Analysis of Credit Risk Management and Commercial Banks' Performance in Nigeria

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Abstract

This study examines the impact of credit risk management on Nigerian deposit money banks' profitability between 1993 and 2022. The rate of return on assets was used to assess credit risk management, with provisions for bad debt, loan losses, and non-viable loans acting as independent variables. One of the secondary sources consulted was the CBN's Bulletin (2022). The study measures electronic banking using point of sale (POS), automated teller machines (ATM), and electronic mobile payments (EMP), using GDP as a stand-in for the Nigerian economy. OLS (Ordinary Least Square) assists in developing and evaluating hypotheses. The study finds a negligible and adverse impact of loans and advances on the profitability banks. The impact of nonperforming loans on the profitability of commercial banks in Nigeria is, at most, marginally favourable. The provision for debt has a negative and little impact on banks in Nigeria. The research found that Nigeria's commercial banks' credit management strategies have little to no impact on how well they operate. When issuing credit, bank management—and credit officers in particular—have an obligation to use prudence and adhere to prudential norms. Banks should closely adhere to a Know Your Customer (KYC) system and establish comprehensive techniques for measuring and monitoring credit, and guaranteeing functional controls over credit risk. According to the study, deposit money institutions need to provide credit guarantees to shield their customers' funds against fraud. Small enterprises with little capital should refrain from granting certain forms of borrowing. The capital of a bank acts as a safeguard against the potential loss of depositor funds. Nigerian deposit money institutions need to have sufficient capitalization even in the absence of the authority's regulatory eyes.

Keywords: Credit Management Strategies, Commercial Banks' Performance, Electronic Banking, Loans and Advances, Provision for Debt.

1. Introduction

The Nigerian banking sector occupy a substantial part in the country's economic progress, serving as a key financial intermediary and facilitating economic activities through lending and investment (Uwuigbe, Olubukunola, & Babajide, 2020). However, the performance and stability of commercial banks in Nigeria are subject to various risks, with credit risk being one of the most significant. Credit risk arises from the potential default of borrowers, leading to potential financial losses for banks. Therefore, it is imperative to acknowledge the paramount significance of proficient credit risk management in ensuring the optimal viability and steadfastness of deposit banks operating within the Nigerian context.

Commercial banking institutions in Nigeria encounter a plethora of challenges when it comes to effectively managing credit risk, a factor that has a direct and profound influence on their overall performance. Credit risk pertains to the inherent likelihood that debtors may exhibit a failure to fulfil their contractual commitments, thereby engendering plausible fiscal detriments for financial institutions. The efficacy of credit risk management practices exerts a profound effect on the holistic viability of deposit banks, as posited by Adebiyi and Olokoyo (2019). Inefficient credit risk management can result to high non-viable loans, increased provisioning costs, and reduced profitability (Ismaila, 2021). Nigeria's banking sector has experienced episodes of financial distress in the past, including the banking crisis of the late 2000s. These events underscored the significance of robust credit risk management approaches in ensuring the stability and resilience of commercial banks. Effective credit risk management involves determining borrowers' credibility, establishing suitable credit limits, keeping an eye on and managing loan portfolios, and taking prompt action to mitigate potential risks (Nwankwo, 2018).

Despite the plethora of studies conducted on management of credit risk and how it affects the efficiency of banks, recent developments and changes in the banking landscape, both globally and in the Nigerian context, have created a need to reevaluate the existing literature and identify any gaps that may exist (Smith et al., 2021; Oseni et al., 2022). The financial crisis of 2008 and subsequent regulatory reforms have significantly transformed the banking industry, resulting in changes in credit risk management practices and regulations worldwide (Schroeck, 2017). In the Nigerian banking sector, the emergence of new technologies, changing customer preferences, and evolving macroeconomic conditions have added further complexities to credit risk management (Oseni, Olukayode & Adediran, 2022).). However, the extent to which these recent developments have been reflected in the existing literature remains unclear.

Furthermore, although earlier research has explored the association among management of credit riskt and the viability of banks, there is a lack of information in the literature about the precise mechanisms through which practices related to credit risk management affect different aspects of banks' performance, such as capital adequacy, profitability, liquidity, and asset quality (Ismaila, 2021). The understanding of how credit risk management practices impact these performance indicators is essential for banks' decision-making processes and strategic planning.

