The Impact of Financial Leverage and Capital Adequacy on the Earnings Quality in Jordanian Commercial Banks

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Abstract: - The study aimed to determine the impact of financial leverage and capital adequacy on the earnings quality in Jordanian commercial banks, where leverage is represented by the ratio of total debts to total assets, while the capital adequacy ratio was obtained from the published annual reports of Jordanian commercial banks during the period from (2018 - 2022), whereas capital adequacy ratio dignified through the formula CAR = (Tier 1 Capital + Tier 2 Capital) / Risk-Weighted Assets while the earnings quality was calculated according to the company's net cash from operating activities dividing by its net income. The study applied a descriptive analytical approach and the study population was represented by all (12) Jordanian commercial banks. After conducting the necessary financial and statistical analysis for the study, it was concluded that there is an impact of financial leverage and capital adequacy on the earnings quality in Jordanian commercial banks and that financial leverage and capital adequacy contributed to explaining 10% of the variation that occurred in the earnings quality in Jordanian commercial banks. The study recommended that commercial banks should focus on choosing techniques and ratios of financing the commercial bank to achieve the goal of improving the bank's earnings quality, and the importance of conducting future studies aimed at examining the factors that support the earnings quality.

Key-Words: - Financial leverage, capital adequacy, earnings quality, commercial banks, net cash from operating activities, Earning per ,Share, Capital Adequacy Ratio.

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1 Introduction

Jordanian commercial banks have an important role in financing the economy and promoting sustainable development. They also protect individuals' and companies' funds, and provide financial assistance and loans to these companies. To achieve this role, banks face multiple challenges that require efficient management of financial resources. Among these challenges are economic risks, legislation, and financial controls, the role of financial leverage and capital adequacy are crucial elements in determining the earnings quality and the stability of banks, as the

primary objective of banks is to achieve earnings. Leverage is critical for banks, referring to their use of debt as a means of financing their activities, [1]. Financial leverage also affects earnings quality, as financial risks accelerate when the bank relies heavily on debt. However, financial leverage could also increase the earnings per share if investments yield greater returns than the cost of debt. Capital and its adequacy are also among the most important factors and drivers affecting banks' performance, determining the nature of the loan, credit, and the extent of facilities offered by commercial banks in particular. Capital plays an important role in maximizing the market value of banks by maximizing earnings, which is the primary objective of enterprises in general and commercial banks in particular.

2 Theoretical Framework

Many Previous studies have addressed the importance of capital adequacy and financial leverage ratios on earnings quality, such as the studies, [2], [3] which aimed to explain the factors affecting the earnings quality as measured by proximity to cash and income smoothing. On the other hand the results showed that there is an inverse effect for both (Returnon Asset: ROA) & (Book Value Per Share: BVPS), and a direct effect for (Earning Per Share: EPS) on the (Earning Quality 1EQ) measured by proximity to cash, and there is a direct effect for (ROA). There is an inverse effect of the cash to current assets ratio, (liquidity: LIQ), (EPS), (Financial Leverage: LEV) on the earnings quality as measured by income smoothing (Earning Quality: 2EQ). The study [4] found that there is a positive and statistically significant relationship between the capital adequacy ratio and the profitability of conventional banks. While the study [5] aimed to obtain empirical evidence about the factors that affect earnings quality, and the results of multiple regressions showed that the size of the auditor, the duration of the audit, audit specialization, the size of the company, and financial leverage have an impact on the earnings quality. The study recommended increasing operating efficiency and improving risk management in banks. The study [6], which aimed to demonstrate the impact of capital adequacy in accordance with Basel III decisions on the profitability of banks. The results showed that there is a positive relationship between the capital adequacy ratio and the profitability of conventional banks, while there is no significant effect on the profitability of Islamic banks. The results of the study [7] were that financial leverage and liquidity had a positive impact on the earnings quality. While profitability and earnings growth have no impact on earnings quality. Firm size is able to weaken the effect of profitability, financial leverage, and liquidity on earnings quality. This study found that the quality of the company's earnings will increase if the company is able to maintain the level of financial leverage and the level of the company's liquidity. However, the quality of the company's earnings will decrease when the size of the company is large and the financial leverage and liquidity of the company affect the quality of the company's earnings. One of the most important results reached by [8] is that there is a statistically significant effect for all independent variables, which are the capital adequacy ratio, asset quality, and liquidity, on the continuity of earnings. The results of the study [9] also indicated that profitability and company size have a significant positive impact on the earnings quality. At the same time, financial leverage has a significant negative impact on earnings quality. The impact of profitability and leverage on earnings quality cannot be mitigated by independent commissioners. However, only independent commissioners can moderate the effect of firm size on earnings quality. This study found that companies can increase profitability and company size and reduce the level of financial leverage to be able to achieve high-quality earnings by improving the proportion of independent commissioners in large companies. Therefore, this study is intended to investigate the effect of Financial Leverage and Capital Adequacy on the Earnings Quality in Jordanian Commercial Banks.

