

Correlation Analysis of Stock Returns and Financial Indicators of Starbucks Corporation

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ABSTRACT

As the economy continues to develop, the factors affecting investors and stock prices in the stock market continue to become complex, and the financial indicators in the financial reports of listed companies are also the focus of investors. People are paying more and more attention to the research on the correlation between financial information and stock returns. Based on the financial information of Starbucks, this paper uses a combination of qualitative and quantitative methods to derive the required data from the Foresight Eye database and mainly analyzes the impact of financial indicators on stock returns and their correlation, and finds that there is a negative correlation between profitability, operating capacity and stock returns, and a non-significant correlation between solvency and stock returns. This paper will help investors analyse their investment in stocks and make better investment decisions.

Keywords: Financial Indicators, Equity Returns, Correlation

1. INTRODUCTION

With the development of the stock market, more and more ordinary investors are entering. However, these consumers slowly find it difficult to make profits in the stock market, or even suffer serious losses, and eventually gradually stop investing and withdraw from the stock market. The lack of enthusiasm among investors is not conducive to the smooth and healthy operation of the stock market.

Ball and Brown conducted an empirical analysis of the correlation between stock price volatility and its financial information for a sample of 261 stocks on the New York Stock Exchange and empirically showed that the volatility of financial indicators was significantly and positively correlated with the volatility of stock prices [1]. Beaver W. H. then studied 143 companies listed on the New York Stock Exchange from 1961 to 1965 and found that the release of financial information could influence investors' expectations of a company's future earnings capacity and thus adjust their investment strategies based on the information [2].

Beaver and Dukes found that profitability had a more pronounced effect on share price movements by empirically studying the share prices of listed firms with respect to the firm's existing capital flows and earnings

indicators [3]. Bernard and Stober conducted an empirical study of a sample of NYSE firms with selected cash flow and earnings indicator data with respect to the firm's share price and the results showed that In the short run, the relationship between stock return per share and share price movements is weaker than the relationship between corporate cash flow per share and share price. However, the difference between the two is small in the long run [4].

Bhandari proposed that book financial leverage is positively related to stock returns [5]. Hopwood and Schaefer studied a total of 38 financial indicators for 251 listed companies in the US and found that non-surplus financial indicators also have an impact on stock prices [6]. Titman et al. found a significant negative effect of investment on company stock returns, particularly for companies with strong cash flows and low debt ratios [7]. Cooper, Gulen, and Schill found by examining the correlation between a firm's total asset growth and stock returns that the faster the total asset expansion, the greater the returns tend to be [8].

Xuemin (Sterling) Yan constructs a large number of financial indicators through a simple functional form to study the relationship between financial indicators and the return on US stocks, and finds financial indicators that can significantly yield excess returns [9].

Many research results show that many value investments are theoretically based, but there is little literature on the correlation between a number of financial indicators and stock returns. The constant fluctuation of stock prices is related to investors' profit and loss. Since the inception of the stock market, stock investment has gradually developed into rational investment, so it is important to analyse the causes of stock price fluctuations. There are many factors that affect stock returns, one of which is the impact of financial information. Listed companies are required to publish annual financial reports, which are reviewed by auditors, so financial information is readily available and authentic. By analysing financial information and discovering the relationship between financial indicators and stock returns, this paper hopes to help investors to make better investment decisions and maximise their interests.

2. FACTOR ANALYSIS OF STOCK RETURNS AND FINANCIAL INDICATORS OF STARBUCKS CORPORATION

2.1. Theories related to factors influencing stock returns

A stock has no value in itself, but it can be sold as a commodity and has a certain price. The price of a stock, is the price at which a stock is bought and sold on the stock market.

2.1.1. The market price of a stock

The market price of a stock is the price at which a stock is bought and sold on the stock market, which can be divided into an issue market and a liquid market. The market price of a stock is therefore also divided into a market price and a liquidity price. The issue price of a stock is the price agreed between the issuing company and the securities underwriters. There are three scenarios for determining the issue price of a stock.

