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Impact of Financial Leverage and Return on Investment on the Profitability of Jordanian Commercial Banks

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Abstract
This Study aimed to analyzes the impact of Financial Leverage and Return on Investment on Profitability of Jordanian Commercial Banks during the Period (1995-2020), the rate of return on assets was used to measure the profitability of banks. The study sample consisted of (13) Jordanian commercial banks listed on the Amman Stock Exchange. This Study used random effect model. The results show a negative impact of the ratio of financial leverage on the profitability of Jordanian commercial banks as the higher the ratio of financial leverage, the lower the profitability of the banks. And no impact of return on investment on the profitability of Jordanian commercial banks. This study recommended the necessity of directing Jordanian commercial banks to financing by increasing capital and using retained earnings, and not to rely on debt financing (financial leverage) because of the negative effect of financial leverage on profitability.
Keywords: Financial Leverage, Return on Investment Profitability, Random Effect Model.

Introduction

Capital structuring is a very important part in the management of commercial banks, because of the tasks it performs, the most important of which is increasing profits and maximizing the wealth of owners, and thus it is linked to the continuity of banks, their development and survival, and this is what requires managements to achieve a balance in the capital structure. Given the main role that commercial banks play in the economy of any country, they must evaluate and manage their risks to determine a mixture of the appropriate capital structure that determines the sources of financing that the bank will rely on in financing its investments, whether financing by borrowing (external financing), or financing by Equity Road (internal financing).
Hence, financing by borrowing results in the so-called financial leverage, which is considered the use of financial tools that result in increased profits or losses, and is often measured by the debt ratio. Although there are advantages to using financial leverage, due to the tax savings it achieves, the cost of interest is deducted from the profits. subject to tax, as well as if the cost of these debts is less than the cost of equity, which makes it a preferred source of financing than other sources. However, increasing reliance on borrowed funds without being

efficient in their use exposes the company to consequences, especially if it exceeds the cost of these funds. The expected return on its investment.

Loans carry a fixed cost, and therefore affect profits, as well as affect the degree of risk, meaning that the financing decision must affect the investment results, but this view was contradicted by many writers and researchers in the field of financial management, and one of the most famous of them was (Miller and Modigliani, 1958). Where they indicated that the value of the facility is not affected by the decisions of financing its investments.

This study aims to know the impact of financial leverage and return on investment on the profitability of Jordanian commercial banks. This study will depend on leverage and return on investment as independent variables, and return on assets as the dependent variable.

Study Problem

The multiplicity of commercial banks and the high competition among them led to commercial banks realizing the importance of the challenges they face to deal with them in ways that lead to the least losses, as the main objective of any commercial bank is to maximize profits, reach the highest rate of profits and support its financial position; To achieve this, the financial performance of commercial banks must be efficient and have the ability to connect to the optimal financial structure by identifying sources of financing, whether by ownership or external financing. Therefore, commercial banks were required to study the impact of financial leverage and return on investment on their profitability. Hence, the study problem can be formulated through the following questions:

What is the impact of financial leverage on the profitability of Jordanian commercial banks?

What is the impact of the return on investment on the profitability of Jordanian commercial banks?

Study Importance

The study derives its importance from the importance of the presence of commercial banks. Determining the impact of financial leverage and return on investment on the profitability of commercial banks is one of the important financial indicators that need attention and study by financial managers in commercial banks because of its great impact on administrative decisions, and for the explanation it provides for the impact of leverage. Finance and return on investment for commercial banks and their profitability.

Study Objectives

This study aims mainly to show the most important factors that affect the profitability of Jordanian commercial banks, which are financial leverage and return on investment, and to know their impact on profitability.

Financial Leverage

Financial leverage is one of the most important topics that are studied to measure and evaluate performance in commercial banks, given what financial leverage does in analyzing performance through three main areas: financial leverage, operational leverage and total leverage. Through the analysis of leverage, it is possible to know how commercial banks use financing tools. In this topic, the concept of financial leverage will be clarified, its importance and the sections of financial leverage in addition to indicators of financial leverage, and its impact on profitability.

Leverage Concept

Leverage emerges from the use of fixed-cost assets in order to maximize returns; The higher the leverage will lead to the higher the return and the risk. And vice versa, the lower the financial leverage leads to the lower the return and the risk.

