

Research on investment strategy of Toyota based on multiple's valuation

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Abstract. Because of the COVID-19, there are a lot of things have been changed in the global market. With these changes, many companies have adjusted their strategies. However, these strategies might not be effective for improving the performance of companies. In this study, the strategy of Toyota used during the pandemic of COVID-19 would be analyzed. Also, the multiple valuation of Toyota's performance in this period would be made. The final result of the valuation is used for helping investors to make the suitable investment decision with stock of Toyota. The valuation result of different models, including some key indicators, price earning ratio(P/E) and EV/EBITDA, shows that Toyota's stock price is overvalued at present. With this kind of result, it should realize that it is not a good time to invest in Toyota at present.

Keywords: Toyota; investment strategy; multiple's valuation.

1. Introduction

As technology develops by heaps and bounds, transportation facility, especially car, has been an indispensable part of people' daily life. However, the spread of the COVID-19 has led to the interruption of the supply chain of many auto parts, thus the production problems of many auto enterprises are in a severe state.

It is of great significance to select companies when using data for comparison (LLoyd, 2021). To be more specific, EBITDA is a useful indicator to evaluate the cash flow of the company (Hall, 2022), the operating profit is effective to analyze the financial position and long-term prospects (Grunert, 2021). For profitability, ROS is a great tool to demonstrate the effectiveness of a company's activities and assess whether they are operating at full capacity (Vaidya, 2019), and ROIC, is used by benchmarking organizations to determine the worth of other businesses (CFI, 2022). And finally, the leverage ratio shows how a company employs leverage in its operations as well as its ability to pay financial commitments (Green, 2021). According to Mauboussin (2018), although multiple valuation is the most accurate tool when used properly, it does have shortcomings like failing to consider the investment need, reflect the business risk and compare with different tax rate in different regions. In addition, P/B ratio is also significant when comparing enterprises since the book value of each firm is fixed and is comparable with the market price of the company (Liu, 2019).

The purpose of this study is to analyze the investment strategy of Toyota based on multiple's valuation. When companies are making the decision of the investment, they need to consider different elements in the operation. Gaining profit can be the principle purpose of investment. However, what should be considered when making the investment decision need to be identified. In this article, multiple's valuation will be used for investigating the performance of Toyota. Toyota has been chosen as the case for the analysis. As a famous international motor company, Toyota has also provided different services in the global market. However, with the pandemic of COVID-19, some external environment elements might be changed. Because of this, Toyota has to make some new strategies for dealing with the changes. Whether the strategies are effective or not might influence on the

performance of this company. Therefore, it needs to make the analysis of different indicators of the company in order to know whether current stock price of Toyota is overvalued or undervalued. For achieving this, the multiple valuation model will be used. In this paper, the basic situation of Toyota will be introduced first. Following this, the strategy of Toyota during the pandemic of COVID-19 would be analyzed. And then, the calculation based on multiple's valuation will be made. In this paper, multiple valuation via price earnings ratio (P/E) and EV/EBITDA is quite an effective way for a quick valuation of Toyota Motor Corporation and for stakeholders to make buy or sell decisions by analyzing whether the company stock price is overvalued or undervalued. Before the calculation part, it is worthwhile to select the compatible peer groups. After considering the scale of the company using net sales, EBITDA and the operating profit, the profitability measured by ROS and ROIC and finally, the leverage ratio assessed by the debt-equity ratio, four competitors are accurately picked. The final conclusion about whether the stock price of Toyota is overvalued or undervalued can be made based on the calculation.

The figures correctly evaluate the intrinsic value of the company and its business, so as to establish the basis for pricing various transactions and can be meaningful for shareholders to make investment decisions.

The remaining part of this paper is organized as follows. The company introduction, strategic analysis, valuation analysis and investment conclusion of Toyota are displayed in each section respectively.

