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Analysis of Credit Risk Management Practices in Commercial Banks in DR Congo "Case of RAWBANK SA"

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Abstract

Effective credit risk management is of paramount importance for the stability and profitability of commercial banks. This study focuses on analyzing credit risk management practices within the context of the Democratic Republic of Congo (DR Congo), with a specific emphasis on RAWBANK SA. The aim of this research is to gain insights into the credit risk assessment and mitigation strategies employed by RAWBANK SA and to evaluate their effectiveness in ensuring financial stability. The study employs a mixed-methods approach, combining qualitative and quantitative methodologies. Qualitative data is gathered through in-depth interviews with key personnel responsible for credit risk management at RAWBANK SA. These interviews provide a comprehensive understanding of the bank's credit risk policies, procedures, and challenges faced in the unique economic and regulatory environment of DR Congo. On the quantitative front, the study analyzes historical credit data, assessing loan default rates, provisioning practices, and risk-adjusted returns. This data-driven analysis allows for a quantitative evaluation of the bank's credit risk exposure and its management over a specific period. Findings from the research shed light on the strengths and weaknesses of RAWBANK SA's credit risk management framework. The study also highlights the impact of macroeconomic factors, regulatory constraints, and industry-specific challenges on credit risk in the DR Congo banking sector. By examining the case of RAWBANK SA, this research contributes to the broader understanding of credit risk management practices in emerging markets and offers recommendations to enhance the bank's risk management strategies. The insights gained from this study are valuable not only for RAWBANK SA but also for other commercial banks operating in similar economic and regulatory contexts. The findings provide a basis for informed decision-making, policy formulation, and risk mitigation strategies, ultimately contributing to the overall financial stability and sustainable growth of the banking sector in DR Congo.

Subject Areas

Economy

Keywords

Analysis, Credit Risk Management, Commercial Banks, DR Congo, RAWBANK SA

1. Introduction

For many years, credit risk has been one of the major causes of the volatility of corporate and financial institutions' results. Like any business, a credit institution is exposed to a multitude of risks that can lead to its failure and bankruptcy. The granting of credit is the main function of banks. It is an operation by which a credit institution makes or promises to make available to a customer, a sum of money for interest and fees, for a fixed or indefinite period. It is therefore a resource use that a bank makes in the hope of being reimbursed and this adds interest constituting the price of the risk it takes and other ancillary costs [1] [2] [3].

Therefore, even if the banker hopes to have a gain in this operation, he simultaneously exposes himself to an uncertainty of non-repayment of the borrower. In fact, when credit is granted, the lending institution is not always sure of recovering its funds. Thus, the latter is frequently exposed to credit risk. It may be, certainly due to an economic recession, thus making it impossible for borrowers to honor their commitments, but it is all the more crucial for the banker to find effective ways to protect himself, if not to control this risk of non-repayment of the customer, synonymous with loss or profit. It is utopian for a company to have as its objective the loss of profit. Like all companies, the bank is a commercial enterprise, which also seeks to maximize its profitability. It must therefore be globally profitable in its activity. Credit is an anticipation of future revenues, so its good management is crucial for the performance and sustainability of the bank. The performance of a bank implies good credit risk management through effective techniques [4]-[9].

Credit risk is very important for banks, bond issuers and their investors. It is subject to economic cycles, the economic situation of the sector of activity, country risk and events specific to the life of the company [10] [11] [12] [13]. It declines during economic expansion, as the considerable gains made by firms during this period effectively reduce the probability of default; It increases during recessions, as earnings decline, companies find themselves struggling more often than usual to repay bank or bond loans. Risk is exposure to a potential hazard inherent in a situation or activity. But reducing the danger and reducing the risk are two separate things [14].

In this light, the amount of money created by banks is determined by the demand for credit from households and businesses to finance all or part of their spending. This thesis, which occupies a central place in post-Keynesian macroeconomics, denies the causal relations between loans and deposits that underlie the representation of the credit multiplier; in reality, Chen and Cheng [3] [15] point out that it is the loans that make the deposits and not the other way around. Banks create money and refinance with the central bank according to their liquidity needs instead of central money being the basis from which banks can grant credit.

This work will allow them to understand the positive impact generated by the repayment of their credit. Indeed, this repayment will allow banks to be more efficient, therefore these customers will be able to benefit from more and more loans. However, if credit risk can lead to the failure and bankruptcy of banks, this will not spare companies from filing for bankruptcy. Similarly, it is all the more important for banks to update their credit risk management methods, in the face of competition in their sector, at the emergence of new parameters that influence credit risk as well as market risk [16] [17] [18] [19]. In the same vein, while effective credit risk management is central to banks' profitability, bankruptcies are the negative results of its mismanagement. Thus, this work will constitute, on the one hand, a precautionary tool for new banks in their credit risk management, and on the other hand, for credit institutions that have come close to bankruptcy, this study could serve as a support instrument for a considerable growth, if not a perpetuation, of their main activities as lenders.

In addition, this research paper will undoubtedly be a real opportunity for any researcher to better understand the complexity of the task entrusted to these credit institutions which occupy a prominent place in the management of their main source funds of the loans granted. Finally, from an international point of view, we cannot talk about credit risk management without mentioning the financial crisis called "Subprime Crisis" that continues to rage throughout the world. In fact, the starting point of this crisis is the granting of subprime credits, which are loans with variable interest rates and high levels. These are mortgages granted by banks to households that have mostly low incomes. From that moment on, it emerges a poor management of the risk of loans made by these banks. Such large-scale work will enable credit institutions, particularly those in the DRC, to better understand the need to comply with prudential management standards for credit operations.

In respect of the above studies, the present study focused on the following research question: In relation to the constraints relating to verifying the integrity and accuracy of the information provided by the borrower, how does RAWBANK manage the credit risk? What are the credit risk analysis methods? What strategies does RAWABANK employ to reduce the risk of non-repayment?

2. Work Methods and Techniques

Any scientific approach makes varying use of a group of methods. The method is defined as “a path to follow to achieve a goal”. After riding many papers and thesis [1]-[3] [15] [20]-[32] in this work to test our hypothesis, we used.

2.1. The Inductive Method

To induce is to go back from the observation of the facts to a general proposition. We begin by collecting many of the contingent facts and events, and then investigate whether to measure relationships exist between the various facts and events selected, and thus enter the field of descriptive statistics, the surest form of observation. Nowadays, statistics is universally regarded as the inductive method by excellence, the quantitative method of economics.

As part of our study, it is from the observation of credit risks mobilize to implement effective means to do so. This method makes it possible to draw general conclusions according to the evolution of the phenomenon, from an observation made over six years. They also helped us in the analysis and processing of data by statistical calculations such as the calculation of averages etc.

2.2. The Analytic Method

Analysis is a study done to discern the different parts of a whole, to determine or explain their relationship to each other. It consists in breaking down the object of study by going to the simplest. This method helps us to make an analysis of the credit risk management of a bank as a monetary financial institution.

2.3. The Comparative Method

It is confronted with two or more things to detect similarities and differences. The comparative method leads to the explanation of the facts insofar as it makes it possible to detect causal links or factors generating the differences or similarities observed. We have used this method because it will allow to compare the different data year after year of the period under review.

