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RESEARCH ARTICLE

The Relationship between CAMEL Rating Model, Financial Regulation and Financial Stability of Palestinian Commercial Banks: Moderating Effect of Interest Rate

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Abstract

The purpose of this study is to assess the moderation effect of interest rates on the relationship between the CAMEL rating model, financial regulation and the financial stability of commercial banks in Palestine for the period 2016-2022. The study design was utilized, and a census of 13 commercial banks in Palestine was undertaken for the period 2016–2022. Information asymmetry theory and liquidity shift ability were utilized. Two regression analyses have been used to test the research hypotheses. A causal research design was applied, panel data was utilized and consequently, the study applied a panel regression model. The findings of this study show that the interest rate insignificantly moderated the nexus between CAMEL rating variables, financial regulation and financial stability, with the exception of asset quality. The interest rate only moderated asset quality and the financial stability nexus significantly. The findings of this study suggest some policy implications, such as that the Palestine Monetary Authority, as the central bank of Palestine, should set an interest rate in view of the prevailing economic situation. The study further puts forward the recommendation that commercial banks should strive towards reducing non-performing loans, which can be done through the setting up of effective credit risk management systems. This study contributes to body of knowledge by elucidating the significance of interest rates in the link between the CAMEL rating model, financial regulation and financial stability in commercial banks. In the context of the Palestinian banking sector, this study offers new insights into the kind of general interest rate moderating influence on the connection between the CAMEL rating model, financial regulation and financial stability among Palestinian commercial banks. It will motivate subsequent scholars to investigate the primary aspects of the correlation between interest rates and financial stability in greater depth through Palestine's banking industry.

Keywords: Banking Sector, Camel Rating Model, Commercial Banks, Financial Regulation, Financial Stability, Interest Rate.

JEL Classification E43, G21, G24, G28.

1. Introduction

Global recognition of the banking industry is immense due to the contribution it has made in the smooth running of resources from deficit spenders to surplus spenders through their intermediation processes. Based on the reliance of other sectors on banks for resource mobilization, the sector has become vulnerable to risk and other contagious challenges (Ndolo, 2017; Al Sholbaki et al., 2019). Emanating from this, the global financial crisis which engulfed the financial sector gave rise to problems associated with asset quality, efficiency management, capital adequacy, liquidity and profitability potential of the banks, thus cutting short the banks' ability to attain their target objectives (Paul, 2021).

These problems have placed the banks on the verge of being sensitive to market risk that may trigger or

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lead to insolvency of the banks which could result in banks' inability to meet up with customers' needs in an ever-changing business environment (Salameh & Jarad, 2015; Waqas, Omran & Mohamed-Arshad, 2019; Abusharbeh, 2023). The sustaining evolution of these changes has warranted the banks' creation of a business-oriented environment that supports and propels them into meeting the needs of their customers (Iriqat & Khalaf, 2017).

Asia and MENA present opportunities for the evolution of the banking sector, serving as its conduit pipe for its economy's superstructure. With the introduction of the society for Worldwide Interbank Financial Telecommunication (SWIFT), the banking sector in Asia and MENA has grown tremendously in its customer and asset base (Madhoun, 2020; Khalid, 2021). This digitization process has attracted more people in the banking system, thus giving rise to financial inclusion.

Accordingly, Paul (2021) observed that digitization had birthed a rise in customer trust, attracted an increasing number of people outside the shores of the continent, made financial inclusion contributions and offered better access to financial services. Duly hit by the global financial crunch, innovation in the banking sector became more pronounced in MENA and East Asia as customers prefer to transact businesses at a low cost compared to the opportunity cost of their convenience. Funds were being withdrawn due to the crisis exceeding the available ones, reducing the interest rate on bonds, which were particular to the commercial banks, giving rise to serious liquidity "liability" issues. The onset of the financial crisis increased the volatility of the stock markets, leading to wealth losses on major stock markets in countries like Jordan and Palestine, recording a decline of 32% in the stock market indices between 2008 and 2009 March with Lebanon, Mauritius and Bostwana having recorded losses in a significant manner (Alkhatib, A., & Harasheh, 2012; Ashamu & Abiola, 2012).

The banking sector in Palestine has remained a veritable tool for the development of the economy for the attainment of Vision 2030. The country's financial sector is considered one of the best in the Middle East due to the sound regulatory framework that guides the operational standard of commercial banks. However, the global financial crisis does not spare the stability of any banking sector globally, with the Palestinian banks recording losses. The crisis not only affected the financial institutions' profitability but also increased the rate of inflation, thereby forcing the banks to divert their attention to the hedge market (Zedan & Gassan, 2017; Abusharbeh, 2022).

The lending cost of money by a borrower from individuals, public firms, or financial institution, as well as any fees associated with assets borrowed, is known as the interest rate. The interest rate is essential in the mobilization of financial resources, which is often computed in percentages over the period that the resources or funds are being given out to the borrower (Motaze, 2022).

An alteration in the rate of borrowed funds affects the demand and supply of financial funds within an economy. Essentially, the interest rate is crucial to the determination of market operation. Interest rates have a bi-directional relationship with macroeconomic variables. In a nutshell, it is influenced by the way in which variables such as total output, income and employment levels interact and vice versa (Sankaran, Arjun, & Vadivel, 2021).

Interest rate regulations imposed on banks worsen interest rates within an economy. The banking sector, which is considered the life wire of the economy, determines the amount of credit which is used by other sectors (Thabet & Aleddin, 2017; Pointer & Khoi, 2019; Aldahdooh, 2022).

High-interest rates cause commercial banks to generate more interest revenue, but they also reduce loan demand, which offsets the increase in interest income (Kithandi, 2022). When interest rates are unpredictable, both domestic and foreign investors will stay away, reallocating resources to other areas. In an actual sense, econometric facts have shown that investment behavior in conjunction with more traditional influences like real interest rates, prior economic growth, and private sector financing, instability and economic uncertainty have a large and detrimental impact on private investment (Mallick, Mahalik & Sahooc, 2018). Low (and occasionally negative) growth rates are only one component of macroeconomic instability that commercial banks may be subjected to, and this can have a significant impact on their profitability (Bhattarai, 2017; Aldahdooh, 2022).

The Palestine Monetary Authority PMA has the responsibility of determining commercial banks' lending rates to curb the ravaging effect of inflation in the economy. In a situation where the PMA rate is too high, it deters commercial banks from borrowing to

lend to customers and other institutions, which in turn lowers the capacity of producing goods and services, leading to declining job opportunities (Kithandi, 2022; PMA, 2022).

The PMA rate, which directly affects the cost of capital and the return on deposits, can be affected by inflation. The need to halt economic trends that have a significant negative impact on the economy as a whole justifies managing interest rates on loans and other financial instruments (Mabati & Onserio, 2020).

According to (Abusharbeh & Nazzal, 2018; Mabati and Onserio, 2020) (2008), rising interest rates reduce the allure of saving from current income, enhance the repayment of operating floating-rate debt, which decreases disposable income and increases the probability of loan default, raise the cost of goods purchased with credit, lower the prices of financial assets, which affect projections of the private sector's wealth, and lower housing values. PMA lending rate will be adopted in the investigation (Khazem, 2018).

