University of Tehran Press

Interdisciplinary Journal of Management Studies (IJMS)

Online ISSN: 2981-0795

Home Page: https://ijms.ut.ac.ir

The Combined Influence of Market Concentration and Shares on Banking Performance: Insights from Jordan

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ARTICLE INFO

Article type:
Research Article

Article History:
Received 10 October 2024
Revised 18 April 2025
Accepted 27 April 2025
Published Online 04 September 2025

Keywords:
Jordanian banks,
Market concentration,
Market shares,
Relative market power,
Structure conduct performance.

ABSTRACT

This study investigates how market shares and concentration affect banks' performance on the Amman Stock Exchange. We employed regression analysis on a complete dataset from 2012 to 2022. We look at the Herfindahl-Hirschman Index (HHI) to analyse how market concentration and each bank's share affect their performance. The research findings indicated a positive relationship between market shares and banks' performance, as well as a positive relationship between market concentration and banks' performance. These results support the structure-conduct-performance (SCP) and relative market power (RMP) hypotheses. The findings have significant implications for policymakers, regulators, and banking practitioners aiming to enhance the banking sector's efficiency, competitiveness, and resilience in emerging markets.

Cite this article: Habaibeh, R.; Alkhalaileh, M. & Al-Mohareb, M. (2025). The Combined Influence of Market Concentration and Shares on Banking Performance: Insights from Jordan. *Interdisciplinary Journal of Management Studies* (*IJMS*), 18 (4), 791-806. http//doi.org/10.22059/ijms.2025.383545.677089

 Publisher: University of Tehran Press.
DOI: http//doi.org/10.22059/ijms.2025.383545.677089

1. Introduction

The market structure comprises two main elements: market concentration and market share. Market concentration refers to the dominance of one or more firms (banks) within a particular industry, while market share reflects a company's capacity to meet market demand. High market concentration can foster anti-competitive dynamics among dominant banks as they compete for profit. Conversely, banks with substantial market shares often have the capacity to generate supernormal profits, leading to improved performance (Sakti, 2020). However, despite extensive research on this relationship across various economies, the applicability of established theories to emerging markets remains insufficiently explored.

From a theoretical perspective, Berger (1995) proposed the Structure-Conduct-Performance (SCP) hypothesis, which suggests that market concentration enhances profitability when large firms are able to exploit their market power. In contrast, the Relative Market Power (RMP) hypothesis, introduced by Smirlock (1985), argues that financial performance improves due to individual firms' market dominance rather than overall market concentration. While these theories have been widely studied, their validity in emerging markets remains uncertain, particularly in economies characterised by regulatory constraints, market inefficiencies, and geopolitical uncertainties, which distinguish them from the developed markets previously examined.

In the banking sector of emerging markets today, understanding the relationship between market share, market concentration, and bank performance is essential for informing strategic decisions and shaping regulatory policies (Abdesslem et al., 2023). Market dynamics are often influenced by some financial institutions that control a large portion of the market, raising important questions about how this structure impacts their financial performance. The academic literature presents mixed findings on whether market concentration and market share affect bank performance positively or negatively (Elfeituri, 2018; Genchev, 2012; Mirzaei et al., 2013; Moudud-Ul-Huq, 2021; Saif-Alyousfi et al., 2020; Zhang et al., 2013). This divergence highlights a significant gap in our understanding of the relationship between market structure and bank performance.

This study contributes to the literature by offering a nuanced examination of the SCP and RMP hypotheses within Jordan's banking sector—an emerging economy characterised by unique regulatory structures, economic dependencies, and financial market constraints. It explores the impact of market concentration and market share on bank performance in a relatively small and concentrated banking system that faces distinct structural and regulatory challenges. This context differs from previous studies, which have primarily focused on developed countries or large emerging markets. Furthermore, earlier research has largely examined economies with either highly liberalised financial systems or explicit state intervention, whereas Jordan represents a hybrid case where partial financial liberalisation coexists with strong regulatory oversight.

In Jordan, an ongoing debate surrounds the impact of market share on bank performance. Although limited, existing research offers varying assessments of the significance of this factor in determining banks' profitability and operational efficiency. This knowledge gap hinders policymakers and stakeholders in the banking sector from formulating effective and competitive strategies to enhance performance. Unlike previous studies, this research examines how Jordan’s economic policies, financial market regulations, and institutional characteristics influence the relationship between market structure and financial performance.

The significance of this study lies in its potential to inform the development of strategic policies for the banking industry within a developing economic environment, aimed at stimulating economic growth in Jordan. Businesses in Jordan—particularly small and medium-sized enterprises—depend heavily on credit facilities provided by banks to finance their daily operations and expansion projects. According to the Association of Banks in Jordan (2022), the banking sector serves as a key financial intermediary, supporting various economic sectors through lending, thereby contributing to overall economic growth. Therefore, addressing the research gap concerning the relationship between market structure and banking performance in Jordan can offer valuable insights for policymakers and banking sector stakeholders in designing effective and competitive strategies to enhance performance.

This study investigates the relationship between market share, market concentration, and banking performance in Jordan. Successive Jordanian governments have made consistent efforts to create a secure business environment by enacting laws that support capital market development, closely

monitoring accounting practices and enforcing regulations to prevent mergers and acquisitions that could undermine competition (Gutiérrez-Ponce et al., 2022). As a result, this study expects to find a positive relationship between market concentration, market share, and bank performance, offering valuable insights to support more informed decision-making within the banking sector.

This study employed a sophisticated analytical approach by combining the Herfindahl-Hirschman Index (HHI), originally proposed by Hirschman (1945) and later refined by Herfindahl (1950), with a segmented data analysis of Jordanian banks over ten years (2012–2022). This methodology departs from prior research by offering a disaggregated analysis that distinguishes between different market segments and competitive structures, rather than treating the banking sector as a homogeneous entity. All banking data were extracted from the Amman Stock Exchange (ASE) database. Additionally, SPSS software was employed to apply advanced statistical techniques to examine the interaction between market share, market concentration, and regulatory measures, thereby deepening our understanding of banking dynamics in emerging economies.

