FINANCIAL ANALYSIS OF ELECTRIC VEHICLE COMPANIES: A COMPARATIVE STUDY OF TESLA, BYD AND NIO

A Comparative Study Using Financial Ratios (2020–2024)

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Abstract: This paper discusses the financial performances of selected electric vehicle companies, namely Tesla Motors Inc., BYD, and NIO Inc., using selected liquidity, solvency, interest coverage, profitability, and efficiency ratios from 2020 to 2024. The analysis exposed underlying fluctuations in companies' financial strength and stability. Tesla clearly outperformed others in terms of financial strength, reflected through strong liquidity, improving solvency, and maximum profitability recorded in 2022, with efficient use of resources and equity. BYD is showing rapid growth in its operational activities, along with improved solvency and interest coverage ratios, but poor liquidity due to substantial dependency on inventories and receivables. On the other hand, NIO is struggling with continuous declines in liquidity, increased leverage positions, and continuous losses despite some recoveries in asset utilization. Consequently, this paper will deduce that Tesla has the greatest financial stability among the three; BYD firms are showing improving stability and an encumbrance with tight liquidity, whereas NIO remains financially vulnerable. These findings will also be useful for investors and financial decision-makers.

Index Terms **– Tesla, BYD, NIO, EV Industry, Ratio Analysis, Financial performance, Profitability.**

I. INTRODUCTION

Traditional oil vehicles' carbon emissions are a major contributor to global warming and have a significant impact on environmental issues. As a result, consumers are beginning to take an interest in new energy vehicles, and demand for electric vehicles is rising. (Yang, 2024).

With over 17 million sales in 2024 and over 11 million units coming from China alone, the EV industry is becoming more competitive, as evidenced by its rapid global expansion. Sales of electric vehicles are predicted to surpass 20 million globally in 2025, making up more than 25% of all automobile sales. The first three months of 2025 experienced a 35% year-over-year increase in sales, with record first-quarter sales in every major market. (IEA, 2025)

As the electric vehicle industry is growing rapidly and it requires high investment, it is very important to analyze the financial performance of companies to understand how well they manage growth and profitability. In this context, this study aims to comparatively analyze the financial performance of major players in the EV Industry namely, Tesla, BYD and NIO Inc. Tesla is an American Electric vehicle Manufacturer, while BYD and NIO Inc. are leading EV companies based in China. By examining key financial ratios related to Liquidity, solvency, efficiency and profitability over a period of five years (2020-24), this study highlights the relative financial strengths, weaknesses, and sustainability of leading EV manufacturers in a growing global market. The findings of this research are expected to provide valuable insight for investors, researchers and policy makers.

NEED OF THE STUDY.

The EV industry has undergone a rapid transformation from niche to mainstream segment of the global automobile market. Companies like Tesla, BYD, and NIO apply different business models and operate in different geographic contexts, hence yielding various financial performances. Most of the existing literature focuses on technological advancements, environmental impact or market performance. Moreover, prior studies often analyzed companies individually or relied on short time frames with less attention has been paid to the comparative analysis of financial ratios of these three firms together. There is an evident requirement for conducting a systematic comparison regarding liquidity, profitability, long-term solvency and efficiency amongst major EV players. Specifically, 2020-24 has been a period when disruptions such as COVID-19 Pandemic and changes in government policies have placed pressure. Thus, this research provides updated, comparable financial insights that are valuable for stakeholders, researchers and policymakers.

II. LITERATURE REVIEW

The electric vehicle segment has noted remarkable expansion over the last decade, owing to an escalating level of environmental awareness, technological developments, and government support. The widespread transition from gasoline-powered vehicles to EV mobility has profoundly impacted the automotive industry, which will have widespread effects in the future in terms of energy, supply, and economies. With this expansion, financial pressure on automotive companies to invest in technology, research, and competition has increased. (Klemens Katterbauer, 2025)

A few studies have undertaken comparative analysis among major players in the EV market. (Yang, Afinancial Analysis and valuation of electric vehicle, 2024) undertook a financial analysis and evaluation of Tesla, BYD, and NIO in relation to sustainability and global targets for carbon neutrality. Through financial indicators and SWOT analysis, the study highlighted marked differences

in business models and financial performances. The study named Tesla a major global competitor with efficient operations and an array of products, BYD for its financial viability and cost-effectiveness in China, but NIO for failing to be profitable with high expenses and an inability to cover a wide global reach.

In a similar manner, a comparative study undertaken by (Li, 2023) focused on Tesla and another EV manufacturer named NIO, employing a mixed research methodology such as literature analysis, case study, and statistical analysis. The results highlighted how despite being a pioneer in technology and enjoying a strong brand name, a global production facility, and an excellent market presence, Tesla remained far ahead in terms of market share. Meanwhile, being a pioneer in technology and enjoying government support in China, NIO remained struggling in terms of finance and overseas expansion.

Firm-level analysis supports these differences in the financial performance of the EV manufacturing firms. (Zeng, 2024), while conducting DuPont analysis and using financial indicators, discussed BYD's financial performances for the five-year period 2019-2023. The study reported strong revenue and net profit growth, improved profitability margins, healthy cash flows, and growing R&D investments, reflecting BYD's operational efficiency and expansion capabilities. However, challenges such as rising competition and raw material price volatility were also noted.