(1) The issue price of a stock is the par value of the stock.

(2) The issue price of a stock is determined on the basis of the price of the stock in the liquid market.

(3) The issue price of the shares is between the par value of the shares and the market price of the shares in circulation.

The price of a stock on the liquid market, also known as the market price of a stock or the market price of a stock, includes the opening price, the closing price, the high price and the low price. The most important of these is the closing price, which is the key to analysing and analysing the stock market quotation.

2.1.2. Theoretical price of a stock

A share represents the rights of a shareholder. The direct economic benefit of that shareholder's right is expressed in the form of dividends and bonus income. The theoretical price of a share is the price paid to claim such dividend and bonus income and is an expression of dividend capitalisation. The formula for the theoretical price of a stock can be derived as: Theoretical stock price = Dividend income / Market interest rate.

The theoretical price of a stock is not equal to the market price of a stock and there is a significant difference between the two. However, the theoretical price of a stock is an important basis for predicting trends in the market price of a stock and is a fundamental factor in the formation of the market price of a stock.

2.2. Factors influencing stock price volatility

2.2.1. External influences

(1) Political factors: Political factors refer to domestic and international political activities as well as government measures, decrees and policies that have an impact on stock price fluctuations. The stock market is highly influenced by changes in the political situation.

(2) Macroeconomic factors: Macroeconomics refers to the overall economic and social activities of the national economy and the state of economic performance.

Changes in the macro economy are often reflected in the stock market in advance, affecting the operations of companies and the psychological expectations of shareholders, which in turn affects the transition from bear to bull in the stock market.

(3) Macro policy factors: Macro policy mainly includes two aspects, fiscal policy and monetary policy, which have a significant impact on stock price fluctuations. Active fiscal policy will increase aggregate social demand and promote economic growth, thus affecting the prosperity of the stock market. An active monetary policy will increase the money supply, raise the liquidity of the stock market and promote the development of the stock market.

2.2.2. Internal influencing factors

According to the financial reports of listed companies, the financial information of a company is one of the most important factors affecting its share price. Financial indicators can be calculated in financial form and can usually be divided into the following categories: solvency indicators, profitability indicators, operating capacity indicators and growth indicators, etc.

(1) Debt service capacity indicators

The level of a company's solvency can reflect the company's operating and financial situation. The stronger the solvency, the better the company's ability to withstand risks, which facilitates the maintenance of good corporate credit and the expansion of production and business development.

(2) Profitability indicators

Profitability reflects a company's ability to earn a profit. A highly profitable company will pay high dividends so that investments will be well rewarded, so traders will rush to buy the company's shares, driving up the share price.

(3) Operating capacity indicators

Working capacity reflects the efficiency and effectiveness with which a company operates its existing assets. A good operating capacity indicator indicates that the company has a fast turnover of assets, high liquidity,

faster profitability of assets, more benefits to investors and a higher stock price for the company.

3. CORRELATION ANALYSIS OF THE STOCK RETURNS AND FINANCIAL INDICATORS

3.1. Correlation analysis of solvency indicators

The solvency of an enterprise is the ability of the enterprise to repay its long-term and short-term debts with its assets. The indicators of solvency analysis reflecting the solvency of listed companies mainly include the current ratio, quick ratio, cash ratio, capital turnover ratio, liquidation value ratio and interest payment multiplier, etc. In this paper, we mainly analyse the gearing ratio, equity multiplier and current ratio.

