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Analysis of the Valuation Influencing Factors of BYD

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Abstract: Among the torrent of revolution towards new energy, the trend of BYD's valuation is closely watched by the market among the leading firms in the Chinese automobile industry. Based on BYD as the study object, this study examines the driving forces behind the fluctuations in its level of valuation. Based on the existing literature and integrating with mainstream methods (such as price-earning ratio P/E, enterprise value multiple EV/EBITDA, and discounted cash flow DCF model), an empirical investigation is conducted on BYD. Based on this basis, this study examines the intrinsic driving forces behind its fluctuations in the level of valuation in an orderly way from the micro level to macro level. The study believes notwithstanding the negative external environment, BYD's solid foundation in performance shows that its current level in valuation could to some extent be underestimated. The study provides a theoretical foundation and practical reference to the evaluation of the valuation of firms in the new energy vehicle industry.

Keywords: BYD, New Energy Industries, Corporate Valuation, Influencing Factors of Valuation

1. Introduction

With the rapid development of the new energy industry, valuation has become a core indicator for assessing the growth potential of enterprises. As a leading player in the new energy vehicle sector, BYD has experienced rapid growth by leveraging its technological advantages and benefiting from policy support, resulting in a continual increase in its market value. Making thorough analyses of the key drivers of BYD's valuation provides insight into how new energy companies build their value and offers useful insight into the broad valuation logic of the sector.

Previous studies have studied many variables in the valuation of a company, not only for BYD.

At the macroeconomic level, Zhuo has demonstrated that there are macroeconomic policy, monetary policy, and global influences on BYD's valuation, which in turn influence the valuation of the company through their influences on the profitability of the company, market competitiveness, as well as investors' confidence [1]. Additionally, Brusov and Filatova based on the literature assert that macroeconomic uncertainty can influence the cash flow and rate of growth of a firm and thus influence its valuation. As a global company, BYD valuation should account for the effect of the worldwide state of the economy as well as a policy change [2]. The instability of the global economy may trigger a series of chain reactions such as intensified trade frictions and significant fluctuations in raw material prices, which in turn increase the operational risks for enterprises and potentially affect the valuation of companies. There were numerous similar perspectives, Chen and Li also concluded that changes in the macroeconomic environment, such as economic recession, inflation, and interest

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rate fluctuations, will directly affect a company's profitability and, in turn, its valuation [3]. For instance, during an economic recession, consumers' willingness to purchase cars may decline, negatively impacting a company's sales revenue, profit level, and enterprise valuation. Liao has argued that, within the policy framework of the "dual carbon" goals, government support has fostered a conducive market environment for BYD's green innovation development, thereby positively influencing its valuation [4]. By using policy tools like subsidies and tax incentives, the government can greatly lower production costs for businesses, improve the competitiveness of their products in the market, and consequently have a positive effect on enterprise valuation.

At the mesoeconomic level, Xiong has thought that the intensity of industry competition, the industry's cyclical characteristics, and the government's industry-oriented policies significantly impact a company's value [5]. Also, economic cycle fluctuations can impact the business environment and corporate profitability, which in turn affects the value of firms [5]. In terms of technological progress and industry development trends, Xiao et al. concluded that BYD's valuation is driven by advancements in battery and new energy vehicle technology. These innovations boost product competitiveness and create growth opportunities. Digital technologies like autonomous driving enhance product value and user experience, affecting market valuation [6].

At the microeconomic level, Liao has proposed that green innovation helps BYD build a green and environmentally friendly corporate image and effectively enhances its brand competitiveness [4]. From Yan’s research, BYD's improved profitability positively affects its valuation. However, its weaker debt-paying ability may concern investors about financial risks and impact the valuation. Additionally, enhanced operating capacity shows better management and competitiveness, driving the company's valuation growth [7]. By adopting an efficient operations management model, enterprises can significantly reduce operational costs while simultaneously enhancing production efficiency and profit levels, ultimately contributing positively to the valuation of the enterprise. However, Chen et al. once mentioned numerous factors shape enterprise value, encompassing both financial metrics and non-financial aspects. These factors can be grouped into eight key categories: operational effectiveness, profit generation, growth prospects, debt management capability, equity structure, equity expansion potential, firm scale, and innovative capacity [8]. Simultaneously , Sun believed that market risks are mainly reflected in fluctuations in raw material prices and changes in market demand, which significantly impact valuation. In addition, the existence of competitors and dynamic changes in market share also have a vital influence on valuation [9]. In additionally, in consideration of the research conducted by Toll and Hering, the three functions that are integral to the valuation of functional companies encompass transaction, management, and reporting. Consequently, these three functions assume a critical role in the valuation analysis of BYD [10]. Also, financial status is essential in determining its valuation, among which net profit and free cash flow are particularly crucial. These two indicators can be quantitatively evaluated through objective valuation methods [10]. Through an analysis of the elements affecting the valuations of multiple companies, this research explores in greater detail the particular aspects that influence the valuation of BYD Company.

