

Financial performance evaluation of Tesla, Inc. using integrated ratio and DuPont analysis for 2021–2025

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Article Information

Received: August 13, 2026

Revised: September 9, 2026

Accepted: September 18, 2026

Published: October 1, 2026

Academic Editor: Dr. Mohd Sual

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Keywords

cash flow, DuPont analysis, financial performance, peer benchmarking, Tesla

ABSTRACT

The financial performance of Tesla, Inc. from 2021 to 2025 is analyzed using a case-study approach that includes ratio analysis, three-step DuPont decomposition, cash-flow indicators, a specific adjustment for the 2023 tax benefit, and a 2025 peer comparison with BYD, Ford and General Motors. The analysis is based on annual filings audited and adjusted by average levels of assets and equity if necessary. As per the results, Tesla's operating profitability and asset utilization have been declining since 2022, with the worst results being witnessed in 2024. The approximately \$5.93 billion difference was due to a non-cash one-time tax benefit, materially affecting reported 2023 net income of \$15.00 billion. Once they remove this figure for diagnostic purposes, net income drops to \$9.07 billion, net margin to 9.37%, ROA to 9.60% and ROE to 16.89%. By 2025, operating margin fell to 4.59%, ROE to 4.89%, operating current ratio to 2.16 and liabilities-to-equity to an still relatively low 0.67. Operating cash flow remained positive in all years and FCF bounced back to approximately \$6.22 billion in 2025. Based on the peer comparison, Tesla has a combination of strong liquidity, conservative liability profile, and below-average shareholder returns compared to BYD, and slightly below-average ROE compared to General Motors. The results are meant to be a diagnosis of the firm's finances and not an inference on the industry.

INTRODUCTION

Financial statements are extensively used in management, investment analysis, credit evaluation, and strategic planning, as they give a structured look into a firm's profitability, liquidity, financing, and how these funds are being used. Revenue and net income are not adequate for this purpose, as they demonstrate scale, but not whether or not a growing asset base is generating proportional returns. This is the limitation that the ratio analysis resolves by connecting items on the income statement, balance sheet and cash-flow statement. Previous research demonstrated the usefulness of accounting ratios to measure financial condition and the risk of failure (Beaver, 1966; Altman, 1968; Ohlson, 1980), and subsequent research related structured financial-statement analysis to profitability forecasting and equity valuation (Nissim & Penman, 2001).

The greatest interpretive difficulty lies in the fact that individual ratios can go up or down. A firm can increase its liquidity and decrease its profitability, or it can decrease its leverage and decrease the return on equity (ROE) as earnings grow more slowly than the equity base. In this context it is helpful to use the three-part DuPont identity which decomposes ROE into net profit margin, total asset turnover, and the equity multiplier. This breakup allows one to identify changes due to operating profitability, asset productivity and financing structure. Previous studies also indicate that the importance of these components varies by sector and institutional context (Bunea et al., 2019; Weidman et al., 2019; Jape & Malhotra, 2023), and that DuPont information can be important to market participants (Soliman, 2008).

The second is the quality of reported profits. Some accounting items are not recurring, and can significantly impact net income, and accruals-based profitability measures don't necessarily indicate whether the business is producing sufficient cash to invest. Therefore, the profitability ratios in the present study are read in conjunction with the operating cash flow, free cash flow and capital-expenditure coverage. It also disclosing a large one-time item in 2023, Tesla's approximately \$5.93 billion non-cash tax benefit due to the release of a valuation allowance on certain deferred tax assets (Tesla, Inc., 2024).

Tesla is analyzed not as a representative sample of the automotive sector but as a firm that was purposefully chosen. These activities span the range of electric-vehicle production, energy generation and storage, which situates the issue of capital efficiency and financial resilience in a transition-oriented business context. The period 2021-2025 is particularly revealing as it encompasses a period of growth and margin expansion, the tax-related earnings anomaly in 2023 and a subsequent period of continued asset growth with a decline in operating profitability. The company's audited U.S. GAAP filings also offer a consistent and repeatable analysis data trail.

