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The Determinants of Financial Stability of Palestinian Banks

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Abstract: Objective: Financial stability is a significant issue in the economy, reflecting a situation where the financial system can withstand hardships, facing less turmoil in the practice of financial intermediation. This study seeks to identify the level and the factors influencing the financial stability of banks (4 conventional and 2 Islamic) listed on the PEX from 2013 to 2023. **Methodology:** The study employs a descriptive methodology to demonstrate the fundamental features of the data. The study relies on secondary data, sourced from the annual reports of listed banks in the PEX, including liquid assets, total assets, return on equity, operating expenses, total loans, total equity, and net income, utilizing the EViews program. **Results:** This study found that Palestinian banks have large z-scores. The fixed effect model indicates that size significantly negatively affects the z-score, whereas both profitability and liquidity don't have significant effects. Whereas, both efficiency and credit risk have a positively insignificant influence on the z-score. The results show that size is the only significant factor affecting the z-score, as the other variables are insignificant to the z-score. **Conclusions and recommendations:** The research suggests that banks should establish professional risk management to ensure financial stability and minimize risks during the crisis. The study recommends that banks pay additional attention to the credit-granting process and its associated risk factors to boost profitability. Additionally, they ought to establish mechanisms and financial solutions to improve stability.

Keywords: Palestine, PEX, banking sector, z-score, financial stability, Profitability, liquidity, credit.

محددات الاستقرار المالي للبنوك الفلسطينية

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الملخص: الهدف: يعتبر الاستقرار المالي من القضايا المهمة في الاقتصاد، حيث يعكس قدرة النظام المالي على الصمود في مواجهة التحديات، والحد من الاضطرابات في عمليات الوساطة المالية. وتهدف هذه الدراسة إلى تحليل مستوى الاستقرار المالي والعوامل المؤثرة عليه في البنوك المدرجة في بورصة فلسطين (4 بنوك تجارية و 2 بنوك إسلامية) وذلك خلال الفترة من عام 2013 إلى عام 2023. **المنهج**: اعتمدت الدراسة المنهج الوصفي لإظهار الخصائص الأساسية للبيانات. واستخدمت هذه الدراسة البيانات الثانوية المستمدة من التقارير السنوية للبنوك المدرجة في بورصة فلسطين، والتي تشمل: الأصول السائلة، وإجمالي الأصول، والعائد على حقوق الملكية، والنفقات التشغيلية، وإجمالي القروض، وإجمالي حقوق الملكية، وصافي الدخل، وذلك باستخدام برنامج EViews. **أهم النتائج**: أظهرت نتائج الدراسة أن البنوك الفلسطينية لديها مستويات z-scores عالية. كما أشار نموذج التأثيرات الثابتة إلى أن حجم البنك له تأثير سلبي كبير على z-scores، في حين أن كُلّا من الربحية والسيولة ليس لهما تأثيرات ذات دلالة إحصائية. أما الكفاءة ومخاطر الائتمان لهما تأثير بشكل إيجابي غير معنوي على z-scores. كما أظهرت النتائج أن الحجم هو العامل الوحيد ذو الدلالة الإحصائية الذي يؤثر على الدرجة المعيارية, في حيث أن المتغيرات الأخرى لم تكن ذات دلالة إحصائية بالنسبة z-scores. **الاستنتاجات والتّوصيات**: تقترح الدراسة أن تقوم بدراسة وتحليل عوامل المخاطر بشكل معمق أكثر وتوصي بإنشاء إدارة مهنية للمخاطر تسهم في الاستقرار المالي والحد من المخاطر خصوصاً في أوقات الأزمات.

الكلمات المفتاحية : فلسطين، بورصة فلسطين، القطاع المصرفي، الدرجة المعيارية، الاستقرار المالي، الربحية، السيولة، الائتمان.

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Introduction

Financial stability is essential for the successful performance of a market economy, as it enhances the environment for saving and investment, and facilitates rational decision-making in the allocation of real resources (Crockett, 1996, p.7). According to Haldane, Hoggarth, Saporta, and Sinclair (2005, p. 2), financial instability represents a deviation from the ideal saving-investment practices, often caused by disruptions within the financial sector. Financial stability refers to a condition in which the financial system can withstand distress and hardship, thereby reducing the likelihood of disorder in the financial intermediation process, such disorder can severely impair the allocation of savings to productive investments (Financial Stability Review, 2012 as cited in Odeduntan & Adewale, 2015, p.2).

