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The Impact of Operating Cash Flow on Earnings Per Share (Case Study Based on Jordanian Banks)

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Abstract

The purpose of this article is to assess if the earnings per share achieved by banking sector in Jordan influenced by operating cash flow to total assets (OTTA) and operating cash flow to total debts (OTTD) or not. In this study relied on two operating cash flow indicators (OTTA and OTTD) as independent variables and depend on earnings per share (EPS) as dependent variable. To fulfill this objective, the research population is drawn from the banking sector, with the sample comprising 15 banks operating in Jordan, all of which are listed on the Amman Stock Exchange (ASE). The data spans the years 2015 to 2019. The study's data was acquired from the financial reports submitted annually by these banks. The results show that the earnings per share achieved by banks that operated in Jordan has negatively impacted by OTTA, whereas it has positively influenced by OTTD.

Keywords: Operating cash flow to total assets (OTTA), operating cash flow to total debts (OTTD), earnings per share (EPS), jordanian banks, amman stock exchange.

Introduction

The main aim of financial report is to present useful information about firms and its assets to its primary users. his information often includes quantitative data that can be extracted from financial statements, which encompass the income statement, retained earnings statement, balance sheet statement, change in equity statement, and cash flow statement, these financial statements are vital tools for decision-making by various parties, including lenders, creditors, shareholders, as well as present and potential investors. To gain a proper understanding of this data, it's essential to conduct analysis through suitable methods and tools.

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This analysis is crucial for converting raw data into valuable information, enabling decision-making, and predicting about various aspects of a company's performance, growth, and prospects. Subsequently, the outcomes of this analysis are utilized to benefit various interested parties. This process involves using accounting information, which includes comparing these numbers with the previous period of the same company and benchmarking them against other companies within the same sector. Evaluating the financial metrics obtained from operational cash flows is crucial for ascertaining whether a bank generates adequate money to sustain its core operations, assessing the efficiency of the company's to carry out ordinary operations .

Earnings per share is a tool for evaluating companies' performance. Furthermore, the policies, strategies and decisions implemented by the company's leadership(Yahiya, et al., 2023). Hence, EPS represent the company's capability to generate and enhance income attributed to ordinary shareholders that derived from its operations (Saleh 2023) . This ratio serves as a indicator of a bank's financial health and is employed by investors to evaluate a bank's performance and profitability when making investment decisions. Investors often compare it with other banks in the same industry to gauge relative performance. It also aids investors in determining whether a stock is reasonably priced. In general, an increase in this ratio indicates that the bank is becoming more profitable over time.

The problem of the study

The banks was employed in Jordan has garnered substantial global concentration, primarily driven by the increasing interest and willingness of clients to interact with Jordanian banks (alqsass and maali 2022). Which led to increased interest and awareness, especially during the recent global crisis. Therefore,(Khan, el at 2023) the earnings achieved by the bank and the sources of funds derived from primary activities represent a major issue of this article: “Inability to generate sufficient funds from operational activities will have a negative or unfavorable impact on earnings per share”.

Important of the study

Initial issue, it helps shareholders to organize and take the best decisions regarding to all aspects of their investment. Secondly, the rises in the bank's earnings will lead to an enhancement of its position in the market. Thirdly(Wang, et al., 2023) achieving the optimal level of operating cash flow is a crucial concern for bank management. This optimization enables the bank to maximize its share price and enhance shareholder wealth, making it a fundamental priority. Fourthly(Dauod , et al 2023), Governments play a vital role in creating laws and regulations that support firms cash flow and their ongoing operations. When a bank cannot generate sufficient income from its primary business activities(Peng,et,al 2023), it may resort to temporary external funding through financing or investments. However, this approach is not sustainable in the long term, also It exposes the bank to risk related to going concern and ability to sustain its operations.

Objectives of the study

The prime aim in this article is to explore and assess the impact of operational cash flow on earnings per share of several banks that employed in Jordan', during the five-year span from 2015 to 2019, and employ a variety of statistical techniques to ascertain whether this effect is favorable (positive), adverse (negative),or statistically negligible (insignificant).

Research Questions

This part involves two questions that require answers to ascertain if operating cash flow influence on earnings per share of these banks, these questions attributed to:

- 1- Will the earnings per share be affected by operating cash flow?
- 2- Which is the appropriate degree of operating cash flow must be held to optimize earnings?

