

## Internal Control and Banking Risks: A Case Study on the Democratic Republic of Congo

Kwibuka Bashangwa<sup>1,4</sup>, Niyongabo Gilbert<sup>2</sup>, Senzira Nahayo Paul<sup>3</sup>, Nsengiyumva Théogène<sup>2</sup>, Kavira Masingo Denise<sup>4</sup>

<sup>1</sup>Ecole doctorale de l'Université du Burundi, Bujumbura, Burundi;

<sup>2</sup>Enseignant en Master en Droit privé à l'Université de Ngozi, Burundi,

<sup>3</sup>Faculty of Economy and Management, University of Burundi and Researcher at the Research Center for Economic and Social Development (CURDES), Bujumbura, Burundi,

<sup>4</sup>Faculty of Economy, Université Libre des pays des Grands-Lacs, Goma, Democratic Republic of the Congo.

DOI - <http://doi.org/10.37502/IJSMR.2025.8402>

### Abstract

Credit institutions must establish appropriate regulation and systems to manage risks, among which financial risk, credit risk, and operational risk are particularly diverse. Internal control is a tool that facilitates the achievement of objectives and risk management. It serves as the foundation for secure and well-thought-out operations within a banking institution. Thus, the purpose of this study is to present the tools employed by internal control in managing banking risks.

**Keywords:** internal supervision, credit risk, operational risk, market risk, prudential regulation.

### 1. Introduction

In recent years, the profound evolution of banking practices has been influenced by financial liberalization and technological advancements (De Boissieu 2000; de Boissieu and Dupont 2000; Sindayigaya 2022; Miotti and Plihon 2001a; Zaghdoudi 2013). These factors have heightened banking risks, exposing financial institutions to a variety of threats that undermine their operations and market position. Several types of risks exist in the banking sector, including financial risk, which is associated with market fluctuations; credit risk, which involves potential losses due to counterparties' inability to meet their payment obligations (Nduwimana and Sindayigaya 2025; Kwibuka Bashangwa et al. 2024; Bashangwa et al. 2024); and operational risk, which relates to internal dysfunctions within the organization.

It is therefore crucial for banking institutions to establish appropriate regulations and effective risk management mechanisms. The internal control system serves as a key tool for achieving institutional objectives and managing risks. It forms the foundation of a secure and well-structured banking operation (Gregory, Beck, and Keil 2013). The Basel Committee on Banking Supervision, along with banking regulatory authorities worldwide, emphasizes the importance of internal control (Sindayigaya 2023; 2024; Bashangwa et al. 2024). They have introduced modifications to prudential supervision, particularly concerning the capital

adequacy of credit institutions in response to increasing risks. This is embodied in the New Basel II Accord, adopted on June 26, 2004. Thus, internal control plays a crucial role in the current prudential regulation of banks.

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According to Gregory (2013), the evolution of banking institutions, along with the increasing number of issues and bankruptcies over the past 80 years, highlights the crucial importance of internal control within these establishments. Internal control aims to anticipate, identify, and mitigate the various risks that banks face. Internal control is an essential tool for managing an organization. In recent years, expectations regarding internal control have significantly increased, presenting an opportunity to enhance efficiency and internal performance. There are multiple definitions of internal control, as different stakeholders offer various perspectives and approaches. While these perspectives do not necessarily contradict one another, they do not form a universally integrated and coherent framework for internal control. One of the most comprehensive definitions was proposed by a working group established in 1985 by a U.S. Senate commission known as the Treadway Commission. This commission aimed to develop a standardized approach and conceptual framework for internal control. Their work culminated in a report published in 1992, widely recognized as the COSO Report (Committee of Sponsoring Organizations of the Treadway Commission). According to the COSO Report, internal control is a process implemented by an organization's board of directors, management, and personnel, designed to provide reasonable assurance to the board regarding the achievement of the following objectives:

1. Effectiveness and efficiency of operations;
2. Reliability of financial reporting;
3. Compliance with applicable laws and regulations." (Hamzaoui M, 2005).

Internal control is an evolving process that adapts to changes within an organization. It is essential for management and employees at all levels to be actively engaged in this process to minimize risks and achieve the organization's objectives. Internal control is a process: It encompasses all actions embedded within an organization's activities and operations. These actions are evident at every level and form an intrinsic part of how the organization is managed. Responsibility for internal control falls on all levels of the banking hierarchy, with each member required to understand their role, responsibilities, and the inherent limits of their authority. Internal control is not solely the responsibility of management; it is implemented, executed, and monitored by all personnel. Internal control aims to provide reasonable assurance: While it supports the organization in achieving its objectives, it does not offer an absolute guarantee. The success of these objectives is inevitably influenced by the benefits and limitations inherent in any internal control system (J-J Baudet, 2012). Internal control focuses on the achievement of objectives: It is a structured mechanism within the entity, designed primarily to help accomplish its overall goals. These objectives are realized through various sub-objectives, functions, processes, and specific activities (INTOSAI, 2004).

As stated by the Basel Committee, internal control in a banking institution is defined as "the set of systems and procedures ensuring the efficient and secure management of banking operations while ensuring compliance with laws and regulations." Here are its main objectives: Reliability of financial and accounting data, Compliance with laws and regulations, protection of assets against fraud and errors; improvement of operational efficiency; Risk management in the banking sector, including credit, market, operational, and liquidity risks, among others.