(Amal Almenhali, 2021) Ratio-based financial analysis of Tesla Inc. covered the period from 2017 to 2020. The study used profitability, liquidity, activity, cash flow, and debt ratios to analyze the financial condition of Tesla and went on to give stakeholders recommendations. The insight into the study, however, is confined to a single firm and at an earlier period.

More recent studies have utilized more sophisticated forms of analysis. (Zhang, 2025) Used financial ratio analysis, DuPont decomposition, and case study methods to compare Tesla, BYD, and NIO. The study brought into the fore BYD's cost leadership through vertical integration, Tesla's value creation through a dual revenue model in vehicle sales and software services, and NIO's strategic positioning in premium branding with heavy infrastructure investments. Although this study provided strategic insight, its focus was more on positioning theory and market dynamics than on an aggregate ratio-based financial comparison across a clearly defined recent period.

These studies consequently leave several gaps: most prior studies have focused either on individual firms, limited time periods, or specific financial dimensions such as profitability or stock performance. In addition, there is limited research that provides a comprehensive comparative financial analysis of Tesla, BYD, and NIO based on liquidity, solvency, efficiency, and profitability ratios over a recent post-pandemic period.

To fill these research gaps, this study will carry out a comparative financial analysis of Tesla, BYD, and NIO Inc. over a five-year time horizon, from 2020 to 2024, based on financial ratios. The objective of this research is to present up-to-date and comprehensive views on financial strengths, weaknesses, and sustainability of top EV automakers to consequently enrich existing literature in this field.

III. RESEARCH METHODOLOGY

3.1Population and Sample

The target population consists of Electric Vehicle firms listed at the major global exchanges and symbolize financial performance and growth trajectories that are expected to present or represent the EV industry. The sample scope will limit itself to three leading companies in the sector: Telsa Inc., BYD Company Limited, and NIO Inc. -Purposively selected for their market leadership, global presence and access to regular financial data. Tesla represents a globally dominating EV player, while BYD is an example of a vertically integrated model, and NIO would represent an up-and-coming premium EV manufacturer. The study aims to track their financial performance during 2020-24 in-order to gain insight into the recent industrial trends.

3.2 Data and Sources of Data

The study is based exclusively on secondary data collected from reliable and publicly available sources. The financial information used in this research work relates to Tesla, BYD, and NIO for the years 2020-2024 and was derived from each company's publicly available and audited annual reports, in addition to their financial statements accessible on their official websites. Additionally, information from other market sources was obtained from Yahoo Finance to aid with comparisons. The information obtained is all normalized and cross-checked for validity and comparability among the companies considered.

3.3 Theoretical framework

The theoretical framework of this research is based on financial ratio analysis, which is a common technique to analyze the financial performance and financial stability of companies. The research work identifies financial performance as dependent Variable and liquidity, solvency, efficiency and profitability ratios as independent variables.

The liquidity ratios describe a company’s capability to cover its short-term financial obligations, solvency ratios describe A company’s effectiveness in using its resources. Profitability ratios, on the other hand, describe a company's ability to make a profit. Such financial ratios affect the financial sustainability of companies dealing with electric vehicles.

Through the application of this framework, this study will be able to compare financial performance of Tesla, BYD and NIO Inc. over the five years horizon from 2020-2024.

3.4 Tools of Analysis

Financial ratio analysis is used in this research work as a tool in analyzing financial performance of Tesla, BYD, and NIO Inc. Liquidity ratios, solvency ratios, efficiency ratios, and profitability ratios are used in this work to assess financial strength and performance of companies during the years 2020-2024.

IV. RESULTS AND DISCUSSION

4.1 Liquidity Ratios

Table 4.1.1: Liquidity Ratios of Tesla

	2020	2021	2022	2023	2024
Current Ratio	1.88	1.38	1.53	1.73	2.02
Quick Ratio	1.59	1.08	1.05	1.25	1.61
Cash Ratio	1.36	0.90	0.83	1.01	1.27

Figure 4.1.1: Trend of Liquidity Ratios of Tesla

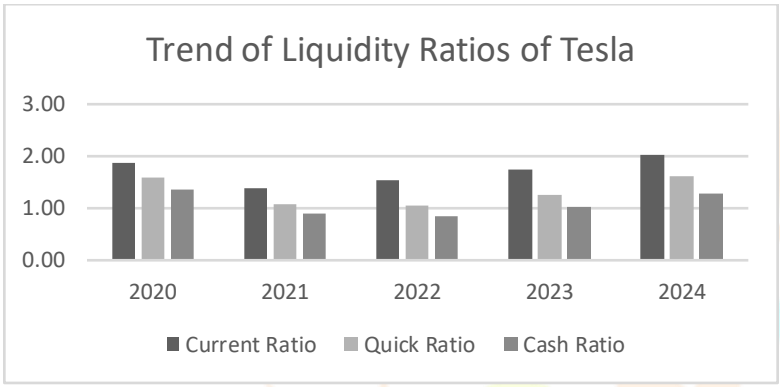


Table 4.1.1 & Figure 4.1.1 show the liquidity analysis of Tesla Motor INC during the period of 2020 to 2024. A falling trend in Current Ratio is demonstrated in Figure 4.1.1 from 2020 to 2021, which shows an increased tightness in total current assets during this period, which might have occurred due to expansion capital requirements. However, a constant increment in this ratio begins from 2022 onwards with a magnitude above 2 in 2024, which demonstrates a better short-term solvency position of this organization. The same pattern can be observed in quick ratio and cash ratio of this organization, which shows efficient cash management by this organization.