The findings of this research are expected to provide policymakers with empirical evidence to strengthen banking regulations, promote competition, and optimise financial performance in Jordan's banking sector. This study does not simply replicate existing models but refines their applicability to an underexplored market, offering insights that may also be relevant to other economies with similar financial and regulatory environments.

We organise the rest of the paper as follows: Section 2 presents the literature review and hypothesis development, while Section 3 outlines the methodology and data used. Section 4 presents the study's results, followed by a discussion of the findings in Section 5. Finally, Section 6 concludes the research and highlights the key theoretical and practical implications.

2. Literature Review and Developing Hypothesis

2-1. Theoretical Background

Over the past few decades, developing economies have undergone radical transformations due to economic reforms and market liberalisation. These changes have significantly impacted the banking sector, with issues such as capital regulation, foreign bank entry, privatisation, risk management, corporate governance, and ownership structures drawing extensive research interest. The SCP hypothesis and the RMP hypothesis are the two primary theoretical frameworks used to examine the relationship between market structure and bank performance in empirical literature.

The SCP hypothesis posits that higher market concentrations lead to profit-enhancing monopolistic behaviour. This framework suggests that increased concentration allows firms to exert greater market power, resulting in higher profits by controlling prices or reducing competitive costs (Berger, 1995; Moudud-Ul-Huq, 2021). The SCP hypothesis consists of three interrelated components: (i) market structure, which represents characteristics such as concentration ratios and market shares; (ii) firm behaviour, including operating strategies such as cost and risk management; and (iii) market performance, which relates to profitability and operational efficiency. Several studies have confirmed the validity of the SCP hypothesis. For instance, Alharbi (2017) found that market concentration plays a crucial role in determining bank performance. Mohammed et al. (2015) supported the SCP hypothesis in monopolistic environments, while Apergis and Polemis (2016) demonstrated that increased competition may not always lead to improved efficiency. However, Berger and Hannan (1989) argued that this framework is not always effective at explaining performance in certain markets. For example, Claessens and Laeven (2004) indicated that markets with high concentration might be less efficient due to a lack of competition.

In contrast, the RMP hypothesis posits that banks with larger market shares enjoy competitive advantages that allow them to improve their financial performance by influencing prices and exploiting economies of scale. This perspective suggests that market dominance, resulting from a large market share, enables banks to enhance their operational efficiency and profitability (Smirlock, 1985). Tools such as the Herfindahl-Hirschman Index (HHI) are commonly used to measure market concentration, providing a means to assess the level of competition among banks, ranging from perfect competition to monopoly (Besanko et al., 2017). Empirical research has supported this hypothesis in various contexts. Studies by Ovi et al. (2014) and Gasaymeh et al. (2014) demonstrated that large market shares positively contribute to financial performance, particularly in environments

characterized by limited competition. However, some researchers argue that this hypothesis may not fully explain performance in emerging markets due to differences in economic and regulatory conditions.

Despite the important insights the SCP and RMP hypotheses offer into the relationship between market structure and performance, their applicability in developing economies such as Jordan remains underexplored. Various regulatory, market, and geopolitical factors influence Jordan, a small and open economy, making it essential to conduct a thorough examination of their impact on the market. This study fills a gap in the research by combining both theories to explore how market concentration and market share affect banks' financial performance in Jordan, considering the unique characteristics of the local market and recent economic reforms.

2-2. Literature Review

2-2-1. Evidence and Contextual Variation in the SCP and RMP Hypotheses

In the context of examining the impact of market shares and market concentration on bank performance, it is important to review previous studies that have explored this topic. The SCP hypothesis asserts that market concentration leads to monopolistic dominance, which in turn increases profitability. Goddard et al. (2004), who analysed the profitability of 665 banks in Europe, found a positive relationship between market concentration and bank profitability, supporting this assumption. Similarly, Hamdan et al. (2014) validated the SCP hypothesis in Bahrain, although their results showed a discrepancy in Kuwait. In Qatar, Anasweh (2015) confirmed the validity of the SCP hypothesis, using data from all listed banks between 2009 and 2014.

Rettab et al. (2010) supported the RMP hypothesis in the GCC, emphasising the importance of market share in achieving profitability, and found no evidence of an impact of market concentration on bank efficiency. Similarly, the study by Widarjono and Anto (2020) in Indonesia confirmed that market share positively impacts profitability, while market concentration has no direct effect. These studies highlight the importance of distinguishing between market structure and firm-specific capabilities, aligning more closely with the RMP hypothesis.

Studies reveal clear contextual differences between markets. For example, Kozak and Wierzbowska (2021) found a positive, nonlinear relationship between concentration and efficiency in Southern, Eastern, and Central European countries. This supports the notion of an efficient structure. In contrast, Herwald et al. (2024), in a study of 3,943 banks in the European Union, found mixed results, while market concentration had a negative impact on bank stability, market power increased it.

Emerging markets such as Jordan also exhibit mixed results. Qwader (2022) found that market concentration negatively impacts the return on assets in Jordanian banks, while market share has a positive effect. In contrast, Awdeh et al. (2021) highlighted that increased market concentration in the MENA region enhances banks' pricing power. These contradictions highlight the need for deeper contextualisation and underscore the limitations of applying models developed in mature markets to less predictable environments.

2-2-2. Regulatory and Environmental Factors Affecting Emerging Economy Contexts

Many studies have found that rules and regulations influence how market share, market concentration, and bank performance are related. This is particularly true in developing countries, which face challenges such as inadequate infrastructure, uncertain economic policies, and varying levels of competition. For example, in Portugal, Gonçalves et al. (2024) argued that highly concentrated markets lead to higher financing costs, negatively impacting SMEs. In Vietnam, Duong and Dang (2023) found that stronger market power results in better asset quality and higher bank profits. These findings suggest that the impact of market structure on these factors depends on the economy and the regulatory environment in place.