According to Chand, Kumar, and Stauvermann (2021, p. 2), a stable financial system performs its essential functions, such as providing reliable financial services for both investments and personal finances. Conversely, instability within financial institutions can trigger a banking crisis, negatively affecting the economy by disrupting the credit intermediation process and reducing the availability of money and credit. This disruption may lead businesses and families to cut back on their investments, ultimately resulting in decreased production and a potential economic depression (Chand et al., 2021).

The occurrence of global financial crises (such as the one in 2007–2008) and the increasing unpredictability brought about by globalization have highlighted the need for emerging and developing nations to implement financial crisis early warning models. These countries must also study strategies and analyses aimed at mitigating potential losses (Alshubiri, 2017, p.2).

Following the financial crisis triggered by the COVID-19 pandemic, discussions on maintaining the financial system's stability intensified, particularly as banks experienced a rise in loan defaults- an issue that can quickly pose a serious threat to financial system stability (Kryg, 2020). For example, the European banking system, financial stability, and economic growth are all at risk due to the €900 billion in non-performing loans (Kryg, 2020). Financial institutions such as the International Monetary Fund (IMF) regularly publish global reports on financial stability and continue efforts to define this concept comprehensively. The most recent report, published in April/2024, focuses on key topics including The Rise and Risks of Private Credit and Cyber Risk: A Growing Concern for Macrofinancial Stability (www.imf.org).

In the case of Palestine, there is a lack of adequate research on financial stability, despite its crucial importance to the financial system and banking sector. This is especially significant given Palestine's unique need for a resilient and adaptable financial system.

Problem statement

A solid financial system depends on financial stability. Researchers have often measured financial stability in the banking sector using a single measure (the z-score) without accounting for additional bank-level or macroeconomic factors. While a few studies have explored these relationships, others have focused on assessing banks' stability during times of crisis. Accordingly, the purpose of this study is to examine the financial stability of banks listed on the Palestine Exchange (PEX) between 2013 and 2023. In addition, the study aims to identify the key determinants of the financial stability of these banks over the same period.

Study objectives

This study aims to achieve the following objectives:

- Identify the level of financial stability of banks listed on the Palestine Exchange (PEX) from 2013 to 2023.
- Identify the factors influencing the financial stability of banks listed in the PEX from 2013 to 2023.

Study Significance and Contribution

This study contributes to the existing literature by addressing the lack of research on bank stability in Palestine, to the knowledge of the researcher, as it attempts to explore the financial stability of banks in the Palestinian context from 2013 to 2023. Unlike previous studies that focus solely on a single measure of financial stability, namely the Z-score, this study incorporates additional assessments, including bank-specific determinants such as the bank size, profitability, efficiency ratio, liquidity risk, and credit risk.

This research highlights the financial stability of banks in Palestine by evaluating their financial stability, using the Z-score as an indicator of a bank's stability. It also examines bank-specific factors-such as the bank size, the bank's profitability, the efficiency ratio, the liquidity risk, and credit risk, to provide a broader, more comprehensive, and clearer understanding of the determinants of financial stability of Palestinian banks.

Palestine endures exceptionally challenging conditions that demand a robust and resilient financial system, as it frequently experiences significant changes and shocks, particularly from geopolitical factors, which rapidly and directly influence the financial sector. Consequently, a well-organized and stable financial system supported by strong financing mechanisms can help mitigate the challenging and troubling effects that arise during difficult times. Therefore, examining the elements of financial stability is a crucial step toward fostering a more stable and resilient system.

Limitations of the study

This study encounters several limitations.

- The study covers a limited period from 2013 to 2023; longer times should be explored in future research.
- The research focuses on bank-specific factors, while other environmental and macroeconomic variables could also be examined.
- The study investigated banks in the West Bank; a broader comparison with banks from other countries could provide deeper insights into the factors of financial stability and consequently implement strategies to strengthen the financial system.