In the previous literature, various factors influencing company valuation have been explored. However, when it comes to BYD, a leading enterprise in the new energy vehicle industry, the factors affecting its valuation have a certain uniqueness. Based on the aforementioned literature review, this paper will conduct an in-depth analysis of the specific factors contributing to the valuation changes of BYD Auto Company, to provide more precise theoretical support for the valuation analysis of BYD and similar enterprises.

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2. BYD's core business operations and financial situation

2.1. Main business

BYD was founded in the year of 1995, its head office is in Shenzhen, Guangdong Province, China and its initial business was battery manufacturing, Through the years, it gradually expanded to vehicle manufacturing, Batteries and energy storage systems, electronic products, rail transit, and other fields, establishing itself as one of the world's top new energy technology enterprises.

2.1.1. Vehicle manufacturing

BYD not only produced traditional fuel vehicles but also made brilliant achievements in new energy vehicles. In recent years, driven by the increasing implementation of global environmental policies and consumers' rising demand for eco-friendly transportation, the sales of new energy vehicles have seen a substantial rise [4]. Furthermore, BYD is in the front rank of new energy vehicle industries for research and development, production, and marketing.The company's multiple series of models have performed outstandingly in the market, especially in the Chinese market, where it has grown into one of the mainstream new energy vehicle brands deeply recognized by consumers.

2.1.2. Batteries and energy storage systems

BYD has accumulated profound technological expertise in the battery sector. It initially focused on mobile phone batteries and later shifted to the research and production of power batteries for new energy vehicles. Its core products include lithium iron phosphate batteries and lithium-nickel-cobalt-manganese oxide batteries. Among them, lithium iron phosphate batteries, due to their safety and cost advantages, are widely used in electric vehicles. BYD has expanded its business to include energy storage, developing solutions for both residential and commercial use. This contributes to the greening of the energy system and enhances environmental sustainability.

2.1.3. Electronic products

In addition to its new energy vehicle and battery business, BYD has also ventured into the electronics sector. Starting from mobile phone components, the company has gradually expanded to offer electronic product solutions, demonstrating technological advantages and holding a certain market share in areas such as smart hardware and display panels.

2.1.4. Urban rail sector

BYD has developed independently urban public transportation alternatives such as "SkyRail" and "SkyBus" that will serve as sustainable, intelligent, and efficient transportation solutions for urban districts. While the size of the venture today remains modest by comparison, its room for innovation and positive market prospects give rise to the possibility that one day it will be a major contributor to the company’s success.

2.2. Financail status

In the last few years, BYD has witnessed a significant rise in its financial health, reflected by large jumps in revenue, better net profits, and an expanded base of assets. Accelerated revenue growth can be attributed to the development of the new energy vehicle market and increased product competitiveness. Net profit growth can be explained by the achievement of economies of scale, rationalized product structure, and better cost management capabilities. Widening of the asset base

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represents the firm's strategic investments in capacity addition in manufacturing, technological advancements, and market expansion. BYD has continually added spending in research and development in order to support technological advancements and improved quality of products. Overall, the financial health of the firm looks strong, with improving profitability and hence providing a strong platform to support maintenance of sustainable growth.

3. Analysis of influencing factors

3.1. Macroeconomic factors

3.1.1. Government policy support

The growth of the new energy vehicle (NEV) sector is propelled by government policies. Since 2019, China has transitioned from broad subsidies to more targeted support. For example, the purchase subsidy for 2024 is 20% lower than that of 2020. Additionally, the government encourages mergers and partnerships to enhance market efficiency and stimulate industry growth. As a significant player, BYD has been notably impacted by these policy changes.

3.1.2. Economic cycles

BYD's market value is affected by both international and domestic economic factors. In 2023, China saw a GDP growth of 5.2%, but it is expected to decline to 4.5% in 2024. A less favorable economic environment may lead to reduced consumer spending on electric vehicles.