Indeed, there have been a lot of academic studies on management of credit risk and how it affects the efficiency of financial institutions' operations. However, there is still a big problem with the conclusions that have been reached so far, which means that more research is needed to fully understand these issues. A plethora of scholarly investigations have been conducted to scrutinise the complex association among credit risk management and the performance of financial institutions across diverse settings. Nevertheless, it is imperative to acknowledge that these studies have yielded incongruous outcomes pertaining to the exact essence and extent of the influence. As exemplified, certain scholarly inquiries have unearthed a favourable interplay among the implementation of credit risk management methodologies and the discernible metrics of banks' performance, encompassing but not limited to profitability, liquidity, asset quality, and capital adequacy (Uwuigbe, Olubukunola, & Babajide, 2020).

On the other hand, conflicting studies have suggested a negative or insignificant relationship (Okafor et al., 2019). This disparity in findings highlights a gap in the literature and raises interrogations on the efficacy and efficiency of credit risk management practices in the Nigerian banking sector. It is unclear whether the inconsistent results are due to differences in methodologies, sample sizes, or contextual factors specific to the Nigerian banking environment. Therefore, a comprehensive investigation is required to reconcile these disparate findings and provide a clearer understanding of the interplay among management of credit risk and banks' performance in the Nigerian context. Therefore, this research is directed at addressing the gap in the literature by conducting an analysis of the effect of credit risk management on banks' performance in the Nigerian financial industry.

2. Literature Review

2.1 Credit Risk Management

Within the realm of finance, credit encompasses the act of extending loans and incurring debt. The scholarly work by Gieseche (2004), Appiah's seminal work in 2022, posits that the prudent practice of credit allocation serves as a fundamental tenet that fortifies the fiscal robustness of financial institutions. The aforementioned researcher emphasised the significance of sound credit allocation, which not only establishes credit limits but also facilitates the credit approval process for new credit applications. Credit plays an exceedingly pivotal role in facilitating the economic expansion of a nation. The aforementioned roles that credit plays can be classified into two distinct categories: firstly, it facilitates the allocation of funds to their most optimal and efficient utilisation; and secondly, credit serves to economise the utilisation of currency or coinage by virtue of its ability to generate a multiplier effect on the overall volume of currency or coinage in circulation.

Thus, credit risk management entails the systematic undertaking of identifying, evaluating, and alleviating the potential peril associated with borrowers failing to fulfil their loan obligations. The aforementioned function holds paramount importance for financial institutions, as its execution possesses the potential to exert a substantial influence on their fiscal outcomes. In the event that a financial institution extends credit to individuals who lack the capacity to fulfil their loan obligations, said institution runs the risk of incurring financial losses, potentially leading to dire consequences such as complete financial collapse (Brock and Schmitt, 2023).

2.2 Commercial Banks' Performance

Financial institutions such as banks serve a dual purpose, encompassing not solely the acceptance of deposits but also the provision of credit facilities. Consequently, they find themselves unavoidably susceptible to the inherent perils associated with credit management. Credit can be defined as the manifestation of trust bestowed upon a borrower by a lender, enabling the seamless transfer of resources to the borrower's possession, all without the requirement of immediate monetary compensation (Greuning & Bratanovic, 2003). This entails the act of a lender providing a borrower with an asset with the explicit purpose of receiving an asset of equivalent value on a future date designated for repayment. The paramount risk encountered by financial institutions is undeniably credit risk, which holds the key to their prosperity. The precise quantification and effective administration of this uncertainty bear more weight than other risk, ultimately determining the triumph of their operations.

Nevertheless, it is imperative to acknowledge the pivotal role that commercial banks assume within the intricate framework of the financial system (Kagan, 2023). These esteemed institutions serve as intermediaries, diligently facilitating the seamless movement of capital between various entities, including individuals, enterprises, and governmental bodies. The efficacy of their endeavours exerts a direct influence on holistic economic vitality and societal welfare. The process of evaluating the performance of a commercial bank entails a meticulous examination of its capacity to successfully attain its financial goals, adeptly handle risks, and make valuable contributions to the overall stability and expansion of the economy.

