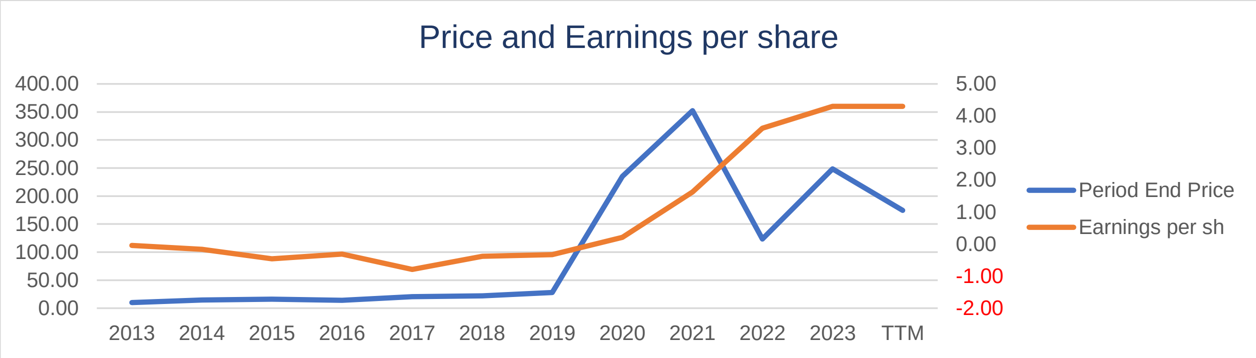
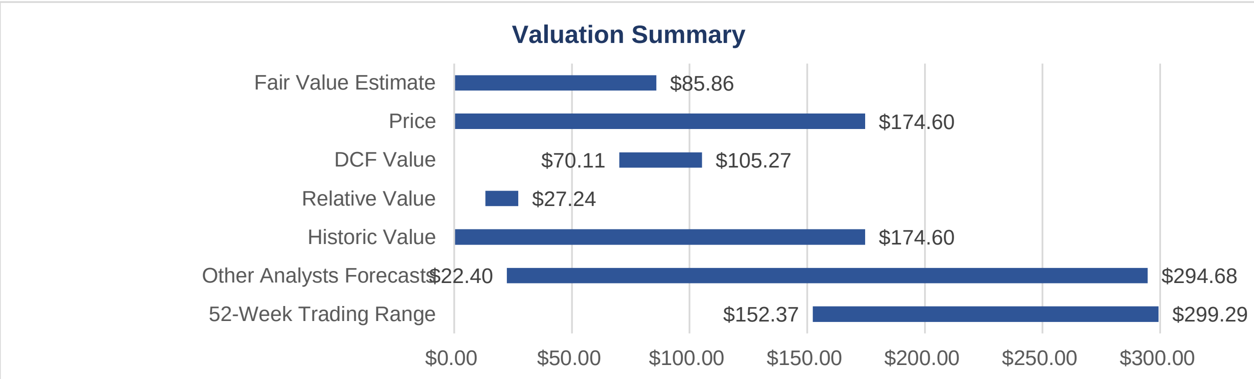
Tesla Inc Analysis and Valuation

Updated April 12th 2024 by Jasper Bronkhorst MA





Key Metrics

Company	Tesla Inc	**Symbol**	TSLA
Sector	Consumer Discretionary	**Market Cap (bn)**	556.1
Industry	Automobiles	**52-wk min.**	152.37
Date	2024-04-12	**52-wk max.**	299.29
Currency	USD	**10 yr Revenue CAGR**	47%
Stock Price	174.60	**Price/Earnings**	40.6
Fair value estimate	85.86	**Dividend %**	0.0%
Margin of Safety	**-103%**	**Price/Sales**	6.3
Rating	Overvalued	**Price/Book**	9.6

Business Overview

Tesla, Inc., operating globally, specializes in electric vehicle and energy system development, manufacturing, leasing, and sales. Its Automotive and Energy Generation and Storage segments offer a range of products and services, including electric vehicles, solar energy solutions, and related servicing, financing, and warranty options. Founded in 2003, it's headquartered in Austin, Texas.

