



Tesla

Equity Research Report

CUIRS Global Equity Team
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Tesla | North America

Great Story, Yet valuation is not cheap with market headwinds, Initiate EW

Stock rating

Equal-weight

Target Price

US\$ \$ 697.79

Key Positive Thesis

Tesla's gross margin is expected to increase by cost reduction and scale

Tesla reported another strong quarter in 2022 Q1 operating performance, helped by further cost reduction and scale. Based on 2022 Q1 numbers, the company has delivered 310,000 vehicles with a total revenue of \$18.8B and a total GAAP operating income of \$3.6B. Its operating margin expanded to a record of 19.2%, representing the best of industry performance for just about any global automaker. **It seems that Tesla can smash previous industry highs as they continue to scale and gain share from the broader auto market.**

The establishment of new plant and the expansion of existing factory can boost capacity and deliveries

- German factory has launched its car delivery ceremony on March 22, and it is estimated that it will have a **production capacity to make 500,000 vehicles a year**. The factory will help market expansion in Europe, by allowing it to tailor models for local customers. Local production could help cut costs by reducing the need for expensive shipping and eliminating import duties.
- The newly established Gigafactory in Texas has delivered the first Model Y vehicles in April 2022. Since it usually takes 9 to 12 months for a factory to reach high-quality volume production, the Texas Gigafactory will probably hit its stride of output around 2022 Q3 or Q4.
- Fremont plant has potential towards >600k (production by 50%) with new Model S/X ramping after expansion. Management estimates that **Tesla's 50% growth in 2022 could be largely achieved by expanding existing plants**.
- Tesla plans to work on a new plant in Shanghai to reach more than double production capacity in China and meet growing demand for its cars in the country and export markets. The construction time of the second plant is unknown while it is planned to be built near the current plant with an **annual capacity of 450,000 vehicles**. Once the new plant is fully operational, **Tesla will have the capacity to produce up to 2 million cars per year**.

Tesla will focus on 4680 battery cells and FSD in 2022

- In April 2022, Tesla officially delivered the first production Model Y vehicles with 4680 batteries from Gigafactory Texas. Gigafactory Berlin-Brandenburg will be able to produce Model Ys using both structural packs with 4680 cells as well as non-structural packs with 2170 cells. 4680 battery cells have the advantages of weight savings, higher energy density, lower cost, and faster charging.
- The successful 4680 inhouse production and structural battery packs give the company better control of its supply chain and a leg up over other automakers.
- On FSD, TSLA released Beta V10.10.2 in April, with CEO Elon Musk announcing a price increase to \$12,000 (prior \$10,000).
- The production of 4680 battery cells and the development of FSD could yield continued strong growth and could start unlocking considerable earnings opportunities from software, and in particular self-driving.

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Tesla (TSLA US)

Stock Rating	Equal Weight
Target Price	US\$ 697.79
Share price (13/05/22)	US\$ 769.59
Up/downside (%)	-9.32%
52-Week Range (bn)	US\$1243.49-546.98
Shares Out. (bn)	US\$ 1.04
Mkt Cap (bn)	US\$ 797.30
EV (bn)	US\$ 749.44
Free Float (%)	82%

Fiscal year (12/31)

(US\$ in bn)	2020A	2021A	2022E
Revenue	31.54	53.82	86.17
YoY (%)	28.31%	70.67%	60.09%
Gross Profit	6.63	13.60	23.18
GPM	21.02%	25.28%	26.90%
EBIT	2.11	6.47	12.15
OPM (%)	6.69%	12.02%	14.10%
PBT	1.15	6.34	11.69
Net Income	0.72	5.52	10.27
NPM	2.29%	10.25%	11.91%
EPS (US\$)	0.77	5.60	9.95

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Key Positive Thesis (Cont.)

Price increases in both Model 3 and Y can improve margin (Order backlog remains robust)

Tesla has increased the price of Model 3 and Y in China, Canada, and the Australian market due to the increasing supply chain shortages. Though a small price increase could deter some budget-sensitive Chinese drivers from ordering, it is also a way to ease pressure on the Shanghai factory. And it is estimated that revenue contribution from vehicle sales could come in higher as price increases in both Model 3 and Y take effect through the course of this year. Considering Tesla's order is not "pre-ordered", we believe that the price increase will not cause great complaint from the customers as there's no "additional cost from existing customer" that Rivian's pre-order customers might worry about before.