2. Strategic analysis of Toyota

2.1 Company introduction

Toyota Motor Corporation is a famous multinational large-scale group enterprise, with more than 500 subsidiaries in various countries and more than 280000 employees worldwide. Its core business is mainly engaged in automobile manufacturing and sales. Started in 1937 by its founder, it has grown from its venture business roots into a variety of other fields including housing, financial services and communications. Since 2008, Toyota has gradually replaced General Motors Company to become the world's first car company manufacturer including a series of cars which enjoy a good reputation nationwide. As for the geographical location, in the U.S. market, Toyota surpassed General Motors Company and became the sales champion in the past few years, in the Chinese market, Toyota's sales volume grew steadily, continuing going up for the past nine consecutive years, in the European market which can be described as the base camp of Volkswagen, Toyota's sales still increased by 8% last year. However the development prospect of Toyota Motor Corporation is not that promising. It expects revenue this year to increase 5.2% and net profit to drop 21% for the fact that Toyota is grappling with a shortage of chips and higher costs of materials caused by supply-chain disruptions, just the same as the other Automobile manufacturing enterprises.

2.2 Strategy analysis

In terms of the business strategies for Toyota Motor Corporation, it is of utmost significance to recover from the side effects caused by the epidemic recent years. It is difficult to predict the epidemic trend of the COVID-19 and how to ensure production under the crisis has become the core of the whole manufacturing industry. Global consumption stagnation, namely "demand evaporation", may lead to economic recession. In this section, there are four main strategies which will be mentioned to illustrate how Toyota Motor Corporation is planning to go over the difficulties.

The first one is to stock large amounts of important spare parts for future use. Different from other car making companies which are forced to reduce production and sales due to the short supply of components made in factories nationwide, Toyota Motor Corporation stores up significant parts especially computer chips for future trade to lessen the impact led by the changing demand and supply in the market.

The second one is sustainable development. Toyota is committed to supporting and fostering a more inclusive and sustainable society. Toyota Motor North America is working to address major environmental issues facing the global community, such as climate change, water scarcity, resource depletion and habitat loss.

The third one is making more investments. The U.S.-listed shares of Toyota Motor Corp. (7203.TO) rose 0.2% in morning trading, after the Japan-based auto maker announced plans to invest \$383 million in four of its U.S. production plants. Toyota customers want vehicles that are fuel-efficient and electrified. These investments allow the company to meet customer needs and quickly respond to an evolving market.

The last one is launching new products. With design and R&D centers worldwide, as well as numerous assembly plants, Toyota responds to the ever-changing needs of global customers and builds vehicles to suit each individual market.

3. Valuation analysis

3.1 Valuation of Financial Indicators of Toyota and Its Competitors

It is worthwhile to select some competitors for comparison purposes in order to obtain as accurate a conclusion as possible. On the one hand, the data allows you to visually identify your competitive advantages strengths; on the other hand, strong competitors force companies to identify weaknesses. Companies may learn how to improve their company strategies and exceed competitors in these areas to hold customers' attention and get additional competitive advantages in their sector by comparing themselves to competitors (Lloyd, 2021). Thus, after consideration, the comparable companies selected are Volkswagen, G. Motors, Ford Motor, BMW and MBG.

The first step is to evaluate the scale of the company. In this section, there are three factors being considered. The first indicator is net sales. It provides an objective and visual indication of a company's scale of operations and market competitiveness. Compared with its competitors mentioned above, the net sales of Toyota in 2021 is higher than its competitors, except Volkswagen. On this basis, it can be tentatively concluded that Toyota has a relatively strong market position and holds a large market share. The second factor is EBITDA, which stands for earnings before interest, taxes, depreciation and amortization. EBITDA is a valuable indicator for evaluating a company's operating performance and assessing its capacity to create cash flow for its shareholders (Hall, 2022). According to the table, the EBITDA of Toyota in 2021 is €31.82 billion, which is less than that of Volkswagen. This demonstrates that Toyota has decent operating performance and the ability to generate cash flow for its owners, and that this ability can be improved. The third data is the operating profit, also called EBIT. It is frequently utilized for expansion, investment, and development. The financial status and development prospects of firms in similar industries may be analyzed by comparing operating earnings (Grunert, 2021). The stronger the financial situation and long-term prospects, the higher the operational profit. After comparison, the operating profit in 2021 is only less than that of Volkswagen. This means that Toyota is in a good financial position compared to its other rivals and expects to have a better future. By analyzing the data above, it can be concluded that the company has considerable scale given Toyota's sound financial position and strong market position. However, Volkswagen is its strong competitor.

