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The Impact Mechanism of Financing Proportion of New Energy Vehicle Enterprises on Valuation -- Taking Weilai as an Example

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Abstract. Under the backdrop of "dual carbon" goals and the intelligentization of automobiles, the capital demands and valuation fluctuations of new energy vehicle enterprises have been simultaneously magnified. Taking NIO as a core case, and combining its key financing nodes from 2015 to 2025 with the phased changes in market value/PS multiples, this paper establishes an analytical framework of "financing ratio - transmission path - valuation result": Path one is equity dilution and repair speed; path two is the use of funds and conversion efficiency; path three is the stability of investor structure and valuation anchor. The research finds that what determines the intensity of valuation impact is not the ratio value itself, but the functional fit between investor composition and the enterprise's phased demands - state-owned capital brings "quick repair but limited sustainability" during the crisis period, while foreign capital strengthens "channel expansion and long-term space" during the expansion period. The NIO case shows that the impact of financing events on valuation presents phased and structural characteristics, and the efficiency of fund use and the stability of investor structure jointly determine the speed and sustainability of valuation repair. Based on this, this paper puts forward capital operation and governance suggestions for NIO at different development stages.

Keywords: Financing ratio, investor composition, equity dilution, efficiency of fund utilization, valuation anchor

1. Introduction

The global "dual carbon" goals and the wave of industrial intelligence have jointly driven the accelerated penetration of new energy vehicles. However, the withdrawal of subsidies, fluctuations in raw material prices, and the accelerated pace of Research and Development (R&D) iterations have made the industry characterized by high technology intensity, capital intensity, and long cycles. For NIO, financing is not only the "lifeline" for maintaining R&D and production capacity expansion, but also its financing ratio and investor composition directly affect the corporate

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valuation and its volatility through influencing the governance structure, fund usage, and market expectations. How to choose the appropriate types and proportions of investors at different development stages and accurately convert funds into verifiable business results has become the key to explaining and optimizing NIO's valuation.

NIO has experienced significant changes in its capital composition at different development stages: from early-stage Venture Capital (VC)/ Private Equity (PE) and public capital, to the liquidity crisis in 2019, then to the 24.1% state-owned capital investment in 2020 for risk coverage and industrial chain support, and finally to the 20.1% foreign capital investment in 2023 to promote internationalization. The changes in the financing structure have led to multiple shifts in the valuation anchor from "technology/concept - policy/production capacity - overseas space". The short- and medium-term valuation trajectories of NIO after key financing events (such as the significant short-term recovery after the state-owned capital investment, while the foreign capital stage relies more on medium- and long-term realization for value increment) provide an observation window for identifying the causal chain of "proportion - mechanism - valuation".

Existing research mostly focuses on the overview of financing models of new energy vehicle enterprises or the valuation methods and financial analysis of a single enterprise, but the systematic dissection of "how the financing proportion affects valuation through specific mechanisms" is relatively insufficient. This paper selects NIO as a case and proposes a "proportion - path - result" framework: Path 1: Equity dilution and recovery speed. The proportion determines the dilution extent, but the functional components (such as the policy synergy of state-owned capital and the market expansion of foreign capital) determine the speed and sustainability of recovery. Path 2: Fund usage and conversion efficiency. Whether funds are focused on core constraints (such as production capacity, key technologies, or overseas markets) directly affects their conversion efficiency into sales volume, gross margin, and cash flow, thereby influencing the market's re-pricing of valuation. Whether there are long-term and proportionally stable core investors determines whether the valuation anchor (policy, technology, demand) is continuous and clear, and thus affects the volatility.

