

Research on the Investment Value of PepsiCo Based on Multiples Valuation

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Abstract. In finance, it is a significant issue to determine whether a company's stock has been correctly valued at a given time. This paper uses multiples valuation based on P/E ratio, Enterprise Value, Stock Price, Free Cash Flow and Earning Before Interests, Taxes, Depreciation, and Amortization to give an investment analysis on corporate valuation of PepsiCo. Based on the multiple valuation, the paper collects the data of PepsiCo's five competitors in the beverage and food industry and then evaluates PepsiCo, and draws a conclusion that PepsiCo's stock price is slightly overvalued. Besides, this paper holds that PepsiCo pays more attention to the external effect brought by the production operation after analyzing the strategy of PepsiCo, and that is one of the reasons why PepsiCo's finances are relatively stable. The valuation of PepsiCo in this paper has some guiding significance for investment, which can remind investors to estimate the investment income of PepsiCo carefully, or provide reference and basis for investment by referring to the valuation method in this paper.

Keywords: Corporate's Valuation; Multiples Valuation; PepsiCo.

1. Introduction

PepsiCo, founded in 1919, is engaged in the production, distribution and marketing of snack cereals, bottled beverages and fast foods worldwide. PepsiCo's major sales brands include: Pepsi-Cola, Mountain Dew, Gatorade, Lay's, Pepsi Light, Pepsi Max, Tropicana, Doritos, Lipton Teas, Quaker Oats, Cheetos, 7-Up, Mirinda, etc. And its main sales regions include: North America, Latin America, Europe, Asia Pacific, Africa and Middle East.

After the COVID-19 global pandemic, the global beverage and food markets have experienced relatively large fluctuations. This paper analyzes the company's strategy, financial situation and competitors based on the current information of PepsiCo, and finally makes a valuation analysis.

This paper adopts multiple valuation method to evaluate PepsiCo stock price. Multiple valuation is an upgraded version of traditional stock valuation. Multiple models and factors can be introduced into the valuation, but the addition of factors must be limited [1]. The calculation method of enterprise stock value at time t is P/E ratio of the competitive company at time t and EPS of the valuation company at time t [2]. PepsiCo has always implemented the cost-leading strategy and maintained its market share through economies of scale [3]. Economies of scale brought PepsiCo stable net profit margin and free cash flow. The growth of net profit margin has a significant impact on the profitability of enterprises [4], while companies with low free cash flow focus on projects with insignificant investment returns, while companies with high free cash flow focus on how to distribute their free cash flow [5]. This paper refers to the research of [6] Baek & Lee (2018) on the relationship between P/E and stock returns, and some research method. At the same time, the change of P/E ratio is closely related to investment risk, investment time, inflation and market preference, which will cause continuous fluctuations to the company's stock price [7-8]. The COVID-19 pandemic has had a significant negative impact on stock markets in almost all sectors, including the beverage and food industries [9]. [10] Shen et al. (2020) believes that the combination of intangible assets and tangible assets is also extremely important for the development of the company. After integrating the two resources, the enterprise will continue to enhance the sense of belonging of employees and continue to launch new product lines to maintain competitiveness.

Therefore, this paper will take PepsiCo as the target, using a multivariate valuation method to analyze its stock price.

2. Strategic analysis of PepsiCo

According to PepsiCo's official website, the mission of PepsiCo is "create more smiles with every sip and every bite". Based on this mission, PepsiCo has developed some strategies to achieve it.

PepsiCo's strategic implementation goals can be summarized into three aspects: faster, stronger and better, and achieved through PepsiCo's core project "Pepsi Positive". Through PepsiCo Positive promotion and implementation, PepsiCo will achieve its corporate mission in optimizing value chain, sustainability and human capital.