Literature Review and Previous Studies

The Financial Stability and its determinants

The term "financial stability" lacks a definitive, universal definition, as no consensus has been reached despite numerous efforts to clarify and outline its dimensions. Its complexity arises from the interrelated nature of factors within the financial system and macroeconomic factors. This paragraph presents various definitions from prior literature. In general, the non-appearance of the irregular downfall of major financial and non-financial organizations generates significant aggregate output losses. Financial stability involves avoiding financial distress and effectively managing systemic financial risk, achieved through both private risk management and governing bodies overseeing banking and market supervision (Donath & Cismas, 2008, p. 1).

Al Salamat & Al-Kharouf (2021, p.2) noted that the Central Bank of Jordan issues an annual Financial Stability Report through its Financial Stability Section. In the Palestinian context, the Palestine Monetary Authority (PMA) also regularly publishes annual financial stability reports. As key intermediaries in the financial system, regulatory bodies ensure a sound financial environment that supports a country's economic growth and prosperity (Hashem, 2017, p.7) and supervise banks. However, banks encounter a variety of risks in their business, and if these risks are poorly managed, they may encounter financial difficulties (Raouf, 2018).

The Z-score

The Z-score measures the market value of a bank's assets concerning the book value of the bank's liabilities. It serves as a distance-to-default measurement. The z-score demonstrates how far a bank is from insolvency, connecting the metrics of profitability, volatility, and leverage. A higher z-score correlates with a lower risk of insolvency (Rajhi & Hassairi, 2013, p.3). The z-score is a widely used measure of financial stability in research; for example, by Rajhi & Hassairi (2013, p.3).

Bank size

The bank size is an imperative determinant in the stability of banks and is typically measured by the total assets. Numerous studies have examined this relationship, with several finding a correlation between bank size and stability maintenance, for example (Čihák & Hesse, 2010, p.19), although others did not (Alharthi, 2016).

Numerous researchers have investigated financial stability and its influencing factors. Some have focused exclusively on bank-specific factors, such as Güngör (2023). Others have examined macroeconomic factors, including Alharthi (2016), Rupeika-Apoga et al. (2018), Supiyadi (2021), Singh (2012), and Ali & Puah (2019).

Al Salamat & Al-Kharouf (2021) found that the inflation rate and debt ratio have a significant negative influence on capital adequacy, whereas GDP growth has a significantly positive effect on capital adequacy. Conversely, returns on equity and GDP growth significantly negatively affect the non-performing loans (NPLs) in Jordanian commercial banks. Meanwhile, the inflation rate has a statistically positive impact on the NPL. The researchers also found that **GDP** growth negatively influences the number of returned checks, while the inflation rate positively influences the number of returned checks. On the other hand, Singh (2012) found that the stability of Nepalese banks is negatively affected by credit growth but positively influenced by income diversification. Inflation was also found to be correlated with banks' stability.

Furthermore, Sifrain (2021) demonstrated that all factors -exchange rate, GDP growth, regulatory quality index, bank lending-deposit interest rate spread, political stability index, investment freedom index, and property rights index- significantly impact the stability of Haiti's banking sector. However, the results indicated that the political stability index is statistically insignificant when a multiple regression analysis is employed.

Karim et al. (2016) concluded that there is a long-run correlation between the stability of Indonesian commercial banks and macroeconomic determinants. Furthermore, the results support a long-run association between macroeconomic factors and the overall stability of the banking sector. However, the study did not confirm a long-run correlation between the stability of Islamic banks and macroeconomic determinants.

Nailah & Rusydiana (2020) stated that most of the twelve Islamic banks in Southeast Asian nations remained inefficient; however, they maintained stable performance from 2013 to 2018. Čihák & Hesse (2010) found that small Islamic banks in 20 banking systems are financially stronger compared to small commercial ones, whereas large commercial banks are financially stronger than large Islamic ones. Moreover, Large Islamic banks were found to be less financially stable than small Islamic banks, suggesting that large Islamic banks face greater difficulties in managing credit risk.

