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The Impact of Financial Soundness Indicators (FSIs) on the Market Value of Palestinian Public Shareholding Banks

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Abstract

This study aimed to explore the financial soundness of the Palestinian banking sector. It also aimed to examine its impact on the market value of banks listed on the Palestine Stock Exchange (PEX) which lists six (6) banks. For this purpose, Financial Soundness Indicators (FSIs) were utilized including capital indicators, asset quality indicators, profitability indicators, and liquidity indicators. The study employed a descriptive-analytical approach, utilizing the published financial statements of these banks to calculate the necessary ratios for measuring FSIs. Additionally, publications from the PEX were used to measure market value for the period of 2012-2021. The study revealed several noteworthy findings, including the adherence of listed banks on PEX to the Basel III Committee's regulations regarding FSIs. The data also showed that the Palestinian banking sector ranks at intermediate to advance level in terms of banking safety. Furthermore, FSIs have a significant impact on the market-to-book value ratio.

***Keywords*:** banking sector, Financial Soundness Indicators (FSIs), market-to-book ratio, market value, Palestine Stock Exchange (PEX)

JEL Codes: F37, G32, G21 ,G2

Introduction

Banks constitute a major part of the state's payments movement. It is natural for banks to be influenced by market risks and, in turn, affect them. Economists argue that banking problems can cause issues in other industries as well. If a crisis occurs within the banking sector, it can cascade to impact the companies dealing with the banks, a phenomenon known as the snowball effect. Therefore, the collapse of the banking system can have negative effects on the overall economy (Musdholifah & Hartono, 2018). The strength and resilience of the banking sector holds the utmost importance for all stakeholders in the economic ecosystem including

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depositors, employees, governments, and shareholders. The performance of the banking sector reflects the economic activities of a country (Kullab, 2018). Consequently, relevant national and international entities such as central banks, Palestinian monetary authorities, and even the International Monetary Fund (IMF) have shown a clear interest in establishing necessary indicators to ensure banking stability and financial soundness.

The developments following the Global Financial Crisis 2007-08 prompted various international entities, including the International Monetary Fund, the World Bank, and the Basel Committee, to search for new mechanisms to mitigate the risks of financial crises and safeguard the stability of financial sectors, particularly in the medium- and long-term (Almanaseer, 2023). Consequently, the focus on financial soundness policies increased. It was aimed to enhance the resilience of the financial sector, anticipate potential risks, and avoid them. At the local level, the Palestinian monetary authority serves as the future Central Bank of Palestine. It is responsible for the safety of the Palestinian banking system and is entrusted with regulatory and supervisory roles in the banking sector. Moreover, it effectively employs a range of comprehensive safety policy tools. Furthermore, it seeks to implement additional tools in line with international practices to achieve overall safety (Palestine Monetary Authority, 2015).

Financial soundness indicators or FSIs are considered crucial monitoring tools for assessing the financial system's ability to deal with capital flow fluctuations. They enable decision-makers to address weaknesses in a timely manner and prevent financial crises Bank soundness indicators reflect the financial and managerial performance of the banks. Investors and shareholders can use these indicators to assess a bank's ability to handle crises, achieve stability, and sustain profitability. Consequently, these indicators have a significant impact on investors' investment decisions and their orientation toward bank stocks, thereby influencing the bank’s market value.

Problem Statement

Palestinian commercial banks are actively enhancing their financial services to provide a wide spectrum of banking options within Palestine, aimed to establish competitive advantage on the domestic front. The competitive advantage of a bank is closely linked to its financial soundness

(Abusharbeh, 2020). Various stakeholders interact with the banking sector, including other sectors and individuals, such as customers and investors. The FSIs of the banks hold significant importance are important for these stakeholders. The significance of financial soundness data extends beyond the banks' customers and also includes employees and management within the banks themselves. The data primarily aims to provide these stakeholders with information that helps them to make investment, expansion, and regulatory decisions in order to ensure financial soundness. Consequently, it is natural for FSIs to attract investors toward investing in one of the banks, potentially impacting the market value of its shares.

This study aims to answer the following research question: What is the impact of Financial Soundness Indicators (FSIs) on the market value of listed banks on the Palestine Stock Exchange (PEX) during the period 2012-2021?

The main question branches out into the following sub-questions:

1. What is the impact of capital indicators on the market value of listed banks on PEX?
2. What is the impact of asset quality indicators on the market value of listed banks on PEX?
3. What is the impact of profitability and return indicators on the market value of listed banks on PEX?
4. What is the impact of liquidity indicators on the market value of listed banks on PEX?

Theoretical Framework

The Concept of Financial Soundness

Financial soundness is defined by the IMF as "the ability of banks to withstand adverse situations such as significant changes in bank policies, financial liberalization, natural disasters, and fulfill their obligations under challenging economic conditions by relying on their capital and reserves" (Ouma & Kirori, 2019). Youssef (2019) defined financial soundness as a set of precautionary regulatory measures used by the banks to ensure the soundness of their financial position, enabling them to avoid banking crises. There are several prudential early warning criteria used to measure the soundness of banking performance. These criteria are taken as indicators to

evaluate the performance of banks, classify them, and identify financial weaknesses before it is too late to prevent them from facing severe financial problems (Qattaf, 2019). Muthi (2020) viewed FSIs as a term referring to a set of measures that assess the financial soundness of financial institutions in a country. From this discussion, it can be concluded that FSIs are a set of financial standards that indicate a bank's ability to withstand economic instability, whether locally or internationally. Therefore, they can be defined as precautionary measures taken by banks to maintain their financial safety and ensure their stability amid unstable circumstances.