Literature Review

Saleh (2023) Attempt to recognize any significant associations among firm size, various financial ratios, and Operational cash flows on Earnings per Share of Palestinian industrial sector. This paper depend on 13 industrial firms registered on Palestine Exchange from 2016 to 2020. The findings indicate that the earning per share has significant affected by company's size and financial leverage. however it has insignificant influenced by liquidity and operating cash flows.

Aburishheh et al. (2022) investigates the correlation among Operational cash flow and free cash flow with earnings management. The researcher utilized a sample comprising of 56 firms in Jordan's industrial sector covered the period started at 2011 to 2020, the findings illustrate that the earnings management has significant influenced by operating cash flow and free cash flow. However, it has insignificant influenced by firm size.

Hamshari (2020) examine if the earning per share is influenced by cash flow from operating activities , This paper depend on secondary data gathered from 5 banks, 5 insurance companies and 5 education companies (service firms) registered on the Amman Stock Exchange covers the time span starts at 2014 to 2018. The results indicate that the earnings per share achieved by these firms has a positively influenced by operating cash flow. The author recommends governments, investors, and financial management in companies must pay attention to operational activity because of its impact on the profitability and continuity of companies, also creating economic conditions, circumstances, and regulations that promote to achieve this goal.

Abualrob and Maswadeh (2020) examines if earnings per share is affected by various financial indicators acquired from operational cash flows. this article relied on secondary data gathered from 16 commercial banks employed in Jordan covers the time span starts at 2013 to 2017, the outcomes illustrate that the cash flows generated from operating to net income ratio, cash flows generated from operating to credit facilities ratio, and cash flows generated from operating to deposit ratio have a statistically significant influence on earnings per share achieved by these banks.

Cheng(2023) aims to investigate whether stock returns is influenced by profitability, capital structure and operating cash flow of 42 Banks employed in Indonesian cover 3 years from 2012 to 2014, the findings indicate that the profitability and operational cash flow have a positive influence on returns on each stock, however stock returns has insignificant influenced by capital structure.

Dergham (2010) test whether a relationship exists among cash flow acquired from operational (OCF), cash flow acquired from investing (ICF), cash flow acquired from financing (FCF) and earnings per share achieved by 7 National banks operated in Palestine during (2000–2006). The results demonstrate that the earnings per share has been positively influenced by (OCF) and (FCF). Otherwise, the (ICF) has a negative influence.

Ahmad(2024) examine whether earnings per share is affected by cash flows generated from operating to income and cash flows generated from operating to sales, the study focus on 21

businesses in the industrial sector registered on the IDX covered the term 4 years from 2003 to 2006. The finding demonstrate that earnings per share was significantly impacted by cash flows generated from operating to net income ratio, however it has insignificant influenced by cash flows generated from operating to sales ratio.

Hypotheses of the study

H0: *There is no significant relationship among operating cash flow and earnings per share.*

Sub hypotheses:

H0.1: *There is no significant relationship among operating cash flow to total assets and earnings per share.*

H0.2: *There is no significant relationship among operating cash flow to total debts and earnings per share.*

Population and Sample

In this article, Jordanian banks are regarded as the population under consideration, In accordance with this, the sample consisting of 15 banks that employed in Jordan , was specifically chosen from the Amman Stock Exchange across the span of 2015 up to 2019. The grand total is 75 observations were derived from the annual reports available on the websites related to this banks. Data is expected to become elucidated through descriptive analysis, correlation evaluation shall be utilized to examine the association within the operating cash flow and earnings per share.

Variables Selection and Measurements

Dependent Variable

****Earnings per share:** signifies the proportion of bank profit that is obtainable by ordinary or common stock at the end of the financial period (Hamshari 2020).

The calculation for (earnings per share) is illustrated as follows:

Earnings per share(EPS)= (Net income after tax - dividends paid to preference shareholders) / average number of ordinary shares(1)

This ratio represent a bank's financial stability, and utilized by investors to assess a bank performance and profitability before made investing decisions through comparing it with other banks in the same industry, also helps investors decide if the stock is fairly priced or not. In overall the increases in this ratio means the bank is more profitable.

Independent Variables

**** Operating cash flow:** the balance of cash generated by the bank from principle and normal operations , that represent the income acquired from ordinary activities and excluded any investing or financing activities (Ahmad 2024).