The stability of the banking industry in Palestine over time has been fluctuating, hence exposing the banks to risks associated with their operations. According to (PMA, 2017 and Abugamea, 2018), between 2014 and 2018, the ROE general score stood at 22.48% in 2011, falling to 18% in 2012. A falling trend in the ROE was noted in 2013, standing at 17.36% and 19.17% in 2014 with 2015 recording 16.77%. ROE of the banks stood at 18.26% in 2016, with a further decline to 15.06% in 2017 (Abusharbeh, 2022; PMA, 2022). In addition to this trend, ROE was recorded to be 17.68% in 2018, 11.53% in 2021 and 18.39% in 2022, respectively (PMA, 2022). On the other hand, the ROA of the banks was 4.4% in 2010, 4.7%, and 3.3% in 2013 and 2016, with the ROA of 1.7% and 3.3% in 2020 and 2021 respectively (PMA, 2017; Ayyash & Jawad, 2020). Both the ROE and ROA of the banks witnessed a drastic fall due to the COVID-19, which ravaged all sectors of the world's economies (Madhoun, 2020; Khalid, 2021).

The stability of Palestinian commercial banks has been threatened over the years due to the high risk encountered from credit issuance, exposing the liquidity of the banks to even greater risk (Asmar, 2018). Consequently, these risks have affected the stability of Palestine and Al-Quds Banks, resulting in the placement of the banks under statutory management since 2016, with Arab Bank also placed under receivership in 2017, leading to the merger of four banks in 2017 compared to three (PMA, 2018). The financial risk associated with the banks presents an unworthy situation for the banks' balance sheets by raising their risk, thereby reducing the earning ability of the banks in Palestine (PMA, 2018).

The regulations of the PMA detailed the regulatory framework of the CAMEL, which allows for effective supervision of the commercial banks in Palestine. It helps the banks attain certain levels of stability to gain the confidence of the customers, thus broadening their asset base. The reviewed regulations of the PMA also captured the uniqueness of the banks' operations in Palestine (Karsh & Abumwais, 2017; Abueid et al., 2023).

This is to ensure that the banks' CAMEL model standard is upheld and in the operational standard of the banks to avoid receivership or total collapse of the banks. Efficient and stable banks have an advantage over their competitors as a result of increased access to funding, improved performance, lower-cost capital, and better stakeholder management (Phan et al., 2019; Abueid et al., 2023). Over the previous ten years, there have been a number of financial and regulatory improvements in the Palestinian banking sector (Ndolo, 2017). The study sought to establish the moderating effect of interest rates on the relationship between the CAMEL rating model and the financial stability of commercial banks in Palestine (Khazem, 2018; Abusharbeh, 2023).

RO. The general objective of the study was to establish the moderating effect of interest rates on the relationship between the CAMEL rating model, financial regulation and financial stability of commercial banks in Palestine.

The specific objectives of the study were: (1) To examine the moderating effect of interest rates on the relationship between capital adequacy and financial stability of commercial banks in Palestine. (2) To determine the moderating effect of interest rates on the relationship between asset quality and financial stability of commercial banks in Palestine. (3) To evaluate the moderating effect of interest rates on the relationship between management efficiency and financial stability of commercial banks in Palestine. (4) To analyze the moderating effect of interest rates on the relationship between earnings ability and financial stability of commercial banks in Palestine. (5) To assess the moderating effect of interest rates on the relationship between liquidity and financial stability of commercial banks in Palestine.

The originality and value of this study also lies in testing the interest rate as a moderating variable on the relationship between the CAMEL rating model and financial stability in Palestinian commercial banks specifically. This study is considered important in the current literature for future research in this field due to the accuracy of the results it reached and their implications. The current study's research question, "What is the real impact of the interest rate on the relationship between the Camel rating model and financial stability in commercial banks in Palestine?" is prompted by these gaps and constants in earlier studies.

The main objective of this study is to clarify the role that interest rates play in the relationship between the CAMEL rating model and the stability of the finances of Palestinian commercial banks. This study shows how these two concepts are complementary to one another by examining how interest rates affect the link between financial stability and the Camel rating model in the case of the Palestinian banking industry. This paper tests the five hypotheses of the study in an effort to address the research issue by revealing the influence of interest rates on the link between financial stability and the CAMEL rating model on commercial banks in Palestine. All in all, this study contributes fresh literary work and scientific worth to the body of knowledge already available on commercial banks and financial stability.

These findings highlight the significance of the interest rate's moderating role in this relationship, offer guidance to regulators, practitioners, and decision-makers regarding other factors that should be taken into account when applying the CAMEL Rating Model and financial regulation, and add new literary value to earlier research in this area. The relationship between CAMEL rating model and financial stability in commercial banks and financial regulation.

Our research makes two contributions to the body of literature. Initially the contradictory results in the literature about the connection between CAMEL rating model, regulation and stability of commercial banks in Palestine may be resolved by our results, which are based on the CAMEL rating technique. This might be because the CAMEL rating model considers several dependent variable distributions that are not captured by the central distribution's tendency. Furthermore, we often find well-defined coefficients, indicating that multifunctional financial stability measures that capture the well-being of commercial banks using a mix of input and output factors may be a suitable way to evaluate the influence of this regulation model on financial stability.

By examining significant variables like the interest rate on the relationship between the Camel Rating Model and the financial stability of commercial banks in the Palestinian context, this paper contributes and expands the literature on financial stability in contrast to prior studies that mostly focused on the impact of the banking industry, bonds, and stock markets on financial stability. The research findings and the outcomes of robustness tests on these findings offer some insight into this respect.

By extending the body of knowledge on the characteristics and factors influencing the financial stability of commercial banks, this study also adds to the body of literature. This research focuses on an important exogenous element, namely financial regulation, which may impact the financial stability of commercial banks, in contrast to prior studies that only compare the financial stability of conventional banks and Islamic banks. This variable has not received much attention in the past from several research. This component is surprising because there is less regulation of it in this domain and few researches have addressed it in other situations. Our findings support the notion that the Camel Rating Model and financial regulation have a significant impact on the financial stability procedures of commercial banks across several nations.

The remainder of this study is structured as follows. Following section 1 introduction, section 2 reviews the related literature and develops the research hypotheses. Section 3 details the data and methodology employed in this research. The empirical research results and discussion are presented in section 4. section 5 concludes the concluding remarks, policy implications, limitations and future research avenues.

2. Literature Review and Hypotheses Development

2.1 Theoretical Literature Review

Information Asymmetry Theory was put forward by Akerlof (1970). The focal point of the idea emanates from the fact that variation/unbalancing tiers in information cause a stir in the market environment, thus bringing about inefficiency. Lack of the needed information in the market space allows for rouse and disjointed segmentation, which places certain groups

of customers or clients in an advantageous position. However, the development of commercial banks rests on the equality of market information upon which limitation deters informed decision-making (Prodanov, Yaprakov & Zarkova 2022).