3. Research Techniques

The technique is the set of means, tools or instruments made available to the method to ensure its conceptual operationality at the level of its application.

Thus, to collect our data, we used the following techniques.

3.1. Indirect or Documentary Observation Technique

It consists of studying and analyzing documents in order to determine the facts of which these documents bear traces. It consists for the researcher to be on the place where the facts take place. It helped us consult books and other related documents such as journals, annual reports of banks, articles, websites etc.

3.2. Interview Technique

This has enabled us to have the opinions and considerations of those responsible in risk and credit management who have been kind enough to answer the questions we have put to them.

We interviewed the head of the financial department, the head of commercial management and the head of the risk department. The discussions were based on credit risk management practices within the banking sector, with an emphasis on strategies, policies, and regulatory compliance. All interviewees were assured of the confidentiality of their responses, with their consent for the interview and the use of their insights in this text. The open questions were designed to encourage respondents to freely share their experiences, opinions and ideas. The interview was conducted with a flexible approach, allowing interviewees to elaborate on specific areas of expertise and interest. The interview sessions were recorded, transcribed, and subsequently analyzed to ensure the accuracy and integrity of the information presented in this text. However, it should be noted that this analysis runs from 2017 to 2022 taking into account the availability of data and to the extent of ensuring better verification of the assumptions we have set in advance.

4. Results

After defining the basic concepts and the presentation of the scope, we analyze in this paper the management of credit risks in commercial banks, case of RAWBANK, and then the problems they face and finally see how it overcomes them in order to be successful in the market.

Credit risk management within RAWBANK if it's also meets the regulatory requirements of the Central Bank of Congo. It is part of the laws and regulations governing credit activity in force in the Democratic Republic of Congo and in particular those enacted by the Central Bank of Congo such as Article 34 of Instruction 17 which stipulates that companies must set up systems for analysis, measurement, monitoring of all risks of different types to which their activities expose them and in particular ensure that credit risks, market, operational, interest rate, liquidity, settlement and risks related to outsourced activities are properly assessed and controlled and that processes for assessing the overall regulatory capital adequacy in relation to these risks are put in place.

Within the risk management framework implemented within RAWBANK aims to design policies, rules, procedures and processes that identify measure, control, mitigate and report the risks to which the bank is exposed. Risk management aims to balance risk and profitability, as risk is inherent in a bank's operations. Credit risk is like the possibility of losses associated with a decrease in the credit quality of borrowers or counterparties. In RAWBANK's portfolio, losses arise from defaults due to the inability or unwillingness of a client or counterparty to meet their commitments.

The maximum limit for credit risk exposure for a set of customers with similar characteristics, profiles and/or products, with clearly defined standard criteria, terms and conditions. It is a cost-effective approach to credit management in cases where credit risks and expected returns lend themselves to a predictable approach model. Given the large number of cases handled, automated monitoring and reporting is important to identify the trend of the credit portfolio in order to initiate corrective actions in time. In the case of transactional credits, the focus is on the borrowing customer and the credit experience. The approval process in such cases is based on the detailed analysis and experience of the credit committee.

4.1. The Main Results of RAWBANK's Banking Activity

Banks are by definition financial institutions that collect deposits of money and then use them in the form of investments or credit granted to companies and households. These are therefore the main activities of the bank, and to measure the results of these activities we use the GNP (net banking income), the gross profit of current operations before net tax.

4.1.1. Gross Operating Income (EBIT)

EBIT is obtained by subtracting structural loads from GNP. EBIT is a benchmark indicator of banking activity proper (excluding provisions and exceptional items). The net operating ratio is an important ratio that brings structural costs to GNP, *i.e.* it measures the share of GNP devoted to structural costs.

4.1.2. Net Banking Income (NBI)

This indicator takes into account all the bank's activities. GNP is therefore obtained by subtracting the sum of operating expenses from the sum of operating income:

The main components of GNP are: interest earned on customers and interest paid to third parties, income from the securities portfolio and equity investments, other banking operating income (mainly commissions on services). Service fees are increasingly sought after by banks because they are not sensitive to changes in the rate and therefore they improve their profitability.

4.1.3. Current Income before Tax

It is measured by decreasing provisions and loss on bad loans from EBITDA, *i.e.* it takes into account counterparty (or credit) risk.

4.1.4. Net Income (NIR)

Net income takes into account exceptional income and expenses, provisions or reversals to funds for general banking risks, and corporate tax.

4.2. Risk Diagnosis

Looking at the graph (Figure 1) and Table 1 above, the risk diagnosis shows that RAWBANK is a commercial bank; the assets come from customer deposits in terms of resources. Customer credit is greater than its equivalent to assets; the

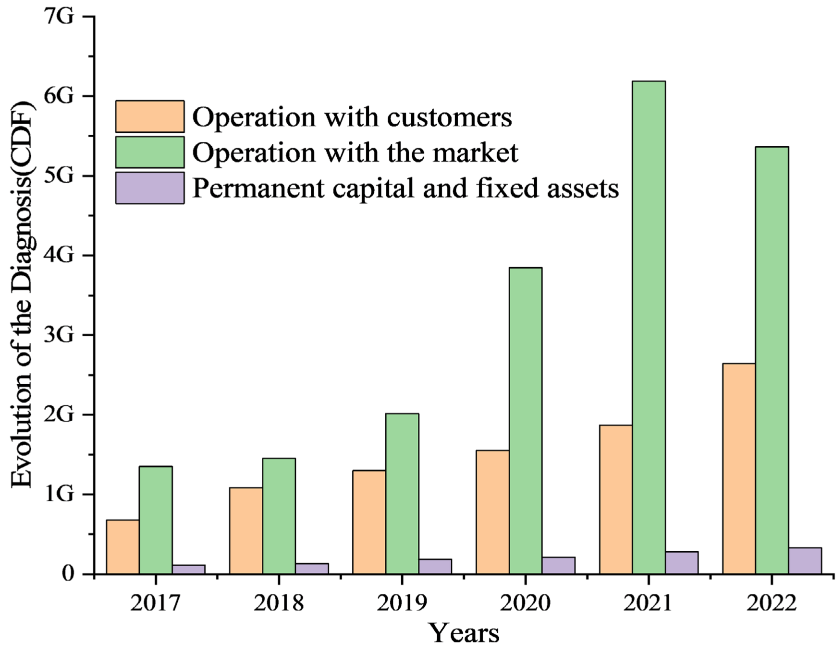

Figure 1. Evolution of risk diagnosis.

Table 1. Risk diagnosis (expressed in thousands of Congolese francs—CDF).