The COSO model (Committee of Sponsoring Organizations of the Treadway Commission) is widely used in the banking industry to structure internal control. It is based on five key components: Control environment (organizational culture, ethics, governance); Risk assessment (identification and management of major risks); Control activities (procedures and monitoring systems); Information and communication (flow of information within the organization); Monitoring and supervision (internal audit, reporting, and continuous improvement).

The establishment of internal banking control is guided by various regulators and international standards: Basel Accords (Basel I, II, and III): Issued by the Basel Committee on Banking Supervision, these agreements aim to strengthen global financial stability by setting capital and risk management requirements; International Financial Reporting Standards (IFRS): Accounting standards ensuring financial transparency in banks. SOX (Sarbanes-Oxley Act, 2002, U.S.); Legislation enforcing strict verification of financial disclosures. European Regulations (CRD IV and CRR); Capital requirements and risk supervision standards for banking institutions in Europe.

Despite these obstacles, many developing countries are gradually implementing control structures based on international standards: Gradual implementation of Basel Accords: Some African and Asian nations are beginning to adopt Basel II and III standards. Strengthening central banks: Institutions such as the BCEAO (Central Bank of West African States) and BEAC (Bank of Central African States) are enforcing stricter regulations for commercial banks. IMF and World Bank support programs: Providing technical and financial assistance to strengthen regulatory frameworks and oversee banking institutions.

Law No. 22-069 of December 27, 2022, which governs the activity and supervision of credit institutions, is the main legislative text regulating the banking sector in the DRC. This legislation aims to update the regulatory framework for national financial institutions. However, certain provisions have raised concerns about their impact on the competitiveness of the banking industry in the Congo. According to Article 11, a bank's share capital must be distributed among at least four shareholders, each holding at least 15% of the capital. This requirement could disrupt the financial stability of banks and hinder investments, particularly in an economically fragile environment.

The legislation stipulates that more than half of bank executives must be Congolese nationals. While this measure aims to strengthen local governance, its implementation without a proper transition period could lead to a shortage of expertise in the banking sector.

In response to concerns raised by certain legislative provisions, reform proposals have been introduced. National Deputy Kasanda Katuala Olivier has submitted a proposal to amend these requirements, particularly regarding share capital distribution and executive nationality. This initiative has received a positive opinion from the National Assembly's Research Office and is currently under review.

In the DRC, the governance structure of banks consists of the board of directors, the general assembly of shareholders, the executive committee, the board of auditors, and specialized committees, in accordance with Sub-Instruction No. 021 of the Central Bank of Congo.

Research indicates that, despite regulatory and economic challenges, the Congolese banking system benefits from relatively effective internal governance and control mechanisms. However, improvements are necessary to fully align the industry with international standards and enhance its competitiveness. A set of laws, regulations, and institutions guides the banking sector in the DRC, aiming to ensure financial stability, protect depositors, and promote an efficient financial system. Central Bank of Congo (BCC): As the monetary authority, the BCC is tasked with monitoring and regulating financial institutions. It ensures the stability of the financial system, issues the national currency, and ensures that commercial banks comply with prudential standards. General Inspection of Finances (IGF): Established by Ordinance No. 87-323 of September 15, 1987, the IGF plays a central role in preventing and combating corruption and fraudulent financial activities. It is also responsible for evaluating public policies related to financial management. In the DRC, the banking law sets the rules for the creation, operation, and supervision of financial institutions. It defines criteria for minimum capital, governance, and risk management. The BCC issues instructions on key factors for banks' financial strength, such as solvency ratios, risk concentration limits, and liquidity management.

Combating Money Laundering and Terrorism Financing (AML/CFT): Specific regulations require financial institutions to comply with surveillance obligations, reporting suspicious transactions, and cooperating with relevant authorities to prevent and identify illegal activities.

In recent years, the DRC has implemented reforms aimed at strengthening banking oversight and improving financial transparency. The General Inspection of Finances (IGF) has initiated various audit missions to combat public fund mismanagement and ensure the efficient management of financial resources.

There are few empirical studies specifically focused on the effectiveness of internal control in the banking sector of the DRC. However, institutions like the General Inspection of Finances

(IGF) conduct audits and reports that provide insights into the challenges and progress in internal control. Audits have revealed gaps in the internal control mechanisms of several financial institutions, particularly in risk management, regulatory compliance, and corporate governance. In response to these challenges, actions have been taken to enhance the skills of internal auditors, improve financial information systems, and foster an ethical culture within banking institutions. For a thorough analysis of the effectiveness of internal control in the Congolese banking sector, detailed empirical studies are essential.

These studies could examine the links between the effectiveness of internal control, financial performance of banking institutions, and depositors' trust. The legal framework of the banking sector in the DRC is in constant flux, with significant initiatives aimed at improving oversight and financial transparency. Despite the ongoing challenges related to internal control, the measures currently in place demonstrate a commitment to continuous improvement.

Additional empirical research would be valuable to assess the impact of these reforms and identify areas that require specific attention. In banking institutions, the goal of internal control is to minimize financial, operational, and compliance risks. To evaluate its influence, it is essential to define a mathematical and empirical framework that allows for the analysis of this relationship.

This study is structured into three main aspects. In the first and second parts, we will examine the internal control system within banks, as well as the various tools it employs to manage banking risks. Subsequently, we will present a case study focused on the Congolese banking group, where we will explore the practical aspects of internal control and its significance in managing credit risk.

