Financial Ratios and Stock Price Predictability: A Study on Mobile Telecommunication Companies in Kuwait

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Citation: AlAli, M.S., AlAskar, I.T., & Aboualhasan, H.S. (2024). Financial Ratios and Stock Price Predictability: A Study on Mobile Telecommunication Companies in Kuwait. *Finance & Economics Review 6(1),* 87-95. https://doi.org/10.38157/fer.v6i1.637.

Research Article

Abstract

Purpose: *This paper aims to investigate the applicability of financial ratios derived from financial statements to predict the stock prices of mobile telecommunication companies in Kuwait.*

Methods: *The pooled OLS regression method is used to examine the relationship between share prices (SP), as a dependent variable, against earnings per share (EPS), liquidity ratio (Liq), price to earnings (P/E) ratio, debt to equity (D/E) ratio, dividend yield (DY), and market to book value (M/B) ratio as independent variables.*

Results: *Pooled OLS regression revealed that EPS and Liq have a statistically significant positive relationship with share prices, while the debt-to-equity (D/E) ratio shows a significant inverse relationship with share prices. Other factors under study did not show any significant relationship with share prices.*

Implications: *The research results would help both investors and companies' top management identify the ratios that affect share price most. The results would help investors detect the factors that they should consider when making their investment decisions to improve their investment profitability and for the company's management to focus their efforts on improving these ratios to enhance shareholders' wealth.*

Originality: *This study is a pioneering attempt to address the effect of financial ratios on the share prices of mobile telecommunication companies in Kuwait.*

Limitations: *The relationship between financial ratios and share prices has been extensively researched and the results were very inconsistent which indicates that the effect of financial ratios on share price may vary from market to market.*

Keywords: Financial Ratios, Kuwait, Mobile Telecommunication Companies, Price to Earnings Ratio, Dividend Yield.

1. Introduction

With a population of around 4 million, Kuwait is a small country. There are three companies in Kuwait competing to get the most market share of mobile telecommunication and these companies are Mobile Telecommunication Company (Zain), National Mobile Telecommunications Company (Ooredoo), and Kuwait Telecommunications Company (STC). Zain enjoyed a monopoly on the market for 14 years (1983-1997) before Ooredoo entered the market in 1997, while STC was the last company which was established in 2008. But despite controlling the market for 14 years, Zain was unable to compete with its rivals causing

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its share price to plummet as seen in Figure 1. The reasons for the decline in its share prices and the increasing price of its competitor, Ooredoo, can be found in their financial reports.