Why invest

Our fair value estimate of a single Tesla stock stands at $85, indicating an overvaluation compared to its current market price of $174.60. Investing in Tesla seems attractive given its profitability, robust balance sheet and rapid growth. Even though I am a fan and a Tesla driver, I am refraining from buying shares because of the current high valuation which suggests it is not a wise time to buy. There is also an expected dip next year, followed by a recovery. In my view, the stock price exceeds what I consider to be a financially sensible investment.

Analysis

Profitability	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	TTM	Average	Median
Return on Equity (ROE)	-37.3%	-89.1%	-19.3%	-34.0%	-16.3%	-12.0%	4.5%	20.0%	32.5%	27.4%	23.6%	-12.9%	-16.3%
Return on Assets (ROA)	-7.1%	-12.8%	-4.4%	-7.7%	-3.3%	-2.7%	1.7%	9.7%	17.4%	15.9%	14.1%	0.2%	-3.3%
Gross Margin	27.6%	22.8%	22.9%	18.9%	18.8%	16.6%	21.0%	25.3%	25.6%	18.3%	18.2%	21.8%	22.7%
Margin Before Taxes	-8.9%	-21.6%	-10.7%	-18.8%	-4.7%	-2.7%	3.7%	11.8%	16.8%	10.3%	10.3%	-2.6%	-3.6%
Net Margin	-9.2%	-22.0%	-9.6%	-16.7%	-4.6%	-3.5%	2.3%	10.3%	15.5%	15.5%	15.5%	-2.3%	-3.7%

Tesla's profitability metrics show a positve trend over the past decade. Return on Equity (ROE) improved steadily from negative figures to a positive average of 23.6%, peaking at 32.5% in 2022. Gross margin remained relatively stable the last years. Tesla is one of the most profitable car makers, but Ferrari is more profitable.

Financial Health	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	TTM	Average	Median
Equity-to-Assets	0.16	0.13	0.26	0.20	0.21	0.24	0.45	0.51	0.56	0.60	0.60	0.35	0.26
Current ratio	1.5	1.0	1.1	0.9	0.8	1.1	1.9	1.4	1.5	1.7	1.7	1.4	1.4
Quick ratio	1.1	0.5	0.7	0.6	0.5	0.8	1.6	1.1	1.1	1.3	1.3	1.0	1.1
Cash+Eq./assets	0.33	0.15	0.15	0.12	0.12	0.18	0.37	0.28	0.27	0.27	0.27	0.24	0.27
Pay out ratio	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Inventory to assets	16.4%	15.8%	9.1%	7.9%	10.5%	10.4%	7.9%	9.3%	15.6%	12.8%	12.8%	11.9%	10.5%

Tesla's financial health indicators demonstrate consistent improvement. Equity-to-assets ratio surged from 0.16 in 2014 to 0.60 in 2023, indicating increased solvency. Current and quick ratios remained above 1, showcasing strong liquidity. Cash reserves also grew steadily, reaching 0.27 of assets. Inventory management improved, evident from declining inventory-to-assets ratios.

Growth Analysis per share	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	TTM
Sales per sh	1.71	2.10	3.24	4.72	8.39	9.24	9.71	15.90	23.44	27.77	27.77
Earnings per sh	-0.16	-0.46	-0.31	-0.79	-0.38	-0.33	0.21	1.63	3.62	4.30	4.30
Dividend per sh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Book Value per sh	0.49	0.56	2.73	2.26	2.47	3.05	7.29	9.33	13.21	18.25	18.25
Cash flow per sh	-0.55	-1.12	-0.72	-1.66	-0.09	0.37	0.83	1.47	2.18	1.25	1.25
Shares Outstanding	1,868	1,923	2,163	2,490	2,559	2,661	3,249	3,386	3,475	3,485	3,485

