Analysis and Valuation of Toyota's— Multiple Valuation Method of PE Ratio and EV EBITDA Ratio

Wanting Su*

Department of finance, Beijing University of Technology, Beijing, China

*Corresponding author: wangjingjuan@jiujintech.com

Abstract. With the continuous development of the automobile industry, Toyota has become the world's largest multinational automobile manufacturer. By referring to Toyota's 2019-2022 financial report and comprehensive report, this paper analyzes the company's business strategy and investment strategy and makes a relevant financial analysis. This paper mainly uses two methods of value assessment. The first method is EBITDA/EV, which is also considered an enterprise value multiple valuation model. The second is the price-earnings ratio valuation, which can be used to determine whether a company is overvalued or undervalued in the market. Based on the above analysis, the author believes that Toyota is overvalued, but it is relatively safe for investors based on its excellent operating performance and its leading position in the industry. At the same time, the author also expounds on the influence of Toyota's overvaluation on future development and emphasizes Toyota's current competitive advantages and potential market threats. Furthermore, since Toyota has undergone great changes in recent years and there are few types of research on Toyota from 2021 to 2022, the research significance of this paper is to help readers better grasp the recent financial status, business strategy, and enterprise value of Toyota.

Keywords: Toyota; Valuation; Price-to-earnings ratio; EV/EBITDA ratio.

1. Introduction

Toyota Motor Corporation is a Japanese multi-national automotive company registered on the Tokyo Stock Exchange, the Nagoya Stock Exchange, the New York Stock Exchange and the London Stock Exchange. Its headquarters are located in Toyota City, Aichi Prefecture, Japan and Bunkyo Ward, Tokyo. Toyota is the largest automobile manufacturing company in Japan. Its products range from automobiles, steel, machine tools, electronics and textile machinery, among which the most successful products are automobiles [1]. The company ranked No. 9 on the 2021 Fortune Global 500 list, with revenues of $256,721.7 million and profits of $21,180.1 million. The Toyota consortium owns five Fortune 500 companies, namely Toyota Motor Corporation, AISIN, DENSO, Toyota Automatic Loom and Toyota Tsusho. In addition, Toyota is also based on the future of the automobile industry, promoting sustainable development, and contributing to the sustainable development of society and the planet.

The national and international environment for economic development in 2022 has become more complex and uncertain, and some are even beyond expectations. The global economy is not optimistic. Political and military conflicts on the border between Russia and Ukraine have led to sharp fluctuations in the global food, energy and other commodity markets. The novel coronavirus keeps mutating and people in many countries are increasingly infected, which has significantly increased difficulties for market players and brought new challenges to the economy. At the same time, the environment for business is changing, such as currency uncertainty, rising interest rates and production constraints. Against this backdrop, Toyota dealers, vendors and manufacturing locations are still working to deliver as many cars as possible to customers. In the fiscal year 2021, despite soaring raw material prices and increased investment expenses, the company still achieved revenue and profit growth. In the fiscal year 2022, although the revenue decreased, the company was still a leading company in the industry [2]. In 2021, Toyota's global sales volume reached 10.50 million units, exceeding 10 million units for six consecutive years. In addition, Toyota accounted for 13.1% of the 82.1 million vehicles sold worldwide. Long standing at the forefront of global sales [3].

According to the latest data released in early November 2022 by Focus2Move, a world-renowned auto market research website, Toyota occupies four places in the global sales of all vehicle types, with Toyota Corolla temporarily occupying the first place with 840,000 units and Toyota RAV4 occupying the second place with 654,000 units. The Toyota Camry ranked sixth with 489,000 units sold, while the Toyota Hilux ranked 10th with 416,000 units sold [4].

To sum up, the current overall development of Toyota is relatively optimistic. In order to further evaluate the current operating conditions and put forward relevant suggestions, this paper, through a series of investigations, sorted out the data of Toyota, Tesla, General Motors and Ford from 2021 to 2022, adopted the method of price-earnings ratio and EBITDA, Reflect the real business situation of the company.

2. Literature Review

In recent years, Toyota has made great changes in corporate decision-making and business strategy. For example, from 2015 to now, all kinds of high-end models of Toyota have gradually withdrawn from the Chinese market [5]. In 2022, Toyota will devote itself to the research and development of electric vehicles and prepare to develop a special platform for electric vehicles. In 2023, there will be a major shake-up at Toyota. Akio Toyoda, 66, will step down as CEO on April 1. These important changes are affecting Toyota's stock price and valuation.

There is a lot of research on company valuation. At present, the two main methods of company valuation are relative valuation and absolute valuation. The method of discounted cash flow is commonly used in the absolute valuation method. The common methods of relative valuation are price-to-book valuation and price-to-earnings valuation. In the P/E valuation method, P/E represents how many times the price is the earnings per share, which can also be understood as the opportunity cost of each unit of earnings [6]. The rationality of using P/E ratio valuation lies in that it usually includes all the factors that affect the stock price, such as the reputation of the company, the prosperity of the industry, the investment enthusiasm of investors, etc., which is simple to calculate and has fewer limited factors [6].