In this case, the majority of the banks' customers possess information that the banks do not have about them, especially in the area of loans (Raee et al., 2019). As a result, an exchange of such information may lead to concealment of intentions, thus making it difficult to arrive at the best possible outcome from contractual obligation. Borrowers, in most cases, have more information about their creditworthiness than banks. This makes it difficult for the banks to know the actual intent of the borrowers regarding the acquisition of bank assets in the form of borrowing (Sawafta, 2021).

Liquidity Shiftability Theory was developed by Moulton (1915). The premise of the theory suggests that bank resources holdings can be sold for cash profitably in order to avoid a lack of liquidity. Banks can manage potential plans to meet the liquidity needs of the customers. Rotating around this notion may aid in overhauling the liquidity capability of money-related supervisors when they manage the arrangements and levels of keeping assets. Commercial banks can control convertible assets early to avoid problems caused by emergency scenarios rather than relying on the Central Bank's assistance when dealing with unanticipated conditions (Wambari & Mwangi, 2017; Abueid et al., 2023).

According to the hypothesis, there is no strong motivation to depend on maturities if commercial banks uphold a sizeable of assets amount that may be transferred to alternative banks for trade without suffering considerable loss in an emergency (Blatter & Fuster, 2022). An asset must, therefore, be swiftly convertible without loss in capital when the need for liquidity arises in order to be perfectly shiftable (Wambari & Mwangi, 2017). These assets,-which are mostly found in the money markets, are significant resources to the banks due to their degree of convertibility. Such assets include treasury bills and bills of exchange (Kutum, 2017). At this point, these resources can easily be changed from any form based on the demand for liquid cash or assets.

Ni et al. (2023) used unbalanced panel data from 114 Chinese urban banks spanning the years 2014 to 2021 to investigate the link between commercial bank risk and financial technology, or fintech. The results show that the connection is dynamic and complicated. Fintech reduces bank risk. But as fintech advances, the connection takes the shape of an inverted U, increasing risks initially and decreasing them later on. By balancing the unfavorable consequences of fintech's first adoption, financial regulation, in particular, is essential in regulating this connection.

Adhikari et al. (2023) look into the restructuring and consolidation that the recent regulatory involvement in Nepal's banking industry brought about. They compare the financial performance of the entire commercial banking sector and a select group of commercial banks before and after the mergers and acquisitions (M&A) policy intervention on an individual basis. Using a sample of seven Nepalese commercial banks, the study examines financial metrics (profitability, liquidity, leverage, and wealth of shareholders ratios) before and after mergers that occurred between 2013 and 2020.

To determine if there is a significant change between the pre-and post-merger circumstances of the acquiring banks' financial measures, hypotheses are evaluated using a paired sample t-test. As a whole, the results show that the post-merger liquidity and leverage ratios of commercial banks improved considerably. Following the (M&A), other metrics, including the profitability and shareholder wealth ratios, produced inconsistent or negligible results. Individual results for a subset of commercial banks could have been clearer-cut and more consistent. Some banks' financial ratios improved, but other outcomes were negligible.

2.2 Hypotheses Development

Over the past ten years, the Romanian banking system has seen significant transformations, with the attainment of steady and sustained economic growth heavily reliant on its financial soundness and performance. Their study's objective is to compare and evaluate the commercial banks in Romania that are in operation in terms of their financial soundness (Roman & Şargu, 2013). They have utilized the CAMELS framework, one of the most widely used techniques for analyzing the financial health of banks, to do this. The acquired results demonstrate the advantages and disadvantages of the examined banks, emphasizing the necessity of bolstering the apprehensions of bank decision-makers in order to enhance and augment their soundness. Jeon and Lim (2013) offered fresh proof that the connection between financial stability and banking competitiveness changes according to bank characteristics. They establish that the non-

linear connection between competition and the stability of commercial banks represents a trade-off between the interest effect and risk-shifting effect by utilizing a sample of two distinct types of banks: Korean commercial banks and mutual savings banks, nonetheless in line with Boyd and De Nicolo (2005), competition enhances the stability of mutual savings banks that have worse corporate governance and more business risk. Our findings have significant ramifications for banking competition laws.

The method of creating an automated information system to assess the financial health of commercial banks is being examined. It is based on the use of fuzzy logic-based techniques for predicting decision making, multi-objective assessment, and alternative ranking (Rzayev & Babayeva, 2016). Within the framework of the current study, a methodology for assessing commercial banks' financial indicators for both the present and future periods of their financial activity was created. The suggested approach is being approved, and it is based on the financial reports of four randomly selected commercial banks.

Bouheni and Hasnaoui (2017) used an unbalanced dynamic panel of 722 commercial banks covering the period 1999–2013 and the generalized technique of the moments system to explore the cyclical behavior of the financial stability of Eurozone banks in light of the financial crisis and the European sovereign debt crisis. Bank risk-taking and business cycle are found to be negatively correlated, suggesting that financial stability is procyclical. Furthermore, loan activity leads to higher risk-taking, while growing capital requirements lead to increased financial stability, according to the study. Furthermore, in contrast to bank capital, the results indicate positive co-movements between the economic cycle and lending, with procyclicality in both lending and bank capital having detrimental consequences on the financial stability of commercial banks in the Eurozone.

Aljughaiman et al. (2023) focus on how the number of female directors on the board, or board gender diversity, affects the bank's overall financial health. They also look into the relationship between conventional and Islamic banks worldwide under a dual banking system. To calculate the bank's overall financial strength index, we use a scenario-based multi-criteria method. We develop five bank financial criteria based on the CAMEL framework, which stands for "Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivities." They found that greater financial health standings across both bank types are connected with increased gender diversity in the boardroom, using an international sample. The findings suggest that while Islamic banks have higher agency expenses, women nonetheless play a similar role in the boardroom. The result offer proof in favor of the dual-banking industry's efforts to increase the number of women serving on boards.

Shaddady and Moore (2019) used panel data from 2210 banks located in 47 European countries between 2000 and 2016, they thoroughly examined the complex relationships between financial legislation and supervision and bank stability. The quantile regressions are rated using the CAMELS approach. They discover that while tougher regulations, deposit insurance, and too stringent oversight seem to have a negative impact on bank stability, higher capital regulation is favorably correlated with bank stability. The impact is more noticeable in banks with higher levels of stability. Additionally, banks in developing countries, smaller banks, and commercial banks are more vulnerable to regulatory shocks.

Based on the above discussion or prior literature, the following null hypotheses were tested:

H01. Interest rate has no significant moderating effect on the relationship between capital adequacy and financial stability of commercial banks in Palestine.

H02. The interest rate has no significant moderating effect on the relationship between asset quality and the financial stability of commercial banks in Palestine.

H03. The interest rate has no significant moderating effect on the relationship between management efficiency and the financial stability of commercial banks in Palestine.

H04. The interest rate has no significant moderating effect on the relationship between earnings ability and the financial stability of commercial banks in Palestine.

