debtors. She found in her study that the pressure from creditors imposed on consumers are perceived as violent and hence met with emotional responses and reactions.

On the other hand, other authors argue that adequate punishments should be meted out against debtors. For example, Araujo and Funchal (2013) found that an increase in debtor punishment tends to produce a positive effect on the credit market for states with low levels of punishments but a negative effect for states with high levels of punishment. They recommended an intermediate level of debtor punishment that maximizes the size of the credit market.

Agbeko, Blok, Omta and Van der Velde (2017) studied the trend in loan repayments to Microfinance Institutions. In their findings they reported that constant client monitoring would significantly improve repayment rates of customers regardless of business experience and gender.

Rotter (1966) introduced the theory of Locus of control. The theory describes the degree to which people believe that they, as opposed to external forces (beyond their influence), have control over the outcome of events in their lives. Rotter (1966) explains that individuals with a strong internal locus of control believe events in their life are derived primarily from their own actions. On the other hand, people with a strong external locus of control tend to praise or blame external factors. This belief system has

significant effects on a debtor's attitude towards loan repayment obligations.

Cobb-Clark, Kassenboehmer, and Sinning (2013) find that people with an internal locus of control tend to save more. Rasyid, Linda, Patrisia, Fitra and Susanti (2018) find that Locus of control has a significant impact on investment decisions. Regarding issues of debt repayment, Özşahin, Yürür and Coşkun (2019) found in their study that people with the external locus of control belief system form part of the characteristics of irregular payers in Turkey.

From this empirical review, we note that while consistent monitoring of debtors and other debt recovery mechanisms should be put in place, it is also important to build an awareness of the belief systems of the debtor before granting loans. This could be achieved either through character assessments, background checks and/or further investigations into previous attitudes regarding loan repayments.





Methodology

This study employs the use of three modes of analysis. They include a trend analysis, correlation and regression analysis. This methodology complies with the work of Gudu and Dhaliwal (2019) and Umoren et al (2016). This section explains the research design, method of data collection, research goals, theoretical model and data analysis for the study.

A. TREND ANALYSIS

I. Research Objective and Design

As stated in the introductory section of this paper, the aim of this study is among other objectives to analyse the pattern in NPLs trends In Nigeria. Identifying patterns in NPL trends could reveal the success of or gaps in policies as well as the effects of macroeconomic elements on the rate of debt in the country. The study employed ex post-facto research design and made use of Microsoft Power BI in conducting the trend analysis.

In order to validate the authenticity of trend analysis results, both Pre and Post Analytical tests were conducted on the data. For the Pre-Analytical Test, the Coefficient of Variation (CV) of the data was calculated with the use of Microsoft Excel to determine the level of volatility of NPLs over the past twenty years. For Post Analytical tests, the Augmented Dickey Fuller Test was conducted to determine stationarity of the data set. This test which is conducted via the use of the R Studio Statistical Software is intended to further validate the results of the (CV) test.

The next section would provide details regarding type of data and data collection techniques.

ii. Method of Data Collection

To investigate, panel data on Non-Performing Loans of Nigerian banks as a percentage of Total Loans in the Nigerian Banking industry was extracted from the World Bank Database. More specifically, panel data from 1998 – 2018 was extracted.

This method of data collection is significant for a trend analysis given that data spanning a period of 2 decades is required to objectively observe the movement in the NPLs. Accurate and reliable data is provided by the World Bank which confirms the validity and reliability of the data used.

iii. Hypothesis Setting

As stated in the previous section, the results of the empirical review have led to the following hypothesis for the trend analysis.

Hypothesis for Trend Analysis

Ho: Nigerian NPL rates are not volatile and largely predictable - 1

H1: Nigerian NPL rates are volatile and largely unpredictable - 2

Pre-Analytical Test

In order to calculate the volatility of the data, a Co-efficient of Variation, Pre-Analytical test was conducted. The formulae used to calculate the Coefficient are as follows.

$$\text{Standard Deviation} = s = \sqrt{\frac{\sum (x - \bar{x})^2}{n - 1}} \quad - 3$$

Where s = Sample Standard Deviation
 x = Observed Values of a Sample Item
 x bar = Mean Value of the

Observations
 n = Number of observations
Coefficient of Variance =

$$\frac{s}{\mu} \times 100\% \quad - 4$$
Where s = Sample Standard Deviation
 μ = Mean

Regarding the Coefficient of Variance, the following laws apply

If $CV > 1$ = High Volatility
 $CV < 1$ = Low Volatility

Post Analytical Test

In order to confirm the authenticity of results, the study would also conduct a Post Analytical Test. This paper tested data on Non-Performing Loans for stationary using the Augmented Dickey Fuller (ADF) Test. If the data is found to be non-stationary it would prove that the data set is indeed stochastic and unpredictable. This test further validates the results generated during hypothesis testing of our trend analysis.