But one of the difficulties with price-to-earnings valuations is finding comparable companies. When selecting comparable enterprises, it is better to be as similar as possible in terms of the main business, operation scale, innovation and technological capability, and life cycle stage of enterprises [7]. But nowadays there are more and more diversified listed companies, and the degree of diversification of each company is not the same, and the investment and resources allocated to the diversification layout are also different, and the industrial scale is more different [7]. At the same time, when selecting comparable enterprises, the average expected growth rate will also be considered so that the comparable companies can be in the mature stage and have stable growth. All these make the application range of the traditional P/E ratio model greatly limited [7]. In addition, when the enterprise is in a state of loss, the price-earnings ratio cannot be estimated, and for the high-speed development of the company or the new industry, the valuation fluctuations will be very large [6].

3. Balance Sheet

3.1 Strategic Analysis

3.1.1 Operating Strategy

1) Pursue lean production

Toyota lean production method can achieve standardization, high efficiency and minimum cost. Toyota's lean production method advocates eliminating all links that do not create value, eliminating waste and forming standardized production processes to produce products with the best quality and the lowest cost on time [8].

2) Expand the use of electrified vehicles and improve logistics efficiency

Under the pressure of high costs, competitive advantage is closely linked to Internet and battery technology. The Toyota partners will connect and build an integrated commercial vehicle platform through the Internet, and enable just-in-time logistics (JIT) through the Toyota Production System (TPS) to improve transportation efficiency. At the same time, the promotion of electric vehicles and faster logistics efficiency will also help reduce carbon dioxide emissions and promote carbon neutrality [9].

3) Stable and good pricing

Cost and required profit together determine the selling price, and an increase in production cost will directly lead to an increase in price. Toyota, however, does not calculate the selling price, but the profit first. So, it uses the price-cost price = profit formula to sell. Toyota believes that market mechanisms and consumers determine sales prices. Therefore, Toyota's profit increases due to good pricing and high-quality vehicles [10].

3.1.2 Investment strategy

Investment projects are critical to the company's future development potential and investment value. Toyota's investment strategy has recently shifted to going green and electrified, in pursuit of carbon neutrality and sustainability. Although Toyota holds a conservative attitude towards pure electric technology, in 2021, the president of Toyota said that by 2030, Toyota will invest a total of 8 trillion yen in technology research and development and equipment for new energy models such as pure electric, hybrid electric and fuel cells [11]. In addition to electric cars, Brilliant Planet was led by Toyota Ventures and Union Square Ventures in a $12 million Series A funding round in 2022. Brilliant Planet is a startup that uses algae to capture carbon. The Toyota Climate Fund is further involved in funding for the carbon market Nori, energy storage startup E-Zinc, green hydrogen technology company Ecolectro and Marine agriculture pioneer Alora. This shows Toyota's intention to invest in batteries, alternative energy, hydrogen, circular economy, blue and green carbon, food and agriculture [12].

3.2 Financial Analysis

3.2.1 Operating Performance

With exchange rates, interest rates and costs constantly changing, there is too much uncertainty in the business environment [2]. Despite a number of unexpected events in 2022, including a semiconductor supply shortage, lockdown in Shanghai, and flooding in South Africa, Toyota managed to build and deliver more cars to customers. As can be seen from Fig. 1, the sales volume increased by 1.59% compared with the same period last year.

Table 2 shows a 34.7% decline in operating revenues for the period from the same period last year. Figure 2 makes it clear that while the depreciation of the yen had a positive impact of 565 billion yen, the soaring price of raw materials and high one-time costs caused excessive losses, which eventually led to a decrease in operating income.

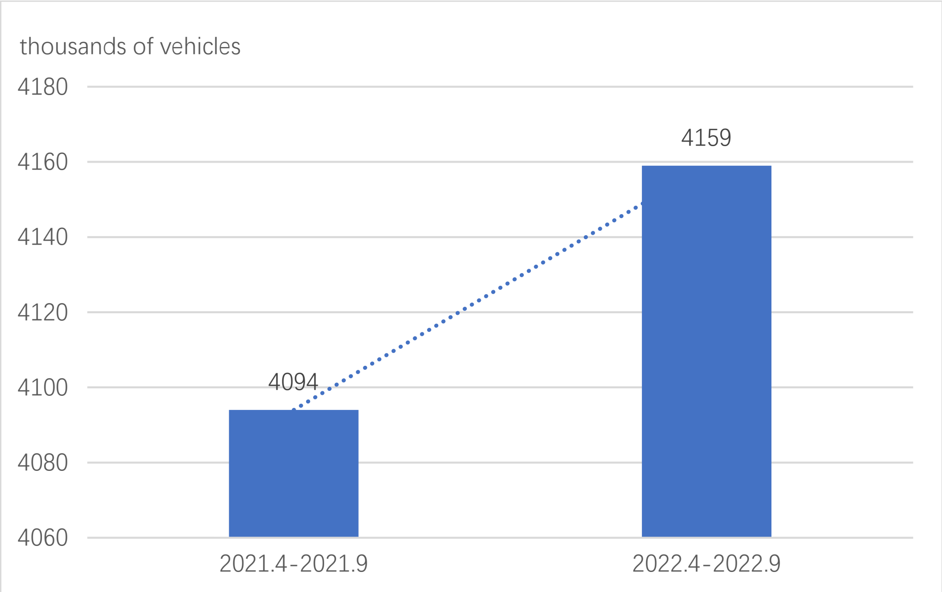

Figure 1. Toyota's vehicle sales in April to September 2021 compared to its sales in April to September 2022
(Photo credit: Original)