Importance of Financial Soundness

The importance of financial soundness lies in the fact that a sound banking system is a key channel used for implementing monetary and financing policies to achieve sustainable economic development (Ali et al., 2018). This is accomplished through adequate capital formation, efficient allocation of funds to investment projects, and via sound payment services and financial systems. A stable financial system improves economic performance and also prevents the negative effects of financial disruptions (Ibrahim et al., 2021).

Financial soundness in the banking sector is the cornerstone for achieving stability in the system that, when achieved, creates real opportunities for profits for developing economies. Therefore, commercial banks must be capable of maintaining their solvency and ensuring their safety because a country's economic development is reflected through the soundness of its banking system (Almahadin et al. 2020). The ability of commercial banks to weather crises warrants the stability of the state's financial system since financial soundness is not only a prerequisite for depositors but it is also crucial for shareholders, investors, employees, and the overall economy (Rahman, 2017).

Models and Indicators for Measuring Financial Soundness in the Banking Sector

There are several models and indicators developed by the IMF in addition to banking supervision and regulatory agreements aimed at enhancing banking and financial safety and stability, notably Basel III agreements. Some of these models include (Elliott & Elliott, 2022; Talhi, 2021).

Z-Score Model

This statistical method is widely used, particularly in advanced economies, to estimate financial position. Z-Score is a key indicator used to measure the financial stability of banks. A higher value of this indicator indicates a bank's lower probability of financial failure and, therefore, greater stability (Zarir & Al-Hamawi, 2016).

CAMELS Model

CAMELS stands for Capital adequacy, Asset quality, Management soundness, Earnings and profitability, Liquidity, and Sensitivity. It is a set of indicators used as an early warning tool in case of potential risks faced by the banking system. CAMELS indicators are used to assess the safety and soundness of individual financial institutions (Abusharbeh, 2020; Kullab & Yan, 2018).

Capital Adequacy

Capital adequacy is one of the most important ratios used to measure financial resilience. It refers to a situation where the average capital is capable of absorbing unexpected losses (Alkaffarna, 2020; Abusharbeh, 2020), thus reflecting the financial strength and safety of banks to instill confidence in stakeholders (Park et al., 2021).

The Palestinian Monetary Authority has set the capital adequacy ratio according to its guidelines (7/2009) at 12%. This ratio is higher than the ratio set by the Basel Committee which is 8%. This is due to the unique economic circumstances in Palestine (Palestine Monitory Authority-Publications, 2011)

Asset Quality

Asset quality reflects a bank's ability to distribute risks and recover from loan defaults by measuring the ratio of non-performing loans to total banking assets. Banks need to maintain a low level of non-performing loans, as high loan losses have a negative impact on bank profitability (Rahi & Salman, 2021).

Profitability

The profitability indicator predominantly assesses the bank's profitability, offering insights into sustainability and prospective profit growth. It demonstrates a bank's aptitude to generate income from its overall

assets. In alignment with Basel II, robust profits are regarded as indicative of financial strength. Typically, most prior research employed return on assets (ROA) as the profitability metric (Battisti & Campo, 2019; Khaghaany et al., 2019).

Liquidity Indicator

This indicator pertains to the bank's capacity to fulfill immediate obligations and unforeseen or irregular withdrawal demands by the depositors (Hassan, 2022). Consequently, the current study assesses a bank's liquidity position by considering its liquid assets (comprising cash on hand and funds in other financial institutions) as a percentage of its total assets (Rahi & Salman, 2021).

FSIs Adopted by the Palestine Monetary Authority

The Palestine Monetary Authority places a significant emphasis toward ensuring the safety and stability of the Palestinian banking system. To this end, it conducts assessments of banks' financial soundness utilizing the methodology prescribed by IMF. This assessment encompasses four primary dimensions namely capital indicators, asset quality indicators, return and profitability indicators, and liquidity indicators, as outlined in their annual reports (Palestine Monetary Authority- Publications, 2019).

The Financial Stability Report 2020, released by the Palestine Monetary Authority in July 2021 and containing its respective indicators, is available for review in the following table. (Palestine Monetary Authority-Publications, 2022).

Table 1

Financial Soundness Indicators (FSIs)

Capital Adequacy Indicators		
Indicator	References	Source
(Regulatory capital)/(risk-weighted assets)	(Al-Mousawi et al., 2018), (Youssef, 2019), (Bouherira, 2020), (Ibrahim et al., 2021), (Khemis, 2021), (Kullab & Yan, 2018), (Rahman, 2017), (Ouma & Kirori, 2019), (Abusharbeh, 2020), (Almahadin et al., 2020), (Salina et al., 2021)	Palestinian Monetary Authority