B. CORRELATION & REGRESSION ANALYSIS

i. Research Objective and Design

Another objective of this paper is to determine the relationship between NPLs and the Economy and well as the impact of NPLs on the Economy within the Nigerian Context. To achieve this, an expo – facto research design was adopted. A correlation analysis was then conducted to determine the nature of the relationship while a simple linear regression analysis was conducted to determine the effect of NPL on the economy growth.

ii. Method of Data Collection and Hypothesis

Once again, secondary panel data on Non-Performing Loans of Nigerian banks and the Nigerian figures for Gross Domestic Product from 1998 – 2018 were extracted from the World Bank Database for analysis.

The variables Non-Performing Loans as a percentage of Gross Loans on an annual basis were used to represent Non-Performing Loans while Gross Domestic Product on an annual basis was used as a proxy for Economic Growth.

To determine the correlation coefficient between the two variables, the R Studio statistical software was used as the tool for analysis. However, to run the simple linear regression, the SPSS Statistical Software was used. It is important to note that the logarithm of the data set was computed so as to have all data in the same format for easy use.

iii. Hypothesis Setting

As previously stated, one of the objectives of this paper is to determine the impact of NPLs on the Nigerian Economy. As established in the last section, the hypothesis was set based on the unanimous findings of our empirical review. More specifically, this study follows the work of Chude and Chude (2014) and Morakinyo and Sibanda (2016) in hypothesis setting. Therefore, the hypothesis is stated as follows:

Hypothesis for Correlation Coefficient:

H₀: NPLs do not have a negative relationship with the Nigerian Economy5

H₁: NPLs have a negative relationship with the Nigerian Economy6

Hypothesis for Regression Analysis:

H₀: NPLs do not have significant effect on the Nigerian Economy7

H₁: NPLs have significant effect on the Nigerian Economy.....8

Regression Model:

Furthermore, the regression model used for analysis is detailed below as follows:

$$Y = \beta_0 + \beta_1 X + \epsilon$$

Where Y = Dependent Variable (GDP)

X = Independent Variable (NPLs)

β₀ = Intercept on Y axis

β₁ = Slope

ε = Error Term





Results of Analysis

Pre-Analysis Test

Prior to the trend analysis, this paper conducted a Pre-Analysis Test to determine the suitability and volatility of data. The study determines the Standard Deviation and Coefficient of Variance as outlined in equation 3 and 4. Findings from the calculations are tabulated below as follows

Table 1: Co-efficient Of Variation

| S/N | Analysis | Value |
|-----|---|----------|
| 1 | Average | 14.91762 |
| 2 | Standard Deviation of Sample Population | 8.9912 |
| 3 | Coefficient of Variation | 0.602723 |

From Table A, calculations of the Coefficient of Variation show a result of 0.6027 or approximately 60%. The Coefficient of less than 1 implies a relatively low volatility – CV

< 1. For this reason, we fail to reject the null hypothesis as outlined in equation 1. Implications of this would be further discussed in the next section.