## **2. Methods and Methodology**

In the context of our research, we will adopt a constructivist perspective. According to this perspective, access to knowledge is based on the subjective interpretations of observers. The associated research approach is inductive in nature. We have selected two institutions, Raw Bank and Sofibank, which have always had significant differences in legal status and organizational structure. We have focused our attention on these two cases for various reasons. Firstly, the structure of internal control within these two banking institutions is decentralized.

Furthermore, the application of control standards is dictated and supervised by the central entity. Ultimately, the control mechanism is applied throughout the group following a hierarchical structure. Indeed, the decentralized internal management model grants independence to regional entities, promotes direct connection with the field, and encourages the participation of local decision-making bodies. According to our theory, credit risk is one of the main challenges faced by banking institutions. It represents the central source of difficulties encountered by these institutions. Managing credit risk within a banking institution requires the establishment of an effective internal control system, which forms our main hypothesis:

H: The use of prudential regulation tools improves the effectiveness of internal control in managing banking risks. Thus, following our case study, we will attempt to determine whether banking institutions are capable of controlling risks while complying with the standards of prudential regulation.

## **Conceptual Model**

The effect of internal control (CICICI) on the reduction of risks (RRR) can be modeled as follows:

We form the model R based on CI and X, so:

$$R = f(CI, X)$$

Where R is a function of CI and X.

- RRR indicates the degree of risk (e.g., operational losses, delinquent receivables, identified fraud).
- CICICI represents the efficiency of internal control (e.g., internal audit score, number of checks performed, compliance with standards).
- XXX represents a set of control variables (e.g., bank size, regulatory framework, management competence).

We expect an inverse relationship between CICICI and RRR, meaning:

$$\frac{\partial R}{\partial CI} < 0$$

This implies that an improvement in the effectiveness of internal control reduces the risks.

### **Evaluation of Internal Controls (CICICI)**

The following factors can be used to evaluate the internal controls:

- Number of control procedures established (C1C\_1C1)
- Frequency of internal audits (C2C\_2C2)
- Compliance rating with regulatory standards (C3C\_3C3) (e.g., compliance with Basel III standards)
- Percentage of non-conformities rectified (C4C\_4C4)

A global internal control index can be calculated as follows:

$$CI = w_1 C_1 + w_2 C_2 + w_3 C_3 + w_4 C_4$$

- Where:
- CI is the overall internal control score,
- $w_i$  represents the weights assigned based on the relevance of each factor,
- $C_1, C_2, C_3, C_4$  are the respective factors (control procedures, audit frequency, compliance rating, and correction of non-conformities).

This formula reflects the weighted sum of the evaluation factors, considering their importance in the internal control system.

### **Measurement of Banking Risks (RRR)**

The following factors can be used to measure banking risks:

- Proportion of doubtful receivables (R1R\_1R1): Evaluates the proportion of loans that are no longer performing.
- Volume of operational losses (R2R\_2R2): Losses caused by errors, fraud, or failures in internal controls.



- Number of identified frauds (R3R\_3R3): The total number of fraud incidents detected.
- Overall risk assessment (R4R\_4R4): A rating assigned by regulatory authorities or rating agencies.

A global risk index can be defined as follows:

$$R = v_1 R_1 + v_2 R_2 + v_3 R_3 + v_4 R_4$$

Where:

- R is the overall risk score,
- $v_i$  represents the weights assigned based on the level of risk for each factor,
- $R_1, R_2, R_3, R_4$  are the respective risk factors (doubtful receivables, operational losses, fraud incidents, and overall risk rating).

This formula reflects the weighted sum of the risk factors, considering their importance in the overall risk measurement.

### Estimation Methodology

A quantitative estimation of the relationship between CICICI (internal control efficiency) and RRR (banking risks) can be done using multiple linear regression:

$$R = \alpha + \beta CI + \gamma X + \varepsilon$$

Where:

- $\alpha$  is the constant,
- $\beta$  represents the impact of internal control on risk reduction (it is assumed that  $\beta < 0$ ),
- $\gamma$  is the coefficient of the control variables,
- $\varepsilon$  is the statistical error term.

Using actual data from a banking institution, let's imagine the following regression analysis results:

$$R = 10.5 - 2.3CI + 0.8X + \varepsilon$$

Where  $\beta = -2.3$  means that an increase of one point in the internal control index reduces the risks by 2.3 units.

This measurable theory provides the opportunity to empirically prove that improving internal control leads to a reduction in banking risks. Confirming this model in various contexts would be possible by using real banking data and econometric techniques.

All references throughout this paper have been helped by Zotero tools.

### 3. Results

According to the Bank for International Settlements, improving the efficiency of internal control requires categorizing objectives into three main groups:

- Operational objectives: These objectives relate to the effectiveness and efficiency of the organization, including resource utilization, job performance, and the safeguarding of the institution.
- Financial reporting objectives: These focus on ensuring the reliability of reports, annual statements, and financial records, which are essential for decision-making.
- Compliance objectives: These require adherence to laws, regulations, and directives applicable to the entity. Achieving this objective is crucial for maintaining the organization's reputation and legal rights.