Table 4.1.2: Liquidity Ratios of BYD

	2020	2021	2022	2023	2024
Current Ratio	1.05	0.97	0.72	0.67	0.75
Quick Ratio	0.75	0.72	0.49	0.47	0.51
Cash Ratio	0.13	0.33	0.22	0.26	0.29

Figure 4.1.2: Trend of Liquidity Ratios of BYD

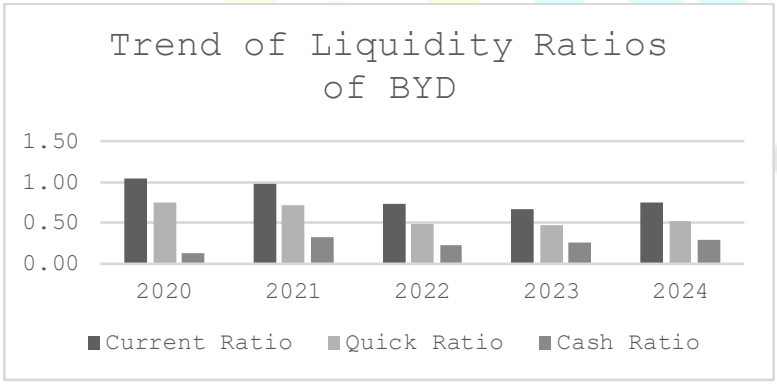


Table 4.1.2 and Figure 4.1.2 show the liquidity situation of BYD from 2020 to 2024. The current ratio is below the threshold level of 1 for most of the period, which shows pressure on the short-term solvability of BYD. However, a downtrend from 2020 to 2023 shows a higher requirement of working capital due to BYD's fast growth and higher inventory level. Although a positive change can be seen in 2024, BYD's liquidity situation is not good. The quick ratio and cash ratio show BYD's heavy dependency on inventory and receivables to finance short-term requirements. BYD's relative lower liquidity strength can be observed, which shows higher risk despite fast growth in operations compared to Tesla.

Table 4.1.3: Liquidity Ratios of NIO

	2020	2021	2022	2023	2024
Current Ratio	3.31	2.18	1.29	1.22	0.99
Quick Ratio	3.23	2.11	1.11	1.13	0.88
Cash Ratio	2.75	0.53	0.43	0.57	0.31

Figure 4.1.3: Trend of Liquidity Ratios of NIO

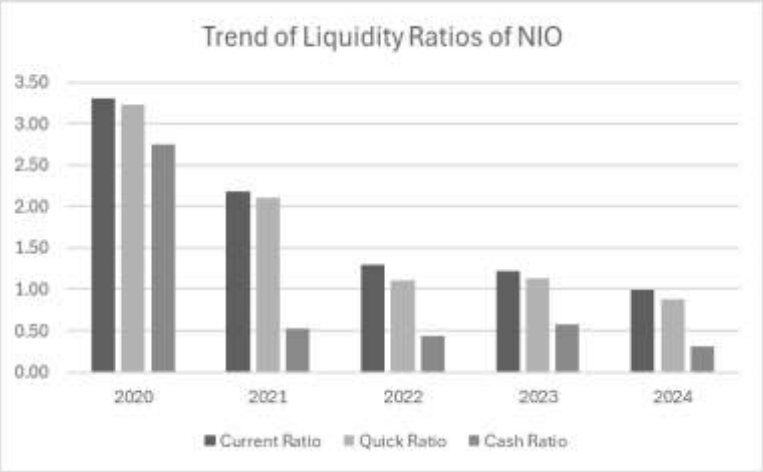


Table 4.1.3 & Figure 4.1.3 show the liquidity analysis of NIO INC. during the period of 2020 to 2024. The liquidity ratios of NIO have seen a constant downtrend from 2020 to 2024. While NIO achieved a good liquidity position in 2020, the current and quick ratios have fallen just below or at their respective thresholds by 2024. Besides this, the cash ratio has shown a steep decline, which means that the immediate cash resources have decreased. All the above results put together indicate increased pressure on the short-term liquidity position of NIO over the period.

4.2 Solvency Ratios

Table 4.2.1: Solvency Ratios of Tesla

	2020	**2021**	**2022**	**2023**	**2024**
Debt to Equity Ratio	0.64	0.43	0.21	0.09	0.12
Debt Ratio	0.54	0.78	0.52	0.34	0.25
Equity Ratio	0.43	0.51	0.56	0.60	0.60