In the context of banking stability, Herwald et al. (2024) emphasised the importance of the interaction between market concentration and market power in understanding the factors affecting bank stability. This factor is particularly crucial in emerging economies that face continuous regulatory changes and weaker financial infrastructure compared to developed countries. For example, Mateev et al. (2023) found a strong positive relationship between market concentration and bank efficiency in their study of 225 banks across 18 MENA countries between 2006 and 2020. However,

this effect was more pronounced during the COVID-19 pandemic, as the results showed that an unstable economic environment reinforced the importance of institutional efficiency.

In the Middle East, Albahadly (2023) presented findings that highlight the complexity of the relationship between market structure and the performance of Iraqi banks. Based on data from 13 Iraqi commercial banks between 2007 and 2021, the researcher found no direct relationship between market concentration and return on assets; however, they identified a relationship between market shares and return on equity. This discrepancy reflects the impact of a fragile regulatory environment and weak political stability on shaping the market. Additionally, Anasweh (2015) demonstrated that the traditional SCP hypothesis explains the relationship between market structure and profitability in the Qatari banking sector, based on data from 13 banks between 2009 and 2014. In a comparative context, Hamdan et al. (2014) studied 23 banks in Bahrain and Kuwait (2005–2010) and showed clear differences between the two markets. The results in Bahrain supported the validity of the SCP hypothesis, while the Kuwaiti market exhibited different dynamics, indicating the influence of specific regulatory and environmental factors. Tajgardoon et al. (2012) offered a different perspective, emphasizing that a well-organized structure is crucial for understanding the profitability of Islamic banks. They also highlighted how Shariah-compliant regulations affect the market.

2-2-3. Research Gaps in the Jordanian Context

Despite the abundance of studies addressing the impact of market structure on bank performance globally, research focusing on the emerging Jordanian market remains limited, and gaps in the literature are evident within the Jordanian banking sector. Findings from the region, such as those by Qwader (2022), indicate that market concentration affects the financial health of Jordanian banks differently than it affects banks in developed markets. However, existing studies lack in-depth analysis, particularly considering the economic and political uncertainty in the region.

Al-Zu'bi and Balloul (2005) highlighted that the Jordanian banking industry has experienced rapid development and an increase in competition in recent years, underscoring the importance of studying competitive conditions and analysing the relationship between structure and performance in this sector. Their study found limited support for both the SCP hypothesis and the efficient structure hypothesis. However, they noted that only the size of the banks positively affected their performance, emphasising the importance of large economies of scale in Jordan.

Alkour and Al-Fayoumi (2007) found that Jordanian banks exhibit varying levels of efficiency. Their results suggest that competition plays an important role, challenging the traditional view of market structure, conduct, and performance (SCP) theory. The study indicated that concentration in the Jordanian market is not a random factor; rather, it is linked to the efficiency of banks, highlighting the role of laws and regulations in enhancing competition and reducing the impact of market power on prices.

Khataybeh (2013) studied how the structure of the banking market affected the performance of banks in Jordan from 1991 to 2009. His findings supported the Contestable Market Hypothesis as a framework for understanding how the Jordanian banking market operates. The results also highlighted the importance of banks' efficiency as a key factor in determining their stock prices and financial performance.

In the same context, Ramadan et al. (2011) explained that the profitability of Jordanian banks largely depends on their internal characteristics, such as capital, cost management, and lending activities. They also emphasised that the estimated effects of size do not necessarily support the presence of large economies of scale in the Jordanian market.

A critical review of existing literature highlights a gap in understanding how market concentration and market share interact within the specific context of Jordan. Prior research has provided valuable insights but has largely remained descriptive rather than analytical, often summarising findings without integrating them into a broader theoretical framework. Moreover, there is limited evidence of a deeper discussion or evaluation of the interplay between market structure and regulatory conditions. This study aims to bridge these gaps by employing a more integrated and analytical approach, synthesising existing knowledge while identifying the factors that drive financial performance in Jordanian banks. Additionally, it enhances the methodological rigour of research in financial economics by integrating both the SCP and RMP hypotheses within an emerging market context.

The contribution of this study extends beyond empirical findings by offering a more nuanced perspective on the theoretical frameworks adopted in banking research. By incorporating a critical analysis of existing studies and contextualising their findings within the Jordanian banking landscape, this research enhances our theoretical and practical understanding of market structure dynamics in emerging economies. The findings will be valuable for policymakers, banking regulators, and financial institutions seeking to formulate strategies that enhance competitiveness and financial stability in the Jordanian banking sector.

2-3. Hypothesis Development

The SCP hypothesis suggests that firms in highly concentrated markets earn higher profits due to monopolistic behaviour, such as collusion and price-fixing, which reduces competition and increases profitability (Berger, 1995). Another theory, known as the RMP hypothesis, posits that companies with larger market shares, particularly those offering unique products, can leverage their market power to raise prices and increase profits (Smirlock, 1985).

In the context of the Jordanian banking sector, the market is characterised by relatively high concentration due to the dominance of a limited number of large banks and a regulatory policy focused on financial stability and depositor protection. Regulators, such as the Central Bank of Jordan, shape the competitive environment, which affects the banking landscape. This unique structure provides a special framework for analysing the relationship between market concentration, market share, and financial performance.

On the other hand, other research has supported the RMP hypothesis, emphasizing that banks with large market shares can leverage market power to increase profitability (Barros et al., 2007; Gasaymeh et al., 2014; Ovi et al., 2014; Qwader, 2022). Since banks in Jordan tend to offer different services and products, such as loans for specific industries, the effect of market share is crucial for understanding how financial performance changes over time.

Some research did not show strong support for either idea, but it highlighted that local factors, like regulations and market structure, can influence how concentration, market share, and financial performance are connected (Albahadly, 2023; Mirzaei et al., 2013). In Jordan, these factors play a clear role, as banks are subject to strict regulatory standards that limit their ability to fully benefit from concentration or market share. This study develops the following hypotheses based on the literature, considering the regulatory and market dynamics that characterise the Jordanian banking sector.