ASSET	Customer transaction	Market operation	Immobilisation
2017	679,640,835	1,350,690,016	110,531,693
2018	1,084,325,635	1,453,014,522	133,569,515
2019	1,298,964,357	2,014,423,113	183,279,617
2020	1,552,983,027	3,846,999,102	212,229,438
2021	1,870,939,568	6,190,338,487	279,149,000
2022	2,643,688585	5,365,158,647	333,070,407
Total assets	9,130,542,007	20,220,623,887	1,251,829,670
LIABILITIES	**Customer transaction**	**Market operation**	**Provision and own funds**
2017	1,486,144,834	263,439,251	159,766,062
2018	1,889,847,314	256,901,676	242,895,910
2019	2,521,440,435	373,083,171	271,686,169
2020	4,367,754,887	368,158,312	362,496,834
2021	6,403,782,392	826,939,373	459,574,123
2022	6,531,086,360	322,508,095	657,699,143
Total liabilities	23,200,046,222	2,411,029,878	2,154,118,241

excess of its resources to customers is offset by interbank market operations. In relation to the balance of transactions with customers, it is a bank borrowing customer capital because the resources exceed the uses whose balance for five years is 1,486,090,952 thousand Congolese francs. According to the balance of market operations, it is a lending bank on the market because its uses are greater than resources and there is a balance of 2,069,421,836 Congolese francs called market situation. Compared to the permanent capital balance on fixed assets, this balance is positive at 171,251,567 Congolese francs, however the fund does not occupy a place as a commercial enterprise given the lower numerical value of fixed assets. The financial equilibrium of RAWBANK is achieved by offsetting market operations with those of customers in the granting of short-term loans.

4.3. Volume and Evolution of Loans to RAWBANK

In the bank's portfolio, losses arise from defaults due to the inability or unwillingness of a customer or counterparty to meet their commitments. The credit department, centralized at the head office level, manages the bank's credit risk. It is primarily responsible for implementing the risk management strategy approved by the Board of Directors, developing risk management procedures and systems, independent credit risk assessment and monitoring the composition and quality of the portfolio. Credit Process The bank meets the needs of its customers while maintaining a healthy and balanced portfolio. Credit exposures are managed on the basis of an identification of the target markets, an appropriate choice of credit process, and the establishment of appropriate post-disbursement credit monitoring systems.

The bank to adopt two different methods of credit processes adapted to structured credit products on the one hand, and transactional loans on the other. For structured credit products, the bank sets the maximum ceiling for credit risk exposure for a set of customers with similar characteristics, profiles and/or products, with clearly defined standard criteria, terms and conditions. It is a cost-effective approach to credit management in cases where credit risks and expected returns lend themselves to a predictable approach model. Given the large number of cases handled, automated monitoring and reporting is important to identify the trend of the credit portfolio in order to initiate corrective actions in time.

In the case of transactional credits, the focus is on the quality of the borrowing customer and the credit experience. The approval process is based on the detailed analysis and experience of the credit committee. The Bank's credit policy covers various aspects including target markets and customer segmentation, parameters for qualitative and quantitative assessment, portfolio composition, credit exposure limits, concentration limits, limit structure, approval powers, credit classifications and credit provisioning. It also takes into account prudential standards, regulatory requirements, the nature and complexity of the bank's activities, market dynamics. To ensure risk diversification, the bank has set ceilings according to different risk dimensions, in terms of borrower, group of borrowers, sector of economic or industrial activity, etc. The bank identifies non-performing loans and makes adequate provisions in accordance with the instructions established by the Central Bank of Congo.

4.3.1. Allocation of the Credit Portfolio

The Bank carries out sectoral surveillance of its liabilities by sector of activity. The Bank's Credit Committee monitors sector exposure and provides guidance on expected sector exposures based on changes in its portfolio and external or cyclical factors.

4.3.2. Credit Portfolio by Sector of Activity

The credit portfolio by sector of activity, we note in Figure 2 as follows.

In first position the banks and FIs sector receives more credits on average 41% in for the five years; In second place we have the others business activities sector receives on average 15%; the households came in third place and receives on average 10%; the mining exploitation is at fourth position and receives on average 9%; In fifth position we have the water, gas and electricity sector receives on average 6%; then we have the transport and storage sectors 4%; information and communication 3%; Public administration 2%; trade 2%; Brewery and catering 2%; Education 2%; Gas station service 1%; Construction 1%; Manufacturing and pharmaceutical industry 1%.

4.3.3. Distribution of Customer Loans

It identifies non-performing loans and constitutes adequate provisions for expected losses in accordance with the instructions established by the Central Bank of Congo. Based on this Figure 3 loans to non-financial public bodies include short- and medium-term advances, *i.e.* loans that last less than two years. With a total amount of 269,224,068 thousand FC, an average of 21.35% for six years. Loans and advances to companies consist mainly of overdrafts in accounts receivable, companies and individuals with fixed term granted. With a total

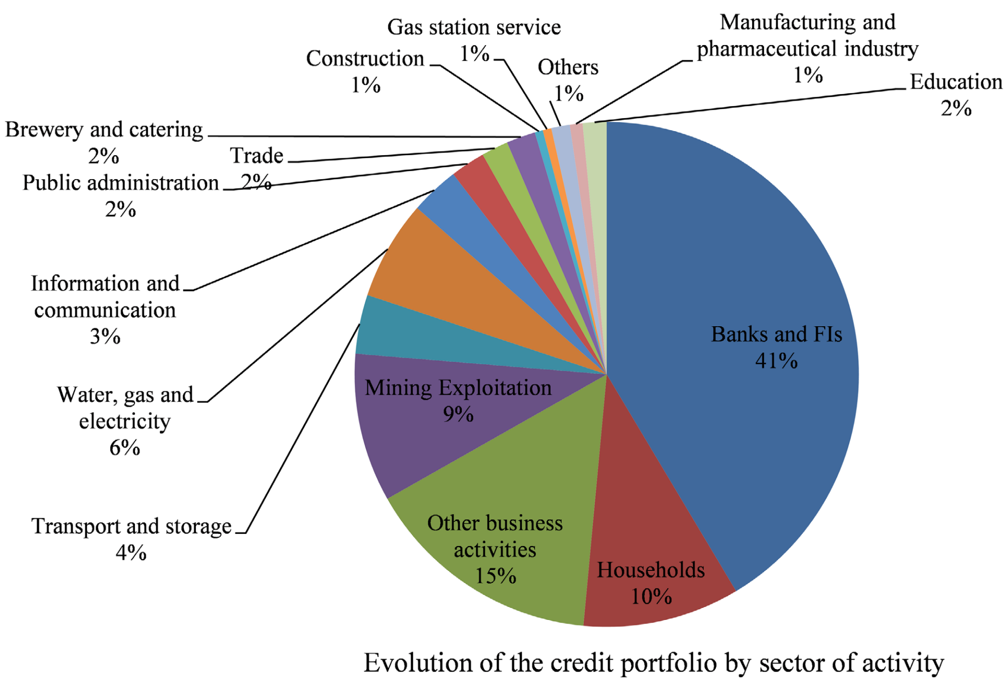

Figure 2. Evolution of the credit portfolio by sector of activity.