The research objectives and contributions are as follows: First, based on NIO's multi-stage financing practices, to quantitatively and qualitatively identify the specific mechanisms through which the financing proportion affects valuation through the three paths; Second, to emphasize the differentiated roles of state-owned and foreign capital at different stages and reveal their different contributions to NIO's valuation recovery speed and long-term stability; Third, to propose investment and financing matching and fund governance suggestions for crisis periods, expansion periods, and internationalization stages. The remaining structure of this paper is as follows: The second part reviews the relevant literature on financing and valuation and distills testable propositions; The third part presents the event sequence, indicator definitions, and analysis of the NIO case; The fourth part summarizes the conclusions and provides management implications and research boundaries.

2. Research on financing and enterprise valuation

Nowadays, there is a wealth of research on the development of new energy vehicle (NEV) manufacturers. Some studies put forward the viewpoint that "claims settlement has become a profit-making point", while others analyze their market sales strategies. A large number of articles use models to examine the financing status and potential risks of NEV companies; many also analyze the development strategies and strategic optimization of different manufacturers, and some explore how various types of capital financing drive new changes in the industry.

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Among these manufacturers, Tesla, as the current leader in the NEV sector, has a price-to-earnings (P/E) ratio as high as 200 times. Such a high valuation is more based on future assumptions rather than its existing cash flow. The article How Patient Capital Comprehensively Empowers New-Quality Productivity: A Case Study of Tesla mentions that in its early stage, Tesla relied on private equity and venture capital, and overcame difficulties through financing.

Tesla's sales strategy in the Chinese market during its growth phase has been extensively studied. The article A Study on Tesla's Business Strategy in China uses the Political, Economic, Social, Technological (PEST) model (note: likely a correction of "PSET" in the original text, referring to Political, Economic, Social, Technological analysis) and Porter's Five Forces Model to analyze its business strategy in China.

In contrast, most traditional NEV manufacturers in China have generally low P/E ratios, ranging from 6 to 8 times. After going through the private equity phase, these manufacturers have experienced relatively slow development, facing issues such as insufficient cash flow and sluggish growth. There are multiple factors affecting their ability to achieve stable and upward development, and the financing situation during the private equity phase may be one of them. Unlike Tesla, where Elon Musk serves as the largest shareholder, most Chinese NEV manufacturers have complex financing structures and varying financing proportions. Changes in the identity of major shareholders within the company may have affected their valuations and led to differences in their development performance.

Therefore, this paper takes NIO Inc. as a case study to analyze the changes in its valuation after financing and the potential impact of financing on its development. The article A Study on the Financing Efficiency of NEV Manufacturers points out that NIO has problems such as over-reliance on external financing and insufficient internal financing, which have resulted in inadequate and declining financing efficiency. Regarding these issues, believe they may be related to NIO's financing activities during its private equity phase. Therefore, analyzing and sorting out factors such as its financing proportions may provide insights for Chinese NEV manufacturers in their financing practices, and also offer reminders for avoiding problems such as insufficient valuation in the later stages.

3. Research on the impact of the financing proportion of Weilai automobile on the valuation

3.1. Financing history and valuation dynamics

The comparison of phased characteristics comes from the financing process from its establishment in 2015 to 2025. It can be divided into three core stages according to the type of investors. The change of financing proportion in each stage is strongly related to the fluctuation of valuation.

Early technology validation period (2015-2017): led by vc/pe financial capital such as Tencent and Hillhouse, it has completed four rounds of financing with a total amount of 2.86 billion US dollars. Among them, Tencent contributed US $60million in round a, accounting for 9.5% of the shares. After Temasek added US $320million in round D, the total shareholding of financial capital reached 68%, with an average annual dilution rate of 25%. At this stage, 72% of the financing is used for the research and development of power exchange technology and patent layout (more than 1200 patents have been obtained in total), and the "separation of vehicle and power" mode (baas) is innovatively launched in the power exchange service, stripping the battery assets to independent companies, and users use the battery in the form of leasing. This mode not only reduces the vehicle purchase cost, improves user stickiness, but also forms a long-term cash flow recovery mechanism, significantly improves the capital return cycle, and provides sustainability for capital operation [1].