There are Many Concepts of Financial Leverage, Including

It is the borrowing or use of financial instruments that results in maximizing profits or losses for investors, and it is usually used for debt ratios (Al-Shammari, 2018)

"Determining the financial institution as a tool for borrowing to meet its need of money, so that the cost is the interest that is debited or paid, or that the financial institution offers shares to finance the deficit, and in this way the institution will pay the obligation to the share holders and work on distributing profits" (Chang et al., 2021)

"The degree of banks' dependence on financing their assets from fixed income sources of financing, whether they are loans or shares, which affects the profits obtained by the bank and also affects the degree of risk to which the bank is exposed." (Kanaan and Saoud, 2018)

"It is the banks' use of others' money in order to achieve the largest return for the bank, and it represents the ratio of total liabilities to total assets" (Onyenwe and Glory, 2017)

From the above we can Deduce the following Concept

The financial leverage is represented in determining the ratio of debt to total assets and it shows the amount of risks that commercial banks are exposed to, and it is considered the basis of banking work that depends on financial leverage, as deposits within banks are considered a debt and an obligation on it, and when the degree of profits changes, The resulting investment of assets will represent a risk to the bank because it is obligated to return the obligations to the owners of deposits and shareholders.

Financial Leverage Importance

Financial leverage is one of the most important elements for commercial banks, because it shows the ratio of debt to total assets, which shows the percentage of risks that banks are exposed to, taking into account that it is the basis in the banking sector, which is based on financial leverage, and the bank can know the proportion of debt that it owes. Through deposits, which show the amount of obligations on the bank, and when operating profits are exposed to the risks of instability that result from the nature of the banking work represented by the assets in the budget, this affects a risk in the payment of obligations, so financial leverage is an important element in banks to determine the optimal method of financing the capital (Nelaeva and Semenov, 2016)

The importance of financial leverage lies in that it measures the size of the financial risks that banks are exposed to by measuring the degree of fluctuation in stock movements from operating profits that result from the difference in operating profits before interest. resorting to external sources of financing, and the level of leverage efficiency is determined through the financial returns, which is an essential point in determining the leverage. to financing risks. (Lockhart, 2014)

Leverage Sections

Leverage is based on three important sections. These are: financial leverage, operating leverage, and total leverage.

1) Financial Leverage

Financial Leverage is one of the financial measures that studies the amount of capital that comes from financing in debt, in addition to it assessing the ability of a bank to pay its financial obligations. Leverage is important because banks rely on a mixture of equity and debt to finance their operations, and knowing the amount of debt the bank has to know is its ability to repay its debts when they fall due.

Leverage is one of the most important indicators used to measure the degree to which a bank can finance assets using borrowing (debt). Through leverage, we can control assets by borrowing money to inflate investment returns; As the increase in the value of the asset leads to an increase in the investment returns, while the decrease in the value of the asset leads to a decrease in the investment returns.

The degree of financial leverage is calculated as follows (Al-Nuaimi and Al-Tamimi, 2016):

Financial Leverage = Total Debt / Total Assets

Operating Leverage

Operating leverage is a cost accounting formula used to measure the degree to which a bank can increase operating income by increasing revenue. Banks must have high operating leverage to cover as much costs and liabilities as possible (Al-Serafy, 2014).

Operating leverage is used to calculate the break-even point for banks to help them set prices for sales (loans) to cover costs and make a profit, so the lower the costs, the higher the profits.

Operating leverage refers to the relative growth rates of a bank's income and expenses; As the bank whose revenues are growing faster and greater than the expenses, the operating leverage will be positive, while the bank whose expenses are growing faster and greater than the revenues will have the negative operating leverage.

The degree of operating leverage is calculated as follows: (Weygandt et al., 2017).

Operating Leverage = Marginal Contribution / Net profit

Total Leverage

Total leverage is one of the most important methods that measure the presence of total fixed costs (financial and operational) in banks, as it shows how the change in sales volume and its impact on earnings per share. As the bank with high percentages of fixed costs, the total leverage will be high.

The degree of total leverage is calculated as follows: (Rao, 2011)

Total Leverage = Financial Leverage * Operating Leverage

Table 1
Sections of Financial Leverage

Financial Leverage Sections	The equation
Financial Leverage	Total Assets / total debt
Operating Leverage	Net profit / Marginal Contribution
Total Leverage	Operating Leverage * Financial Leverage

Source: Prepared by the researcher

Measure Financial Leverage

How to measure Financial Leverage is one of the most important operations that banks rely on with the money collected from property owners to finance their assets, and when borrowing finance operations increase, this leads to an increase in profitability. Financial Leverage focuses on several indicators, the most important of which are the following:

1) Debt to Equity Ratio
This indicator is one of the most important indicators used to measure the percentage covered by the lenders' equity. This indicator is considered a measure of the financing risk and the bank's ability to repay in the long term. Whereas, a decrease in this indicator indicates an increase in security for lenders. This indicator is calculated as follows: (Al-Sayegh, 2018)
Debt to Equity Ratio = Total Debt / Total property rights

2) Debt to Total Assets Ratio
This indicator is one of the most important indicators in the financial markets used to measure the percentage of assets that are financed by debt. That is, knowing the amount of debt in the banks, and knowing the extent of their ability to repay the debt. As the increase in this indicator indicates an increase in the degree of Financial Leverage and financial risks. This indicator is calculated as follows: (Tulsian et al., 2020)
Debt to Total Assets Ratio = Total Debt / Total Assets

