

## Tesla Inc. (NASDAQ: TSLA)

# Bearish Outlook Amid Unjustified Valuation and Rising Competition

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**Sector/Industry:** Auto Manufacturers

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### Highlights

- Tesla recently reported Q1 earnings beating consensus revenue and EPS forecasts by 5% and 42%, respectively. Tesla's shares are up 40% YoY, and 1,843% in the past three years.
- Tesla sold just under 1M vehicles last year, which was 9% of the largest auto manufacturer (Toyota/TSE: 7203), 14% of global Electric Vehicle (EV) sales, and 1.4% of global vehicle sales. Yet, Tesla is the largest auto manufacturer by MCAP (\$1T) – almost 3x Toyota's MCAP (\$239B). In this report, we investigate one of the most burning questions on the street - **"Is Tesla's \$1T valuation justified?"**
- Assuming a 40% share of the EV market (11% of global auto sales) by 2030, our base-case DCF model returned a **fair value estimate of \$621.08 per share**, which is 39% below the current share price (\$1,021). The current price reflects an **implied market share assumption of 62% of EV sales (22% of global auto sales) by 2030**. To put things in perspective, Toyota's current market share is 15% of global sales.
- Our fair value estimate is 42% below the consensus estimate of \$1,061 per share (range: \$67 to \$1,580). 16 out of 28 analysts have a BUY rating. Our **valuation ranges between \$154 and \$1,275 per share**, when we adjust our 2030 EV-market share forecast from 15% to 75%.
- As most of the legacy automakers have long track records, and are spending heavily on the EV space, we are expecting rising competition, and do not believe Tesla will be able to dominate the market over the long-term. **We believe Tesla's implied market share grossly overestimates Tesla's long-term potential.**
- Due to premium pricing, Tesla is enjoying strong gross margins (25% vs the sector average of 19%). However, Tesla's revenue per vehicle has been decreasing at 11% p.a. since 2012. We expect prices/gross margins to shrink with rising competition. Netflix's (NASDAQ: NFLX) recent slide in MCAP and subscribers is **a classic example** of an industry pioneer losing dominance amid rising competition.
- Although Tesla's initiatives surrounding autonomous vehicles and robotaxis sounds promising, we believe they are in early stages. We have no reason to believe that other auto manufacturers cannot follow a similar path. Based on our valuation and rising competition, we have a bearish outlook on TSLA. **Our base-case model reflects 39% downside risk.**

\*See last page for important disclosures, rating, and risk definitions. All figures in US\$ unless otherwise specified.