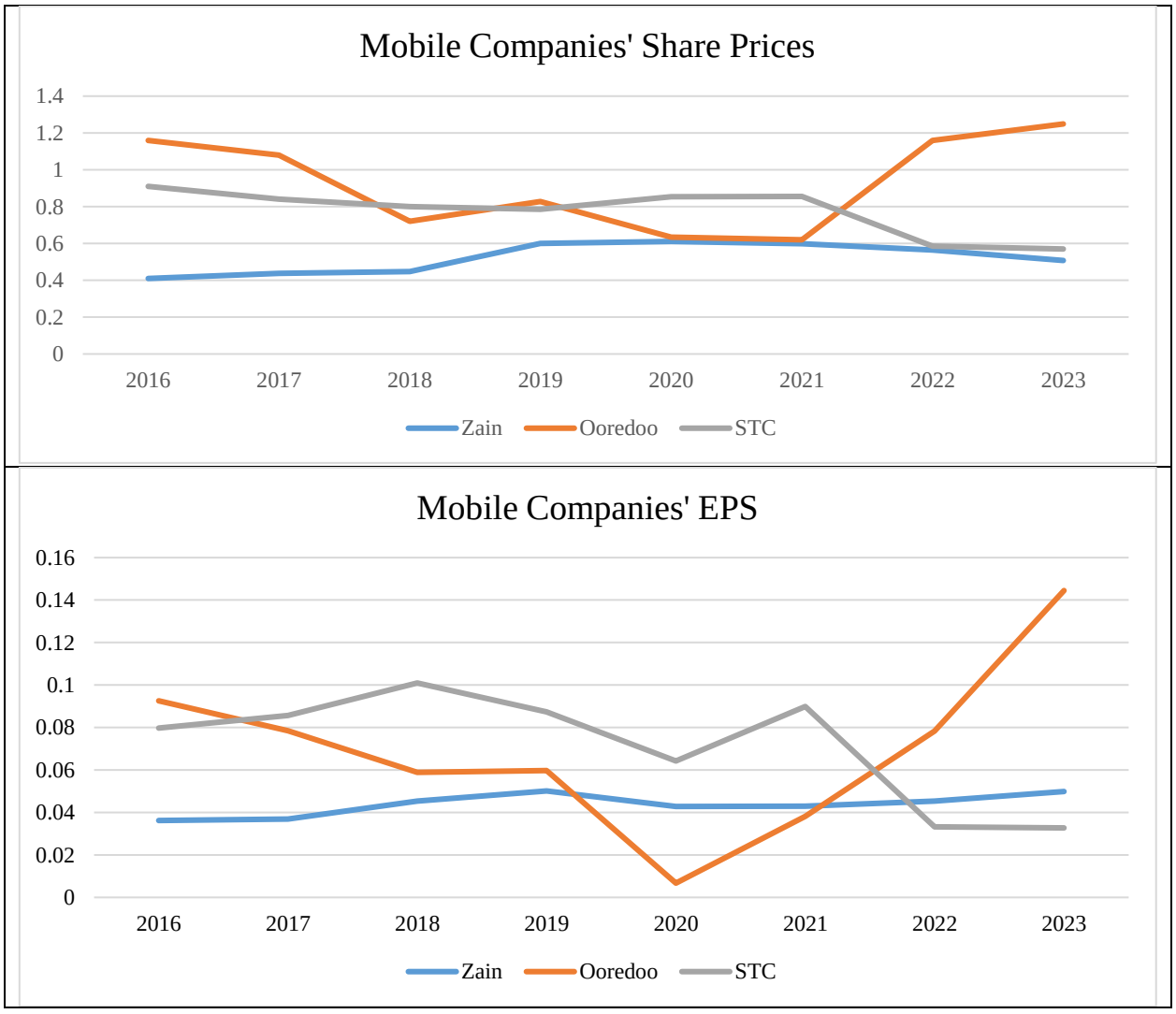

Fig. 1. Mobile Companies Share Prices and EPS

The main goal of financial reporting is to offer the public information about the financial status and achievements of companies through numbers presented in financial statements, serving as a basis for their decisions. Accounting data such as income statements, the balance sheet, and cash flow can provide investors with a better understanding of whether stocks are a good investment opportunity or not (Basu, 1997). According to Horrigan (1995), financial statements and ratios are crucial sources that provide investors with insight into a company's performance in the market for five years or longer.

Even though Lakonishok et al. (1994) suggest that investors are often overvaluing firms' past performance, these variables are often jointly regarded as value or contrarian indicators that may not indicate future performance. Numbers presented in financial reports may impact investors' trust in financial markets. Despite many investigations, no definitive method has been found to accurately forecast stock market movements. The challenge is the intricacy of modeling human behavior. Barker (2001) states that there is no assurance that stock market prices truly represent fundamental values at any specific moment. Certainly, there is a solid justification to believe that they may not. Investor sentiment and rationality, along with speculative behavior, can influence stock market movements by diverting values from their fundamentals. Ferris (2018) found that obtaining a consistent measure is challenging due to the varying levels of volatility

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in these markets. An unstable stock market hinders the ability of accounting and financial factors to predict stock returns accurately. Lewellan (2004) stated that despite numerous accounting scandals and increasing doubts about the usefulness of financial ratios, they are still seen as a reliable tool for predicting a company's future stock price.
Thus, the objective of this study is to examine the predictability of a few financial ratios in determining the share price of the mobile telecommunication companies listed in the Kuwait Stock Exchange (KSE).