Results of Trend Analysis

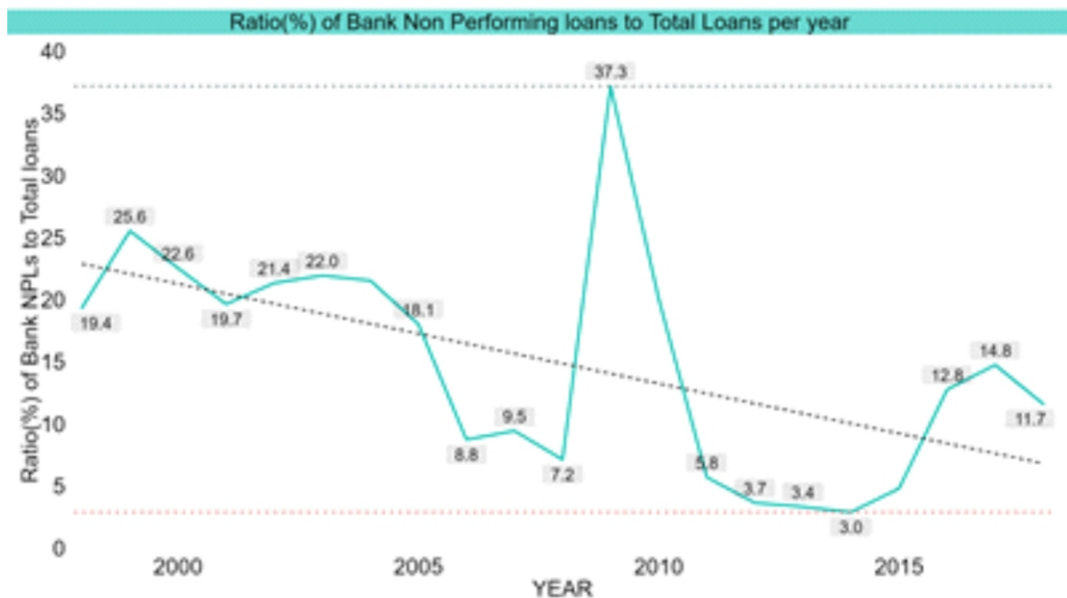
This study employed the use of a trend analysis to analyse the patterns in NPL trends in Nigeria. The study also aims to answer the questions posed in the hypothesis stated below.

H_0 : Nigerian NPL rates do not fluctuate and are largely predictable

H_1 : Nigerian NPL rates fluctuate and are largely unpredictable

Graph A displays the results of the trend analysis for Non-Performing Loans as a percentage of Gross Loans in Nigeria between from 2000 – 2015

Graph A: Non-Performing Loans as a Percentage of Gross Loans



Data Source: World Bank Data Set, 2018

Although there are major fluctuations in Graph A, the graph shows an overall downward trend in the NPL rates of deposit money banks in Nigeria over the past twenty years. Further analysis of the movement in trends over the period under review would be tackled in the next section.

Post Analysis Test

The results of the ADF Test are displayed below as follows

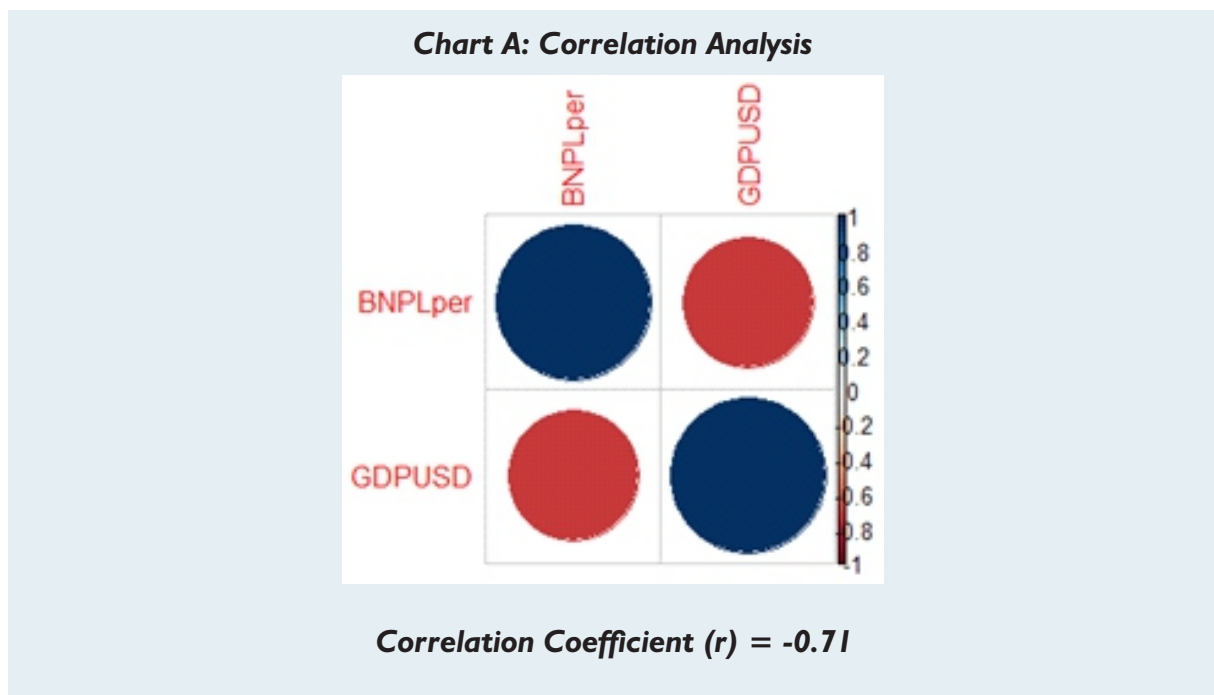
data: BNPLper
Dickey-Fuller = -3.2836, Lag order = 2, p-value = 0.09395
alternative hypothesis: stationary