The study thus investigates four questions: (1) what were the changes in Tesla's profitability, effectiveness, liquidity, financing structure, and cash-generation from 2021 to 2025; (2) what are the components of the changes in ROE; (3) what is the impact of the disclosed one-time tax benefit on the assessed ROE, after being arithmetically removed; and (4) how does Tesla's ratio profile compare to BYD, Ford and GM in 2025? The contribution is not a new financial ratio. Instead, the paper incorporates trend analysis, annual DuPont decomposition,

disclosure item earnings adjustment, cash-flow checks and peer benchmarking in one straightforward case-study format.

LITERATURE REVIEW

Financial ratio analysis has long been applied to various aspects of company's financial position. Beaver (1966) was able to identify systematic difference between the financial ratios of failed firms and non-failed ones, while Altman (1968) combined accounting measures in a discriminant model, Ohlson (1980) came up with a probabilistic approach in which size, financial structure, performance, and liquidity are part of the model. Those studies investigated distress prediction, but the principle they had pointed to was one important to the current analysis: it is better to consider ratios together, than to consider them separately.

Subsequent studies focused more on operating diagnosis and valuation. Nissim & Penman (2001) suggested to apply the hierarchical method in which operating and financing activities are separated, and in which current accounting information is utilized to determine future profitability and equity payoffs. This separation is important to ROE as a shift in the ratio can be caused by improved operations, a shift in capital structure, or a shift in the equity denominator. So, a decomposition is required before the economic significance of an increase or decrease in ROE can be determined.

The Decomposition can be done using the DuPont framework. ROE can be written in its traditional three step format as a combination between net profit margin, total asset turnover and the equity multiplier. The three components relate in general to profitability, the efficient use of resources and the financing structure. Jin (2017) reports that information in DuPont components is relevant to the future ROE, Davidson (2020) discusses their diagnostic nature, and Soliman (2008) indicates their relevance to market participants. The extended DuPont analysis has also been used in other more recent research to measure manufacturing performance (Endris & Babu, 2026). Thus, the framework does not reveal anything new about the accounting identity, but does make the causes of changes in shareholder returns more transparent.

Experience has also shown by empirical studies that one DuPont factor cannot always be considered to be the most important. When looking at the Romanian energy companies, Bunea et al. (2019) consider that asset turnover and financial leverage are relevant for the ROE indicator. For manufacturing firms in the U.S., Germany and Japan, profit margin is a significant determinant and the importance of turnover and leverage are different in different settings, according to Weidman et al. (2019). Jape and Malhotra (2023) also find that the constituent items of ROE are decision relevant. These results suggest that it is possible to combine within-company trends with external peer context.

There is an additional dimension in the diagnosis as short-term financial capability and profitability may not necessarily go hand in hand. The literature on working-capital management finds systematic relationship between working-capital efficiency and firm profitability (Singh et al., 2017; Yasmin & Mohiuddin, 2021; Jaworski & Czerwinka, 2024). However, having too much liquidity buffer can also have opportunity cost, meaning that a higher current ratio does not necessarily imply a greater economic efficiency (Silva & Silva, 2026).

For a capital intensive company cash flow evidence is especially valuable. Positive accounting earnings does not necessarily mean that the cash generated from interior operations is adequate to fund investment. Operating cash flow and free cash flow serve as

cross-checks on the profit derived from accruals and capital expenditure is a measure of the investment burden on the cash generated internally. These are meant to be supplementary to the profitability, efficiency and financing ratios.

This is a narrow research gap. The reported performance can be described using conventional ratio and DuPont analysis, but if cash-generation capacity is considered and the results are compared with a peer benchmark, a firm level diagnosis becomes more informative when the examination is completed with one material one-off accounting item. The present paper aims to fill that gap with a cross-check of the reported ratios with an adjusted 2023 profitability measure, full annual DuPont components, cash-flow indicators and a 2025 comparison with three key automotive peers.

This design also sets the boundaries of the claims that may be made. The study has only five observations per year for one focal company and causal relationships or sector-wide effects cannot be estimated, and formal inferential tests would suggest more precision than can be warranted by the data. Rather, the intention is to offer a diagnostic framework that can be reproduced, and that in the future could be expanded to multi-company panel data to which statistical testing and industry adjusted benchmarking would be more suitable.

MATERIALS AND METHODS

A quantitative longitudinal case-study design is adopted to assess Tesla, Inc. for the 5 fiscal periods 2021-2025. The company is viewed as a diagnostic case because they produce their products on a large scale for the automotive industry, they have an energy-oriented business, have had dramatic changes in their capital base and have consistent and available audited U.S. GAAP filings. The time interval is materially different operating conditions and within-firm comparison of profitability, use of assets, financing, liquidity, and cash generation is possible.