Annual rates per share	10 yrs	5 yrs	3 yrs	1yr
Price per sh	33.1%	51.1%	-9.5%	-15.8%
Sales per sh	37.9%	27.0%	41.9%	18.8%
Earnings per sh			173.6%	18.8%
Dividend per sh	0.0%	0.0%	0.0%	
Book Value per sh	47.7%	49.2%	35.8%	38.2%
Cash flow per sh			14.6%	-42.7%

Tesla has been growing very fast the last decade. Other analysts expect a dip the next year.

Yield	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	TTM	Average	Median
Dividend	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Buyback	2.1%	4.6%	22.9%	4.5%	2.3%	4.9%	6.0%	7.6%	2.1%	0.7%	0.0%	5.9%	4.6%
Shareholder	-2.1%	-4.6%	-22.9%	-4.5%	-2.3%	-4.9%	-6.0%	-7.6%	-2.1%	-0.7%	0.0%	-5.9%	-4.6%

Valuation & Multiples

We use various valuation models to arrive at a fair estimation of value.

DCF Valuation (Earnings Based)

In the base case scenario, the intrinsic value of a single Tesla stock stands at $85, indicating an overvaluation compared to its current market price of $174.60. Taking into account a profit decline next year and a limited recovery the following year, we assume an annual profit growth of 12%.

Stock	Tesla Inc
Date	2024-04-12
Stock Price	174.60
EPS w/o NRI per share	4.30
Discount rate	10%
Terminal Stage rate (yr11-20)	4%

Scenario	Base	Negative	Positive
Growth stage rate (10 years)	12.0%	9.0%	15.0%
Fair value estimate	85.86	70.11	105.27
Margin of Safety	-103%	-149%	-66%
Rating	Overvalued	Overvalued	Overvalued
Growth Value	47.54	40.91	55.36
Terminal Value	38.31	29.20	49.91

Historic Valuation Analysis

Valuation Metrics	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	TTM	Average	Median
Price-to-Earnings	-95.1	-35.5	-51.2	-26.8	-58.9	-87.9	939.6	197.6	31.0	52.8	40.6	82.4	-26.8
Price-to-Book	30.7	29.1	5.8	9.3	9.1	9.3	28.6	34.6	8.5	12.4	9.6	17.0	9.6
Price-to-Sales	8.7	7.8	4.9	4.5	2.7	3.1	21.5	20.3	4.8	8.2	6.3	8.4	6.3
Market Capitalization (bn)	28.0	31.5	34.5	52.6	57.4	75.7	677.4	1,091.7	389.7	791.4	556.1	344.2	75.7
Period End Price	14.83	16.00	14.25	20.76	22.19	27.89	235.22	352.26	123.18	248.48	174.60	113.61	27.89

10-Period Valuation	Current	Historical Median	Historical Average	Fair Value Estimate
Price-to-Earnings	40.6	-26.8	82.4	-115.2
Price-to-Book	9.6	9.6	17.0	174.6
Price-to-Sales	6.3	6.3	8.4	174.6

Current valuation is in line with historical averages, but these are much higher than competitors and market averages.

