Tesla's revenue forecast base on business model and financial statement analysis

Chenhao Fang

Intelligent Accounting Management Institute, Guangdong University of Finance and Economics, 510200 Guangzhou, China

Abstract. With the rapid development of the electric vehicle industry, Tesla, as the benchmark of this industry, has been studied by many companies in the same industry and investors outside the industry. Based on Tesla's financial reports in recent years and news about Tesla, Tesla's assets, liabilities, and owner's equity are analyzed to analyze Tesla's basic financial situation, from this, it can be concluded that Tesla's asset-liability ratio and other financial trends have changed in recent years. Then analyze Tesla's business model from the aspects of corporate positioning, business type, and profit model, so, in recent years, Tesla's main profit models, income sources, and the changing trend of income sources can be obtained from the above analysis. Finally, the two aspects are integrated, we can predict Tesla's future revenue with more certainty. After the analysis obtained: Number of vehicle sales are expected to reach 1.8 million units in 23 years, approximately +35% y/y.

1 Introduction

Tesla Motors was established in Palo Alto, California by Silicon Valley engineer Martin Eberhard in July 2003, with a focus on producing and selling pure electric vehicles and other related businesses. Tesla was named after the genius American physicist Nicola Tesla. Tesla Motors built the first intelligent vehicle in the world. [1]. Tesla's purpose is to use the car as a platform for users to exchange information with the outside world. As countries around the world become more interested, especially the US, China, Korea and other major automobile manufacturers to the energy environment, the development layout of new energy vehicles has become an important part of the national government planning. A national innovation program for electric vehicles was launched by the U.S. government in 2012, vigorously supporting the research and development of key technologies such as lightweight technology, high-performance lithium-ion battery materials, and plug-in vehicle technology, to achieve the goal of recovering additional vehicle costs within five years [2]. Electric vehicle technology has matured rapidly in just a few years. In the last few years, the electric vehicle industry has developed rapidly, and electric vehicles have rapidly occupied the market previously controlled by Traditional fossil fuel cars.

The demand for new energy vehicles worldwide is growing rapidly. The number of vehicles sold globally in December 2018 was 286,000, an increase of 70% year over year. With a penetration rate of 2.1%, the global sales volume of automobiles in 2018 exceeded 2 million. China, the USA, Germany, France, Sweden, Japan, and other nations account for a large portion of the world's new energy market [3]. If you want to predict the future development of the electric vehicle industry, you can speculate by predicting Tesla's future financial situation. This study hopes to provide some insight into the future forecast of the electric vehicle industry by predicting Tesla's future financial situation. In this research, common-size financial statements and ratio analysis are used. Start with Tesla's basic financial situation, then analyze Tesla's business model, and finally predict Tesla's future financial situation.

2 An analysis of Tesla's underlying financial position

2.1 Assets

Corresponding author: 1910741120@mail.sit.edu.cn

Table 1. Tesla's assets.

Year	2022	2021	2020	2019
Cash & Equivalents	16,253	17,576	19,384	6,268
Cash & Cash Equivalents	22,185	17,707	19,384	6,268
Cash Growth	25.29%	-8.65%	209.25%	61.59%
Receivables	2,952	1,913	1,886	1,324
Inventory	12,839	5,757	4,101	3,552
Other Current Assets	2,941	1,723	1,346	959
Property, Plant & Equipment	36,635	31,176	23,375	20,199
Goodwill and Intangibles	409	457	520	537
Total Long-Term Assets	41,421	35,031	25,431	22,206
Total Assets	82,338	62,131	52,148	34,309

Note: Financials in millions USD. Fiscal year is January-December.

Table 1 shows the changes in Tesla's various asset projects in recent years. It is not difficult to find that Tesla's total assets have grown from 8067.49 in 2015 to 82338 in 2022, achieving a more than tenfold increase in less than ten years. Among them, Tesla's Property, Plant & Equipment is also increasing rapidly. In 2015, Tesla's Property, Plant & Equipment was only 5,194.74, but by 2022, the value of this project reached 36,635. In terms of Tesla's inventory, that is, the inventory of electric vehicles has increased by 11,561 in the eight years from 2015 to 2022. These astonishing data growths all stem from the rapid development of the electric vehicle industry in the past four years and Tesla's electric vehicle technology has become more and more mature, and the supply chain has become more and more stable. At the same time, users of electric vehicles are also worldwide. Among the Cash & Cash Equivalents projects, in 2020, the number of projects will be 19,384, accounting for 37% of the total assets. In 2022, the number of projects will rise to 22,185, but the proportion of total assets will drop to 37%. It also reflects the rapid and continuous growth of Tesla's overall assets.

2.2 Liability

Table 2. Tesla's liability.

