Proceedings of the 9th International Conference on Economic Management and Green Development
DOI: 10.54254/2754-1169/2025.27813

Study on Financial Risks and Response Strategies of New Energy Vehicle Enterprises

Miaoqi Xiao

Faculty of Accounting, Shandong Technology and Business University, Yantai, China
xiaomiaoqi123@126.com

Abstract. Driven by the "dual-carbon" strategic goals and strong support from national policies, the scale of the new energy vehicle industry has expanded rapidly, gradually becoming an important force promoting economic transformation. However, development trends such as intensified homogeneous market competition and rapid technological iteration have led new energy vehicle enterprises to face multi-dimensional financial risks. Based on the industry status quo and the practices of typical enterprises, this paper analyzes the dimensions of financing, investment, operation, and profitability, and proposes risk response strategies, providing theoretical support for solving enterprise problems and maintaining the stable development of the industry.

Keywords: New Energy Vehicles, Financial Risks, Risk Response

1. Introduction

With the green and low-carbon transformation of the global economy, the new energy vehicle industry, as a key field to achieve the goals of "carbon peaking and carbon neutrality", is ushering in unprecedented development opportunities. However, opportunities coexist with challenges. In the process of rapid changes in technological innovation, market competition, and policy environment, new energy vehicle enterprises are confronted with complex financial risks. Not only do high R&D investment, large-scale infrastructure construction, and the demand for industrial chain integration impose enormous capital pressure on enterprises, but also factors such as the withdrawal of policy subsidies, intensified market competition, and fluctuations in raw material prices further exacerbate the financial uncertainty of enterprises. At the same time, the new energy vehicle industry is gradually maturing, and enterprises need to strike a balance between technological innovation, cost control, and sustainable development, which places higher requirements on corporate financial management. Against this backdrop, such high-frequency technological iterations require enterprises to possess stronger R&D flexibility and resource allocation capabilities. A thorough analysis of the financial risks faced by new energy vehicle enterprises and the formulation of effective countermeasures can effectively address the development issues of new energy enterprises themselves and contribute to the sustainable development of the entire industry. Meanwhile, the depth of competition also extends to emerging fields such as industrial chain finance and data ecosystems, where enterprises need to constantly explore new profit growth points.

DOI: 10.54254/2754-1169/2025.27813

2. Overview of the development of new energy vehicle enterprises

2.1. Rapid expansion of market scale

With the enhancement of environmental awareness and the rise in fuel prices, more consumers have chosen a green travel lifestyle. New energy vehicles, with their relatively low purchase prices, low travel costs, and intelligent technology functions, have become the first choice for many families when purchasing cars. The central and local governments have also effectively reduced consumers' vehicle purchase costs by introducing policies such as vehicle purchase subsidies, tax incentives, and trade-in programs, further stimulating the public's demand for new energy vehicles.

According to the latest data, the sales volume of new energy vehicles in China reached 12.866 million in 2024, breaking the 10-million mark for the first time, making China the world's largest new energy vehicle market. The popularity has remained unabated since 2025, and many institutions predict that the sales volume of new energy vehicles in China will reach 15 million to 16.5 million, with the market penetration rate expected to exceed 50%.

2.2. Intensified market competition

With the rapid expansion of the new energy vehicle market, market competition has become increasingly fierce. On the one hand, traditional automakers are accelerating their transformation to electrification. Relying on their profound technological accumulation and brand advantages, they have quickly launched new energy vehicle models to seize more market share as much as possible. On the other hand, new power automakers continue to emerge, and they also strive to gain a foothold in the market with innovative business models and technological concepts. For example, technology companies such as Huawei and Xiaomi have also participated across industries, further intensifying market competition. The intensified market competition has led to a decline in industry profit margins, and the new energy vehicle business of most new energy vehicle enterprises and traditional automobile manufacturers is still generally in a state of loss. Under such a competitive pattern, new energy vehicle enterprises are facing severe profit pressure and survival dilemmas.

2.3. Rapid technological iteration

The iteration cycle of new energy vehicle products has been continuously shortened, and many automakers have reduced the iteration cycle to about six months. This rapid iteration not only meets consumers' pursuit of new technologies and novelty but also promotes the rapid development of the industry [1]. For instance, with the continuous progress of battery technology, solid-state batteries are expected to achieve small-scale mass production and installation in 2025, the battery energy density has successfully exceeded 400Wh/kg, and the cruising range of high-end models generally exceeds 800 kilometers. Technologies such as intelligent cockpits and autonomous driving have been developing and applying at an accelerated pace. BYD Auto announced that all its models across the entire product line will be equipped with intelligent driving functions by 2025, and assisted driving technology is gradually changing the driving behavior of the public, providing more convenient services for consumers.