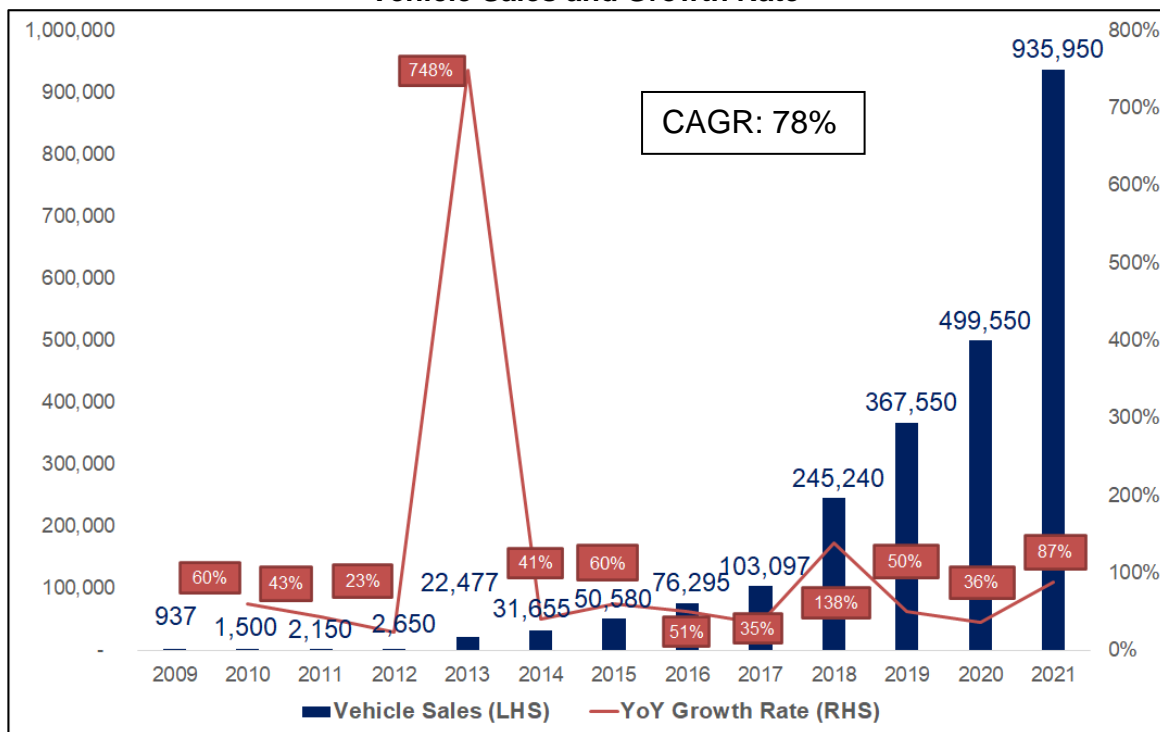
## Tesla's Story

*Founded in 2003, and started generating meaningful revenue in 2009*

*From 2009 to 2021, vehicle sales grew at a CAGR of 78%*

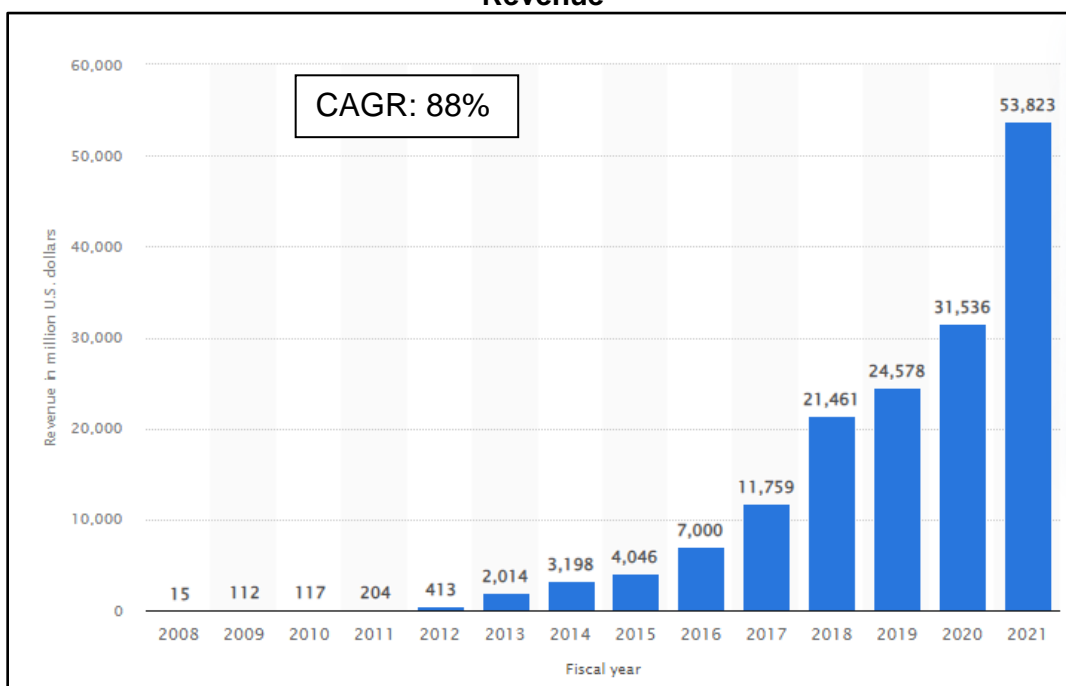
*Revenue increased 88% p.a. from 2008 to 2021*