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By setting up the dual ownership structure of AB shares, the company realized that the founding team still maintained the dominant power over major decisions in the event of a decline in shareholding ratio, improved governance stability in the short term, and assisted in rapid decision-making in multiple rounds of financing [2]. The final post investment valuation jumped from $350million in the angel round to $4.7 billion in the D round, with a PS multiple of 12.3 times (8.5 times the average of new energy vehicle companies in the same period), reflecting the valuation premium of financial capital on technology foresight.

Strategic redemption period (2018-2020): continued losses after Initial Public Offering (IPO) led to a concentrated outbreak of crisis in 2019. On the one hand, cash flow was tight and short-term debt repayment pressure was prominent. The financial statements showed that the current ratio and quick ratio were lower than the average level of the industry. Cash flow from operating activities continued to be negative. The tight capital chain caused it to fall into the stage of financing stagnation, and the valuation fell precipitously [3]. On the other hand, due to the serious brand crisis caused by the spontaneous combustion of es8, the share price once plummeted by more than 60%, and the valuation and market trust fell simultaneously [4]. In 2020, Hefei state-owned assets exchanged 7billion yuan for 24.1% equity (with 120billion yuan of revenue in 2024 gambling), and the proportion of strategic capital exceeded 50% for the first time. After the capital injection of state-owned assets, Weilai obtained the capacity coordination of JAC and the resource preference of the supply chain in the Yangtze River Delta. The ES6 delivery cycle was shortened by 40%, and the sales volume in 2020q4 increased by 117% month on month. The post investment valuation was quickly restored to $15billion, a 9-fold increase from the trough in 2019, highlighting the boost effect of the "resource endorsement+risk sharing" valuation of strategic capital.

Financial life extension period (2021-2025): Abu Dhabi cyvn and other foreign financial capital entered the market, with two rounds of capital injection of US $3.3 billion, accounting for 20.1% of the shares. After the issuance of US $1billion in 2025, the total share capital expanded by 37%, and the shareholding of Founder Li Bin was diluted from 18.8% to 7.26%. Using the efficiency coefficient method, the calculation results show that the overall financial risk of Weilai is at a medium high level at this stage, and the risk of liquidity and solvency is particularly prominent [5]. 65% of the financing is used to repay old debts and repetitive capacity expansion, and the capacity utilization rate is only 68% (92% of ideal cars in the same period). The Price-to-Sales (PS) multiple is reduced from 9.8 times to 1.2 times. Each financing is accompanied by a market value decline of more than 9%, exposing the valuation discount problem of "equity dilution+inefficient use" of high-frequency financial financing.

3.2. Core mechanism of financing proportion affecting valuation

3.2.1. Game of equity dilution and control right balance

In the early VC rounds, the AB share structure (8 times the voting rights of class C shares) enabled the founders to maintain high control with low shareholding, supporting 32% of R&D investment (higher than 22% of the industry), forming a positive cycle of "stable control → technology investment → valuation premium" [2]. However, after 2021, the 1% dilution of equity was accompanied by a 0.3-fold decline in PS multiple. As foreign financial capital paid more attention to short-term profits, Weilai was forced to reduce R&D expenses (a year-on-year decrease of 13.8% in 2025q2), and the technology valuation premium disappeared. It should be noted that the dual ownership structure may weaken the check and balance effect of external investors in the long run,

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reduce the transparency of governance, and further confirm the valuation damage logic of "excessive dilution+deviation from control and economic interests" [2].

3.2.2. Valuation differentiation effect of capital use

The R&D-oriented financing (72% for Technology) in the pre IPO stage promoted the compound annual growth of the valuation by 147%; In the late stage, the efficiency of capacity and debt service-oriented financing (65% for non core purposes) decreased significantly. In addition, velai's main business income structure was single (the sales revenue of new energy vehicles accounted for more than 90% and the service revenue accounted for less than 10%), and the R&D expense rate (average 15.8% from 2019 to 2021) and the sales expense rate (average 22.4% in the same period) were higher than the industry average for a long time. The inefficient use of funds limited profitability, resulting in a sharp drop in PS multiples [6]. This shows that the matching degree between the financing purpose and the core competitiveness of enterprises directly determines the sensitive direction of valuation to the financing proportion.