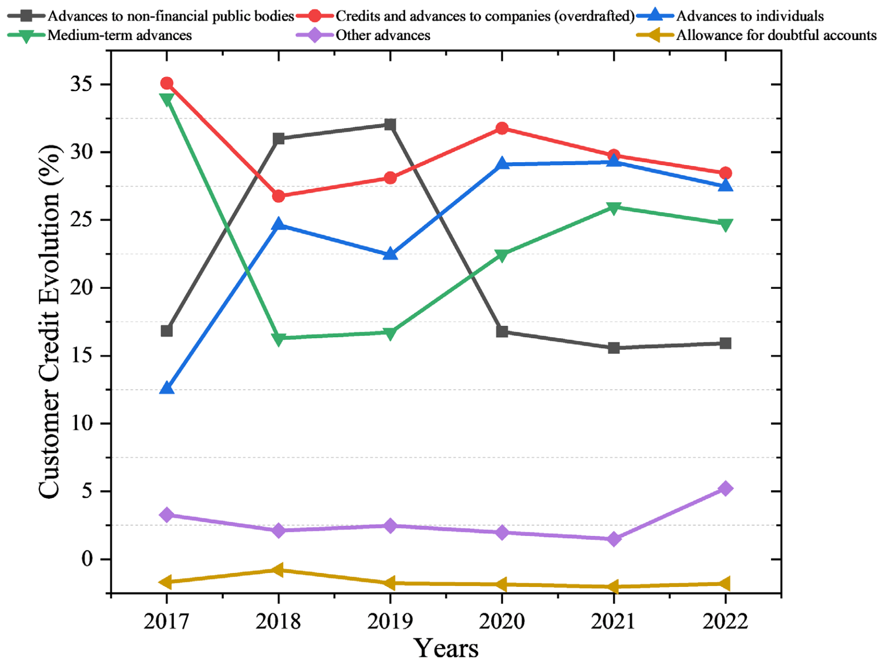

Figure 3. Evolution of customer loans.

amount of 396,811,358 thousand FC, an average of 29.96%. Medium-term loans include advances granted to individual customers, medium-term loans are those lasting between two and seven years. The fixed-term credit is repayable at a fixed maturity. With a total amount of 311,234,431 thousand FC, an average of 23.36%. Other loans consist mainly of advances in accounts receivable (companies and individuals) granted at a fixed term. With a total amount of 40,174,654 thousand FC, an average of 2.75%. Provision for doubtful debts, each year the RAWBANK constitutes provisions to pay the non-refundable debts in case of the adverse selection or moral hazard of the borrower at maturity which are repayable for the years 2017, 2018, 2019, 2020, 2021 and 2022 these amounts −1,443,677, −1,103,034, −3,524,210, −4,427,698, −5,903,488 and −7,108,412 of thousands of CDF. That is a total amount −16,402,107, an average of −1.66%. These amounts are used to reduce credit risk, which is why they appear in negative and are not accounted for in customer credits.

4.4. Performing and Non-Performing Loans to Customers

Considering the **Figure 4(a)** in 2017 non-performing loans represented 0.55% of the total portfolio of loans granted, *i.e.* an amount of CF 465,190 thousand; In 2018 non-performing loans represented 1% of the total portfolio of loans granted, *i.e.* an amount of thousands1,481,327 FC; In 2019 non-performing loans represent 1% of the total portfolio of loans granted, *i.e.* an amount of 2,007,010 thousand FC; In 2020 non-performing loans represented 1.20% of the total portfolio of loans granted, *i.e.* an amount of 2,752,449 thousand FC; In 2021 non-performing loans represented 0.85% of the total portfolio of loans granted, *i.e.* an amount of 3,334,104 thousand FC and In 2022 non-performing

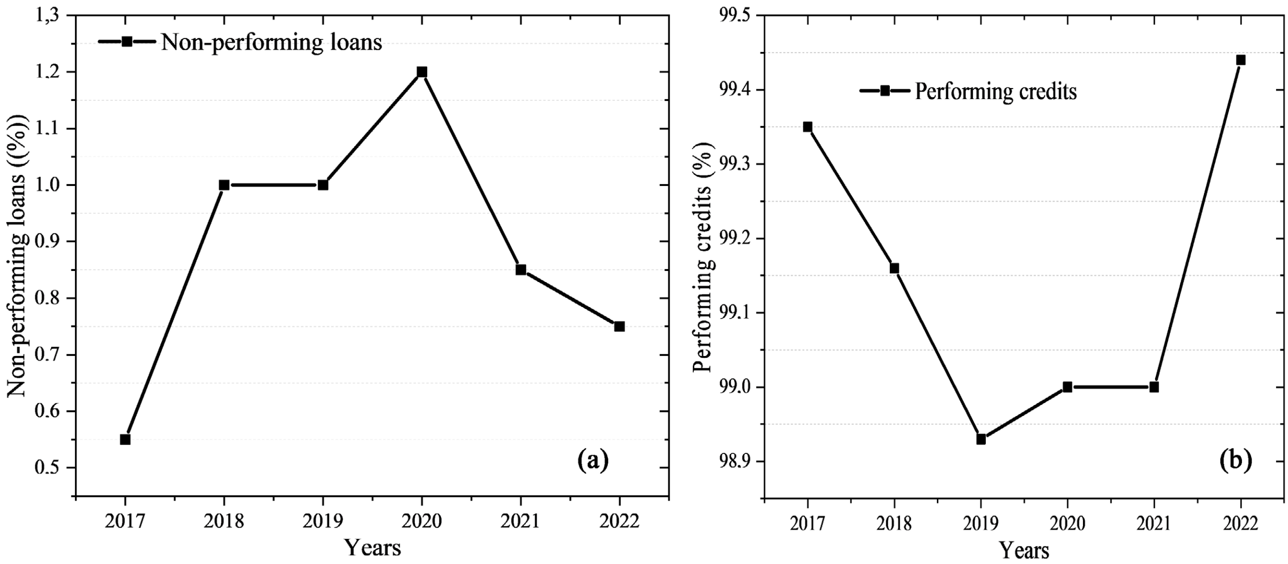

Figure 4. Performing and Non-performing Loans to Customers: (a) Evolution of Non-performing loans; (b) Evolution of credit performance.

loans represent 0.75% of the total portfolio of loans granted or an amount of 3,723,402 thousand FC.

On average there is a credit risk that is worth 0.89% (or the rate of non-payment) of the total portfolio of loans granted, or a total amount of 13,763,482 thousand FC. That is to say, RAWBANK better manages credit risk is less than three times the rate limit for non-performing loans imposed by the BCC is below 3%, RAWBANK is within prudential standards.

Regarding performing loans (Figure 4(b)), with a total amount of 1,334,627,120 thousand CDF, *i.e.* an average credit risk of 99.15% for six years. In 2017 performing loans represented 99.35% of the total portfolio of loans granted, *i.e.* an amount of 391 522 272 thousand CDF; In 2018 performing loans represented 99,16% of the total portfolio of loans granted, *i.e.* an amount of 287,340,025 thousand CDF; In 2019 performing loans represented 98,93% of the total portfolio of loans granted, *i.e.* an amount of 236,038,064 thousand CDF; In 2020 performing loans represented 99% of the total portfolio of loans granted, *i.e.* an amount of 200,600,084 thousand CDF; In 2021 performing loans represented 99% of the total portfolio of loans granted, *i.e.* an amount of 136,751,305 thousand CDF and In 2022 performing loans represented 99.44% of the total portfolio of loans granted, *i.e.* an amount of 84,381,370 thousand CDF.