### Vehicle Sales and Growth Rate



Source: FRC / Company Filings

### Revenue

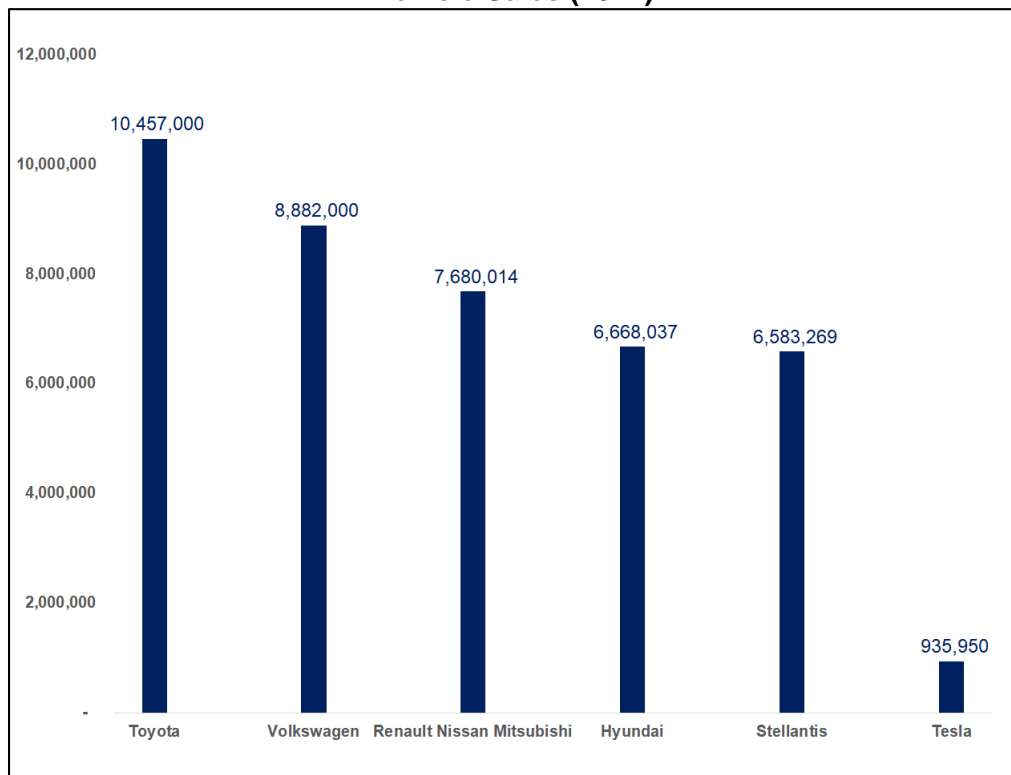


Source: Statista

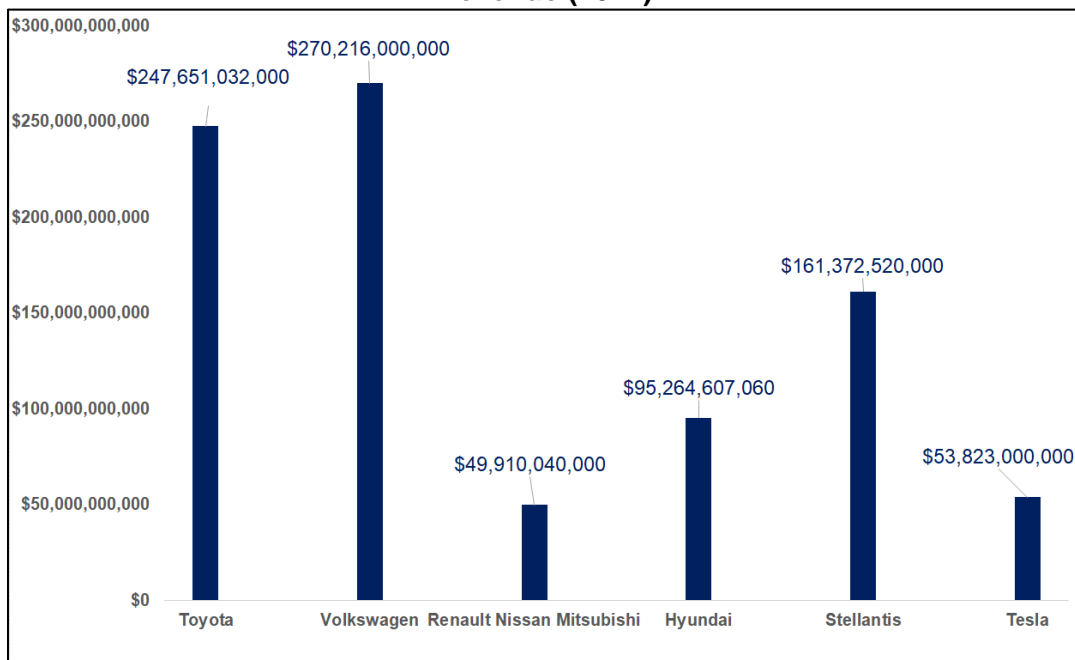
## Tesla vs The Top Five Legacy Auto Makers