The second step is measuring the profitability of these companies. It is measured by ROS and ROIC. ROS is the return on scales. It is a financial ratio that demonstrates how well a firm creates operational profit from sales and analyzes a company's performance by examining what proportion of revenue is utilized to generate profit for the company rather than covering operating costs. It displays the effectiveness of a company's activities and assesses whether they are operating at full capacity (Vaidya, 2019). According to the table, the ROS of Toyota is less than BMW and MBG, but is still higher than that of Volkswagen, G. Motors and Ford Motor. This figure shows that Toyota is not operating at its optimum potential and therefore has room to rise. ROIC means the return on investment capital. It is a profitability or performance ratio that tries to evaluate a company's

percentage return on invested capital. The ratio demonstrates how well a business uses its investors' money to produce profit. The ROIC ratio is used by bench-marking organizations to determine the worth of other businesses (CFI, 2022). It can also help judge the value of an enterprise's investment. Among all these selected competitors, the ROIC of Toyota is the least one. As a result, Toyota's return on invested capital is lower than its competitors', and possibly worse than the industry average. Toyota may not be making the best use of its investors' money in order to make a profit. As a consequence, Toyota's profitability has opportunity to grow.

The third indicator is the leverage ratio. It assesses how a company employs leverage in its operations as well as its ability to pay financial commitments (Green, 2021). This is measured by debt-equity ratio. It informs investors about the amount of debt utilized to support the company's activities. Because bondholders and creditors are paid before shareholders, a larger ratio tends to reflect a higher amount of risk to investors. Referring to the figure, the debt-equity ratio of Toyota in 2021 is the least among the six companies. It indicates that compared with its competitors, Toyota faces less risks. Furthermore, it is also the most capable of them all in terms of meeting its financial obligations.

Last but not least, the valuation using PE multipliers. Based on the share price and EPS of each company, PE ratio can be calculated. The closing share prices of comparable companies on May 2022 have been gathered. Furthermore, because the EPS for 2022 has yet to be released, the EPS for the end of 2021 is used to calculate PE. The median and average PE ratios of similar companies can then be determined. The median and average PE ratios of comparable companies, which are 4.93 and 4.78, are nearly identical. Toyota's EPS in 2021 is 14.4 euros, according to the annual report, the share price of Toyota using the median and average PE ratios is 70.95 euros and 68.89 euros respectively. It can be concluded that Toyota's stock is overvalued because its share price is 152.31 euros.

By way of comparison, Toyota has a greater market position and better ability to meet its financial obligations than its competitors, but its profitability could be further improved. By analyzing the PE multipliers, the stock of Toyota has been overvalued.

$$P/E = \frac{\text{Stock price}}{\text{Earnings per share}} \quad (1)$$

Table 1. EPS and P/E of the comparable firms.

Company	Stock price(2022.5.12)	EPS 2021	P/E
Volkswagen	197.75	29.61	6.68
G.Motors	34.57	6.36	5.43
Ford Motor	12.25	4.31	2.84
BMW	75.78	18.77	4.04
MBG	63.51	12.89	4.93

Table 2. Median and average P/E of the comparable firms.

P/E (median) of the comparable firms:	4.93
P/E (average) of the comparable firms:	4.78

Table 3. Valuation of Toyota.

Company	EPS	Stock Price (May 12th, 2022)
Toyota	14.40	152.31

Table 4. Valuation of Toyota using median and average method.

Method	Toyota stock Price (using EPS 2021)
Using median:	70.95
Using average:	68.89

3.2 Valuation of EV/EBITDA,P/S,P/B of Toyota and Its Competitors

Another multiple valuation indicator used to evaluate Toyota's stock value and company performance in this paper is EV/EBITDA, which is commonly employed by investors to evaluate whether the stock is worth to purchase. EV implies enterprise value, constituted by the market capitalization of the company, as well as the short-term debt, long-term debt and the cash on the balance sheet. EBITDA represents the earnings before interests, taxes, depreciation and amortization, implicating the firm's overall financial performance. However, if selected falsely, the valuation multipliers can present different consequences of the appraisal of company's stock price, due to several factors, for instance, the distinct capital structure and the cost of capital.

