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The Impacts of Credit Risks on the Financial Stability of Jordanian Commercial Banks between 2010 and 2020

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ABSTRACT

Banks are unique establishments that are exposed to both returns and risks across various dimensions. Among the risks they face, credit risk stands out as one of the most critical, stemming from banking transactions with customers and institutions. Risk is an inherent aspect of the banking business, particularly due to factors such as increased competitiveness, technological advancements, larger banking transactions, and the presence of large banks. Today, banks encounter a range of banking risks, varying in their levels of severity across different institutions. To ensure their continued existence in the banking market with reasonable returns and minimal risks, banks must conduct thorough evaluations and analyses while effectively managing all potential risks. These measures contribute to their success. This study specifically examines the influence of credit risk on the financial stability of Jordanian commercial banks during the period of 2010–2020. The study incorporates key drivers of financial stability, including the capital adequacy index, liquidity ratio, return on assets, and costs, which were derived from previous research. The study's findings indicate that the leverage ratio (expressed as a percentage) of credit risks had no impact on the financial stability of Jordanian commercial banks between 2010 and 2020. However, there was an impact observed in relation to credit risks represented by the ratio of nonperforming loans to total loans (expressed as a percentage), affecting the financial stability of these banks. Based on the final results and discussions of the study, it is recommended to prioritize transparency, as it plays a crucial role in achieving financial stability even in the face of financial, political, and epidemic crises. Additionally, adherence to institutional governance principles in financial markets and establishing a link between economic indicators and banking safety are essential. Overall, this study underscores the significance of effectively managing credit risks and implementing measures to ensure financial stability in the banking sector.

Keywords: assets; banking sector; capital; costs; COVID-19; financial stability; instability; liquidity

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INTRODUCTION

The global history of financial and economic systems has been marked by various crises that have disrupted domestic and global markets. These crises are considered successive shocks to these systems, highlighting the need to reevaluate the factors contributing to stability in both the financial and economic domains [1–4]. Risk is acknowledged as an inherent aspect of the banking business, as emphasized by Murinde et al. [5] and Zhao et al. [6]. Factors such as increased competitiveness, technological advancements, larger banking transactions, and the presence of large banks have further amplified the significance of risk in the banking sector. Consequently, banks face a range of banking risks, which vary in their severity across different institutions. To ensure their continued existence and success in the banking market while maintaining reasonable returns and low risks, banks must conduct thorough evaluations, analysis, and effective risk management [7–9].

The financial and banking sector, like other industries, has experienced the impact of various financial distresses that have occurred globally. This sector has confronted crises that can have long-term influences [10–12]. Schnabl and Sonnenberg [13] also highlight that risk is an inherent aspect

of the banking sector, particularly due to increased rivalry, technological progress, a higher volume of financial transactions, and the demand for large banks. Consequently, banks face a diverse array of banking risks, which differ in their magnitude across different banks.

Credit risk emerges as one of the most critical risks that banks face in their banking transactions with customers and institutions. These risks can be categorized into different types, and advanced indicators can be employed to accurately identify and forecast them [14]. This enables banks to control or reduce credit risk, even if complete elimination is challenging. Contemporary studies have focused on managing and controlling bank credit risks, employing robust control and managerial systems and methods to enhance risk identification. Effective classification and decision-making regarding credit risks contribute to better achievement of financial goals [15–17].

In line with the aforementioned arguments, the present study examines the impact of credit risks on the financial stability of Jordanian commercial banks between 2010 and 2020. The study investigates four main areas of interest: the capital adequacy index, liquidity ratio, rate of return on assets, and costs [18]. By analyzing these factors, the study aims to shed light on the relationship between credit risks and financial stability in the Jordanian banking sector during the specified period.

LITERATURE REVIEW

Financial Stability

The concept of financial stability is widely recognized among economists as the ability to achieve a balanced state in all elements of the financial sector, including the stability of these elements [19]. Financial stability is built upon three main anchors: financial organizations such as banks, financial markets, and the financial infrastructure [20]. These anchors work together to create a stable financial environment that can effectively manage financial risks [21]. Financial stability can be understood as the absence of factors that may lead to financial instability within these anchors, such as banks, insurance companies, and financial markets [22]. It entails the ability of the financial environment to withstand internal and external risks, resolve them, and mitigate any negative impact they may have [23].

Financial stability is characterized by the financial sector's ability to handle risks in a prudent and robust manner, as well as predict and effectively manage crises [24]. It is not solely about responding to risks as they arise but also about preparing the financial sector to absorb and mitigate risks, reduce their occurrence, and prevent their adverse effects from spreading to the main financial anchors, which can have a detrimental impact on the overall economy [25]. Financial stability is also based on the principle of directing financial resources toward investment opportunities regardless of the prevailing circumstances, allowing the banking sector to operate efficiently in terms of payments, credit, and liquidity, even in the presence of credit risks [26].