Indicator	References	Source
Nonperforming Loans Net of Provisions to Capital	(Bouherira, 2020), (Kullab & Yan, 2018).	Palestinian Monetary Authority
Asset Quality Indicators		
Nonperforming loans to total gross loans	(Youssef, 2019), (Bouherira, 2020), (Talhi, 2021), (Khemis, 2021), (Rahman, 2017), (Musdholifah & Hartono, 2018), (Ouma & Kirori, 2019), (Almahadin et al., 2020), (Rahi & Salman, 2021).	Palestinian Monetary Authority, CAMELS
Loan concentration by economic activity	(Rahman, 2017), (Musdholifah & Harton, 2018), (Ouma & Kirori, 2019)	Palestinian Monetary Authority,
Earnings and Profitability		
Net income is the one before taxes to total assets	(Youssef, 2019), (Bouherira, 2020), (Khemis, 2021), (Kullab & Yan, 2018), (Musdholifah & Hartono, 2018), (Abusharbeh, 2020), (Salina et al., 2021), (Rahi & Salman, 2021).	Palestinian Monetary Authority, CAMELS
Interest margin to gross income	(Al-Mousawi et al., 2018), (Bouherira, 2020), (Musdholifah & Hartono, 2018), (Ouma & Kirori, 2019).	Palestinian Monetary Authority, International Monetary Fund
Liquidity Indicators		
Liquid assets to total assets	(Youssef, 2019), (Bouherira, 2020), (Talhi, 2021), (Kullab & Yan, 2018), (Abusharbeh, 2020), (Salina et al., 2021).	Palestinian Monetary Authority, CAMELS

Market Value Indicators

Market value indicators are used to assess investments in company stocks, since financial reports do not disclose the market value of a company. Under the assumption of market efficiency, these indicators primarily rely on information concerning liquidity, leverage, and profitability ratios, reflecting a company's ability to maximize its stock price, especially since this price reflects the true value of a company's assets according to the market efficiency hypothesis (Siahaan et al., 2023). One of

the key ratios is the Market-to-Book Value ratio, which measures the efficiency of a company's performance in the financial market (Sha'at, 2019).

Literature Review and Hypothesis Development

Youssef (2019) examined the relationship between credit risks and FSIs of Kuwaiti banks during the period 2010-2016. The results showed a positive relationship between credit risks and FSIs which was measured using financial metrics. Bouherira (2020) examined the role of the Financial Sector Assessment Program (FSAP) in assessing the stability of the Palestinian financial sector during the period 2010-2019. The study found that despite the Palestinian economy facing a severe slowdown as well as the risk of decline, the financial sector exhibited strength and resilience. Ibrahim et al. (2021) investigated the impact of the COVID-19 pandemic on the FSIs of the banking sector in Egypt. They found statistically significant differences in certain indicators, particularly credit quality indicators including return on equity, liquid assets to total assets ratio, financial investments to total assets ratio, and the market-to-book value ratio of equity, which were the most affected by the repercussions of the COVID-19 pandemic.

Talhi (2021) evaluated the implementation of Basel III regulations in achieving financial soundness for the Belgian banking sector during the period 2012-2019. The study emphasized that the focus of Basel III on both partial and total prudential standards contributes to banking and financial safety. Hassan (2022) focused on the assessment of financial safety indicators and their influence on augmenting the banking sector's performance in Iraq during the financial period spanning 2016-2020. The study revealed that capital adequacy and liquidity ratios are among the crucial indicators of financial safety, reflecting financial resilience and the resilience of the banking sector against sudden financial shocks. These findings aligned with the findings of Ouma and Kirori (2019). The authors evaluated the financial soundness of small- and medium-sized commercial banks in Kenya for the period 2014-2017. They assessed financial soundness through the Total Liquidity Score (S-Score) as their main goal. The results showed that both small- and medium-sized commercial banks were financially sound during the fouryear study period.

Moreover, the findings of this study were relatively consistent with the findings of Salina et al. (2021), which aimed to assess the financial soundness of Kazakhstani banks for the period 2008-2014. The study identified several accounting indicators that influenced the financial soundness of banks using Principal Component Analysis (PCA). The authors selected five financial ratios as accounting indicators to assess the financial soundness of banks. The study demonstrated that these indicators served as reliable tools for the said purpose. Furthermore, previous studies also aligned with the research conducted by Almahadin et al. (2020), which analyzed the relationship between financial soundness and financial stability in Jordan (as an example of an emerging economy) for the period 2003-2018. The results showed that the Jordanian financial system is stable with relatively high values of the Z-Score, an indicator of financial stability. These findings are supported by Sit (2022). The study analyzed the impact of financial safety indicators on the financial performance of banks in Turkey for the period 2005-2019. The results showed a bi-directional relationship between the banking strength indicator and market value, as well as a one-way causal relationship from profitability ratios to banking strength. The study concluded that changes in market value and profitability ratios of banks lead to changes in banking safety.

The current study aligns with previous research in using financial safety indicators, such as CAMELS indicators and other financial ratios namely capital adequacy, asset quality, return and profitability, liquidity, and leverage to measure the financial safety of Palestinian banks. It also focuses on measuring the market share value of the banking sector in PEX, characterized by its instability and novelty, during the period 2012-2021.

Based on the theoretical framework and previous studies, the main hypothesis could be formulated as follows:

Main Hypothesis: There is a statistically significant impact of FSIs on the market-to-book value of banks listed on PEX.

From the main hypothesis, the following sub-hypotheses are derived:

H 1: There is a statistically significant impact of capital adequacy indicators on the market-to-book value of banks listed on PEX.

H 2: There is a statistically significant impact of asset quality indicators on the market-to-book value of banks listed on PEX.

H 3: There is a statistically significant impact of profitability indicators on the market-to-book value of banks listed on PEX.

H 4: There is a statistically significant impact of liquidity indicators on the market-to-book value of banks listed on PEX.

Methodology

The current study followed a descriptive-analytical methodology aimed at providing data and facts about the research problem in order to interpret and understand its implications.

Data were collected by utilizing the published financial statements of Palestinian public shareholding banks to obtain the necessary ratios for measuring the FSIs of these banks. Additionally, trading publications issued by the PEX were utilized to measure their market value for the period 2012-2021

Study Population

The study's target population encompassed all six (6) banks publicly listed on the PEX.