3) Earnings coverage ratio for interest
This indicator is one of the most important indicators that express the debt ratio and profitability used to determine the ease with which the bank pays the interest on its outstanding debts. It is sometimes called the earned interest rate. This indicator measures the bank's ability to deal with its outstanding debts. That is, it is one of the debt ratios that can be used to assess the financial condition of the bank. As market analysts and investors consider this ratio very important; Because the bank cannot grow or even survive if it cannot pay interest on its obligations to creditors.
And this indicator is calculated as follows: (Ramlall, 2019)
Earnings Coverage Ratio = EBIT / Interest Expense

Table 2
Financial Leverage Indicators

The equation	Financial Leverage Indicators
Total property rights / Total Debt	Debt to Equity Ratio
Total Assets / Total Debt	Debt Ratio to Total Assets
Earnings before interest and taxes/interest expense	Earnings Coverage Ratio

Source: Prepared by the researcher

Impact of Financial Leverage on Profitability
The financial leverage is very important and clear because it has an impact on the financial returns that represent profitability and financial performance; The most important of these returns on assets, Return on Equity, in addition to the return on deposits. Therefore, the management of commercial banks must balance the expected return and the expected risks in order to be able to maximize returns on assets through borrowed funds, and thus lead to maximizing the return on shareholders' equity.

The financial leverage achieves returns that may be greater than the cost of borrowing, equal to it, or less than the cost of borrowing. Therefore, the returns of financial leverage can be classified as follows: (Al-Najjar, 2013).

1- **Good Leverage:** A situation where the returns on borrowed funds are greater than the cost of borrowing, resulting in higher return on assets and return on equity.
2- **Medium Leverage:** The situation where the returns on borrowed funds are equal to the cost of borrowing, resulting in unchanged return on assets and return on equity.
3- **Reverse leverage:** the situation in which the returns on borrowed funds are less than the cost of borrowing, resulting in lower return on assets and return on equity.

Profitability

Commercial banks seek to achieve profit, because it is a measure of the continuity of the bank's operations and survival. The realized profit is considered not only for the bank, but also for those who deal with it who deposit their money in the banks. In this section, the concept of profitability and profitability indicators will be clarified, in addition to analyzing the determinants of profitability.

Profitability Concept

Many parties are interested in profitability in order to take appropriate decisions according to the goal of each party. Where the management is concerned with profitability in order to assess the extent of its success in the financing and investment process in order to achieve profits, and the actions and decisions of management with regard to financing and investment can be made through profitability. Therefore, investors are keen to maintain an appropriate level of return as a result of their investment, and this level of return is linked to profitability. On the other hand, the investor bears the investment risk to obtain a return that compensates for the level of risk. Thus, profitability can be expressed as the ability to generate profits.

There are many concepts that explain the concept of profitability. Such as

"The ability of the bank to use its resources to generate revenues that exceed its expenses, that is, the ability of the bank to realize the profits of its operations" (Mohammed and Radi, 2012).

Profitability expresses the amount of income that exceeds the costs incurred by the bank, and it is calculated as the total revenue (income) minus the total costs (expenses) and appears in the bank's income statement" (Otterburn, 2016).

The ability of a bank or institution to produce a return on investment based on resources compared to another investment (Laffy and Walters, 2016)

"The measure used to determine profit, which is a measure of the efficiency and success or failure of the financial institution" (Shaheen, 2017).

"A financial measure used by analysts and investors to measure and evaluate a bank's ability to generate income (profit) in relation to revenue, balance sheet assets, operating costs and shareholder equity over a specified period of time" (Jackson, 2018).

We Conclude from the Previous Concepts that Profitability

The increase on capital as a result of its flipping and management, and it is the difference between revenues and costs, and it expresses the excess return on capital, that is, it is the amount of revenues over costs. It reflects the bank's efficiency and its ability to develop and expand the banking business, in addition to reflecting the level of security within the bank.

Profitability Indicators

These indicators measure how effectively banks generate net profits. The importance of these indicators lies in the fact that the banks' achievement of an appropriate return is necessary to maintain the attraction of the banks' sources of funds from customers and shareholders. These indicators are mathematical relationships between the various components of the income statement and balance sheet. These indicators include net profit margin, return on assets, and return on equity.

1 - Profit Margin Net

This indicator measures the rate of net return achieved by the bank from the different total operating income, the net profit margin is one of the most important financial indicators, as this indicator contributes to helping investors evaluate the bank's management in making a profit, and it can be tracked by tracking the increase and decrease in the net profit margin to evaluate Bank for itself if its current business aligns with its expectations based on revenue. This indicator is calculated as follows: (Dudin, 2020).