Table 1. Toyota's operating performance in April to September 2021 compared to its operating performance in April to September 2022

	2021.4-2021.9	2022.4-2022.9
Sales Revenues	15,481.2	17,709.3
Operating Income	1,747.4	1,141.4
Income before Income Taxes	2,144.0	1,834.2
Net Income Attributable toToyota Motor Corporation	1,524.4	1,171.0

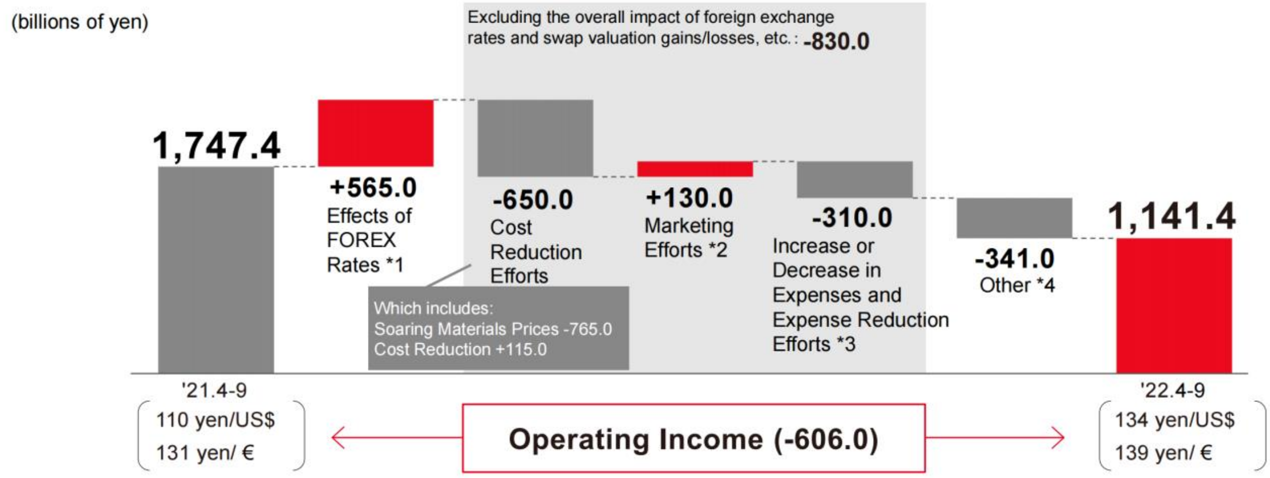

Figure 2. Toyota's operating income changes from April to September 2022 and 2021 in the same period
(Photo from: Toyota’s FY2023 Second Quarter Financial Results.pdf (global. Toyota)

3.2.2 Shareholder Return

The interim dividend in March 2022 is 25 yen per share (+1-yen year-on-year). As can be seen from Fig. 3, the dividend has been growing in recent years. It is proved that Toyota has a relatively sufficient free cash flow surplus, indicating the company's good financial condition, which is conducive to reducing the volatility of the company's stock price, so that the company's stock price will not fluctuate greatly.

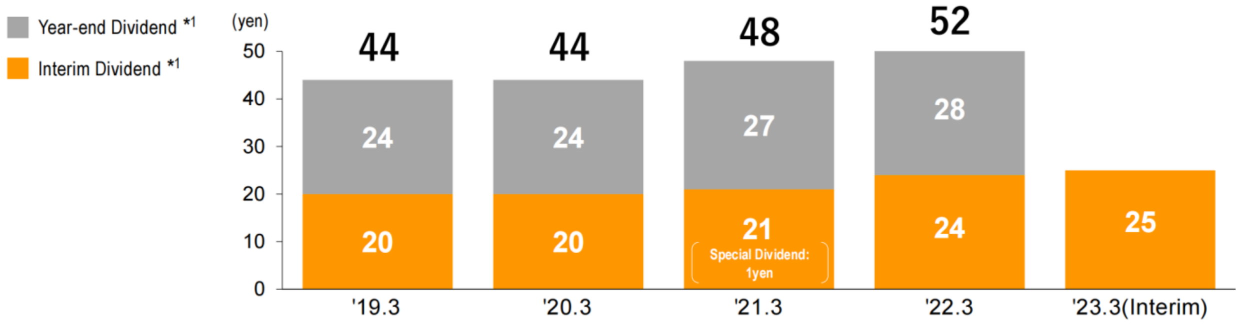

Figure 3. Toyota year-end dividend and interim dividend from 2019 to 2022
(Photo from: Toyota's FY2023 Second Quarter Financial Results.pdf (global. Toyota))