Figure 4.2.1: Trend of Solvency Ratios of Tesla

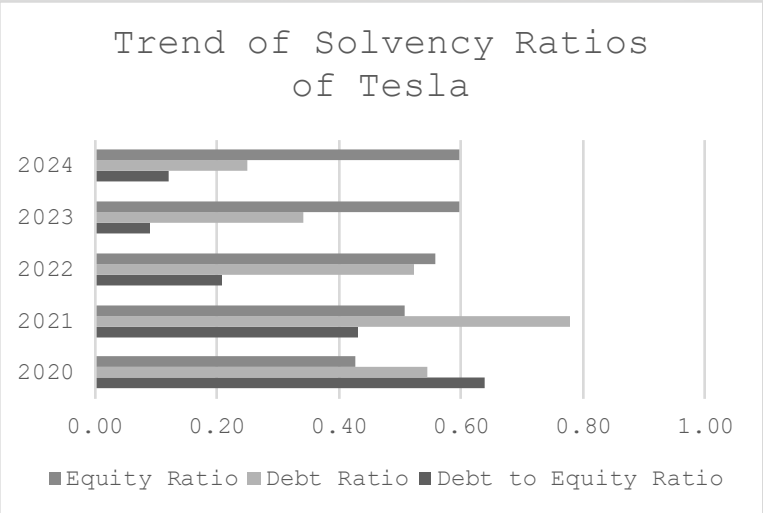
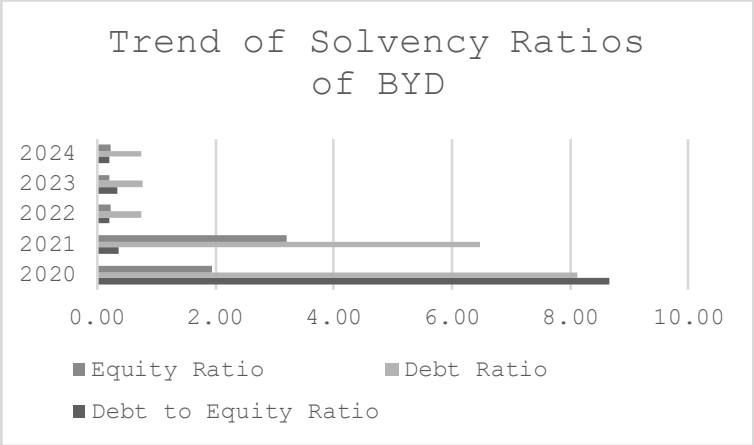


Table 4.2.1 & Figure 4.2.1 show the liquidity analysis of Tesla Motor INC. The solvency ratios show an improving position concerning financial stability for Tesla during 2020-2024. The debt equity ratio reduced substantially, reflecting less dependence on debt capital. Although the debt ratio moved in a fluctuating pattern with a subsequent downtrend since 2021, this shows a better approach towards financing assets using equity. At the same time, the equity ratio recorded a continuous increase, reflecting an improving capital structure with lower financial risk.

Table 4.2.2: Solvency Ratios of BYD

	2020	2021	2022	2023	2024
Debt to Equity Ratio	8.66	0.37	0.20	0.34	0.22
Debt Ratio	8.12	6.48	0.75	0.78	0.75
Equity Ratio	1.94	3.21	0.22	0.20	0.24

Figure 4.2.2: Trend of Solvency Ratios of BYD



The solvency ratios of BYD clearly indicate improvement from 2020 to 2024. A very high debt-equity ratio in 2020 reflects that the entity relies on debt and faces increased risk. After 2021, the drastic fall in debt-equity and debt ratios clearly shows that the entity does not rely on debt. Taking everything into account, it clearly appears that the improved solvency ratios of BYD indicate that it has improved financial stability. The ability to meet future obligations also improved.

Table 4.2.3: Solvency Ratios of NIO

	2020	2021	2022	2023	2024
Debt to Equity Ratio	0.219	0.281	0.456	0.511	1.917
Debt Ratio	0.161	0.541	0.713	0.748	0.874
Equity Ratio	0.497	0.419	0.248	0.218	0.055

Figure 4.2.3: Trend of Solvency Ratios of NIO

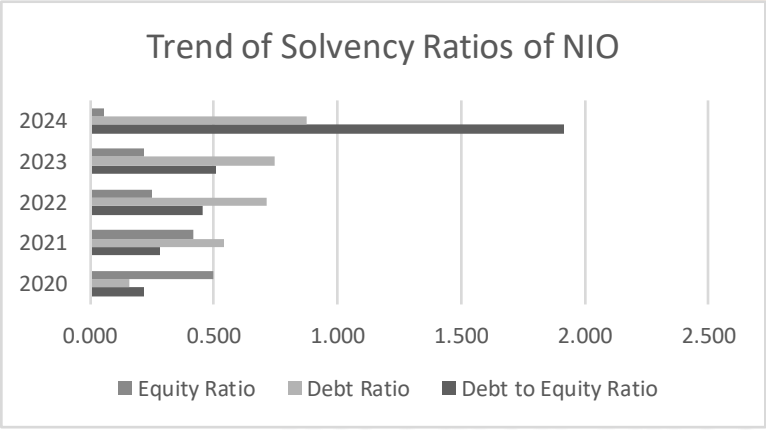


Table 4.2.3 & Figure 4.2.3 show the Solvency Ratio of NIO Inc. The solvency ratios of NIO indicate a gradually increasing leverage dependence on liabilities. The debt-to-equity ratio rises considerably, particularly in 2024, suggesting an increasing leverage of the financial structure. There is a steady increase in the debt ratio and a corresponding steady decrease in the equity ratio. In general, the solvency situation for NIO worsens over time.