*In 2021, Tesla's sales were just 9% of the world's largest car manufacturer (Toyota), and 14% of the fifth largest*

**Vehicle Sales (2021)**



**Revenue (2021)**

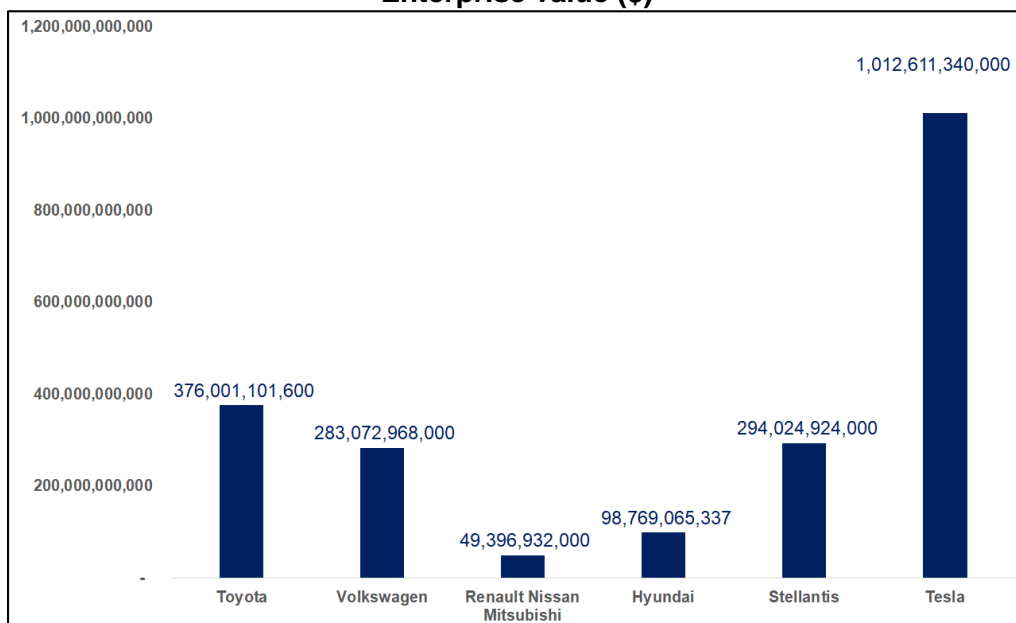


*Tesla's revenue is significantly lower than four out of the five largest manufacturers*

Source: FRC / Company Filings / S&P Capital IQ / Various Sources

However, Tesla's Enterprise Value (EV) is significantly higher – 2.7x that of Toyota's

### Enterprise value (\$)



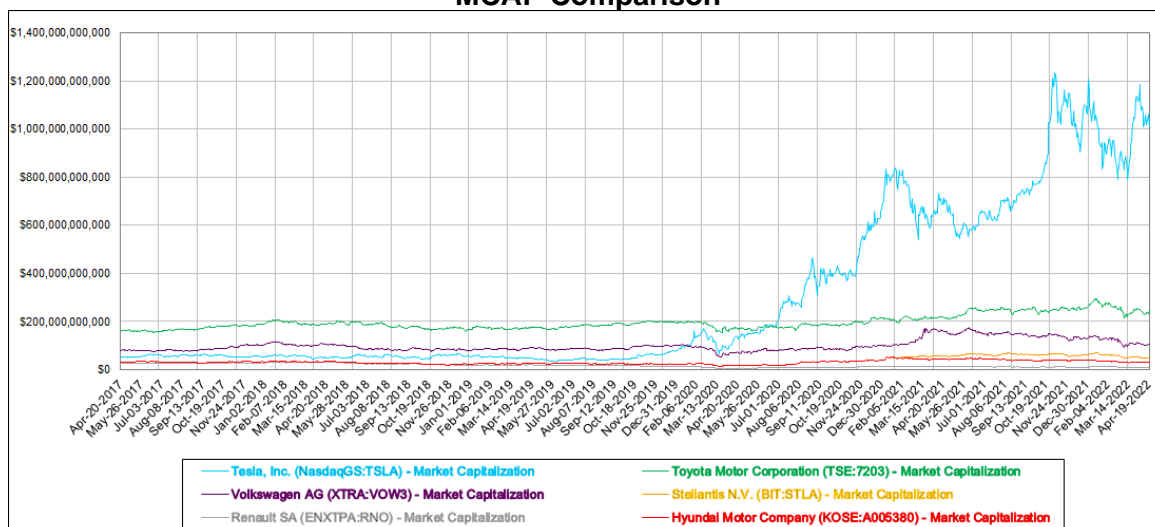
Tesla's valuation multiples are significantly higher as well