Table 1. Starbucks Solvency Indicators 2018 to 2021

	2021	2020	2019	2018
Stock return	1.72%	1.88%	1.99%	2.14%
Asset liability ratio	116.93	126.55	132.42	95.13
Equity multiplier	-5.91	-3.77	-3.08	20.54
Current ratio	1.2	1.06	0.92	2.2

Table 2. Correlation analysis of solvency indicators [8]

	Stock return	Asset liability ratio	Equity multiplier	Current ratio
Stock return	1.0000			
Asset liability ratio	0.0198	1.0000		
Equity multiplier	-0.0043	0.1271	1.0000	
Current ratio	-0.0084	-0.5773	-0.0420	1.0000

You can see from Table 1 and Table 2, from 2018 to 2021, Starbucks stock returns continue to decline, current ratio and equity multiplier continue to increase, showing a weak negative correlation, while gearing declines significantly, showing a strong positive correlation. Multiple indicators interact with each other to conclude that solvency indicators as a whole do not have a significant correlation with stock returns.

3.2. Correlation analysis of profitability indicators

Profitability indicators are measures of a company's ability to earn profits and mainly include operating profit margin, cost margin, surplus cash cover multiple, return on total assets, return on net assets and return on capital. This article focuses on return on net assets, return on total assets and net sales margin.

Table 3. Starbucks Profitability Indicators 2018 to 2021

	2021	2020	2019	2018
Stock return	1.72%	1.88%	1.99%	2.14%
Return on net assets	-63.98	-13.23	-142.19	136.51
Return on total assets	13.82	3.82	16.6	23.46
Net profit margin on sales	14.45	3.93	13.56	18.28

Table 4. Correlation analysis of profitability indicators[8]

	Stock return	Return on net assets	Return on total assets	Net profit margin on sales
Stock return	1.0000			
Return on net assets	0.0200	1.0000		
Return on total assets	0.1125	0.4389	1.0000	
Net profit margin on sales	0.0483	0.2143	0.5064	1.0000

You can see from Table 3 and Table 4, as Starbucks stock returns continue to decline from 2018 to 2021, total return on assets is generally on a downward trend and shows a positive correlation; while return on net assets and net sales margin have no significant correlation.

3.3. Correlation analysis of operating capacity indicators

Operating capacity indicators are indicators used to summarise, analyse and evaluate an enterprise's ability to sell, capital turnover and other normal business operations, mainly including accounts receivable turnover, inventory turnover, current asset turnover, fixed asset turnover and total asset turnover. This article focuses on accounts receivable turnover rate, current assets turnover rate and net assets turnover rate.

Table 5. Starbucks Operating Capacity Indicators 2018 to 2021

	2021	2020	2019	2018
Stock return	0.0172	0.0188	0.0199	0.0214
Turnover rate of accounts receivable	31.87518	26.68558	33.719519	31.620723
Turnover rate of current assets	3.31	3.49	2.92	2.78
Net asset turnover	0.96	0.97	1.22	1.28

Table 6. Correlation analysis of operating indicators[8]

	Stock return	Turnover rate of accounts receivable	Turnover rate of current assets	Net asset turnover
Stock return	1.0000			
Turnover rate of accounts receivable	0.0244	1.0000		
Turnover rate of current assets	0.0080	0.0042	1.0000	
Net asset turnover	0.0184	0.0139	0.8811	1.0000

You can see from Table 5 and Table 6, stock returns do not have a strong correlation with current asset turnover, while they show a positive correlation with accounts receivable turnover and net asset turnover.

4. CONCLUSION

Financial information is easily accessible and low-cost. This paper analyses the impact of financial indicators on stock returns to help shareholders make

rational investments, minimise risks and maximise benefits.

The paper analyses the link between financial indicators and stock returns, using Starbucks Corporation as an example. The econometric analysis, based on the specific data of the sample companies, leads to the following conclusions: profitability and operating capacity are correlated with stock returns, and solvency is not significantly correlated with stock returns.

The weak correlation between financial indicators and stock returns may be due to various reasons such as the presence of a large number of investors in the stock market and the fact that stock prices are influenced by various factors, which is why the company's stock returns are weakly correlated with performance.

The limitations of this paper are that stock prices are influenced by various factors such as national policies, which are difficult to quantify, and therefore the impact of such variables is not included in this paper, which would make it one-sided. Further researches could focus on such factors.

AUTHORS' CONTRIBUTIONS

This paper is independently completed by Yiwen Yan.

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