Comparable Company Analysis

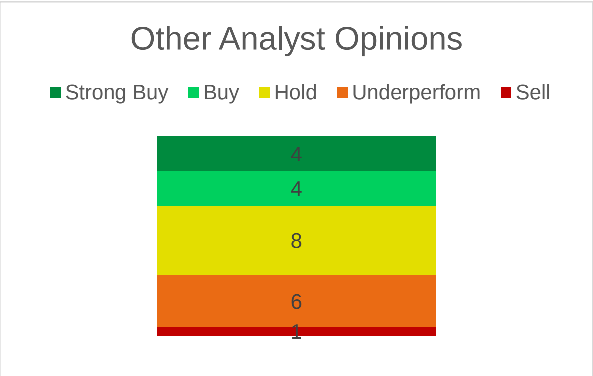
Name	Currency	Price	PE	PB	PS	PFCF	Dividend Yield	Market Capitalization bn
Tesla Inc	**USD**	**174.60**	**40.6**	**9.6**	**6.3**	**139.7**	**0.0%**	547.0
BYD Co Ltd ADR	USD	53.46	18.5	3.7	0.9	11.5	0.6%	84.2
Bayerische Motoren Werke Aktiengesellschaft	EUR	111.95	6.3	0.5	0.4	9.7	7.6%	58.2
Mercedes-Benz Group AG	EUR	75.89	5.6	0.9	0.5	7.3	6.9%	79.4
Ferrari NV	EUR	389.90	56.5	23.0	11.9	52.9	0.5%	70.4
Volkswagen AG	EUR	123.40	4.4	0.3	0.2	-5.7	7.1%	117.7
Stellantis NV	USD	27.02	4.2	0.9	0.4	5.6	5.4%	81.5
Xpeng Inc	USD	8.27	-5.0	1.5	1.7	0.0	0.0%	8.1
Toyota Motor Corporation ADR	USD	246.99	10.6	1.4	1.1	27.3	1.8%	334.3
	Average		15.8	4.6	2.6	31.0	3.3%	
	Median		6.3	1.4	0.9	10.6	1.8%	
	Fair Value Estimate							
	Median		27.2	26.0	25.6	13.3		

Comparing Tesla to traditional car manufacturers isn't entirely fair, but it does highlight the stark differences in valuation. Tesla is considerably pricier than its main competitor, BYD.

Name	Profitability		Health		Growth	
	Return on Equity	Net Margin	Equity to Assets	Current Ratio	Revenue 10-Period CAGR	Diluted EPS 10-Period CAGR
Tesla Inc	**27%**	**16%**	**0.60**	**1.7**	**47.3%**	**0.0%**
BYD Co Ltd ADR	22%	5%	0.22	0.7	25.5%	43.9%
Bayerische Motoren Werke Aktiengesellschaft	12%	7%	0.37	1.1	7.4%	8.1%
Mercedes-Benz Group AG	16%	9%	0.35	1.3	2.7%	7.7%
Ferrari NV	44%	21%	0.38	3.6	9.8%	18.4%
Volkswagen AG	10%	6%	0.32	1.2	3.8%	-4.4%
Stellantis NV	24%	10%	0.41	1.2	6.0%	20.5%
Xpeng Inc	-28%	-34%	0.43	1.5	0.0%	0.0%
Toyota Motor Corporation ADR	8%	7%	0.39	1.1	1.8%	7.7%

Other Analyst Opinions

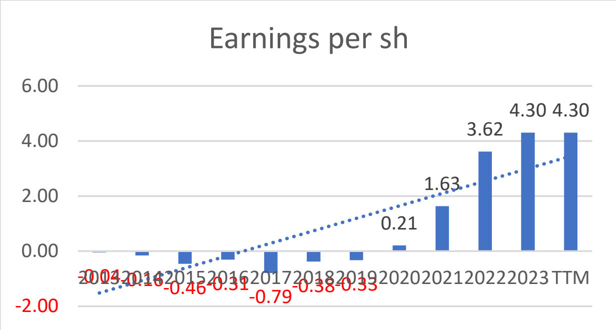
According to analysts' projections of Tesla's stock, the average price target stands at $172, ranging from a high estimate of $294 to a low estimate of $22.40 (source: Yahoo). It's crucial to note that other analyst projections are based on a one-year timeframe. Our primary focus is determining the current intrinsic value of the company's stock, particularly with a long-term perspective in mind.