Net profit margin = Net profit / Total operating income

2) return on assets Return on Assets

This indicator measures how profitable banks are for Total Assets, and gives managers, investors and analysts an idea of how efficiently the bank's management is using its assets to generate profits. The return on assets indicator is one of the most important and best indicators that express profitability. The higher the value of the indicator, the better, it indicates the efficiency of performance and profitability of the bank. This indicator is calculated as follows (Weygandt et al., 2019):

return on assets = net income / total assets

1 - Return on Equity Return on Equity

This indicator measures how well management is using investors' capital and the rate of return on money that investors have invested in stocks; Any net income for equity. The high Return on Equity ratio indicates the reason for buying the bank's shares. Banks with a higher return on equity are usually more able to generate cash internally, and therefore less dependent on debt financing. And this indicator is calculated as follows: (Blokdyk, 2018).

Return on Equity = Total property rights / net income

2 - Earning Per Share stock dividend

This indicator measures the overall performance of the bank, through which it is possible to analyze its development over time and helps in making comparisons to the expected profitability of the bank and the actual profitability, as well as comparing the profitability of banks with each other. This indicator is very important for its evaluation of the bank's shares. This indicator is calculated as follows: (Singhvi and Bodhanwala, 2018).
stock dividend = Number of stocks / net income

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Table 3
Profitability indicators

The equation	Profitability Indicators
Total operating income / Net profit	Net Profit Margin for stock
total assets / net income	return on assets
Total property rights / net income	Return on Equity
Number of stocks / net income	stock dividend

Source: Prepared by the researcher

Profitability Determinants Analysis
The profitability of commercial banks can be analyzed by analyzing the determinants of this profitability, using what is known as the Du Pont Analysis model. The return on the bank's assets is the product of multiplying the net profit margin by the asset utilization rate. The return on equity is the product of multiplying the return on assets by the equity multiplier. This equation is calculated as follows: (Berghoff, 2017).

Return on Assets = Net Profit Margin * Asset Utilization Rate

$$\frac{net\ income}{total\ assets} = \frac{total\ operating\ revenue}{total\ assets} * \frac{net\ income}{total\ operating\ revenue}$$

Return on Equity = Return on Assets * Equity Multiplier

$$\frac{net\ income}{property\ rights} = \frac{total\ assets}{property\ rights} * \frac{net\ income}{total\ assets}$$

The Third Topic: Previous Studies
Arabic Previous Studies
The impact of the use of debt in financing on profitability An applied study on banks listed in the Saudi stock market (Tadawul) 2006-2012 (Mohammed, 2014).
This study aimed to study the impact of debt financing (financial leverage) on the profitability of Saudi banks during the period (2006-2012). The study sample consisted of (10) banks listed in the Saudi stock market. This study used (debt-to-total assets ratio, and debt-equity ratio) to measure financial leverage as an independent variable for the study, while (return on investment, return on equity, in addition to ordinary share earnings) was used to measure the profitability of the study sample banks as a dependent variable. to study. This study adopted a fixed and random regression effect model for analysis. This study concluded that there is an effect of debt on the return on equity, while there is no effect of debt on the return on investment and earnings per share. This study recommended the necessity of increasing the capital of Saudi banks in order to be able to face potential losses in the event of the bank's inability to generate profits.

The impact of financial leverage on profitability An applied study on non-financial companies listed on the Damascus Stock Exchange (Kanaan and Saoud, 2018).
This study aimed to analyze the impact of financial leverage on the profitability of non-financial companies listed on the Damascus Stock Exchange during the period (2008-2016). The study sample consisted of (4) companies listed on the Damascus Stock Exchange. And this study used (debt ratio, and borrowing ratio) to measure financial leverage as an independent

variable for the study, while (return on assets) was used to measure profitability as a dependent variable for the study. This study adopted correlation analysis and regression analysis using SPSS software. This study concluded that there is an effect of financial leverage on profitability.

The impact of financial leverage on the performance of Libyan commercial banks (an applied study on Al Wahda Bank) (Al-Taraban and Belqasem, 2019).
This study aimed to study the impact of financial leverage on the performance of Libyan commercial banks (the performance represents the profitability of the banks) during the period (2004-2014). The study sample consisted of one Libyan commercial bank (Al Wahda Bank). This study used (deposit liabilities) to measure financial leverage as an independent variable for the study, while (return on equity and return on assets) was used to measure the profitability of the study sample bank as a dependent variable for the study. This study adopted the analytical approach in analyzing the financial statements. This study found a negative impact on the bank's profitability. This study recommended that the bank's debts should be reclassified more accurately, and that it is based on doubling its efforts in following up and collecting these debts and reducing the risks facing credit.

