



THE TESLA STORY: A BORING, BONEHEADED UPDATE!

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Tesla: The Set Up

- Not a boring stock: There are lots of complaints that you can have about Tesla, but being boring is not one of them. It helps to have a CEO who seems to find new ways to make himself newsworthy, in good and bad ways.
- Evoking divergent opinions: It should come as no surprise that there is no other stock where investors disagree more about the future than Tesla, with bulls finding new reasons for pushing its price up and short sellers picking the stock as their favorite, albeit elusive, target.

Tesla: My Past

- Not a Tesla bear: I have never found it to be an attractive investment but I have always admired the company and, by extension, Elon Musk.
- Not a Tesla bull: That said, I have never bought the stock, because my valuations have always lagged the market price.
- Bottom line: I think that Tesla's promise as a business has always run ahead of its capacity to deliver on that promise.

The Story Story (from 2016)

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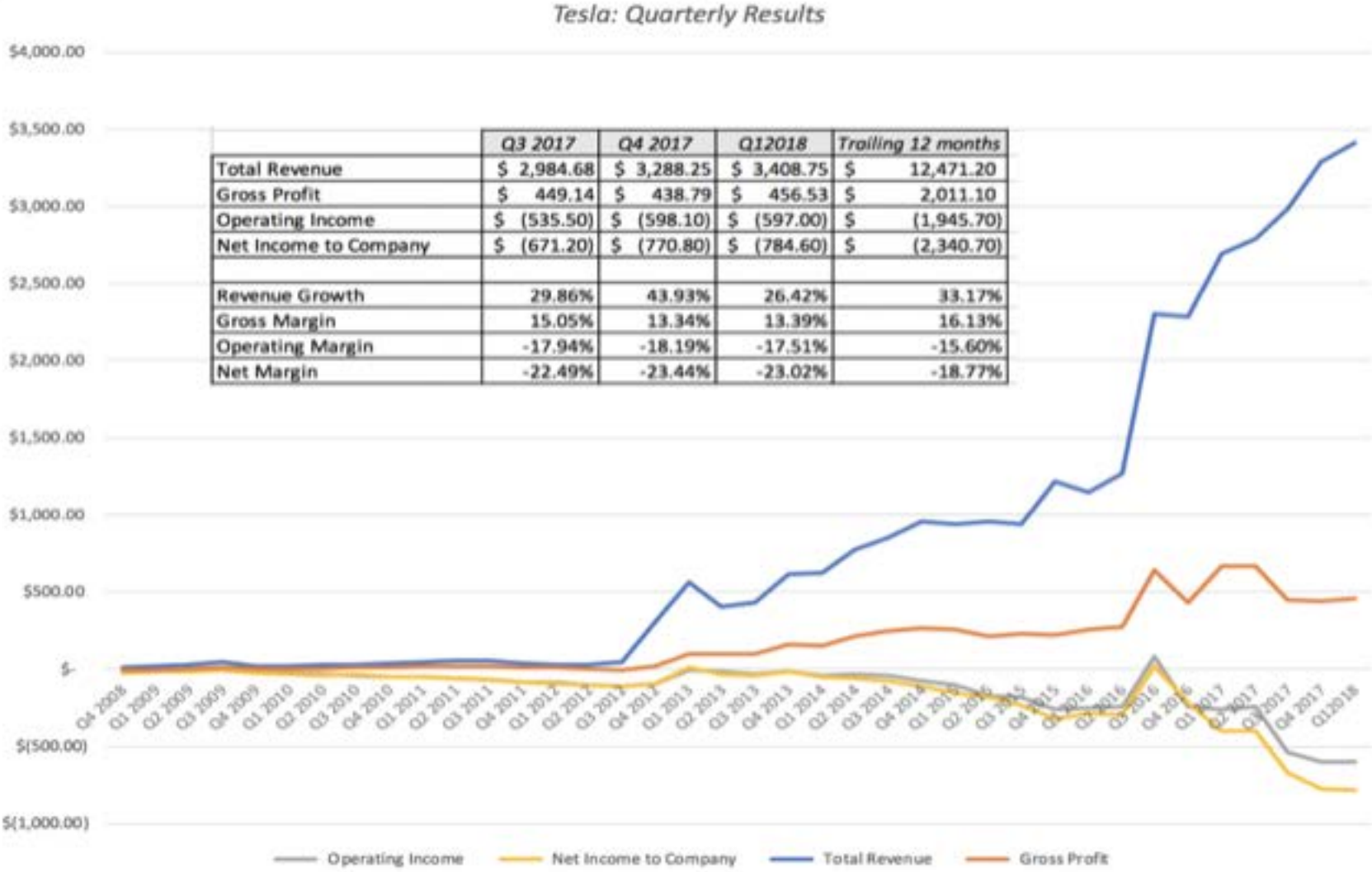
1. It the ultimate story stock, which is how I described it in [a post in 2016](#), explaining both its price volatility and its capacity to weather bad news.
2. Built around a personality: Investors in Tesla were more investors in Elon Musk, than in the company, with the company reflecting his strengths, a surplus of vision and out-of-the-box thinking, and his weaknesses, an unwillingness to pay attention to operating details and financial first principles in running the company.

