**Ratio analysis of Tesla Inc.**

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**Summary**

This ratio analysis report analyses Tesla Inc.’s financial performance by comparing key ratios for fiscal years 2023 and 2024. The goal was to evaluate Tesla’s profitability, liquidity, efficiency, and leverage based on standard financial metrics.

A few key patterns stood out during this period:

* **Profitability declined**, with shrinking margins and lower returns on equity and assets—suggesting rising cost pressures or pricing adjustments affecting the bottom line.
* **Liquidity showed modest improvement**, as gains in the current and quick ratios indicate a stronger short-term financial position.
* **Operational efficiency presented mixed signals**—inventory turnover improved, reflecting better stock management, but receivables turnover declined, hinting at slower customer payments.
* **Leverage ratios point to increased financial risk**, with a notable drop in the interest coverage ratio, which could signal reduced capacity to service debt if earnings weaken further.

Overall, this analysis offers a clear picture of how Tesla’s financial condition has shifted over the year and highlights areas of strength and concern for stakeholders and decision-makers.

**Background**

Tesla, Inc. has established itself as a major force in the electric vehicle and renewable energy industries. While it’s widely recognized for its lineup of electric cars—like the Model 3, Y, S, and X—the company’s reach goes beyond automotive. Tesla is also heavily involved in energy storage systems, solar technology, and cutting-edge developments in AI and autonomous driving, particularly through its Full Self-Driving (FSD) platform and the Dojo supercomputer.

In recent years, Tesla has expanded rapidly, ramping up production through its Gigafactories in Texas, Berlin, and Shanghai. This global footprint has helped the company scale manufacturing and meet growing demand. Financially, Tesla has continued to post profits, though its margins have come under pressure from strategic price reductions, growing competition, and a sharp increase in investment toward AI and robotics innovation.

Overall, Tesla is positioning itself not just as a car manufacturer, but as a broader tech and energy company focused on transforming how people drive, store energy, and interact with technology.

**Balance Sheet**

|  |  |  |
| --- | --- | --- |
|  | **December 31,** | **December 31,** |
|  | **2024** | **2023** |
| **Assets** |  |  |
| Current assets |  |  |
| Cash and cash equivalents | 16139 | 16398 |
| Short-term investments | 20424 | 12696 |
| Accounts receivable, net | 4418 | 3508 |
| Inventory | 12017 | 13626 |
| Prepaid expenses and other current assets | 5362 | 3388 |
| Total current assets | 58360 | 49616 |
| Operating lease vehicles, net | 5581 | 5989 |
| Solar energy systems, net | 4924 | 5229 |
| Property, plant and equipment, net | 35836 | 29725 |
| Operating lease right-of-use assets | 5160 | 4180 |
| Digital assets, net | 1076 | 184 |
| Intangible assets, net | 150 | 178 |
| Goodwill | 244 | 253 |
| Deferred tax assets | 6524 | 6733 |
| Other non-current assets | 4215 | 4531 |
| **Total assets** | 122070 | 106618 |
| **Liabilities** |  |  |
| Current liabilities |  |  |
| Accounts payable | 12474 | 14431 |
| Accrued liabilities and other | 10723 | 9080 |
| Deferred revenue | 3168 | 2864 |
| Current portion of debt and finance leases | 2456 | 2373 |
| Total current liabilities | 28821 | 28748 |
| Debt and finance leases, net of current portion | 5757 | 2857 |
| Deferred revenue, net of current portion | 3317 | 3251 |
| Other long-term liabilities | 10495 | 8153 |
| **Total liabilities** | 48390 | 43009 |
| Commitments and contingencies (Note 14) |  |  |
| Redeemable noncontrolling interests in subsidiaries | 63 | 242 |
| **Equity** |  |  |
| Stockholders’ equity |  |  |
| Preferred stock; $0.001 par value; 100 shares authorized; no shares issued and outstanding |  |  |
| Common stock; $0.001 par value; 6,000 shares authorized; 3,216 and 3,185 shares issued and outstanding as of December 31,2024 and December 31, 2023, respectively | 3 | 3 |
| Additional paid-in capital | 38371 | 34892 |
| Accumulated other comprehensive loss | -670 | -143 |
| Retained earnings | 35209 | 27882 |
| Total stockholders’ equity | 72913 | 62634 |
| Noncontrolling interests in subsidiaries | 704 | 733 |
| **Total liabilities and equity** | 122070 | 106618 |