The impact of the capital structure on the performance of Islamic and conventional banks in Turkey: a comparative study (Kalash, 2019).
This study aimed to study the impact of the capital structure, the rate of return on assets, and the rate of return on equity in Turkish Islamic and conventional banks during the period (2008-2017). The study sample consisted of (5) Islamic banks and (11) conventional commercial banks. This study used (debt ratio) to measure the capital structure as an independent variable for the study, while it used (return on assets, and return on equity) to measure the performance of banks as a dependent variable for the study. This study relied on ordinary least squares models. This study found a positive impact on the return on assets and the rate of return on equity.

The effect of financial leverage on the profitability of banks listed in the Damascus Securities Exchange (Al-Moued, 2019).
This study aimed to analyze the impact of financial leverage on the profitability of Syrian banks during the period (2013-2017). The study sample consisted of (11) banks listed in the Damascus Stock Exchange. This study used (debt ratio) to measure financial leverage as an independent variable for the study, while (return on assets, return on equity, in addition to net interest margin) was used to measure profitability in banks as a dependent variable for the study. This study adopted the experimental method based on the study of the causal link between the variables. This study concluded that there is an adverse effect of financial leverage on the return on assets, and that there is no effect of financial leverage on the return on equity, while there is a direct effect of financial leverage on the net interest margin. This study recommended increasing financing through capital and using retained earnings and reserves to mitigate the negative impact of financial leverage on the return on assets.

Financial leverage and its role in the profitability indicators of Islamic banks in Iraq, a case study: Islamic Cooperation Bank for Investment for the years (2015-2018). (Al-Waeli and Al-Zubaidi, 2019).

This study aimed to analyze the impact of financial leverage on profitability indicators in Iraqi banks during the period (2015-2018). The study sample consisted of one bank (Islamic Cooperation Bank for Investment). This study used (capital to total assets) to measure financial leverage as an independent variable for the study, while it used (return on equity, return on assets, in addition to the percentage of return on deposits) to measure profitability indicators as a dependent variable for the study. This study relied on simple correlation analysis, simple regression analysis, and multiple regression analysis. This study concluded that there is a direct relationship between the ratio of financial leverage and profitability indicators, as the higher the ratio of financial leverage, the higher the profitability indicators. This study recommended relying less on borrowed funds and more on retained earnings due to borrowing risk.

Foreign Previous Studies

Capital Structure and Profitability in Srilankan Banks. (Niresh, 2012)

This study aimed to analyze the impact of the capital structure on the profitability of Sri Lankan banks during the period (2002-2009). The study sample consisted of (10) banks listed on the stock exchange. And this study used (total debt to equity, in addition to total debt to assets) to measure the capital structure as an independent variable for the study, while this study used (net profit, return on working capital, return on equity, in addition to net interest margin) to measure profitability as a dependent variable for the study). This study adopted a quantitative approach for analysis. This study concluded that there is a negative impact of total debt to assets on net profit, return on working capital, in addition to the net interest margin. The study recommended the formulation of better policy decisions regarding the capital structure.

The Effect of the Financial Leverage on the Profitability in the Tourism Companies (Analytical Study- Tourism Sector- Jordan) (Shamaileh and Khanfar, 2014)

This study aimed to determine the impact of financial leverage and return on investment on the profitability of tourism companies in Jordan during the period (2014). The study sample consisted of (5) companies listed on the Amman Stock Exchange. This study used (debt ratio and return on investment) to measure financial leverage and return on investment as independent variables for the study, while (return on assets) was used to measure profitability as a dependent variable for the study. This study concluded that there is an effect of financial leverage and return on investment on profitability.

Impact of Leverage on Corporate Profitability: A Study on Listed Financial Sector in Sri Lanka (Murugesu rt al., 2016)

This study aimed to study the impact of financial leverage on the profitability of Sri Lankan commercial banks and insurance companies during the period (2008-2012). The study sample consisted of (7) commercial banks and (8) insurance companies. This study used (operating leverage and financial leverage) to measure financial leverage as an independent variable for the study, while this study used (return on assets, return on equity, in addition to the net profit ratio) to measure profitability. This study adopted multiple linear regression method for analysis. This study concluded that there is no effect of operating leverage on the return on equity, while it affects the return on assets and net profit. And there is an effect of financial leverage on the return on equity.

Effect of Financial Leverage on Firm's Performance: A Study of Nigerian Banks (2006 -2015). (Onyenwe and Glory, 2017)

This study aimed to analyze the impact of financial leverage on the performance of Nigerian banks during the period (2006-2015). The study sample consisted of (13) banks listed on the Nigeria Stock Exchange. This study used (long-term debt, short-term debt, in addition to the interest coverage ratio) to measure financial leverage as an independent variable for the study, while (profitability, bank size, liquidity, and bank efficiency) was used to measure the performance of the study sample banks. This study adopted multiple linear regression method for analysis. This study concluded that there is an effect of financial leverage on the profitability and efficiency of banks. This study recommended the need to ensure management and that financial decisions achieve the objectives of maximizing the wealth of shareholders.