Earnings quality in commercial banks is not just a measure of profitability, but rather an indicator of the strength and sustainability of financial performance. It requires diversification of income sources, effective cost management, and conservatism in investments and loans. Commercial banks with excellent earnings quality are trusted and appreciated by investors and the financial community. The quality of earnings in commercial banks represents one of the main indicators that reflect the health and strength of the financial performance of these banks. Understanding the quality of earnings is vital for investors and

shareholders, as well as for regulators, as it contributes to assessing the strength and sustainability of earnings achieved by banks. It expresses the sustainability and credibility of those earnings. While leverage represents the use of debt as a technique of financing business activity and investments, it can play a crucial role in determining how banks create and improve earnings. The impact of this financial policy can be analyzed through several aspects, the most important of which are the cost of borrowing, investment efficiency, and risk management. That is, when banks resort to financial leverage, they must pay interest on loans and debts. The cost of this borrowing also plays a decisive role in determining the earnings margin and thus affects the earnings quality. Financial leverage is also considered a means of financing investments and expanding activities. Efficient investment in debt-financed projects can contribute to increasing revenues and improving the earnings quality. The Bank's inability to manage capital effectively may deteriorate the earnings quality and increase exposure to financial risks. These aspects help in evaluating how leverage policies affect the quality of commercial banks' earnings and contribute to making strategic financial decisions that reflect the balance between achieving returns and managing risks. Capital adequacy is an indicator of the strength and stability of the bank, as it reflects the ability to withstand losses and meet its obligations, [4]. This also contributes to improving the earnings quality and enhancing confidence in the financial market. On the other hand, a lack of capital may reduce the bank's flexibility and expose it to additional financial risks. Bank capital adequacy is also considered necessary to protect against insolvency and ensure benefit from profitable development opportunities. Capital adequacy also helps banks generate income, expand operations, provide high-quality service, and maintain their competitiveness, [10].

3 The Importance of Financial Leverage and Capital Adequacy in Improving the Earnings Quality, Explain Study Variables and How Variables Measurement

The earnings quality is considered a rich source of information necessary to make decisions related to trying to raise the levels of financial performance of banks, as it represents stability and continuity of earnings, and helps to better predict future earnings, [11]. High earnings quality shows the financial capacity of the bank and also reflects the actual performance of the bank to provide an accurate assessment, [5]. These earnings must also be distinguished in terms of the main characteristics of the accounting information which measured by the formula for the quality of earnings ratio is = Operating cash flow **(OCF)** / **NI** net income that users of financial reports expect [12], to be able to achieve the objectives behind the reported accounting earnings. Earnings quality refers to the extent to which the quality of current profits can be repeated in the future financial period. Thus, the Earnings quality helps decision-makers in the ability to predict future profits. This is why the Earnings quality is a high-importance factor because it increases the level of accuracy in predicting future profits.