The calculation for (operating cash flow ratios) is illustrated as follows:

Operating cash flow to total assets ratio (OTTA)=Operating cash flow / Total assets (2)

This indicator used by investors , creditors and other primary users to assessing whether a bank generates adequate money to sustain its core operations, and measures the amount of operating cash flow can generate for every dollar of assets that bank own. The increases in this ratio compared with previous years or compared with other competitors mean the bank is more efficient in terms of utilizing its own assets.

Operating cash flow to total debts ratio (OTTD)=Operating cash flow / Total debts (3)

This indicator used by investors , creditors and other primary users to assessing enhance bank growth, repay its debts, assess ability of banks to going concern, all without the necessity of seeking external financing options, also it be used to estimate what's the timeframe required for the bank to settle its entire debt based on cash generated from operations activities. Furthermore, it represent a prime indicator used to forecast of the financial status and bank's financial stability. A rises in this indicator signifies that a bank is better able to settle its entire debt, also allowing for additional borrowing as needed

Table (1) Variables Measurements

Type of variable	variable name	Symbol	Assessment
Dependent Variable	Earnings per share	EPS	(Net income after tax (-) dividends paid to preference shareholders)/average number of ordinary shares
Independent variable	Operating cash flow to total assets ratio	OTTA	Operating cash flow / total assets
Independent variable	Operating cash flow to total debts ratio	OTTD	Operating cash flow / total debts

Study Model

$$EPS_{A,T} = \alpha + \beta_1 OTTA_{A,T} + \beta_2 OTTD_{A,T} + \epsilon_{A,T} \dots (4)$$

Whereas:

$EPS_{A,T}$: earnings per share earned by bank (A) at particular timeframe (T).

α : constant.

$OTTA_{A,T}$: operating cash flow to total assets ratio held by bank (A) at particular timeframe(T).

$OTTD_{A,T}$: operating cash flow to total debts ratio held by bank (A) at particular timeframe(T).

$\epsilon_{A,T}$: error of estimation.

Analysis

Normal Distribution and Multicollinearity Test

Table (2) Outcomes of normal distribution and multicollinearity test

Variables	(Skewness)	(Kurtosis)	(VIF)	(Tolerance)
Operating cash flow to total assets	0.505	0.891	2.398	0.417
Operating cash flow to total debts debtliabilities	-2.507	1.454	2.398	0.417
Earnings per Share	0.697	-0.032	-	-

According to (Maddala, 1992) for data normal distribution the table above shows that the values of skewness and kurtosis fall between (-3 and 3), Skewness values were between (0.505 and -2.507) and Kurtosis values were between (-0.032 and 1.454), which means that the data in this study follows normal distribution. Also, the variance inflation factor (VIF) outcomes were fall between (1 and 10), this is mean that there is no exist any multicollinearity among the two independent variables in regression analysis so we can trust the data. Smaller values of tolerance less than (0.20) according to (Ahmad ,2024) denote higher levels of multicollinearity, and the table above shows that the tolerance values were greater than 0.20, which means that there is no multicollinearity problem.

Descriptive Analysis

The following descriptive analysis table demonstrates the relation among operating cash flow to total assets (OTTA) and operating cash flow to total debts (OTTD) as the independent variables with earnings per share (EPS) as the dependent variable:

Table (3) descriptive analysis

No.	Bank	OTTA	OTTD	EPS
1	Jordan Islamic bank	-0.0106	-0.0343	0.2894
2	Islamic International Arab Bank	-0.0287	-0.0767	0.2694
3	The Housing Bank	-0.0143	-0.0165	0.3614
4	Jordan Kuwait Bank	0.0066	0.0078	0.3346
5	Ahli Bank	0.0162	0.0185	0.0908
6	Invest Bank	0.0229	0.0275	0.1518
7	Ettihad Bank	0.0378	0.0428	0.2190
8	Bank of Jordan	0.0093	0.0112	0.2226
9	Jordan Commercial Bank	-0.0111	-0.0129	0.0692
10	Bank Safwah	-0.0628	-0.3889	0.0662
11	Cairo Amman Bank	0.0055	0.0059	0.1856
12	Arab Jordan Investment Bank	0.0204	0.0232	0.1182
13	SocieteGeneraleBank	0.0283	0.0316	0.0942
14	Capital Bank	-0.0121	-0.0142	0.0978
15	ABC Bank	-0.0116	-0.0136	0.0988

Note: the EPS stands for the earnings per share. While the OTTA is an abbreviation for operating cash flow to total assets. The OTTD represents the operating cash flow to total debts.

