

# ***The Impact of New Energy Vehicle Price Wars on Capital Market Reactions: Evidence from BYD's 2025 Price Cut Event***

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**Abstract.** Against the rapid expansion of China's new energy vehicle sector, major automakers have launched fierce price competition driven by profit-seeking motives, triggering industry-wide price wars. This article focuses on the price war in the new energy automobile industry, explores the mechanism by which the price war affects the capital market, and confirms that media sentiment has a magnifying effect during the price war. Based on the data about stocks from the RESSET database, this article takes the BYD price reduction event that occurred on May 23, 2025, as an example. Adopting the event study approach and market model, this paper explores capital market reactions triggered by industrial price competition. Media news sourced from Sina Finance is collected to verify the amplifying effect of media sentiment on capital market fluctuations during price wars. The study finds that: first, the price reduction strategy of a single enterprise is not the reason for the sharp reaction of the capital market, but the vicious competition of enterprises in the price war. Second, in the price war, media sentiment does have the effect of magnifying the reaction of the capital market. Therefore, this paper reveals that the vicious price war will lead to a negative impact on the capital market, and automobile enterprises should focus on the improvement of technology, from price competition to value competition.

**Keywords:** price war, new energy vehicle, capital market reactions

## **1. Introduction**

The new energy vehicle sector faces worsening oversupply amid continuous capacity expansion, and the industry price war is becoming more and more intense. Driven by the green transformation of the automobile industry and the domestic goal of "double carbon", the Chinese new energy automobile industry shows an economic paradox of scale expansion and profit decline [1]. Since 2023, the price war has gradually intensified in the new energy industry. Since 2023, more than 40 automakers have rolled out substantial price discounts for over 100 vehicle variants, with the maximum single-product price cut hitting 150,000 RMB. However, at the same time, the average profit margin of the industry dropped from 9.62% in 2021 to 6.02% in 2024, reflecting a series of problems such as competition disorder and resource mismatch caused by the price war [2]. In 2024, BYD Qin Plus sharply reduced its price, and although sales continued to rise, the industry's profit

margin fell to a record low [3]. This phenomenon leads to the core question of this paper: how does the price war affect the capital market, and does media sentiment play a role in amplifying the response of the capital market?

Studies have shown that the reason why the Chinese new energy automobile industry falls into an involution competition with scale expansion and profit decline is that enterprises fall into a prisoner's dilemma price war [4]. Therefore, rectifying the involution competition is an important strategic deployment for China to build a unified national market and promote high-quality development. Irrational price competition in the new energy automobile industry has become a key factor affecting industrial security and macro price stability [5]. Only by correcting the price war can the industry achieve fair competition and promote the high-quality development of the new energy automobile industry [6]. Some scholars have found that frequent price fluctuations not only weaken brand value but also trigger a wait-and-see effect for consumers, resulting in a sharp reduction in the gross profit margin of enterprises [7]. To a certain extent, this shows that price fluctuations have a negative impact on corporate performance [8].

Existing studies mainly discuss how price wars affect corporate gross profit margins, while few papers explore the transmission mechanism linking price wars to capital market performance. Taking BYD's price reduction event as an example and the event research method as the framework, this paper uses the market model to calculate the cumulative abnormal rate of return of stocks in the window period. Descriptive analysis is adopted to reflect capital market responses via changes in stocks' cumulative abnormal returns within the designated event window. It is concluded that the sharp reaction of the capital market caused by the price war is the vicious competition of prices, not the price reduction strategy itself. Meanwhile, by analyzing the correlation between the negative reports from Sina Finance during the window period and cumulative abnormal returns, it is confirmed that media sentiment has the effect of amplifying the reaction of the capital market in the price wars, which has theoretical and practical significance. In a theoretical sense, it reveals the impact mechanism of a price war on the capital market. In a practical sense, it provides a theoretical basis for automobile enterprises to shift from price competition to value competition.

## 2. Case introduction

BYD Co., Ltd. is categorized into the auto manufacturing sector based on the industry standard released by the China Securities Regulatory Commission. It was established in 1995. At present, the main business is the secondary rechargeable battery business, mobile phone parts and assembly business, as well as automotive business, including traditional fuel vehicles and new energy vehicles. According to the data from tide information, on April 30, 2026 alone, the daily stock turnover was 60.0979 million shares, with a P/E ratio of 34.08%. According to the financial statements of 2025, the operating profit margin is 5.00%, and the net profit margin is 4.06%.