H05. Interest rate has no significant moderating effect on the relationship between liquidity and financial stability of commercial banks in Palestine.

2.3 Empirical Literature Review

Abbadi and Karsh (2013) investigated the factors influencing the financial stability of Palestinian commercial banks. Through a census approach, 13 commercial banks in Palestine were arrived at. Based on questionnaires that were given to the top two bank

managers of each company, primary data sources were employed. Multiple regression, descriptive, and correlation analyses were utilized in the study. Interest rate was shown to have an inverse and insignificant effect on financial stability as indicated by NPL.

Using Palestinian commercial banks, Khazem (2018) considered how interest rates act on financial performance. 13 commercial banks were explanatorily examined using census design. Findings from the multiple linear regression model affirmed that the lending rate ratio has an optimistic financial performance effect. The deposit interest ratio has an inverse effect on banks' performance. Accordingly, a strong nexus of financial performance with the lending rate ratio was observed. The deposit interest ratio adversely affected bank performance. Asset quality and liquidity management had contradictory effects on performance. The exposition of the gap lies in the moderator, whose rate was used in this study.

Olson and Alzoubi (2017) investigate whether Islamic and commercial bank performance in the Middle East, Africa, and Southeast Asia (MENASA) area has converged in the wake of the Global Financial Crisis (GFC) in recent years. We find that Islamic banks (IBs) initially fared better than commercial banks (CBs) during the GFC's assault in 2007–2008, using the biggest sample available for the years 1996–2014. Then, in 2009, as the crisis extended to the actual economy, IBs' profitability fell significantly in comparison to CBs'.

Convergence toward the mean is suggested by beta and sigma convergence tests for all banks and financial ratios. Islamic banks often experience a slower rate of convergence; however, this disparity has decreased since the Great Financial Crisis. Although there is minimal convergence across the whole sample period according to the more current and rigorous log-t test for convergence by Phillips and Sul (2007a), over the years 2010–2014, all banks seem to be convergent toward comparable levels of profitability as shown by ROA and ROE.

The post-crisis profitability of all banks (including IBs and CBs) is shown to have converged, according to the log-t test. Even while IBs and CBs are heading toward comparable profitability outcomes, they nevertheless function differently since it does not demonstrate convergence across all asset composition and risk measures. The club convergence results show that there was very high post-crisis convergence across all banks, but not throughout the whole sample.

Ahmed, Rehan and Supro (2018) use 20 banks in Pakistan to assess how the rate of interest changes affected banks' profitability from 2007 to 2014. Both correlation and regression methods were considered. The outcome demonstrates that while interest rates and deposits with other bank's possessed a negative impact on a bank's profitability, advances, loans, and investments had a positive impact. The evaluation of the study was conducted in Pakistan using only 20 banks, while 41 banks were explored under the existing investigation.

Bayyoud and Sayyad, (2015) and Shihadeh, (2021) evaluated the factors affecting the commercial banks listed in Palestine in terms of their financial stability. A descriptive design was used in the study. 13 commercial banks that are listed on the NSE made up the research population, with the data sourced from primary sources. Multiple regression, descriptive, and correlation analyses were utilized. The results of the regression noted that the effect of interest rates on financial stability was significantly positive.

Baba and Ashogbon (2019) looked into the impact that interest rates have on the financial health of Nigerian commercial banks. A regression technique of a panel nature employing 23 banks from 2006 to 2015 was employed. The results showed that real interest rates are considerably and negatively correlated with Nigerian commercial banks' performance. Nigeria and Kenya have different banking systems with unique features. Thus, the outcome in one country cannot be applicable to another country. Therefore, a larger bank number was considered using the context of Kenya, while only 23 banks were employed to arrive at the outcome realized by the previous study.

Mousavi et al. (2021) analyzed the effect of interest rate protection on the overall financial stability of the banking system, including both public and private banks. Internal and external bank variables make up the two sets of factors impacting financial stability. Using data from 2001 to 2019, the model is estimated using the three-stage least squares method. The study's findings demonstrate that while the rise in bank rates in response to currency shocks has positively affected all banks' financial stability, as well as that of private banks, it had no impact on state-owned banks. Iran was the focus, whereas Kenya was covered in the current study.

3. Data and Methodology

3.1 Research Design and Model Specification

A causal research design was applied, and the study focused on 13 commercial banks in Palestine for the period 2016 to 2022. Panel data was utilized, and consequently, the study applied a panel regression model. (Whisman & McClelland, 2005; Hamed, 2016; Zedan & Gassan, 2017; Arqawi et al., 2020; Mohamed et al., 2023) indicated that when the moderator is modelled as an explanatory variable in the first step, it should exert an insignificant effect. When interacting with the independent variable(s) in the second step, the joint effect should be significant for it to have a significant moderation effect, as it stated in Equation 1.

$$FS = \beta0 + \beta1CA + \beta2AQ + \beta\_3\ FR+\beta4ME + \beta5EA + \beta6LQ + \beta7IR + \varepsilon \quad (1)$$

Where:

CA: Capital Adequacy

AQ: Asset Quality

FR: Financial Regulation

ME: Management Efficiency

EA: Earning Ability

LQ: Liquidity

IR: Interest Rate

The second step in the estimation of the moderation effect is stated in Equation 2.

$$FS=\beta0+\beta1CA+\beta2AQ+\beta\_3FR+\beta4ME+\beta5EA+\beta6LQ+\beta7IR+\beta8IR*CA+\beta9IR*AQ+\beta\_10IR*FR+\beta11IR*ME+\beta12IR*EA+\beta13IR*LQ + \varepsilon \quad (2)$$

Where:

IR*CA: Interaction of Interest Rate and Capital Adequacy

IR*AQ: Interaction of Interest Rate and Asset Quality

IR*FR: Interaction of Interest Rate and Financial Regulation

IR*ME: Interaction of Interest Rate and Management Efficiency

IR*EA: Interaction of Interest Rate and Earnings Ability

IR*LQ: Interaction of Interest Rate and Liquidity

4. Empirical Results and Discussions

4.1 Descriptive Statistics and Correlation Matrix

In order to document the basic features of the research data, a descriptive analysis was conducted, which produced statistics that included standard deviation, mean, maximum, and minimum values. The statistics from the descriptive analysis are documented in Table 1.

Table 1. *Descriptive statistics*

Variables	Observations	Mean	Standard Deviation	Minimum	Maximum
FS	162	0.5263	6.8265	-18.2751	93.7302
CA	167	0.1142	0.0536	-0.3174	0.4263
FR	171	0.4271	4.7680	-15.0262	82.2651
AQ	169	0.1099	0.1025	0.0000	0.6170
ME	162	1.3989	5.2165	0.0000	56.7831
EA	178	-0.1798	0.1302	-0.5632	0.5679
LQ	165	0.1528	0.1132	0.0038	0.8103
IR	181	8.2627	1.0253	7.3691	10.2307

Source: *Author's own work*

Table 1 contains the statistics obtained from the descriptive analysis of the study. In view of the varying number of observations across the research variables, which ranged from 162 to 181, the data used was unbalanced panel data. Financial stability had a mean of 0.526 and a standard deviation of 6.865, which indicates high volatility over the study period. This further provides evidence of the research problem, that is, the financial instability of commercial banks in Palestine.