2.3 Credit Risk Management and Commercial Banks' Performance

The management of credit risk continues to be recognised as a pivotal factor in determining the overall efficacy and steadfastness of commercial banking institutions. The implementation of efficient credit risk management strategies assumes a pivotal role in determining the overall efficacy and success of commercial banking institutions, as highlighted by Muhammad (2021). It serves to ameliorate credit risks and reduce loan losses, thereby exerting a consequential influence on the financial performance of banks. The discipline of credit risk management encompasses the identification of prospective risks, the evaluation of their probability and magnitude, the execution of tactics to alleviate said risks, and the ongoing surveillance and regulation thereof. The implementation of this proactive strategy by financial institutions serves to fortify the establishment against incurring intolerable losses and guarantees the maintenance of adequate capital adequacy.

A comprehensive study conducted in Nigeria by Adekunle et al. (2015) revealed that managing credit risk significantly impacts the overall financial performance of commercial banks. The scholarly investigation suggests that upholding a threshold for non-performing loans and allocating provisions for loans and advances would bolster financial efficacy by exerting a positive influence on return on equity. Oluwafemi et al. (2014) conducted a subsequent examination of ten Nigerian commercial banks, exploring the impact of credit risk management on the financial performance of these banks. The study measured financial performance using the return on assets (ROA) metric and covered the years 2006 to 2009. The findings of this study indicate that both the non-performing loans and liquidity ratios fail to exert a substantial impact on the financial performance of Nigerian commercial banks. Pandey and Samanta (2021) underscored the significance of incorporating internal factors, namely the management of efficiency and scale, within the purview of commercial banks. These aforementioned factors possess the capacity to exert an influence on the credit risk, thereby potentially affecting the overall quality of the bank's credit assets.

2.4 Theoretical Review

Numerous theoretical frameworks have been posited with the aim of elucidating the fundamental association among the management of credit risk and the operational efficacy of commercial banks. The most ancient postulation pertaining to the concept of banking is the commercial loan theory, which is alternatively referred to as the real bill's doctrine. This theory was advanced by the esteemed Adam Smith in the illustrious nation of England during the enlightening epoch of the 18th century. The tenets of the commercial loan theory posit that financial institutions ought to exclusively extend credit to enterprises through short-term, self-liquidating loans that facilitate productivity. Self-liquidating loans, in essence, serve the purpose of providing financial support for the intricate process of producing, mobilising, and disseminating goods across various stages of the production cycle, encompassing storage, transportation, and distribution.

Upon the eventual sale of said commodities, the loans are deemed to undergo automatic liquidation. As an exemplification, consider a loan extended by a financial institution to an entrepreneur with the purpose of procuring inventories. The repayment of said loan would be facilitated through the proceeds generated from the subsequent sale of said inventories, thereby engendering an inherent mechanism for self-liquidation. According to the theoretical framework, it is posited that in instances where deposit banks exclusively engage in the provision of short-term self-liquidating viable loans, the apex bank should reciprocally limit its lending activities solely to these banks, with the condition that the loans are secured by said short-term loans.

2.5 Empirical Review

The academic research by Okere, Isiaka, and Ogunlowore (2018) delves into the complex interaction among risk management and the financial viability of commercial banks in the Nigerian context. The research employed secondary data to investigate the correlation between variables pertaining to credit risk management and the financial viability of ten deposit banks that are registered on the Nigerian stock market.Amahalu, Obi, Chidoziem, and Abiahu (2017) conducted scholarly research that delved into the complex dynamics surrounding the association among loan management and financial viability. Specifically, their study centred on the commercial banks operating within the purview of the Nigerian stock exchange during the temporal span of 2010 to 2015. The research employed secondary data derived from authoritative sources such as fact books, yearly reports, and financial statements of the publicly traded Nigerian commercial banks.

Saeed and Zahid (2016) carried out a thorough analysis to look at the significant outcome of credit risk management on the overall performance of five well-known deposit banks operating in the United Kingdom. In the pursuit of assessing profitability, the examination encompassed two interrelated variables, namely return on assets and return on equity. Concurrently, the evaluation of credit risk management entailed the scrutiny of two distinct variables: net charge-offs (alternatively referred to as impairments) and nonperforming loans. A series of rigorous statistical analyses were undertaken on a comprehensive dataset encompassing bank information spanning the years 2007 to 2015, thereby capturing the crucial timeframe during which the global financial crisis unfolded. It has been determined that there exists a positive interplay among credit risk indicators and the profitability of financial institutions.