The link between financial stability and credit risk is considered crucial for predicting and mitigating risks, ensuring that the growth of financial assets aligns proportionally with the growth of the economy [27]. A balanced fiscal environment is important because the performance of the financial sector significantly affects the economy's ability to achieve financial stability [28]. Central banks, as key financial institutions, play a vital role in directly addressing financial risks as they arise. It is essential for banks to be prepared for expected shocks and prevent their transmission to other components of the financial environment and the broader economy. Key principles such as transparency, corporate governance, and the alignment of macroeconomic indicators with banking soundness are crucial for achieving systematic performance in financial markets and enhancing the ability to make internal and external financial settlements [29].

Financial stability and economic stability are interconnected, and the discipline of one contributes to the other through sound monetary and financial policies and transparent allocation of financial resources [30]. In many developing countries, the discipline of the macroeconomic environment is essential for achieving financial stability and the sound performance of financial institutions [31]. Improving liquidity and profitability through domestic savings helps mitigate the risks associated with exchange rate and interest rate fluctuations, ensuring stability in external payments for financial institutions, particularly banks. Developing economic stability

policies to address short-term economic issues like inflation, cash reserves, and fund transfers is also a priority for these countries [32].

Short-term problems can hinder the achievement of long-term comprehensive policies for financial stability in some developing countries. Economic downturns can lead to companies failing to fulfill their obligations to banks or make it difficult to launch new projects due to reduced purchasing power. Consequently, unemployment rates rise, family savings decline, and obtaining bank loans becomes challenging, resulting in an increase in non-performing loans. This situation can create market price bubbles, where the value of collateral provided to banks for loans does not reflect the true value of the assets [33].

Financial stability is closely tied to the concept of trust. A trustworthy financial environment is one that is built on solid foundations and robust infrastructure, enabling the prediction and effective resolution of risks [34]. Trust is a fundamental element in achieving financial stability and ensuring the optimal functioning of the financial system.

Requirements of Financial Stability

To achieve financial stability, it is crucial to have well-developed and balanced financial systems that can effectively allocate investments, create robust investment opportunities, generate employment, and increase production levels. Corbet et al. [35] argue that financial stability is a fundamental element in attaining economic stability, as it enables better management and mitigation of credit-related risks through a sound financial state. Baicu et al. [36] support this perspective, stating that financial stability helps prevent the concentration and accumulation of credit risks, leading to more effective management of their consequences.

The relationship between monetary policy and financial stability is highlighted by Goodell [37], who emphasizes the impact of monetary policy tools, such as interest rates, on the ability of organizations within the economic framework to fulfill their debt obligations to banks. Monetary policy measures, including interest rate adjustments and exchange rate policies that limit unwarranted fluctuations and prevent currency speculation, support efforts to achieve economic stability and enhance international competitiveness. Flögel and Gärtner [38] further assert that financial stability cannot be achieved in isolation from economic stability, emphasizing the complementary roles played by the financial sector and monetary policy.

A stable banking sector is also a requirement for financial stability, as it can effectively mobilize savings to finance multiple investment opportunities, create job opportunities, and enhance productivity. Financial stability in the banking sector is considered a pathway to economic stability [39]. Yildirim [40] highlights the importance of monetary stability as a prerequisite for financial stability, with the monetary sector maintaining price stability at targeted levels (typically around 2% in developed countries and higher in developing countries). Al-Shboul et al. [41] suggest that establishing a clear interest rate structure that aligns with economic and international developments, while organizing credit and its terms to support economic growth and mitigate credit risks, particularly in sectors vulnerable to volatility, is essential for financial stability in the banking sector.

Credit Risks

Sharma and Lakhotia [42] emphasize that economists focus on understanding and managing the risks associated with banks. Risk is generally defined as a deviation from the expected positive outcome due to certain incidents or events that result in damage or loss. When discussing risks in the context of banks, it refers to the potential exposure of banks to unforeseen fluctuations or uncertainties that can impact their activities, including investment returns, debts, credits, and other financial operations [43].

There are two main types of risks that banks typically face, as highlighted by Sharma and Lakhotia [42]. The first type is the risk of the bank's inability to repay its debts on time, which can lead to financial losses. The second type of risk is credit risk, which arises from the possibility that borrowers may fail to fulfill their obligations and meet the terms agreed upon with the bank after receiving a loan.

Credit risk specifically refers to the potential losses that may arise when clients or borrowers are unable to repay the principal amount and interest within the agreed timeframe [25]. This risk is associated with loans and bonds

provided by the bank to individuals or organizations based on mutual agreements to cover expenses and repay the loan in installments within a specified period [44].