Year	2022	2021	2020	2019
Accounts Payable	15,255	10,025	6,051	3,771
Deferred Revenue	4,551	3,499	2,742	2,370
Current Debt	1,502	1,589	2,132	1,785
Other Current Liabilities	5,401	4,592	3,323	2,741
Total Current Liabilities	26,709	19,705	14,248	10,667
Long-Term Debt	1,597	5,245	9,607	11,634

Other Long-Term Liabilities	8,134	5,598	4,563	3,898
Total Long-Term Liabilities	9,731	10,843	14,170	15,532
Total Liabilities	36,440	30,548	28,418	26,199
Total Debt	3,099	6,834	11,739	13,419

Table 2 indicates the changes in Tesla's total liabilities. In the past four years from 2019 to 2022, Tesla's total liabilities have shown a continuous downward trend. At the same time, the previous analysis of Tesla's assets in recent years in recent years, it has shown a sharp and continuous upward trend. From this, we can know that Tesla's asset-liability ratio has shown a downward trend in recent years. In 2020, the asset-liability ratio of Tesla is 54.49%, and in 2022, Tesla's asset-liability ratio has dropped to 44%, which means that the capital provided by Tesla's creditors accounts for 10% of Tesla's total capital. The ratio is getting lower and lower, Tesla's long-term solvency.

is getting stronger, and the risk is getting lower and lower. The reduction in Tesla's total debt is mainly due to the continuous reduction in long-term debt in recent years, which shows that the flow of funds with Tesla is more flexible, and the rights and interests of shareholders are better protected. At the same time, the amount of Tesla's accounts payable has increased in recent years, and the proportion of accounts payable to total liabilities has also increased rapidly year by year, from 21% in 2020 to 42% in 2022. This shows that Tesla is taking more and more of other people's funds, highlighting Tesla's strong market position.

2.3 Equity

Table 3. Tesla’s equity.

Year	2022	2021	2020	2019
Common Stock	32,180	29,806	27,261	12,737
Retained Earnings	12,885	329	-5,399	-6,083
Comprehensive Income	-361	54	363	-36
Shareholders'Equity	44,704	30,189	22,225	6,618
Net Cash/Debt	19,086	10,873	7,645	-7,151
Net Cash/Debt Growth	75.54%	42.22%	—	—
Net Cash Per Share	6.10	3.67	2.73	-2.69
Working Capital	14,208	7,395	12,469	1,436
Book Value Per Share	14.28	10.20	7.94	2.49

Table 3 shows that Tesla's Shareholders' Equity has experienced explosive growth in recent years. From 2020 to 2022, Tesla's Shareholders' Equity has risen from 22,225 to 44,704, which has roughly doubled. The increasing number of Shareholders' Equity indicates that Tesla has more and more self-owned funds, less and less external debt, and higher financial security. At the same time, shareholders can use more resources, and the company's income is better. In the Book Value Per Share project, Tesla's Book Value Per Share rose from 7.94 in 2020 to 14.28 in 2022, which shows that Tesla's operating conditions are getting better and better.

Investors believe that Tesla has hope, with potential. The Retained Earnings project has also turned from a negative number in the previous two years to a positive number in 2022, indicating that Tesla has accumulated more and more capital in its own operations and its benefits are getting higher and higher.

To sum up, Tesla's underlying financial situation has been steadily improving year by year. The main reason for this is the rapid development of the electric vehicle industry worldwide. However, many factors of Tesla itself cannot be ignored. Tesla relies on innovative technology, market strategy, demand and policy support, cost control, and the professional quality of executives and engineering teams to make the company develop rapidly and gain market recognition and recognition, favored by consumers. In the future, Tesla will use its unique technology and management advantages to address potential problems, such as vehicle quality and industrial chain risks, on this basis, deepen the company's internationalization and achieve greater achievements, this is also the key for Tesla to gain more profits in the future [4].

However, it is not enough to analyze the balance sheet items only, because the balance sheet has limitations, especially in terms of information forecasting: the balance sheet is the continuation and summary of the daily calculation of accounting, and what it reflects It is formed in accordance with the basic accounting assumptions, basic principles and accounting system. Estimated data are inevitably subjective, which affects the reliability of the information. The larger the estimated component, the longer the estimated period, and the greater the uncertainty of the information contained in the financial statements.

Therefore, this paper believes that it is necessary to analyze the business model to make predictions.