The results of the ADF Test show a Coefficient of -3.2836, however, the p-value is 0.09395

which is greater than 5% confidence level. This result implies that the data used for this study is stationary. The results further validate the findings in the foregoing section and imply that movements in the trend are predictable. These results would be further discussed in the next section.

Results of Correlation Analysis

Chart A displays a graphical representation of the relationship between NPLs and GDP. The chart and correlation coefficient of -0.71 reveal a strong negative relationship between Non-Performing Loans and the Nigerian economy. For this reason, we reject the null hypothesis as outlined in equation 3.



Where;
 BNPLper = Bank Non-Performing Loan (%)
 GDPUSD = Gross Domestic Product (USD)

Results of Regression Analysis

The Figures below displays the results of the regression analysis between the NPL and GDP variables.

Figure A: Model Summary

| Model Summary | | | | |
|---------------|-------------------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .704 ^a | .496 | .469 | 122.6408 |

a. Predictors: (Constant), BNPLper

In Figure A above, the Adjusted R-squared of 0.469 implies that approximately 47% of the variance found in the dependent variable (GDP) can be explained by the independent variable (NPLs).

Figure B: Coefficient

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | 95.0% Confidence Interval for B | | |
|-------|------------|-----------------------------|------------|---------------------------|--------|---------------------------------|-------------|-------------|
| | | B | Std. Error | Beta | t | Sig. | Lower Bound | Upper Bound |
| 1 | (Constant) | 477.605 | 52.786 | | 9.048 | .000 | 367.122 | 588.087 |
| | BNPLper | -13.184 | 3.050 | -.704 | -4.323 | .000 | -19.568 | -6.800 |

a. Dependent Variable: GDP

In Figure B, the Unstandardized Beta value for the Variable BNPLper shows a figure of -13.184. This implies that for every unit increase in GDP growth, there is an approximately 13.2 unit decrease in the predicted value of Non-Performing Loans.

Figure B also displays the p value results of the regression analysis. For the variable BNPLper, the results show a p value = .000. Given that the p value is significantly smaller than 0.05, this result implies statistical

significance at 5% degrees of freedom from errors. This implies a statistically significant relationship between the variables GDP and NPL. In view of this, we reject the null hypothesis as outlined in equation 5. This result proves that with a 95% confidence level of 95%, Non-Performing Loans have a negative impact on Economic Growth.



Analysis, Interpretation and Discussion of Results

Patterns in NPLs trends in Nigeria

Fluctuations in NPL Trends

Among the objectives of this study was the task to investigate the patterns in movement of NPLs over the past 20 years. In order to investigate a Pre Analysis using the Coefficient of Variance was used to measure volatility, a trend analysis was conducted whereby a graphical representation of the movement was displayed and finally, a Post Analysis using the ADF test was used to validate the authenticity of research findings. In this section, the findings and implications of results are further discussed.

The results of the Coefficient of Variation test reveal a result of 0.602723. In arriving at this figure, the standard deviation of a sample population was calculated. The mean of NPL variable over the past twenty years was also calculated. Since the result of the CV calculation is less than 1, this implies a relatively low level of volatility. These results mean that we cannot

The Coefficient of Variation is 0.6 or < 1 which implies a low level of variance. This result mean that we cannot reject the null hypothesis as outlined in equation 1. These results imply that although there have been major fluctuations in the rate of NPLs in Nigeria, the overall variations in value have remained constant over time and are therefore generally predictable.