Table 2. Toyota year-end dividend, interim dividend and payout ratio from 2019 to 2022

		2019.3	2020.3	2021.3	2022.3
Interim	Total Amount of Dividends (billions of yen)	286.9	278.9	293.5	332.4
	Payout Ratio	23.4%	24.5%	46.6%	21.9%
Full Year	Total Amount of Dividends (billions of yen)	626.8	610.8	671.0	718.2
	Payout Ratio	33.8%	30.2%	29.8%	21.9%

At the same time, it can be seen from Table 2 that the total dividend in 2020 had a temporary decline, possibly because there was no share repurchase as a year-end shareholder return in that year. From 2020 to March 2022, the interim dividend and the full-year dividend continue to increase, while the payout ratio decreased, indicating that the increase of the net profit after tax is greater than the increase of the dividend. This may be because Toyota has continuously increased its investment in research and development in recent years. Various projects such as new energy development and software upgrade are also actively promoted, and the investment expenditure has. increased year by year.

3.2.3 Cash Flow Analysis

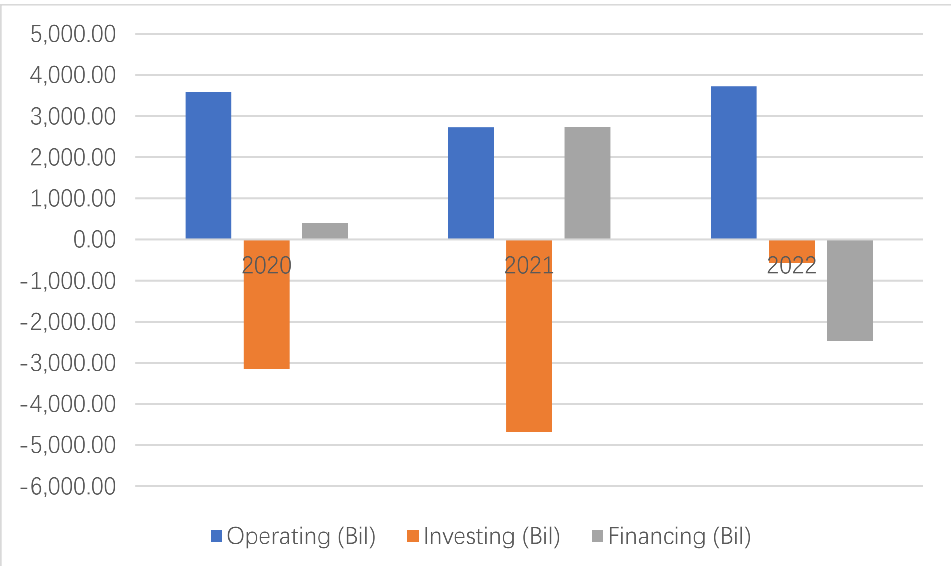

Figure 4. Cash flow changes for Toyota's in past three years
(Photo credit : Original)

Table 3. Toyota’s cash flow in recent three years

	2020	**2021**	**2022**
Operating (Yen, Bil)	3,590.64	2,727.16	3,722.62
Investing (Yen, Bil)	-3,150.86	-4,684.18	-577.5
Financing (Yen, Bil)	397.14	2,739.17	-2,466.52
Free Cash Flow (Yen, Bil)	-4.49	-1,040.78	-107.63

When the income statement and balance sheet overemphasize net assets and net profits in reflecting the value of the business, the cash flow statement can be corrected for this. Net cash flows from operating, investing and financing activities may reflect an organization's operational status. As can be seen from Fig. 4, Toyota has been operating normally for the past three years. Cash flows generated from operating activities should account for the main part, while cash flows generated from investment and financing activities account for a small proportion. In Table 3, the cash flow generated from financing activities in 2021 soared to 2739.17 billion yen, mainly due to the increase in Toyota's issuance or payment of common stock and long-term debt issuance, which indicates that the company's demand for borrowing money may increase due to the impact of the epidemic on its livelihood in 2021.

In recent three years, Toyota's free cash flow has been negative, which indicates that Toyota's capital expenditure in recent years is relatively high. Free cash flow is the "surplus" cash flow after a business's normal asset maintenance is satisfied. In recent years, Toyota may still be in the development of new areas, so it is understandable that the free cash flow often shows negative results.

3.2.4 Solvency Analysis

Table 4. Toyota’s solvency index in recent three years

	Mar-20	Mar-21	Mar-22
Current Ratio	1.04	1.06	1.09
Quick Ratio	0.84	0.89	0.87
Asset-Liability Ratio	0.61	0.61	0.60
Debt/Equity	0.53	0.57	0.58

1) Short-term solvency analysis

The current ratio is the ratio of current assets to current liabilities, which indicates the number of current assets a business has per dollar of current liabilities as repayment security. Table 4 shows that Toyota's current ratio has increased on a year-over-year basis over the past 3 years, which reflects that Toyota's short-term debt-paying ability has been enhanced year by year. The company has more working capital to cover the short-term debt, and the amount of assets that can be realized is larger, thus the risk of creditors is smaller. The quick ratio is the ratio between a company's quick assets and short-term liabilities. As can be seen from Table 4, although Toyota's quick ratio fluctuates slightly, it still shows an upward trend and the company's solvency increases. However, the quick ratio is always less than 1, indicating that each yuan of the company's current liabilities is offset with less than 1 yuan of readily realized current assets, and and short-term creditworthiness may not have a reliable warranty.