H1: Market share has a positive impact on bank performance in Jordan.

H2: Market concentration has a positive impact on bank performance in Jordan.

3. Research Methodology

3-1. Data Sources

This research analyses market shares and market concentration and their impact on the profitability of banks in the Jordanian business environment. According to the Association of Banks in Jordan (2022), there are a total of 20 banks operating in Jordan, 15 of which are of Jordanian origin, and 5 of which are foreign. Therefore, the research sample includes all Jordanian banks listed on the Amman Stock Exchange over 10 years (2012–2022), with the ASE database containing annual financial information.

We divided the study into two main stages. In the first stage, we extracted financial data, including market share and market concentration measures, for all banks in the sample from the Amman Stock Exchange database (ASE). To further examine their primary business focus and operational characteristics, we classified the banks based on their objectives and purposes in the second phase. This division allows for a more detailed analysis of market dynamics and concentration within each group, facilitating targeted insights and strategic recommendations. The research identified three distinct groups within the banking sector: commercial, Islamic, and investment groups, as presented in Table 1.

Furthermore, this study utilises descriptive analysis, Pearson correlation coefficients, and linear regression techniques, employing SPSS software to analyse financial data. By employing these statistical methods, the research aims to provide deeper insights into the relationships and trends within the banking services industry.

Table 1. Jordanian Bank Classifications

Type of group	Purpose	Numbers
Commercial group	These banks are primarily engaged in conventional banking activities that cater to commercial and retail customers.	10
Islamic group	These banks operate on the basis of Islamic principles and offer Sharia-compliant financial products and services to their clients.	3
Investment group	These institutions specialize in providing investment banking services to clients and investors in the capital markets.	2
	Total	**15**

Although the study's sample is limited to banks listed on the Amman Stock Exchange, it may face challenges related to sample size bias, potentially hindering the generalisation of results and the formulation of accurate conclusions that adequately reflect market dynamics. To address these potential biases, a careful analysis was conducted, considering the structural and operational differences among the three groups of banks. The results were also compared with findings from prior literature to ensure consistency and reliability. However, the study recommends further research using larger samples that include unlisted banks or comparative analyses with other contexts to broaden the scope of the findings and enhance their generalizability.

3-2. Measuring Variables

Bank Performance (*P*): The current study employs profitability measures to evaluate performance, following Berger's (1995) recommendation. Return on assets (ROA) is typically considered the most suitable ratio for assessing a bank's performance, as it helps investors and analysts compare the profitability of different institutions with varying asset bases (Albahadly, 2023). Return on equity (ROE) measures profitability from the owner's perspective, indicating the earnings generated relative to the book value of the investment. It reflects revenue generation, operational efficiency, financial leverage, and tax planning (Yuanita, 2019).

Market Shares (*MS*): Following prior studies, such as Genchev (2012), measuring market share in banks involves assessing the portion of the total banking industry that is controlled by a specific bank. The calculation typically considers relevant indicators such as assets, deposits, loans, or revenues (Alharbi, 2017). This study captures market share by dividing a bank's assets (and credit facilities) by the total assets (and total credit facilities) in the entire market and within each group. This indicator is used to test the RMP hypothesis. The hypothesis is tested first on the full sample of banks and then, separately, for three sub-sectors: commercial, investment, and Islamic.

Market Concentration (*MC*): Understanding how market concentration affects profitability requires applying the SCP hypothesis, which predicts that monopolistic behaviour increases profits (Berger, 1995; Moudud-Ul-Huq, 2021). In this study, market concentration is measured using the Herfindahl-Hirschman Index (HHI), which is calculated as the sum of the squares of market shares based on assets and credit facilities across all banks and within each group. This calculation follows a specific equation that uses each bank's market share in terms of assets and credit facilities.

$$MC = \sum_{i=1}^{n} \left(MS_{i,t} \right)^2$$

In the context of studying the relationship between financial performance and market structure, Abdullah and Tursoy (2021) presented similar financial performance indicators that support the analytical model used to examine the relationship between firm performance and capital structure.

This study includes several control variables, as outlined below:

- Bank size (*Size*): According to Goddard et al. (2004), banks with larger assets can benefit from economies of scale and scope. Larger banks may capitalise on their market dominance, thereby enhancing profitability. A bank's size is measured using the natural logarithm of its total assets. Total assets include loans, investments, and other financial holdings. We compare the total assets of various banks to determine their relative size.
- Bank age (*BAG*): According to Mwangi (2018), the age of a bank significantly influences financial performance, particularly in relation to economies of scale. The regression results also suggest that older banks are more stable, as indicated by the positive coefficients of bank age.

Bank age is measured by the number of years since its establishment, calculated from the bank's official formation up to December 31, 2022, in Jordan.

- Number of branches (*Bran*): According to González et al. (2019), large banks can leverage market power through various means, including an extensive branch network that provides greater accessibility, improved customer service, and stronger brand visibility through marketing efforts. The number of branches is recorded annually for each bank.

Table 2 presents all variables in the following format:

Table 2. Variables Used in the Study

Variables	Symbol	Definition
		Dependent variables
Profitability	ROA	It involves dividing a bank's income after tax by its assets.
	ROE	It involves dividing a bank's net income by its equity.
		Independent variables
Market shares	MS	It involves dividing a bank's total assets by the total assets in all banks and in each group.
Market concentration	MC	It is the same of the Herfindahl-Hirschman Index (HHI). The sum of the squares of the market shares of the assets in the whole market.
		Control variables
Bank size	$Size$	The natural logarithm of total assets.
Bank age	BAG	The time span of the bank measures the bank's age, indicating that the year of establishment denotes the period from the bank's official formation and operations up until December 31, 2022, in Jordan.
Number of branches	$Bran$	The number of branches is measured for each bank.