4.3 Interest Coverage Ratios

Table 4.3: Interest Coverage Ratios of Tesla, BYD & NIO

	2020	2021	2022	2023	2024
Tesla	2.67	18.10	72.83	64.93	26.69
BYD	3.77	3.37	17.01	21.39	24.73
NIO	-27.61	7.05	46.94	56.14	27.40

Figure 4.3: Trend of Interest Coverage Ratios of Tesla, BYD & NIO

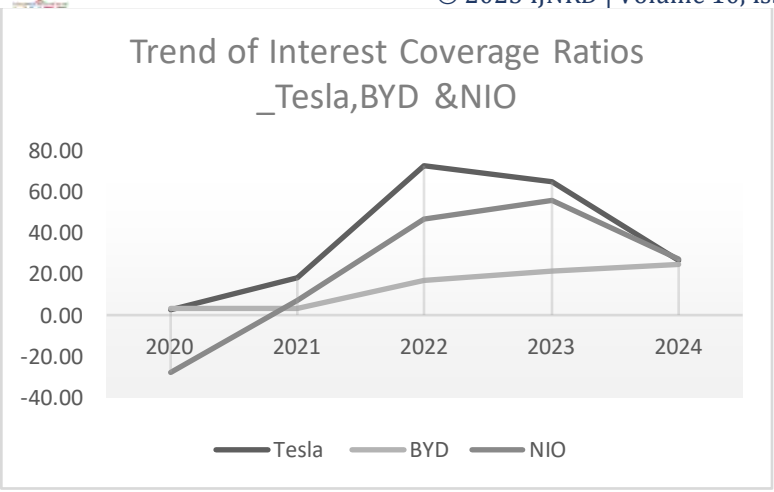


Table 4.3 & Figure 4.3 show the Solvency Ratio of Tesla Motor INC, BYD and NIO Inc. Tesla demonstrates an improvement in interest coverage from 2020 to a peak in 2022, followed by a downturn but staying strong, nonetheless. The interest coverage ratio for Tesla in 2020 was found to be -1, BYD displays strong and continuous growth over these years, showing enhanced capacity to cover its interest expenses. NIO shifts from negative coverage in 2020 to a positive level in 2022-2023, indicating a significant improvement in solvency. On balance, all three companies see improvement over time, with Tesla performing best in terms of peak strength and BYD being most stable.

4.4 Profitability Ratios

Table 4.4.1: Profitability Ratio of Tesla

	2020	2021	2022	2023	2024
Gross Profit Ratio	0.21	0.25	0.26	0.18	0.18
Operating Margin Ratio	0.06	0.12	0.17	0.10	0.10
Net Profit Ratio	0.04	0.12	0.17	0.09	0.08
ROA	0.04	0.11	0.17	0.10	0.08
ROE	0.05	0.21	0.30	0.14	0.11

Figure 4.4.1: Trend of Profitability Ratios of Tesla

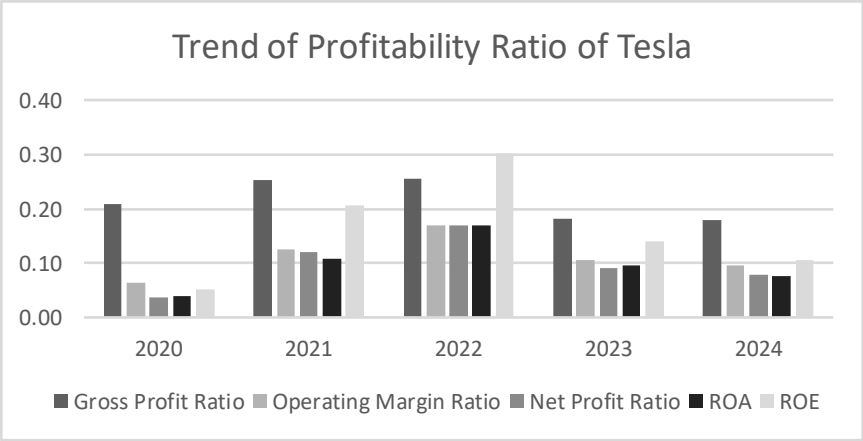


Table 4.4.1 & Figure 4.4.1 show the Profitability Ratio of Tesla Motor Inc. Profitability ratios in Tesla showed improvements between 2020 and 2022. Then, in 2023, all ratios became worse. Nonetheless, the ratios reached their best in 2022. The ROA and ROE reached their highest values in 2022. This indicates that in 2022, Tesla utilized their assets and funds in the best manner. The profitability position of Tesla keeps improving. However, the trend indicates that the improvement ceased in 2022.

Table 4.4.2: Profitability Ratio of BYD

	2020	2021	2022	2023	2024
Gross Profit Ratio	0.18	0.13	0.17	0.19	0.19
Operating Margin Ratio	0.07	0.03	0.05	0.06	0.07
Net Profit Ratio	0.04	0.01	0.04	0.05	0.05
ROA	0.07	0.22	0.05	0.06	0.07
ROE	0.06	0.01	0.02	0.01	0.01