2. Literature Review

Financial ratios are numerical values derived from a company's financial statements like the balance sheet, income statement, or statement of cash flow. Usually, financial ratios are shown as a measurable standard in the shape of a percentage, multiple, or ratio to assess a company's financial, operational performance and competitiveness. According to Horrigan (1995), financial ratios are key instruments in evaluating and analyzing a company's performance. They assist in evaluating a company's overall well-being by examining different indicators. Investors could gain an understanding of a company's profitability and investment potential by utilizing financial ratios. Jais et al. (2012) discovered that past accounting indicators can predict stock market performance. According to Pech et al. (2015), financial ratios are commonly used by equity analysts and have predictive power for one-year stock returns but not for two-year stock returns. While the use of financial ratios is well documented in the literature, it varies from one market to another, where Konijn et al. (2011) have previously studied the connection between financial ratios and stock market returns in various countries. As a result, the correlation between financial ratios and market stock return may vary in different countries. Aono and Iwaisako (2011) analyze financial ratios to predict market stock returns for companies on both U.S. and Japanese stock markets. They discovered that the effectiveness of Japanese financial ratios in predicting market stock return is not as strong as that of U.S. financial ratios like price to dividend ratio and price-to-earnings ratio.
Literature has never proven that there is a linear relationship between financial ratios and the financial performance of companies which indicates that companies' share prices and financial soundness are affected by factors that are not included in companies' financial reports such as macroeconomics and geopolitical factors. Omran and Ragab (2004) analyze the linear correlation between financial ratios and market stock returns using a sample of 46 Egyptian companies from 1996 to 2000. They discovered that there are non-linear connections between financial ratios and market stock returns that better explain the behaviors of stock returns. This outcome aligns with the findings of Mramor and Pahor (1998) and Mramor and Mramor-Kosta (1997), suggesting that linear relationships may not always be present.
Earnings per share (EPS), is a ratio that calculates profit for every outstanding share of the company, and it is seen as one of the most influential ratios on share price as seen by many researchers. Through empirical research conducted by Horrigan (1995), it was demonstrated that ratios and factors have a notable impact on the market for a period of at least 5 years. He mentions the utilization of price-earnings ratio (P/E) and earnings per share (EPS) as ratio indicators. He affirms that the rise in EPS is a valid explanation for the favorable market conditions that were present during that period. Almumani (2014) examined the stock prices of banks listed on the Amman Stock Exchange from 2005 to 2011 to determine the numerical factors impacting them through an empirical analysis of various independent and dependent variables. The findings indicated that factors such as earnings per share (EPS), book value per share (BV), price-earnings ratio (PE), and size played an important role in determining the share prices of all the banks analyzed. Chang et al. (2008) examined how EPS and stock return are connected by employing the panel cointegration method in different situations like growth rate and operating revenue level. The cointegration finding indicated a robust connection between stock price and EPS over the long term. AlAli et al. (2024) examined the effect of profitability and dividend policy effect on the share price of insurance companies in Kuwait over the period

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2014 to 2022 and found that EPS had a significant direct relationship with share prices over that period. According to a study conducted by Jian and Yun (1996), EPS plays a significant role in predicting returns in the market of the Philippines.

The liquidity ratio looks at how well a company can cover its short-term debts with its current assets and liabilities. In simpler terms, it informs investors of the assets that a company can utilize to meet its immediate financial responsibilities and costs. If a company lacks the capacity to pay off short-term debts, it will not be able to meet long-term debt obligations or please shareholders. AlAli (2020) studied the effect of liquidity ratios on the financial performance of Kuwaiti banks over the period 2010 to 2018 and found that liquidity ratios had a positive relationship with bank profitability and share price. Imad et al. (2011) conducted research on Jordanian banks to explore the correlation between financial performance and liquidity levels of ten banks from 2001 to 2010. By using ROA and ROE as indicators of financial performance, the study found that the liquidity of Jordanian banks is a key factor in explaining the variability in their profitability. However, some researchers contended that maintaining liquid assets comes with an opportunity cost for the bank due to their low return compared to other assets, which can negatively impact profitability. Eichengreen and Gibson (2001) suggested that investing in low-return liquid assets could impact the profitability of banks. AlYatama et al. (2020) examined how risk factors impacted the financial performance of insurance companies trading on the Kuwait Stock Exchange (KSE) from 2009 to 2017. It was discovered that liquidity risk, as determined by the ratio of current liabilities to current assets, does not impact the financial performance of insurance companies.