3-3. Econometric Model

This paper includes two hypotheses. The first is based on the Structure-Conduct-Performance (SCP) hypothesis, which tests the relationship between market concentration and banks' performance on the Amman Stock Exchange (ASE). The second is based on the Relative Market Power (RMP) hypothesis, which examines the relationship between market share and the performance of these banks. For this study, we developed the econometric model as follows:

$$P_{i,t} = \beta_0 + \beta_1 MS_{i,t} + \beta_2 MC_{i,t} + \Sigma Controls_{i,t} + \varepsilon_{i,t}$$

Based on previous relevant studies (e.g., Barros et al., 2007; Gasaymeh et al., 2014; Ovi et al., 2014; Kozak & Wierzbowska, 2021; Qwader, 2022; Mateev et al., 2023; Talpur, 2023), the following model is utilized to develop performance metrics—Return on Assets (ROA) and Return on Equity (ROE)—as the dependent variables. The model explores the influence of market share and concentration as independent variables among banks listed on the Amman Stock Exchange (ASE). Control variables incorporated in the analysis include bank size, bank age, and number of branches.

4. Results

4-1. Descriptive Statistics

Table 3 presents the descriptive statistics for all variables in the study, including ROE, ROA, total assets, credit facilities, and market share (*MS*) for all banks, as well as for groups categorised by assets and credit facilities. Additionally, it includes concentration measures (*CM*) for all banks and the groups categorised by assets and credit facilities, along with bank age, bank size, and number of branches.

The reported mean for ROE is 0.086, with a standard deviation of 0.038, indicating a moderate variation in ROE among the sampled banks. The mean ROA is 0.011, with a standard deviation of 0.005, reflecting relatively low variability in ROA. The average total assets amount to 4.26 billion, with a standard deviation of 6.04 billion, while the mean for credit facilities is 2.07 billion, with a standard deviation of 2.64 billion.

The mean market share (*MS*) of assets is 0.067, with a standard deviation of 0.096. Similarly, the mean *MS* of credit facilities across all banks is also 0.067, with a standard deviation of 0.087. When

analysed by group (commercial, Islamic, and investment), the mean *MS* of assets is 0.200, with a standard deviation of 0.209, and the mean *MS* of credit facilities is likewise 0.200, with a standard deviation of 0.195.

Table 3. Descriptive Statistics

Variables	Mini.	Maxi.	Mean	Std. Deviation
ROE	-0.01	0.186	0.086	0.038
ROA	-0.002	0.022	0.011	0.005
Total asset (Ass.)	4.75 (10^8)	2.78 (10^{10})	4.26 (10^9)	6.05 (10^9)
Credit facility (CF)	3.84 (10^8)	1.22 (10^{10})	2.08 (10^9)	2.64 (10^9)
MS (Ass.) for the whole market	0.009	0.464	0.067	0.096
MS (CF) for the whole market	0.015	0.432	0.067	0.087
MS (Ass.) for groups	0.018	0.685	0.2	0.209
MS (CF) for groups	0.025	0.653	0.2	0.195
MC (Ass.) for the whole market	0.160	0.249	0.203	0.027
MC (CF) for the whole market	0.128	0.219	0.178	0.029
MC (Ass.) for groups	0.001	0.245	0.132	0.094
MC (CF) for groups	0.001	0.211	0.115	0.082
$Size$ (Ass.)	20	24	21.69	0.857
$Size$ (CF)	20	23	21.04	0.811
BAG	14	92	45	17
$Bran$	12	130	54	32

The reported mean market concentration (*MC*) values vary across different groups. The overall mean *MC* is 0.203, with a standard deviation of 0.027. For other categories, the mean *MC* values are 0.178 (SD = 0.029), 0.132 (SD = 0.094), and 0.115 (SD = 0.082), respectively, reflecting differences in concentration levels among various banking segments.

Table 4 presents a descriptive analysis of *MC* across groups based on asset size. For commercial banks, the mean *MC* is 0.196, with a standard deviation of 0.028. In Islamic banks, the mean *MC* is reported as 0.006, with a standard deviation of 0.001. These smaller standard deviations suggest that the data points are closely clustered around the meaning, indicating consistent values. The findings suggest that both commercial and Islamic banks operate in relatively monopolistic market conditions.

Table 4. Descriptive Analysis of Market Concentration Among Groups

Groups based on assets (Ass.)				
Group	**Maximum**	**Minimum**	**Mean**	**St. Dev.**
Commercial	0.245	0.152	0.196	0.028
Investment	0.001	0.001	0.001	0.001
Islamic	0.007	0.004	0.006	0.001
Groups based on credit facilities (CF)				
Group	**Maximum**	**Minimum**	**Mean**	**St. Dev.**
Commercial	0.21	0.118	0.17	0.03
Investment	0.001	0.001	0.001	0.001
Islamic	0.011	0.007	0.008	0.001

Table 4 also provides a descriptive analysis of market concentration among various groups based on credit facilities. In commercial banks, the mean *MC* is 0.17 and its standard deviation is 0.03. Similarly, in Islamic banks, the reported mean *MC* is 0.008, with a standard deviation of 0.001. Smaller values indicate that the data points cluster closer to the mean—the values in the dataset are relatively consistent, indicating that both commercial and Islamic banks operate in a somewhat monopolistic market regarding credit facilities.

4-2. Hypothesis Testing

The Pearson correlation coefficients for all variables are presented in Table 5. These coefficients illustrate the linear relationship between the various factors under study, both in strength and direction. They also depict a complete picture of how they affect each other and point out any possible patterns or trends in the data.