Table 2
Illustrates the Study Population

#	Bank Name	Symbol	Year of establishment
1	Arab Islamic Bank	AIB	1995
2	Islamic Bank of Palestine	ISBK	1995
3	Palestine Investment Bank	PIC	1994
4	Bank of Palestine	BOP	1960
5	Bank of Jerusalem	QUDS	1995
6	The National Bank	TNB	2005

Study Variables

Independent Variable: The Palestine Monetary Authority primarily focuses on FSIs related to the banking sector, based on the IMF's framework. These indicators are categorized into four sub-groups namely capital, assets, profitability, and liquidity (Abusharbeh, 2020; Ouma & Kirori, 2019).

Capital Indicators

Capital is a crucial tool that enhances the banks' ability to withstand financial and economic shocks and the associated high risks they may encounter (Arab Monetary Fund, 2021). It is expressed as follows:

Capital Adequacy Ratio (CAR)

Table 3 below illustrates the capital adequacy levels for each of the banks listed on PEX. The average Capital Adequacy Ratio (CAR) for Palestine over the period 2012-2021 amounted to 18%. Regarding the average CAR within the Palestinian banking sector, it consistently maintained a strong level throughout the period 2021-2012, with ratios higher than the international standard set by Basel III. This indicates the Palestinian banking sector's high solvency and its capacity to absorb potential losses. It is worth noting that this ratio exhibited some fluctuations year to year among the banks listed on PEX. There was a gradual decline in CAR over the study years, decreasing from 22.7% in 2012 to 16.00% in 2021. This trend is considered normal due to the continuous growth of capital and assets, along with the increasing loan facilities, which raise the value of risk-weighted assets. These findings aligned with the study conducted by (Kullab and Yan, 2018), when the overlapping period between both studies (2017-2012) was compared. Additionally, comparing this ratio with some Arab countries makes it evident that Palestine occupies an intermediate position. According to the Arab Monetary Fund's report on financial solvency indicators, Iraqi, Mauritanian, and Libyan banks ranked first and second with CAR of 41.9% and 20.7% respectively in 2020. On the other hand, Sudanese banks had the lowest ratio, reaching 12.7%. It is worth noting that all the rates for Arab countries exceeded the internationally applied Basel III ratio of 10.5% (Arab Monetary Fund, 2021).

Table 3

Capital Adequacy of Banks Listed on PEX

Bank Name	Arab Islamic Bank	Palestinian Islamic Bank	The National Bank	Palestine Investment Bank	Bank of Jerusalem	Bank of Palestine	Average
2021	0.136	0.143	0.152	0.237	0.141	0.152	0.160
2020	0.134	0.146	0.126	0.226	0.137	0.142	0.152
2019	0.131	0.130	0.142	0.321	0.140	0.141	0.168
2018	0.154	0.126	0.152	0.274	0.130	0.149	0.164
2017	0.159	0.127	0.160	0.269	0.130	0.147	0.165

Bank Name	Arab Islamic Bank	Palestinian Islamic Bank	The National Bank	Palestine Investment Bank	Bank of Jerusalem	Bank of Palestine	Average
2016	0.142	0.135	0.149	0.291	0.136	0.147	0.167
2015	0.142	0.135	0.175	0.323	0.163	0.145	0.180
2014	0.155	0.164	0.204	0.346	0.170	0.131	0.195
2013	0.189	0.216	0.163	0.355	0.237	0.140	0.217
2012	0.189	0.298	0.205	0.315	0.225	0.132	0.227
Average	0.153	0.162	0.163	0.296	0.161	0.143	0.180

Non-Performing Loans to Capital Ratio

Table 4 illustrates that the Non-Performing Loan (NPL) ratio for the banks listed on PEX reached 5.84% at the end of the year 2021. It is noteworthy that this ratio experienced successive fluctuations over time. It declined from 6.55% in 2013 to 4.64% by the end of 2015. However, it rebounded to 9.51% in 2017 before receding in 2018 and then rising again in the following year. This suggests that the NPL ratio is influenced by surrounding political and economic factors.

The researchers explained the decrease in the NPL ratio in 2020, despite the adverse impact of the pandemic on all economies, as being attributed to the increase in banks' core capital to mitigate potential risks arising from the pandemic. Additionally, there was an increase in the coverage ratio of provisions for impaired facilities to 80.4% of these facilities.

When this ratio is compared with other Arab countries, it becomes apparent that Palestine is among the countries characterized by a relatively low NPL ratio in relation to its capital adequacy.

Table 4

Net Non-Performing Loans (NPL) to Capital Ratio for Banks Listed on PEX

Bank Name	Islamic Arab Bank	Palestinian Islamic Bank	National Bank	Palestinian Investment Bank	Bank of Jerusalem	Bank of Palestine	General Index
2021	0.0827	0.1492	0.2589	0.1487	-0.0187	-0.0162	0.0584
2020	0.0594	0.0946	0.2660	0.1154	0.0183	0.0434	0.0937
2019	0.0841	0.1606	0.2094	0.0893	0.0630	0.0733	0.1080
2018	0.0060	0.0864	0.1006	0.0520	0.0472	0.0412	0.0543
2017	0.0333	0.0979	0.1230	0.0405	0.1124	0.1109	0.0951
2016	0.0316	0.0370	0.0367	0.0185	0.0772	0.0728	0.0558
2015	0.0361	0.0436	0.0355	0.0390	0.0807	0.0461	0.0464
2014	0.0499	0.0278	0.0282	0.0830	0.0965	0.0697	0.0619