The price-to-earnings ratio (P/E) shows investors how much they need to pay per stock to receive potential annual income from the company's profits. According to Shiller (1996), the P/E ratio is perhaps the simplest and is widely used to predict market return and share prices. Jain (2016) found a strong relationship between the P/E ratio and the performance of the Bombay Stock Exchange (Sensex), suggesting it can predict stock market returns. Campbell and Shiller, (2001) found in their research that companies with elevated P/E ratios experienced quicker growth in earnings. On the other hand, Kelly, and McNamara (2008) investigated how the performance of investing in Australian common stocks in the Industrial sector is related to their P/E ratio. The results showed that the P/E ratio does not impact the Australian stock market.

Rozeff (1982) investigated the predictiveness of the dividend yield (D/Y) ratio and determined that a direct correlation exists between the dividend yield (D/Y) ratio and the anticipated market stock return. This relationship exists because the dividend yield ratio serves to measure the ex-ante risk premium. Moreover, Campbell and Shiller (1988) assert that the dividend yield ratio can constrain the anticipated market stock return, making it a reliable predictor of market stock returns. Daniel and Titman (1997) propose that dividend yield ratio, earnings yield ratio, and book-to-market ratio can explain market stock returns as company characteristics. Chan et al. (1991) discovered that fundamental ratios like price-to-earnings ratio, dividend yield, and book-to-market ratio play a significant role in determining stock returns in the Japanese market. Liolen (2004) investigated the ability to forecast stock returns by analyzing financial metrics such as dividend yield, price-to-book ratio, and profit margin. He discovered that dividend yield is a more reliable predictor of stock returns than other factors. Cochrane (1997) found that dividend per share and dividend yield can forecast long-term growth of stock returns and dividends. Chen and Shen (2009) suggest that the dividend yield ratio, book-to-market value ratio, and earning yield ratio are the top three financial ratios for predicting stock returns.

According to Bae (2009), companies with a high stock price tend to have a lower market debt-to-equity ratio and a higher market-to-book ratio, while companies with a low stock price tend to have the opposite. Akhigbe et al. (1997) showed a noticeable decrease in stock value occurs when debt rises, particularly when the debt is used to address the company's cash flow issues. Meanwhile, Allozi and Obeidat (2016) investigate how the market stock returns of a group of 65 manufacturing companies listed on the Amman Stock Exchange from 2001 to 2011 are connected to net profit margin, gross profit margin, return on assets, return on equity, earnings per share, and debt to equity ratio. They discover a strong correlation between

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gross profit margin, return on assets, return on equity, and earnings per share with market stock returns, but no significant correlation between the debt-to-equity ratio and market stock return. In a study by Wijaya (2015), the impact of financial ratios on market stock returns was investigated using a sample of 20 prominent manufacturing companies listed on the Indonesian composite index from 2008 to 2013. He demonstrated that market stock returns are greatly influenced by return on assets, dividend yield, earnings yield, and book-to-market ratio. Yet, the market stock returns are not significantly affected by the debt-to-equity ratio.