Violating Financial First Principles?

5

- 1. The acquisition of Solar City: In acquiring Solar City, a company where Musk was a lead stockholder and his cousin was CEO, Tesla had to not only overcome the perception of a conflicted deal, but acquired a company with negative cash flows in a rapidly commoditizing business, not a great fit for a company that had its own cash flow problems.
- 2. The turn to debt: Tesla's decided to borrow more than \$5 billion in September 2017 to fund its capital needs, an act that was almost incomprehensible, given Tesla's standing at the time. As I noted in a [post at that time](#), there was no good reason that could be offered for that borrowing, since none of the usual arguments for debt applied.

Tesla: Financial Update



Tesla: The Earnings Call

- Elon Musk, a few minutes into the most recent earnings call, blew up at Toni Sacconaghi, a Sanford Bernstein analyst, calling his question about future capital needs "boring and boneheaded".
- He then proceeded to stop taking questions from analysts entirely and answered only questions posed on YouTube by investors gathered by a recent start-up.
- While the market reaction to the bizarre earnings call was negative, with the stock dropping 5.5%, the stock, as it has so many times before, recovered in the weeks after and climbed to close to all-time highs.

Tesla: Other News from Elon

1. He announced that given Tesla's financial constraints, the company would focus, at least for the next few months, on turning out the higher priced version of the Tesla 3, priced at \$75,000 rather than the \$35,000 base price that he had announced as part of the original rollout. His reasons for doing so, i.e., that shipping the lower cost model would cause Tesla to "lose money and die" suggest that the lower priced version may not be viable.
2. He also announced that Tesla would lay off 9% of its employees, mostly from the Solar City portion of the company, explaining that the company needed to move towards sustained profitability