Hussein, (2010) found that the product mix of 194 conventional and Islamic banks in the Gulf Cooperation Countries (GCC) does not affect liquidity but is associated with systematic determinants. Non-performing assets were found to have a positive and significant impact on liquidity, suggesting that during challenging times, Islamic banks are more likely to adopt strict risk management strategies compared to conventional banks. Despite conventional banks achieving better average liquidity levels, Islamic banks exhibit higher levels of consumer confidence. Additionally, Supiyadi, (2021) examined the stability of 34 Indonesian Islamic banks and found it to be influenced by profitability and credit risk, but not by liquidity, asset size, operating effectiveness, inflation, or GDP.

Kharabsheh & Gharaibeh, (2022) found that the stability of Jordanian commercial banks is positively and statistically influenced by SME loans and capital adequacy, while it is negatively and statistically affected by financial inclusion, credit risk, and liquidity.

Furthermore, Ali & Puah (2019) disclosed that the profitability of Pakistani commercial banks is not significantly affected by liquidity risk; however, it is statistically significantly influenced by credit risk, funding risk, bank size, and stability. Meanwhile, their stability model indicated that stability is statistically significantly affected by funding risk, profitability, liquidity risk, and bank size. Credit risk, however, does not have a considerable effect on stability. Additionally, the impact of the financial catastrophe was found to be a consistent and statistically irrelevant effect on both models. In line with Rupeika-Apoga et al. (2018), it was found that efficiency ratio and credit risk have a significantly negative effect on the stability of Latvian banks, while factors such as profitability, liquidity ratio, bank size, GDP growth, and inflation have a significantly positive impact on banks' stability. Alshubiri, (2017) revealed that the price-earnings (P/E) ratio and income diversity have significant effects on the financial stability of Omani banks. However, the effects of specific banks and other banking sector determinants were merely considerable. Pham et al. (2021) revealed that the stability of Vietnamese banks is positively influenced by bank size, the equity-to-asset ratio, revenue diversification, the loans-to-assets ratio, and total assets-based foreign investment. Conversely, the market share of mobilized capital, market structure, and loan loss provisions negatively affect bank stability.

Huang & Lin, (2021) illustrated that all types of risks -country risk, financial risk, economic risk, and political risk- have negative and substantial effects on the stability of over 500 banks across 18 emerging and 21 developed countries between 2009 and 2018). These effects are clearer with banks exhibiting high levels of instability. Furthermore, factors such as bank size, financial liberalization, dispersed ownership, and bank concentration do not consistently influence bank stability. The study also stated that the impact of country risk on bank stability is more evident in emerging economies.

Regarding bank size, Huang & Lin (2021) illustrated that the bank size, financial liberalization, dispersed ownership, and bank concentration do not consistently affect bank stability. Moreover, Santoso et al. (2016), in their study of the financial stability of eight Indonesian conventional and Islamic banks and indicated that the Islamic dummy, the cost-to-income ratio, and the banks' size significantly influence bank stability. On the other hand, Güngör (2023) revealed a negative

correlation between the stability of Turkish banks and both risk-weighted and non-risk-weighted capital ratios, as well as asset and fund diversifications. Furthermore, bank stability was found to be negatively associated with bank size but positively associated with the cost-to-income ratio, income diversification, collected funds ratio, and loan ratio.

Study hypotheses

The following hypotheses are developed based on the existing literature:

H1a. There is a statistically significant effect of bank size on the financial stability of Palestinian banks.

H1b. There is a statistically significant effect of the Profitability ratio on the financial stability of Palestinian banks.

H1c. There is a statistically significant effect of the Efficiency ratio on the financial stability of Palestinian banks.

H1d. There is a statistically significant effect of Liquidity Risk on the financial stability of Palestinian banks.

H1e. There is a statistically significant effect of Credit Risk on the financial stability of Palestinian banks.

Methodology

After reviewing previous studies in the field of financial stability and its associated determinants- and following the approaches of researchers such as Alharthi, 2016; Rupeika-Apoga et al., 2018; Supiyadi, 2021; Singh, 2012; Ali & Puah, 2019), this study adopts a quantitative approach using panel data regression. Additionally, a descriptive methodology is employed to demonstrate the fundamental characteristics of the data. The study relies on secondary data sources, including books, journals, and prior research. The gathered data consists of annual information obtained from the financial reports of banks listed on the Palestinian exchange (PEX). The annual data includes liquid assets, total assets, return on equity, operating expenses, total loans, total equity, and net income. No missing data were identified. The data will be analyzed using the EViews program.