This result is validated by the findings of the ADF Test which was conducted to determine if the NPL dataset is stationary. The results of the test reveal a p-value of less

than 5% which leads us to assume that the data is indeed stationary. The implication of this result implies that the statistical properties of the variable NPLs is such that the mean and variance are constant over time. The results support our earlier findings of a relatively low volatility in the movement of NPL trends as revealed by the Coefficient of Variance.

The results of the trend analysis do not comply with the findings of Umoren et al (2016) and Gudu and Dhaliwal (2019). In their studies, they found irregular fluctuations in the movement of NPLs. It is important to note however, that Gudu and Dhaliwal (2019) find fluctuations predominantly within the loan books of public owned banks. This study alternatively examines the fluctuations in private deposit money banks. The following section provides a detailed interpretation of the movement in NPL values and the corresponding macroeconomic environment and policy initiatives.

Interpretation of Trend Analysis

Graph A shows that between 1998 and 2003, the NPLs to gross loans ratio was in a relatively steady state. During this period, the NPL ratio ranged between a trough of 19.4% and a high of 25.6%.

The graph also shows that between the years 2004 and 2006, the rate of NPLs to gross loans plummeted from a peak of 22% to a trough of 8%. This drop is likely due to banking sector reforms and bank consolidation exercise initiated in 2004 by the Central Bank of Nigeria (CBN). The

reforms sought to cure weaknesses of the banks such as poor asset quality, non-compliance with regulatory requirements and gross insider abuse which resulted in huge NPLs.

The reforms proved successful with NPL rates maintaining their low rates until 2007. The rate of NPLs to gross loans rose slightly from 8% in 2006 to 9.5% in 2007. This is likely due to the initial shocks of the global financial crisis which commenced the same year. Though the rate of NPLs fell slightly to 7.2% in 2008, the rates rose drastically to 37.3% in 2009. During this period, the Nigerian economy had been hit by the second-round effect of the global crisis with the stock market losing 70% of its value between 2008 and 2009.

To offset the after-effects of the financial crisis, distress solution vehicles such as Asset Management Company of Nigeria (AMCON) and the Financial Stability Committee were created. AMCON in particular was established in 2010 to be a key stabilizing and re-vitalizing tool aimed at reviving the financial system by efficiently resolving the non-performing loan assets of the banks in the Nigerian economy. As a result of this, the rate of NPLs dropped from a peak of 37.3% in 2009 to its lowest point of 3% in 2014.

The level of NPLs remained relatively stable until 2014 when the rate of NPLs climbed from 3% to 14.8% in 2017. This rise is likely due to the recession which hit the Nigerian economy in 2016.

Finally, the graph shows a slight drop in NPLs

to 11.7% in 2018. This is likely due to the rebound of the Nigerian economy from recession and growth during this period. As a conclusion, our observation is that the NPL rates accelerate due to shocks in macroeconomic indicators and stabilize after assertive credit management and government policies to control bad debt.

Relationship between NPLs and the Nigerian Economy and Impact

The results of the correlation analysis reveal a correlation coefficient of -0.71 between the two variables. These results indicate a strong negative relationship between NPLs and GDP. This implies that an increase in the rate of NPLs would cause a reduction in GDP and vice-versa. This result is in line with the findings of Adigun and Okedigba (2017) and Ugoani (2015) who reveal a significantly negative significant relationship between GDP and NPLs sighting poor risk management as the major cause of NPLs in Nigeria. The results contradict the findings of Israel (2020) whose findings revealed that GDP is not a significant determinant of bad debt ratio but poor risk management.

Impact of NPLs on the Nigerian Economy

Results of the regression analysis show the Unstandardized Beta value of -13.184 for the variable BNPLper. This implies that for every unit increase in GDP growth, there is an approximately 13.2 unit decrease in the predicted value of Non-Performing Loans. These results prove that there is indeed a negative relationship between Economic Growth and Bad debt. The Results also show

an Adjusted R-squared value of 0.469 which implies that approximately 47% of the variance found in the dependent variable (GDP) can be explained by the independent variable (NPLs).