Financial leverage is used to describe the relationship between banks' debts and their assets or resources, and a good bank is considered when the reliance on private funds is greater than debt, given that increasing financial leverage is a reaction or expression and reflection of the increased risk of financial stress and bankruptcy. Many studies have also confirmed that financially distressed banks often resort to debt, and thus work to restructure their earnings to reflect a positive image for external parties. Accordingly, financial leverage has a direct relationship with earnings management and an inverse relationship with earnings quality, [13].

Financial leverage shows the bank's level of reliance on debt to finance the bank's operational activities. This leverage ratio is also the information that creditors or lenders need. By knowing the leverage ratio, creditors can determine how risky a bank's debt is. Based on signal theory, the debt-to-investors ratio will indicate how much debt finances a bank's assets. Using debt to measure earnings quality is because information about a high amount of debt leads to a lower earnings rate and quality. Banks with high levels of leverage cause investors to mistrust the earnings information published by the bank. This is because investors believe that banks prioritize debt payments to debt holders rather than dividend payments, [14].

Financial leverage is also one of the factors supporting management in conducting earnings management as management is willing to fulfill all the requirements provided by the lender. Lenders are

associated with the agency theory, which is a principal who gives management the authority to manage a certain amount of funds in order to fulfill obligations as a borrower. When a bank is not witnessing earnings, the management tends to make earnings management which results in low earning quality. Therefore, the higher the level of leverage, the lower the quality of the resulting earnings, [15].

Capital adequacy is the amount of capital that a bank or other financial institution must maintain as required by financial supervision, aims to make sure that banks have sufficient capital to keep investors' money computed through Capital Adequacy Ratio (CAR) = (Tier 1 Capital + Tier 2 Capital) / Risk-Weighted Assets, where is Tier 1 It represents shareholder's equity and retained earnings and Tier 2 includes revalued reserves, undisclosed reserves, and hybrid securities. The denominator of the equation is risk-weighted assets, it represents the bank's total assets, weighted by risks. Banks typically have different groups of assets, such as cash, bonds, etc., and each group of assets is associated with different degrees of risk. Risk is evaluated based on the probability that the value of the asset will decline, according to Basel III there are three types of risk (Market Risk = MR., Credit Risk = CR Operational Risk = OR) In order to create a sound and healthy financial system. Capital adequacy also reflects the general financial conditions of the bank as well as the ability of management to meet the need for additional capital. In the banking sector, the term capital adequacy refers to the strength and efficiency of the capital that the bank possesses to confront the various risks that the bank's activity may be exposed to, meaning that it serves as a means of compensating for potential losses that may occur as a result of financial and operational risks. The Capital Adequacy Ratio (CAR) aims to make sure that banks have sufficient capital to keep investors' money. The importance of the research stems from the necessity of directing the management of banks towards a very important issue in evaluating their performance and continuing to operate without difficulties, and this issue relates to the fact that there are some internal factors or indicators, such as capital adequacy, asset quality, and liquidity, that directly affect their earnings quality, And then in its financial performance, and this impact is reflected in particular on the banking sector.

4 Study Methodology

This part of the research reviews the study plan, objectives, and importance, the hypotheses that the researchers relied on, as well as how to measure the research variables, and the optimal statistical method to achieve the research objectives. The study adopted the descriptive analytical approach, as the descriptive approach is based on a group of statistical methods concerned with this approach, the most prominent of which are measures of central tendency. The goal of the descriptive approach is to clarify and describe the phenomenon that restricts the study, organizes it, and presents it in the form of tables, [16], [17]. Also [18], [19] believes that the analytical approach is concerned with interpreting phenomena, what the numbers mean, knowing their statistical significance, and interpreting and describing them in a broader way than the descriptive approach, in order to reach results related to the statistical community.