According to findings acquired from above table, The maximum value for the earning per share relate the Housing Bank(0.3614) in the period (2015-2019), while the minimum value for the earning per share relate Bank Safwah(0.0662) in the same period. Also, the results show that all banks achieved earnings in the period (2015-2019).

The maximum value for the operational cash flow to total assets relate the Ettihad Bank (0.0378) in the period (2015-2019), whilst the minimum value relate Bank Safwah (-0.0628) in the same period.

The maximum value for the operational cash flow to total debts relate Ettihad Bank (0.0428) in the period (2015-2019), whilst the minimum value relate Bank Safwah (-0.3889) in the same period.

Table (4): Descriptive statistics for all banks together

Variable	Mean	STD	Max	Min
Operating cash flow to total assets	-0.000277	0.0531	0.1843	-0.105
Operating cash flow to total debts	-0.025909	0.1254	0.2060	-0.589
Earnings per Share	0.177933	0.1052	0.4830	0.018

Regarding to the EPS, the outcomes illustrate that the mean earnings for every share of banking sector employed in Jordan is 0.177 . The minimum earnings per share is 0.018. Meanwhile, the highest value is 0.483 . The spread among data and the average relate to EPS is 0.105 . which suggests that each bank bears up a risk at 10.5 % of earnings deviation from the arithmetic

mean associated with this sample. Furthermore, this implies that for every dollar invested in ordinary share, the bank earns a profit of 0.177 dollars.

Regarding to the OTTA, the findings illustrate that the mean operational cash flow to total assets of Jordanian banks is - 0.00028. The lowest level related to this variable is - 0.105. Meanwhile, the highest value is 0.184. The spread among data and the average relate to OTTA is 0.053. which suggests that each bank bears up a risk at 5.30% of fluctuations operating cash flow to total assets compared to the average, the STD in this case is less than the STD of the EPS.

Regarding to the OTTD, the findings illustrate that the mean operating cash flow to total debts of banks that operated in Jordan is - 0.0259. The minimum operating cash flow to total debts is - 0.589. Meanwhile, the highest value is 0.2060. The spread among data and the average relate to OTTD is 0.1254. which suggests that each bank bears up a risk at 12.54% of fluctuations operating cash flow to total debts compared to the average, the STD in this case is greater than STD of the OTTA.

Goodness of Fit

Table (5): Final Measurement Model Fit

χ^2	χ^2/DF	SRMR	CFI	TLI	NFI	IFI	RMSEA
45.332	2.55	0.042	0.92	0.913	0.921	0.965	0.098

Note: the SRMR stands for the Standardized Root Mean Squared Residual. While the CFI is an abbreviation for comparative fit index. The TLI represents the Tucker and Lewis's index of fit. Whilst the NFI is an abbreviation for normed fit index. The RMSEA is an abbreviation for root mean square error of approximation.

Table (5) illustrate that the indicator of SRMR is below 0.08, indicating a fitted model (Hu & Bentler, 1999),(Fraihat et al 2023).The indicators of CFI, TLI, NFI and IFI are above 0.90, indicating a fitted model (Kline 2005) ,(Sharma et al. 2005) and(Hu & Bentler, 1999). The indicator of RMSEA is below or equal 0.1, also which indicating a fitted model (Brown, 2015).

As indexes suggest an adequately fitted model to the existing data, the hypothesized model is very well.

Outcomes of hypotheses test

By using AMOS version 24, the SEM model and results for testing the hypotheses

Was as follow:

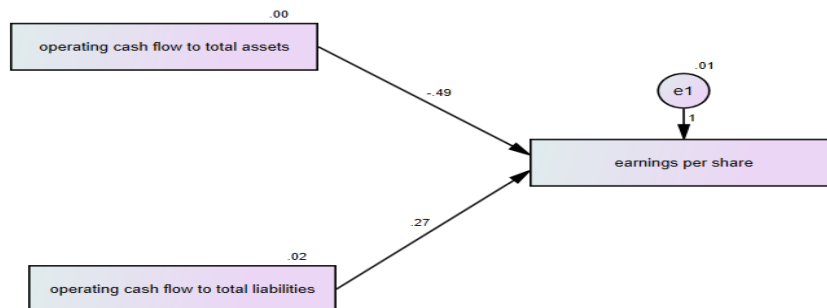


Figure 1: SEM Model for the hypotheses

H0.1: *There is no relationship among operating cash flow to total assets and earnings per share.*