4.5. Loans Risk Management Indicators

By observing the R.O.E curve of Figure 5, this ratio measures the return on capital invested by shareholders as well as the profit capacity of a bank. There is a high option sometimes reflecting insufficient equity rather than satisfactory profitability other profit often depends on the bank's provisions policy and does not always constitute a representative picture of the profit realized. RAWBANK's

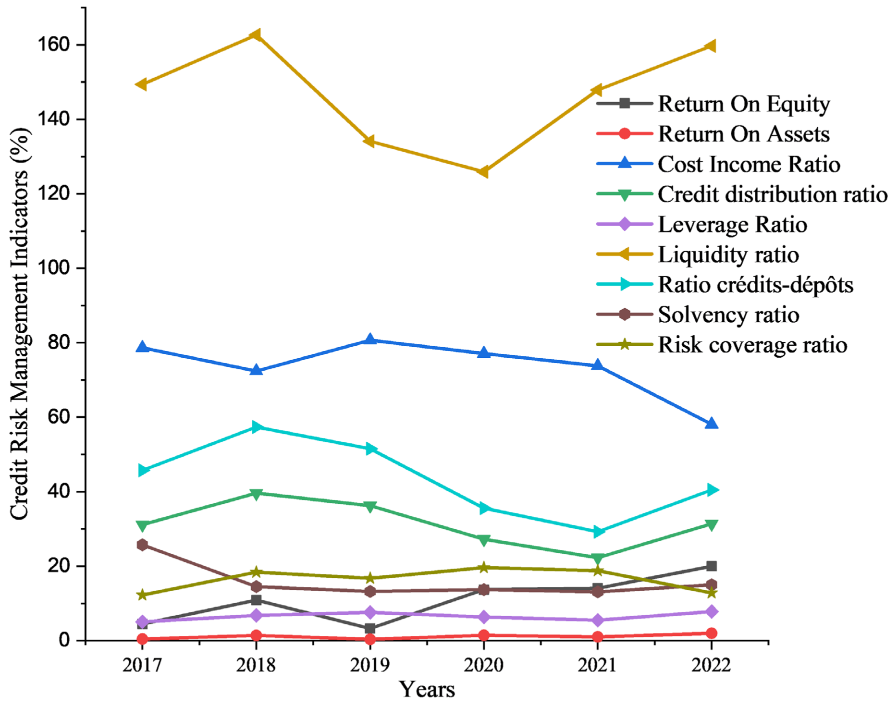

Figure 5. Risk management indicators.

R.O.E had its best performance. This ratio for deposit banks has continued to evolve at an increasing pace during the period of 2021 and 2022, but this growth in R.O.E cannot be due solely to satisfactory profitability and a high level of profits, but rather to insufficient capital which can worsen the bank's situation. This ratio has declined remarkably throughout the 2018-2019 period, falling by 3.27% to over 19.95% in 2022, which may be due to a faster pace in banks' outstanding risks than net capital. The average variation is 8.69%.

According to the Return on Assets (R.O.A) curve above, we note that this ratio is quite appreciable since the beginning of the period 2020 to 2022 there is an increase in the assets of the bank are respectively 1.42%, 0.99% and 1.97%. There is certainly a slight decrease between 2017 and 2019. Indeed, the significant increase in provisions for doubtful risks and accounts generated a higher than expected net cost of risks. In fact, sustained job growth and control of financial burdens. Over the last three years, RAWBANK has failed to stabilize the R.O.A around international standards (1%). The period 2017-2022 was marked by unprecedented economic conditions and this was reflected in the persistence of difficulties in sectors of activity such as mining, the public administration sector and the industrial production sector. With the aim of redeploying its commercial activity. It revised its volume of credit upwards during that period while continuing to revise positively these own resources adequate for financing its appropriations.

According to the Cost Income Ratio (CIR) curve, this ratio achieved by a bank that is absorbed by its fixed costs; of 2017, 2018, 2019, 2020 and 2021 the ratio is high, *i.e.* the more wealth is lost in operating dependencies, it measures the specific contribution of the bank to the increase of national wealth and can therefore be compared to the added value generated by non-financial companies. In 2022 the CIR that is too low can be explained by operating costs that are too high. The average variation is 73.44%, RAWABANK to meet standards despite strong demand for credit and operating expenses too high. The maximum CIR imposed by the BCC is 70%.

The Credit distribution ratio curve explains the interest that a bank places on its credit structure. This graph (**Figure 5**) above shows the importance of the volume of loans in the activity of RAWBANK during the period 2017-2022. There has been a considerable increase in this indicator from 25.32% to 40.91% between 2017 and 2022. The average is 34.23%, it can be deduced that a good number of RAWBANK customers are still attracted by the credit offer and that despite some negligible variations in the ratio, credit continues to occupy a preponderant place. This is why RAWBANK is implementing good management and diversification of its credit portfolio, hence once again its leading position.

Leverage Ratio curve determines the room for maneuver that a bank has in relation to risk-taking, also makes it possible to assess the degree of independence of a bank according to its lenders, it risks becoming dependent on its lenders if it is too indebted. From 2017 to 2022 there is a good relationship between equity and total liabilities is to highlight the share of financing assets including the bank credit part, this indicator is used by the bank to assess the adequacy of its own funds in relation to the size of its balance sheet. From 2017 to 2022, this ratio averaged 13.34% for six years, above the bank's internal minimum limit of 5%.

RAWBANK through its activities and its relations with customers, it remains liquid during all six studies.

The bank had a coverage ratio of 34.10% (134.0% - 100%) in 2017; In 2018 the bank had a coverage ratio of 59.74% (159.74% - 100%); In 2019 the bank had a coverage ratio of 62.66% (162.66% - 100%); In 2020 the bank had a coverage ratio of 25.9% (125.9% - 100%); In 2021 the bank had a coverage ratio of 47.90% (147.90% - 100%); In 2022 the bank had a coverage ratio of 49.40% (149.40% - 100%); This explains its good relations with its clients and its performance in terms of deposits, especially with institutional and tangible clients.

This liquidity ratio is reflected in relation to realizable assets on current liabilities, the bank has thus kept a good situation still growing, which reflects the balance of its cash. The average is 146.62%. The bank's policy is to be highly liquid in order to be able to cope with any demand for liquidity from customers. In addition, RAWBANK maintains at all times a total short-term liquidity ratio, in local currency and in foreign currency above 100% in accordance with BCC Instruction No. 14.

To calculate the limits of the credit portfolio in relation to liquidity is obtained by calculating the share of loans on deposits. We note that the limits during 2017 to 2021 are in prudential standards. Except in 2022, the ratio of loans to total deposits, provisions and medium-term loans granted by financial institutions amounted to 58%, this rapid increase in customer loans during 2022 fully reflects the role played by the bank in financing the economy, in its aspect of granting credit to its customers. However, it should be noted that the credit ceiling is set by the bank taking into account all other sources of financing, namely medium and long-term borrowings (financial institutions), which significantly improves and strengthens this funding ratio. The loan/deposit ratio is less than 50% according to prudential standards. The RAWBANK has an average portfolio limit of 44.04%, *i.e.* RAWBANK is in prudential standards for six years. The bank with its trade policies has increased its deposits and the loans it grants during the six years.