4.1 Study Population and Sample

The Jordanian economy is considered one of the emerging economies. Jordan seeks to encourage investment, increase and improve productivity, create new job opportunities, improve the standard of living at the individual level, and increase the national product. To achieve economic development programs, the government sought to create a distinct and flexible business environment to achieve investment requirements in Jordan. So Emerging economic markets are characterized by a number of problems, such as ownership structure, lack of necessary transparency, and changing opportunities and investor protection laws, all of which create problems around information asymmetry. Therefore, the presence of such defects in the Jordanian market limits banks' access to providing sufficient capital, working to balance financial leverage and capital adequacy, and explaining their impact on the earnings quality in Jordanian commercial banks. This is due to the fact that investors have a fear of not providing high-quality dividends and they are not confident that their investments will achieve the expected investment returns, including dividends. Hence, we expect a high emphasis on earnings quality. The study population consisted of all (12) Jordanian commercial banks based on the banking sector guide (Central Bank, 2024), while the study sample included all Jordanian commercial banks (comprehensive sector) to provide all the necessary

data to measure the study variables during the period extending from the year (2018 to 2022).

4.2 Development Hypothesis

The bank's capital is defined as the amount of funds that provide the bank with a portion of the liquidity that provides protection for the bank against losses that may occur in the future. Capital adequacy expresses the bank's ability to achieve financial safety and stability, in other words, to keep the amounts of liquidity required to confront events that may occur in the future. This study highlights the impact of financial leverage and capital adequacy on the earnings quality in Jordanian commercial banks, and accordingly, the following problem can be posed, which is the following main question: Is there an impact of financial leverage and capital adequacy on the earnings quality in Jordanian commercial banks?

According to the study problem and its objectives, the following hypothesis can be formulated that answers the question of the study and achieves its objectives:

4.2.1 Main Hypothesis

H0: There is no statistically significant effect at the significance ratio ($\alpha \leq 0.05$) of financial leverage measured by the ratio of total debt to total assets and capital adequacy on the earnings quality in Jordanian commercial banks.

4.2.2 Model and Measurement of Variables

The study measured variables as explained in Table 1 (Appendix) and the regression equation is given below:

$EQ = \beta o + \beta 1\ LEV + \beta 2\ CA + \varepsilon it$
βo = denote the intercept
$\beta 1$, $\beta 2$= the coefficient of the regression relation
EQ = Earnings Quality
LEV = Financial leverage
CA = Capital Adequacy
εit = The Error term

4.3 Normal Distribution of Data

The collected data was checked to ensure that it fell under a normal distribution or not. The Kolmogorov-Smirnov Test was conducted, which is used to identify the normal distribution of data if the Sig value is greater than 5%, [20].

Based on the test data shown in Table 2 (Appendix), it is clear that the distribution of the data was normal, in terms of the value of (Sig) for all variables that have values greater than (5%).

5 Discussion of the Results

5.1 Results of Descriptive Statistics for the Study Variables

The weighted average, standard deviation, highest value, and lowest value were extracted to describe the study variables during the study period extending from (2018-2022), and the results were as shown in Table 3 (Appendix).

It is clear from the results of Table 3 (Appendix) that the weighted average of the independent variable (financial leverage as measured by the ratio of total debts to total assets) during the period (2018-2022) reached (0.871) with a standard deviation of (0.0257), and the highest value reached (0.916) belonging to Union Bank in the year (2021) and the year (2022) and the lowest value (0.812) belongs to the Bank of Jordan in the year (2022). The weighted average of the independent variable (capital adequacy) during the period (2018-2022) was (0.162) with a standard deviation of (0.0237), and the highest value (0.227) belonged to the Bank of Jordan in the year (2022) and the lowest value (0.112) belonged to the Commercial Bank of Jordan in the year (2019), and the weighted average of the dependent variable (quality of earnings) during the period (2018-2022) was (-25293878.32) with a standard deviation of (212380007.9). The highest value was (226970402) belonging to the Housing Bank for Trade and Finance in the year (2022) and the lowest value was (-957151000) will return to the Arab Bank in (2021).