2) Long-term solvency analysis

Asset-liability ratio, also known as debt ratio, is the ratio of total liabilities and total assets of an enterprise. It can be seen from Table 4 that the asset-liability ratio has remained almost unchanged in the past three years, and Toyota's financial situation is relatively stable and safe. Equity ratio refers to the ratio of total liabilities to total owners' equity, which reflects the degree of protection of owners' equity to creditors' equity. Its index has slightly increased in the recent three years, indicating that Toyota's long-term solvency has become smaller and its risk has become larger.

4. Balance Sheet

4.1 Industry and Competitor Analysis

Toyota Motor is a world-renowned benchmarking company, particularly in the manufacturing sector. In 2020, its vehicle sales ranked first in the world. Its primary market continues to be North America, with about 2.31 million units sold annually and annual sales of approximately 2 million units in China. With its strong competitive advantage, Toyota overtook General Motors (GM) in 2008 to become the world's largest automaker [13].

This paper selects three companies as Toyota's existing competitors.

The first is Volkswagen, the heart of the Volkswagen Group, one of the world's four leading car manufacturers. In 2019, it placed 9th in the Fortune Global 500. The activity of the Group is divided into two major brands: the Audi brand group and the Volkswagen brand group. Under the group, Audi and VW independently manage and generate profits from their group of brands. In 2021, the sales volume of Volkswagen Group ranked second in the world, but Volkswagen still ranked first in the sales volume of Chinese brands.

The second corporation, General Motors, was established on September 16, 1908. General Motors produces, sells and maintains a wide range of brands around the world, including Buick, Chevrolet, Cadillac, GMC and Holden. A full range of GM brands, including minicars, electric cars, compact cars, heavy-duty full-size trucks and convertibles, are sold in more than 120 countries and regions. But by 2021, GM's global sales have been declining for five consecutive years.

The third company is Ford. Ford is a world-class car brand, one of the world's largest automakers, founded in 1903. It owns the Ford and Lincoln car brands. The main activity of the company includes the design, manufacture and sale of high-quality cars, SUVs, trucks and electric models, as well as Lincoln luxury models, and provides related aftersales services. Ford is the leader in electrification, autonomy and intelligent mobility. In 2021, Ford ranked eighth in the world in cumulative sales.

At present, the growth rate of the automobile market is slowing down, and the new car production force is rising rapidly. In addition, there are many negative factors such as car purchase restrictions, overcapacity, emission regulations, and the impact of the epidemic, which have caused uncertainty in the future macroeconomic development. The fierce market competition and severe industry environment have brought unprecedented pressure to the old car enterprises [14]. Toyota has the world-recognized advanced automobile manufacturing process and automobile research and development level, but in recent years, there has been a decline in operating income. The Toyota brand needs to better grasp the market rules and consumer habits, and constantly adjust its industrial structure and marketing strategy in line with market changes, so as to truly achieve long-term sustainable development of the brand [5].

4.2 Market Capitalization Analysis

As Fig. 5 shows, Toyota's market value was much higher than that of its competitors from 2019 to 2022.

The value of a company reflects the total wealth it can create for shareholders during its survival. Market value is related to profitability, managerial capacity, reputation, etc., and these are related to corporate marketing, attracting partners, issuance, etc. Although the company cannot make profits directly in the secondary market, it can gain capital advantages through stock splits, rights offerings, mortgages, refinancing and other aspects. On the macro level, Toyota's high market value is mainly due to its large scale, rich models, involvement in both low-end and high-end products, wide global coverage, appropriate strategic planning and strong market recognition. At the same time, Toyota's internal net profit is high, dividend increases, and the number of outstanding shares on the market is large.