The Solvency ratio curve reflects the importance of regulatory capital relative to total risk assets. In 2017 to 2022 there is an increase that is justified by the high level of deposits and customers granted by the Bank and also an increase in permanent capital due to the increase in deposits in relation to the bank's own funds, this ratio determines the ability to deal with possible risks related to, its activities. Instruction No. 14 of the Central Bank of Congo stipulates that banks are required, in the management of their resources, to respect a ratio of at least 20% between prudential capital and total risks. The average variation is 25.83%. The bank has always maintained this ratio within the standards set by this instruction.

Instruction No. 14 of the Central Bank of Congo stipulates that banks are required, in the management of their resources, to respect a ratio of at least 7% between basic capital (Tier I) and total banking risks. Capital, reserves and additional items such as provisions and subordinated securities, and balance sheet assets and risk-weighted off-balance-sheet liabilities. We notice a good policy in terms of risk coverage. From 2017 to 2022 RAWBANK was able to maintain its credit risks at a stable level with a very good coverage of these risks by provisions, an average of 16.43% of the R.C.R. It is thus a bank that manages its credit risk very well. It appears to be the most stable, and its excellent results in recent years are the result of an increasingly assertive compliance with prudential rules and standards, in addition to its well-planned control of the risks it incurs. This is due to the strategy it adopts, namely the strengthening of capital.

5. Risk Management Indicators in Commercial Banks in DR Congo

In this part; the evolution of ROA, ROE, ROS, CIR will be analyze, and a number of Congolese commercial banks. To make this index more useful, a comparative study between one or more banks. The sample will focus on five (5) commercial (or deposit) banks: RAWBANK; Trust Merchant Bank (TMB); Commercial Bank of Congo (BCDC); International Bank for Africa in Congo (BIAC) and PROCREDIT Bank. The various indicators selected are obtained on the basis of the accounting data concerning the banks' balance sheets and income statements mentioned above, for the period from 2017 to 2022. A comparative analysis is conducted to better draw the most significant interpretations.

The different ratios, calculated on the basis of the financial statements and annual reports produced by these five (5) banks.

The Return on Equity (Figure 6(a)) makes it possible to measure the profit capacity of a bank as well as the return on capital invested by shareholders since it highlights the profitability of their investment. This ratio for commercial banks has continued to evolve at an increasing pace during the period (2017-2022), but this growth in the rate (ROE) cannot be due solely to satisfactory profitability and a high level of profits, but rather to insufficient capital which can worsen the situation of commercial banks. According to prudential standards, the ROE must be high enough to attract investors, a low rate can correspond to a significant investment phase, conversely, a high rate can come

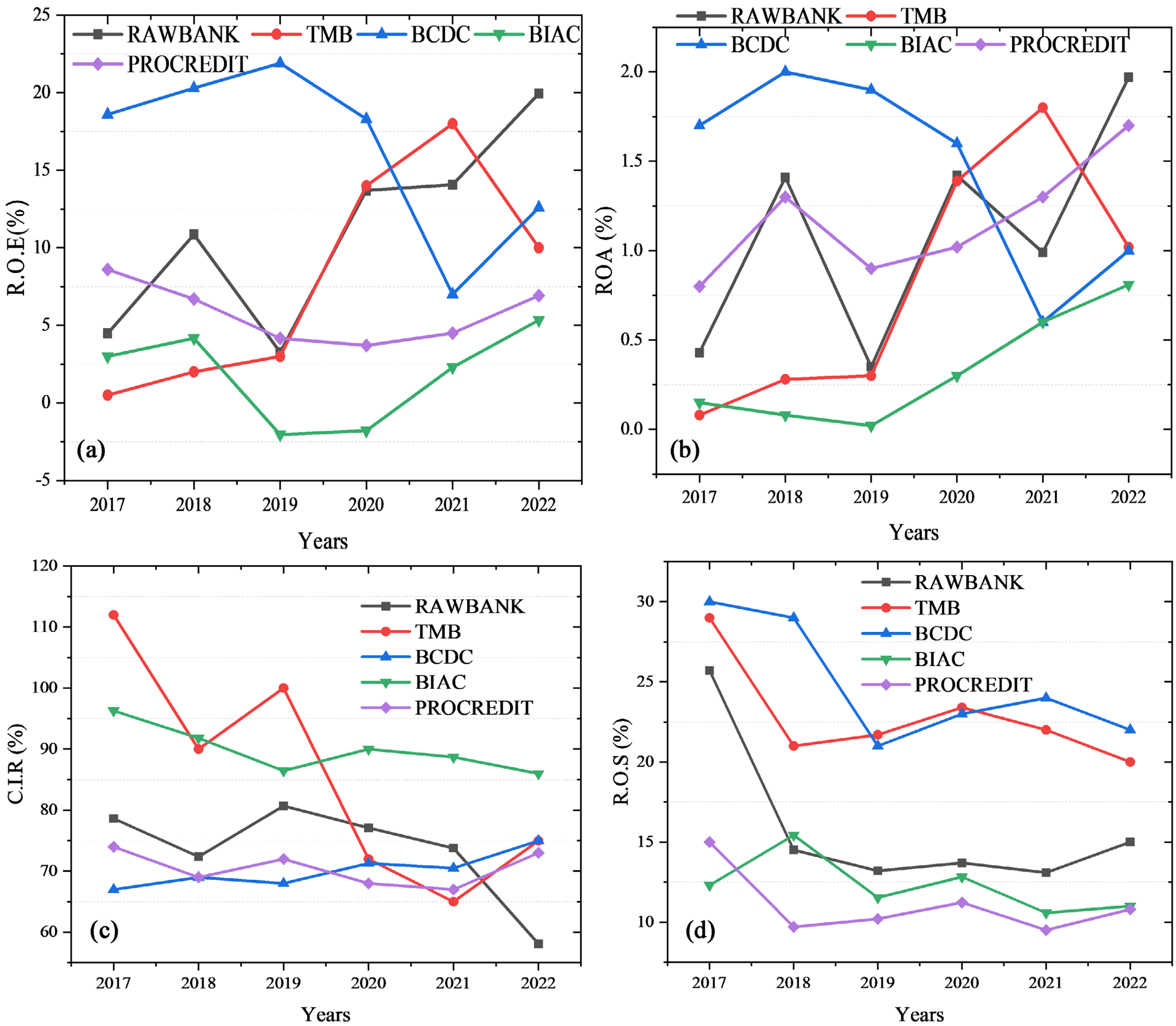

Figure 6. Risk Management Indicators in Commercial banks in DR Congo: (a) Return on Equity; (b) Return On Assets; (c) Cost Income Ratio; (d) Return On Sales.

from good management as well as a relative lack of equity.

The figure above shows that the return on equity of Congolese commercial banks is very significant. Indeed, the general trend of the financial profitability ratio is around 10% according to the standard practiced by the BCC. BCDC has recorded high rates that exceed the limits. RAWBANK, TMB, BIAC and PROCREDIT were able to maintain an average return on equity level below 10%.