The data for Tesla comes from audited Form 10-K with the U.S. Securities and Exchange Commission for FY21-FY25 (Tesla, Inc., 2022, 2023, 2024, 2025, 2026). All numbers are in millions of U.S. dollars (USD) and include extracted items: revenue, operating income, net income attributable to common stockholders, current assets, current liabilities, total assets, total liabilities, stockholders' equity, net cash provided by operating activities, and capital expenditures. The peer comparison for 2025 is based on information in annual reports of the following companies: BYD Company Limited (BYD Company Limited, 2026), Ford Motor Company (Ford Motor Company, 2026), and General Motors Company (General Motors Company, 2026). So it is a ratio compare and no currency conversion takes place.

There are five analytical areas for the indicator set. Profitability includes operating margin, net profit margin, return on assets (ROA), and ROE; efficiency includes total asset turnover; liquidity includes current ratio; financing structure includes total liabilities/total stockholders' equity; and cash generation includes operating cash flow, free cash flow, operating-cash-flow margin, and capital-expenditure margin. The financing measure is called liabilities-to-equity and not debt-to-equity as the numerator consists of all liabilities reported. ROE is then broken down using the three step DuPont identity.

$$\text{Operating margin} = \text{Income from operations} / \text{Revenue} \times 100 \quad (1)$$

$$\text{Net profit margin} = \text{Net income attributable to common stockholders} / \text{Revenue} \times 100 \quad (2)$$

$$\text{ROA} = \text{Net income attributable to common stockholders} / \text{Average total assets} \times 100 \quad (3)$$

$$ROE = \text{Net income attributable to common stockholders} / \text{Average stockholders' equity} \times 100 \quad (4)$$

$$\text{Asset turnover} = \text{Revenue} / \text{Average total assets} \quad (5)$$

$$\text{Current ratio} = \text{Current assets} / \text{Current liabilities} \quad (6)$$

$$\text{Liabilities-to-equity} = \text{Total liabilities} / \text{Stockholders' equity} \quad (7)$$

$$ROE = \text{Net profit margin} \times \text{Asset turnover} \times \text{Equity multiplier} \quad (8)$$

$$\text{Operating cash flow margin} = \text{Net cash provided by operating activities} / \text{Revenue} \times 100 \quad (9)$$

$$\text{Free cash flow} = \text{Net cash provided by operating activities} - \text{Capital expenditures} \quad (10)$$

$$\text{CapEx-to-operating-cash-flow} = \text{Capital expenditures} / \text{Net cash provided by operating activities} \times 100 \quad (11)$$

The average total assets and average stockholders' equity represent the average of year-end and beginning fiscal year balances. The comparative balances for 2020 appear in Tesla's 2021 Form 10-K for use in calculating average values for 2021 (Tesla, Inc., 2022). Calculations trail was preserved for the reproduction of each ratio. The 2025 filing, for instance, includes a total asset balance of \$122,070 million at the end of 2024 and \$137,806 million at the end of 2025, and stockholders' equity of \$72,913 million and \$82,137 million, respectively. In 2025, Tesla's total revenue was \$94,827 million, net income for common stockholders was \$3,794 million, current assets were \$68,642 million, current liabilities were \$31,714 million, and total liabilities were \$54,941 million (Tesla, Inc., 2026). These numbers result in an average of \$129,938 Million in assets and \$77,525 Million in equity. The resulting 2025 ratios are ROA 2.92%, ROE 4.89%, asset turnover 0.73, current ratio 2.16, and liabilities-to-equity 0.67. The same procedure is applied to each year.

The tax effect for 2023 is reported separately since it has a material impact on reported net income. Tesla released the valuation allowance for U.S. federal and certain state deferred tax assets of \$6.54 billion and estimates the valuation allowance for the portion of deferred tax assets to be realized in future years of approximately \$5.93 billion (Tesla, Inc., 2024). Reported net income for 2023 is therefore adjusted by \$5.930 billion to reach an amount of \$9.067 billion for diagnostic purposes. Using the same revenue, average-asset, and average-equity denominators, net margin, ROA, and ROE are then re-calculated. This adjustment eliminates only the item of tax that was disclosed and is not to be considered as a fully normalized earnings measure.