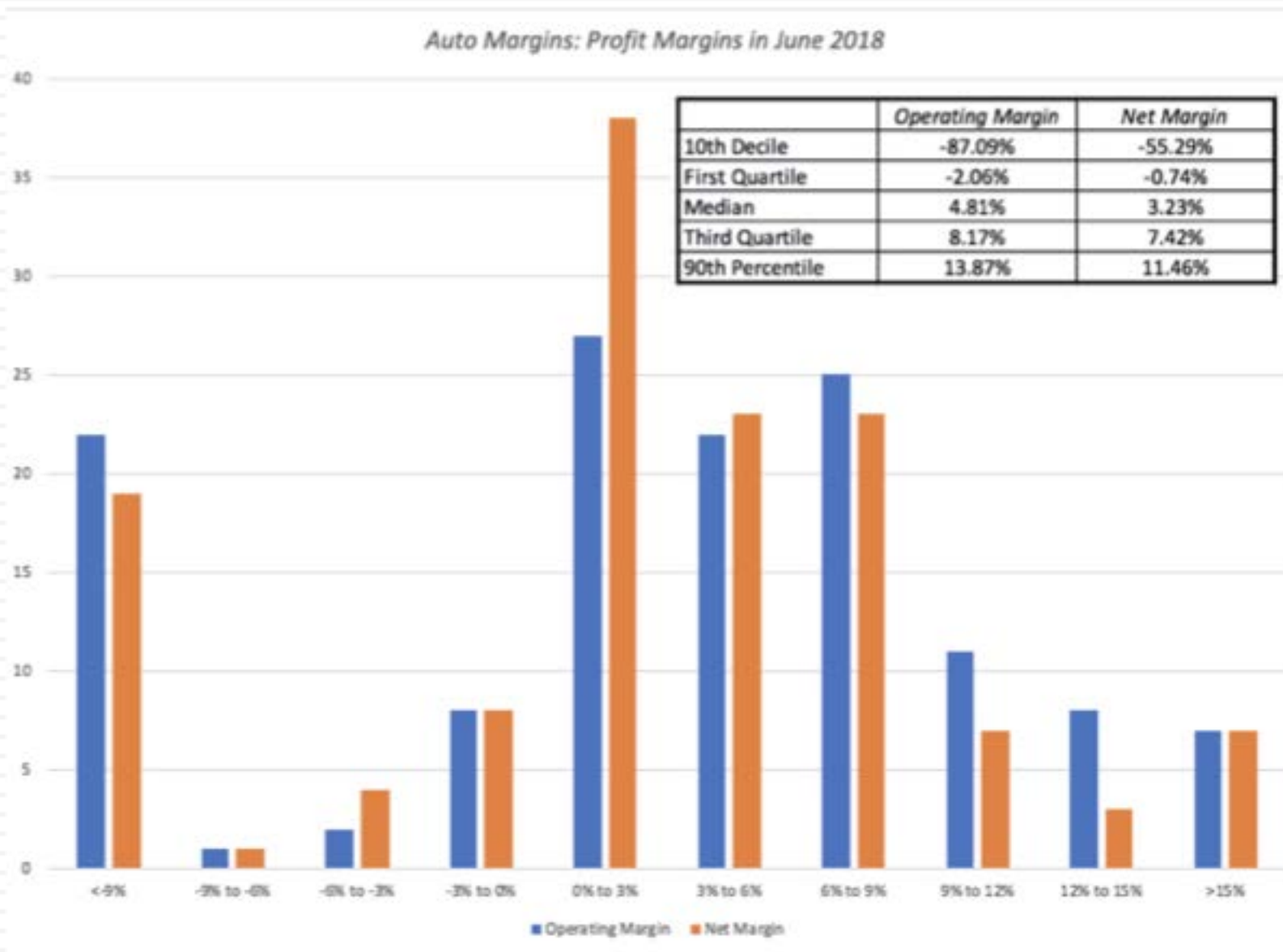
Tesla's focus (for the moment)

- Need to become "profitable and will be "cash flow positive" by the third quarter. In fact, Musk has been categorical that Tesla will not need to raise capital to cover its investment needs in the future, in response to stories in the press that Tesla would need to raise between billions to cover its growth plans.
- Manufacturing 5000 cars from its assembly lines each week, a meager number for most auto makers but driving decision making at Tesla. It is in pursuit of this goal that Tesla has augmented its Fremont plant with additional tented assembly lines, Musk has been "sleeping on the factory floor" and at least partly pulled back on its plan to replace workers with robots.