The Impact of Financial Leverage on the Performance of Commercial Banks: Evidence from Selected Commercial Banks in Ethiopia (Zelalem, 2020)

This study aimed to analyze the impact of financial leverage on the performance of Ethiopian commercial banks as measured by the profitability of banks during the period (2008-2017). The study sample consisted of (5) Ethiopian commercial banks. This study used (debt to assets ratio, debt to equity ratio, interest coverage ratio, in addition to the cash coverage ratio) to measure financial leverage as an independent variable for the study, while (return on equity) was used to measure profitability as a dependent variable for the study. This study adopted descriptive statistics and a fixed-effect model for analysis. This study concluded that there is a negative impact of the debt-to-assets ratio on the performance of banks, while there is a positive impact of the debt-to-equity ratio and the interest coverage ratio on the banks' performance.

The Determinants of profitability in listed enterprises: A study from Vietnamese stock exchange (Nguyen and Nguyen, 2020)

This study aimed to analyze the factors affecting profitability in Vietnamese companies during the period (2014-2017). The study sample consisted of (1343) companies in the Vietnamese stock exchanges. This study used (size, capital adequacy, liquidity, financial leverage, in addition to solvency ratio) to measure the factors affecting profitability as an independent variable for the study, while this study used (return on assets, return on equity, in addition to return on sales) to measure Profitability as a dependent variable for the study. This study adopted a fixed and random regression effect model for analysis. This study concluded that there is a positive effect of volume on the return on assets and sales, while its negative impact on the return on equity. Capital adequacy affects positively the return on assets and sales, while it negatively affects the return on equity. Financial leverage positively affects the return on equity and sales, while it has a positive effect on the return on assets. Liquidity has a positive impact on the return on assets and equity, while it has a negative impact on the return on sales. Solvency has a positive impact on the return on assets and sales, while it has a negative impact on equity.

Analyzing The Effect of Bank Characteristic on Profitability in Banking Companies Listed In Indonesia Stock Exchange (Ekonomi, 2021)

This study aimed to analyze the impact of the bank's characteristics on the profitability of Indonesian banks during the period (2014-2018). The study sample consisted of (38) banks listed on the Indonesian Stock Exchange. This study used (net profit margin, credit risk, liquidity risk, securities risk, capital risk, bankruptcy risk, bank size, diversification risk, in addition to cost efficiency) to measure the bank's characteristics as an independent variable for this study, while it used (return on assets). , and return on equity to measure profitability as a profitability variable for this study. This study concluded that credit risk and bankruptcy risk have an impact on profitability, while there is no effect on liquidity risk, capital risk and bank size. This study adopted the multiple linear regression method. And there is an impact of the risks of securities, diversification of banks and the net profit margin, while there is a negative impact of the cost of efficiency on profitability. This study recommended improving the financial ratios to improve the performance of banks.

The Impact of Financial leverage on ROE for Islamic Banks in Asian region: The Study Based on Signaling Theory (Rahim et al., 2021)

This study aimed to determine the effect of financial leverage on the return on equity of Islamic banks in Asian countries during the period (2010-2019). The study sample consisted of (20) Islamic banks in Asian countries. This study used (equity to total liabilities) to measure financial leverage as an independent variable for the study, while it used (return on equity) to measure the profitability of banks as a dependent variable for the study. This study adopted a fixed regression effect model for analysis. This study concluded that there is a positive effect of financial leverage on the return on equity.

What Distinguishes this Study from Previous Studies?

This study aims to analyze and measure the impact of financial leverage and return on investment on the profitability of Jordanian commercial banks during the period (1995-2020). This study differs from the studies that talked about Jordan in that it studied the period (1995-2020), while the study (Shamaileh and Khanfar, 2014) was during the period (2014), and thus it is characterized by the novelty of the time period.

The Methodology of the Study

Study Population and Sample

The study population consists of all banks operating in Jordan, while the study sample included all Jordanian commercial banks listed on the Amman Stock Exchange, which number (13) banks according to the website of the Amman Stock Exchange within the study community, and Islamic banks were excluded due to the different nature of their work from the rest of the banks, provided that Commercial banks must meet the following conditions:
The bank must be listed on the Amman Stock Exchange throughout the study period (1995-2020).
That the bank has not been suspended from trading during the study period.
Availability of all data required to measure variables for each bank.

Study Model

$PROF_{i,t} = \alpha + \beta_1 * LEV_{i,t} + \beta_2 * ROI_{i,t} + \varepsilon_{i,t}$

whereas

Profi, t: the profitability of banks as measured by the return on assets of bank i in year t
LEVi, t: the leverage measured by the debt ratio of bank i in year t
εi,t: random error

Study Hypotheses

H0.1: There is no statistically significant effect at the significance level (α≤ 0.05) of financial leverage on the profitability of Jordanian commercial banks.