Before starting to test the main hypothesis, it was confirmed that there was no high correlation between financial leverage and capital adequacy through the results of the test different from our expectations, (variance inflation factor and permissible variance factor). It was found that the values of the variance inflation factor were (1.296), which is less than (5), This is an indication that there is no high correlation and that the values of the allowable coefficient of variation were (0.772), which is less than (1) and greater than (0.2). The value of the Pearson correlation coefficient between financial leverage and capital adequacy was calculated and was (0.478),

which is lower (80%) and valid for the multiple regression test, [21].

The main hypothesis states: “There is no statistically significant effect at the significance level (α≤ 0.05) of financial leverage as measured by the ratio of total debts to total assets and capital adequacy on the earnings quality in Jordanian commercial banks.”

To test the main hypothesis, multiple linear regression was used. The results of this test, shown in Table 4 (Appendix), indicate the validity of the hypothesis test in terms of (F. Sig =0.049), which is less than (0.05), and in terms of (computed F=3.181), which is greater than its value. The tabular and equal value is (3.16), and it turns out that the value of the (D.W) test, which is (1.704), is greater than its upper tabular value (du), which is (1.652), which indicates the absence of an autocorrelation problem and the validity of the regression model. The value of (R^2) indicates that financial leverage and capital adequacy explained (10%) of the variation occurring in the earnings quality in Jordanian commercial banks, and the relationship is considered moderate between the variables due to the value of (R=31.7).

The coefficients table for this hypothesis shows that the value of the beta coefficient for the financial leverage variable, measured by the ratio of total debts to total assets, came (β = 0.322) and in a direct direction, and the calculated value of (T) reached (2.251), which is greater than its tabulated value (2.00) at the level of (Sig = 0.028) and it is significant. As for the value of the beta coefficient for the capital adequacy variable, it was (β = 0.297) and in a direct direction, and the calculated value of (T) was (2.075), which is greater than its tabulated value at the level of (Sig = 0.043), and it is significant. So, we cannot accept the null hypothesis (HO), we accept the alternative hypothesis (Ha) which says: There is a statistically significant effect at the significance level (α ≤ 0.05) of financial leverage as measured by the ratio of total debts to total assets and capital adequacy on the earnings quality in Jordanian commercial banks.

5.2 Conclusion

The most important outcomes of the research are as follows:

1. There is an impact of financial leverage, measured by the ratio of total debt to total assets, and capital adequacy on the earnings quality in Jordanian commercial banks.
2. The study also found that financial leverage and capital adequacy contributed to explaining 10% of the variation that occurred in the earnings quality in Jordanian commercial banks.
3. The research showed that there is no high correlation between financial leverage and capital adequacy.

5.3 Recommendations

1. Based on the study results, there are a number of recommendations. First, It is necessary to conduct future studies related to examining the factors that improve the earnings quality, such as the effect of liquidity ratios, or the effect of the characteristics of the board of directors on the sustainability of earnings and increasing their quality.
2. The importance of commercial banks focusing on choosing the means and ratios of financing the commercial bank to achieve the goal of improving the bank’s earnings quality.
3. Commercial banks must diversify their investments into sectors and activities other than banking services to work on sustaining their earnings and raising their quality.
4. Investors should take into account the amount of debt (financial leverage) and capital adequacy when making investment decisions to evaluate quality earnings and the sustainability of profits.
5. Financial analysts and consultants should consider the financial leverage and capital adequacy when advising their existing and potential investors to maximize their earnings to ensure choose the best investment opportunities.
6. Protects Investors' Interests: Capital adequacy is vital to protect the interests of a company's investors. Shareholders invest their money in a bank with the expectation of receiving returns on their investment. Without adequate capital, a bank runs the risk of being unable to pay dividends or stock buybacks, which could result in a loss of investor confidence.