3 Tesla's market positioning and market strategy

Tesla's position in the high-end electric vehicle market is to appeal to high-income earners and celebrities who are environmentally conscious. Tesla provides products to consumers through direct sales. The logistics distribution system allows consumers to experience Tesla's automotive products in offline stores before ordering online and paying a deposit [1]. Tesla is in a leading position in the global electric vehicle industry market. In market competition, Tesla belongs to the "Best Cost" Firm. Tesla combines the two strategies of Differentiation and Cost Leadership. Tesla's models cover high, medium and low end. High-end products have helped him validate electric vehicle technology and establish a brand image, and low-end products can achieve mass production [5]. This can be well reflected in Tesla's products. Model3 and ModelY belong to the Cost Leadership strategy, while ModelS and ModelX belong to the Differentiation strategy. Tesla's Cost Leadership products are very successful and competitive in the market. For example, the total sales of Model 3 in mainland China reached 124,456 units last year, completing the task of overselling. At the same time, the two models using the Differentiation strategy have brought huge profits to Tesla in the form of High margin. It can be seen that Tesla's income trend in the next few years will inevitably be a growing trend, and the number of growths should continue to expand.

4 Tesla's business model

A business model refers to an activity system in which an enterprise co-creates with partners and obtains corresponding value through product, service and information flow architecture design in the way or process of gaining profits [6]. Today Tesla's main products are electric vehicles and Solar power generation, solar power generation is out of the scope of this study, this paper focuses on Tesla's electric vehicle field. While selling electric vehicles, Tesla has created a new business model of "full vehicle sales + self-charging network" in recent years, creating a new revenue channel for the expansion of the energy supply model of electric vehicles based on charging piles. By the end of 2022, Tesla has more than 1,800 superchargers and 27,000 charging stations worldwide, providing charging services for more than 10 million Tesla electric vehicles [7]. Tesla has also adopted a very different sales model from other automakers - the self-operated sales model. The best electric car company in the world has developed a unique e-commerce platform and information system. Through self-operated sales channels, it is possible to offer consumers a better shopping experience and receive more timely customer feedback [8]. Meanwhile, Tesla has another business model. Tesla has integrated the entire process of buying a car into one platform: purchase inquiries can be called the official phone, car performance, appearance, etc., can be viewed online, and car loan services that customers may need are also integrated online. The above reflects Tesla's new marketing model of "online + offline + platform" [9]. It can also improve the company's operating efficiency, effectively control product inventory, maintain, and enhance the company's brand awareness.

To sum up: Tesla has a clear market positioning and an almost perfect market strategy. Cooperating with Tesla's advanced business model, it has brought huge tangible and intangible benefits to Tesla. The most intuitive one is It is the growth of the numbers reflected on the balance sheet. Therefore, it is certain that Tesla's income will continue to rise in the next few years.

5 Tesla's revenue forecast for the next few years

In 23 years, Tesla is predicted to produce approximately 2 million vehicles, of which the California plant has a production capacity of 550,000 Model 3/Y and 100,000 S/X. Over 750,000 units are produced annually at the Shanghai

plant. The Berlin and Texas plants each exceed 250,000 units per year. The Shanghai Gigafactory's arrival led to a significant increase in Tesla's sales in the Chinese market., and operating income continued to rise in 2019, especially the breakthrough in the fourth quarter, with the delivery of Model 3 vehicles increasing by 46% compared with the same period last year and 16% compared with the previous quarter [10]. During the company conference call, it was mentioned that January '23 saw a record high in orders, about twice the production capacity, and it should be simple to achieve the delivery target of 180-2 million vehicles in 23.

However, these reserves of capacity still hav e to continue to increase productive capacity for long-term strategic planning, this implies that in the near future, continuous increase in capital expenditure, increased production, and expansion of market share are still the main strategy of the company's development. Similarly, gross margin will fluctuate with changes in capacity, sales volume, scale effect, and amortized production costs..

In 2020, Tesla produced a total of 1,369,600 vehicles worldwide and delivered a total of 1,313,900 vehicles, +40% year-on-year, slightly below the 50% growth target set at the beginning of 22 years.

Number of vehicle sales are expected to reach 1.8 million units in 23 years, approximately +35% y/y. Combined with a forecast for the number of Tesla electric vehicle deliveries, we can predict Tesla's future revenue.

6 Conclusion

Fig. 1. Revenue forecast.

Figure 1 shows Tesla's future revenue. So, Tesla's forecast profit is $71.4 billion in 2023, $84.6 billion in 2024, and $131.2 billion in 2025. Based on the average price of Tesla in 23 years of $47,000, the revenue of the electric vehicle business in 23 years is estimated to be 84.6 billion US dollars, +18% year-on-year. Assuming a vehicle price of $45,000 and $43,000 in 24 and '25, by 2025, the revenue from electric vehicle sales will be about $130 billion, +80% from '22. All of this is based on an analysis of Tesla's existing assets and liabilities and business model. This study predicts Tesla's income in the next few years. It is certain that Tesla's income will continue to grow in the next few years, which may help some investors related to Tesla in terms of investment. However, since Tesla discloses less economic information to the outside world, and the research method of this paper is relatively simple, the information that can be provided is limited. In future studies, researchers can use more diverse and accurate methods to predict Tesla's income.

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