The analysis is conducted in seven stages: looking at the raw financial data; calculating the ratios; analysing the trends over 5 years and growth rates; performing the annual Du Pont decomposition; adjusting for the 2023 effect of the tax system; comparing to cash flow indicators; and checking 2025 peer benchmark. Peer ratios are based on information from each company's own annual report and are calculated using the same conceptual formulas, as the items necessary to calculate the ratio are available. Due to divergent accounting practices, business mix, financial-services exposures and geography, the peer exercise is not a formal ranking or statistical test but a contextual comparison.

A mechanical sensitivity exercise is done using the ratios from the selected year in the accounting base (2022) and applying them to the accounting base 2025. Only arithmetic examples are given of these calculations. They are not models, they do not simulate prices, production capacities, product mix, competition, demand,

macro-economic conditions, or management responses, nor are they forecasts or causal counterfactuals. These are only intended to demonstrate the accounting size of the margin and asset turnover change.

There are a few drawbacks to the design. Causal relationships and meaningful inferential testing cannot be derived from a 5-year case of single company. The analysis does not consider market based performance, environmental impacts, segment economics or risk adjusted cost of capital. The 2025 peer comparison provides an external perspective, but differences in accounting classification or business model do not go away. The findings should then be interpreted as clear and open financial diagnosis for a particular firm.

RESULTS AND DISCUSSION

Tesla's size grew significantly during the study period, but during that time the earnings trajectory did not track with that of revenues. As shown in Table 1, revenue increased from \$53.82 billion in 2021 to \$96.77 billion in 2023, was almost unchanged in 2024, and then declined to \$94.83 billion in 2025. Net income grew at a faster pace until 2024, when it dropped to \$7.09 billion and \$3.79 billion in 2025. Revenue growth isn't a sufficient measurement of financial performance, as demonstrated by the divergence after 2023.

Table 1. Revenue and net income, 2021–2025 (USD millions)

Year	Revenue	Net income
2021	53,823	5,519
2022	81,462	12,556
2023	96,773	14,997
2024	97,690	7,091
2025	94,827	3,794

Source: Author's calculations based on Tesla, Inc. Form 10-K filings (2022–2026).

This change in direction is also reflected in the annual growth rates. Revenue grew by 51.4% in 2022 and 18.8% in 2023, slowed to 0.9% in 2024, and declined by 2.9% in 2025. The 2023 net-income figure is impacted by the tax benefit the company disclosed, so don't take the seeming peak in bottom-line profitability literally without the adjustment below.

Table 2. Balance-sheet scale, 2021–2025 (USD millions)

Year	Total assets	Stockholders' equity
2021	62,131	30,189
2022	82,338	44,704
2023	106,618	62,634
2024	122,070	72,913
2025	137,806	82,137

Source: Author's calculations based on Tesla, Inc. Form 10-K filings (2022–2026).

As seen from Table 2, growth of the balance sheet was faster than revenue. Total assets grew from \$62.13 billion in 2021 to \$137.81 billion in 2025, and stockholders' equity grew from \$30.19 billion to \$82.14 billion. With an increasing capital base, it required more revenue and earnings to achieve the ROA, ROE and asset turnover percentages seen before. This "denominator effect" is at the heart of the subsequent drop in return measures.

Table 3. Liquidity and liabilities-to-equity indicators

Year	Current ratio	Liabilities/equity
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2021	1.38	1.01
2022	1.53	0.82
2023	1.73	0.69
2024	2.02	0.66
2025	2.16	0.67

Source: Author's calculations based on Tesla, Inc. Form 10-K filings (2022–2026).

Despite a deterioration in profitability, liquidity and financing structure improved. The current ratio increased from 1.38 in 2021 to 2.16 in 2025, while liabilities-to-equity fell from 1.01 to 0.67. It is important to note that the numerator represents total liabilities, not just interest-bearing debt, thus accounting for the label liabilities-to-equity. The pattern suggests that there was a greater cushion of short-term liquidity and a higher ratio of equity to the balance sheet, but not that the expanded capital base was being more effective. This separation is in line with the literature on working capital where liquidity and profitability are correlated but different aspects of performance (Singh et al., 2017; Jaworski & Czerwona, 2024).