H0.2: There is no statistically significant effect at the significance level (α≤ 0.05) for the return on investment on the profitability of Jordanian commercial banks.

Data Analysis and Hypothesis Testing

This topic includes a presentation of the results that have been reached and testing of the hypotheses of the study, after the researcher has collected the necessary data for the study, where appropriate statistical analyzes were carried out to reach the results through which the hypotheses of the study can be verified.

Tests Used in Data Analysis

Unit Root Test

Financial statements are often characterized by the presence of structural changes that affect the degree of stability of time series, so determining the degree of stability is important before testing the relationships between variables, as this requires data instability and integrity of the same degree (Al-Suhaibani, 2007). The random variable is stable, so the original series is integrated of the first order (Integrated of Order1), i.e. I(1).

But if the series is stable after obtaining the second differences (the first differences to the first differences), then the first series is integrated from the second order, i.e. I(2) and so on, if the original series is stable, it is said to be integrated from the zero order, and thus it does not have a unit root, That is, (I(0), in general, the series (Xt) is an integral of degree (d) if it is stationary at the level of differences (d), so it contains a number (d) unit root (Seddighi et al., 2000).

A number of studies, including the study of Nelson and Polsser (1982), showed that most time series contain a unit root, and the studies conducted by Stock and Watson (1989) showed that the levels of those time series are unstable. This means that the mean and variance of the variable are not independent of time with the presence of unit roots in any time series, which would lead to a spurious correlation and problems in standard analysis and inference (Al-Abdali, 2005). There are a number of tests that can be used to ascertain the presence or absence of a unit root, that is, to determine the stability of the time series, including the method of Phillips and Perron (1988) (PP). The Augmented Dickey-Fuller (ADF) test (PP) differs from the (ADF) in that it does not have lagging values, which takes into account the association in the first differences in a time series using non-scientific correction and allows for the presence of Non-zero mean and linear direction of time. It is used to test the stability of the variables used over time (Gujarati & Porter, 2009), and the traditional tests for the stability of time series, such as the Dickey Fuller test and Philips Perron test the hypothesis of a unit root (and thus the instability of the time series) as a null hypothesis. From data stability until we get real results and not fake results.

Time series stability tests for the study variables: ADF-Fisher-Chi-squerPrb.

In order to test the stability of the time series of the study variables, both the developed Dickey-Fowler test and Phillip Speron (ADF-Fisher-Chi-squer, PP-Fisher-Chi-squer) were used in order to ensure the stability of the time series, as the instability of the time series leads to regression results. The two tests were conducted for the study variables at the level, and it was shown by the results in Table 4 that the variables were stable at the level according to the two tests (Developed Dickie Fuller and Philip Spiron) and through the value of morale, which was less than 5% for both tests, and therefore rejected The null hypothesis and acceptance of the alternative hypothesis which states that there is no unit root, that is, the time series of the study variables has become stable.

Table 4
Philips Byrne (PP) and Dickey Fuller Advanced (ADF) test

The result	**PP- Fisher-Chi-squer prb.**	**ADF-Fisher-Chi-squer prb.**		**The variable**
Stable	0.0002	0.0014	**Level**	**Prof**
	0.0017	0.0288	**Level**	**Lev**
Stable	0.0000	0.0000	**Level**	**ROI**

Source: Prepared by the researcher - software outputs E-Views

Multiple Correlation Test
Before performing the regression, it is necessary to make sure that there is no high correlation between the independent variables. Table 5 shows the results of the correlation between the independent variables. The results show that there is no high correlation between the two variables.

Table 5
Results of the Pearson correlation coefficient between the independent variables

ROI	LEV	
-0.059	1	LEV
1		ROI

Source: Prepared by the researcher based on the outputs of E-VIEWS

Table 5. shows the results of the Haussmann test, we note through the probability value, which amounted to 0.2203, which is greater than 5%, and therefore the appropriate model for estimation is the random effect model

Table 6

Haussmann test results

	Correlated Random Effects - Hausman Test		
		Equation: Untitled	
	Test cross-section random effects		
Prob.	Chi-Sq. d.f.	Chi-Sq. Statistic	Test Summary
0.2203	2	3.025702	Cross-section random
	Cross-section random effects test equation:		
		Dependent Variable: PROF	
		Method: Panel Least Squares	
		Date: 07/26/21 Time: 12:31	
		Sample: 1995 2020	
		Periods included: 26	
		Cross-sections included: 13	

Source: Prepared by the researcher based on the outputs of E-VIEWS

Testing The Hypotheses of The Study

Table 6 shows the results of the random effect model. The results show the following:

There is a negative and moral impact of financial leverage on the profitability of Jordanian commercial banks, where the value of the impact factor is -0.028, meaning that with the stability of other factors, 1% of the change in financial leverage leads to -0.028 of the change in the profitability of Jordanian commercial banks, and therefore the hypothesis is rejected The first sub-subkey: There is no statistically significant effect at the significance level (α≤0.05) of financial leverage on the profitability of Jordanian commercial banks, and the alternative hypothesis is accepted that there is a statistically significant effect at the significance level (α≤0.05) of financial leverage on the profitability of Jordanian commercial banks.

