**OMSBA 5270**  
**Week 4 Assignment: EDGAR API Report [on Tesla]**

**EDA Process**

My EDA process followed a structured approach similar to prior assignments. Using the EDGAR API, I extracted key financial facts for Tesla (CIK: 0001318605), focusing specifically on Revenues, NetIncomeLoss, and GrossProfit for income statement analysis, and AssetsCurrent, LiabilitiesCurrent, and InventoryNet for balance sheet-based liquidity analysis.

I filtered for **10-K** filings only and dropped duplicate accession numbers by keeping the most recent record per fiscal year. To ensure consistency, I used the fy (fiscal year) and end (reporting period end date) columns to align records. Margins and ratios were calculated using basic pandas operations after joins.

**Abnormalities in the Data**

There were no significant abnormalities in Tesla's data formatting; however, some fiscal years had overlapping or repeated end dates. Additionally, certain years showed very small net incomes despite high revenue—this was especially noticeable in Tesla’s earlier years when the company was still scaling production.

Another consideration was that some years (especially before 2016) had inconsistent reporting of inventory, which could have impacted the Quick Ratio calculations. I addressed this by dropping rows with missing inventory or liability values before final calculation.

**Ratios Interpretation**

**Net Profit Margin**

Tesla’s net profit margin tells a story of evolution:

* **2011–2017**: Tesla operated at a **net loss**, with a particularly sharp loss in 2017 (-$1.96B), reflecting aggressive growth and R&D investment.
* **2018–2020**: Margins turned **positive**, showing the start of operational profitability.
* **2021–2023**: Tesla hit peak performance, with margins exceeding **15%**, reflecting its dominance in EV manufacturing.
* **2024**: Net margin **declined to 7.26%**, despite record revenues — a potential sign of pricing pressure, rising costs, or increased competition.

This trend suggests Tesla is maturing financially but may be facing recent margin compression.

**Gross Profit Margin**

Tesla's gross margins hovered between **18–30%**, with:

* Highs in 2011 and 2021–2022 (~25–30%)
* A decline to ~18% in 2023–2024, which aligns with their public strategy of lowering prices to gain market share

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Tesla’s ability to maintain healthy gross margins through most of the 2010s underscores its success in controlling production costs, despite challenges in scaling.

**Quick Ratio**

The Quick Ratio, representing Tesla’s short-term liquidity without relying on inventory, was as follows:

| **Year** | **Quick Ratio** |
| --- | --- |
| 2011 | 1.69 |
| 2012 | 0.48 |
| 2013 | 1.37 |
| 2014 | 1.07 |
| 2015 | 0.54 |
| 2016 | 0.72 |
| 2017 | 0.56 |
| 2018 | 0.52 |
| 2019 | 0.80 |
| 2020 | 1.59 |
| 2021 | 1.08 |
| 2022 | 1.05 |
| 2023 | 1.25 |
| 2024 | 1.61 |

Tesla’s quick ratio was below 1.0 for much of its early years, indicating liquidity constraints. However, from 2020 onward, Tesla has maintained a ratio above 1.0, suggesting improved financial health and reduced reliance on short-term debt or inventory.

A graph with blue lines

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**Conclusion**

Tesla’s financial trajectory from 2011 to 2024 illustrates a remarkable transition from a cash-burning startup to a profitable and liquid global automaker. While recent declines in profit margins warrant attention, the company’s ability to maintain strong liquidity and revenue growth provides a solid financial base.

Future analysis would benefit from comparing Tesla to competitors like **Ford**, **GM**, or **Rivian**, or evaluating changes in capital expenditures and R&D to assess sustainability of margins in the face of increased global EV competition.