2.1 PepsiCo Positive and Specific Implementation of Strategy

Above all, PepsiCo Positive's first goal is to strengthen its agricultural production capacity. It has already achieved its target of 7 million acres of reclaimed agricultural land and has committed to improving water efficiency by 15% by 2025 from 2015, which provides supply-side support for PepsiCo's value chain structure. Second, Pepsi will create circular and inclusive value chain, which reflects Pepsi's control over external effects. They pledged to achieve zero emissions in the value chain by 2040 and a 40% reduction in greenhouse gas emissions by 2030. These sustainability strategies all contribute to the development of intangible assets. Combined with the above two points, PepsiCo will continue to innovate, launch more product combinations, and adjust its product line to reduce added sugar and saturated fat, further strengthening its brand effect. Compared with expensive tangible assets, intangible assets of enterprises have more value to be managed. In many cases, intangible assets are even the source of core competitiveness of some companies. However, limited by the uncertainty of intangible assets and their dependence on tangible assets, companies that want to take advantage of intangible assets should try their best to shape corporate social responsibility to make employees have a sense of belonging, and further increase product diversity to play a positive adjustment role in the application of intangible assets [10] (Shen, Au & Li, 2020). PepsiCo's strategic implementation strikes a good balance between tangible assets and intangible assets, and builds confidence in the company among investors and employees through sustainable environmental policies and continuous innovation, which makes PepsiCo have potential.

3. Analysis of Financial Situation

The financial situation of PepsiCo is analyzed in details, listed in table 1. This paper gives a table that focuses on several significant financial indexes in corporate profitability: operating income, net profit, gross margin, net margin, ROE, etc.

First of all, it can be seen from the operating income and net profit of PepsiCo in the past four years that the operating income and net profit of PepsiCo have maintained a steady level in the post-COVID-19 era, except for a slight decrease in the net profit in 2019 and 2020 when COVID-19 spread around the world. In addition, net profit margins have stabilized at around 10% due to the impact of COVID-19. To sum up, it can be concluded that PepsiCo's profitability is stable but it has limited ability to resist global sudden risks.

Table 1. The Financial Situation of PepsiCo

UNIT: \$ BILLION	Until 2021-12-31	Until 2020-12-31	Until 2019-12-31	Until 2018-12-31
Total Operating Income	79.468	70.372	67.162	64.66
Net Profit	7.618	7.12	7.314	12.515
Net Profit Margin	9.59%	10.12%	10.89%	19.36%
Gross Profit	42.536	38.612	37.15	35.275
Gross Profit Margin	53.53%	54.87%	55.31%	54.55%
Total Equity	16.151	13.552	14.868	14.602
ROE	47.17%	52.54%	49.19%	85.71%
FCF	6.991	6.373	5.417	6.133

Secondly, this paper focuses on PepsiCo's other financial indexes. According to the data in the above table, PepsiCo's gross profit and gross profit margin are relatively stable, among which gross profit is still growing steadily under the impact of COVID-19. The gross profit margin has remained at about 54.50% in the past four years, which is of great significance to the stability of PepsiCo's net profit margin. When [4] Talitha Nathaniela and Nugraha Mohammad (2020) studied the growth of net profit margin, gross profit margin and total asset turnover on the earnings of subsidiaries including plastic and packaging industries, they pointed out that the growth of net profit margin had the most significant effect on the growth of corporate profitability, while gross profit margin and total asset turnover had no significant correlation with profitability. Therefore, for PepsiCo's net profit margin level, the paper can only give a stable assessment of its profit growth. As for how to form the company a stable profit model, [3] Liu (2020) argues that PepsiCo has been in the execution cost leading strategy to create economies of scale, and adopt low price strategy with multi-channel sales model to guarantee the market share during the economic downturn, which brought a steady income gain for PepsiCo.

To sum up, PepsiCo's financial situation is healthy and stable. After the Novel Coronavirus shock, net profit, ROE and FCF have all remained stable for three years, which may not make investors have a particular preference, but it does not make PepsiCo a good choice for investment.

4. Analysis of COMPETITORS

PepsiCo is a global company, so this paper focuses on Coca-Cola, Monster Beverage, Nestle and National Beverage among global beverage and fast-food competitors.

Among them, Coca-Cola is undoubtedly PepsiCo's biggest competitor, because in the beverage market, Coca-Cola has the same brand influence and extremely diversified product portfolio as Pepsi, and at the same time, it is also the company with the highest share of global beverage market.