Capital adequacy had a mean of 0.1142 and a corresponding standard deviation of 0.0536. The financial regulation had a mean of 0.4271 and accordingly standard deviation of 4.7680. This implies that capital adequacy remained relatively stable over the study period. The minimum and maximum values of -0.3174 and 0.4263 are attributed to capital adequacy, hence further evidencing the existence of minimal fluctuations throughout the study. Asset quality had a mean and standard deviation of 0.1099

and 0.1025, respectively. The mean and standard deviation values indicate that there were minimal fluctuations in the asset quality of commercial banks in Palestine within the time scope of the study. The minimum and maximum values of 0.0000 and 0.6170 were further attributed to the asset quality of commercial banks. Management efficiency had values of 1.3989 and 5.2165 for mean and standard deviation, respectively. The values 0.0000 and 56.7831 were the minimum and maximum values, respectively, for management efficiency, which in turn implies that it highly fluctuated throughout the study.

A mean value of -0.1798 and a standard deviation of 0.1302 were recorded for the earnings ability of commercial banks in Palestine. The study established a minimum value of -0.5632 and a maximum value of 0.5679 for earnings ability. The descriptive statistics for earnings ability indicate that the non-interest expense to net interest income ratio of commercial banks had relative movements within the time scope of the study. Liquidity recorded mean of 0.1528, standard deviation of 0.1132, minimum value of 0.0038 and maximum value of 0.8103.

The descriptive statistics on liquidity indicate that over the study period, the liquid assets to total assets ratio of commercial banks in Palestine had minimal fluctuations. The statistics further indicate that the liquidity level of commercial banks in Palestine was low, as reflected by a mean of 0.1528. The interest rate recorded a mean of 8.2627 and a standard deviation of 1.0253. In view of these statistics, the interest rates, as measured by the rate set by the PMA, had minimal fluctuation, which is further supported by a minimum value of 7.3691 and a maximum value of 10.2307.

Table 2 displays the cross-correlation matrix between the variables. With the exception of the correlation coefficient between financial stability and financial regulation, and the matrix does not display any meaningful relationships between the variables. As a result, we define each model variable financial stability in the robustness analysis and financial regulation in the main analysis individually.

Table 2. *Correlation matrix*

Variables	FS	CA	FR	AQ	ME	EA	LQ	IR
FS	1							
CA	0.1427	1						
FR	0.8121	0.3095	1					
AQ	-0.0385	-0.0658	-0.1268	1				
ME	-0.0062	-0.0582	-0.0562	0.0442	1			
EA	-0.0449	0.0672	0.1816	-0.0933	0.0774	1		
LQ	0.0893	-0.7091	-0.5950	0.0563	-0.8331	0.0763	1	
IR	0.2867	0.0954	-0.0038	-0.0841	0.0566	-0.0468	-0.0825	1

Source: *Author's own work*

4.2 Panel Regression Analysis

The moderating effect test was guided by the Whisman and McClelland (2005) approach, which is informed by a two-step procedure comprising of two regression models.

4.2.1 Moderation Analysis

The first step presents the Camel rating variables together with interest rates (moderator) as an explanatory variable. Table 3 contains the outcome of the regression analysis.

Table 3. *Moderation test results*

Financial Stability	Coefficient	Standard Error	Z	P>|z|	95% Coefficient	Interval
CA	7.127012	6.897325	1.02	0.234	-7.605245	21.26480
AQ	10.2768	4.18350	2.42	0.004	3.297506	18.70537
FR	5.73080	5.033612	0.88	0.206	-9.037129	17.05539
ME	0.03837	0.725308	0.47	0.526	-1.384219	0.1897385
EA	10.06563	3.021430	3.11	0.000	4.565265	15.19843
LQ	1.073952	3.245033	0.29	0.689	-6.645830	7.968457
IR	3.020775	3.896380	0.63	0.391	-5.048231	1.015033
Constant	-4.402361	3.924027	-0.98	0.297	-13.50462	3.945731
R2 =0.3106						
Wald Chi2 (6) =17.62						
Prob> Chi2 =0.0025						

Source: *Author's own work*

Table 3 documents the results of the panel regression analysis based on the first step of the moderation effect model. It contains an F-statistics of 17.62 and a p-value of 0.0025. The regression model was significant, as indicated by a p-value of 0.0002. In line with the criteria by Whisman and McClelland (2005), step one of the moderation tests requires the moderator (interest rates) to have an insignificant effect on financial stability when captured as an explanatory variable. Notably, this is the case in step one of the moderation effect analyses. Hence, there is a clearance to proceed to step two of the moderation effect analysis.

Upon satisfying the requirements for the first step of the moderation test, the step models financial stability as a function of Camel rating variables, interest rates and the interaction of interest rates with each of the Camel rating variables, as contained in Table 4.

Table 4. *Moderation test results*

Financial Stability	Coefficient	Standard Error	Z	P>|z|	95% Coefficient	Interval
CA	21.34519	84.98035	0.24	0.678	-163.2581	193.0325
AQ	-128.6154	42.85259	-2.89	0.009	-226.0412	-33.01292
FR	17.05538	77.26520	0.18	0.498	-178.03525	181.1132
ME	1.000826	2.456093	0.31	0.662	-5.158264	5.927831
EA	-9.426530	26.79354	-0.37	0.685	-69.82115	43.53801
LQ	2.971351	29.62538	0.07	0.842	-65.00897	62.34527
IR	-5.794722	1.385726	-0.35	0.693	-4.206539	2.351325
IR*CA	-1.932006	8.275134	-0.22	0.789	-23.12753	15.13426
IR*AQ	12.95173	4.782901	2.41	0.004	4.004542	20.85145
IR*FR	-2.334201	3.861066	-.22	0.848	-5.361830	6.125630
IR*ME	-1.117246	2.413226	-0.39	0.671	-7.510873	4.265009
IR*EA	1.893602	3.006147	0.53	0.531	-4.79574	7.302678
IR*LQ	-2.714594	3.148278	-0.09	0.874	-7.785956	5.963081
Constant	3.164063	14.39564	0.18	0.791	-30.90684	32.79602
F-Statistics	26.81					
Prob>F	0.0014					
R^2	0.3262					

Source: *Author's own work*

The criteria for the second step of the moderation test, as informed by Whisman and McClelland's (2005) approach, entails the interaction between interest rate and the various CAMEL rating variables being significant. Notably, the interaction between interest rate and the various CAMEL rating variables is insignificant, with the exception of interest rate*asset quality. Hence, out of the various Camel rating variables, only a moderate effect of interest rate on the relationship between asset quality and financial stability of commercial banks in Palestine exists.

4.3 Hypotheses Testing

The hypotheses were formulated and subsequently tested, as guided by the specific objectives of the study. A threshold of 0.05 was used for the test of hypotheses.