The market-to-book (M/B) ratio is a tool for investors to assess if a company's stock is overvalued or undervalued by comparing its market value to its book value, indicating the potential for a profitable investment. Kothari and Shanken (1997) demonstrate a reliable link between market-to-book ratio, dividend yield ratio, and market stock return in the U.S. market for expected stock returns from 1926 to 1991. Research conducted by Rosenberg et al. (1985) shows that the correlation between the average returns on U.S. stocks and the ratio of a firm's market to book value is negative. In a different study, Fama and French (1992) found that during the period from 1963 to 1990, there was an inverse correlation between expected stock returns and market-to-book value (M/B) ratios, implying that companies with lower ratios tend to have higher returns. Mukerji et al. (1997) indicate that both the book-to-market value ratio and dividend yield (DY) ratio are directly correlated with stock return in the Korean market between 1982 and 1992. The price-to-earnings ratio is deemed to be a less reliable indicator compared to book to market value ratio. They also emphasize that the book-to-market value ratio directly affects the relationship between the debt-to-equity ratio and market stock return. Auret and Sinclaire (2006) test the impact of financial ratios on market stock return using data from all companies listed on the Johannesburg stock exchange from 1990 to 2000. The researchers discovered that the market-to-book ratio has a negative effect on stock return, while the price-to-earnings ratio does not have a significant impact on stock return. On the other hand, Khan et al. (2012) examine how financial ratios can predict stock returns in 100 non-financial companies on the Karachi Stock Exchange in Pakistan from 2005 to 2011. The findings of the GLS model indicate that stock returns are positively influenced by the earning yield ratio and dividend yield ratio, and market-to-book ratio. The findings demonstrate that financial ratios are highly predictive of market stock return in Pakistan, with the ability to forecast future returns. Moreover, the market-to-book ratio is discovered to have greater predictability when compared to other financial ratios. Moreover, the combination of financial ratios could enhance the predictability of market return.

Based on the research objective and past literature, the following null hypotheses are set to be examined in this research;

$H1_0$: There is no statistically significant relationship between share price (SP) and earnings per share (EPS).

$H2_0$: There is no statistically significant relationship between share price (SP) and liquidity ratio (Liq).

$H3_0$: There is no statistically significant relationship between share price (SP) and price-to-earnings (P/E) ratio.

$H4_0$: There is no statistically significant relationship between share price (SP) and debt to equity (D/E) ratio.

$H5_0$: There is no statistically significant relationship between share price (SP) hare and dividend yield (DY).

$H6_0$: There is no statistically significant relationship between share price (SP) and market-to-book value (M/B) ratio.

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3. Research Methodology

This study is set to examine the predictability power of financial ratios in determining the share prices of mobile telecommunication companies that are listed in the Kuwait Stock Exchange (KSE). The data used in this study were obtained from the annual reports of the companies over the period of 2016 to 2023. Annual reports were downloaded from the Kuwaiti Stock Exchange website. The data analysis for this research was conducted using Microsoft Excel and E-views software.

In determining the relationship between the financial ratios of the three mobile telecommunication companies and the share prices of these companies. The pooled OLS regression model is adopted in this research where it uses the share price (SP) as a dependent variable and earnings per share (EPS) liquidity ratio (Liq), price to earnings (P/E) ratio, equity debt (D/E) ratio, dividend yield (DY), and market to book value (M/B) ratio as independent variables. The model is presented in Equation 1 as follows;

$$SP_t = \alpha + \beta_1 EPS_t + \beta_2 Liq_t + \beta_3 PE_t + \beta_4 DE_t + \beta_5 DY_t + \beta_6 MB_t + \varepsilon \quad (1)$$

Where α is the intercept, β is the coefficient of the variable, and ε is the error factor.

4. Results and Discussion

Prior to conducting the regression analysis, diagnostic tests for data normality distribution and multicollinearity are carried out to verify the reliability of the regression model. Upon examining the descriptive statistics shown in Table 1, the independent variables have skewness values below ± 3 and kurtosis values below ± 10, suggesting that the data follows a normal distribution. The table also shows that even though mobile telecommunication companies in Kuwait have a debt-to-equity ratio of 49.8% which is very low and healthy they have a problem with their short-term liquidity since the ratio is below 1. The companies are trading at 162.9% of their book value and their dividends are yielding 5.5% for the shareholders.