**P&L Statement**

|  |  |  |
| --- | --- | --- |
|  | **December 31,** | **December 31,** |
|  | **2024** | **2023** |
| **Revenues** |  |  |
| Automotive sales | 72480 | 78509 |
| Automotive regulatory credits | 2763 | 1790 |
| Automotive leasing | 1827 | 2120 |
| Total automotive revenues | 77070 | 82419 |
| Energy generation and storage | 10086 | 6035 |
| Services and other | 10534 | 8319 |
| Total revenues | 97690 | 96773 |
| **Cost of revenues** |  |  |
| Automotive sales | 61870 | 65121 |
| Automotive leasing | 1003 | 1268 |
| Total automotive cost of revenues | 62873 | 66389 |
| Energy generation and storage | 7446 | 4894 |
| Services and other | 9921 | 7830 |
| Total cost of revenues | 80240 | 79113 |
| **Gross profit** | 17450 | 17660 |
| **Operating expenses** |  |  |
| Research and development | 4540 | 3969 |
| Selling, general and administrative | 5150 | 4800 |
| Restructuring and other | 684 | - |
| Total operating expenses | 10374 | 8769 |
| **Income from operations** | 7076 | 8891 |
| Interest income | 1569 | 1066 |
| Interest expense | -350 | -156 |
| Other income (expense), net | 695 | 172 |
| **Income before income taxes** | 8990 | 9973 |
| Provision for (benefit from) income taxes | 1837 | 5001 |
| **Net income** | 7153 | 14974 |
| Net income (loss) attributable to noncontrolling interests and redeemable noncontrolling interests in subsidiaries | 62 | -23 |
| **Net income attributable to common stockholders** | 7091 | 14997 |
|  |  |  |
| Net income per share of common stock attributable to common stockholders |  |  |
| Basic | 2.23 | 4.73 |
| Diluted | 2.04 | 4.3 |
| Weighted average shares used in computing net income per share of common stock |  |  |
| Basic | 3197 | 3174 |
| Diluted | 3498 | 3485 |

**Cash Flow Statement**

|  |  |  |
| --- | --- | --- |
|  | **December 31,** | **December 31,** |
|  | **2024** | **2023** |
| **Cash Flows from Operating Activities** |  |  |
| Net income | 7153 | 14974 |
| Adjustments to reconcile net income to net cash provided by operating activities: |  |  |
| Depreciation, amortization and impairment | 5368 | 4667 |
| Stock-based compensation | 1999 | 1812 |
| Inventory and purchase commitments write-downs | 335 | 463 |
| Foreign currency transaction net unrealized (gain) loss | -73 | -144 |
| Deferred income taxes | 477 | -6349 |
| Non-cash interest and other operating activities | 172 | 81 |
| Digital assets (gain) loss, net | -589 | - |
| Changes in operating assets and liabilities: |  |  |
| Accounts receivable | -1083 | -586 |
| Inventory | 937 | -1195 |
| Operating lease vehicles | -590 | -1952 |
| Prepaid expenses and other assets | -3273 | -2652 |
| Accounts payable, accrued and other liabilities | 3588 | 2605 |
| Deferred revenue | 502 | 1532 |
| Net cash provided by operating activities | 14923 | 13256 |
| **Cash Flows from Investing Activities** |  |  |
| Purchases of property and equipment excluding finance leases, net of sales | -11339 | -8898 |
| Purchases of solar energy systems, net of sales | -3 | -1 |
|  |  |  |
| Proceeds from sales of digital assets |  |  |
| Purchase of intangible assets |  |  |
| Purchases of investments | -35955 | -19112 |
| Proceeds from maturities of investments | 28310 | 12353 |
| Proceeds from sales of investments | 200 | 138 |
| Receipt of government grants | - | - |
| Business combinations, net of cash acquired | - | -64 |
| Net cash used in investing activities | -18787 | -15584 |
| **Cash Flows from Financing Activities** |  |  |
| Proceeds from issuances of debt | 5744 | 3931 |
| Repayments of debt | -2500 | -1351 |
|  |  |  |
| Proceeds from exercises of stock options and other stock issuances | 1241 | 700 |
| Principal payments on finance leases | -381 | -464 |
| Debt issuance costs | -14 | -29 |
|  |  |  |
| Distributions paid to noncontrolling interests in subsidiaries | -104 | -144 |
| Payments for buy-outs of noncontrolling interests in subsidiaries | -133 | -54 |
| Net cash provided by (used in) financing activities | 3853 | 2589 |
| Effect of exchange rate changes on cash and cash equivalents and restricted cash | -141 | 4 |
| Net (decrease) increase in cash and cash equivalents and restricted cash | -152 | 265 |
| Cash and cash equivalents and restricted cash, beginning of period | 17189 | 16924 |
| Cash and cash equivalents and restricted cash, end of period | 17037 | 17189 |
| **Supplemental Non-Cash Investing and Financing Activities** |  |  |
| Acquisitions of property and equipment included in liabilities | 1410 | 2272 |
| **Supplemental Disclosures** |  |  |
| Cash paid during the period for interest | 277 | 126 |
| Cash paid during the period for income taxes, net of refunds | 1331 | 1119 |