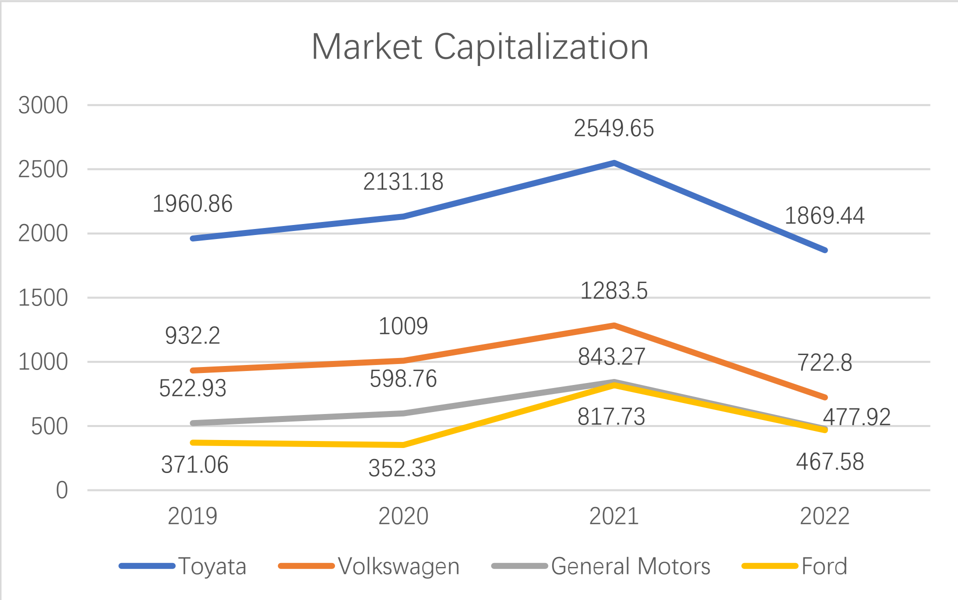

Figure 5. 2019-2022 Market Capitalization of Toyota, Volkswagen, GM, and Ford
(Photo credit: Original)

4.3 Profitability analysis

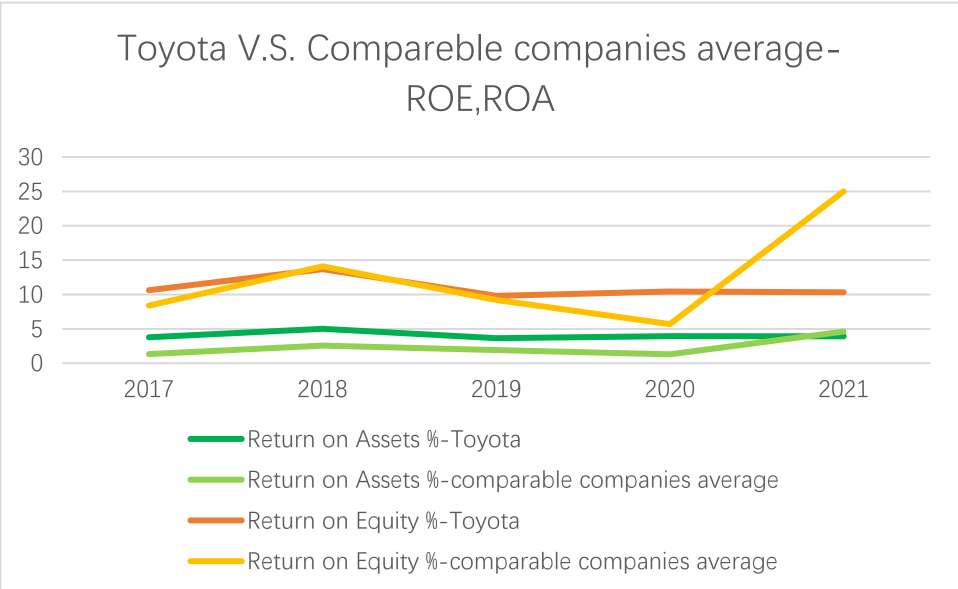

Figure 6. 2017-2021 ROE and ROA of Toyota and comparable companies
(Photo credit: Original)

Return on assets is the ratio between total profits of companies and average assets of corporations. This is an important indicator for measuring profit achieved using the total equity of creditors and owners, and also an indicator to reflect the overall level of use of corporate assets. It can be seen from Fig. 6 that from 2017 to 2020, Toyota's profit rate on assets is higher than the average of the comparison companies. Ford Motor had a very good profit in 2021, with little impact from the pandemic, resulting in a return on assets of 6.84%, resulting in a comparable company's average slightly higher than Toyota's. Moreover, the profitability of capital is also worth paying attention to. The return on equity is the return on equity, which is the percentage of net profit and net asset. This index reflects the return on equity and is used to measure how effective a corporation is in using its own capital. Toyota's return on equity was stable over the five years, slightly higher than the average for comparison companies from 2017 to 2020, and surpassed in 2021. From the above analysis, it can be seen that by 2020, Toyota's asset utilization efficiency is good, its profitability is stronger than the industry average, and its shareholders' invested capital utilization efficiency is high. However, Toyota may be greatly affected by the epidemic in 2021 and make mistakes in its investment and business strategy, resulting in lower profitability of capital and assets.