3.1.3. Global supply chain stability

In 2021, the global chip shortage led to a production drop of about two million vehicles in the automotive industry. BYD addressed this issue by developing IGBT chips internally and forming a strategic partnership with STMicroelectronics, enabling it to sell 4.27 million units in 2024 and demonstrating its ability to maintain supply chain stability. Additionally, as lithium prices surged, BYD invested in sodium-ion battery technology, reducing its reliance on lithium and boosting its gross margin to 20.01% by 2024.

3.2. Mesoeconomic factors

3.2.1. Industry growth potential

The expansion of the global new energy vehicle (NEV) market significantly impacts BYD's valuation. By 2032, the market is forecasted to reach 231.23 billion USD with a 17.4% CAGR, showcasing rapid growth. Factors such as government policies, technological advancements, and increasing consumer demand for eco-friendly vehicles are driving this growth. This trend creates broader opportunities for BYD and enhances its market value.

3.2.2. Market structure and industry consolidation

Despite the growth of the new energy vehicle sector, China faces a mismatch in production capacity. By 2030, the country may need to add 130 million vehicles to its production capabilities. Some companies struggle to meet demand due to technological and financial constraints, while others have overexpanded, resulting in excess capacity and increased competition. In this context, firms with technological expertise, economies of scale, and strong supply chains are expected to lead industry integration. As a sector leader, BYD is well-positioned to grow its market share, enhance its competitive advantage, and improve its long-term valuation.

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3.2.3. Regional distribution

The geographical distribution significantly influences BYD's valuation. In 2024, BYD's global sales reached 4.27 million units, representing a year-on-year increase of 41%, with overseas sales totaling 417,000 units, a year-on-year growth of 71.9%. In 2025, BYD plans to achieve a total sales volume of 5.5 million units, with overseas sales expected to exceed 800,000 units. BYD has established its presence in 88 countries and over 400 cities and has set up factories in Thailand, Uzbekistan, Brazil, and Hungary, among others, to enhance overseas sales. This expansion boosts market competitiveness and valuation potential while supporting its globalization strategy.

3.3. Microeconomic factors

3.3.1. Investment policy

BYD has concentrated its investments on new energy vehicles, battery technology, and intelligent connectivity. In 2024, R&D expenditures reached 54.2 billion yuan, an increase of 36% year-on-year, surpassing net profit. This high-investment strategy reinforced BYD's technological leadership and market competitiveness. Through R&D, BYD created innovations like the Blade Battery and DM-i Super Hybrid system, boosting product appeal and valuation potent ial. By integrating supply chains, BYD lowered costs and enhanced stability, increasing profitability and long-term valuation prospects.

3.3.2. Financing policy

BYD has an extensive financing model with both equity and debt instruments being its main tool to meet its capital needs. In the financial year 2024, the company had total financing inflow and repayment streams totaling 3.1 billion yuan and 3.85 billion yuan, respectively, resulting in a net financing outflow of 749.225 million yuan. This is reflective of investors' faith in BYD and demonstrates the special techniques employed by some investors to lock in profits or reduce risk. The flexible financing model aids BYD's research and development and its market outreach efforts, thus allowing the company to maintain steady growth and strengthen its value prospects.

4. Valuation analysis of BYD company

4.1. Relative valuation

Relative valuation method primarily bases its assessment on monetary indicators of comparable businesses that are situated in the same sector. Comparison of BYD's EV/EBITDA and P/E ratios with industry standards and industry leaders helps analyze the suitability of BYD's market valuation. Table 1 outlines a comparison of BYD, Tesla, and Li Auto, and identifies these players as the leading players in the new energy vehicle (NEV) industry up through 2024 based on financial and valuation metrics.

Table 1 indicates that in terms of revenue, BYD leads with 76.42 billion euros, slightly ahead of Tesla's 75.67 billion euros, and significantly above Li Auto's 15.90 billion euros. Regarding profitability, Tesla performs exceptionally well, with operating income and net income of 6.01 billion euros and 5.52 billion euros respectively, both at the highest levels. BYD closely follows, with operating income and net income of 5.18 billion euros and 3.80 billion euros respectively. Meanwhile, Li Auto lags behind in these two metrics, reporting 0.71 billion euros and 1.14 billion euros respectively.