Ali (2015) conducted a thorough study in which the author examined the complex connection between management of credit risk and the financial viability of deposit banks in Jordan. The study spanned a significant period from 2005 to 2013, encompassing a total of thirteen carefully selected commercial banks that collectively represented the entirety of the Jordanian commercial banking sector. Two mathematical models were used to explore the link among credit risk management and the financial health of deposit banks in Jordan, as measured by return on assets and return on equity. The findings additionally ascertain that the credit risk management indicators examined in this research exert a noteworthy impact on the financial viability of deposit banks in Jordan.

Egide and Paul (2017) conducted a scholarly investigation into the intricate outcome of credit risk management on the operational effectiveness of deposit banks in the Rwandan context. The study has successfully ascertained that the implementation of credit risk management monitoring serves as a valuable tool in ensuring adherence to appropriate credit risk management practices. Furthermore, it has been determined that the diligent monitoring of risks aids bank management in promptly identifying errors in their initial stages. Consequently, the study has reached the conclusion that credit risk management exerts a favourable impact on the financial viability of deposit. This observation suggests that the presence of subpar asset quality or a significant proportion of non-viability loans in relation to total assets is closely associated with the underwhelming performance exhibited by banks.

Olawale, Tomola, James, and Felix (2015) carried a research study to investigate the outcome of credit risk management on banks' overall performance in the Nigerian context. The researchers employed a dynamic panel model in order to conduct an analysis on the dataset pertaining to six deposit money banks spanning the time period from 2000 to 2013. The findings substantiate the presence of limited profit persistence within the Nigerian banking sector. The study revealed a discernible inverse interplay among credit risk and the financial viability of banks. This suggests that the augmentation of a bank's engagement with credit risk management has a consequential outcome on its profitability. Additionally, it was discovered that the aggregate loan amount exhibits a favourable and significant correlation with the financial viability of banks.

Adekunle et al. (2015) conducted a comprehensive analysis to assess the influence of credit risk management on the financial performance of ten Nigerian banks from 2006 to 2010. The study focused on investigating the correlation between two key indicators of credit risk, namely the reserve rate of non-performing loans, the rate of non-performing loans, and the rate of return on assets. It has been determined that the implementation of credit risk management practices exerts a favourable and noteworthy influence on the financial performance of commercial banks operating within the Nigerian context. Adegbie and Dada (2018) carried a study to determine the outcome of risk asset and liquidity management on the long-term viability of commercial banks in Nigeria. The research used a combination of ex-post facto and survey research methodologies. The study's population consisted of commercial banks that are actively engaged in the banking industry. The sample, on the other hand, was comprised of three specific banks, chosen to represent the larger population, along with the Central Bank of Nigeria.

In order to understand the complex interplay among trade credit management and a firm's financial viability, Kumaraswamy (2019) conducted an in-depth investigation. The research utilises a representative sample of 41 manufacturing firms listed at the esteemed Tadawul Stock Exchange in Saudi Arabia. These firms are categorised into three indexes, namely energy, materials, and capital goods. The data spans from 2009 to 2017, providing a comprehensive timeframe for analysis. The use of the fixed effect regression methodology is used for the purpose of analysing the panel data, wherein the dependent variable is the operating profit margin. The independent variables in this analysis consist of the daily sales outstanding and accounts receivable turnover.

Kasali and Fashanu's (2020) delved into the complex interplay among credit management and financial viability. In order to attain the desired outcome, the study used a descriptive survey research design methodology, wherein data was gathered from both the personnel and clientele of two notable financial establishments in Nigeria. The utilisation of correlation and regression analyses facilitated the estimation of causal interplay among credit management and financial viability, as well as other pertinent variables. The findings of the analyses revealed that the implementation of proficient credit management systems within a company leads to a notable augmentation in the firm's operational efficacy.