**Ratio Analysis**

**Ratios:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ratios** | **Ratios-1** | **2023** | **2024** |
| Profitability Ratios | Gross profit Margin | 18.25% | 17.86% |
| Profitability Ratios | Operating margin | 9.19% | 7.24% |
| Profitability Ratios | Net Profit Margin | 15.47% | 7.32% |
| Profitability Ratios | Return on Equity (ROE) | 23.94% | 9.73% |
| Profitability Ratios | Return on Assets (ROA) | 14.07% | 5.81% |
| Liquidity Ratios | Current Ratio | 1.725894 | 2.024912 |
| Liquidity Ratios | Quick ratio | 1.134061 | 1.421915 |
| Solvency ratios | Debt to equity Ratio | 0.686672 | 0.663668 |
| Solvency ratios | Interest coverage ratio | 56.99359 | 20.21714 |
| Solvency ratios | Debt Ratio | 0.403393 | 0.396412 |
| Efficiency ratios | Asset Turnover ratio | 0.907661 | 0.854352 |
| Efficiency ratios | Inventory Turnover ratio | 5.806033 | 6.258238 |
| Efficiency ratios | Receivable Turnover ratio | 27.58637 | 22.11182 |
| Cash Flow Ratio | Operating Cash Flow ratio | 0.46111 | 0.517782 |
| Cash Flow Ratio | Free Cash Flow | 4358 | 3584 |
|  |  |  |  |

**Profitability Trends from 2023 to 2024**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Profitability Ratios** | **2024** | **2023** |  | |  |  |  |
|  |  |  |  | |  |  |  |
| Gross profit Margin | 17.86% | 18.25% | **Comments:** There is slight decrease in gross margin from 2023 to 2024. |
| Gross Profit margin= (Gross Profit/Total Revenue) \*100 |  |  |
|  |  |  |  | |  |  |  |
|  |  |  |  | |  |  |  |
| Operating margin | 7.24% | 9.19% | **Comments:** There is a decrease in operating efficiency. |
| Operating margin= (Income from operations/Total revenue) \* 100 |  |  |
|  |  |  |  | |  |  |  |
|  |  |  |  | |  |  |  |
| Net Profit Margin | 7.32% | 15.47% | **Comments:** There is a significant decrease in net profitability in 2024. |
| Net Profit margin= (Net Profit/Total Revenue) \* 100 |  |  |
|  |  |  |  | |  |  |  |
| Return on Equity (ROE) | 9.73% | 23.9% | **Comments:** There is a significant decrease in return to shareholders in 2024. |
| ROE= (Net income/ Shareholder's Equity) \*100 |  |  |
|  |  |  |  | |  |  |  |
|  |  |  |  | |  |  |  |
| Return on Assets (ROA) | 5.81% | 14.07% | **Comments:** There is decrease in ROA which suggests decrease in efficiency in utilising assets |
| ROA= (Net income/ Total Assets) \*100 |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **2023** | **2024** |  |
| Gross profit Margin | 18.25% | 17.86% | ↓ |
| Operating margin | 9.19% | 7.24% | ↓ |
| Net Profit Margin | 15.47% | 7.32% | ↓ |
| Return on Equity (ROE) | 23.94% | 9.73% | ↓ |
| Return on Assets (ROA) | 14.07% | 5.81% | ↓ |

Here's how the Tesla Profitability Ratios (2023 vs 2024) chart looks:

* Each line represents a key profitability ratio (Net Profit Margin, ROE, ROA, Gross Margin, Operating Margin).
* There is decline across all ratios from 2023 to 2024, indicating profitability pressure.

**Profitability Trends**

* Net Profit Margin dropped from 15.5% (2023) to 7.3% (2024). It indicates that Tesla is earning significantly less profit per dollar of revenue compared to the previous year.
* Return on Assets (ROA) fell from 14.1% to 5.9% and Return on Equity (ROE) dropped from 23.9% to 9.7%. Tesla’s efficiency in using assets and equity to generate profit has weakened notably.