DOI: 10.54254/2754-1169/2025.27813

3. Analysis of financial risks of new energy vehicle enterprises

3.1. Financing risks

Most new energy vehicle enterprises are highly dependent on external financing, in particular, methods such as issuing corporate bonds and green bonds, although they can provide stable funds, also make enterprises face high asset-liability ratios and high debt repayment pressure.Due to the large initial investment and long investment return cycle in the new energy vehicle industry, the pressure on corporate capital turnover has been increasing, and excessive reliance on debt financing will exacerbate financial risks. At the same time, policy adjustments have a significant impact on the financing environment of new energy vehicle enterprises [2]. The withdrawal of government subsidies reduces corporate revenue and increases financing costs, and the confidence of financial institutions in new energy vehicle enterprises will also fluctuate to a certain extent. Under the combined effect of multiple factors, the financing channels for new energy vehicles have gradually become restricted. In addition, the financial situation of new energy vehicle enterprises is generally not ideal, and some enterprises still have problems such as inventory backlogs, high production costs, and insufficient profitability.The financial situation of the enterprise is worrying. The rapid technological iteration leads to overstocking of inventory, and high costs erode the enterprise's profits, gradually forming a vicious circle, which further increases the difficulty of financing.

3.2. Investment risks

First of all, due to the rapid technological iteration in the new energy vehicle industry, enterprises need to continuously invest a large amount of funds in technological R&D and equipment renewal to maintain competitiveness. Especially in core areas such as battery energy density and autonomous driving, wrong choices of technological routes are likely to cause significant losses. Moreover, such high-intensity investment may lead to the rapid depreciation of existing technologies, making enterprises face the risk of investment returns below expectations. The global electric vehicle capacity utilization rate is expected to be less than 70% in 2025, and the risks of inventory backlogs and asset impairment have significantly increased.This not only requires sufficient investment in research and development, but also demands that enterprises possess flexible project management capabilities to adapt to the rapidly changing technological routes.

Secondly, the new energy vehicle industry has a long industrial chain, involving multiple links such as raw material procurement, component manufacturing, and vehicle assembly. These links increase the complexity and uncertainty of investment. Supply chain fluctuations exacerbate capital pressure: the price volatility of battery raw materials is expected to reach 30%, and coupled with downstream account period mismatch, the working capital gap of enterprises has expanded to 15% of annual revenue. This complex industrial chain structure not only requires enterprises to have strong supply chain management capabilities but also increases the difficulty of investment decisions.

3.3. Operating risks

In the operation of new energy vehicle enterprises, the risk of supply chain disruption cannot be ignored. Price fluctuations of core components such as power batteries and chips will directly affect the gross profit margin of enterprises. The sharp rise in lithium prices in 2024 led to an increase in battery costs for some enterprises; at the same time, the price war in the end market was fierce, and

DOI: 10.54254/2754-1169/2025.27813

many automakers continued to compress profit margins, forming a "cost-price" dual squeeze situation. A large number of new energy vehicle enterprises are struggling to survive in the gap, facing enormous operating pressure. At the same time, the market demand for new energy vehicles is strong, but supply chain fluctuations are frequent. Problems such as insufficient raw material supply, component shortages, and price fluctuations have seriously affected the production progress of enterprises, which may lead enterprises to fall into delivery difficulties.

New energy vehicle enterprises are highly dependent on policy support. Changes in subsidies mean that enterprises can only reduce their dependence on policies by investing more resources in technological R&D and cost control to enhance the competitiveness of their products. At the same time, the adjustment or reduction of subsidy policies will not only directly affect the market demand for automobiles, leading to an increase in the terminal prices of automobiles, a decrease in consumers' purchasing intentions, and a decline in market sales. The reduction of subsidies has also led to a decrease in corporate revenue, especially in the sales volume and profits of mid-to-low-end market models. Meanwhile, some enterprises are under increased cash flow pressure due to the slow recovery of subsidy funds, persistently high accounts receivable. It has weakened its ability to cope with market fluctuations, bringing more severe financial challenges to the subsequent development of the enterprise.