Value Driver 1: Revenues

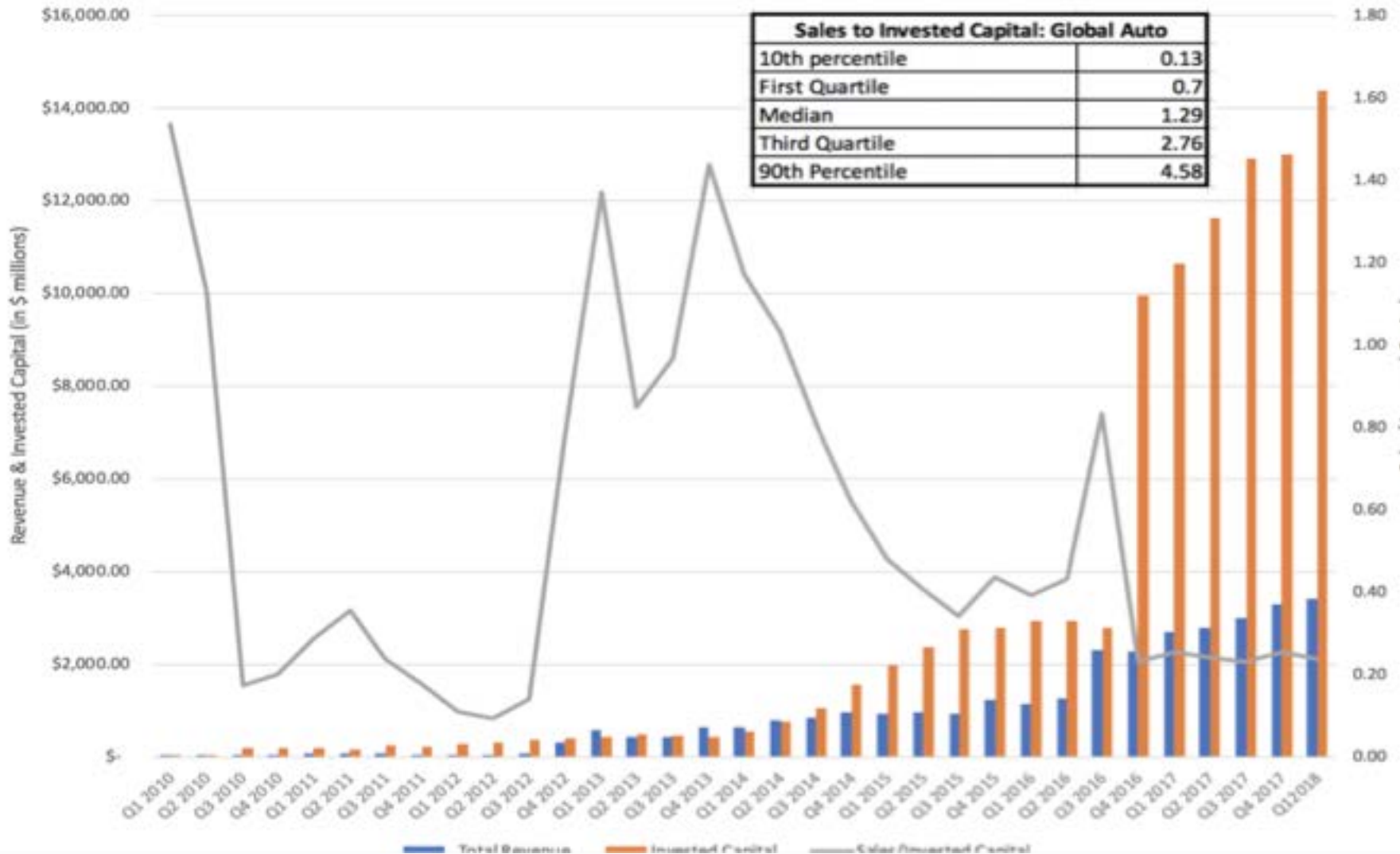
<i>Company Name</i>	<i>Country</i>	<i>Enterprise Value</i>	<i>Market Cap (in US \$)</i>	<i>Revenues</i>	<i>EV/Sales</i>
Volkswagen Aktiengesellschaft	Germany	\$278,738.14	\$88,540.90	\$286,698.30	0.97
Toyota Motor Corporation	Japan	\$359,588.70	\$199,925.40	\$276,630.20	1.30
Daimler AG	Germany	\$222,284.67	\$74,886.10	\$203,933.70	1.09
Ford Motor Company	United States	\$197,755.18	\$47,381.10	\$159,589.00	1.24
Honda Motor Co., Ltd	Japan	\$97,833.80	\$55,062.50	\$144,636.80	0.68
General Motors Company	United States	\$150,481.24	\$59,563.00	\$144,421.00	1.04
SAIC Motor Corporation Limited	China	\$58,738.24	\$64,865.00	\$143,679.50	0.41
Fiat Chrysler Automobiles N.V.	United Kingdom	\$39,113.11	\$31,680.30	\$135,633.90	0.29
Bayerische Motoren Werke Aktiengesellschaft	Germany	\$173,148.07	\$63,385.00	\$120,051.70	1.44
Nissan Motor Co., Ltd.	Japan	\$100,563.30	\$38,386.30	\$112,529.30	0.89
Hyundai Motor Company	South Korea	\$82,479.20	\$24,185.80	\$89,915.90	0.92
Peugeot S.A.	France	\$18,532.66	\$21,686.00	\$78,302.10	0.24
AUDI AG	Germany	\$26,607.63	\$38,837.40	\$72,199.80	0.37
Renault SA	France	\$69,542.53	\$25,133.00	\$70,569.20	0.99
Kia Motors Corporation	South Korea	\$16,874.60	\$11,370.00	\$50,168.10	0.34
Tata Motors Limited	India	\$20,977.10	\$14,310.90	\$45,215.90	0.46
Suzuki Motor Corporation	Japan	\$25,112.10	\$25,328.10	\$35,377.00	0.71
Mazda Motor Corporation	Japan	\$8,872.60	\$7,911.90	\$32,710.60	0.27
Subaru Corporation	Japan	\$16,866.90	\$23,262.00	\$32,062.70	0.53
BAIC Motor Corporation Limited	China	\$5,675.83	\$8,222.50	\$21,925.60	0.26
Tesla, Inc. (2018)	United States	\$70,781.58	\$59,860.80	\$12,471.20	5.68