According to COSO, internal control consists of five interconnected elements that stem from business management and are embedded in the organizational process (Coopers & Lybrand, 1998):

- Control environment: This includes factors that influence internal control, such as employee integrity, ethical values, and competence, as well as the board of directors' ability to define organizational goals.
- Risk assessment: This involves identifying and evaluating factors that may impact the achievement of objectives. Effective tools and methodologies are required to assess and manage risks associated with macro- and microeconomic changes, regulatory frameworks, and operational conditions.
- Control activities: These consist of policies and procedures that ensure actions are taken to mitigate risks that could hinder the organization from achieving its objectives.
- Information and communication: Relevant information must be identified, collected, and disseminated in a timely manner to enable all stakeholders to fulfill their responsibilities.
- Monitoring: Internal control systems must be regularly reviewed and assessed. Any deficiencies should be reported to the appropriate authorities, and continuous monitoring mechanisms or periodic evaluations should be established.

The structure of the internal control system in banks is designed to ensure a strict separation between the departments responsible for executing transactions and those in charge of approving, settling, and overseeing risk management activities. According to Lamarque E (2003), internal control operates within a broader system, which includes three distinct levels:

- First-level control: This encompasses all controls performed within each department or operational unit that handles administrative or banking transactions. The development of organizational principles and procedural rules should aim to establish an effective first line of defense.
- Second-level control: Conducted by a higher hierarchical authority, these controls are carried out by entities that are independent of the units responsible for the original transactions.
- Third-level control: Conducted by the bank's internal audit department, this level ensures the reliability of primary and secondary controls. It is further strengthened by the interventions of external auditors, the group's general inspection unit, or an independent auditing firm. Its primary objective is to ensure the effectiveness of internal control.



The organization of interactions between the various stakeholders is carefully structured. Regular and effective communication, both from the administrative body and the management team, is now regarded as an essential component of the system.

- Board of directors: Responsible for governance, strategic direction, and oversight of senior management. It holds the ultimate responsibility for ensuring the establishment and execution of an adequate and effective internal control system.
- Executive management: Tasked with implementing the directives of the board, establishing a robust internal control system, and executing banking strategies and policies.
- Audit committee: This committee oversees the internal control system. It monitors the activities of the bank's internal audit department, acts as the primary point of contact for external auditors, and ensures the effectiveness of the auditing function.
- Internal audit: The internal audit team evaluates the efficiency of the internal control system and provides recommendations for its improvement.
- All employees: Internal control is a shared responsibility that involves all bank employees. It must be explicitly stated in job descriptions, ensuring that each staff member understands their role and responsibilities in maintaining control measures.

The banking sector is often regarded as a system of risks, as risk management is an integral and unavoidable aspect of its operations due to the nature of financial products and cash-flow management (Lamarque E, 2003). The absence of adequate risk control can lead to significant financial losses, impacting equity capital and profitability, potentially leading to the failure of banking institutions. Over the past two decades, prudential mechanisms have evolved, from the Cooke ratio to the latest developments in the Basel Committee Accords. This evolution highlights the crucial role of internal control within banking institutions in mitigating risks and ensuring financial stability.

According to Desmicht François (2004), banking risk can be succinctly defined as "the temporal uncertainty of an event that has a certain probability of occurring and posing a problem for the bank." Generally, three main categories of risks are identified in the banking sector: credit risk, market risk, and operational risk. Since lending is the primary activity of most banks, they must assess the solvency of borrowers, which can deteriorate over time due to various factors. Thus, one of the most significant risks banks face is credit risk. Credit risk is inherently tied to counterparty risk, as it depends on the borrower's willingness and ability to fulfill their obligations (De Boissieu, 1999). It is essentially the possibility of loss in the event of non-repayment by the borrower. When dealing with loans, this is referred to as default risk or non-payment risk (Desmicht, 2004). Market risk is a fundamental factor in the bank's lending and deposit activities, as well as its financing, trading, and investment operations. According to De Boissieu (1999), market risk refers to the exposure of a financial institution to adverse fluctuations or instability in market variables. This encompasses the risk of incurring losses or capital depreciation when selling securities from the bank's portfolio.

According to the Basel Committee on Banking Supervision, "operational risk is defined as the risk of loss resulting from inadequate or failed internal processes, people, and systems, or from external events." The major categories of operational risks are linked to weaknesses in internal controls and corporate governance. These deficiencies can lead to financial losses due to errors, fraud, or the inability to process transactions on time. Additionally, operational risk can cause

harm to the bank's interests in various ways. Some aspects of operational risk stem from major IT system failures or external events such as large-scale fires or natural disasters. Over the past two decades, the evolution of prudential mechanisms has highlighted the significance of internal control in the banking industry. The Basel Committee on Banking Supervision, established in 1974 by the central bank governors of G-10 nations (Colmant B et al, 2005), initially introduced an international solvency indicator known as the "Cooke Ratio" in July 1988. Later, from 1998 onwards, a restructuring process led to the publication of a new framework in January 2000, commonly known as "Basel II" or the "McDonough Ratio" (Lamarque E, 2003). These revisions in prudential regulations further emphasized the role of internal supervision within banking institutions.

The 1988 Basel I Accord, which introduced a minimum capital adequacy ratio, was a significant milestone in enhancing global banking stability. This capital adequacy requirement became known as the "Cooke Ratio" (Lamarque E, 2003). According to Basel I, banks were required to maintain a capital-to-risk-weighted-assets ratio of at least 8%. The original formula for the Cooke Ratio was as follows:  $\text{Prudential Own Funds} \geq 8\% \text{ Weighted Credit Amounts}$ .