Monster Beverages, Inc., which develops and markets lemon juice, fruit juices, bottled coffee drinks, dairy products and energy sports drinks, entered into a strategic partnership with Coca-Cola in 2014.

Keurig Dr Pepper, engaged in the production and marketing of non-alcoholic beverages, mainly including the following divisions: coffee systems, packaged beverages, beverage concentrates and Latin American beverages. The coffee system mainly produces and sells coffee beans and other related products. The packaged Beverages division sells finished beverages and related products. The beverage Concentrate division sells concentrated juices and syrups to third-party bottlers. The Latin American beverages segment refers to the production of concentrated beverages, syrups and sales of finished beverages in Mexico, the Caribbean and other international markets.

Nestle is a Swiss multinational food and beverage company. It is one of the largest food manufacturers in the world, best known for chocolate bars and instant coffee and has a large number of highly profitable beverage and food sub-brands. Nestle has a high degree of business compatibility with PepsiCo.

National Beverage Company is a well-known beverage manufacturer based in the United States, mainly selling a range of flavored light beverages, fruit juices, sodas, energy drinks and other categories of beverage. It is worth mentioning that La Croix, a well-known national beverage product, preempted the market share of soda sparkling water in the United States as early as 2009. With the popularity of low-calorie drinks in recent years, the sales volume has tripled in 5 years. From 2014 to 2019, the sparkling water market has entered a boom period, with a compound growth rate of 17%. National Beverage Company is one of PepsiCo's main competitors in the United States, having developed its products earlier than Coca-Cola, PepsiCo and Nestle, which are internationally renowned beverage companies. This company was founded in 2018, but its impact on PepsiCo in the beverage market is noteworthy.

5. Analysis of Multiple Valuation

5.1 Introduction to the Method of Valuation

Multiple valuation is a popular stock-picking technique, defined as a weighted average of stock-picking "models" or "factors" [1]. Multiple valuation is a more precise and upgraded version of the traditional stock valuation method. [1] Michaud (1990) argues that the advantage of multiple valuation is the introduction of multiple models, but the addition of models and factors without limitation will reduce the prediction ability of multiple valuation. So, this paper uses four indicators from annual reports of 2021 of 6 companies above to calculate the stock price at 2021.12.31 and compare with the real stock price of PepsiCo at the same time. (EV/EBITDA, P/E, EV/FCF, P/FCF)

Table 2. The Financial Situations of Six Comparable Corporates

Indicator	PEP	KO	MNST	KDP	FIZZ	NESTLE
EPS	5.51	1.81	2.03	0.79	2.72	3.20
EV (billion)	216.67	273.18	33.31	55.07	2.14	347.88
EBITDA (billion)	12.72	11.91	1.47	3.08	0.20	15.61
Market Value(billion)	190.58	237.15	34.17	40.73	2.38	331.98
FCF per share	4.88	3.87	1.42	1.87	4.02	5.46
Outstanding Share(billion)	1.39	4.28	0.54	1.41	0.05	3.17
P/E Ratio	15.37	30.61	31.29	36.56	18.77	32.76
Real Price	173.71	59.21	96.04	36.86	45.33	140.37

5.2 Results of P/E Ratio Valuation

According to the data in the above tables, the P/E Ratio is analyzed first. In this paper, the data from six competing companies is used to simulate the average P/E ratio in the industry. [2] Esty (2000) argues that when conducting multiple valuations, it is important to select the right comparable companies for accuracy of the results, and comparability is determined by the industry and size of the company. When P/E ratio multiples are used to evaluate a company at time t, it is necessary to multiply the company's EPS at time t by the P/E ratio at time t of a group of comparable companies in the industry.