Study Population

Due to the limited number of banks, the researcher chose to examine the entire population. Accordingly, the study's population includes all Palestinian banks -both Conventional and Islamic, listed on the PEX from 2013 to 2023, totaling six banks. Only those banks listed on the PEX during the study period were included.

Some banks were excluded due to mergers with other banks not covered in the research, such as the National Bank's acquisition of Jordan Commercial Bank in 2020, and the Palestine Commercial Bank merged with the Bank of Palestine in 2016. Additionally, one bank was excluded because its listing date falls outside the study period: SAFA Bank, which was listed on July 18, 2022. The banks included in the study are clarified in Table 1 (pex.ps) as follows:

Table (1): Study population.

NO	Bank name in English	Listing date	Symbol
1-	Bank of Palestine	22/09/2005	BOP
2-	The National Bank	29/04/2007	TNB
3-	Arab Islamic Bank	22/11/1997	AIB
4-	Palestine Islamic Bank	02/07/2009	ISBK
5-	Al Quds Banks	22/03/1997	QUDS

6-	Palestine Investment Bank	13/02/1997	PIBC

Note: Adapted from the PEX.

The Variables of the Study

The Dependent Variable = Financial Stability

The Independent Variable = Bank-Specific Determinants: (Bank Size, Bank Profitability, Efficiency Ratio, Liquidity Risk, and Credit Risk)

The Structural Model

The Study Equation is as next:

$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$

$Z\text{-Score} = a + \beta_1 S + \beta_2 P + \beta_3 ER + \beta_4 CR + \beta_5 LR + e$

Zscore= c+ size+ profitability+ credit risk+ liquidity+ efficiency.

Where: Z-Score is a measure of the bank stability and is computed as Z-Score = ROA+ (E/A) (2)/σROA

Return on assets (ROA) ratio: Net Income/Total Assets

E/A = the equity to assets ratio = Total equity / Total assets

σROA = the Standard Deviation of Return on Assets.

S is the Bank Size

P is the Bank's Profitability

ER is the Efficiency Ratio

LR is the Liquidity Risk

CR is the Credit Risk

e is the Error Term

The Graphical Model

The model of this study is illustrated in Figure 1, including the independent and dependent variables of the study.