Figure 4.4.2: Trend of Profitability Ratios of BYD

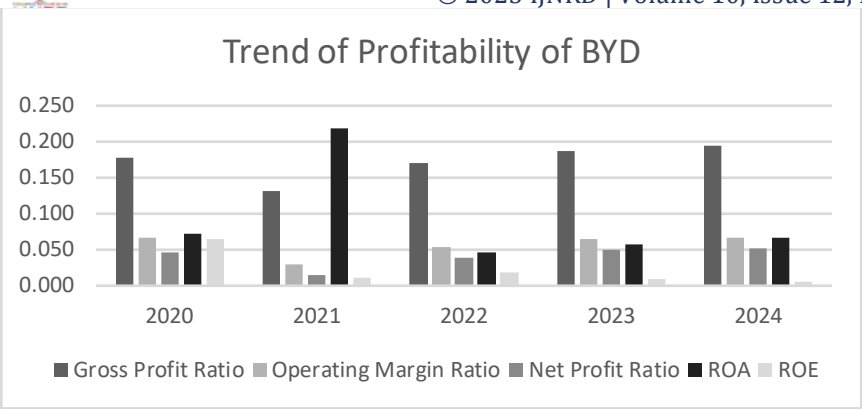


Table 4.4.2 & Figure 4.4.2 show the Profitability Ratio of BYD. The Gross Profit Ratio of BYD evidence amelioration with stabilization in 2022 onwards. The OPG and net profit margins are lower for the year 2021 but post a gradual increase starting from the year 2024 onwards. ROA continues to be at its level of moderation, which reflects good management despite the fluctuations. On the other hand, a consistent ROE may also indicate that the business does not earn exceedingly high returns on its equity, or that it doesn't contribute anything (much) to the wealth of its owners.

Table 4.4.3: Profitability Ratio of NIO Inc.

	2020	2021	2022	2023	2024
Gross Profit Ratio	-0.12	-0.19	-0.10	-0.05	-0.10
Operating Margin Ratio	3.36	2.29	1.95	2.11	1.64
Net Profit Ratio	-0.33	-0.11	-0.29	-0.37	-0.34
ROA	-0.08	-0.05	-0.16	-0.19	-0.20
ROE	-0.19	-0.11	-0.60	-0.80	-3.76

Figure 4.4.3: Trend of Profitability Ratios of NIO Inc.

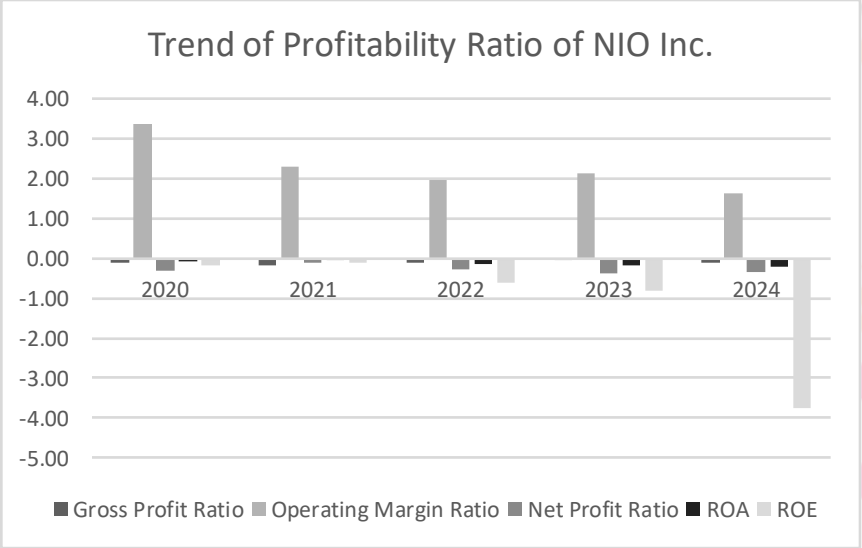


Table 4.4.3 & Figure 4.4.3 show the Profitability Ratio of NIO Inc. In this period, the gross profit ratio remains negative for NIO. All of these are negative, showing losses and a very low return to the shareholders from their investment in the firm: net profit ratio, ROI, ROA, and ROE. Although they were declining, the operating margins show some variability. That would suggest operations could have been optimized. In other words, there are persistent profitability challenges for NIO and a worsening financial condition over time.

4.5 Efficiency Ratios

Table 4.5.1: Trend of Efficiency Ratio of Tesla Motors Inc.

	2020	2021	2022	2023	2024
Asset Turnover Ratio	0.60	0.87	0.99	0.91	0.80
Inventory Turnover Ratio	6.07	6.99	4.72	5.81	6.68
Working Capital Ratio	1.88	1.38	1.53	1.73	2.02
Total Asset Ratio	2.35	1.97	1.79	1.68	1.67

Figure 4.5.1: Trend of Efficiency Ratio of Tesla Motors Inc.