Tesla will not launch any new vehicles in 2022, but it is estimated that Cybertruck could come in early 2023, and rumors about Model 2

Tesla will not launch any new vehicle this year including the Cybertruck, Roadster, Semi, and model 2, since it wants to focus more on driving down costs through new batteries, product localization, scale, and efficiency this year. We do not think this is a great downside as the demand for existing model is still strong, and supply chain issues hasn't been solved, Tesla's decision might bring more sustainability when they are going to launch the models in coming years after supply chain issues has been solved. Besides, we do believe Tesla's Cybertruck will be a better EV truck from the product comparison in the report we launch on May 12th about RIVN US ([GETA, Dabby Ip](#)). For the compact mode (Model 2), though we shouldn't expect it will come anytime soon, we think there's still possibility that Tesla will launch it by the end of 24E with small numbers of deliveries, and even if it doesn't, after bringing down the cost of existing Model 3 and Y, these two models could also serve the cheaper markets with more economical prices, just as the previous goal of building Model 2 in the long term. We believe the product launch of these model will generate meaningful portion of revenue before 2025E, and there will be more product launch to solidify Tesla's revenue boost in coming years.

High Oil Price and De-Globalization Trend about Energy reliance, will benefit EV Maker such as Tesla

Rising inflation alongside the Russian invasion of Ukraine has resulted in global oil prices increase, with Brent crude oil hitting a 14-year high of \$127/b in March. While high costs at the pump have led American consumers to consider buying electric cars, tax credits, including the federal tax credit of \$7,500, have also encouraged consumers to make the switch. Although Brent crude oil is now \$112/b, down from March, crude oil prices remain above \$100/b. EIA expects the Brent price will average \$107/b in 2Q22 and \$103/b in the second half of 2022 (2H22), which may still benefit EV sales in 2022, and we think Tesla will be the direct benefitted player as it has existing market share that can cover the demand for the EV, with strong brand name.

Initiate Equal – Weight (EW), with intrinsic value that is close to current price

For Tesla's business, we adopted a relatively optimistic projections from top-line to bottom line with great growth of unlevered FCF per year, and we still think it can be the top EV-player globally. While we witness three downsides that can't make us to overweight TSLA. The DCF details can be found [here](#).

(1) Premium Valuation: In [page 4](#), we discussed about whether Tesla has already become the "Global EV King", and our answer is "No" with more competitions in EU & China markets, this shaken our conviction that whether Tesla can be trading at premium above other peers in the long term.

Stock	Tesla	BYD	Ford	NIO	Xpeng	Li Auto
Ticker	TSLA US	BYDDY US	F US	NIO US	XPEV US	LI US
P/E Non-GAAP (FY2)	48.6x	80.8x	6.2x	-186.0x	-54.4x	72.7x
EV/Sales (FWD)	9.1x	2.1x	1.1x	2.1x	2.2x	2.2x
EV/Sales (TTM)	12.7x	2.7x	1.2x	3.4x	4.3x	3.1x
Price to Book (TTM)	23.4x	5.8x	1.2x	4.3x	2.9x	3.2x
Price/Cash Flow (TTM)	57.6x	7.2x	5.3x	76.4x	NM	15.2x

(2) Un-favored Market: Recent rate hike and consistently high inflations with unsolved supply chain constraint from China lockdowns, which will cause the market to underweight the grow stock (High P/E stocks), and we have priced in the 3% risk free-rate in our DCF to reflect the increase cost of capital.