Bank Name	Islamic Arab Bank	Palestinian Islamic Bank	National Bank	Palestinian Investment Bank	Bank of Jerusalem	Bank of Palestine	General Index
2013	0.0271	0.0507	0.0274	0.0340	0.1377	0.0782	0.0655
2012	0.0460	0.0727	0.0217	0.0747	0.1512	0.0431	0.0617
Average (Mean)	0.0456	0.0821	0.1107	0.0695	0.0766	0.0563	0.0725

Asset Quality Indicators

The majority of financial distress risks for banks are related to the quality of assets and the ability to liquidity these assets (Abu Zaytoun, 2019). It is expressed as follows:

Net Non-Performing Loans to Total Credit Facilities Ratio (Net NPL Ratio)

Table 5 makes it evident that the average NPL ratio in Palestine exhibited fluctuations over the years and demonstrated variability among different banks. In terms of banks, Arab Islamic Bank achieved the best average ratio of NPLs over the ten-year study period at 1.2%. While, Palestine Investment Bank fared the worst, with an average NPL ratio of 5.1% over the same period.

Over the years, the NPL ratio decreased from 3.3% in 2012 to 1.6% in 2016, indicating an improvement in asset quality. However, this ratio started to rise again and reached 5.1% in 2021, reflecting the impact of the COVID-19 pandemic on cash flows for individuals and businesses. The measures taken by the monetary authority, such as deferring payments for those affected by the pandemic, helped to control the NPL ratio and kept it within acceptable levels.

Table 5

Net Non-Performing Loans to Total Credit Facilities Ratio for Banks Listed on PEX

Bank Name	Arab Islamic Bank	Islamic Palestinian Bank	National Bank	Palestine Investment Bank	Bank of Jerusalem	Bank of Palestine	Average (Mean)
2021	0.021	0.052	0.077	0.066	0.043	0.047	0.051
2020	0.015	0.037	0.057	0.050	0.047	0.051	0.043
2019	0.017	0.044	0.044	0.051	0.045	0.047	0.041
2018	0.006	0.031	0.032	0.034	0.036	0.037	0.029
2017	0.007	0.022	0.024	0.026	0.022	0.027	0.021

Bank Name	Arab Islamic Bank	Islamic Palestinian Bank	National Bank	Palestine Investment Bank	Bank of Jerusalem	Bank of Palestine	Average (Mean)
2016	0.006	0.015	0.013	0.024	0.017	0.020	0.016
2015	0.008	0.012	0.014	0.038	0.020	0.017	0.018
2014	0.013	0.012	0.016	0.071	0.026	0.022	0.027
2013	0.011	0.017	0.016	0.063	0.038	0.022	0.028
2012	0.015	0.027	0.020	0.086	0.038	0.015	0.033
Average (Mean)	0.012	0.027	0.031	0.051	0.033	0.031	0.031

Credit Facilities to Total Assets Ratio

According to Table 6, the average credit facilities to total assets ratio for the banks listed on PEX over the ten-year study period (2012-2021) was 53.01%. This ratio fluctuated based on economic activity, as it increased from 47.06% in 2012 to 53.79% in 2021.

Table 6

Credit Facilities to Total Assets Ratio for Banks Listed on PEX

Bank Name	Arab Islamic Bank	Palestinian Islamic Bank	National Bank	Investment Bank	Bank of Jerusalem	Bank of Palestine	Average
2021	0.5829	0.5375	0.5376	0.4289	0.6101	0.5306	0.5379
2020	0.6069	0.5859	0.6154	0.4599	0.6063	0.5623	0.5728
2019	0.5957	0.5858	0.5899	0.4503	0.5937	0.5667	0.5637
2018	0.6416	0.6166	0.6024	0.4795	0.5753	0.5770	0.5821
2017	0.5388	0.6130	0.6058	0.4750	0.6122	0.5156	0.5601
2016	0.5416	0.6674	0.5869	0.5145	0.6418	0.5371	0.5815
2015	0.4786	0.6611	0.4898	0.4322	0.5377	0.4986	0.5163
2014	0.4398	0.5930	0.4394	0.3184	0.5022	0.4750	0.4613
2013	0.4072	0.5352	0.4311	0.3441	0.5395	0.4700	0.4545
2012	0.4578	0.4950	0.4069	0.3677	0.6090	0.4871	0.4706
Average	0.5291	0.5890	0.5305	0.4271	0.5828	0.5220	0.5301

Profitability Indicators

Profitability indicators reflect the results of banking activities during a specific period. They can be indicated through the following measures.

Return on Assets (ROA)

Table 7 illustrates the level of Return on Assets (ROA) for each bank among the banks listed on PEX. The table shows relative stability in ROA within the banking sector. It also indicates that some banks experienced a decline in profits while others saw an increase for the study period, confirming that competition among them is a narrow local competition, primarily reliant on the local economy and employee salaries. Comparing bank profitability, the Bank of Palestine takes the lead with a rate of 1.2%. Conversely, both the Arab Islamic Bank and the National Bank along with the Palestinian Investment Bank have been consistently improving their performance at the expense of a declining trend for the Bank of Palestine.

Furthermore, a significant decrease in the average ROA for the year 2020 can be observed, reflecting the impact of the COVID-19 pandemic on Palestinian banks.