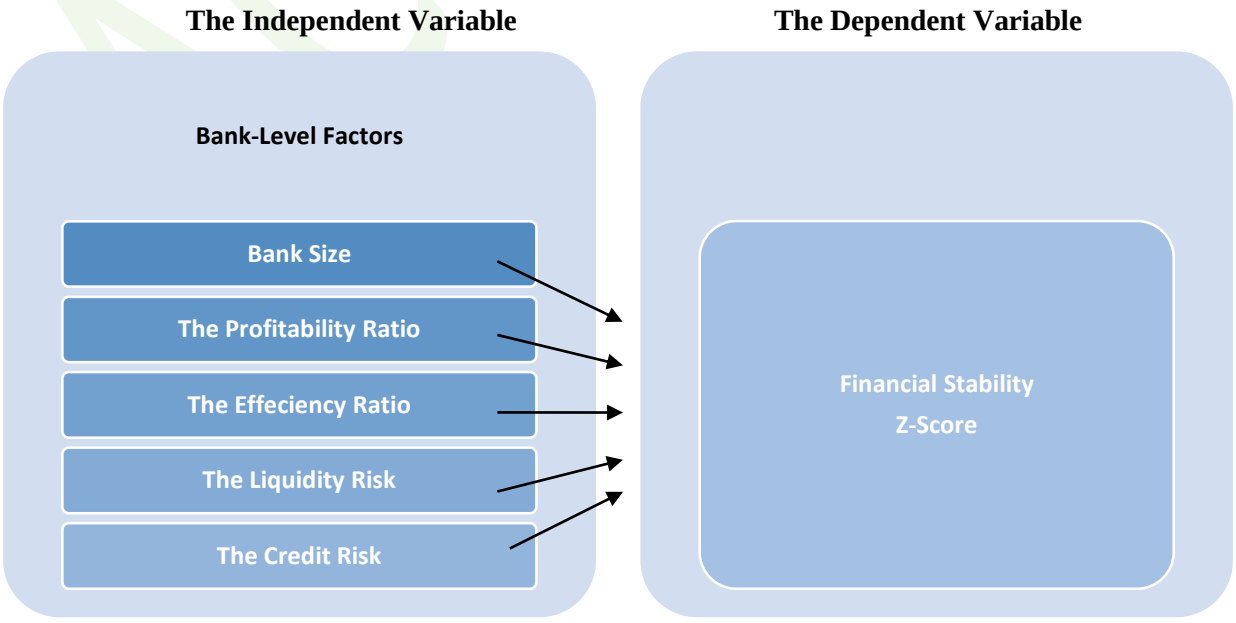

Figure (1): The graphical model.

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Note: developed by the researcher.

Measurement of the variables

The measurements of the studied variables are displayed in the following table.

Table (2): Variables measurement.

Determinant Type	Variable	Measurement	Studies
Bank-level	Bank size	Natural logarithm of total assets	Ali & Puah, 2019). Chand et al. (2021).
Bank-level	liquidity risk	Liquid assets/Total assets	Joudar et al., 2023). (Hussein, 2010)
Bank-level	Profitability	ROE (Return on Equity	Chand et al., 2021).
Bank-level	In(Efficiency)	The ratio of operating expenses to total assets.	(Singh, 2012).
Bank-level	credit risk	total loans to total assets	(Curak et al., 2012)

Note: developed by the researcher.

Empirical Results

The results presented in **Table 3** show a high Z-score for Palestinian banks, including both conventional and Islamic banks, as demonstrated in the following tables:

Table (3): Z-score results.

Year	BOP	TNB	QUDS	PIBC	AIB	ISBK
2013	25.508	38.470	26.850	49.635	28.692	28.539
2014	27.055	43.208	23.797	45.604	26.190	25.830
2015	25.656	40.399	21.639	46.983	23.359	25.277
2016	22.705	21.376	21.233	48.440	21.000	27.315
2017	21.129	20.258	21.688	43.805	22.306	25.166
2018	20.689	19.166	20.773	45.854	22.459	22.849
2019	18.266	18.075	18.729	42.098	20.219	19.764
2020	16.071	15.855	19.270	32.748	16.869	18.226
2021	17.381	20.046	19.944	29.504	16.823	18.834
2022	19.336	24.274	25.179	29.761	18.789	22.123
2023	16.578	25.680	22.284	28.345	17.262	19.951

Note: Table 3 shows the empirical results of the z-score of the examined banks.

Regression Results

Within this part, the descriptive statistics of the variables are revealed in the following table:

Table (4): The descriptive statistics.

-	Credit	Efficiency	Liquidity	Profitability	Size	Zscore
Mean	0.634902	0.024340	0.351241	0.084011	20.916760	25.59374
Median	0.553350	0.024055	0.343075	0.089500	20.869500	22.38250
Maximum	6.412100	0.030440	0.565970	0.160459	22.687000	49.63500
Minimum	0.318400	0.016100	0.225040	-0.003000	19.480000	15.85000
Std.Dev	0.726011	0.000384	0.067758	0.036212	0.786248	8.924530
Skewness	7.804594	-0.127370	0.706791	-0.047717	0.455124	1.396663
Kurtosis	62.63661	2.049996	3.476269	2.218640	2.721398	3.887718
Observations	66	66	66	66	66	66

Note: Table 4 represents the descriptive statistics of the study variables.

Table 4, which presents the descriptive statistics, illustrates that the mean of all variables is positive. The mean for credit risk is 0.634, while the mean of efficiency risk is 0.024. The profitability has a mean of 0.0840, the liquidity risk has a mean of 0.35, and the mean for size is 20.9. The highest mean is observed for z-core, which is 25.59. The standard deviation is high for the z-core at 8.924. The standard deviations for the remaining variables in order are: size (0.786), credit risk (0.726), liquidity risk (0.0677), profitability (0.0362), and efficiency risk (0.0038).