Table 4. Profit margins, 2021–2025

Year	Operating margin	Net margin
2021	12.12%	10.25%
2022	16.76%	15.41%
2023	9.19%	15.50%
2024	7.24%	7.26%
2025	4.59%	4.00%

Source: Author's calculations based on Tesla, Inc. Form 10-K filings (2022–2026).

Operating margin reached 16.76% in 2022 and then declined to 9.19% in 2023, 7.24% in 2024, and 4.59% in 2025. In 2023, the net margin was still abnormally high due to the impact of the one-time tax effect, with the operating margin also declining in the same direction by 2024–2025. In the same way, operating margin is a better indicator of the deteriorating underlying profitability after 2022.

Table 5. Return and efficiency indicators

Year	ROA	ROE	Asset turnover
2021	9.66%	21.06%	0.94
2022	17.38%	33.53%	1.13
2023	15.88%	27.94%	1.02
2024	6.20%	10.46%	0.85
2025	2.92%	4.89%	0.73

Source: Author's calculations based on Tesla, Inc. Form 10-K filings (2022–2026).

Both return and efficiency measures in Table 5 indicate this trend. ROA declined from 17.38% in 2022 to 2.92% in 2025, ROE fell from 33.53% to 4.89%, and asset turnover decreased from 1.13 to 0.73. Between 2021 and 2025, the assets increased at an average rate of approximately 22.0% annually, while the revenue increased at an average rate of approximately 15.2% annually, resulting in a decreasing ratio of revenue per dollar of average assets.

In combination, the decrease in margin and the decrease in turnover is more telling than either of them alone. It indicates that at lower performance, return, there was also a decrease in profit conversion ratio and a decrease in capital productivity, and the decrease in liability intensity is a less likely cause to explain the deterioration. This is consistent with earlier research on DuPont by other researchers which

indicated that ROE depends on the interplay of margin, turnover and leverage, and the proportion of each of these factors varies among companies and contexts (Bunea et al., 2019; Weidman et al., 2019).

The profitability ratios for the five years were plotted in Fig.1. Net margin, ROA, and ROE for the 2023 observation are marked with an asterisk because the results have been calculated without the disclosed \$5.93 billion non-cash tax benefit; Table 6 reflects the diagnostic values after excluding this non-cash tax benefit.

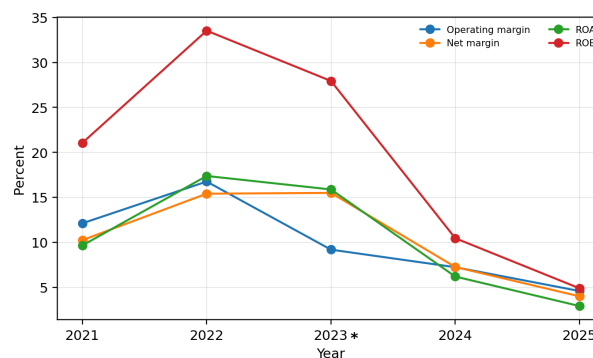


Figure 1. Trend in key profitability ratios, 2021–2025

The data are the author's projections based on form 10-K filings from Tesla. Note: * 2023 net margin, ROA and ROE include an approximately \$5.93 billion one-time non-cash tax benefit; adjusted net margin, ROA and ROE is shown in Table 6.

The stated \$5.93 billion tax benefit has a material impact on the 2023 reading. Diagnostic net income falls to \$9.07 billion, with a net margin of 9.37%, ROA of 9.60%, and ROE of 16.89%. This is significantly lower than the return reported in 2023, which was measured, and is closer to the operating margin decline already seen. Given this context, 2023 should be viewed more as a transition year rather than as an unequivocal year of peak profitability.

Table 6. Reported and tax-effect-adjusted 2023 profitability

Measure	Reported 2023	Tax-effect adjustment	Diagnostic adjusted
Net income (USDm)	14,997	–5,930	9,067
Net margin	15.50%	—	9.37%
ROA	15.88%	—	9.60%
ROE	27.94%	—	16.89%

Source: Author's calculations based on Tesla, Inc. (2024). Note: the adjustment subtracts only the disclosed \$5.93bn non-cash tax benefit and is not a fully normalized earnings measure.