Table 7

Return on Assets (ROA) for Banks Listed on PEX

Bank Name	Arab Islamic Bank	Palestinian Islamic Bank	National Bank	Palestinian Investment Bank	Bank of Jerusalem	Bank of Palestine	Average
2021	0.007	0.008	0.009	0.005	0.009	0.009	0.008
2020	0.005	0.007	0.000	0.006	0.008	0.004	0.005
2019	0.007	0.011	0.007	0.009	0.006	0.007	0.008
2018	0.007	0.014	0.008	0.009	0.010	0.012	0.010
2017	0.006	0.014	0.009	0.009	0.010	0.011	0.010
2016	0.008	0.016	0.008	0.010	0.011	0.013	0.011
2015	0.008	0.015	0.007	0.005	0.010	0.015	0.010
2014	0.007	0.013	0.007	0.009	0.011	0.017	0.010
2013	0.007	0.013	0.007	0.007	0.009	0.017	0.010
2012	0.002	0.014	0.006	0.007	0.007	0.019	0.009
Average	0.006	0.012	0.007	0.008	0.009	0.012	0.009

Non-Interest Income Margin

Table 8 illustrates the level of non-interest income margin for each of the banks listed on PEX. The table shows that the Bank of Jerusalem leads with a rate of 17.7%. It is also evident from the table that the non-interest income margin declined in the initial years of the study, from 15.2% in 2012 to 13.1% in 2018. There was a significant decrease in this margin during

the years 2019 and 2020. This forced banks to reduce their non-operational activities. This explains the subsequent increase in this indicator to 14.3% in the year 2021 after the decline caused by the pandemic.

Table 8

Non-Interest Income Margin for Banks Listed on PEX

Bank Name	Arab Islamic Bank	Islamic Palestinian Bank	National Bank	Palestine Investment Bank	Bank of Jerusalem	Bank of Palestine	Average
2021	0.101	0.113	0.180	0.112	0.207	0.147	0.143
2020	0.101	0.096	0.061	0.123	0.210	0.112	0.117
2019	0.095	0.107	0.086	0.095	0.144	0.123	0.108
2018	0.108	0.184	0.111	0.087	0.234	0.145	0.145
2017	0.140	0.114	0.146	0.097	0.168	0.173	0.140
2016	0.130	0.131	0.130	0.094	0.144	0.160	0.131
2015	0.146	0.124	0.130	0.114	0.180	0.155	0.141
2014	0.170	0.132	0.155	0.176	0.162	0.148	0.157
2013	0.164	0.110	0.149	0.176	0.157	0.116	0.145
2012	0.131	0.117	0.128	0.198	0.163	0.176	0.152
Average	0.128	0.123	0.128	0.127	0.177	0.145	0.138

Liquidity

Liquidity indicators reflect the adequacy of liquid assets that enable banks to meet their obligations without incurring losses (Abu Zaytoun, 2019: 14) . It is expressed as follows:

Liquid Assets to Total Assets Ratio

As shown in Table 9, the liquidity index has experienced a decline since 2014, a trend attributed by the researchers to the environment of uncertainty in Palestine. This situation has adverse implications for both the economic and political aspects of the region, given Israel's control over the movement of people, goods, and funds.

The average liquidity ratio for all banks during the past ten years stood at approximately 36.0%. This ratio remained relatively stable throughout the study period. Nonetheless, banks with higher liquidity levels have been granted higher rankings. Based on this analysis, Palestinian Investment Bank emerges as the top-ranking bank based on an average liquidity ratio

of 43.4% for ten years. In contrast, other banks fall within the medium range.

Table 9

Liquid Assets to Total Assets Ratio for Banks Listed on PEX

Bank Name	Arab Islamic Bank	Palestinian Islamic Bank	National Bank	Palestinian Investment Bank	Bank of Jerusalem	Bank of Palestine	Average
2021	0.347	0.391	0.376	0.490	0.289	0.394	0.381
2020	0.315	0.343	0.290	0.430	0.306	0.357	0.340
2019	0.309	0.334	0.296	0.375	0.327	0.334	0.329
2018	0.255	0.298	0.288	0.372	0.340	0.311	0.311
2017	0.330	0.311	0.266	0.401	0.306	0.380	0.333
2016	0.330	0.264	0.289	0.331	0.264	0.345	0.304
2015	0.416	0.264	0.388	0.416	0.362	0.361	0.368
2014	0.462	0.338	0.464	0.566	0.374	0.383	0.431
2013	0.316	0.390	0.455	0.504	0.345	0.421	0.405
2012	0.311	0.444	0.478	0.451	0.299	0.405	0.398
Average	0.339	0.338	0.359	0.434	0.321	0.369	0.360

The dependent variable is the market-to-book ratio, which is used as an indicator of growth opportunities. Table 10 illustrates this ratio for each bank listed on PEX.

Based on the data presented in Table 10, the Bank of Palestine achieves the highest market-to-book ratio with an average of 1.428.