In January 1996, the Basel Committee unveiled a modification aimed at incorporating market risks into the 1988 agreement and imposing capital requirements. Starting in 1996, the new ratio was therefore established as follows:  $\text{sum of equity capital} \geq 8\%$

Although the Cooke ratio saw significant growth due to its widespread adoption beyond G10 countries and the increase in the equity capital of financial institutions, it still has several limitations, which led to the establishment of the Basel II accords. The Basel II accords represent a significant initiative by the Basel Committee aimed at optimizing the functioning of the global banking system (Paulsen T, 2003). They are structured around three pillars: Pillar 1: Minimum Capital Requirements

The new index adapts the methods for assessing credit risk by incorporating mitigation strategies. It maintains the same approach to market risk as the 1996 amendment and introduces a new capital requirement for operational risks (Ogien D, 2008), leading to the inclusion of an evaluation of this risk in the denominator of the banking capital adequacy ratio (Desmicht F, 2004). As a result, the solvency ratio evolves into the Mac Donough ratio, which is formulated as follows:  $\text{Regulatory Own Funds} \geq 8\%, \text{Credit risk} + \text{market risk} + \text{operational risk}$ . The recent agreement does not affect the numerator or the minimum value of the ratio; thus, the definition of regulatory own funds remains the same, and the minimum required threshold remains set at 8%.

The new accord, through its second pillar, establishes the concept of a dialogue between banking institutions and regulatory authorities. The internal control process and the internal audit function hold a central role in the mechanism designed to ensure the integrity and relevance of the entire risk management process. The influence of national regulators is enhanced and now includes (Ogien D, 2008):

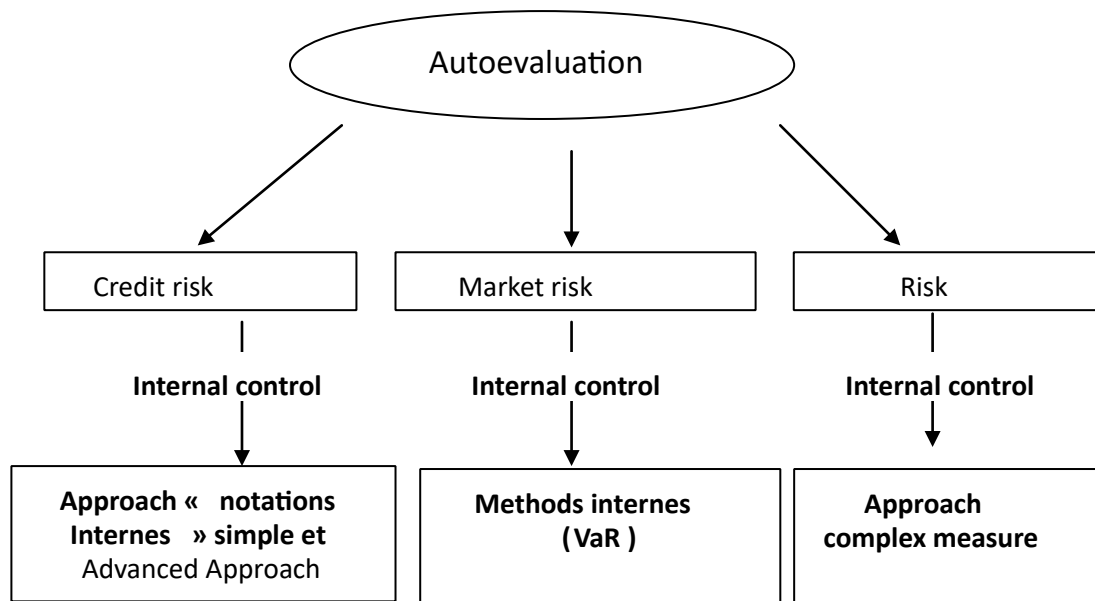
- The ability to intervene at any time they deem necessary, even before own funds fall below the required minimum threshold;
- The authority to choose a method from those suggested in Pillar 1 for analyzing risks.

- The examination and audit of the process for assessing the adequacy of own funds. Regulatory authorities will qualitatively analyze the internal mechanisms established by banks to judge the sufficiency of their own funds in relation to the risks.

This pillar aims to strengthen the financial transparency of banks by requiring them to share the necessary information so that third parties can assess the adequacy of their own funds. The goal is to improve market discipline. According to the Committee, the dissemination of information is a crucial aspect of the new Accord. This disclosure relates to the internal control mechanisms established by banks concerning credit risk, market risk, and operational risk.

According to Chavagneux C et al. (1997), "Self-control allows financial institutions to use internal models to supervise and manage their financial risks." "An internal model is characterized by three elements: a global approach and algorithmic calculations, a structure of responsibilities and supervisory processes, and a system for recording and managing operations." The integration of market risks into the Cooke ratio in 1996 gave institutions the opportunity to use their internal models. This concept represents an initial phase in the development of self-control as a prudential principle. Indeed, Basel II, by promoting methods based on banks' internal measurement systems, is more receptive to risks while being stricter about the quality of their internal control. Generally speaking, Basel II is expected to strengthen internal control within banking institutions. The requirements set by the Committee, particularly in terms of risk assessment, place internal control functions at the heart of the new mechanism.