In summary, credit risk represents the potential losses that banks may face when borrowers are unable to fulfill their repayment obligations as agreed, and it encompasses the risks associated with loans and bonds granted by the bank to individuals or organizations.

Types of Credit Risks

Long et al. [45] provides a classification of risks associated with loans, distinguishing between systematic risks and non-systematic risks:

1. Non-Systematic Risks (Special Risks): Non-systematic risks are internal risks that arise within the bank's own environment and are related to its activities and financial situation. These risks are specific to the bank and not directly influenced by external factors. Examples of non-systematic risks include weak management practices, corruption, managerial errors, and problems with clients or borrowers [46]. These risks are unique to the bank and can be managed through proper risk management practices and controls.
2. Systematic Risks (General Risks): Systematic risks are external risks that the bank faces from the broader environment. These risks are not specific to a particular bank but affect the entire market or economy. They can arise from factors such as economic and political instability, non-compliance of borrowers with loan conditions, or external events like natural disasters (e.g., earthquakes, floods) and pandemics (e.g., COVID-19) [23]. Systematic risks are beyond the direct control of individual banks and can have a widespread impact on the banking industry as a whole.

It is important to note that while non-systematic risks can be managed and reduced through internal measures and diversification strategies, systematic risks are more challenging to control or predict. Diversification may help mitigate non-systematic risks, but it cannot eliminate or avoid systematic risks [47]. The total risks faced by banks typically comprise a larger proportion of systematic risks compared to non-systematic risks [48].

In summary, loans are exposed to both non-systematic (special) risks, which originate internally within the bank, and systematic (general) risks, which arise from external factors affecting the broader market or economy. Non-systematic risks can be managed through internal controls, while systematic risks are more difficult to control and are influenced by external events and conditions.

Hypotheses Development

The COVID-19 pandemic had a significant impact on the financial stability of banks, particularly in terms of their income and profitability. The low-income risk caused major issues in cash liquidity, making it challenging for banks to meet their financial obligations such as debts, interest payments, and operating expenses like rents and staff costs [39]. This was especially problematic for banks that were already weak or facing performance difficulties, as their debts and monetary problems escalated, further complicating their situation.

Flögel and Gärtner [38] highlighted the substantial impact of the pandemic on banks' profits, particularly in the first quarter of 2020. Closures, curfews, and the redirection of support towards the health sector placed additional pressure on banks, resulting in a significant contraction in revenues, activities, and liquidity. The return on assets experienced a significant decline, reaching levels lower than the cost of borrowing, which had not been observed since 2014.

In response to the pandemic, many banks implemented cost-cutting measures, including complete closures, reducing employee capacity to less than 50%, utilizing liquid assets to cover financial obligations, and relying on unpaid financial statements [49]. Some banks also resorted to borrowing, issuing debts, or withdrawing investments and contributions from members to address the financial challenges posed by the pandemic [50].

While the impact of the COVID-19 pandemic on the financial system and banking sector exceeded that of the 2008 financial crisis, Angurer et al. [51] noted that major banks with greater flexibility were able to absorb shocks rather than exacerbate the crisis. This flexibility likely played a role in mitigating some of the adverse effects on financial stability.

METHODS

The study aimed to achieve its goals and objectives by employing a quantitative research approach. The population of the study comprised Jordanian commercial banks operating from 2010 to 2020. The researchers identified drivers of financial stability, including the capital adequacy index, liquidity ratio, return on assets, and costs, based on existing literature. To analyze the collected primary data, the researchers utilized EViews software version 9. Linear regression was employed as the statistical technique to present the study's findings (*Table 1*).

ANALYSIS AND DISCUSSION

Results of Hypothesis Testing

Ho1: There Is an Impact of Credit Risks (Nonperforming Loans/Total Loans (%)) on Financial Stability (of Jordanian Commercial Banks (2010–2020)

Linear regression was used to test the above hypothesis. The F-statistic = 8.4206 and was statistically significant at 0.05, indicating that the above hypothesis was accepted and that credit risks (nonperforming loans/total loans (%)) have an impact on Jordanian commercial banks' financial stability between 2010 and 2020.Also, R-squared = 0.48 reflected that the independent variable explained 48.3% of the variance in the dependent variable (*Table 2*).

The equation is: Financial Stability = 16.22607 + + 0.386960 (Credit Risks).

Ho2: There is an impact of credit risks (leverage ratio) on the financial stability of Jordanian commercial banks between 2010 and 2020.