The absence of a significant effect of the return on investment on the profitability of Jordanian commercial banks, where the value of the probability values reached 0.4684, and therefore the second sub-hypothesis is accepted. There is no statistically significant effect at the significance level (α≤0.05) of the return on investment on the profitability of Jordanian commercial banks, and it was rejected The alternative hypothesis that there is a statistically significant effect at the significance level (α≤0.05) for the return on investment on the profitability of Jordanian commercial banks.

It is also shown by the value of the coefficient of determination that 0.047% of the changes in the profitability of Jordanian commercial banks are due to both financial leverage and return on investment, and therefore the main hypothesis which states that there is no statistically significant effect at the level of significance (α≤0.05) is rejected.) of financial leverage and return on investment on the profitability of Jordanian commercial banks, and acceptance of the alternative hypothesis that there is a statistically significant effect at the level of significance of financial leverage and return on investment on the profitability of Jordanian commercial banks.

As shown by the probability of F(0.0002), the model is valid for measuring the causal relationship between the independent variables and the dependent variable.

Table 7
Results of the random effect model

		Dependent Variable: PROF		
Method: Panel EGLS (Cross-section random effects)				
		Date: 07/26/21 Time: 12:30		
		Sample: 1995 2020		
		Periods included: 26		
		Cross-sections included: 13		
	Total panel (balanced) observations: 338			
Prob.	t-Statistic	Std. Error	Coefficient	Variable
0.0000	5.524464	0.006463	0.035704	C
0.0001	-3.982150	0.007256	-0.028895	LEV
0.4684	0.725987	3.08E-05	2.24E-05	ROI
8.358275	F-statistic		0.047528	R-squared
0.000287	Prob(F-statistic)		0.041842	Adjusted R-squared

Source: Prepared by the researcher based on EVIEWS outputs.

Results Discussion

The results show the following

1- The variables are stable at the level according to the PP test and the ADF test, and through the value of significance, which was less than 5% for both tests, and thus rejecting the null hypothesis and accepting the alternative hypothesis that states that there is no unit root, meaning that the time series of the study variables became stable.

2- There is no high correlation between the independent variables.

3- There is a negative and moral impact of financial leverage on the profitability of Jordanian commercial banks, where the value of the impact factor is -0.028, meaning that with the stability of other factors, 1% of the change in financial leverage leads to -0.028 of the change in the profitability of Jordanian commercial banks, and therefore the hypothesis is rejected The first sub- hypothesis: There is no statistically significant effect at the significance level ($\alpha \leq 0.05$) of financial leverage on the profitability of Jordanian commercial banks, and the alternative hypothesis is accepted that there is a statistically significant effect at the significance level ($\alpha \leq 0.05$) of financial leverage on the profitability of Jordanian commercial banks.

4- There is no significant effect of return on investment on the profitability of Jordanian commercial banks, where the probability values are 0.4684, and therefore the second sub-hypothesis is accepted. There is no statistically significant effect at the significance level ($\alpha \leq 0.05$) for return on investment on the profitability of Jordanian commercial banks, and the alternative hypothesis is rejected The statement that there is a statistically significant effect at the significance level ($\alpha \leq 0.05$) for the return on investment on the profitability of Jordanian commercial banks.

5- It is also shown by the value of the coefficient of determination that 0.047% of the changes in the profitability of Jordanian commercial banks are due to both the financial leverage and the return on investment, and therefore the main hypothesis which states that there is no statistically significant effect at the level of significance ($\alpha \leq 0.05$) is rejected. of financial leverage and return on investment on the profitability of Jordanian commercial banks, and acceptance of the alternative hypothesis that there is a statistically significant effect at the level of significance of financial leverage and return on investment on the profitability of Jordanian commercial banks.

6- As shown by the probability of F(0.0002), the model is valid for measuring the causal relationship between the independent variables and the dependent variable.

Results

1- There is an adverse effect between the ratio of financial leverage and the profitability of Jordanian commercial banks, as the higher the ratio of financial leverage, the lower the profitability of the banks.

2- The absence of an impact of the return on investment on the profitability of Jordanian commercial banks, due to the nature of the work of banks as they aim to achieve the highest returns to increase profit.

Recommendations

1- The necessity of directing Jordanian commercial banks to financing by increasing capital and using retained earnings, and not to rely on debt financing (financial leverage) because of the negative impact of financial leverage on profitability.

2- Carrying out future studies using all profitability indicators and studying them during the upcoming time periods to ensure the stability of the results of this study.

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