Since 2025, the price competition in the automobile market has been relatively mild. Chenglian branch released information that at the beginning of the year, the market growth was better, the price competition was relatively mild, and the involution state of the industry improved due to market growth. Data show that only 14 models were reduced in April, down sharply from 41 models in April 2024 and 19 models in April 2023. It reflects the characteristics of a significant cooling of the tide of price reduction. However, in late May, the price war hit again. On May 23rd, BYD announced the launch of a heavily time-limited promotional campaign. The promotion covers 22 vehicle variants carrying a peak discount of 53,000 RMB. Specifically, BYD has a wide range of price-reduced models: 10 models from the Ocean series are available for sale at a starting price of 55,800 yuan for a limited time. Among them, the largest price decline is the Seal 07DM-i intelligent

driving version, which drops to 102,800 yuan. In the Dynasty series, the starting price of 12 intelligent driving models was reduced to 63,800 yuan. The biggest decline was Xia, and the starting price was reduced to 217,800 yuan. Soon, other car companies responded quickly. On May 26th, Geely Galaxy officially announced the "Million Galaxy Limited-Time Subsidy Price" event: Geely Star Wish limited-time subsidy price from 59,800 yuan, with a price reduction of 9000 yuan. Galaxy L7EM-i Long Range Edition starts at 99,800 yuan. Galaxy E8 limited-time subsidy price from 134,800 yuan. The newly listed Xingyao 8em-i starts at 115,800 yuan. On the same day, Zhiji LS6 launched an activity, with a starting price of 45,000 yuan. On May 27, Chery Automobile launched a 10-billion-yuan factory subsidy program across its four core brands, offering limited-time discounts for over 30 models, with the largest price cut reaching 55,000 RMB. According to incomplete statistics from The Paper, nearly ten automobile brands have announced price cuts in just one week, including Geely Yinhe, Chery, SAIC Roewe, Leap, ZhiJi, SAIC GM, and GAC Aion. At the same time, the price war has also had a great impact on the capital market. BYD's Hong Kong-listed shares tumbled by over 8% on the first trading day following the firm's price-cut announcement. The sales profit margin of the whole automobile industry has fallen to a record low of 4.3%.

### 3. Case analysis

In this paper, May 23, 2025, is taken as the event day and set as  $t=0$ . The event window spans four trading days before and after the announcement date, ranging from May 19 to May 29 and defined as  $t \in [-4, 4]$ . The estimated period is chosen to be approximately 119 trading days before the event, from November 3, 2024, to April 30, 2025. By estimating the normal return of stocks, calculating the cumulative abnormal return, and finally conducting descriptive analysis, this article analyzes the reaction of the capital market under the price war and the magnifying effect of media sentiment in it. This article uses the market model to estimate the normal returns, as shown in Model (1).

$$R_i = \alpha + \beta R_m \quad (1)$$

Through the calculation of the market model, data on expected return, abnormal return, and cumulative abnormal return in Table 1 are obtained. It can be seen that: Firstly, the cumulative abnormal rate before May 23 was basically around 0.010, and on the day when BYD unilaterally announced price cuts for multiple models, the cumulative abnormal return was only 0.008, which is also within the normal range. This indicates that the price reduction strategy of a single enterprise has not caused a strong reaction in the capital market. Secondly, after the 26th, with the successive price cuts of multiple brands, including Geely Galaxy and ZhiJi on May 26th, the adjustment of a single marketing strategy quickly evolved into a price war. It affected the entire industry, and the capital market's reaction intensified significantly. On this day, the single-day abnormal return reached -0.058, and simultaneously, the cumulative abnormal return began to decline sharply, from -0.049 on the 26th to -0.099 on the 29th. This reflects the strong negative impact of cut-throat competition among enterprises on the capital market, and this impact is somewhat persistent. Thirdly, according to the news search on Sina Finance, there were a total of 137 negative news reports about the price war from the 24th to the 29th, compared to only 62 from the 19th to the 23rd. Looking at the cumulative abnormal return, it was 0.008 as of the 23rd, but decreased to -0.099 by the 29th, with a drop of nearly 0.2 percentage points. This indirectly indicates that media sentiment partly plays a role in amplifying the response of the capital market. Such media coverage speeds up

information diffusion and aggravates investor worries over shrinking industrial profitability to a certain degree.