H0.2: *There is no relationship among operating cash flow to total debts and earnings per share.*

Table (6) Structural Equation Modelling Regression weights

			Estimate	S.E.	C.R.	P	Regression Weight	Result
TA	→	EPS	-0.494	0.225	-2.195	0.028	-0.235	Supported
TL	→	EPS	0.274	0.095	2.872	0.014	0.308	Supported
R ² =0.150								

S.E. = Standard errors of the regression weights, C.R. = Critical Ratio, P = p-value (*<0.05 significance level, **<0.01 significance level, ***<0.001 significance level)

Table (6) above illustrate the following findings:

The independent variables (OTTA and OTTD) can explain 15% of the variation in earnings per share, since the determination coefficient R² equals to 0.150.

According to the regression weights, operating cash flow to total assets has a significant relationship with earnings per share, which the indicator of critical is above than 2 and the p-value around (0.028) is below 0.05 significance level, the path is significant (Byrne, 2013), offering compelling support for the first alternative hypothesis. Also it seems that this relationship is negative in the period (2015-2019) due to the increase in the OTTA is a positive indication of the bank's ability to manage its operations. This makes it more attractive to additional investors, hence the EPS decreases accordingly.

Moreover, the rises in the OTTA make the management's bank to reconsider its business plan. Therefore, expanding operations through obtaining additional debt financing. The interest incurred on these debts decreases the profit and the EPS of the bank.

According to the regression weights, operating cash flow to total debts has a significant relationship with earnings per share, which the indicator of critical is above than 2 and the p-value around (0.014) is below than 0.05, the path is significant (Byrne, 2013). Offering compelling support for the second alternative hypothesis. This relationship is positive in the period (2015-2019) due to the increase in operating cash flow to total liabilities indicates that the company has stronger ability to settle its liabilities along with the accompanied interest when they come due. In addition, if additional debt is needed, the bank is able to considering the positive cash flow achieved during the year.

Table (7) The validity of the hypotheses

Hypothesis	EPS
There is no significant relationship among operating cash flow to total assets of Jordanian banks.	Reject
There is no significant relationship among operating cash flow to total debts of Jordanian banks.	Reject

Conclusion

In preceding years, numerous papers have analyzed the performance of various banks that employed in Jordan, evaluating factors such as EPS, net profit margin, ROA and ROE, along

with the contributing elements. The results of these studies have revealed diversity and variability, which can be partly attributed to variations in sample sizes among various research papers.

This research seeks to explore the potential presence of a relationship among OTTA and OTTD with earnings per share related of banks employed in Jordan. This article utilize a sample gathered from 15 banks that employed in Jordan, covers the time span starts at 2015 up to 2019.

The conclusions drawn in this paper illustrate that the earnings per share achieved by banks that operated in Jordan has negatively impacted by operating cash flow to total assets, whereas it has positively influenced by operating cash flow to total debts.

Recommendations

This study suggests that management in Jordanian banks should prioritize on operating cash flow and effectively overseeing of each component of assets and liabilities, because this element measure ability of bank to generated adequate money to sustain its core operations, measures efficiently of bank management to use own assets and enhance bank growth, measures ability of bank to repay its debts and assess ability of banks to going concern, all without the necessity of seeking external financing options. Furthermore, it represent a prime indicator used to forecast of the financial status and health of a bank. Thus, the operating cash flow represent a crucial aspect that should not be disregarded within any institution.

Limitations

This research faced several constraints, primarily related to the accessibility of the dataset. Obtaining data on these banks posed a challenge, as not all financial reports were readily available via websites. As a result, certain Jordanian banks had to be omitted for this article because of financial reports that are no longer current or up to date. Moreover, constrained the analysis in this article to five years, whereas the time span starts at 2015 up to 2019, potentially overlooking several economic cycles. Additionally, the size of the sample of this study's was confined fifteen banks only. It is essential to recognize and take into account these limitations when you prepare future researches in the same topic.

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