**Conclusion**: Tesla is facing a decline in profitability, possibly due to rising operating expenses, slower revenue growth, or increased investment in R&D and expansion.

**2. Liquidity Position**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Liquidity Ratios** | **2024** | **2023** |  | |  |  |  |
|  |  |  |  | |  |  |  |
| Current Ratio | 2.02491 | 1.72589 | **Comments:** Improvement in the short- term liquidity in 2024 |
| Current Ratio= Current Assets/Current liabilities |  |  |
|  |  |  |  | |  |  |  |
|  |  |  |  | |  |  |  |
| Quick ratio | 1.42191 | 1.13406 | **Comments**: Stronger quick liquidity position in 2024 |
| Quick Ratio= (Current assets -Inventory-Prepaid Expenses)/Current liabilities |  |  |

|  |  |  |
| --- | --- | --- |
| **Year** | **2023** | **2024** |
| Current Ratio | 1.725894 | 2.024912 |
| Quick ratio | 1.134061 | 1.421915 |

**Liquidity Comparison Grouped Bar Chart in Excel, showing Current Ratio and Quick Ratio for 2023 and 2024**

* Current Ratio improved from 1.73 to 2.02. This suggests stronger short-term solvency. Tesla can more easily cover its current obligations.
* Quick Ratio rose slightly from 1.29 to 1.60, indicating a healthy liquidity buffer without relying on inventory.

**Conclusion:** Tesla has a stronger liquidity position in 2024, which means lower risk of short-term financial distress.

**3. Efficiency / Operating Performance**

**2024 2023**

|  |  |  |  |
| --- | --- | --- | --- |
| Asset Turnover ratio | 0.85435 | 0.90766 | **Comments**: There is a slight decline in asset utilisation efficiency. |
| Asset turnover= Revenue/ Average total assets |  |  |
|  |  |  |  | |  |  |  |
| Inventory Turnover ratio | 6.25824 | 5.80603 | **Comments**: There is a improvement in inventory turnover in 2024 indicating inventory efficiency. |
| Inventory Turnover= COGS/ Average inventory |  |  |
|  |  |  |  | |  |  |  |
| Receivable Turnover ratio | 22.1118 | 27.5864 | **Comments**: More collection time in 2024. |
| Receivable Turnover ratio= Revenue/Accounts receivable |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Heatmap** | | |  | |  |  |
|  |  |  |  | |  |  |
| **Year** | **2023** | **2024** |  | |  |  |
| Asset Turnover ratio | 0.907660995 | 0.854351781 |  |
| Inventory Turnover ratio | 5.806032585 | 6.258238116 |  |
| Receivable Turnover ratio | 27.586374 | 22.1118153 |  |
|  |  |  |  | |  |  |
|  |  |  |  | |  |  |
| **Year** | **2023** | **2024** | **YOY change** | |  |  |
| Asset Turnover ratio | 0.907660995 | 0.854351781 | -0.05 | |  |  |
| Inventory Turnover ratio | 5.806032585 | 6.258238116 | 0.45 | |  |  |
| Receivable Turnover ratio | 27.586374 | 22.1118153 | -5.47 | |  |  |

Asset Turnover decreased → appears less red in 2024

Inventory Turnover improved → greener in 2024

Receivables Turnover decreased, less green in 2024

* **Inventory Turnover** improved from 5.80x to 6.25x and Days Inventory Outstanding decreased from 62.9 to 58.4 days. This suggests that Tesla improved its inventory management in 2024 — on average, it took about 58 days to sell its inventory in 2024 compared to 63 days in 2023. This means inventory was turning over faster, freeing up working capital.
* **Receivable Turnover ratio** declined from 27.59x in 2023 to 22.11x in 2024.This means Tesla is collecting receivables less frequently in 2024 than it did in 2023. It suggests a slower cash collection cycle, possibly due to more generous credit terms, slower payments from customers or growth in sales on credit not matched by collections. Days Sales Outstanding (DSO) Calculation:

2023: 365 / 27.59 ≈ 13.23 days

2024 DSO: 365 / 22.11 ≈ 16.51 days

Tesla’s Receivables Turnover dropped, indicating it took ~3 more days on average to collect payments in 2024. This could affect cash flow and working capital efficiency if the trend continues.