3.4. Profit risks

The new energy vehicle industry is a technology-intensive sector. When enterprises develop new technologies, new materials and new vehicle models, they need to invest a large amount of funds, covering key areas such as battery technology, autonomous driving algorithms and lightweight materials. The research and development costs are high and the risks are significant. At present, the market share of leading enterprises has exceeded 60%, and the market competition is fierce. The survival space for new entrants and small and medium-sized enterprises is limited. In order to promote new products and expand market share, enterprises also need to pay high sales expenses, including expenditures on advertising, marketing, channel construction, etc. The increase in these expenses will further compress the profit margins of enterprises [3]. Meanwhile, the sales model of new energy vehicle enterprises mainly relies on direct sales. The process from placing an order to picking up the vehicle for consumers is long, and the capital recovery cycle is relatively long, which may easily lead to insufficient capital liquidity. This model makes it difficult for enterprises to quickly recover funds in the short term, which in turn affects their R&D investment and market expansion capabilities. In addition, enterprises also need to invest a large amount of funds in the construction of charging infrastructure to enhance their market competitiveness, including site selection, equipment procurement, and grid connection. The construction period is long, the investment is large, and the return is slow. This undoubtedly increases the financial burden on enterprises and affects the profitability of new energy vehicle manufacturers. Under the influence of multiple factors, new energy vehicle enterprises are facing considerable financial pressure, which poses challenges to their daily operations and long-term development.

4. Financial risk response strategies for new energy vehicle enterprises

4.1. Optimize capital structure and financing mechanism

New energy vehicle enterprises need to comprehensively consider a variety of factors and optimize their capital structure by reasonably adjusting the ratio of equity to debt. For example, increasing the

DOI: 10.54254/2754-1169/2025.27813

proportion of equity financing can reduce the debt level and reduce the interest burden and debt repayment pressure caused by debt financing. At the same time, enterprises need to flexibly adjust the debt scale according to their own development stage and profitability, and reasonably arrange the ratio of long-term debt to short-term debt to avoid the debt repayment pressure caused by the concentrated maturity of short-term debt [4].

Optimizing the financing mechanism can also help new energy vehicle enterprises get rid of financing difficulties to a certain extent. Enterprises can not only actively expand diversified financing channels and reduce dependence on a single financing channel by means of green bonds, supply chain finance, and industrial funds but also establish long-term and stable cooperative relationships with financial institutions to strive for more support and reduce financing costs. At the same time, enterprises need to always pay attention to policy dynamics and make full use of the national preferential policies for the new energy vehicle industry, such as policy-based loans and fiscal subsidies. They also need to continuously strengthen their own financing capabilities, enhance core competitiveness through improving operating efficiency and technological innovation, thereby increasing financing attractiveness and alleviating financing pressure.

4.2. Strengthen technological investment and industrial chain synergy

New energy vehicle enterprises need to continuously invest in technological research and development, promote innovation in key areas such as battery technology, autonomous driving, and intelligent connectivity, and at the same time share R&D resources by establishing cross-industry technology alliances. We should gradually transform towards the autonomy of core technologies, increase patent layout in areas such as battery management systems and Internet of Vehicles, and participate in the formulation of international standards to enhance our say. Break through the "bottleneck" problems through independent innovation, reduce reliance on external technologies, and especially achieve domestic substitution in weak links such as automotive-grade chips and high-precision sensors. Strengthening technological investment not only enhances the performance and competitiveness of products, but also brings differentiated advantages to enterprises, thus enabling them to stand out in the fierce market competition.

However, merely making technological investments cannot completely solve the problem of investment risks. Enterprises still need to establish strategic alliances to achieve industrial chain synergy, combining the achievements of technological innovation with the resources and capabilities of upstream and downstream enterprises to enhance their ability to resist risks. For instance, enterprises, through in-depth cooperation with upstream suppliers, jointly carry out technological research and development and process innovation, establish joint laboratories to develop new battery materials, and effectively respond to the adverse effects brought about by raw material shortages and price fluctuations. In the downstream link, by establishing close cooperative relationships with distributors, operators of charging and battery swapping facilities, etc., a data sharing platform is built to optimize the layout of the charging network, accelerate the commercial application of new technologies, and further enhance the overall efficiency of the entire industrial chain.

4.3. Improve core competitiveness and policy sensitivity

Facing problems such as fierce price wars in the end market and severe compression of automobile profits, new energy vehicle enterprises should be committed to product upgrading and meeting the diversified needs of consumers [5]. On the one hand, they should improve the comprehensive performance of products, such as cruising range, charging speed, and in-vehicle humanized and

DOI: 10.54254/2754-1169/2025.27813

intelligent configurations, to meet the diversified needs of consumers. On the other hand, they should take a differentiated path to improve core competitiveness. For example, automakers such as Wuling and Geely have launched vehicle models specifically for female consumers, fully meeting the driving needs of female consumers.