The correlation matrix

Table (5): The correlation matrix.

correlation probability	credit	efficiency	liquidity	profitability	size	z-score
Credit	1					
Efficiency	0.01392	1				
Liquidity	-0.274006	-0.193784	1			
Profitability	-0.025107	0.230536	-0.32203	1		
Size	0.024074	-0.272187	-0.3418	0.357829	1	
Z-score	-0.115548	0.253404	0.555401	-0.389711	-0.71317	1

Note: Table 5 shows the correlation matrix of the study variables.

The correlation matrix in Table 5 demonstrates that efficiency is positively correlated with credit risk, while liquidity risk is negatively correlated with both credit risk and efficiency. Profitability is negatively correlated with both credit risk and liquidity risk. Size is positively correlated with credit risk and profitability, but negatively correlated with efficiency and liquidity risk. The correlation matrix also illustrates that the z-score is negatively correlated with credit risk, profitability, and size, while it is positively correlated with efficiency and liquidity risk.

The program used for this study is E-views. First, the researcher applied the Panel Least Squares (POLS) method, as shown in Table 6. Subsequently, the Breusch-Pagan test was conducted to determine whether the Panel Least Squares fit the model. As shown in Table 7, the p-value from the Breusch-Pagan test is less than 0.5%; consequently, the null hypothesis is rejected. Therefore, the research proceeds with either the fixed effects model (FEM) or the random effects model (REM).

As the rule states: the null hypothesis of the BP test is "POLS is more appropriate than FEM/REM" OR" No effect (of different cross sections on intercept)".

If p- the value is greater than 0.05, then accept the null hypothesis and use POLS. If the p-value is less than 0.05 then reject the null hypothesis and use FEM/REM.

Panel Least Squares

Table (6): Least Squares test.

Variable	Coefficient	Std.Error	t-Statistic	Prob
C	105.3912	25.67993	4.10129	0.0001
size	-5.187175	1.045899	-4.95954	0.0000
profitability risk	-38.11026	21.36763	-1.78355	0.0796
credit risk	-0.043009	0.961231	-0.04474	0.9645
liquidity risk	52.05286	11.63092	4.475388	0.0000
efficiency risk	560.7006	200.1400	2.801542	0.0068
R-squared	0.667218	mean dependent var		25.59374
Adjusted R-squared	0.639486	S.D.dependent var		8.924530
S.E. of regression	5.358536	Akaike info criterion		6.281767
Sum squared resid	1722.834	Schwarz criterion		6.480826
Log likelihood	-201.2983	Hannan-Quinn criter		6.360424
F-statistic	24.05967	Durbin-Watson stat		0.655328
Prob(F-statistic)	0.000000			

Note: Table 6 presents the results of the panel Least Squares.

Breusch-pagan

Table (7): Breusch-pagan.

	Cross-section	Time	Both
Breusch-Pagan	22.35545	1.055485	23.41094
	(0.0000)	(0.3042)	(0.0000)

Note: Table 7 shows the results of Breusch-pagan test.

Therefore, the researcher proceeded by estimating the Random Effects Model (REM) as follows in Table 8 and then applied the Hausman test presented in Table 9.

The null hypothesis of the Hausman test states "REM is more appropriate than FEM if the p-value is greater than 0.05 then accept the null hypothesis and go for REM.

If the p-value is less than 0.05 then reject the null hypothesis and choose FEM.

Hausman test in Table 9 shows that the p-value is (0.0000), which is less than 0.05. Therefore, the null hypothesis is rejected, and the researcher proceeds with the Fixed effect model (FEM).

Random Results

Table (8): The random results.

variable	coefficient	Std.Error	t-Statistic	Prob
C	105.3912	17.53301	6.011015	0.0000
Size	-5.187175	0.714089	-7.264043	0.0000
Profitability risk	-38.11026	14.58879	-2.612299	0.0113
Credit risk	-0.043009	0.656282	-0.065534	0.9480
Liquidity risk	52.05286	7.941026	6.554929	0.0000
Efficiency risk	560.7006	136.6459	4.103311	0.0001
Effects Specification				
			S.D	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			3.658549	1.0000
Weighted Statistics				
R-squared	0.667218	mean dependent var		25.59374
Adjusted R-squared	0.639486	S.D.dependent var		8.924530
S.E. of regression	5.358536	Sum squared resid		1722.834
F-statistic	24.05967	Durbin-Watson stat		0.655328
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.667218	mean dependent var		25.59374
Sum squared resid	1722.834	Durbin-Watson stat		0.655328

Note: Table 8 presents the random results.