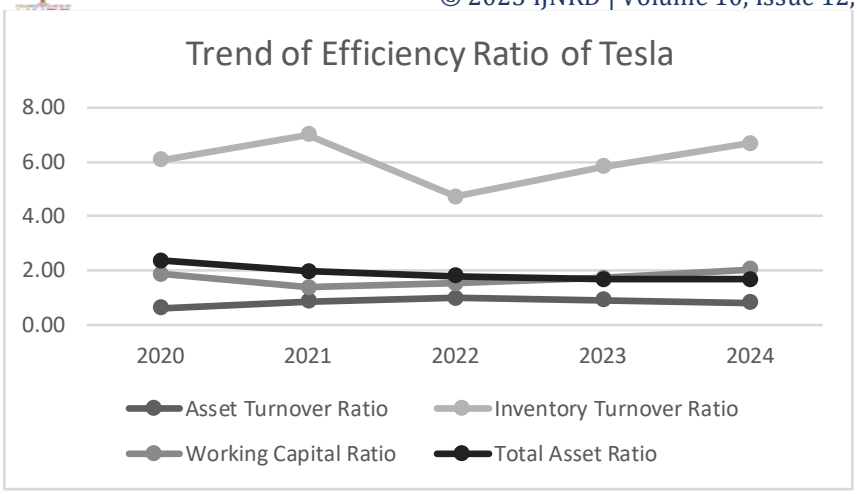


Table 4.5.1 & Figure 4.5.1 show the trend of Efficiency ratio of Tesla Motors Inc. The asset turnover ratio keeps on rising till 2022, as it indicates efficient management of the assets. But it again falls. There is inconsistency in the inventory turnover ratio. The ratio first falls in 2022, then exhibits a substantial rise in 2024. This indicates efficient management of inventory. The working capital ratio is consistently above 1; thereafter, it improves in 2024. The total asset ratio keeps on declining, as there is a decrease in efficiency in revenue creation using total assets.

Table 4.5.2: Trend of Efficiency Ratio of BYD

	2020	2021	2022	2023	2024
Asset Turnover Ratio	1.09	7.31	0.86	0.89	0.99
Inventory Turnover Ratio	1.09	7.31	0.86	0.89	0.99
Working Capital Ratio	1.09	7.31	0.86	0.89	0.99
Total Asset Ratio	0.52	0.31	4.45	4.90	4.23

Figure 4.5.2: Trend of Efficiency Ratio of BYD

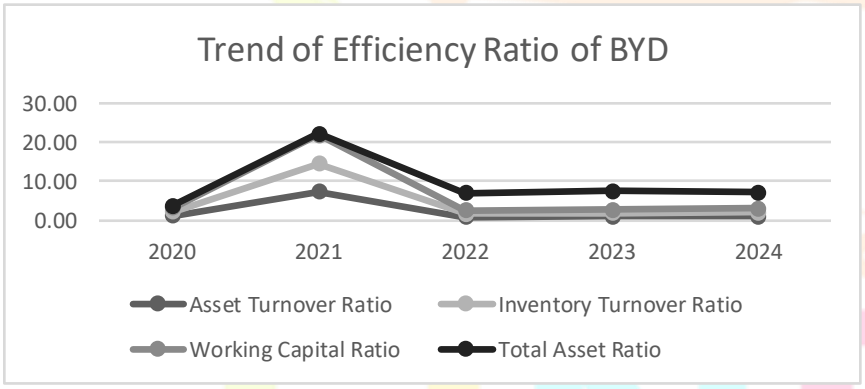


Table 4.5.2 & Figure 4.5.2 show the trend of Efficiency ratio of BYD. The asset turnover ratio is very volatile, reaching its peak in the year 2021 and then stabilizing at 1 onwards. This volatility of the inventory and working capital ratios indicates that there is a discrepancy in levels of efficiency. Total asset ratio increases considerably after 2022, implying efficiency in utilizing total assets to generate revenue. In general, these ratios show that there are phases of instability in the early years then relatively improved efficiencies in the late years.

Table 4.5.3: Trend of Efficiency Ratio of NIO Inc.

	2020	2021	2022	2023	2024
Asset Turnover Ratio	0.30	0.44	0.51	0.47	0.61
Inventory Turnover Ratio	13.30	-14.26	-5.39	-9.96	-8.36
Working Capital Ratio	3.31	2.18	1.29	1.22	0.99
Total Asset Ratio	2.01	2.39	4.03	4.59	18.03

Figure 4.5.3: Trend of Efficiency Ratio of NIO Inc.

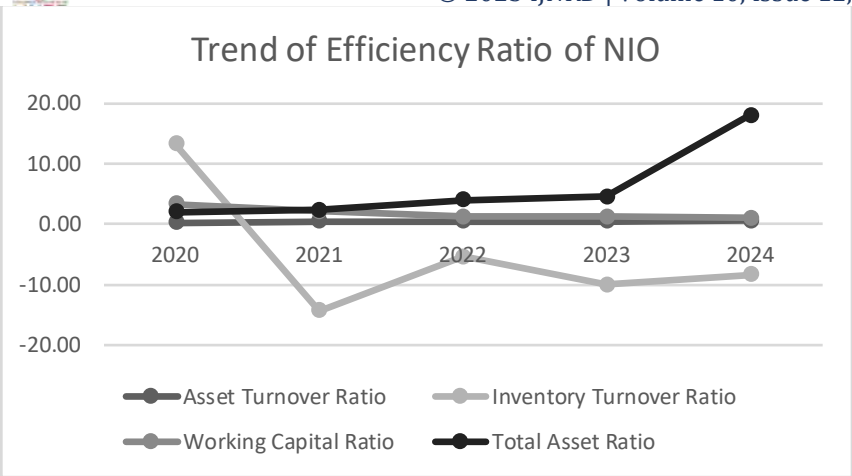


Table 4.5.3 & Figure 4.5.3 show the trend of Efficiency ratio of NIO Inc. The Asset Turnover Ratio is trending upward, showing that the utilization of resources was justifiable in terms of generating a profit. It also means inventory turnover turns negative after 2020, which indeed indicates problems with inventory management and inefficiency. This ratio means that the working capital ratio keeps on falling, which in turn decreases the short-term liquidity prospects until the year 2024. The capital adequacy ratio surges dramatically in 2024, reflecting a radical shift either in the asset structure or in the process of income generation.