Table 1. Descriptive Statistics

	SP	*EPS*	*Liq*	*P/E*	*D/E*	*DY*	*M/B*
Mean	0.743	0.062	0.941	15.754	0.498	0.055	1.629
Standard Deviation	0.239	0.030	0.266	16.926	0.447	0.023	0.733
Kurtosis	-0.379	1.209	-0.859	9.708	-0.944	0.287	-0.069
Skewness	0.669	0.801	0.558	2.709	0.858	-0.627	0.369
Count	24	24	24	24	24	24	24

Correlation analysis assesses the intensity and type of connection between variables, ranging from -1 to 1 in value. Correlation analysis can help detect multicollinearity issues within the data. Multicollinearity may lead to inflated standard errors of regression coefficients, leading to erroneous interpretations of the significance of independent variables in the model under consideration. In this study, multicollinearity is identified using a threshold of 0.70. By referring to the Pearson correlation matrix in Table 2, it is evident that the issue is not present.

Table 2. Pearson Correlation Matrix

	EPS	*Liq*	*P/E*	*D/E*	*DY*	*M/B*
EPS	1					
Liq	0.146	1				
P/E	-0.476	-0.212	1			
D/E	-0.415	-0.364	-0.081	1		
DY	-0.239	-0.336	0.195	0.286	1	
M/B	0.051	0.460	-0.313	0.096	-0.590	1

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The regression output results are presented in Table 3. Results show that the model had an Adjusted R square of 0.771 and a significance *F* of 0 which means that the model can be labeled as a "good fit" This would indicate that the model has a predictability power of 77.1% in estimating the share prices. By looking at the individual variable, of the six variables under study, earnings per share (EPS) and liquidity (Liq) ratios showed statistically significant direct relationship with share prices at confidence levels of 99% and 95% respectively confirming Almumani (2014) and Imad et al. (2011) findings. On the other hand, the debt to equity (D/E) ratio showed a statistically significant inverse relationship with the share price at the 95% confidence level contradicting Allozi and Obeidat's (2016) findings. Even though the price-to-earnings (P/E) ratio showed a direct relation with share prices and dividend yield (DY) and market to book (M/B) ratio showed an inverse relationship with share prices, those relationships were statistically insignificant.

Table 3. Pooled OLS Regression Results

Regression Statistics				
R Square	0.830			
Adjusted R Square	0.771			
F	13.874			
Significance F	0.000			
Observations	24			
	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	0.680	0.199	3.414	0.003
EPS	6.384***	1.090	5.857	0.000
Liq	0.266**	0.117	2.262	0.037
P/E	0.002	0.002	1.342	0.197
D/E	-0.163**	0.076	-2.136	0.047
DY	-0.470	1.417	-0.332	0.744
M/B	-0.008	0.050	-0.154	0.880

***,**,* represents the confidence level at 99%, 95%, and 90% confidence level respectively

5. Conclusion

This research was set to examine the predictability power of financial ratios that are driven by the financial reports of three mobile telecommunication companies listed in the Kuwait Stock Exchange (KSE) over the period 2016 to 2023. Using pooled OLS regression method to examine the effect of six financial ratios on share prices, results revealed that earnings per share showed the strongest direct relationship with share prices followed by liquidity ratio while debt to equity ratio was the only ratio that showed statistically significant inverse relationship with share prices. The results of the research also revealed that the prices of mobile telecommunication companies do not have any statistically significant relationship with price-to-earnings ratio, dividend yield, and market-to-book ratio.

6. Limitations and Direction of Future Research

This study offers insights for investors and the companies to prioritize the factors that have the biggest impact on share prices. Focusing on these factors would boost returns for investors, as companies aim to enhance shareholder wealth by improving these ratios. The research is limited because it only analyzed six ratios. Including more internal and external variables would help in gaining a better understanding of the factors influencing share prices. The Future studies can broaden their scopes to encompass additional variables at both micro and macro levels.

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Authors' Contribution: Musaed AlAli and Ibraheem AlAskar conceived the idea, collected data, and analyzed the data while Husain S. Aboualhasan wrote the paper.

Conflict of Interest: The authors declare no conflict of interest.

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