Table 5. Correlation Results

Variables	*ROE*	*ROA*	*MS* (Ass.) All.	*MS* (CF) All.	*MS* (Ass.) for Groups	*MS* (CF) for Groups	*MC* (Ass.) All.	*MC* (Ass.) for Groups	*MC* (CF) All.	*MC* (CF) Groups	*Size* (Ass.)	*Size* (CF)	*BAG*	*Bran*
ROE	1													
ROA	0.841**	1												
MS (Ass.) for all.	-0.037	0.022	1											
MS (CF) for all.	-0.025	0.025	0.996**	1										
MS (Ass.) for groups	0.211**	0.091	0.359**	0.356**	1									
MS (CF) for groups	0.206**	0.113	0.333**	0.337**	0.975**	1								
MC (Ass.) for all.	0.167*	0.314**	0.000	0.000	0.000	0.000	1							
MC (Ass.) for groups	-0.116	0.074	0.253**	0.246**	-0.663**	-0.709**	0.197*	1						
MC (CF) for all.	0.182*	0.337**	0.000	0.000	0.000	0.000	0.980**	0.193*	1					
MC (CF) for groups	-0.095	0.096	0.250**	0.244**	-0.654**	-0.699**	0.238**	0.997**	0.243**	1				
Size (Ass.)	0.132	0.080	0.859**	0.863**	0.281**	0.227**	-0.232**	0.298**	-0.230**	0.286**	1			
Size (CF)	0.109	0.046	0.840**	0.855**	0.249**	0.224**	-0.285**	0.245**	-0.283**	0.231**	0.980**	1		
BAG	-0.28**	-0.179*	0.669**	0.666**	0.082	0.064	-0.188*	0.279**	-0.188*	0.265**	0.583**	0.601**	1	
Bran	0.252**	0.181*	0.410**	0.426**	0.094	0.043	-0.108	0.245**	-0.105	0.241**	0.691**	0.693**	0.419**	1

In Table 5, the correlation coefficient between market share (*MS*) for groups based on assets is r = 0.211, indicating a positive and statistically significant relationship between *MS* and ROE at the 1% significance level ($p < 0.01$). Similarly, the correlation coefficient between *MS* for credit facility groups is r = 0.206, also indicating a positive and significant association with ROE at the 1% significance level ($p < 0.01$).

Additionally, the correlation coefficient between market concentration (*MC*) for all banks based on assets is r = 0.167, indicating a positive and statistically significant relationship with ROE at the 5% significance level ($p < 0.05$).

Furthermore, the correlation coefficient between *MC* based on assets and ROA is r = 0.314, suggesting a positive and significant relationship at the 1% significance level ($p < 0.01$). Similarly, the correlation between *MC* based on credit facilities and ROA is r = 0.337, also positive and significant at the 1% level ($p < 0.01$). These findings suggest that higher levels of market concentration are associated with improved bank performance, as reflected in both ROE and ROA.

The positive correlations between market concentration and bank performance highlight the impact of market structure on profitability and operational efficiency within the banking industry. These results underscore the importance of market competition and regulatory policies that foster competitive dynamics, while ensuring financial stability.

Table 6. Regression Analysis Results When the Dependent Variable Is ROA

Panel A: All banks based on assets (Ass.)				**Panel A: All banks based on credit facilities (CF)**			
Model	**Coef.**	**t-value**	**Sig.**	**Model**	**Coef.**	**t-value**	**Sig.**
(Constant)	0.003	0.672	0.503	(Constant)	0.004	1.122	0.263
MS (All Ass.)	0.130	1.311	0.192	*MS* (All CF)	0.129	1.314	0.191
MC (All Ass.)	0.270	3.663	0.000	*MC* (All CF)	0.297	4.077	0.000
BAG	-0.369	-3.666	0.000	*BAG*	-0.362	-3.654	0.000
Bran	0.229	2.865	0.005	*Bran*	0.226	2.846	0.005
Adjusted R^2		0.192		Adjusted R^2		0.188	
F-Value		9.504		F-Value		10.487	
Panel B: Groups based on assets (Ass.)				**Panel B: Groups based on credit facilities (CF)**			
Model	**Coef.**	**t-value**	**Sig.**	**Model**	**Coef.**	**t-value**	**Sig.**
(Constant)	-0.421	1.559	0.121	(Constant)	-0.227	1.759	0.080
MS (Ass.) for Groups	0.387	2.944	0.004	*MS* (CF) for Groups	0.502	4.227	0.000
MC (Ass.) for Groups	0.451	3.43	0.001	*MC* (CF) for Groups	0.563	4.716	0.000
Size (Ass.)	-0.126	-0.917	0.36	*Size* (CF)	-0.140	-1.145	0.254
BAG	-0.409	-4.561	0.000	*BAG*	-0.425	-4.772	0.000
Bran	0.21	2.068	0.040	*Bran*	0.216	2.196	0.030
Adjusted R^2		0.146		Adjusted R^2		0.219	
F-Value		6.624		F-Value		8.924	

a. Dependent Variable: *ROA*

To further investigate these relationships and test the previously stated hypotheses, multiple regression models are employed to analyse the influence of performance and other independent variables.

In our previous regression analysis, it was noted that the Variance Inflation Factor (VIF) exceeded 10 for the market share (*MS*) variables (based on both assets and credit facilities) and for the *Size* variable, indicating potential multicollinearity. As a result, the analysis was repeated after removing the *Size* variable, which serves as a control variable.

Table 6, Panel A, presents the results after excluding the *Size* variable. The reported F-value is 9.504, and the adjusted R-squared value is 0.192, both statistically significant at the 1% level ($p < 0.01$), indicating that the independent variables based on assets for all banks explain 19.2% of the variation in ROA. The regression coefficient for market concentration (*MC*), based on assets, is positive and significantly associated with ROA at the 1% significance level.

Panel A also indicates an F-value of 10.487 and an adjusted R-squared of 0.188 after excluding the *Size* variable, again significant at the 1% level ($p < 0.01$). This suggests that the independent variables based on credit facilities for all banks explain 18.8% of the variation in ROA. The regression coefficient for *MC*, based on credit facilities, is also positively and significantly associated with ROA at the 1% level. These findings are consistent with previous studies (e.g., Mateev et al., 2023; Mohammed et al., 2015).

Table 6 also includes Panel B. In this panel, the reported F-value is 6.624, and the adjusted R-squared is 0.146, indicating that the independent variables based on group assets explain 14.6% of the variation in ROA. The regression coefficient for *MS*, based on group assets, is positively associated with ROA at the 1% significance level. Similarly, the regression coefficient for *MC*, based on group assets, is also positively and significantly associated with ROA at the 1% level.