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Table 1: Financial ratios of BYD and its competitors in 2024

	BYD	Tesla	Li Auto
Revenue (€ billions)	76.42	75.67	15.90
Net Income (€ billions)	3.80	5.52	1.14
Gross Profit (€ billions)	15.96	13.52	3.41
EBITDA	4.70	10.18	0.82
Debt/Equity Ratio	0.12	0.14	0.20
Share Price	65.64	390.00	23.17
Earning Per Share	2.61	1.72	1.30
Price/Earnings	20.9	110.6	14.2
Enterprise Value/EBITDA	17.7	103.1	18.0

4.1.1. Price-to-earnings (P/E) analysis

The P/E ratio explicitly manifests investors' expectations regarding future increases in earnings and is more suited to mature firms or industries with stable earnings. In 2021-2022, with the high growth anticipation in the market on new-energy cars, the P/E ratio of BYD once was relatively high. As profits and sales grew with the company, its performance gradually came into existence and the P/E ratio fell instead. Some investors are afraid that the overseas market growth by BYD will be surpassed by the EU's anti-subsidy investigation and tariffs and will hit its price cap. As illustrated by the above table, BYD's P/E ratio stands at 20.9 times, far lower than 110.6 times that of Tesla's, but higher than 14.2 times with that of Li Auto. It indicates that BYD's price cap is more cautious compared to that of Tesla's but more optimistic compared to Li Auto's and may be demonstrating lower expectations of growth.

4.1.2. Enterprise value/EBITDA (EV/EBITDA) analysis

The enterprise value multiple (EV/EBITDA) is used for measuring a company's overall profitability without considering its capital structure. This metric is particularly suitable for capital-intensive industries as it effectively eliminates the impact of differences in capital structure, thereby enhancing the comparability of profitability among different companies. Additionally, the EV/EBITDA ratio is most applicable to companies with high profitability and sizeable capital expenditures. The empirical evidence indicates that BYD has an EV/EBITDA of 17.7 while Li Auto has one of 18.0, but Tesla has a significantly higher ratio of 103.1. This difference serves to indicate that Tesla's higher valuation is due most importantly to market expectations of its higher-growth prospects, while the valuations placed on BYD and Li Auto are more reflective of their current operational metrics, indicating a relatively more conservative view.

4.2. Absolute valuation

Absolute valuation method sets a firm's underlying value based on its financials, and its most common tool is the discounting cash flow model. The discounting cash flow method identifies a firm's intrinsic value by projecting cash flows for later periods and discounting them to the present time. It helps especially when applied to growing companies that are likely to yield substantial future cash flows. Focus on Free Cash Flow (FCF) and inclusion of the Weighted Average Cost of Capital (WACC) in the calculation of intrinsic value. The model has two parts: cash flow forecasts for several years and terminal value estimation at the forecast's end. Terminal value, calculated using a perpetuity growth model, reflects long-term stable cash flows. DCF's strength is its comprehensive view of long-term value, though accuracy relies on accurate predictions of key variables like FCF

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growth, WACC, and growth rate g. DCF is widely used for companies with clear cash flows and is vital for long-term value assessment. Using the predictive DCF valuation method, after Alpha Spread determined the reasonable growth parameters and discount parameters, it estimated that BYD's intrinsic value per share was 114.09 euros, significantly higher than its then-market trading price of 114.09 euros. Based on the analysis results of this model, it can be concluded that BYD's stock was undervalued.

5. Conclusion

The current research examines the dominant determinants influencing the valuation of BYD Company using microeconomic, mesoeconomic, and macroeconomic dimensions. Simultaneously, its intrinsic value is holistically evaluated using relative valuation approaches, namely using the price-to-earnings (P/E) ratio and enterprise value to earnings before interest, taxes, depreciation, and amortization (EV/EBITDA) ratios, in addition to absolute valuation procedures, in which the discounted cash flow (DCF) model stands out. Analysis in this research shows indications of undervaluation in comparison to its current market price. In specific, an estimate using P/E and EV/EBITDA ratios shows its valuation to be relatively low in its industry. Additionally, calculations derived from the use of the DCF process indicate that BYD enjoys immense potential for future growth. With further developments in its fast-progressing new energy automobile industry, combined with further advances in research and development in technology and its globalization approach, its valuation is expected to increase further. Future research can be furthered using further updated data and dynamic market features to construct an even stronger valuation model, through which investors can have a firm empirical basis in making meaningful investment decisions.

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