Table 10

Market-to-Book Ratio for Banks Listed on PEX

Bank Name	Arab Islamic Bank	Palestinian Islamic Bank	National Bank	Palestinian Investment Bank	Bank of Jerusalem	Bank of Palestine	Average
2021	1.260	1.165	1.148	0.128	1.078	0.877	0.943
2020	1.170	1.025	0.627	0.144	1.105	0.792	0.810
2019	1.238	1.257	0.770	0.197	1.250	0.947	0.943
2018	1.076	1.267	0.685	0.200	1.410	1.114	0.959
2017	1.234	1.353	1.414	0.196	1.411	1.178	1.131
2016	1.030	1.121	1.541	0.177	0.823	1.280	0.995
2015	1.123	0.982	1.328	0.177	0.929	1.717	1.043
2014	0.819	0.896	1.144	0.171	0.687	1.599	0.886

Bank Name	Arab Islamic Bank	Palestinian Islamic Bank	National Bank	Palestinian Investment Bank	Bank of Jerusalem	Bank of Palestine	Average
2013	0.899	1.213	1.062	0.162	0.762	1.905	1.000
2012	0.767	0.831	0.875	0.186	0.776	1.813	0.875
Average	1.062	1.111	1.059	0.174	1.023	1.322	0.959

Results

Table 11 presents the results of the K-S test for various indicators, showing their *p*-values. For the indicators 'Direct Credit Facilities to Total Assets', 'Non-Interest and Non-Commission Income to Total Income', and 'Liquid Assets to Total Assets', the *p*-values are greater than 0.05. This indicates that the data for these indicators follows a normal distribution, thus allowing the use of parametric tests.

However, indicators such as 'Capital Ratios', 'Non-Performing Loans to Total Capital', 'Return on Assets', 'Liquid Assets to Total Liabilities', and 'Market-to-Book Ratio' have *p*-values less than 0.05, suggesting that their data does not follow a normal distribution. Despite this, the sample size of 60 observations meets the Central Limit Theorem's requirements (Bagozzi & Yi, 2012), making the data approximately normally distributed. Therefore, parametric tests can still be applied to these indicators.

Table 11

1-Sample Kolmogorov-Smirnov Test

Indicator	Z-value	Significance Level
CAR	0.203	0.000
Non-Performing Loans/ Total Capital	0.154	0.001
Asset Quality Indicator	0.147	0.002
Direct Credit Facilities/ Total Assets	0.112	0.060
Profitability Indicator	0.127	0.017
Non-Interest and Non-Commission Income to Income	0.089	0.200
Liquidity Quality Indicator	0.109	0.072
Dependent Variable - Market-to-Book Ratio	0.123	0.024

Regression Assumptions Suitability Test

To ensure the suitability of data for multiple regression analysis, it was verified that there is no strong correlation between independent variables by conducting the multicollinearity test.

Table 12 illustrates that the VIF values for all independent and modified variable indicators are below 10. Further, the tolerance values for these variables are greater than 0.05. This indicates that there is no significant multicollinearity between independent variables.

Table 12

Results of Variance Inflation Factor (VIF) and Tolerance for Multicollinearity Testing

Indicator	Tolerance	VIF
CAR	0.400	2.499
Non-Performing Loans/ Total Capital	0.581	1.722
Asset Quality Indicator	0.436	2.294
Direct Credit Facilities/ Total Assets	0.158	6.336
Profitability Indicator	0.793	1.261
Non-Interest and Non-Commission Income to Income	0.714	1.400
Liquidity Quality Indicator	0.201	4.980

Hypotheses Testing

H1: *There is a statistically significant impact of capital adequacy indicators on the market-to-book value of banks listed on PEX.*

Multiple regression analysis was used to measure the effects of two capital indicators, namely CAR and NPL to capital ratio, on the market-to-book ratio. Table 13 demonstrates the correlation between these factors and the market-to-book ratio (0.782) which indicates a statistically significant relationship. These two capital indicators collectively explain 61.1% of the variation in the market-to-book ratio. Additionally, the probability value for this model is 0.000, which is less than 0.05. Hence, the first hypothesis is accepted. This indicates that capital indicators have a statistically significant effect on the market-to-book ratio.

The regression coefficients for both capital indicators remain negative, suggesting that both CAR and NPL to capital ratio have an inverse impact on the market-to-book ratio. This observation seems reasonable from the

researchers' perspective. An increase in NPL to capital ratio would raise credit risks, leading investors to be less inclined to invest in a particular bank's stocks, ultimately reducing its market-to-book ratio. This is consistent with the results of Sit (2022) which demonstrated a bilateral relationship between financial safety indicators and market value.

Table 13

Impact of Capital Indicators on the Market-to-Book Ratio for Banks Listed on PEX

Market/ Book Ratio	Regression Coefficient (B)	*t*-value	*p*-value
Intercept (Constant)	2.028	16.302	0.000
CAR	-5.501	-9.430	0.000
Non-Performing Loans/ Total Capital	-1.112	-1.711	0.092
MBV = 2.028 - 5.501 * CR1 - 1.112 * CR2	-	-	-
Correlation Coefficient	Determination Coefficient	*F*-Value	*p*-Value
0.782	0.611	44.833	0.000

H 2*: There is a statistically significant impact of asset quality indicators on the market-to-book value of banks listed on PEX.*

Table 14 shows a statistically significant and positive relationship between these factors and the market-to-book ratio with a correlation coefficient of 0.614. Together, the asset quality indicators explain 37.7% of the variation in the market-to-book ratio. The *p*-value for this model is 0.001, which is less than 0.05. Hence, the second hypothesis is accepted, suggesting that asset quality indicators have a statistically significant impact on the market-to-book ratio.

The regression coefficient for NPL to total loans remains negative, indicating an inverse relationship with the market-to-book ratio. On the other hand, the regression coefficient for total loans to total assets is positive, indicating a positive relationship with the market-to-book ratio. This suggests that an increase in NPL to total loans ratio is an indicator of higher credit risks, leading to a decrease in the market-to-book ratio. These findings align with the findings of Rahi and Salman (2021) which showed

a strong impact of bank safety indicators, including asset quality, on the stock performance of banks.