Regarding Pillar 1, which deals with the calculation of minimum capital requirements, banks planning to adopt internal rating methods for credit risk and an advanced method for operational risk will need to comply with qualitative criteria in terms of internal control. The evaluation of the quality of the internal control system is carried out at the level of Pillar 2. Undoubtedly, one of the key aspects in ensuring the credibility and smooth execution of the overall capital adequacy assessment is the internal supervision of this procedure, given the nature, scope, and complexity of their operations. Finally, the third pillar of the new mechanism requires financial institutions to disclose details about their internal control system, both regarding credit risk and operational risk. These criteria should significantly increase the importance given to the quality of internal control when assessing the robustness of an institution. The diagram below illustrates the position of internal control within the framework of prudential regulation.



**Diagram 1: Basel II Regulation and the Role of Internal Control**

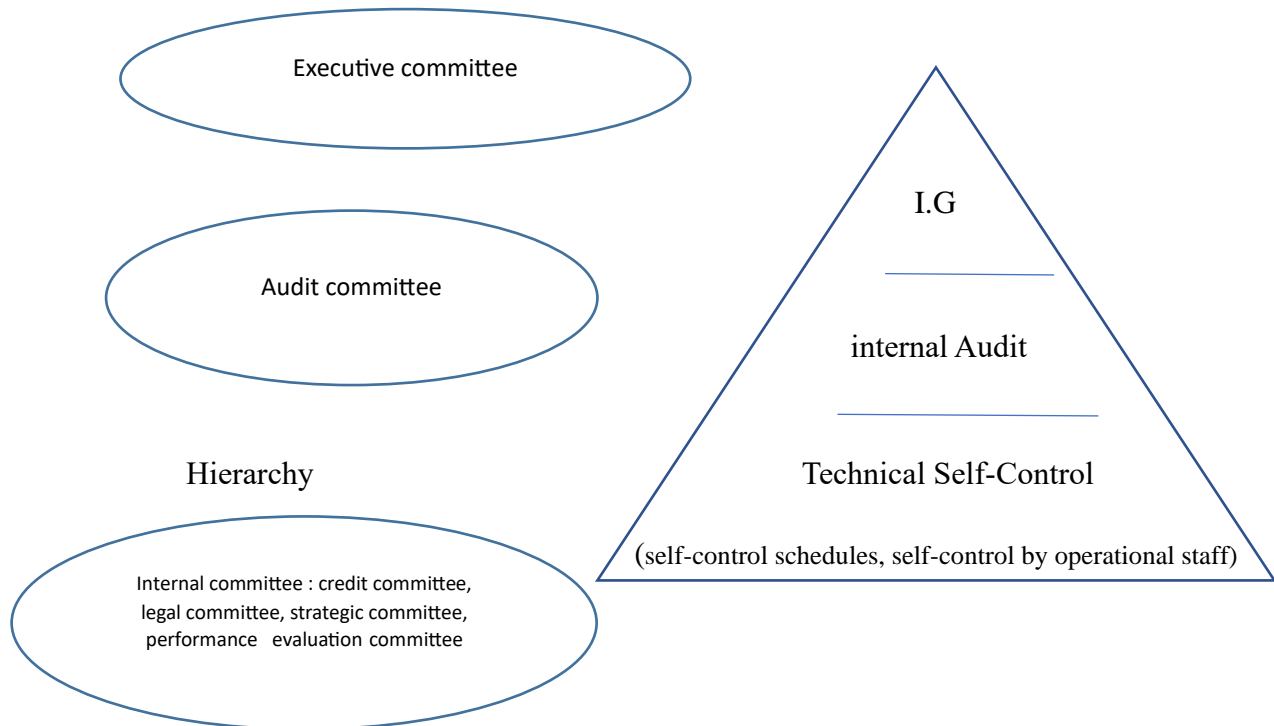
According to this model, internal control is the first phase of verifying these processes. It highlights the primary responsibility of institutions regarding the quality of their risk assessment systems and ensures compliance with the requirements set by regulatory authorities. Supervision represents the second phase of the process, during which the regulator conducts an evaluation and audit of the internal control. This section focuses on banking practices regarding credit risk, based on my examination of internal control within Congolese financial institutions.

Thus, the importance of internal control in managing banking risks and the necessity of strengthening this management through appropriate prudential regulation lead us to the following question: How effective is internal control in reducing banking risks? According to our analysis, the internal control system of Commercial Bank Credit is based on three major levels of verification, in accordance with the internal control charter of Commercial Bank Credit:

**Level 1: Autonomous Control:** This is a constant verification, known as first-line control. Its purpose is to ensure the accuracy of transaction compliance, the proper functioning of processes, and their alignment with the nature of transactions and associated risks. Two forms of self-control are distinguished. Self-checking by operational staff: Individuals initiating a procedure must perform an initial control. Hierarchical controls: These controls are the responsibility of various levels within the hierarchy. Their goal is to detect errors that are undetectable by operational staff and to assess the effectiveness of security measures integrated into the operational process.

**Level 2: Internal Audit (BCP, BPR, Subsidiaries):** Internal audits are conducted within the relevant entities during "special missions." They examine various processes of the entity with the aim of achieving objectives by evaluating risk management, control, and governance processes, while providing suggestions to improve effectiveness.

The general inspection is authorized to intervene in all organizations within the Credit to financial institutions, including Raw Bank, Sofi Bank, and their subsidiaries. It participates in the management and supervision of control levels by relying on: missions, the analysis of internal audit reports (BCP, BPR, Subsidiaries), as well as the central functions of risk monitoring.