However, three shortcomings of EV/EBITDA multiplier are noteworthy before starting the evaluation of Toyota's stock price later in the paper. Firstly, Mauboussin (2018) concluded that the multiplier fail to consider the investment need of the company, such as depreciation, capital expenditure and acquisition, leading to a high capital intensity and overestimate the available cash flow the company is able to allocate. Furthermore, Mauboussin (2018) emphasized that EV/EBITDA factor is unable to reflect business risk, the exposure facing by the firm, which possibly lowers the profitability and leads to bankruptcy. Finally, two enterprises with identical capital structures and EBITDA figures may obtain dissimilar multiple value on account of different tax rates (Mauboussin, 2018), since the regulatory tax rate vary from country to country, for example, US corporation tax rate reaches 21% (United States - Corporate - Taxes on Corporate Income, n.d.), whereas Japanese enterprises pay only 10.3% tax rate (Japan - Corporate - Taxes on Corporate Income, n.d.).

As mentioned previously in the paper, the selected comparable companies of Toyota in the automobile manufacturing industry are Volkswagen, General Motors, Ford Motors, Bayerische Motoren Werke AG (BMW), Mercedes-Benz AG (MBG).

The data collected below are acquired from Morningstar. The EV/EBITDA multiplier value of the five companies are calculated as 4.25, 5.77, 6.83, 3.68, and 6.16 respectively. By dividing the sum of all figures by five, the mean of EV/EBITDA ratio can be recorded, implying the average performance of the automobile industry. Using the current EBITDA of Toyota,

$$\text{Enterprise Value (company)} = \frac{EV}{EBITDA_{peers}} * EBITDA(\text{company}) \quad (2)$$

$$\text{Enterprise Value (Toyota)} = 5.342 * 39.73 = \text{€ } 212.24 \text{ billion} \quad (3)$$

According to the statistics of Morningstar, Toyota has current enterprise value of 373.47 billion euros. It is obvious to conclude that Toyota's enterprise value has been over-estimated.

Table 5. The current performance of the enterprise value and the stock price.

COMPARABLE COMPANY	EV/EBITDA	P/B	P/SALES
VOLKSWAGEN	4.25	0.72	0.38
G. MOTORS	5.77	0.9	0.43
FORD MOTOR	6.83	1.27	0.43
BMW	3.68	0.64	0.47
MBG	6.18	0.88	0.5
AVERAGE	5.342	0.882	0.442

P/B ratio is also a useful tool to evaluate a firm's stock value, measuring the price to book value of equity, which is calculated by dividing the company's stock price per share with book value per share. It has been summarized by Liu (2019) that P/B ratio can compare enterprises easily, since the book value of each firm is fixed and is comparable with the market price of the company. Nevertheless, it has also been pointed out by Liu (2019) that in the presence of divergent accounting principles and regulations, the comparison of corporations using P/B ratio can be hard to address.

From the statistic retrieved from Macrotrends, the book value per share of Toyota at the end of 2021 is £ 31.24. By the table, the P/B ratio of five automobile enterprises of equivalent value with Toyota is 0.72, 0.9, 1.27, 0.64 and 0.88 respectively, from which the industry average can be computed as 0.882. By multiplying the industry mean price to book value by the Toyota's book value per share in 2021, the stock price of Toyota in the same time period can be derived.

$$Price (company) = \frac{Price}{Book Value_{peers}} * Book Value(company) \quad (4)$$

$$Price (Toyota) = 0.882 * 31.24 = \text{£ } 27.55 \quad (5)$$

From the data offered by Yahoo Finance, the stock price of Toyota on Dec 31st, 2021 is 175.81 euros. Since the estimated price of Toyota stock is lower than the actual price of it, conclusion can be drawn that the company has been over-priced. However, though the outcomes of using both P/B ratio and P/E ratio are identical, the price derived from P/B indicator is much lower than the actual price as well as the estimated one from the P/E evaluation, which can be explained by the dissimilar of accounting ways of different corporation from different nations.

The third multiple indicator of market price of stock is P/S ratio (price to sale), mainly applicable to newly emerging firms with high investment and negative net cash flows in the early periods (Liu, 2019). Thus, P/S multiplier is unsuitable to value an established large enterprise with long-term development as Toyota. P/S ratio can be computed by dividing market capitalization with company's sales or revenue. The formula of computing stock price using P/S ratio can be found below.

$$Price (company) = \frac{Price}{Sales_{peers}} * Sales(company) \quad (6)$$

$$Price (Toyota) = 0.442 * 213.26 = \text{£ } 94.26 \quad (7)$$

The revenues of Toyota in the past trailing twelve months is 213.26 billion euros, retrieved from Yahoo Finance. Therefore, the estimated stock price of Toyota is 94.26 euros, much lower than the actual price of Toyota stock in the same period, as what has been expected that P/S ratio isn't reliable to anticipate the real value of stock.