Table 7 provides a DuPont decomposition that helps identify the sources of the ROE's change. ROE in 2022 was higher at 33.53%, despite a fall in the equity multiplier, as a result of the rise in net margin and asset turnover. Net margin dropped to 4.00% and asset turnover to 0.73 by 2025 and the equity multiplier was 1.68. The decrease in ROE can hence be attributed primarily to lower profitability and asset utilization and not financial leverage. This is the diagnostic significance of the DuPont framework which has been highlighted in earlier studies (Jin, 2017; Soliman, 2008).

Table 7. Three-step DuPont decomposition, 2021–2025

Year	Net margin	Asset turnover	Equity multiplier	ROE
2021	10.25%	0.94	2.18	21.06%
2022	15.41%	1.13	1.93	33.53%
2023	15.50%	1.02	1.76	27.94%

2024	7.26%	0.85	1.69	10.46%
2025	4.00%	0.73	1.68	4.89%

Source: Author's calculations based on Tesla, Inc. Form 10-K filings (2022–2026). Values use average assets and average equity.

The deterioration is separately measured by cash-flow indicators. Net cash provided by operating activities was positive in each of the years, but capital expenditure grew and took the free cash flow down to \$4.36 billion in 2023 and \$3.58 billion in 2024, from \$7.57 billion in 2022. Capital expenditure declined in 2025 and free cash flow was once again positive at \$6.22 billion. The company's cash-flow record also indicates that it was able to keep raising capital internally, meaning that positive cash generation does not necessarily mean there was a positive increase in accounting returns on its larger capital base.

Table 8. Cash-flow diagnostics, 2021–2025 (USD millions except ratios)

Year	Operating CF	CapEx	Free CF	OCF margin	CapEx/O CF
2021	11,497	6,482	5,015	21.36%	56.38%
2022	14,724	7,158	7,566	18.07%	48.61%
2023	13,256	8,899	4,357	13.70%	67.13%
2024	14,923	11,342	3,581	15.28%	76.00%
2025	14,747	8,527	6,220	15.55%	57.82%

Source: Author's calculations based on Tesla Form 10-K filings. Free cash flow = operating cash flow – capital expenditures.

The 2025 peer benchmark adds context that Tesla's own time series cannot provide. Tesla's net margin of 4.00% was close to BYD's 4.06%, above General Motors' 1.72%, and above Ford's –4.37%. Its ROE of 4.89%, however, was below BYD's 15.12% and slightly below General Motors' 5.12%. Tesla had the highest current ratio in the group, at 2.16, and the lowest liabilities-to-equity ratio, at 0.67. The comparison therefore portrays Tesla as relatively liquid and conservatively financed, but not as the strongest peer in shareholder returns.

Table 9. 2025 peer benchmark

Metric	Tesla	BYD	Ford	General Motors
Net margin	4.00%	4.06%	–4.37%	1.72%
ROA	2.92%	3.91%	–2.85%	1.13%
ROE	4.89%	15.12%	–20.26%	5.12%
Asset turnover	0.73	0.96	0.65	0.66
Current ratio	2.16	0.79	1.07	1.17
Liabilities/equity	0.67	2.54	7.04	3.57

Source: Author's calculations based on Tesla, BYD, Ford, and General Motors 2025 annual filings. Ratios are contextual and are not adjusted for accounting-regime or business-model differences.

The peer results should be interpreted cautiously. Ford and General Motors include large captive-finance operations, BYD reports in a different accounting environment, and the companies differ in scale and product mix. The comparison is therefore contextual rather than causal. Its main value is to prevent assessments such as “high liquidity” or “weak ROE” from being based only on Tesla's own historical range. Table 10 uses 2022 margin and turnover relationships as arithmetic reference points for the 2025 accounting base. The exercise shows the scale of the accounting gap associated with lower margin and asset turnover, but it does not describe a realistic alternative operating history.

Maintaining the 2022 margin or turnover in 2025 would have required different combinations of prices, volumes, capacity utilization, product mix, competition, and costs. Those mechanisms

are not modelled here. The resulting figures should therefore be read only as mechanical decompositions, not as forecasts, management targets, or counterfactual estimates.