Hausman Test

Table (9): The Hausman test.

	Correlated Random Effects-Hausman Test			
Test Summary	Chi-Sq. Statistic		Chi-Sq. d.f	Prob
cross-section random	73.714023		5	0.0000

Note: Table 9 presents the Hausman test results.

The Fixed effect

Table (10): The fixed effect.

variable	coefficient	Std.Error	t-Statistic	Prob
C	266.1782	35.93501	7.407211	0.0000
Size	-11.44833	1.476503	-7.753676	0.0000
Profitability risk	-19.14541	18.80767	-1.017957	0.3132
Credit risk	0.147008	0.687289	0.213895	0.8314
Liquidity risk	-2.744452	11.26457	-0.243636	0.8084
Efficiency risk	55.73360	171.2016	0.325544	0.7460

Note: Table 10 shows the results of the fixed-effect test.

The fixed effect model in Table 10 indicates that size has a significantly negative impact on the z-score (-11.44). Whereas, profitability (-19.145) and liquidity (-2.744) have negative but statistically insignificant impacts on the z-score. Meanwhile, efficiency (55.7) and credit risk (0.147) show a positive but also insignificant impact on the z-score. The results show that among all the variables,

size is the only significant factor influencing the z-score, with a Prob of 0.000. The other variables are insignificant to the z-score. The R-squared value for the fixed model is 0.8578.0. These results identify variables that are significant in determining the Z-score for banks. The adjusted R-squared is 0.8319, indicating that the model captures about 86% of the relationship. The F-test result is statistically significant, confirming the appropriateness of the employed model.

The Model Equation is:

Zscore= c+ size+ profitability+ credit risk+ liquidity+ efficiency.

Zscore= 266.17 -11.44*size -19.145* profitability+ 0.147* credit risk-2.744*liquidity+ 55.7*efficiency.

Conclusion and Recommendation

In this research, the researcher conducted an empirical analysis of the determinants of financial stability in Palestinian banks-conventional and Islamic, using z-scores as a measure of stability. The findings indicate that Palestinian banks exhibit high z-scores.

The study recommends that banks establish robust and professional risk management practices to maintain financial stability and reduce risks, especially during times of crisis. Banks may also benefit from learning from the experiences of other financial institutions, which can help improve their internal financial stability factors and overall financial health. Policymakers are encouraged to further investigate the risk factors that affect their banks and to benefit from the experiences of other countries in enhancing and maintaining financial stability.

The study advocates that bank-specific factors -such as size, profitability risk, credit risk, liquidity risk, and efficiency risk- require further consideration and attention to increase profitability. Banks should be cautious and exercise due diligence in the credit-granting process to minimize default risk as much as possible. Implementing mechanisms and innovative banking services, new banking technologies, and financial solutions to enhance financial stability and better withstand market disruptions more efficiently. Additionally, Banks are encouraged to invest and enhance human capital development, particularly in the risk evaluation process. This includes increasing the internal and external training to develop human knowledge and expertise, given the significant role of human resources in banking performance (Nour & Momani, 2019, p.24). Furthermore, the effectiveness function of the Audit and Risk Committees and their characteristics, and their impact on a bank's financial performance. Therefore, banks should adopt the principles of banking governance (Al-Koni, Atout, Matar, Nour, &Daraghma,2025, p.5).

This study encounters some limitations. Therefore, further studies could include the effects of additional determinants of stability, such as macroeconomic factors and the impacts of geopolitical and financial crises on the banks' stability. Since this study considers only bank-specific determinants, it does not account for other factors that may influence the financial stability of the banking sector. Accordingly, the study recommends additional research and investigation.

Disclosure Statement

- **Ethical approval and consent to participate**: Participation in this research was carried out following the special instructions.
- **Availability of data and materials**: All data and materials used are available and readily available upon request.

- **Authorcontribution**: This study was conducted solely by the main researcher, Asmaa Selmi, who is responsible for all the research content, analysis, methodology, and complete review.
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