The returns on banks' assets (Figure 6(b)); it can be note that they are practically of comparable value. This ratio is very appreciable because it is below the prudential standards which are 1%. The general trend of the sector is slightly upwards BCDC which is continuously in perfect harmony with management standards with an average of 1.47%, PROCREDIT on average 1.17% and RAWBANK on average 1.08%; R.O.A around international standards (1%) it can be said that it has made good use of its asset growth. While the assets of TMB and BIAC are relatively the least profitable, with an ROA of 0.81% and 0.33% respectively, this fall in profitability amounts to a decline in profits for this period, which are in turn due to the increase in the weight of provisions and therefore to a high level of risk, Not to mention that an acceptable level of profit does not necessarily mean that a bank is healthy. The heterogeneity of the results achieved is mainly due to the specialization of banks in particular activities, *i.e.* the public administration sector, agriculture, mining production, the private sector, etc.

Considering the Figure 6(c) The prudential standards imposed by the BCC is 70% (maximum), the BIAC has on average 88.98%, the TMB has an average of 84%, RAWBANK has an average of 73.44% the ratio is high, *i.e.* the more wealth is lost in operating dependencies, it measures the specific contribution of banks to the increase of national wealth and can therefore be compared to the added value generated by non-financial companies. While PROCREDIT has an average of 69.37%, BCDC an average of 69.17%, this coefficient shows the share of operating expenses in net banking income, and which is down sharply which shows its improvement by reducing expenses. These percentages indicate how much of the banks' earnings are absorbed by its fixed costs.

The minimum solvency ratio according to prudential standards is 20%; RAWBANK, BCDC and TMB have been able to maintain on average a high level of solvency, they are within the standards. It can be seen that Congolese commercial banks do not manage their credit risk (Figure 6(d)) by the same techniques, but they are threatened by this risk to different degrees. But it should be noted that there are two banks (BIAC and PROCREDIT) out of five, which are below the standard, therefore their credit risk management policy seems inappropriate. The prudential standard set by the Central Bank of Congo (20%). There is an inconsistency in the degree of exposure to insolvency risk of these five commercial banks must be of great financial solidarity given the effects of a bank failure on the stability of the entire financial system and beyond the economy as a whole. This financial solidarity is essentially measured by the amount of the bank's own funds, which determines its ability to face any risks related to its activities (non-repayment of loans distributed). Banks must be permanently solvent, *i.e.* be able to meet their commitments at any time. Indeed, if the bank's customers deposit with their money (demand deposit) doubt its financial solidarity, they risk losing confidence and withdrawing their deposits, in major difficulties.

6. Conclusions

At the end of these investigations, we do not claim to have exhausted the global universe of our research. However, we are sure that we have achieved the objective that we set ourselves.

The study or analysis that we have just completed concerns "credit risk management in commercial banks: the case of RAWBANK" in which it was questioned whether the constraints relating to the verification of the integrity and accuracy of the information provided by the borrower, how it manages credit risk and whether the bank has methods and strategies to reduce the risk of non-repayment.

As assumptions it turns out that the analysis of credit risk management at RAWBANK is done by high study and analysis of the customer credit file. Risk reduction policies are at the heart of the concerns of managers, senior managers, etc. The challenge for each bank is therefore to implement an integrated approach that it can anchor in its organization and management practices. Without a coordinated risk management strategy, it will have to continue to produce the same practices multiple times to finally align its risk treatment procedures and controls. RAWBANK must master risk management, an essential condition for strengthening the confidence of their customers, increasing profitability and ensuring their sustainability.

To apprehend, understand and analyze the data necessary for our study, we used: the inductive method; the analytical method and comparative method supported by documentary techniques and interviews allowed us to verify these hypotheses.

After processing the data collected, we came to the following results.

RAWBANK has indeed maintained the rate of non-performing loans or a credit risk which is worth 0.86% (or the default rate) of the total loan portfolio granted. That is to say, RAWBANK better manages the credit risk is less than three times the rate limit for non-performing loans imposed by the BCC is below 3%.

The diagnosis of credit risk in relation to the balance of transactions with customers, it is a borrower bank in customer capital because resources exceed uses, the balance of which is 1,486,090,952 thousand Congolese francs. Compared to the balance of market operations, it is a lending bank on the market because its uses are greater than resources and there is a balance of 2,069,421,836

Congolese francs called market situation. Compared to the balance of permanent capital on fixed assets, this balance is positive at 171,251,567 Congolese francs, however, the fund does not occupy a place as a commercial enterprise given the lower numerical value of fixed assets.

The various ratios, calculated on the basis of the financial statements and annual reports produced by these five (RAWBANK, TMB, BCDC, BIAC and PROCREDIT Bank) banks, we have arrived at the following results: the ROS, ROA, ROE, CIR are very appreciable because they are below prudential standards. It can be seen that Congolese commercial banks do not manage their credit risk using the same techniques; however, they are threatened by this risk to different degrees.

Compliance with prudential standards by Congolese commercial banks remains a necessary but insufficient condition to be protected from the risk of insolvency. Other behaviors and factors must be considered by these banks in order to minimize their exposures to this inevitable danger. The Congolese banking sector has taken an important step to preserve its solvency and sustainability. It is however imperative in this phase of preparation of the commercial banks of the place, to face the foreign competition to ensure that they are equipped with appropriate means in order to circumscribe any risk which can affect their financial stability. Banks are invited to consolidate their capital, diversify their activities, and acquire the resources necessary for the proper functioning of their intermediation, and qualified staff that will be responsible for each decision-making (the granting of credits). Congolese banks can succeed in their missions and thrive in their environments.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Balampaki, R. (2021) Credit Risk Management and Performance of Commercial Banks. Master's Thesis, Department of Management, Central Department of Management, Kirtipur.

[2] Chege, M.L. (2021) Credit Management Practices and Loan Default in Agricultural Finance Corporation, Kenya. Master's Thesis, Kenyatta University, Nairobi.

[3] Chen, W.-D., Chen, Y. and Huang, S.-C. (2021) Liquidity Risk and Bank Performance during Financial Crises. *Journal of Financial Stability*, **56**, Article ID: 100906. https://doi.org/10.1016/j.jfs.2021.100906

[4] Abdullah, M.A., Ahmad, A., Nayan, N.A.M., Azhar, Z. and Ahmad, A.-R. (2020) Credit Risk Assessment Models of Retail Microfinancing: The Case of a Malaysian National Savings Bank's Branch. *International Journal of Financial Research*, **11**, 73-83. https://doi.org/10.5430/ijfr.v11n3p73

[5] Ab-Hamid, M.F., Abdul-Rahman, A., Abdul-Majid, M. and Janor, H. (2017) Bank Market Risk and Efficiency of Commercial Banks in Malaysia. *Jurnal Pengurusan*, **51**, 249-259. https://doi.org/10.17576/pengurusan-2017-51-21

[6] Dang, V.C., Nguyen, Q.K. and Tran, X.H. (2022) Corruption, Institutional Quality

and Shadow Economy in Asian Countries. *Applied Economics Letters*. https://doi.org/10.1080/13504851.2022.2118959

[7] Das, A., Konietzko, J. and Bocken, N. (2022) How Do Companies Measure and Forecast Environmental Impacts When Experimenting with Circular Business Models? *Sustainable Production and Consumption*, **29**, 273-285. https://doi.org/10.1016/j.spc.2021.10.009

[8] Maruddani, D.A.I. and Abdurakhman, A. (2021) Delta-Normal Value at Risk Using Exponential Duration with Convexity for Measuring Government Bond Risk. *DLSU Business and Economics Review*, **31**, 72-80.