3. Methodology

The utilisation of an ex post facto design is deemed appropriate for this particular research endeavour due to the unavailability of data that can be observed or investigated experimentally. Notably, the data required for this study already exists and can be sourced from esteemed publications such as the CBN bulletin and yearly supervision report. To analyse the collected data, the Ordinary Least Squares (OLS) technique has been employed. This choice is justified by its ability to minimise the error sum of squares, its unbiased nature, consistency, minimum variance, and overall efficiency. The data gathered for the purpose of this study will be subjected to multiple regression analysis, enabling the interpretation and examination of the hypotheses at hand.

3.1 Model Specification

A model can be understood as a distilled representation of reality, carefully crafted to facilitate our comprehension and articulation of the fundamental nature and interconnectedness inherent in the system or phenomenon it portrays (Yomere and Agbonifoh, 1999). In testing the association among globalization and bank viability, the study specifies that;

ROA=F (LNA, NPL, PBD) .(1)

$$(ROA)=\beta_o+\beta_1 logLNA + \beta_2 logNPL+\beta_3 logPBD +u_t \qquad (2)$$

Where, β_o= constant term, β_1 - β_3= coefficient of independent variables, u = Error term
ROA = Return on Assets, LNA = Loan and Advances, NPL = Non-performing Loans
PBD = Provision for Bad Debt

4. Data Analyses and Discussion of Findings

4.1 Descriptive Statistics

Table 1 presents a comprehensive overview of the descriptive analysis outcomes pertaining to all variables examined in this study. The summary encompasses key statistical measures such as the mean, median, maximum, minimum, standard deviation, and the total number of observations, among others.

Table 1: Descriptive Statistics

	LNA	NPL	PBD	ROA
Mean	6130.655	1276.209	43.65000	2.831000
Median	6063.100	1407.960	41.80000	2.500000
Maximum	16117.20	2103.180	101.1000	9.820000
Minimum	272.9000	52.81000	1.700000	0.040000
Std. Dev.	5389.790	619.7301	29.18167	1.914116
Skewness	0.490762	-0.508253	0.467455	2.406360
Kurtosis	1.940902	2.049718	2.606952	10.18422
Jarque-Bera	1.737563	1.613602	0.857119	62.31273
Probability	0.419462	0.446283	0.651447	0.000000
Sum	122613.1	25524.18	873.0000	56.62000
Sum Sq. Dev.	5.52E+08	7297243.	16179.83	69.61298
Observations	**30**	**30**	**30**	**30**

Author's Computation (2023)

The study utilised time series data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin, specifically from the year 2022. This data spanned a duration of twenty years and was employed for the purpose of analysis. The mean Loan and advances were ₦6,130.655 billion, it has a minimum and maximum values of ₦272.9000 billion and ₦16,117.20 billion. The mean Non performing loans had a mean of ₦1,276.209 billion, with a minimum and maximum value of ₦52.81000 billion and ₦2,103.180 billion respectively. Provision for bad debt had a mean value of ₦43.65000 billion, with a minimum and maximum of ₦1.700000 billion and ₦101.1000 billion. Lastly, returns on asset had a mean of 2.83% with a minimum and maximum of 0.04% and 9.82%.

4.2 Credit Risk Management and Commercial Banks' Performance

Table 2 Estimated Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.153993	2.283028	0.505466	0.0601
(LNA)	-0.234235	0.334300	-0.700674	0.4936
(NPL)	0.725877	0.591102	1.228006	0.2372
(PBD)	-0.360501	0.314051	-1.147906	0.2679

R-squared	0.487923	Mean dependent var	0.763701
Adjusted R-squared	0.479341	S.D. dependent var	1.040964
S.E. of regression	1.071405	Akaike info criterion	3.152676

Sum squared resid	18.36655	Schwarz criterion	3.351822
Log likelihood	-27.52676	Hannan-Quinn criter.	3.191551
F-statistic	1.645224	Durbin-Watson stat	2.071181
Prob(F-statistic)	0.087178		

Author's Computation (2023)

The result in Table 2 shows that loan and advances have a negative effect on deposit money banks performance, with a coefficient of -0.234235. Non-performing loans have a positive effect on the performance of banks in Nigeria, with a coefficient of 0.725877. While, provision for bad debt has a negative outcome on the viability of commercial banks in Nigeria, with a coefficient of -0.360501.