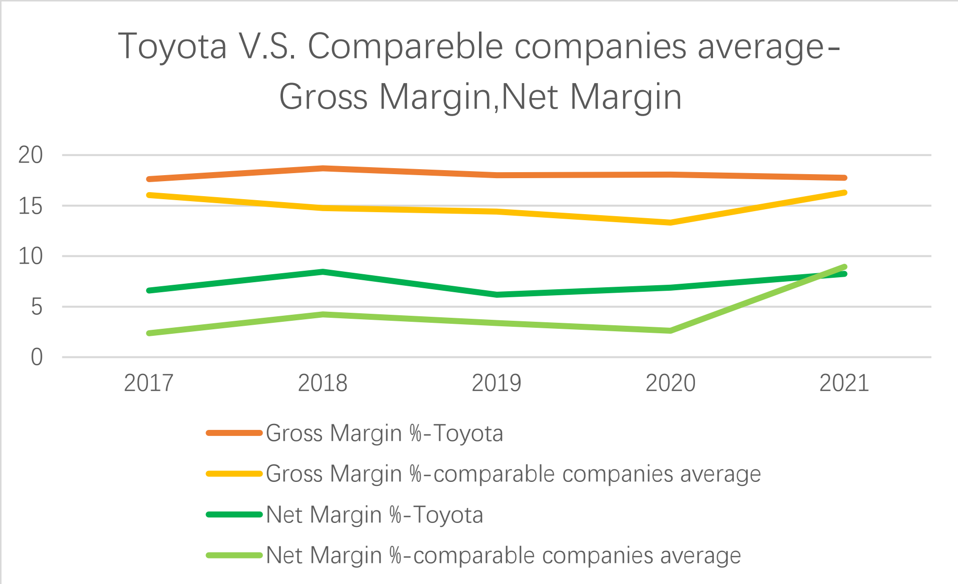

Figure 7. 2017-2021 Gross margin and net margin of Toyota and comparable companies
(Photo credit: Original)

The profitability of commodity transactions is primarily a measure of a firm's ability to make profits by selling commodities. The principal indicators are net margin and gross profit margin. The main indicators include net margin and gross profit margin. As shown in Fig. 7, the net margin and gross profit margin of Toyota are significantly ahead of the average of the comparison companies, with the gross margin stable at about 18% and the net margin stable at about 7%. However, since 2018, Toyota's net gross margin has shown an obvious downward trend, which is not only related to the decline in performance caused by the epidemic but also related to the soaring operating costs. Although the gross profit margin change is not big but affected by this, the net interest rate change is relatively large.

4.4 Valuation

4.4.1 Valuation Models

This article will use two methods to evaluate Toyota, namely the P/E ratio and the multiple valuation methods of enterprise value.

First, the price-earnings ratio valuation method. The P/E ratio is often used to measure whether different stocks are overvalued or undervalued. When comparing the value of different listed companies by P/E ratio, the listed companies must belong to the same industry. The formula is: Net profit of the year multiplied by the P/E ratio equals the current market value. The P/E valuation method is mainly applicable to a company with relatively stable income and no large regular fluctuations. In addition, the company's position in the industry and the overall environment of the market should also be considered in the valuation.

Second, multiple valuation methods of enterprise value. EV/EBITDA is the multiple of enterprise value, which reflects the proportionate relationship between the market value of invested capital and profits over a future period of time, and is widely used in enterprise valuation and stock pricing at present. The company value here refers to the business value, that is, the price to be paid if a company is to be purchased as a continuous operation. The price includes not only the value of the company's benefits, but also the commitments to bear. Therefore, enterprise value is considered to be a more market-based and more precise standard of enterprise value.

Compared with the two methods, the price-earnings ratio method is relatively simple and intuitive, while the calculation of EV and EBITDA is troublesome. Besides, Toyota has stable performance and bright prospects, and the similarity between rival companies is high, so the price-earnings ratio method is also suitable for evaluation. But EBITDA, which excludes interest, taxes, depreciation and amortization, is a better way to compare capital market valuations and predict trends across countries, more accurately reflecting company values. Therefore, it is more prudent and safer than P/E or P/B.

4.4.2 P/E Ratio

Table 5. The Valuation Related Data in 2021 of Toyota, Volkswagen, GM, and Ford

Variable	Toyata	Volkswagen	General Motors	Ford	Average
Price/Earnings (2021)	9.48	7.23	7.84	6.39	7.15
Enterprise Value/EBITDA (2021)	7.77	4.33	6.42	11.22	7.32
Earnings per share (2021)	18.26	3.56	6.28	4.76	4.87
EBITDA (€ billions)	44.80	60.38	25.72	30.80	38.97

The relevant data for the valuation are shown in Table 5. Based on the four companies selected, the industry average P/E can be calculated at 7.15. Therefore, according to the formula, the reasonable share price of Toyota is $55.55. The share price of this industry is $34.82.

Therefore, it can be concluded that Toyota's P/E calculation results are above the industry average, Toyota is overvalued in the industry. While Toyota may be relatively safe, as its high P/E ratio is supported by excellent operating performance, its share price may also be in a bubble with the risk of subsequent declines.

4.4.3 EV/EBITDA Ratio

Using the relevant data in the table, the industry average EV/EBITDA ratio can be calculated according to the formula as 7.32. That gives Toyota an enterprise value of $ 327.94(in billions). The industry's average EV is $285.26 (in billions).

Toyota is overvalued.

4.4.4 Discussion

Based on the above analysis, it can be concluded that Toyota is overvalued. When using the P/E valuation method and multiple valuation methods of enterprise value, it is also necessary to pay attention to the future growth of the company and the attention of the market capital to the stock. Therefore, the author believes that Toyota is relatively safe and its stock price may continue to rise in the future because it is in the leading position of the industry, has excellent sales and operating profits, and can be favored by funds.