H01. Interest rate has no significant moderating effect on the relationship between capital adequacy, financial regulation and financial stability of commercial banks in Palestine.

The study sought to examine the moderation effect of interest rates on the relationship between capital adequacy, financial regulation and financial stability of commercial banks in Palestine in line with the underlying hypothesis. The outcome established in Table 3 indicates a p-value of 0.678, hence evidencing the importance of interest rate moderating capital adequacy, financial regulation and financial stability relationship. In response to this, the null hypothesis stating that interest rate has no significant moderating effect on the relationship between capital adequacy, financial regulation and the financial stability of commercial banks in Palestine was upheld. With respect to this relationship, a coefficient of -1.932006 was obtained. The negative coefficient based on the inferential statistics implies that the joint increase in

interest rate and capital adequacy depletes, financial regulation and financial stability of commercial banks. This is because a higher interest rate may reduce the number of loan uptake, thereby reducing the potential income of banks from their major activity of financial intermediation. Despite higher capital levels being associated with higher capacity to absorb shocks, they limit the amount of funds available for banking activities, hence the negative effect.

H02. The interest rate has no significant moderating effect on the relationship between asset quality, financial regulation and the financial stability of commercial banks in Palestine.

The study sought to evaluate the moderation effect of interest rates on the relationship between asset quality, financial regulation and the financial stability of commercial banks in Palestine, which was guided by the underlying hypothesis. The outcome established in Table 3 indicates a p-value of 0.004, which signifies the high importance of interest rates in moderating asset quality, financial regulation and financial stability nexus. In response to this, the study rejected the null hypothesis, stating that interest rate has no significant moderating effect on the relationship between asset quality, financial regulation and financial stability of commercial banks in Palestine. A coefficient of 12.95173 was further obtained with respect to this relationship. These further evidences the importance of interest rates in strengthening asset quality, financial regulation and financial stability nexus. The financial intermediation role of banking institutions is largely hinged on interest rates. Banking institutions may have an informational advantage in monitoring borrowers while also having the incentive to raise deposit rates for purposes of achieving a higher share of loan income at depositors' expenses.

H03. The interest rate has no significant moderating effect on the relationship between management efficiency, financial regulation and the financial stability of commercial banks in Palestine.

The moderating effect of interest rates on the relationship between management efficiency, financial regulation and the financial stability of commercial banks in Palestine was analyzed in line with the underlying hypothesis. The outcome established in Table 3 indicates a p-value of 0.671, implying that management efficiency, financial regulation and financial stability nexus are not significantly moderated by interest rate. In response to this, the hypothesis stating that interest rate has no significant moderating effect on the relationship between management efficiency, financial regulation and financial stability of commercial banks in Palestine was upheld. With respect to this relationship, a coefficient of -1.117246 was obtained, hence implying that a joint increase in interest rate and management efficiency, financial regulation results in decreasing levels of financial stability in the case of commercial banks in Palestine.

H04. The interest rate has no significant moderating effect on the relationship between earnings ability, financial regulation and the financial stability of commercial banks in Palestine.

The study sought to determine the moderation effect of interest rates on the relationship between earnings ability, financial regulation and the financial stability of commercial banks in Palestine based on the underlying null hypothesis. The results in Table 3 encompass a p-value of 0.531, which means that interest rate was not significant in moderating earnings ability, financial regulation and financial stability relationship.

Consequently, the null hypothesis stating that interest rate has no significant moderating effect on the relationship between earnings ability, financial regulation and financial stability of commercial banks in Palestine was not rejected. With respect to this relationship, a coefficient of 1.893602 was obtained, hence denoting a positive relationship. Despite the weak moderation effect of interest rate, the joint increase in interest rate, earnings ability and financial regulation, therefore, leads to improvements in the financial stability of commercial banks. An increased level of profitability translates to a higher level of financial stability for commercial banks.

H05. The interest rate has no significant moderating effect on the relationship between liquidity, financial regulation and the financial stability of commercial banks in Palestine.

The moderating effect of interest rates on the relationship between liquidity, financial regulation and financial stability of commercial banks in Palestine was examined. In sequence with this specific objective, a null hypothesis stating that interest rate has no significant moderating effect on the relationship between liquidity, financial regulation and financial stability of commercial banks in Palestine was tested. The outcome established in Table 3 was a p-value of 0.874, hence indicating the non-significance of interest rate in moderating liquidity, financial regulation and financial stability nexus.

In response to this, the study upheld the null hypothesis stating, that interest rate has no significant moderating effect on the relationship between liquidity, financial regulation and financial stability of commercial banks in Palestine. A coefficient of -2.714594 was further obtained, which provides evidence of a negative relationship between the joint increase in interest rate, liquidity and financial regulation with financial stability.

In view of these findings, an increase in interest rate alongside liquidity and financial regulation leads to the depletion of the financial stability of commercial banks. Holding excessive levels of liquidity and financial regulation limits the intermediation role of commercial banks and subsequently decreases financial stability.

4.4 Robustness Tests

One of the primary tenets of any financial system and a crucial tool for enhancing stability in the financial system is financial regulation. To account for the impact of a nation's degree of governance on bank stability, we adjust the model description by substituting the interest rate with financial regulation and the six worldwide governance index WGI components with governance. The governance index is presented in Table 5 below.

Nearly all variables retain their significance and the sign of their coefficients in line with the major conclusions, as indicated by the data displayed in Table 6. The positive and very significant coefficients on the Governance Index GI imply that improved governance conditions contribute to greater financial sector stability. The strongest influence, as indicated by the coefficient's value (at 0.226), is observed at the highest quantile of Q0.90, suggesting that stronger governance promotes stabler banks.

We used two-step estimators to handle the potential of the endogeneity problem. In actuality, bank capital requirements may be endogenous, particularly in cases where regulators have mandated that banks boost capital to guard against financial instability (Köhler, 2015). Using instrument variables to get the fitted values, we estimate capital sufficiency as an endogenous variable in the first step.