Taken together, the evidence suggests three distinct phases. In 2021–2022, revenue growth, margins, asset turnover, and returns strengthened together. In 2023, reported net profitability was lifted by a material tax item even though operating margin and cash-flow efficiency had already weakened. In 2024–2025, the compression in margin and turnover became clear, while liquidity improved, liabilities-to-equity stayed low, and operating cash flow remained positive.

For managerial analysis, the results support reading indicators in pairs rather than applying isolated thresholds. Operating margin can be assessed alongside net margin, asset turnover alongside asset growth, the current ratio alongside cash generation, and liabilities-to-equity alongside ROE. This approach helps distinguish a problem of operating returns from one of short-term liquidity or financing risk.

The findings remain diagnostic rather than causal. The analysis cannot establish that recent assets are unproductive, because capital-intensive investment may require time before utilization matures. A single 2025 peer snapshot also cannot establish persistent competitive advantage. Future work should extend the same variables to a multi-year company panel, harmonize accounting classifications, add segment and market-based measures, and apply appropriate econometric tests.

Table 10. Arithmetic sensitivity illustrations for 2025

Scenario	Mechanically implied outcome
Actual 2025	Revenue \$94.83bn; net income \$3.79bn; ROE 4.89%
2022 asset turnover applied to 2025 average assets	Revenue ≈ \$146.54bn
2022 net margin applied to actual 2025 revenue	Net income ≈ \$14.62bn
2022 margin and turnover with 2025 equity multiplier	ROE ≈ 29.13%

Source: Author's calculations. These are arithmetic illustrations only; they do not model prices, capacity, product mix, competition, demand, or macroeconomic conditions.

Table 10 is therefore best used to illustrate accounting relationships. Holding selected 2022 ratios constant makes the 2025 performance gap visible, but the calculation omits the operating and market conditions that would be required to produce those ratios. It should not be interpreted as estimated “counterfactual performance.”

CONCLUSIONS

The 2021–2025 analysis reveals a definite shift in Tesla's financial outlook. The performance was improved up to 2022 but operating margin and asset turnover declined after that. However, as mentioned previously, the non-cash benefit of \$5.93 billion disclosed in 2023 is crucial in understanding how the transition is going, since it has lowered the diagnostic net margin to 9.37%, ROA to 9.60% and ROE to 16.89% and shows that the underlying profitability decline was more severe than implied by the net-income.

The DuPont results indicate that the decline in ROE was primarily due to lower margins and lower asset turnover, not due to higher leverage. Meanwhile, the current ratio improved and liabilities-to-equity decreased, and the operating cash flow was positive

throughout the period, and free cash flow got back to approximately \$6.22 billion for the year 2025. Thus, Tesla started 2025 with a relatively healthy liquidity position, but significantly lower ROCE.

The unique contribution of this paper is that it incorporates five evidence layers in the context of one reproducible firm-level case: longitudinal ratios, annual DuPont decomposition, disclosed-item earnings adjustment, cash-flow diagnostics, and external peer benchmark. The 2025 comparison also highlights the need to look at multiple metrics when assessing financial strength: Tesla's liquidity is higher than the selected peers, while its liability intensity is lower, but its ROE is lower than BYD and slightly lower than General Motors.

Draw conclusions within the scope of the design. It applies to a single company and five annual observations, and is limited in direct comparability by the differences in the accounting and business models. Future research can examine the framework with a harmonized multi-company panel, more detailed segment information, market and cash-flow valuation measures and formal econometric methods. In these boundaries the approach offers a clear cut model to evaluate the interplay between profitability, capital productivity, liquidity, cash generation and financing structure of a transition-oriented company.

AUTHOR CONTRIBUTIONS

Conceptualization, methodology, data collection, analysis, writing—original draft, and writing—review and editing: A.A.; supervision: N.N.

CONFLICTS OF INTEREST

The authors declare no conflict of interest. [Edit if a conflict exists.]

CONFLICTS OF INTEREST

The author declares no conflict of interest.

FUNDING

This research received no external funding.

DATA AVAILABILITY

All Tesla financial-statement data used in this study are publicly available in the company's Form 10-K filings submitted to the U.S. Securities and Exchange Commission. Data used for the 2025 peer benchmark are publicly available in the annual filings of BYD Company Limited, Ford Motor Company, and General Motors Company. The derived ratios can be reproduced from the formulas and calculation example reported in the Materials and Methods section.

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