Linear regression was used to test the above hypothesis. The results showed that the F-statistic of 2.215748 was not significant at the 0.05 level, indicating that the hypothesis was accepted, and there is no impact of credit risks (leverage ratio (%)) on the financial stability of Jordanian commercial banks between 2010 and 2020. Furthermore, the R-squared value of 0.197 indicated that the independent variable explained only 19.7% of the variance in the dependent variable.

The equation derived from the regression analysis was Credit Risks = 2.39 + 1.26 * Financial Stability.

The current study aimed to investigate the impact of credit risk on the financial stability of Jordanian commercial banks between 2010 and 2020. The study utilized drivers of financial stability, including the capital adequacy index, liquidity ratio, rate of return on assets, and costs, which were derived from previous studies. A quantitative approach was employed, and primary data were collected through a questionnaire distributed to financial managers within Jordanian commercial banks. The study used SPSS for data analysis.

The results of the study indicated that credit risks (nonperforming loans/total loans (%)) had a significant impact on the financial stability of Jordanian commercial banks during the specified period.

The study revealed that the Jordanian banking sector demonstrated a robust infrastructure and strong foundations, enabling it to recover well from the global financial crisis and its repercussions during the years 2010–2020. The sector exhibited high levels of resilience and was able to withstand the challenges of financial instability and various insurance risks that emerged during that period. This contributed to the attractiveness of the sector for investment and its significant role in maintaining the financial stability of the Jordanian state.

The decrease in liquidity within banks has exacerbated the effects of the crisis, particularly in financing small and medium-sized businesses, due to the uncertainty caused by the COVID-19 pandemic. Effectively managing credit risks and ensuring financial stability require transparency and governance, particularly institutional governance, to provide a clear understanding of financial conditions and the ability to predict potential credit risks by linking macroeconomic indicators with relevant factors. Credit risk has demonstrated its ability to promote discipline in financial markets and enhance the efficiency of the banking sector in performing its functions.

The study also emphasized the importance of developing a stable and robust banking sector capable of channeling savings into productive investments to achieve financial stability. A competent banking system is a prerequisite for achieving complete economic stability in the face of various credit risks. It serves as a crucial step toward overall economic stability for the country.

Table 1

Results of Least Squares Regression for the Impact of Non-Performing Loans on Capital Adequacy Ratio

Dependent Variable: CAPITAL_ADEQUACY_RATIO				
Method: Least Squares				
Date: 05/04/24 Time: 02:59				
Sample: 1 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NONPERFORMING_LOANS_TOTA	0.386960	0.133350	2.901833	0.0175
C	16.22607	0.821485	19.75212	0.0000
R-squared	0.483371	Mean dependent var		18.53727
Adjusted R-squared	0.425968	S.D. dependent var		0.880762
S.E. of regression	0.667308	Akaike info criterion		2.191837
Sum squared resid	4.007705	Schwarz criterion		2.264182
Log-likelihood	–10.05510	Hannan-Quinn criter.		2.146234
F-statistic	8.420632	Durbin-Watson stat		1.574650
Prob (F-statistic)	0.017543			

Source: Amman Stock Exchange (ASE).

Table 2

Results of Least Squares Regression for the Impact of Leverage Ratio on Capital Adequacy Ratio

Dependent Variable: CAPITAL_ADEQUACY_RATIO				
Method: Least Squares				
Date: 05/04/21 Time: 03:14				
Sample: 1 11				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LEVERAGE_RATIO	1.257035	0.844476	1.488539	0.1708
R-squared	0.197557	Mean dependent var S.D. dependent var Akaike info criterion Schwarz criterion Hannan-Quinn criter. Durbin-Watson stat		18.53727
Adjusted R-squared	0.108396			0.880762
S.E. of regression	0.831657			2.632173
Sum squared resid	6.224887			2.704518
Log likelihood	–12.47695			2.586570
F-statistic	2.215748			1.050703
Prob (F-statistic)	0.170788			

Source: Amman Stock Exchange (ASE).

CONCLUSIONS AND RECOMMENDATIONS

The concept of financial stability encompasses more than just managing financial crises when they arise. It also involves strengthening the financial sector to enhance its capacity to withstand and mitigate the impact of such crises. This can be achieved through effective prediction of crises and minimizing their adverse effects on banks, thereby preventing the contagion of negative consequences to other economic sectors interconnected with the banking industry. The study emphasizes the importance of transparency as a key factor in achieving financial stability during financial, political, and even epidemic crises. It recommends implementing institutional governance in financial markets, establishing links between economic indicators and banking security, and ensuring the efficiency and reliability of payment, settlement, and clearing systems during times of crisis to support their crucial functions. By adopting these measures, financial stability can be fostered, enabling the banking sector to effectively navigate through challenging circumstances while minimizing the impact on the broader economy.

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