Comparables	EV/R (forward)	P/E (forward)
Toyota	1.56x	11.24x
Volkswagen	0.98x	4.96x
Renault Nissan Mitsubishi	0.96x	11.31x
Hyundai	0.95x	7.18x
Stellantis	0.17x	3.07x
<b>Average</b>	<b>0.92x</b>	<b>7.55x</b>
<b>Tesla</b>	<b>12.4x</b>	<b>94.98x</b>

Tesla became the largest car manufacturer by MCAP in 2020

Most of the share price appreciation came in the last two years

### MCAP Comparison



Source: FRC / S&P Capital IQ

In order to explain the discrepancy between performance and valuations, we first looked at the following key metrics.

### Operating Metrics, Capital Structure, and Profitability Ratios

2021	Toyota	Volkswagen	Renault Nissan Mitsubishi	Hyundai	Stellantis	Average	Tesla
<b>Operating Metrics</b>							
Gross Margin	19.7%	17.8%	18.8%	18.6%	19.7%	20.0%	25.3%
EBITDA Margin	15.1%	12.6%	9.3%	9.6%	13.1%	12.8%	17.3%
<b>Capital Structure</b>							
Debt/Capital	49.3%	59.0%	69.0%	56.8%	37.4%	48.9%	22.0%
Current Ratio	1.1x	1.2x	1.1x	0.8x	1.2x	1.1x	1.4x
EBIT Interest Coverage	75.9x	11.0x	4.5x	21.9x	26.4x	19.4x	18.2x
<b>Profitability Ratios</b>							
ROE	13.1%	11.2%	3.6%	7.2%	33.0%	8.8%	20.4%
ROA	3.3%	2.4%	9.0%	1.9%	8.0%	5.3%	7.1%
ROC	4.1%	3.6%	1.0%	2.3%	15.5%	2.8%	10.5%

Source: FRC / S&P Capital IQ

### Forecasts and Projections

STATEMENTS OF OPERATIONS (US\$) YE Dec 31	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E
Global EV Sales Projections	10,500,000	11,869,581	13,417,805	15,167,974	17,146,428	19,382,945	21,911,184	24,769,198	28,000,000
Tesla Market Share	14%	14%	16%	19%	22%	25%	30%	34%	40.0%
Tesla Vehicle Sales	1,497,520	1,651,903	2,171,362	2,854,170	3,751,694	4,931,455	6,482,205	8,520,604	11,200,000
Average Price Per Vehicle	\$57,506	\$57,506	\$51,756	\$46,063	\$40,996	\$36,486	\$32,473	\$28,901	\$25,722
Revenue	86,116,800,000	94,994,791,294	112,380,236,744	131,470,280,520	153,803,152,233	179,929,711,441	210,494,392,274	246,251,098,965	288,081,801,545
<b>Total Revenues</b>	<b>86,116,800,000</b>	<b>94,994,791,294</b>	<b>112,380,236,744</b>	<b>131,470,280,520</b>	<b>153,803,152,233</b>	<b>179,929,711,441</b>	<b>210,494,392,274</b>	<b>246,251,098,965</b>	<b>288,081,801,545</b>
COGS	64,587,600,000	71,246,093,471	84,285,177,558	98,602,710,390	115,352,364,175	134,947,283,581	157,870,794,205	184,688,324,223	216,061,351,159
<b>Gross Profit</b>	<b>21,529,200,000</b>	<b>23,748,697,824</b>	<b>28,095,059,186</b>	<b>32,867,570,130</b>	<b>38,450,788,058</b>	<b>44,982,427,860</b>	<b>52,623,598,068</b>	<b>61,562,774,741</b>	<b>72,020,450,386</b>
R&D	2,333,700,000	2,217,015,000	2,472,365,208	2,629,405,610	3,076,063,045	3,598,594,229	4,209,887,845	4,925,021,979	5,761,636,031
SG&A	4,602,250,000	4,717,306,250	5,619,011,837	6,573,514,026	7,690,157,612	8,996,485,572	10,524,719,614	12,312,554,948	14,404,090,077
<b>EBITDA</b>	<b>14,593,250,000</b>	<b>16,814,376,574</b>	<b>20,003,682,140</b>	<b>23,664,650,494</b>	<b>27,684,667,402</b>	<b>32,387,348,059</b>	<b>37,888,990,609</b>	<b>44,325,197,814</b>	<b>51,854,724,278</b>
D&A	-	-	-	-	-	-	-	-	-
<b>EBIT</b>	<b>14,593,250,000</b>	<b>16,814,376,574</b>	<b>20,003,682,140</b>	<b>23,664,650,494</b>	<b>27,684,667,402</b>	<b>32,387,348,059</b>	<b>37,888,990,609</b>	<b>44,325,197,814</b>	<b>51,854,724,278</b>
Net financing expense	(180,000,000)	(180,000,000)	(180,000,000)	(180,000,000)	(180,000,000)	(180,000,000)	(180,000,000)	(180,000,000)	(180,000,000)
<b>EBT</b>	<b>14,413,250,000</b>	<b>16,634,376,574</b>	<b>19,823,682,140</b>	<b>23,484,650,494</b>	<b>27,504,667,402</b>	<b>32,207,348,059</b>	<b>37,708,990,609</b>	<b>44,145,197,814</b>	<b>51,674,724,278</b>
Income tax expense	3,026,782,500	3,493,219,080	4,162,973,249	4,931,776,604	5,775,959,154	6,763,543,092	7,918,888,028	9,270,491,541	10,851,692,098
<b>Net Income (Net Loss)</b>	<b>11,386,467,500</b>	<b>13,141,157,493</b>	<b>15,660,708,891</b>	<b>18,552,873,890</b>	<b>21,728,608,248</b>	<b>25,443,804,967</b>	<b>29,790,102,581</b>	<b>34,874,706,273</b>	<b>40,823,032,180</b>
EPS	9.6	11.1	13.3	15.7	18.4	21.5	25.2	29.5	34.6