At the same time, in the face of the current situation of government subsidy withdrawal, new energy vehicle enterprises need to improve their sensitivity to policies and flexibly adjust their business strategies. They should closely monitor the policy dynamics of the national and local governments regarding new energy vehicles, including subsidy policies, tax incentives, and carbon quota trading, so as to timely adjust product structures and market strategies.In line with market demands, focus on launching high cost-performance products, take advantage of tax incentives to reduce operating costs, and participate in carbon credit trading to achieve a win-win situation of low carbon and high efficiency. They can also strengthen communication and cooperation with the government and actively participate in policy formulation and industry standard construction. By participating in policy discussions and industry standard-setting, they can better understand policy orientations and industry development trends, providing strong support for their own business decisions.

4.4. Improve the financial flexibility reserve system

To cope with complex financial risks and improve the financial flexibility reserve system, new energy vehicle enterprises should first start with internal management and strengthen cost control [6]. Through the implementation of refined management strategies, they should strictly review and cut unnecessary expenses. For the high R&D and marketing expenses, they need to optimize sales strategies and R&D investment, focus on improving sales efficiency and R&D output ratio, realize revenue growth and cost reduction, and enhance the enterprise's profitability at the source. Secondly, they should establish a risk reserve system. A special risk reserve account should be set up, and risk reserves should be reasonably estimated and accrued based on operating conditions and market forecasts to ensure that there are sufficient financial reserves to resist risks and maintain the stable operation of the enterprise when facing market fluctuations and policy changes.At the same time, flexibly using derivative financial instruments to hedge against fluctuations in the prices of bulk raw materials is also a feasible means to reduce financial risks.

In addition, a sound financial early warning mechanism should be established. With the help of advanced financial management software and data analysis tools, the financial situation should be monitored in real time. For key indicators such as cash flow, asset-liability ratio, and profit margin, potential financial problems should be identified in a timely manner. By setting early warning thresholds and formulating emergency plans, effective intervention measures should be taken before or at the initial stage of risk occurrence, thereby avoiding or mitigating the impact of financial crises on the enterprise.

5. Conclusion

Under the guidance of the "dual carbon" strategic goals, the new energy vehicle industry, as a key area for achieving low-carbon transformation, is making great strides towards vigorous development. As the industry scale continues to expand, the regulatory system is also constantly improving, and the financial governance level of enterprises has gradually become an important indicator to measure their market competitiveness. Facing the financial risks of new energy vehicle enterprises in financing, investment, operation, and profitability, new energy vehicle enterprises

DOI: 10.54254/2754-1169/2025.27813

should take effective measures to respond. They should optimize the capital structure and financing mechanism to alleviate financing risks, adopt measures such as strengthening technological investment and industrial chain synergy to reduce investment risks, and promote enterprises to resist profit risks and maintain stable operations by improving core competitiveness and policy sensitivity and perfecting the financial flexibility reserve system. The implementation of these strategies will help new energy vehicle enterprises effectively prevent and deal with financial risks, assist them in solving financial problems, and enhance their market competitiveness. From the perspective of the entire industry, these measures can provide strong support for the healthy development of new energy vehicle enterprises and contribute significantly to the smooth advancement of the country's "dual carbon" goals.

References

[1] Zeng, J. H., Liu, S. Q., & Li, J. W. (2020). Study on the impact of multi-driven green innovation on corporate economic performance. Journal of Industrial Technology Economics, 39(01), 13-22.
[2] He, J. M. (2021). Analysis of financial risk issues of listed companies in the new energy vehicle industry. Modern Business, (07), 165-168.
[3] Li, Y. (2022). Study on financial risks of new energy vehicle enterprises. Industry and Science Tribune, 21(14), 240-241.
[4] Wu, Y. Y. (2023). Study on financial risks and management control of the new energy vehicle industry. China Economist, (12), 76-77.
[5] Hong, Z. Z. (2023). Analysis on the prevention and control of financial risks of new energy vehicle enterprises. Market Weekly, 36(11), 170-173.
[6] Duan, F. H. (2021). Study on financial risk control of J enterprise (a domestic new energy vehicle enterprise). Contemporary Accounting, (19), 148-150.