4. Conclusion

In conclusion, the performance of Toyota and the stock price of Toyota have been evaluated. For making the evaluation, there are some analyses have been carried out. The valuation made in this research is based on the calculation of ROS, ROIC, PE, EV and EBDITA. Based on the analysis, there are some findings can be concluded? First of all, the strategy of Toyota during the pandemic of COVID-19 cannot bring a significant competitive advantage to this brand. According to current analysis, it can find that Toyota has made the strategy for guaranteeing the further manufacturing process with the storage of spare parts. Furthermore, it has focused on the sustainable development and environmental protection problems related with the vehicle. However, this kind of strategy can be common in the automobile industry at present. It means Toyota might not gain much competitive power from these strategies. Moreover, the storage of the spare parts might increase the cost for operation. While the market environment is changed all the time, especially in the pandemic of COVID-19. In this circumstance, Toyota's strategy of storing the spare parts might become a risk in the future.

Secondly, through the calculation of multiple valuation, it can find that the EPS of Toyota is lower than its main competitors. The financial performance of Toyota and its current market performance do not show that Toyota has a great potential in the future. The most important is that current strategy of Toyota has set a potential risks and provide less flexibility for Toyota in the future. Therefore, it

might not be good for expecting Toyota to have the revolutionary change in the future. Compared with P/E valuation of Toyota's key competitors, such as BMW and MBG. It can find that these two brands have the EPS close to the one of Toyota but their stock prices equate to half of Toyota's.

Thirdly, the calculation of the stock price shows that Toyota's stock price is higher than its competitors and it is overvalued. Based on current Toyota's stock and the analysis of the potential development with the consideration of its strategy, it can be stated that it is not a good time to invest on Toyota at present. In addition, it should realize that the pandemic of COVID-19 has changed the market environment and the demand of consumers in the automobile market. In some countries, the pandemic of COVID-19 has limited the movement of people and it might reduce the demand of automobile in the future.

Therefore, it can be risky to make the investment decision with the automobile companies. In the case of Toyota, the strategy it has at present would also lead to some risks and burden in the future. With the overvalued stock price, it can be risky to purchase stock of Toyota at present. Stockholders can consider to reduce their holding shares at present.

Reference

- [1] Lloyd, A. (2021). Web design kent. Kayo Digital. Retrieved from: <https://kayo.digital/news/the-importance-of-a-competitor-analysis>
- [2] Hall, J. (2021). What is EBITDA and why does it matter? Retrieved from: <https://www.fool.com/investing/how-to-invest/stocks/ebitda/>
- [3] Grunert, J. (2021). What is the significance of operating profit? Retrieved from: <https://investinganswers.com/dictionary/o/operating-profit>
- [4] Vaidya, D. (2019). Return on sales. WallStreetMojo. Retrieved from: <https://www.wallstreetmojo.com/return-on-sales/>
- [5] Corporate Finance Institute (CFI). (2020). ROIC. Retrieved from: <https://corporatefinanceinstitute.com/resources/knowledge/finance/what-is-roic/>
- [6] Green, J. M. (2021). Leverage ratio. Retrieved from: <https://www.thebalance.com/what-is-the-leverage-ratio-5192807>
- [7] Mauboussin M J. What Does an EV/EBITDA Multiple Mean? [J]. Bluemont Investment Research, 2018.
- [8] Liu X. Automobile Business Valuation Analysis: Taking Three Automobile Companies as Analysis Samples[C]//4th International Conference on Modern Management, Education Technology and Social Science (MMETSS 2019). Atlantis Press, 2019: 40-50.
- [9] PWC. (2022). Japan—Corporate—Taxes on corporate income. (n.d.). Retrieved from: <https://taxsummaries.pwc.com/japan/corporate/taxes-on-corporate-income>
- [10] PWC. (2022). United States—Corporate—Taxes on corporate income. (n.d.). Retrieved from: <https://taxsummaries.pwc.com/united-states/corporate/taxes-on-corporate-income>