Furthermore, Panel B shows an F-value of 8.924 and an adjusted R-squared of 0.219, suggesting that the credit facility-based variables for groups explain 21.9% of the variation in ROA. Both *MS* and *MC*, based on group credit facilities, are positively and significantly associated with ROA at the 1% significance level. These results are in line with the findings of previous studies (Kozak & Wierzbowska, 2021; Ovi et al., 2014; Qwader, 2022).

Table 7. Regression Analysis Results When the Dependent Variable Is ROE

Panel A: All banks based on assets (Ass.)				**Panel A: All banks based on credit facilities (CF)**			
Model	**Coef.**	**t-value**	**Sig.**	**Model**	**Coef.**	**t-value**	**Sig.**
(Constant)	0.069	2.892	0.004	(Constant)	0.074	3.627	0.000
MS (All Ass.)	0.099	1.064	0.289	MS (All CF)	0.114	1.231	0.220
MC (All Ass.)	0.137	1.975	0.050	MC (All CF)	0.149	2.165	0.032
BAG	-0.523	-5.531	0.000	BAG	-0.529	-5.65	0.000
$Bran$	0.447	5.948	0.000	$Bran$	0.442	5.877	0.000
Adjusted R^2		0.269		Adjusted R^2		0.293	
F-Value		16.085		F-Value		16.565	
Panel B: Groups based on assets (Ass.)				**Panel B: Groups based on credit facilities (CF)**			
Model	**Coef.**	**t-value**	**Sig.**	**Model**	**Coef.**	**t-value**	**Sig.**
(Constant)	0.082	0.736	0.463	(Constant)	0.109	1.058	0.292
MS (Ass.) for Groups	0.26	2.155	0.033	MS (CF) for Groups	0.355	3.202	0.002
MC (Ass.) for Groups	0.089	0.741	0.460	MC (CF) for Groups	0.192	1.718	0.088
$Size$ (Ass.)	0.018	0.144	0.886	$Size$ (CF)	-0.02	-0.174	0.862
BAG	-0.526	-6.403	0.000	BAG	-0.538	-6.469	0.000
$Bran$	0.415	4.46	0.000	$Bran$	0.431	4.687	0.000
Adjusted R^2		0.282		Adjusted R^2		0.297	
F-Value		13.892		F-Value		14.888	

a. Dependent Variable: ROE

In our previous regression analysis, it was noted that the Variance Inflation Factor (VIF) exceeded 10 for MS variables (based on both assets and credit facilities) and the Size variable. This indicated a high degree of multicollinearity among the predictor variables, which can result in unstable and unreliable estimates of the regression coefficients. Consequently, the analysis was repeated after removing the size variable, as it is considered a control variable.

Table 7, Panel A, presents the results after removing the size variable. The reported F-value is 16.085, and the adjusted R-squared is 0.269, indicating that the independent variables based on assets for all banks explain 26.9% of the variation in ROE. Additionally, Panel A indicates an F-value of 16.565 and an adjusted R-squared of 0.293, suggesting that the independent variables based on credit facilities for all banks explain 29.3% of the variation in ROE. The regression coefficients for MC, based on both assets and credit facilities, are positively associated with ROE at the 5% significance level ($p < 0.05$). These findings are consistent with prior research (e.g., Mateev et al., 2023; Mohammed et al., 2015).

Table 7 also includes Panel B. In this panel, the reported F-value is 13.892, and the adjusted R-squared is 0.282, indicating that the independent variables based on group assets explain 28.2% of the variation in ROE. The regression coefficient for MS, based on group assets, is positive and significantly associated with ROE at the 5% significance level ($p < 0.05$). Moreover, the reported F-value is 14.888, and the adjusted R-squared is 0.297, indicating that independent variables based on group credit facilities explain 29.7% of the variation in ROE. The regression coefficient for MS, based on group credit facilities, is positively associated with ROE at the 1% significance level ($p < 0.01$). These results align with previous studies (e.g., Kozak & Wierzbowska, 2021; Ovi et al., 2014; Qwader, 2022).

Despite the presence of multicollinearity in some variables, the findings of this study remain robust and theoretically sound. By excluding the size variable—identified as a key contributor to multicollinearity—we ensured that the regression analysis focused on the primary variables of interest: market share (MS) and market concentration (MC). This decision enhanced the interpretability of the coefficients and maintained theoretical clarity, in line with prior research on financial performance determinants. Furthermore, diagnostic indicators, such as adjusted R-squared and F-statistics, confirmed that the models are statistically significant and effectively explain the observed data.

Although alternative methods, such as ridge regression, can address multicollinearity, they introduce complexities, such as reduced interpretability of coefficients, that may not align with the practical and policy-oriented objectives of this study. Therefore, the chosen methodology strikes an appropriate balance between theoretical rigour, empirical robustness, and practical relevance, reinforcing the validity of the findings in the context of Jordanian banking.

Following the explanation of the research methodology, this study provides a clear account of data collection procedures, sample selection, and analytical techniques to ensure transparency. Financial data was sourced from the Amman Stock Exchange (ASE) database, ensuring accuracy and consistency in measuring market share and concentration. The sample includes all Jordanian banks listed on the ASE from 2012 to 2022, as financial data for unlisted banks were not publicly available.

To mitigate potential selection bias, robustness checks were conducted by comparing financial trends across various banking sub-sectors, including commercial, Islamic, and investment banks. The analytical methods—descriptive statistics, Pearson correlation, and linear regression using SPSS—were selected based on established empirical practices, ensuring methodological rigour. Potential biases related to differences in bank size, activity type, and market conditions were addressed by incorporating control variables such as bank size, age, and number of branches.