Table 14

Impact of Asset Quality Indicators on the Market-to-Book Ratio for Banks Listed on PEX

Market/ Book Ratio	Regression Coefficient (B)	*t*-test value	*p*-Value
Constant	0.303	0.847	0.400
Non-Performing Loans/Total Loans	-9.681	-3.690	0.001
Total Loans/ Total Assets	1.799	2.935	0.005
MBV = 0.303 - 9.681 * AQ1 + 1.799 * AQ2			
Correlation Coefficient (R)	0.587	Determination Coefficient (R^2)	0.345
F-Test Value	15.015	*p*-Value	0.000

H 3: *There is a statistically significant impact of profitability indicators on the market-to-book value of banks listed on PEX.*

Table (15) shows a statistically significant relationship between these indicators and the market-to-book ratio with a correlation coefficient of 0.485. These profit quality indicators collectively explain 23.5% of the variation in the market-to-book ratio. The *p*-value for this model is 0.000, which is less than 0.05. Hence, the third hypothesis is accepted. This indicates that profit quality indicators have a statistically significant impact on the market-to-book ratio.

Furthermore, the regression coefficients for both profit quality indicators remain positive, suggesting a positive relationship. According to the researchers' perspective, this can be attributed to the banks' efficiency in managing their assets through more profitable investments and lower risks. This finding aligns with the findings of Rahi and Salman (2021) and Sit (2022) which demonstrated a strong correlation between banking safety indicators, particularly profit quality, and the performance of bank stocks.

Table 15

Impact of Profitability Indicators on the Market-to-Book Ratio for Banks Listed on PEX

Market/ Book Ratio	Regression Coefficient (B)	*t*-Test Value	*p*-Value
Constant	0.269	1.188	0.240
Return on Assets	53.746	3.778	0.000
Non-Interest Income/ Total Income	1.455	0.964	0.339
$MBV=0.269+53.746ER_1+1.455ER_2$			
Correlation Coefficient (R)	0.485	Determination Coefficient (R^2)	0.235
F-Test Value	8.770	p-Value	0.000

H 4: *There is a statistically significant impact of liquidity indicators on the market-to-book value of banks listed on PEX.*

Table 16 indicates a statistically significant correlation between the liquidity ratio and the market-to-book ratio with a correlation coefficient of 0.351. This shows that the liquidity ratio explains 12.3% of the variation in the market-to-book ratio. The *p*-value for this model is 0.006, which is less than 0.05. Hence, the fourth hypothesis is accepted. Thus, the liquidity indicator has a statistically significant impact on the market-to-book ratio. Furthermore, the regression coefficient for the liquidity ratio remains negative, indicating an inverse relationship. From the researchers' perspective, high liquidity rates reflect higher risks for the banks which forces them to hold larger cash assets. This finding aligns with the findings of Salina et al. (2021) and Hassan (2022).

Table 16

Effect of Liquidity Ratio on the Market-to-Book Ratio for Banks Listed on PEX

Market/ Book Ratio	Regression Coefficient (B)	*t*-Test Value	*p*-Value
Constant	1.788	6.060	0.000
Liquid Assets/ Total Assets	-2.303	-2.859	0.006
MBV = 1.787 - 2.301 * LA			

Correlation Coefficient (R)	0.351	Determination Coefficient (R^2)	0.123
F-Test Value	8.172	p-Value	0.006

Conclusion

Based on data analysis and hypotheses testing, the current study concludes that the banks listed on PEX maintained a good level of capital adequacy during the period 2011-2022, with higher ratios as compared to Basel III. In comparison with other Arab countries, Palestine ranks at a moderate level within the Arab banking sector. Similarly, if the ratio of NPL to total capital is compared with other Arab countries, Palestine is among the countries with a lower ratio of NPL to capital.

The capital indicators of banks listed on the Palestine Stock Exchange significantly influenced the market-to-book ratio. Specifically, capital adequacy exhibited a statistically significant inverse correlation with the market-to-book ratio, whereas the influence of the ratio of non-performing loans to total capital was comparatively weak.

Asset quality indicators demonstrated a statistically significant influence on the market-to-book ratio. The ratio of non-performing loans to total loans exhibited an inverse effect on the market-to-book ratio, whereas the ratio of total loans to total assets had a positive impact on the market-to-book ratio.

Profitability indicators displayed a statistically significant influence on the market-to-book ratio. Notably, return on assets showed a statistically significant positive impact on the market-to-book ratio, while the ratio of non-interest income to total income had a comparatively weaker effect.

The quality of liquidity, as indicated by the ratio of liquid assets to total assets, exhibited a statistically significant negative impact on the market-to-book ratio.

Recommendations

Based on the findings, it is essential to conduct annual classification of all Palestinian banks based on safety indicators using weighted averages, instead of classifying them based on separate indicators. This would enable the investors to understand and rely on this classification when making decisions. Although, banks listed on PEX must adhere to the guidelines issued by the Palestine Monetary Authority, which are aimed at achieving

banking safety. Still, it is important not to overestimate provisions, as this may create negative indicators for investors. Simultaneously, it is imperative to develop an information system within banks that facilitates the analysis of all components of the CAMELS system quickly and ensures the easy transfer of information, especially regarding risks and identifying weaknesses. This is crucial for its effective management and handling. Further, regular stress tests should be conducted to ensure the financial safety and resilience of banks, allowing them to withstand any potential shocks.

By implementing these recommendations, Palestinian banks can enhance their safety measures and financial performance, thereby instilling confidence in investors and contributing to the stability and growth of the banking sector in Palestine.

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