Table 1. Cumulative abnormal return

Date t	Expected rate of return	Abnormal return	Cumulative abnormal return
-4	0.003	-0.020	-0.020
-3	-0.001	0.032	0.012
-2	0.013	0.001	0.013
-1	0.008	-0.011	0.002
0	0.009	0.007	0.009
1	-0.001	-0.058	-0.049
2	-0.007	-0.016	-0.065
3	-0.005	-0.021	-0.086
4	0.008	-0.013	-0.099

To further verify the economic essence of the aforementioned capital market response, this article conducts a supplementary analysis of the actual impact of the price war from the perspective of business performance, based on BYD's public financial reports for the first and second quarters of 2025. As shown in Table 2, based on the overall business data, BYD's cumulative sales of new energy vehicles reached 1.145 million units in the second quarter of 2025. Compared to the 1.001 million units in the first quarter, there was a 14.4% increase, continuing the trend of market share expansion. Both the core profitability and growth ability indicators of the enterprise have declined to varying degrees. Net profit margin, a core profitability indicator, dropped from 5.37% in Q1 to 4.18% in Q2, representing a decline of 1.19 percentage points. Gross profit margin reflecting the profitability of the product has declined from 20.07% to 18.01%, with a decrease of 2.06 percentage points from the previous period. It reflects the impact of price wars on corporate profit margins. In addition, the growth rate of operating profit decreased from 90.06% to 8.06%, and the growth rate of net profit fell from 100.38% to 13.79%, indicating that the company's growth potential has been significantly suppressed. The negative impact of vicious price competition on the capital market is not merely an emotional reaction but a rational expectation based on the deterioration of enterprises' actual operating performance. This impact is transmitted to both the stock market valuation and the operational level of enterprises, exerting a detrimental effect on the healthy development of the industry.

Table 2. Key financial indicators

	2025/3/31	2025/6/30
Profitability indicators	-	-
Operating profit margin (%)	6.47	5.04
Net profit margin (%)	5.37	4.18
Gross profit margin (%)	20.07	18.01
Return on total assets (%)	1.13	1.9
Development capability indicators	-	-
Operating income growth rate (%)	36.35	23.3
Total asset growth rate (%)	7.3	8.04

Table 2. (Continued)

Operating profit growth rate (%)	90.06	8.06
Net profit growth rate (%)	100.38	13.79
Net asset growth rate (%)	25.97	25.32
Cumulative sales of new energy vehicles this year (vehicles)	1,000,804	2,145,954

It can be seen that, as a microcosm of the capital market, a single enterprise has been affected by the price war of vicious competition. In the short term, although enterprises reduce the price of a single product, resulting in a small increase in product sales, the advantage of a low price has been lost after various automobile enterprises joined the price war one after another, resulting in a decline in the overall profitability [9]. In the long run, drastic product markdowns tend to trigger consumer doubts over product quality and undermine firms' sustainable development potential. Therefore, vicious price competition does cause negative reactions in the capital market, which has an impact on both the stock market and corporate performance [10].

#### 4. Conclusion

To sum up, this paper confirms the impact mechanism of price war on the capital market through the event study method, and the strong reaction of the capital market is not the price reduction itself, but the vicious competition in the price war. Among them, the capital market response reached a peak during the white-hot period of the price war, which is also highly consistent with the intensive period of negative media reports. It indirectly verifies the magnifying role of media sentiment in the capital market response to the price war. This also reflects that the price war is only a stopgap measure. Once it lasts for a certain period of time, it may cause a strong reaction in the capital market, which not only cannot guarantee the increase of corporate profit margins but also reduces investors' confidence in the company and finally results in a sharp fall in stock prices. For the sustainable progress and development of enterprises, enterprises should convert the subsidies provided to lower prices into additional funds for scientific research, and vigorously promote the technological innovation of new energy vehicles. Once price competition spirals into vicious wars, relevant firms need to contain losses promptly. Through the implementation of reasonable and orderly decline subsidies, it can slowly reduce the impact of the price war and gradually return to the right track.

The main contribution of this paper is to find the underlying mechanism of negative reaction in the capital market caused by the price war, which is conducive to re-examining the feasibility of the strategy of substantially reducing prices and reaping high profits. It fills the gap in the impact mechanism of price war on the capital market in the new energy automobile industry, and also gives some enlightenment on how to reduce the impact of price war on the capital market by analyzing the impact mechanism of price war on the capital market for other researchers. This study solely relies on the event study method for empirical testing, which leaves room for methodological improvement. Follow-up research can enrich empirical design to enhance the robustness of the results.

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