DCF Model	2022E	2023E	2029E	2030E	Terminal
EBIT(1-tax)	11,528,667,500	13,283,357,493	35,016,906,273	40,965,232,180	
Non-Cash Expenses	-	-	-	-	
Change in Working Capital	(2,700,536,800)	(4,367,028,427)	(6,843,383,643)	(5,691,092,072)	
Cash from Operations	8,828,130,700	8,916,329,066	28,173,522,630	35,274,140,107	
CAPEX	(6,000,000,000)	(6,000,000,000)	(4,624,333,333)	(4,624,333,333)	
Free Cash Flow	2,828,130,700	2,916,329,066	23,549,189,296	30,649,806,774	
Present Value	2,719,847,452	2,645,914,044	15,061,907,431	18,493,788,605	634,953,408,786
Discount Rate		6.0%			
Terminal Growth		3.0%			
Present Value		722,979,818,376			
Cash - Debt		10,742,000,000			
Fair Value		733,721,818,376			
Shares O/S		1,181,370,379			
<b>DCF Value per Share (US\$)</b>		<b>\$621.08</b>			

Source: FRC

Tesla has higher than average margins, lower debt levels, and higher profitability ratios

However, we do not believe such margins are sustainable as we are expecting Tesla's vehicle prices to decline to the sector average

Our base-case DCF model returned a fair value estimate of \$621.08

Currently, Tesla accounts for 14% of global EV sales, or 1.4% of global vehicle sales

Our base-case valuation is based on the assumption that Tesla will capture 40% of the global EV market, and 11% of the global auto market by 2030; note that Toyota currently accounts for 15% of global auto sales

As other large players are investing heavily into the EV space, we do not believe Tesla will be able to capture a market share higher than our projection

### Fair Value vs 2030 EV Market Share

Our valuation ranges between \$154 and \$1,275 per share, when we adjust our 2030 EV-market share forecast from 15% to 75% (4% to 21% of global auto sales)

The current share price reflects an implied market share of 62% of EV sales, and 22% of global auto sales by 2030



Source: FRC

## Conclusion

Our valuation is solely based on the vehicle business, and does not account for any upside from the recently announced autonomous robotaxi initiative, as it is in early stages. Our valuation also does not account for any monetization potential for the data collected by Tesla on its drivers.

### Bearish outlook

Ultimately, we believe that established legacy automakers will challenge Tesla's jumpstart in the EV space. Toyota and Volkswagen (XTRA: VOW3) are spending \$140B on EVs. Netflix's recent slump in subscriber growth is a quintessential example of a pioneer losing dominance. **Based on our valuation and rising competition, we have a bearish outlook on TSLA.**



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