Table 3. P/E Ratio Valuation Results

Average P/E	26.95
Price using Average P/E	148.49
Overvalued Price	-25.22
Multiple P/E using MV	27.35
Price using Multiple (MV)	150.71
Overvalued price	-23.00

According to the data in the table above, this paper conducts the normal P/E Ratio valuation and market-capitalization weighted valuation of PepsiCo, and the results are shown in Table 3. So, the average P/E ratio is 26.95 and the price is \$148.49, compared with the real share price, which is \$173.71 on 2021/12/31, the paper found that the share price is undervalued at \$25.22. As the sample data is not sufficient and the size of these competitors is different, in order to ensure the valuation as accurate as possible, the market value of the company is introduced into the model, and the P/E ratio is weighted by market value and calculated again. As you can see, the weighted P/E ratio is 27.35, giving PepsiCo a weighted valuation of \$150.71 for \$25.22. As the sample data is not sufficient and the size of these competitors is different, in order to ensure the valuation as accurate as possible, the market value of the company is introduced into the model, and the P/E ratio is weighted by market

value and calculated again. As you can see, the weighted P/E ratio is 27.35, giving PepsiCo a weighted valuation of \$150.71 for the day, which is \$23 undervalued.

Coca-Cola was found to have the highest EV/EBITDA multiplier of 22.94. And in descending order: Monster Drinks, 22.69; Nestle, 22.28; Keurig Dr Pepper, 17.89; PepsiCo, 17.02; National Beverage, 10.91. A high EV/EBITDA multiplier is considered as a sign that the price is overvalued, so the evaluation of this multiplier also confirms the judgment of PepsiCo's stock price in the above P/E ratio multiplier calculation.

Table 4. Multiples of 6 Corporates based on EV, Price and FCF

Indicator	PEP	KO	MNST	KDP	FIZZ	NESTLE
EV/FCF	31.91	16.49	43.81	20.89	11.43	20.10
Price/FCF	35.58	15.30	67.79	19.67	11.27	25.70
Multiple EV/FCF	6080.38	3910.82	1496.92	850.93	27.16	6672.86
Multiple P/FCF	6780.94	3627.91	2316.41	801.23	26.77	8530.87

Table 5. EV, Price and FCF Valuation Results

Average EV/FCF	24.11
Average P/FCF	29.22
Multiple EV/FCF using MV	22.75
Multiple P/FCF using MV	26.39

However, when EV/FCF and P/FCF are applied to calculate multiples' valuation, based on averages and weighted averages similar to those above, PepsiCo ranked second in both categories and was nearly 50% above the industry average and the weighted average of market capitalization. This is a sign that a company's stock is overvalued, indicating that PepsiCo's share price is likely to fall for some time to come.

5.3 Conclusion of PepsiCo's Multiple Valuation

According to the above two valuation processes, results of the two multipliers are antagonistic, the deviation degree of EV/FCF and P/FCF is much higher than that of EV/EBITDA and P/E ratio based on the same data source according to the deviation degree of data. So, PepsiCo is seen as overvalued and is likely to experience a slump after a brief price spike. On the basis of this research, it is possible to expect the market to lose some confidence in PepsiCo in the coming period of time.

6. Conclusion

This paper analyses the situation of PepsiCo and its stock price, and draws the following conclusions: First, in terms of strategy, PepsiCo promotes the Pepsi Positive project to optimize the value chain, cultivate agricultural products and human capital to achieve its mission. In terms of environmental protection, PepsiCo implements carbon emission reduction and 100% packaging recycling, and constantly introduces new products in the product line to maintain its competitiveness. Second, in terms of financial position, PepsiCo has maintained stable profitability over the past four years, but its ability to withstand risks needs to be improved. PepsiCo's net income declined significantly in the wake of the COVID-19 pandemic, but has since held steady. Moreover, under the premise of PepsiCo's economies of scale, the strategy of low price ensures market share. In general, PepsiCo's financial position is healthy and investors have no particular preference for it, but its earnings are guaranteed. Finally, in view of PepsiCo's competitors and their financial situation, this paper adopts multiple valuation method to analyses a series of financial indicators of PepsiCo. To sum up, the following conclusions are drawn. This paper believes that the deviation of EV/FCF and P/FCF of PepsiCo is greater than EV/EBITDA and P/E ratio, so PepsiCo's stock price is slightly overvalued. This paper has guiding significance for the investment of PepsiCo in the future period of

time, and the analysis of the strategic and financial situation of this paper will help all readers to better understand the basic information of PepsiCo, and has a certain reference value for most applications.

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