Table 5. *Worldwide governance index*

WGI	Definitions	Sources
Voice and accountability	This indicator captures freedom of expression, freedom of association, and freedom of the media in addition to the degree to which a nation's population may choose their government.	Worldwide governance indicators (WGI)
Government effectiveness	This metric assesses the standard of public services, the caliber of the civil service and the extent of its autonomy from political influence, the caliber of policy creation and execution, and the legitimacy of a government's pledge to implement these policies.	Worldwide governance indicators (WGI)
The rule of law	This indicator gauges how much agents trust and follow social norms, especially when it comes to the caliber of contract enforcement, law enforcement, and the judicial system. Additionally, this indicator gauges the probability of crime and violence.	Worldwide governance indicators (WGI)
Political stability	This indicator gauges opinions about the possibility that an unlawful or violent method, such as terrorism or political violence, may be used to topple or destabilize a government.	Worldwide governance indicators (WGI)
Quality of regulation	This indicator assesses a government's capacity to create and carry out sensible laws and regulations that support and encourage market competition and the growth of the private sector.	Worldwide governance indicators (WGI)
Control of corruption	This indicator assesses the degree to which the use of public authority for personal benefit occurs, encompassing both small- and large-scale corruption and the "capturing" of a state by a private group or elite.	Worldwide governance indicators (WGI)

Source: *Author's own work based on WGI*

Table 6. *Financial regulation-governance and bank stability*

	1	2	3	4	5	6
Variables	**Q0.10**	**Q0.25**	**Q0.50**	**Q0.75**	**Q0.95**	**OLS**
CA	0.268***	0.389***	0.673***	0.694***	0.573***	0.542***
AQ	0.0452**	0.0257**	-0.0244	0.0531***	0.0270**	0.0425***
FR	0.299***	0.522***	0.732***	0.625***	1.042***	0.556***
ME	-0.262*	-0.181**	-0.344***	-0.633***	-0.936**	-0.707***
EA	-0.414**	-0.622***	-0.743***	-0.827***	-1.329***	-0.965***
LQ	0.174**	0.216***	0.225***	0.189**	0.383***	0.296***
IR	-0.0146***	-0.0873***	-0.0891***	-0.0912***	0.281***	-0.04321
GI	0.0483***	0.0557***	0.0598***	0.0602***	0.226***	0.163***
Constant	11.26***	8.42***	6.742***	12.06***	18.79***	11.83***
R-squared						0.485

Note: *Based on the CAMEL rating model, financial stability is the dependent variable. Columns 1 through 5 present the quantiles of financial stability, governance, and regulation. To conserve space, bootstrapped standard errors are not provided here, but they are based on 1000 replications have occurred. Column 6 reports OLS regression with robust standard errors for heteroskedasticity. Applications of the quantiles at Q0.10, Q0.25, Q0.50, Q0.75 and Q0.90 are made for stability and governance estimations. To conserve space, ±F tests for the equality of the slope coefficient across different quantiles have been conducted and are significant for the majority of quantiles at the 5% level. You may obtain the specifics upon request. *** represents $p<0.01$ across all quantiles. ** represents $p<0.05$ across all quantiles. * represents $p<0.1$ across all quantiles.*
Source: *Author's own work*

In particular, we choose IVs with legal roots and ethnic fractionalization that are most likely to support the growth of financial institutions based on the research on financial regulation (Barth et al., 2013b). Additionally, we use management governance as an instrumental variable to assess how different regulatory agencies' degrees of independence from the government differ (Klomp & De Haan, 2012). We used quantile regression in the second step, substituting fitted values for the capital adequacy (Angrist et al., 1999).

Additionally, the Generalized Method of Moments (GMM) was calculated. Research by authors like Fonseca and González (2010) and Akhter and Daly (2009) indicates that bank stability and capital adequacy are likely to endure over time. In order to further verify the stability of our primary findings, we thus use a dynamic panel model that includes a second delayed on capital adequacy as well as the second delayed dependent variable among regressors. Intertemporal risk and banking laws may benefit from this.

Table 7 has the empirical findings. Overall, the findings corroborate Table 4's primary findings. It should be noted that among the major dependent variables, the asset quality coefficients in regressions (4) and (5) and the management efficiency coefficient in regression (6) are not significant. Nonetheless, the primary results' robustness seems to be maintained, as seen by the constant signs on the coefficients across all regressions.

Table 7. *Fitted value of quantile and GMM*

	1	2	3	4	5	6
Variables	**Q0.10**	**Q0.25**	**Q0.50**	**Q0.75**	**Q0.95**	**GMM**
CA	0.731***	0.619*	0.717	0.748***	0.606**	
AQ	-0.362*	-0.401***	-0.584***	-0.462	-0.263	-1.362**
FR	-0.0198*	-0.0412***	-0.0625**	-0.0321*	-0.0823**	-0.514***
ME	-0.178**	-0.199***	-0.156**	-0.273**	-0.684***	-0.316
EA	-0.524**	-0.701***	-0.786***	-0.845***	-1.386***	-0.993***
LQ	0.262**	0.352***	0.349***	0.261**	0.529***	0.373***
IR	-0.0121***	-0.0796***	-0.0754***	-0.0808***	0.363***	-0.0378
GI	0.0528***	0.0602***	0.0643***	0.0689***	0.278***	0.202***
Constant	-3.471	-9.038	-11.471	-26.73***	-47.82***	36.63**
Sargan test p-value						0.22
AR (1) – p-value						0.05
AR (2) – p-value						0.18

Source: *Author's own work*

Note: *Based on the CAMEL grading model, financial stability is the dependent variable. To conserve space, bootstrapped standard errors are not included here, but they are based on 1000 replications. Columns 6 show GMM-two step regression with robust standard errors that account for heteroskedasticity. For capital adequacy, the quantiles at Q0.10, Q0.25, Q0.50, Q0.75 and Q0.90 are used. appropriate values. To conserve space, ±F tests for the equality of the slope coefficient across different quantiles have been conducted and are significant for the majority of quantiles at the 5% level. The writers can provide the information upon request. *** represents p<0.01 across all quantiles. ** represents p<0.05 across all quantiles. * represents p<0.1 across all quantiles.*

4.5 Additional Analysis

We run a second regression to verify the extra robustness analysis of the empirical findings in Tables 3 and 4. In order to do this, we concentrate on the stability indicator as a substitute for capital adequacy CA as a measure of financial stability. In order to determine if there has been a structural shift in the way that the CAMEL rating methodology and financial regulation affect the financial stability Z-score of commercial banks in Palestine, Table 8 is thus duplicated using capital adequacy CA.

Table 8. *Dynamic panel one-step-system GMM findings using capital adequacy CA as the variable*

Wald Chi^2 (6) = 281.25 Prob Chi^2 = 0.000				
Variables	**Coefficients**	**Robust Standard Error**	**Z-statistic**	**P>|z|**
CA	0.2651422	0.0885920	2.45	0.005**
AQ	-0.0235817	0.0361075	-0.36	0.682
FR	4.67e-06	1.78e-06	2.31	0.008**
ME	-0.0679235	0.0053321	-7.17	0.000**
EA	-0.0890537	0.0737197	-6.53	0.011**
LQ	-0.0568231	0.0059835	-7.26	0.000**
IR	-0.0326106	0.0447290	-5.35	0.000**
Constant	0.0036723	0.0054891	0.48	0.445
Tests of serial correlation				
Arellano-bond test for AR (1)	z-statistic = -2.06		P>|z| = 0.122	
Arellano-bond test for AR (2)	z-statistic = 0.71		P>|z| = 0.336	
Sargan test	Chi^2 (47) = 41.81		Pr>Chi2=0.526	
Robustness test				
Hansen test	Chi^2 (47) =0.00		Pr>Chi2=0.863	
Instruments' total validity test				

Note: ** 0.05 significance, **0.01 significance* **Source:** *Author's own work*

Table 8 presents the experimental findings, which indicate that the robustness test yields results that are comparable to the initial results found in Tables 3 and 4. Estimates of financial regulation support the preliminary findings about the effects of CAMEL Model Rating factors on the soundness of commercial banks' finances. Table 8 confirms the first half by showing that the impact of financial regulation and CAMEL Model Rating on the financial stability of commercial banks is notably positive at the 1% level (P of capital adequacy = 0.008 < 0.01).