5. Suggestion

Toyota is the leader in the auto industry. As can be seen from the valuation results, the market slightly overestimated its value, but will not threaten its own status, the future will still develop steadily.

Toyota has always had excellent management ability and a well-structured control system. Strong financial performance is achieved by applying appropriate business strategies, cost strategies and investment strategies, producing cars in a simple, effective and efficient manner, and focusing on avoiding wastage, saving costs and keeping inventory to a minimum. Toyota has become a long-term, stable, and less risky investment in the industry.

However, the threat to Toyota in the market remains even deadly ones, that could topple Toyota's lead, such as the recent surge in oil prices, government regulations on environmental protection, and the rise and competition of various new-energy vehicles. Toyota should improve the existing problems and give full play to its own advantages as the situation and policies keep changing [1]. For example, Toyota has adopted an "all-round strategy" and started to focus on the investment and manufacturing of battery-electric vehicles, so as to catch up with its competitors with appropriate products and business strategies. In addition, Toyota's biggest advantage is cost-effective economic products, but its disadvantage is also low safety and low-quality products due to low prices. It is suggested that Toyota should adjust its marketing strategy and use advanced technology to ensure product safety. However, other companies such as Tesla and Volkswagen are also rapidly improving their innovation, manufacturing capabilities and safety, so Toyota should not be too optimistic [15].

6. Conclusion

Overall, Toyota has maintained good profitability and production capacity in the industry despite various external threats, and its stock price is overvalued but a relatively safe investment. Toyota is still a giant in the auto industry.

Through the analysis of the management strategy and investment strategy of Toyota Motor Company, it clearly understands that Toyota pursues zero inventory or minimized inventory through JIT lean production, and controls the production plan and efficiently manages inventory. Toyota is striving to become carbon neutral by investing in green industries and expanding the production and use of electrified vehicles to increase efficiency and promote sustainable development. The valuation method of EBITDA/EV and P/E ratio indicates that the current stock price of Toyota is overvalued. However, Toyota's excellent production capacity and innovation ability guarantee its reliability in the field of investment.

With the comprehensive promotion of electrification and intelligence, the automobile market has gradually entered a new era of transformation. Among them, not only the transformation of traditional car enterprises but also the entry of new forces in car manufacturing. The market threat facing Toyota still exists. It is suggested that Toyota should make a clear and detailed plan to accelerate the transformation from a product service company to a user operation company. Toyota needs to adopt a business model suitable for the actual situation of the enterprise and maximize value creation by establishing strategic alliances and extending the value chain.

According to the research, Toyota, as the leading enterprise in the automobile industry, has a positive outlook for the future.

References

[1] Qiang Sheng. SWOT analysis of corporate competitiveness -- Taking BMW and Toyota as examples. Economic Research Guide, 2021, 466 (08): 32 - 34.

[2] Toyota Motor Corporation. FY2023 Second Quarter Financial Results. 2022.

[3] Automotive News. Automobile Sales Ranking (World's most sold cars from 2022 to date). 2023.https://www.sdgchs.com/b/164399.html.

[4] Odori Automotive information. 2021 Global auto company sales ranking: Toyota No.1, GM No.5, BMW No.10. 2023.https://baijiahao.baidu.com/s?id=1724705368924973689&wfr=spider&for=pc.

[5] Ai Zi Ying. Analysis on the impact of loss of high-end car market on Toyota's overall sales. PIVOT, 2022, 127 (07): 81 - 83.

[6] Hu Peng Fei. Research on the Application of Price-earnings Valuation Method in the Valuation of ZT Securities Company. 2022.

[7] Su Ji, Du Hong Wen. The application of P/E Ratio model in stock price valuation of diversified enterprises: A case study of Ordos Company. Productivity research. 2019, 322 (05): 34 - 38+161.

[8] The Toyota way: Adopting lean and agile manufacturing processes from the Toyota production system, Strategic Direction, 2022, 38 (12): 33 - 34.

[9] Toyota Motor Corporation. Integrated Report 2022. 2022.

[10] Toyota Marketing Strategy: The Pride of Japanese Quality? 2023. https://blog.avada.io/resources/toyota-marketing-strategy.html.

[11] Li Lin. Toyota: Super abrupt shift. Automotive Observer, 2022, 202 (Z1): 72 - 73.

[12] Bigelow P. From algae to zinc, Toyota investments get greener; Climate-tech industry is finally taking off. Automotive News, 96 (7034), 0010.

[13] Tian Xin. Research on Toyota's Competitive Advantage: Implications for China's high-quality development. Modern Management Science, 2019, 31 3 (04): 18 - 21.

[14] Wen Da. Study on Management Optimization Scheme of FAW-Volkswagen Model Trial Production. 2022.

[15] Kobayashi H, Evaluation of Toyota’s Strategy for BEV in Overtaking Tesla: Based on the Theories of Dynamic Managerial Capabilities and Ordinary Capabilities. Journal of Strategic Management Studies, 2022, 14 (1): 49 - 66.