**Diagram 2: Internal Control Architecture within the Credit Department of Raw Bank and Sofi Bank.**

*Source: Internal Control Charter of Credit at Raw Bank and Sofi Bank*

Regarding the stakeholders involved in internal control within Credit at Raw Bank and Sofi Bank :

- Governing body of the BCP: Ensures the establishment and supervision of the internal control system by the management team.
- Governing Authority: Refers to the Executive Board, the Supervisory Board, and the BPR. It is responsible for designing and implementing the internal control system.
- Audit Committee: A committee formed by the decision-making body. This committee, which includes a steering committee as well as the BCP/BPR/Subsidiaries audit committees, is primarily responsible for evaluating the consistency and relevance of internal control systems.
- Internal Audit: The mission of internal audit is to conduct a comprehensive review and assessment of the internal control system. Within Raw Bank and Sofi Bank, the internal audit function operates at the Central Bank of Congo, the regional popular bank, and lastly, within the subsidiaries.
- General verification: Supervised by the executive committee, its scope covers all credit-related entities of the aforementioned commercial banks and their subsidiaries. The assessment of credit risk levels within GBP entities is carried out

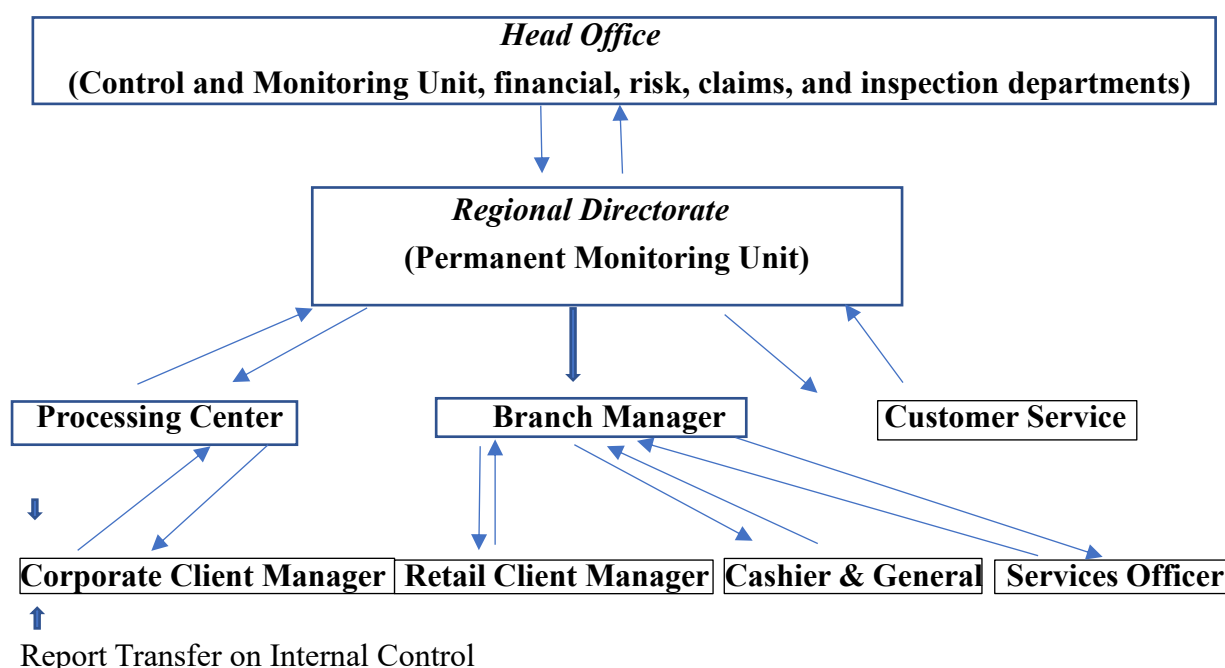
through an analysis of the nature and quality of their credit portfolios. Several aspects can be examined, including:

- The growth of activity and commitments
- The quality of the commitment portfolio
- The distribution of commitments based on their risk level, etc.

The scoring tool is essential for risk assessment when analyzing personal credit applications. Credit scoring is a mechanism that assigns a rating (or score) to a loan applicant to evaluate the potential performance of their loan. It is based on quantitative performance indicators and attributes of previous loans to anticipate the profitability of future loans with similar characteristics.

### 3.3. The Case of the Central Bank of Congo

As part of establishing an effective internal control system, the Central Bank of Congo classifies risks on a risk mapping framework. If not properly managed, these risks can lead to significant losses for credit institutions. Therefore, the BCC has drawn inspiration from the COSO model to develop a robust internal control system. The internal control structure at the BCC is illustrated in the following diagram.



Request for additional information if needed by the hierarchy.

**Source:** Internal documentation of the BCC.

This model highlights the crucial role of regional directorates in the internal control system, ensuring synchronization and supervision across the group's various entities. It also reveals that internal supervision is carried out by all employees within the central bank's entities, as well as within the banking group. Similar to the GBP, when a client applies for a loan, the BCC banking advisor must gather information from the client, internal data if the applicant is already a customer, and other external sources. This process forms the credit application file, which serves as a tool for assessing credit risk and guides the banker in deciding whether to grant the loan. An evaluation (or rating) may be assigned to the loan or the borrower at the time of the



lending decision. This rating is used for credit monitoring and future risk assessments. Throughout the loan's duration, the bank monitors financial distress signals, regularly assesses insolvency risk, and adjusts the rating to implement actions aimed at optimizing debt recovery or potentially disengaging the bank. Depending on how the loan progresses, it may either be repaid without issue or end in a dispute resolution process.