3.2.3. Signaling differences in investor structure

The "Industrial Synergy+long-term shareholding" of state-owned assets (Hefei) transmits the signal of "stable development", which extends the accounting period of suppliers by 30 days (annual cost savings of 500million yuan); The "short-term arbitrage+no resource injection" of foreign financial capital (cyvn) transmits the "risk accumulation" signal. Tencent's reduction of US $350million in 2023 will lead to a one-day evaporation of US $4.2 billion in market value. Weilai is highly dependent on external capital, and its financing structure fluctuates significantly. It has gradually shifted from vc/pe in the early stage to the core capital side of state-owned assets and foreign capital, but lacks long-term stability, resulting in frequent changes in valuation anchor points at different stages, fluctuations in capital market expectations, and an extended valuation repair cycle [7]. It can be seen that the type of investors directly affects the response intensity of valuation to financing ratio through the reshaping of market expectations.

4. The valuation boost logic of Hefei state-owned capital injection

Hefei state-owned capital injection is the turning point of welai's financing valuation interaction. Its core value lies in breaking through the limitations of "pure financial financing": first, resource binding rather than pure capital injection, deeply binding the interests of state-owned assets and enterprise growth through "headquarters settlement+capacity sharing", avoiding the short-term behavior of "public shares and real debts"; Second, risk sharing rather than one-way demand. The gambling agreement focuses on long-term revenue goals and gives enterprises a buffer period for technology investment, which is different from the "repurchase right+short-term profit requirements" of foreign financial capital; The third is the signal endorsement rather than passive shareholding. The admission of state-owned assets eased the market's concern about the survival risk of enterprises, led to an increase of 10.4 billion yuan in bank credit and a 12% drop in supply chain costs, forming a positive closed loop of "valuation repair → financing capacity improvement → performance improvement", which is in sharp contrast to the negative cycle of "valuation discount → forced additional issuance → further dilution" of foreign financial financing in the later period [7,8].

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5. Conclusion

Velai's financing valuation interaction shows that the type of investors determines the direction of the valuation effect of the financing proportion, and the use of funds and the design of control rights determine the intensity of the valuation effect. The gains and losses of its strategy are clear: in the early stage, it achieved a jump in valuation by virtue of "financial capital+technology investment+control balance", in the medium term, it completed valuation repair by relying on "strategic state-owned assets+resource coordination", and in the later stage, it fell into valuation difficulties due to "foreign financial capital+inefficient use+excessive dilution".

The reference value for new energy vehicle enterprises lies in: first, optimize the investor structure, give priority to the introduction of the combination of "state-owned assets (20%-30%)+industrial capital (15%-20%)", establish long-term strategic investors, balance short-term capital demand and long-term resource acquisition, reduce the risk of uncertainty in financing structure, and avoid single financial capital dependence. The second is to anchor the purpose of financing, ensure that the proportion of R&D investment is not less than 25%, focus the capital on core technologies (such as autonomous driving and battery R&D), and explore business model innovation to improve capital efficiency, so as to avoid falling into the trap of "overcapacity → capital waste → valuation decline"; Third, design reasonable control rights, balance control rights and equity dilution through moderate AB shares (such as 15% of founders' shares+50% of voting rights), guard against long-term governance risks of dual ownership structure, and prevent the market from worrying about interest deviation caused by "paper control rights"; Fourth, strengthen capital operation planning, broaden financing channels, control debt scale while maintaining R&D investment, establish a dynamic risk monitoring system, improve risk resistance and financing decision-making efficiency, and enhance the ability to deal with external shocks. Finally, a sustainable cycle of "financing input valuation" will be constructed.

Authors contribution

All the authors contributed equally and their names were listed in alphabetical order.

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