(3) Twitter Deal: There's still US\$ 6.25 bn margin loan that was pledged by Tesla's stocks even this was cut half after Elon brought more investors ([Markets Insider](#), May 14th 2022), but we are relatively less concern about this deal term. Yet, we think Elon's acquisition and potential uncertainty from its relations between Twitter can bring more volatility. Some are mentioning in downside scenario, Elon can't just walk away from Twitter deal simply by paying US\$ 1 bn breakup fee ([CNBC](#), 2022 May 13th). Our EV team formed a consensus that actually the Twitter deal won't directly affect Tesla's operation, while we do believe a portion of Tesla's valuation lies in Elon Musk's attention on Tesla, or even whether he is in a good position. With twitter deal, we only see more uncertainty rather than secured upside that leads Tesla to the better position by management team.

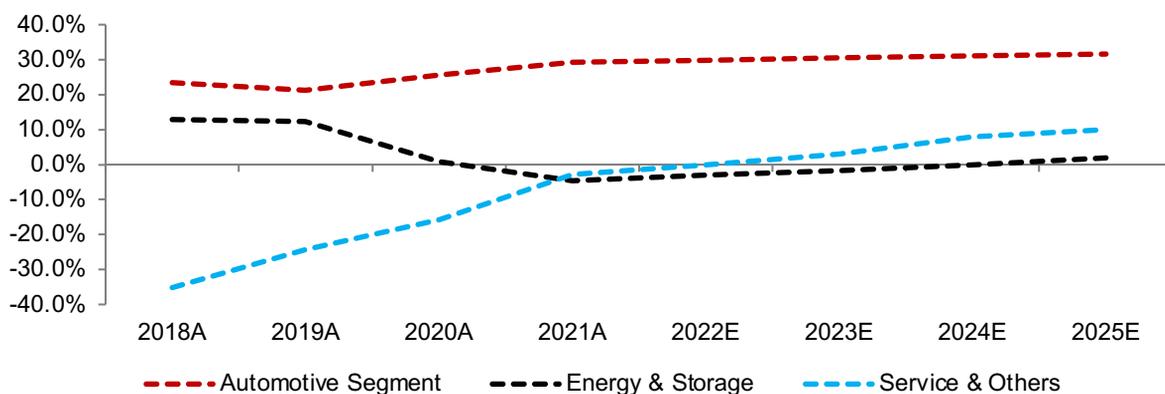
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Earning Forecast

Gross Margin

Exhibit 10: Automotive and service segments are expected to increase by 8.2% and 45.2% in 2018A-2025E. However, energy & storage segment is estimated to decrease by 10.9% in 2018A-2025E.

18A - 25E Tesla's Gross Margin Forecast by Segments (%)



Bottom Line Forecast

We expect Tesla's net income growth rate to be 86%, 44%, 30%, and 32% in 2022E-25E, and it is estimated that Tesla's net income can reach US\$ 25.21 bn in 2025E.