COMPARATIVE ANALYSIS OF FINANCIAL RATIOS IN TESLA, BYD & NIO INC.

Table 4.6 Comparative Financial Ratio Analysis

Basis	Tesla (Avg.)	BYD (Avg.)	NIO (Avg.)	INTERPRETATION
Current ratio	1.707	0.831	1.797	NIO currently has the largest cash on hand, followed closely by Tesla. At the same time, BYD has a low current ratio, which translates to less cash on hand in the medium term
Quick ratio	1.316	0.588	1.691	Tesla and NIO have good Quick ratios, meaning both would face no problem in meeting short-term obligations without selling their inventories. On the other hand, BYD has a comparatively lower quick ratio, which indicates that the company is facing some problems regarding liquidity.
Cash ratio	1.074	0.245	0.918	Among them, Tesla has the strongest cash position, NIO is modest, while BYD has limited cash reserves, reflecting very significant short-term financial vulnerability.
Debt to Equity Ratio	0.298	1.957	0.677	BYD is highly geared compared to Tesla and NIO, meaning BYD is highly dependent on long-term borrowings, whereas Tesla has a healthy capital structure.
Debt Ratio	0.488	3.375	0.607	BYD's debt ratio is far above that of Tesla and NIO, showing it depends more heavily on liabilities; Tesla has received moderate leverage, while NIO has maintained a balanced stand.
Equity Ratio	0.537	1.164	0.287	Tesla has the strongest equity proportion, and then comes BYD, while NIO's reduced equity proportion reveals a relatively week capital structure and high financial risk.
Interest Coverage Ratio	37.041	14.055	21.985	Tesla has the highest interest coverage ratio relative to its stock price, reflecting very strong ability to cover interest obligations, followed by NIO; BYD has relatively unfavourable but still adequate interest coverage.

Gross Profit Ratio	0.216	0.172	-0.112	Tesla enjoys slightly better gross margins versus BYD, while NIO reports negative gross margins, which indicate inefficiency and unsuitable product cost structures for production.
Operating Margin Ratio	0.112	0.056	2.271	Tesla keeps its operating margins positive, BYD shows limited profit, while NIO highlights its operational losses through its negative operating margin.
Net Profit Ratio	0.100	0.040	-0.287	With a net profit ratio of 10.0%, Tesla records the highest net profit ratio, implying high profitability; while BYD with 4.0% records a moderate profit ratio. Conversely, a net profit ratio of -28.7% by NIO reflects high losses.
ROA	0.097	0.091	-0.139	Tesla has the highest Return on Asset, while BYD is moderate, and the negative Return on Asset for NIO reveals inefficient use and unprofitable business.
ROE	0.161	0.022	-1.094	Tesla Provides strong returns to the shareholders, BYD exhibits low ROE and whereas NIO's negative ROE indicates value erosion for shareholders.
Asset Turnover Ratio	0.834	2.227	0.466	NIO is comparatively weak, Tesla is moderate, and BYD has the highest asset turnover, indicating superior efficiency in using assets to generate revenue.
Inventory Turnover Ratio	6.053	2.227	-4.932	Tesla has the highest inventory management efficiency, BYD is average, and NIO has very low (negative) turnover, which implies serious cost problems or unsold inventory accumulation.
Working Capital Ratio	1.707	2.227	1.797	NIO has a moderate but steady working capital position, while BYD continues to have the highest working capital ratio, followed by Tesla.
Total Asset Ratio	1.892	2.880	6.212	Tesla maintains a relatively balanced structure, while NIO has the highest asset-to-equity ratio, indicating a greater reliance on debt; BYD follows with high leverage.

V. CONCLUSION AND RECOMMENDATIONS

In this analysis, Tesla Motors Inc., BYD, and NIO Inc. were compared for the period of 2020 to 2024 using liquidity, solvency, interest coverage, profitability, and efficiency ratios. From this analysis, it is evident that there exist differences in the financial performances of the selected electric vehicle companies. Tesla exudes effectiveness in its financial position, specifically with respect to liquidity and solvency, due to sound cash management and lower debt dependence. Profitability reached its peak in 2022 and stabilizes at this point, signifying effective resource and equity utilization. Tesla appears to be the most stable company out of the three financially. BYD depicts strong operational growth, coupled with increased solvency and cover ratios, during the period of research. Nevertheless, its liquidity is somewhat weak due to a high dependence on its inventories and accounts receivable. Profitability and efficiency ratios gradually stabilize in the latter part of the period. NIO shows persistent deterioration in liquidity, solvency, and profitability ratios. Leverage ratios rising while cash positions weakening and recording continuous losses signify immense stress despite progress being made in asset management. Overall, the financial health of NIO remains worse compared to

Tesla and BYD. Bottom line, analysis shows that the financial situation for Tesla is the best, that BYD is improving regarding stability but has problems with liquidity, and that for NIO the financial situation is quite problematic.

Based on the study these are my recommendations:

- Tesla should focus on remaining profitable and further improve consistency in its efficiency ratios as part of supporting long-term growth.
- BYD should focus on improving the liquidity position through better management of working capital and inventory.
- NIO needs to take priority in debt restructuring, improvement of cash flow, and operational efficiency to enhance financial stability.
- This would therefore imply that investors should be more attracted to firms which are financially stable, such as Tesla, and very careful with the high-risk ones like NIO.

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