Finally, the results of the regression show a p value = .000. This results implies statistical significance at 5% degrees of freedom. In view of this, we reject the null hypothesis as outlined in equation 5. This findings prove at a 95% confidence level that Non-Performing Loans have a significantly negative impact on Economic Growth.

Our findings are in line with those of Chude & Chude (2014) and Morakinyo & Sibanda (2016) who find a significant and negative impact between NPLs and GDP growth. The findings however contradict the findings of Majid and Mahirzal, 2007 who find no relationship and causality between economic growth and financial deepening in Indonesia.





Conclusion & Recommendations

The aim of this study was to investigate the trends in NPLs in Nigeria, discuss empirical literature on recalcitrant debtors and the impact of bad debt on the economy. Our findings suggest the following:

- Our theoretical deductions from the empirical review of literature on Recalcitrant Debtors leads us to note that such attitudes may be as a result of Hedonism or External Locus of Control belief systems.
- Through an empirical review of literature, we also find that most developing economies experience bi-directional led growth. This implies that financial development affects the smooth functioning of the economy and vice-versa.
- Our analysis also provides evidence of a significantly negative impact of bad debt on the Nigerian economy.

Sequel to these findings, proposed recommendations are as follows:

- a. Ensure Global Standards in Lending Practices:** In order to ensure strong financial institutions and in turn financial system stability, banks should follow global best practices in terms of lending practices and policies before granting loans. Policies to determine the nature of the lender should be put in place to reduce the likelihood of lending to debtors with recalcitrant tendencies
- b. Strengthening of Regulatory Institutions:** Regulatory institutions such as AMCON (The Asset

Management Company of Nigeria) need to be further strengthened so as to actively and efficiently recover debts as well as perform its other core functions. Furthermore, loopholes or gaps in the Act with which AMCON and other similar institutions should be tightened to prevent erring borrowers from exploiting such loopholes.

- c. Detect Traits/Belief System of Recalcitrant Debtors –** As mentioned in the first recommendation, it is essential for banks and other financial institutions to put more efforts into determining the character of debtors before approving loans. For example, personality tests or trend analysis regarding the debtors' attitude towards previous loans repayment incidences would be instrumental in determining their belief systems and effectively detecting likely characteristics of a recalcitrant debtors. Banks should also seek strategies e.g. tailored banking facilities/solutions for potential customers with such characteristics
- d. Special Courts –** Regulators should consider the creation of Special Courts to handle issues regarding recalcitrant debt. This would ensure the speedy dispensation of matters involving loan recoveries posed by debtors with the recalcitrant belief system. Special Courts would also ensure that such types of debtors cannot conveniently escape legal action taken against them.



Limitation of Study and Future
Research

The major limitation pertains to the scope of study, in that;

- The trend analysis was conducted before the emergence of the Covid-19 epidemic. It is essential to conduct this analysis again given that the rate of NPLs certain sectors of the economy

are bound to be affected by the crisis.

- The literature on recalcitrant debtors is only few and far between. Further research on the character traits and belief system of recalcitrant debtors should be conducted in order to gain a better understand their behaviour and impact on the trend in NPLs.



Non Performing Loan

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Appendix

Table 1: Gross Domestic Product & Percentage of Non-Performing Loans 1998-2018

| YEAR | BNPLper | GDP (\$'Bn) |
|------|---------|----------------|
| 1998 | 19.40 | 54.6 |
| 1999 | 25.60 | 59.4 |
| 2000 | 22.60 | 69.4 |
| 2001 | 19.70 | 74.0 |
| 2002 | 21.40 | 95.4 |
| 2003 | 22 | 104.9 |
| 2004 | 21.6 | 136.4 |
| 2005 | 18.1 | 176.1 |
| 2006 | 8.8 | 236.1 |
| 2007 | 9.5 | 275.6 |
| 2008 | 7.19 | 337.0 |
| 2009 | 37.25 | 291.9 |
| 2010 | 20.14 | 363.4 |
| 2011 | 5.77 | 410.3 |
| 2012 | 3.71 | 459.4 |
| 2013 | 3.39 | 515.0 |
| 2014 | 2.96 | 568.5 |
| 2015 | 4.86 | 494.6 |
| 2016 | 12.82 | 404.6 |
| 2017 | 14.81 | 375.7 |
| 2018 | 11.67 | 397.3 |



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