Income Statement	2016A	2017A	2018A	2019A	2020A	2021A	2022E	2023E	2024E	2025E
(US\$ in Millions)										
Revenue	7,000.1	11,758.8	21,461.3	24,578.0	31,536.0	53,823.0	86,167.5	108,924.0	131,980.8	164,066.9
COGS	(5,400.9)	(9,536.3)	(17,419.2)	(20,509.0)	(24,906.0)	(40,217.0)	(62,985.9)	(78,409.0)	(94,019.2)	(115,703.2)
Gross Profit	1,599.3	2,222.5	4,042.0	4,069.0	6,630.0	13,606.0	23,181.6	30,515.0	37,961.5	48,363.7
SG&A	(1,432.2)	(2,476.5)	(2,834.5)	(2,846.0)	(3,145.0)	(4,517.0)	(7,065.7)	(8,605.0)	(10,294.5)	(12,305.0)
R&D	(834.4)	(1,378.1)	(1,460.4)	(1,343.0)	(1,491.0)	(2,593.0)	(3,963.7)	(4,574.8)	(5,279.2)	(6,562.7)
Other OPEX	59.0	163.5	161.4	146.0	117.0	(27.0)	-	-	-	-
Operating Income (Loss)	(608.4)	(1,468.6)	(91.5)	226.0	2,111.0	6,469.0	12,152.2	17,335.2	22,387.8	29,496.0
Net Interest Expense	(190.3)	(451.6)	(638.5)	(641.0)	(718.0)	(315.0)	(504.3)	(637.5)	(772.4)	(960.2)
FX Exchange P&L	(26.1)	(52.3)	1.5	48.0	(114.0)	-	-	-	-	-
Other Non-Op P&L	48.6	(73.1)	20.4	(3.0)	(8.0)	135.0	43.1	54.5	66.0	82.0
Pretax Income (Loss), Adjusted	(776.1)	(2,045.5)	(708.2)	(370.0)	1,271.0	6,289.0	11,691.0	16,752.2	21,681.4	28,617.8
Abnormal G/L	(29.8)	163.5	296.6	295.0	117.0	(54.0)	-	-	-	-
Pretax Income (Loss), GAAP	(746.3)	(2,209.0)	(1,004.7)	(665.0)	1,154.0	6,343.0	11,691.0	16,752.2	21,681.4	28,617.8
Tax Expense	(26.7)	(31.5)	(57.8)	(110.0)	(292.0)	(699.0)	(1,288.3)	(1,846.1)	(2,389.3)	(3,153.7)
Income (Loss) Incl. MI	(773.0)	(2,240.6)	(1,062.6)	(775.0)	862.0	5,644.0	10,402.6	14,906.1	19,292.1	25,464.1
Minority Interest	98.1	279.2	86.5	(87.0)	(141.0)	(125.0)	(135.8)	(171.6)	(208.0)	(258.5)
Net Income, GAAP	(674.9)	(1,961.4)	(976.1)	(862.0)	721.0	5,519.0	10,266.8	14,734.4	19,084.1	25,205.6
Basic Weighted Avg Shares	721.1	828.8	852.6	885.0	933.0	986.0	1,032.0	1,033.0	1,058.0	1,079.0
Basic EPS, GAAP	-0.94	-2.37	-1.14	-0.97	0.77	5.60	9.95	14.26	18.04	23.36
Diluted Weighted Avg Shares	721.1	828.8	852.6	885.0	1,083.0	1,127.4	1,186.0	1,240.0	1,270.0	1,295.0
Diluted EPS, GAAP	-0.94	-2.37	-1.14	-0.97	0.67	4.90	8.66	11.88	15.03	19.46
*Diluted EPS (excl. Stock Comp) - Non GAAP	-0.47	-1.80	-0.27	0.04	2.27	6.78	11.06	14.20	17.21	21.48
Reference Items										
EBITDA	338.7	167.4	1,809.6	2,806.0	4,884.0	10,007.0	17,322.2	23,543.9	29,514.8	38,027.5
EBITDA Margin (T12M)	4.8%	1.4%	8.4%	11.4%	15.5%	18.6%	20.1%	21.6%	22.4%	23.2%
D&A	(947.1)	(1,636.0)	(1,901.1)	(2,580.0)	(2,773.0)	(3,538.0)	(5,170.1)	(6,208.7)	(7,127.0)	(8,531.5)
D&A / Sales (%)	-13.5%	-13.9%	-8.9%	-10.5%	-8.8%	-6.6%	-6.0%	-5.7%	-5.4%	-5.2%
Stock Based Compensation	334	467	749	898	1,734	2,121	2,849.0	2,877.3	2,777.0	2,609.6
SBC / (SG&A+R&D)	-14.7%	-12.1%	-17.4%	-22.5%	-37.4%	-29.8%	-25.8%	-21.8%	-17.8%	-13.8%
Key Assumptions (%)										
Gross Margin (%)	22.8%	18.9%	18.8%	16.6%	21.0%	25.3%	26.9%	28.0%	28.8%	29.5%
[OPEX to Sales (%)]										
SG&A	-20.5%	-21.1%	-13.2%	-10.8%	-10.0%	-8.4%	-8.2%	-7.9%	-7.8%	-7.5%
R&D	-11.9%	-11.7%	-6.8%	-5.5%	-4.7%	-4.8%	-4.6%	-4.2%	-4.0%	-4.0%
Other OPEX	0.8%	1.4%	0.8%	0.6%	0.4%	-0.1%	0.0%	0.0%	0.0%	0.0%
Operating (EBIT) Margin (%)	-8.7%	-12.5%	-0.4%	0.9%	6.7%	12.0%	14.1%	15.9%	17.0%	18.0%
[Non Operating Expense to Sales (%)]										
Net Interest Expense	-2.7%	-3.8%	-3.0%	-2.6%	-2.3%	-0.6%	-0.6%	-0.6%	-0.6%	-0.6%
Other Non-Op P&L	0.7%	-0.6%	0.1%	0.0%	0.0%	0.3%	0.05%	0.05%	0.05%	0.05%
Effective Tax Rate (%)	3.6%	1.4%	5.8%	16.5%	-25.3%	-11.0%	-11.0%	-11.0%	-11.0%	-11.0%
Minority Interest to Sales (%)	1.40%	2.37%	0.40%	-0.35%	-0.45%	-0.23%	-0.16%	-0.16%	-0.16%	-0.16%
Revenue YoY (%)	n.a.	68.0%	82.5%	14.5%	28.3%	70.7%	60.1%	26.4%	21.2%	24.3%
Net Income YoY (%)	n.a.	191%	-50%	-12%	-184%	665%	86%	44%	30%	32%