4.2.1 Test of Hypotheses

H_{01}: There is no significant impact of loans and advances on the performance of the deposit money banks in Nigeria. Henceforth, based on the data presented in Table 2, it can be deduced that the probability value of 0.4936 exceeds the threshold of statistical significance at the 5% level. The inference can be made that the null hypothesis has been embraced. Consequently, the study deduces that the influence of loans and advances on the viability of commercial banks in Nigeria is deemed insignificant.

H_{02}: There is no significant impact of non-performing loans on the performance of deposit money banks in Nigeria. Henceforth, as per the data presented in Table 2, it can be deduced that the probability value of 0.2372 surpasses the threshold of statistical significance at the 5% level. The inference can be made that the null hypothesis has been embraced. Henceforth, the study posits that the presence of non-performing loans exhibits no discernible correlation with the overall viability of commercial banks within the Nigerian context.

H_{03}: There is no significant impact of provision for bad debt on the performance of deposit money banks in Nigeria. Henceforth, based on the data presented in Table 2, it can be deduced that the probability value of 0.2679 surpasses the threshold of statistical significance at the 5% level. The inference can be made that the null hypothesis has been embraced. Henceforth, the study deduces that the allocation for delinquent debt exhibits no discernible correlation with the efficacy of depositary financial institutions in Nigeria.

5. Conclusion and Recommendations

The research findings indicate that the implementation of credit risk management practices exerts a notable and favourable impact on the operations of deposit banks within the Nigerian context. This aligns with the scholarly contributions of Adeniji, Iyiola, and Amole (2021). The study thus proposes that the management of financial institutions, particularly credit officers, should exercise due diligence by adhering to prudential guidelines when disbursing credit facilities. Financial institutions are required to establish robust protocols for evaluating and approving credit, adhere rigorously to the "know your customer" (KYC) framework, implement functional mechanisms for assessing and overseeing credit, and maintain stringent controls to mitigate credit risk.

It is imperative that the DMBs prioritise the establishment of a robust credit guarantee mechanism, thereby fortifying the protection of customer funds against potential credit losses. It is imperative that small-scale business enterprises with limited financial resources refrain from extending certain types of credit facilities. Hence, the intrinsic value of capital for a financial institution function as a protective barrier against the potential erosion of depositors' funds. It is imperative that Nigerian deposit money banks maintain a substantial level of capitalization, irrespective of the absence of constant oversight from regulatory authorities.

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Appendix 1
Credit Risk Management and Commercial Banks in Nigeria 1993-2022

Year	Loan and Advances (N,Billion)	Non-Performing Loans (N,Billion)	Provision for Bad debt (N,Billion)	Return on Assets %
1993	212.9	52.81	2.2	4.52
1994	322.8	324.22	2.6	4.13
1995	408.3	386.09	1.7	3.96
1996	796.2	472.54	45.0	4.82
1997	454.6	767.05	47.5	2.63
1998	272.9	52.81	2.2	4.52
1999	322.8	324.22	2.6	4.13
2000	508.3	386.09	1.7	3.96
2001	796.2	472.54	45.0	4.82
2002	954.6	767.05	47.5	2.63
2003	1,210.0	936.89	41.3	2.00
2004	1,519.2	1,312.48	62.0	2.58
2005	1,976.7	1,503.44	64.2	0.49
2006	2,524.3	1,249.21	14.0	2.65
2007	4,813.5	1,098.17	28.8	5.92
2008	7,799.4	1,591.96	32.4	4.29
2009	8,912.1	1,752.29	93.1	(9.28)
2010	7,706.4	1,733.16	42.8	3.91
2011	7,312.7	1,005.56	95.3	(0.04)
2012	8,150.0	2,047.73	101.1	2.62
2013	10,005.6	2,103.18	57.3	2.89
2014	12,884.4	1,718.82	31.2	2.50
2015	13,086.2	1,956.58	28.2	2.50
2016	16,117.2	1,926.19	42.3	1.36
2017	15,740.6	1,867.20	40.0	2.42
2018	16,117.2	1,926.19	42.3	1.36
2019	13,086.2	1,956.58	28.2	2.50
2020	16,117.2	1,926.19	42.3	1.36
2021	16,898.9	1,987.14	42.6	2.50
2022	16,835.2	1,992.19	44.3	1.36

Source: Central Bank of Nigeria Statistical Bulletin, 2022