Additionally, Table 8 shows that, at the 1% significance level, the impact of capital adequacy as a variable on financial stability in commercial banks has a positive significance (capital adequacy's likelihood value = 0.005 < 0.01). If there is enough capital, this calculated conclusion shows that the financial stability of commercial banks is adjusted to equilibrium at a rate of 26.51 percent each year.

Thus, if the outcome is applied to financial regulation, the commercial banks' financial stability achieves balance, as stated in the initial estimated result in Tables 3 and 4. This indicates that the commercial banks in Palestine have strong operating capabilities and enjoy financial stability.

The additional analysis reveals that, for the majority of variables, the moderating variable interest rate and the bank-level variables have the same signs and degrees of statistical significance in relation to the financial stability of commercial banks. With a few outliers to the earlier findings, the bank-level variables in Table 8 either retain their signals or grow statistically significant. Specifically, AQ loses statistical significance and has a negative impact on the financial stability of commercial banks (p-value of AQ = 0.682 > 0.05). Moreover, there is a statistically significant positive impact of management efficiency on the financial stability of commercial banks (p-value

of EA = 0.011 < 0.05). This suggests that a loss in capital leads to a decline in the financial stability of commercial banks.

While Table 8's macroeconomic variable like the interest rate, a moderate variable maintains the same indications, they turn positive statistical significance, which is nearly identical to the earlier outcome in Table 7, where 3 and 4 were also positive statistical significance. The experiment's findings of the prior robustness check and the current additional analysis show that the interest rate is sufficient to maintain the levels of financial stability of commercial banks, which works to strengthen competition in the banking sector and contribute to greater financial stability. This is in line with the previously mentioned analysis on the effectiveness of financial regulation and the variables of the CAMEL Rating Model on the financial stability of commercial banks in Palestine.

Moreover, Table 8 demonstrates that there is no serial correlation in the estimate model used for the robustness assessment (first-order AR (1) with Pr > Z = 0.122, second-order AR (2) with Pr > Z = 0.336).

Additionally, all of the instruments used in the GMM estimate are valid, robust, and outlier-free (p-value is not significant: Pr > Chi^2 = 0.526), and the Hansen test's p-value is very non-significant (Pr > Chi^2 = 0.863), demonstrating the unbiased and robustness of the modelling. As a result, the experimental findings used in the subsequent study are entirely impartial and precise.

The preliminary analysis and earlier robustness test support the first hypothesis because, on the whole, the results estimated from the additional analysis indicate that there hasn't been any structural change from most of the prior empirical findings based on the use of the capital adequacy score as an indicator of the financial stability of commercial banks. Finally, these mentioned above findings confirm our five hypotheses.

5. Conclusion and Policy Implications

The purpose of the study was to evaluate the moderating impact of interest rate on the association between the financial regulation, financial stability of Palestinian commercial banks and the CAMEL rating model. The study concluded that out of the financial regulation and CAMEL rating variables, namely capital adequacy, asset quality, management efficiency, earnings ability and liquidity, interest rate only moderated the relationship between asset quality, financial regulation and financial stability for commercial banks in Palestine.

The study further concluded that interest rates is not important in affecting the strength of the relationship between capital adequacy, management efficiency, earnings ability, liquidity, financial regulation and financial stability. It was established that interest rates significantly moderate asset quality, financial regulation and financial stability nexus. Interest rate, as captured by the Palestine Monetary Authority PMA Rate, is a key factor in the financial intermediation activities of commercial banks.

Using the CAMEL classification model, this study examined and assessed the influence and link between the moderating effect of interest rates, financial regulation and financial stability across Palestinian commercial banks from 2016 to 2022. The study sample did not include Islamic banks in Palestine; instead, it was restricted to thirteen banks. Through the impact of interest rates on the relationships between financial regulation, financial stability and the study variables that were formulated in the study's five hypotheses: liquidity, earnings ability, management efficiency, asset quality, and capital adequacy, the banks were given a sustainable financial classification based on their interest rates.

Notably, the Palestine Monetary Authority PMA Rate determines the individual interest rates charged by banks. As such, it is recommended that the Palestine Monetary Authority PMA set interest rates in view of the prevailing economic situation. The prevailing interest rate can further be set and periodically reviewed by the apex bank in line with the nature of banking activities at a given period. Also, it recommended to enhance the financial regulation level to improve better financial stability for these commercial banks in the country.

The findings of the study suggest some policy implications, such as that the Palestine Monetary Authority PMA should ensure proper and high asset quality to as ensure that commercial banks achieve financial stability, which in turn translates to stability of the banking sector. Interest rates are determined by the Palestine Monetary Authority PMA, as the country's central bank, considering the state of the economy. Commercial banks work to lower the percentage of non-performing loans, which they may do by putting in place efficient credit risk management systems. Commercial banks should strive towards reducing non-performing loans, which

can be done through the setting up of effective credit risk management systems. Excessive levels of non-performing loans subsequently result in high levels of bad debts, which are then written off against profits, hence decreasing the financial stability of commercial banks in Palestine.

Through appropriate measures, asset quality through non-performing loans can be improved by carrying out proper credit evaluation to ascertain the creditworthiness of firms and individuals before granting loans while also putting in place an effective credit collection mechanism. Through this, the purpose of borrowing can be evaluated, as an appraisal of a prospective business venture requiring financing, or a loan can be done. Commercial banks should develop their financial technique by increasing the level of the financial regulation in these banks.

The financial stability of commercial banks can be strengthened or weakened by financial regulation and governance. In actuality, financial policy makers need to consider these variations not only from the standpoint of legal and historical precedents among countries, but also from the standpoint of institutional precedents pertaining to the business models of banks, the management of the bank's efficiency, asset quality and the caliber of services these banks offer, and the level of economic development in this particular country.

Our study faced some significant limitations, which can be summarized as follows: the interest rate was solely considered as a moderating variable in order to assess how the interest rate affected the correlation between financial stability, financial regulation and the Camel rating model for commercial banks in Palestine. The study's sample size is deemed limited in comparison to previous studies conducted in other Arab nations, which restricts the applicability of the findings to banks other than Palestinian banks alone. This is another weakness of the research. More research may be needed to find out how other moderating factors affect the profitability and financial stability of Palestinian banks.

Future research may be utilized to compare the interest rate, inflation rate, and exchange rate of Palestinian banks with those of other Western and Eastern banks. Beyond return on shareholders' equity and return on other investments, other research projects can employ various financial indicators to assess and quantify the influence of other moderating variables on financial stability in Palestinian banks. This will support the present study's conclusions even more. Furthermore, foreign commercial and investment banks that conduct business in Palestine may be included in the sample size of the next research. This would give the audience a clearer overall picture.

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