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Product Information

Model S/ Model S Plaid

Model S is a 5 seats luxury sedan with a price starting at US\$99,900. It is equipped with dual motors, 3.1 seconds acceleration for 0-60mph, 405 miles of the estimated range, and 28 cubic foot cargo capacity.

Model S Plaid is a higher-end version of its banner EV with the unveiling of its tri-motor "Plaid" powertrain. Plaid can accelerate faster, with 1.99 seconds of acceleration for 0-60mph. Also, it has 396 miles estimated range. The price starts from US\$135,990.



Photo: Model S Plaid

Model X/ Model X Plaid

Model X is a 7 seats mid-size luxury SUV developed from the full-sized sedan Model S, with a price starting at US\$114,990. It is equipped with dual motors, 3.8 seconds acceleration for 0-60mph, 348 miles of the estimated range, and 88 cubic foot cargo capacity.

Model X Plaid has 6 seats, and three motors, with 2.5 seconds acceleration for 0-60mph and 333 miles estimated range. The price starts from US\$138,990.



Photo: Model X

Model 3 Rear-Wheel Drive/ Model 3 Long Range/ Model 3 Performance

Model 3 is a mid-size sedan.

Model 3 Rear-Wheel Drive is a 5 seats sedan with a price starting at US\$46,990. Its acceleration is 5.8 seconds from 0-60mph, and its estimated range is 272 miles, with a 23 cubic foot cargo capacity.

Model 3 Long Range is the same as Model 3 Rear-Wheel Drive, except that it has a range of 358 miles, 4.2 seconds 0-60 mph acceleration, and dual motors. Its price starts from US\$55,990.

Model 3 Performance has a range of 315 miles, 3.1 seconds 0-60 mph acceleration, and a top speed of 162 mph. Its price starts from US\$62,990.



Photo: Model 3

Model Y Long Range/ Tesla Y Performance

Model Y is a compact luxury crossover SUV based on the Model 3 sedan platform. It shares an estimated 75% of its parts with the Tesla Model 3, which includes a similar interior design and electric powertrain. And it also fills a smaller and less expensive segment than the mid-sized Tesla Model X.

Model Y Long Range is a 7 seats SUV with a price starting at US\$62,990. It has dual motors, 4.8 seconds 0-60mph acceleration, and 330 miles estimated range, with 76 cubic foot cargo capacity.



Photo: Model Y

Model Y Performance is the same as Model Y Long Range, except that it has a range of 303 miles, 3.5 seconds 0-60 mph acceleration, and dual motors. Its price starts from US\$67,990.

New Model - Roadster (first generation)

The roadster was the first highway legal serial production all-electric car to use lithium-ion battery cells and the first production all-electric car to travel more than 200 miles per charge. It can travel 244 miles on a single charge of its lithium-ion battery pack and can accelerate 0-60 mph in 3.7 or 3.9 seconds depending on the model. It has a top speed of 125 mph. Its price starts from US\$80,000.



Photo: Roadster

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