5. Discussion of Results

This study provides strong empirical support for two theoretical frameworks: the Structure-Conduct-Performance (SCP) hypothesis and the Relative Market Power (RMP) hypothesis. The findings demonstrate that both market share and market concentration are positively associated with the financial performance of Jordanian banks, as measured by return on equity (ROE) and return on assets (ROA). These results reinforce the notion that higher market share and greater market concentration enhance financial performance. This aligns with prior research suggesting that banks with larger market shares or higher market concentration can improve profitability by leveraging their dominant market positions (Mateev et al., 2023; Mirzaei et al., 2013; Mohammed et al., 2015; Qwader, 2022).

The results of this study are consistent with earlier research, indicating a positive relationship between market concentration, market share, and banking performance (Barros et al., 2007; Goddard et al., 2004; Hamdan et al., 2014). These studies emphasised that increased market share allows banks to exert market dominance, ultimately leading to improved financial outcomes. However, the findings

diverge from studies such as Albahadly (2023), which suggested that excessive market concentration may undermine efficiency and negatively impact financial performance.

Regression analysis in this study confirms a statistically significant positive association between market concentration and financial performance, lending support to the SCP hypothesis. This suggests that higher market concentration can boost profitability through monopolistic behaviour and potential collusion among dominant banks. Simultaneously, the findings support the RMP hypothesis, indicating that banks with greater market share achieve superior financial performance due to their influence over market pricing and their ability to deliver differentiated services.

A key contribution of this study lies in highlighting how regulatory frameworks and market environments may moderate the relationship between market structure and bank performance. While the findings align with other studies supporting the SCP and RMP hypotheses—such as Goddard et al. (2004) and Barros et al. (2007), who argued that market control can lead to higher profitability—they contrast with international research such as Claessens and Laeven (2004), which found that high market concentration may reduce efficiency due to diminished competition and monopolistic behaviour.

The practical implications of this study enhance our understanding of how the SCP and RMP frameworks apply within the Jordanian banking context. Support for the SCP hypothesis is evident in the structural characteristics of Jordan's banking sector, where high concentration enables large banks to generate superior profits, echoing the conclusions of Berger (1995). Concurrently, support for the RMP hypothesis is reflected in the ability of banks with larger market shares to influence pricing, offer superior services, and thus, achieve better financial outcomes.

In the Jordanian context, these findings suggest a complex interaction between the two theories, shaped by specific market conditions and regulatory interventions. For instance, while high concentration allows banks to engage in monopolistic practices, regulatory oversight may mitigate the associated risks of reduced efficiency. This nuanced understanding enhances theoretical and practical knowledge of how SCP and RMP mechanisms function in markets characterised by both high concentration and strict regulatory oversight. It also opens avenues for future research exploring the application of these theories in other regional and global settings.

6. Conclusions

This study examines the relationship between market share, market concentration, and the financial performance of banks operating in Jordan. Based on the statistical analysis and the results obtained, it can be concluded that market structure plays a significant role in determining bank performance. The findings indicate that banks with a larger market share, or those operating in markets with fewer competitors, tend to perform better financially. These results support the study's core theoretical frameworks: the Structure-Conduct-Performance (SCP) hypothesis and the Relative Market Power (RMP) hypothesis.

The study suggests that banks with greater market share benefit from their ability to influence pricing and enhance profitability through a strong market presence. Similarly, increased market concentration, which reduces competition and heightens dominance, contributes to improved bank performance by enabling large institutions to engage in monopolistic practices or tacit collusion.

These findings are consistent with prior literature that underscores the influence of market structure on financial performance. Moreover, this study highlights that the banking environment in Jordan is notably shaped by market structural dynamics, implying that regulatory policies affecting competition and concentration in the banking sector can significantly impact banks' financial outcomes.

Finally, the study recommends that both banks and policymakers acknowledge the importance of market structure in enhancing financial performance and securing long-term competitive advantages. The results also offer practical insights for decision-makers in the banking industry on developing market share strategies that positively influence financial outcomes, particularly in environments characterized by both high market concentration and strict regulatory oversight. These insights open avenues for further research exploring the applicability of these theoretical models in various regional and global contexts.

6-1. Theoretical and Practical Implications

This study contributes to the theoretical framework for understanding the relationship between market structure and financial performance in the banking sector, with a particular focus on the Jordanian context. The findings demonstrate that higher market concentration and greater market share enhance the financial performance of banks in Jordan, thereby supporting both the Structure-Conduct-Performance (SCP) and Relative Market Power (RMP) hypotheses. The Jordanian case offers a contrast to findings from studies conducted in larger, developed, or emerging markets by emphasising the critical role of regulatory oversight in shaping this relationship. At the theoretical level, the study adds a new dimension to the literature on small- and medium-sized banking markets, extending the applicability of the SCP and RMP frameworks. It provides a nuanced view of how these theories interact with banking regulations and competition in moderately to highly concentrated markets, and highlights the need for further research into how these theories apply across diverse market contexts.

The findings suggest that regulatory approaches should seek a balance. Policymakers need to consider how market concentration and market share influence financial performance while still encouraging healthy competition. In Jordan, regulatory efforts should focus on designing policies that foster innovation and efficiency while safeguarding market stability. For instance, enhancing market transparency and reducing the potential for tacit collusion among banks can support profitability without undermining competitive fairness over the long term.

For banks, the findings offer practical guidance on strategic decision-making to increase market share and concentration. Large banks may benefit from strategies that consolidate their market dominance, while small- and medium-sized banks could pursue partnerships or mergers to strengthen their market positions. However, large banks should remain mindful of regulatory scrutiny, particularly if their market behaviour poses potential risks to competition.

Simultaneously, regulators must strike a balance between promoting efficiency through greater concentration and mitigating potential downsides such as reduced market activity or diminished consumer choice. Achieving this balance is essential to ensure the sustainability of Jordan's banking system while maintaining its competitiveness.

In conclusion, this study provides valuable insights into the structural dynamics of the Jordanian banking sector. It offers guidance for shaping business strategies and regulatory frameworks aimed at enhancing the efficiency and stability of the banking system. Moreover, the findings underscore the significance of local market conditions in shaping the relationship between market structure and financial performance. This creates a strong foundation for future research to explore these dynamics in other regional contexts, considering unique, legal, and economic environments.

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