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Declaration of Generative AI and AI-assisted Technologies in the Writing Process

During the preparation of this work the authors used Grammarly for language editing. After using this service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

- Raed Kanakriyah Corresponding Author): He represents the researcher who linked the theoretical aspect with the practical aspect. He is the one who wrote the theoretical framework and previous studies to arrive at the problem of the study. Ensuring that any questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.
- Rafat salameh: He played a major role in collecting and interpreting the data for the work. He reviewed the research completely and developed the appropriate methodology for analyzing the data.
- Eman Al-Hanini : She has given final approval of the version to be published, and has agreed to be responsible for ensuring the accuracy and integrity of the procedures to ensure that the results are disclosed and consistent with previous studies.
- Rana Abu Snobar: She collected the data and classified it so that it would be suitable for analysis and she determined the types of examination necessary to achieve the study aims.
- Hanan Shkokani: She is responsible for statistical analysis and interpretation of the results. She is the one who reached the final results and developed the recommendations.

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Conflict of Interest

The authors have no conflicts of interest to declare.

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APPENDIX

Table 1. Explain Measurement criteria

Earnings Quality	EQ	Operating cash flow **(OCF)** Cash Flows from operating activities / **NI** net income that users of financial reports expect
financial leverage	LEV	The ratio of total debts to total assets
Capital Adequacy	CA	CAR = (Tier 1 Capital + Tier 2 Capital) / Risk-Weighted Assets, where Tier 1 represents shareholder's equity and retained earnings and Tier 2 includes revalued reserves, undisclosed reserves, and hybrid securities. The denominator of the equation is risk-weighted assets, Market Risk = MR., Credit Risk = CR Operational Risk = OR)

Source: *The Authors*

Table 2. Normal distribution of data based on the (K-S) test

quality of earnings	capital adequacy	leverage	variables
1.312	1.074	1.105	***K-S***
0.064	0.199	0.174	***Sig***

Table 3. Study variables descriptive statistics for the period 2018-2022

chart	N	standard deviation	weighted average	highest value	lowest value	year	variable
	12	0.0245	0.865	0.901	0.829	2018	**leverage**
	12	0.0244	0.868	0.900	0.833	2019	
	12	0.0244	0.871	0.904	0.830	2020	
	12	0.0291	0.875	0.916	0.823	2021	
	12	0.0285	0.876	0.916	0.812	2022	
	60	**0.0257**	**0.871**	**0.916**	**0.812**	**general index**	
	12	0.0199	0.156	0.196	0.115	2018	**capital adequacy**
	12	0.0266	0.164	0.208	0.112	2019	
	12	0.0247	0.165	0.201	0.114	2020	
	12	0.0230	0.162	0.195	0.118	2021	
	12	0.0266	0.163	0.227	0.133	2022	
	60	**0.0237**	**0.162**	**0.227**	**0.112**	**general index**	
	12	86366529	26790719	193148303	-132195891	2018	**quality of earnings**
	12	162237223	-70744203	129248854	-470465000	2019	
	12	291587373	-27909327	201558036	-909898000	2020	
	12	297126034	-70895642	191404283	-957151000	2021	
	12	159579976	16289061	226970402	-313778000	2022	
	60	**212380007.9**	**-25293878.32**	**226970402**	**-957151000**	**general index**	

Table 4. Main hypothesis test results

Schedule						**variance analysis**			**Summary**		**dependent variable**
T.Sig	***T* calculated**	***β* beta**	**Standard deviation**	***B***	**Independent variable**	***Df***	***F.Sig***	***F* calculated**	***R²***	***R***	
0.018	-2.425		1143029716	-2772106274	*)Constant(*	5	0.049	3.181	0.100	0.317	**Earnings quality**
0.028	2.251	0.322	1181376112	2659471405	**leverage**	57					
0.043	2.075	0.297	1280925506	2657380869	**capital adequacy**	59					

(1.514) =*dL* Minimum value *D.W*	(1.652) =*d.U* Maximum value *D. W*	(1.704) = *Durbin–Watson*
(2.00) = (*T*)	(3.16) = (*F*)	