[9] El-Chaarani, H., Abraham, R. and Skaf, Y. (2022) The Impact of Corporate Governance on the Financial Performance of the Banking Sector in the MENA (Middle Eastern and North African) Region: An Immunity Test of Banks for COVID-19. *Journal of Risk and Financial Management*, **15**, Article No. 82. https://doi.org/10.3390/jrfm15020082

[10] Hair, J.F., Howard, M.C. and Nitzl, C. (2020) Assessing Measurement Model Quality in PLS-SEM Using Confirmatory Composite Analysis. *Journal of Business Research*, **109**, 101-110. https://doi.org/10.1016/j.jbusres.2019.11.069

[11] Hanh, P.T.M., Hang, N.T. and Huy, D.T.N. (2021) Enhancing Roles of Banks and the Comparison of Market Risk and Risk Policy Implications in Group of Listed Vietnam Banks during 2 Stages: Pre and Post-Low Inflation Period. *Revista Geintec-Gestao Inovacao e Tecnologias*, **11**, 1723-1735. https://doi.org/10.47059/revistageintec.v11i2.1794

[12] Liu, N., Jin, X.W., Feng, C.L., Wang, Z.J., Wu, F.C., Johnson, A.C., Xiao, H.X., Hollert, H. and Giesy, J.P. (2020) Ecological Risk Assessment of Fifty Pharmaceuticals and Personal Care Products (PPCPs) in Chinese Surface Waters: A Proposed Multiple-Level System. *Environment International*, **136**, Article ID: 105454. https://doi.org/10.1016/j.envint.2019.105454

[13] Naili, M. and Lahrichi, Y. (2022) The Determinants of Banks' Credit Risk: Review of the Literature and Future Research Agenda. *International Journal of Finance & Economics*, **27**, 334-360. https://doi.org/10.1002/ijfe.2156

[14] Nguyen, Q.K. (2022) Audit Committee Structure, Institutional Quality, and Bank Stability: Evidence from ASEAN Countries. *Finance Research Letters*, **46**, Article ID: 102369. https://doi.org/10.1016/j.frl.2021.102369

[15] Cheng, L.M., Nsiah, T.K., Ofori, C. and Ayisi, A.L. (2020) Credit Risk, Operational Risk, Liquidity Risk on Profitability. A Study on South Africa Commercial Banks. A PLS-SEM Analysis. *Revista Argentina de Clínica Psicológica*, **29**, 5.

[16] Nguyen, Q.K. and Van Cuong, D. (2023) Does the Country's Institutional Quality Enhance the Role of Risk Governance in Preventing Bank Risk? *Applied Economics Letters*, **30**, 850-853. https://doi.org/10.1080/13504851.2022.2026868

[17] Pauline, E. and Nadham, V. (2022) Effect of Credit Information Bureau and Appraisal Methods on Performance of Commercial Banks in Mwanza Region. *International Journal of Engineering, Business and Management*, **6**, 24-38. https://doi.org/10.22161/ijebm.6.2.3

[18] Velliscig, G., Floreani, J. and Polato, M. (2022) Capital and Asset Quality Implications for Bank Resilience and Performance in the Light of NPLs' Regulation: A Focus on the Texas Ratio. *Journal of Banking Regulation*, **24**, 66-88. https://doi.org/10.1057/s41261-021-00184-y

[19] Wang, C.-W., Lee, C.-C. and Chen, M.-C. (2022) The Effects of Economic Policy Uncertainty and Country Governance on Banks' Liquidity Creation: International

Evidence. *Pacific-Basin Finance Journal*, **71**, Article ID: 101708.
https://doi.org/10.1016/j.pacfin.2022.101708

[20] Alshiqi, S. and Sahiti, A. (2021) Risk Management and Profitability of Commercial Banks of Western Balkans Countries of Kosovo, Albania, North Macedonia, and Serbia. *Journal of Eastern European and Central Asian Research*, **8**, 81-88.
https://doi.org/10.15549/jeecar.v8i1.633

[21] Al-Mekhlafi, A.A., Isha, A.S.N., Chileshe, N., Abdulrab, M., Kineber, A.F. and Ajmal, M. (2021) Impact of Safety Culture Implementation on Driving Performance among Oil and Gas Tanker Drivers: A Partial Least Squares Structural Equation Modelling (PLS-SEM) Approach. *Sustainability*, **13**, Article No. 8886.
https://doi.org/10.3390/su13168886

[22] ALrfai, M.M., Salleh, D.B. and Waemustafa, W. (2022) Empirical Examination of Credit Risk Determinant of Commercial Banks in Jordan. *Risks*, **10**, Article No. 85.
https://doi.org/10.3390/risks10040085

[23] Ahmadyan, A. (2018) Measuring Credit Risk Management and Its Impact on Bank Performance in Iran. *Marketing and Branding Research*, **5**, 168-183.
https://doi.org/10.33844/mbr.2018.60427

[24] Afolabi, T.S., Obamuyi, T.M. and Egbetunde, T. (2020) Credit Risk and Financial Performance: Evidence from Microfinance Banks in Nigeria. *IOSR Journal of Economics and Finance*, **11**, 8-15.

[25] Abubakar, A., Sulaiman, A.S., Usman, B. and Mohammed, M.U. (2019) Credit Risk Management and Financial Performance of Quoted Deposit Money Banks in Nigeria. *Journal of Finance*, *Accounting and Management*, **10**, 57-74.

[26] Weber, E.U., Blais, A.-R. and Betz, N.E. (2002) A Domain-Specific Risk-Attitude Scale: Measuring Risk Perceptions and Risk Behaviors. *Journal of Behavioral Decision Making*, **15**, 263-290. https://doi.org/10.1002/bdm.414

[27] Xi, B., Dai, J.L. and Liu, Y. (2022) Does Environmental Information Disclosure Affect the Financial Performance of Commercial Banks? Evidence from China. *Environmental Science and Pollution Research*, **29**, 65826-65841.
https://doi.org/10.1007/s11356-022-20401-z

[28] Zhou, X.Y., Caldecott, B., Hoepner, A.G.F. and Wang, Y. (2022) Bank Green Lending and Credit Risk: An Empirical Analysis of China's Green Credit Policy. *Business Strategy and the Environment*, **31**, 1623-1640.
https://doi.org/10.1002/bse.2973

[29] Maury, F. (2007) Afrique centrale. La RDC toujours absente, in revue Jeune Afrique. Spécial Finance, Hors-série n°16, éd.

[30] Everaert, M.E. (2017) RAWBANK, Panorama 2017. RAWBANK, Kinshasa.

[31] Rapport Annuel de la RAWBANK, TMB, BCDC, BIAC, et PROCREDIT.

[32] Olobo, M., Karyeija, G., Sande, P. and Khoch, S. (2021) Credit Risk Management Practices and Performance of Commercial Banks in South Sudan. *Journal of Financial Risk Management*, **10**, 306-316. https://doi.org/10.4236/jfrm.2021.103018