

Financial Measures Analysis (Tableau Dashboard)

Profitability Ratio (Net Profit Margin)

- Ford Motor exhibits a more volatile net profit margin in comparison to Tesla. Both companies experienced a dip in profitability during the challenging year of 2020, primarily due to the adverse impact of the COVID-19 pandemic. For instance, in the first quarter of 2020, Ford Motor recorded a significant negative net profit margin of -5.81%, while Tesla achieved a modest margin of 0.27%.
- However, starting from 2021, Tesla embarked on a consistent upward trend in net profit margin. This positive trajectory is attributed to the establishment of an electric vehicle supply chain, enabling product differentiation and enhancing competitive positioning in the market.
- Conversely, Ford Motor directed substantial investments toward a startup electric vehicle company, Rivian. The successful public debut of company Rivian in November 2021, through a highly anticipated IPO, yielded considerable financial gains for Ford Motor, resulting in a net profit margin of 32.06% in the fourth quarter of 2021. Nevertheless, in the first quarter of 2022, Ford Motor reported a net loss attributable to its investment in Rivian, causing a decline in net profit margin to -9.02%.
- In summary, Tesla has pursued continuing cost reduction and product differentiation strategies to bolster profitability. Meanwhile, Ford Motor has sought external investments and collaborations to strengthen its presence in the new energy vehicle sector, albeit with varying results. Both companies face limitations on profit growth tied to broader economic conditions.

Activity Ratio (Inventory Turnover & Days of Inventory on Hand)

- Ford Motor consistently demonstrates a higher inventory turnover rate, maintaining a stable figure of approximately 10 over the past three years. In contrast, Tesla takes twice (5.29) as long to sell its inventory. Despite Tesla's rapid annual total revenue growth (e.g. the total revenue was increased by 70.67% from 2020 to 2021), it is noteworthy that Ford Motor exhibits superior inventory management efficiency reduce obsolescence risks.

Liquidity Ratio (Current Ratio & Cash Ratio)

- Despite Ford Motor carrying a notably higher proportion of liabilities relative to equity, its current ratio has consistently remained stable, indicating the company's robust ability to meet short-term obligations. This stability was particularly evident during the challenging period of April 2020, marked by a dramatic plunge in crude oil futures prices, Ford Motor maintains a current ratio of 1.34 (2020 Q2). Subsequently, the company has exhibited minimal fluctuations in this critical metric
- In parallel, Tesla has also exhibited a consistently higher current ratio than Ford from 2021 to 2023. Especially, at the close of 2020, Tesla achieved its peak current ratio of 1.88 for the past three years. This resilience in liquidity suggests that Tesla's electric vehicle segment has displayed remarkable strength, effectively insulating it from the volatility associated with oil price fluctuations.

- Tesla outperforms Ford Motor in terms of cash ratio, signifying superior liquidity. Nevertheless, it is noteworthy that both companies are experiencing a declining trend in their cash ratios over the analyzed period (from 2020 to 2022).

Solvency Ratio (Debt to Capital & Debt to EBITDA)

- Solvency analysis reveals that Ford Motor carries a significantly higher debt-to-capital ratio compared to Tesla, ostensibly indicating weaker solvency and higher financial risk. However, this outcome is nuanced.
- As observed in the previous common-size analysis, Ford Motor's capital structure is weighted more towards liabilities than equity. This composition is primarily driven by the unique structure of Ford Motor's subsidiary financial company (i.e. Ford Credit), which specializes in offering financial services and flexibility to clients, thereby facilitating total vehicle sales. The prominence of this subsidiary in Ford Motor's capital structure underscores the importance of assessing solvency within the broader strategic context.
- Additionally, examining the Debt-to-EBITDA ratio provides valuable insights. Ford Motor's has exhibited a declining trend in this ratio, decreasing from 36.90 in 2020 to 9.98 in 2022. This substantial reduction signals a positive development, particularly for companies operating in cyclical automotive industries. Similarly, Tesla has maintained a decreasing trend, with a low ratio in 2022, dropping from 0.72 to 0.18.
- In summary, while Ford Motor's debt-to-capital ratio appears high, a deeper examination of its capital structure, coupled with the decreasing Debt-to-EBITDA ratio, suggests a strategic approach to managing financial risk. The declining ratios for both companies indicate improving solvency positions, which can be advantageous in cyclical industries.

Financial Statistics (The Growth Rate of Net Income and Gross Profit & Cash Flow from Operation to Revenue)

- Ford Motor shows volatile growth rates for both gross profit and net income, in contrast to Tesla's more stable performance. According to previous display of the heatmap for crude oil prices and automaker stock prices reveals that Ford Motor's stock price is more closely tied to fluctuations in crude oil prices. The impact of the COVID-19 pandemic, coupled with the negative crude oil prices in April 2020, severely affected Ford Motor's gross profit and net income, whereas Tesla's performance demonstrated greater stability and independence, driven in part by its electric vehicle supply chain.
- Despite the volatility, both companies have shown an overall increasing trend in gross profit growth. In 2023 Q2, Ford Motor achieved a notable 10% increase in total gross profit compared to the previous quarter, while Tesla's gross profit remained relatively consistent. However, Tesla outperformed Ford Motor in terms of net income attributable to common stockholders, reflecting more efficient cost control measures even in the face of volatile market conditions.

- In addition, when evaluating the cash flow from operations to revenue ratio, it becomes evident that Tesla possesses a stronger ability to generate operating cash per dollar of revenue. This metric underscores Tesla's efficiency in managing its cash flow operations and highlights its financial discipline.