**Conclusion**: Tesla is showing improved operational efficiency in managing and selling its inventory, which helps streamline supply chains and reduce holding costs. However, the decline in receivables turnover suggests some weakening in credit control or customer payment behaviour, which could impact short-term liquidity and working capital.

Ideally, both ratios should improve together to reflect overall efficiency in both operations and cash conversion.

**4. Leverage / Solvency**

**2024 2023**

|  |  |  |  |
| --- | --- | --- | --- |
| Debt to equity Ratio | 0.66367 | 0.68667 | **Comments**: There is a slight improvement in leverage. |
| D/E Ratio= Total liabilities/ Total Shareholder's equity |  |  |
|  |  |  |  | |  |  |  |
| Interest coverage ratio | 20.2171 | 56.9936 | **Comments**: There is a decline in interest coverage, but it is still strong number. |
| Interest coverage ratio= EBIT/Interest Expense |  |  |
|  |  |  |  | |  |  |  |
| Debt Ratio | 0.39641 | 0.40339 | **Comments**: There is no significant change. |
| Debt ratio= Total Liability/ Total Assets |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Ratios** | **2023** | **2024** |  | **Ratios** | **2023** | **2024** |
| Debt to equity Ratio | 0.687 | 0.664 |  | Interest coverage ratio | 56.994 | 20.217 |
| Debt Ratio | 0.403 | 0.396 |  |  |  |  |

* Debt-to-Equity ratio decreased slightly from 0.69 to 0.66 (lower is better).
* Interest Coverage Ratio dropped from 56.99x to 20.22x, which is still strong but reflects lower earnings capacity to cover interest obligations.

**Conclusion:** Tesla is still in a comfortable debt position, but the decrease in interest coverage is a caution flag on declining earnings.

**5. Cash Flow Health**

**2024 2023**

|  |  |  |  |
| --- | --- | --- | --- |
| Operating Cash Flow ratio | 0.51778 | 0.46111 | **Comments**: There is an improvement in coverage of liability through cash flow in 2024, so better cash buffer. |
| OCF Ratio= Cash from Operating activities/ Current liabilities |  |  |
|  |  |  |  | |  |  |  |
| Free Cash Flow | 3584 | 4358 | **Comments**: There is a decrease in Free cash Flow in 2024 due to higher Capex. |
| Free cash Flow= Operating cash flow - Capex |  |  |

* **Operating Cash Flow** increased, but Capex (capital expenditure) also rose significantly.
* **Free Cash Flow** (Operating Cash Flow – Capex) has narrowed, showing reduced cash available for shareholders or new investments.

**Conclusion:** Tesla is generating cash but reinvesting heavily, likely for growth initiatives, at the cost of short-term free cash flow.

**Key Takeaways:**

The ratio analysis conducted for the fiscal years 2023 and 2024 reveals significant insights into the company’s financial performance:

Profitability Ratios:

There is a noticeable decline in key profitability metrics such as Net Profit Margin, ROE, and ROA from 2023 to 2024, indicating reduced efficiency in generating profits from revenues and equity. This could be due to increased costs or declining revenues, warranting a closer look at operational efficiency.

Liquidity Ratios:

An improvement in the Current and Quick Ratios suggests a stronger short-term liquidity position in 2024. The company is better positioned to cover its short-term obligations, which enhances financial stability.

Efficiency Ratios**:**

The Asset Turnover ratio declined, reflecting lower asset utilization. However, Inventory Turnover improved, indicating better inventory management. A fall in Receivables Turnover points to slower collections, which may impact cash flow.

Leverage Ratios:

Leverage metrics such as the Debt-to-Equity and Debt Ratio slightly improved in 2024, suggesting a marginally reduced financial risk. However, a steep drop in Interest Coverage signals rising interest expenses or falling EBIT, which could pose repayment risks.

So, we can say that the company demonstrates better liquidity and inventory management in 2024, but profitability pressures and declining collection efficiency are areas of concern. A strategic focus on cost optimization, receivables management, and revenue growth is essential to improve overall financial health.

**Strategic Insights**

* Tesla may be in a transition or investment phase, spending heavily on R&D or capacity expansion.
* Declining profit margins suggest a need for tighter operational efficiency or pricing strategy evaluation.
* While Tesla improved in managing its inventory, its asset utilization slightly declined, and the slower receivables turnover may signal a need to tighten collection processes or reevaluate credit terms.
* The company is financially sound in the short term, but long-term investor confidence might depend on profit margin recovery and revenue growth.

**Sources:**

Tesla 10K and annual report