#### **4. Discussion of the Results**

The implementation of new credit risk assessment tools under Basel II represents a challenge for both Raw Bank and Sofi Bank. Opting for simplified methods helps reduce complexity to some extent. However, the difficulties related to interpretation and application should not be underestimated. The credit application process within these two commercial banks generally follows these key steps:

- ❖ Establishing repayment capacity criteria: The bank gathers all available data on debtors from previously reviewed files.
- ❖ Assigning an overall rating: Each relevant criterion is scored based on its relative importance. By summing up the scores of the credit criteria, a final rating is obtained.
- ❖ Setting a rating threshold: This step involves defining a threshold below which the risk of borrower insolvency is considered high.
- ❖ Utilizing the analysis results: A detailed questionnaire outlining key solvency criteria and their weightings is created. This questionnaire is accessible to loan officers handling credit applications. Any request with a total score below the threshold is automatically rejected.

The structuring of the internal control system in these two banking institutions, along with their comprehensive credit risk assessment approach, demonstrates the successful implementation of prudential regulatory tools, particularly Basel II reforms, to strengthen internal control. This is especially evident in the analysis of the volume of outstanding loans managed by their credit departments. Since the adoption of these measures, the banks have observed a notable reduction in the volume of unsettled loans.

Certainly, the Basel II reform improves risk monitoring systems, but its approach also comes with several constraints. The implementation of recent prudential regulatory changes is particularly complex and costly, while the credit application and approval processes are becoming progressively more rigid and cumbersome. While Basel II strengthens risk assessment, it also introduces costly and complex compliance requirements that can slow down credit approvals and limit access to financing, particularly for businesses and individuals with less easily quantifiable financial profiles.

For example, in the context of automated evaluation, certain critical elements, such as income levels and external debt, are directly recorded by the account manager. This opens the possibility for incorrect data entry, which can distort the system's judgment and, as a result, influence the credit file's acceptance in terms of risk. Finally, obtaining financing remains extremely challenging for SMEs. Financial institutions assign a rating to clients based on their risk level (probability of default). Additionally, the borrower would be subject to an interest rate proportional to their default risk. Furthermore, credit rates could fluctuate depending on the method used to determine equity requirements. As a result, small businesses often face significant barriers to accessing bank credit.

## 5. Conclusion

With the transformation of the banking system and the emergence of new markets, new risks have been added to the traditional risks associated with banking activities over the years. The critical goal of managing these risks is now shared across the entire sector, especially by regulatory authorities. To ensure the stability of the banking system, regulatory authorities have updated prudential rules. Since the implementation of the Basel II reform in December 2006, banks have faced several challenges, including the updating of their credit risk assessment and selection methods, as well as the integration of operational risks into the calculation of their capital requirements. In essence, Basel II has driven banks to adapt and strengthen their internal control systems, enhancing the overall resilience of the banking sector in the face of emerging financial risks. This is why regulators sought to modify the prudential framework to improve the methods for calculating capital requirements. The regulator's goal is to enable banks to manage and assess their risks more effectively, while avoiding a one-size-fits-all approach. Therefore, the first pillar of the new system offers banks several options for determining capital requirements related to credit risk and operational risk. Each bank can choose the most suitable alternative based on its level of sophistication and risk profile. Basel II, therefore, marks progress toward independent risk assessment, using internal models for calculating risks related to counterparties, market risks, and operational risk in order to monitor and control them. Indeed, Basel II, based on banks' internal measurement methods, is more responsive to the risks they may incur while emphasizing the excellence and strength of their internal controls.

This condition reflects the guidelines set by the Basel Committee just before the reform's launch, including the "Core Principles for Effective Banking Supervision" in September 1997, and the "Principles for the Evaluation of Internal Control Systems" in September 1998. These principles stress that, "An effective internal control system is a vital component of managing an institution and represents the foundation of secure operations for a banking organization." Overall, the impact of Basel II is expected to lead to stronger internal controls within financial institutions. Therefore, internal control is considered the essential foundation of the new system. It represents the first step toward validating the process, offering access to advanced risk assessment techniques, and ensuring monitoring of rating instruments. As such, the goal of internal control is to minimize as much as possible the risks to which institutions are exposed, using adequate resources. Indeed, the establishment of an effective internal control system is universally recognized as a prerequisite for the development of banking operations, which, in the long term, could lead to processes of specialization and concentration in the banking sector. Adapting internal control to the size and scope of the institution is crucial, and it is essential to clarify responsibilities by disseminating organizational charts that detail the hierarchical links and obligations of each individual. This system must therefore rely not only on human resources (professional competencies and appropriate staffing levels) but also on quality equipment (information recording, performance evaluation, etc.).

A well-structured internal control framework ensures that risks are managed efficiently, operations run smoothly, and regulatory requirements are met. This alignment of resources and responsibilities forms the backbone of a secure and sustainable banking environment. Furthermore, internal control must rely on a set of formalized methods and procedures that are easily accessible. Ultimately, it is the general management, possibly with the support of external auditors, that is responsible for assessing the completeness of checks, the overall coherence of the system, and its effectiveness. Internal oversight goes beyond the strict

application of new prudential standards. It encompasses the entire organizational scope of the bank and affects all areas of the institution's operations. This means that internal control is integral to the entire functioning of the bank, ensuring not only compliance but also the efficient and secure management of its resources and activities.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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