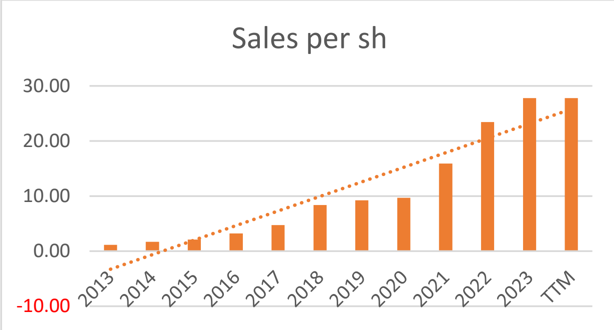


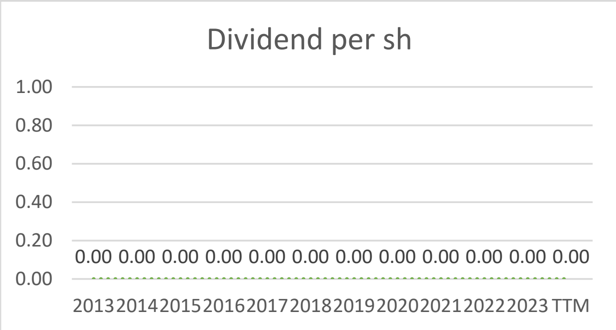
Analyst Price Targets	Prices	Upside
Current price	174.60	
Low	22.40	-87.2%
Average	172.09	-1.4%
High	294.68	68.8%

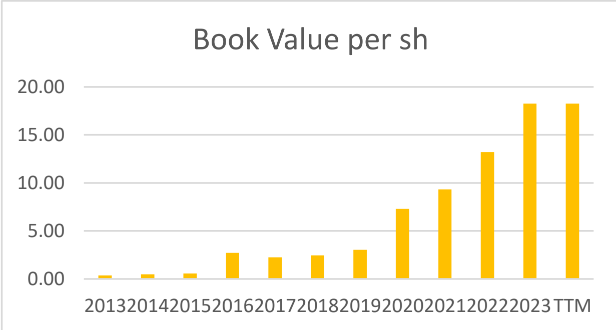
Estimates	2023A	2024E	2025E
EPS	4.3	2.53	3.44
EPS growth		-41.2%	36.0%

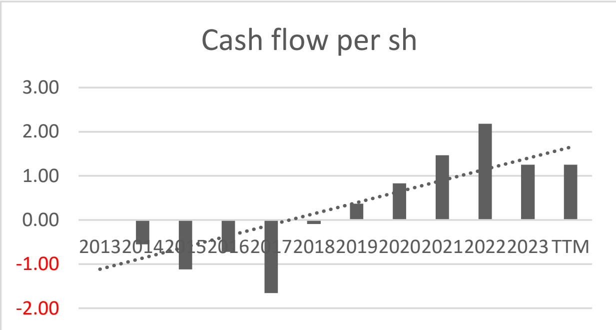
Graphs

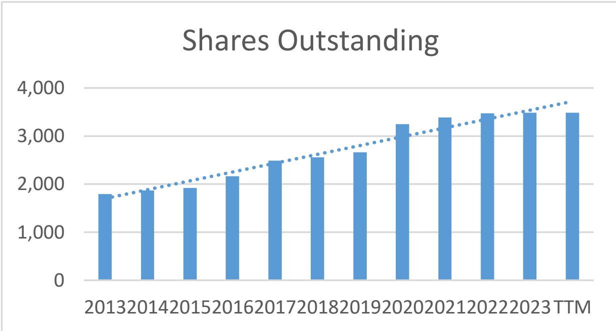












Disclaimer

Please note: The information presented here doesn't guarantee success. It's meant for informational purposes only and should not be taken as advice to buy or sell any securities. Our data is from a database. We can't guarantee its accuracy, completeness, or timeliness. We can't promise you'll make big gains, and remember, what happened in the past doesn't always predict the future. Investing in securities always comes with some level of risk.