Value Driver 2: Operating Margin

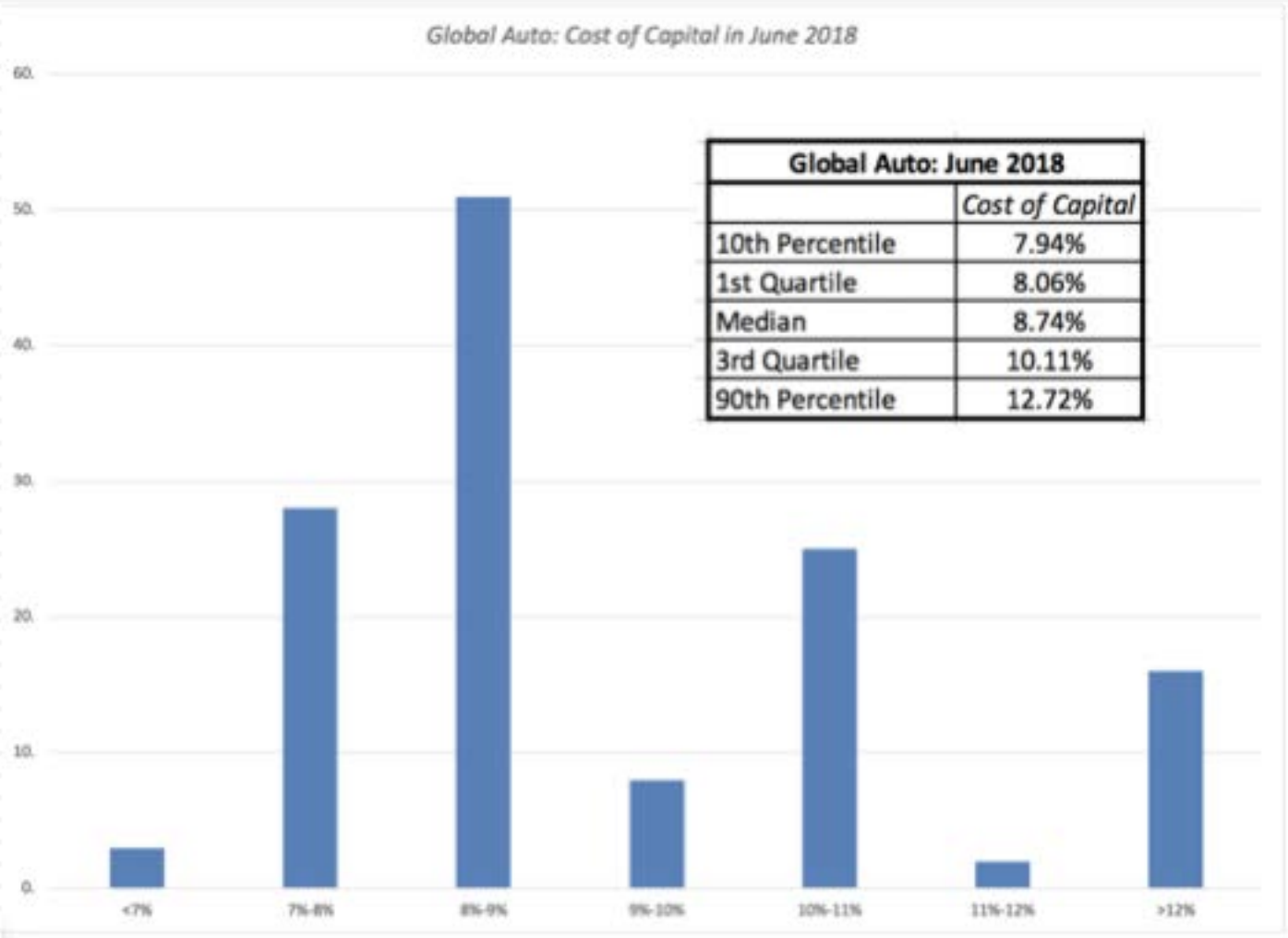


Value Driver 3: Reinvestment

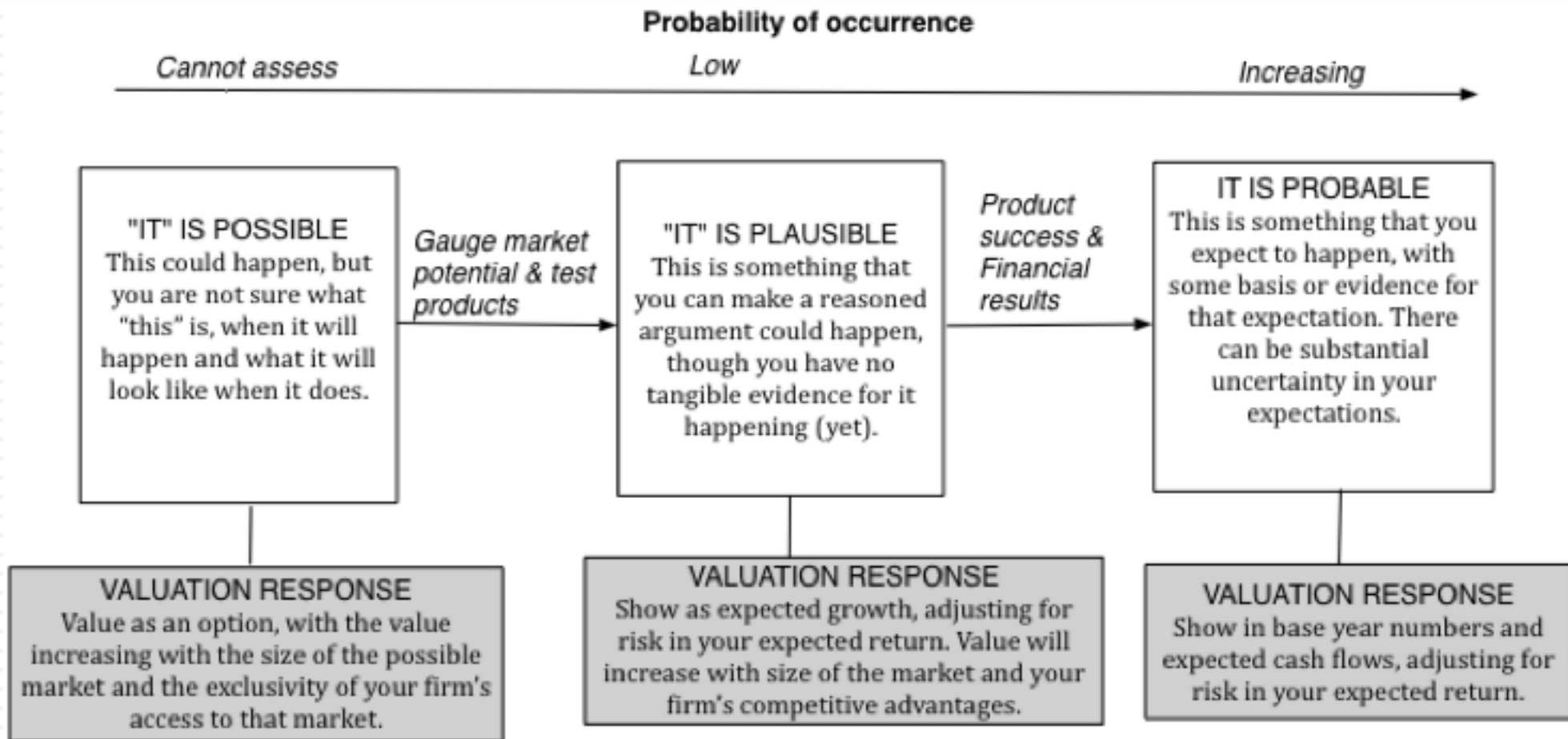
Tesla: Investment Efficiency - 2010 to 2018



Value Driver 4: Risk



Possible, Plausible and Probable Tesla Stories



A Plausible Path to \$400/share? The Royal Flush

- Increase revenues ten-fold over the next decade: Tesla's current revenues of \$12.5 billion will have to increase to \$120 billion or more in the next ten years, giving it revenues close to those of BMW today. Assuming an average car price of \$60,000, that would translate into 2 million cars sold in year 10, illustrating why the focus on whether Tesla can hit its target of 5,000 cars a week is missing the big picture.
- Improve operating margins to match the most profitable auto companies: Its pre-tax operating margin will climb to 12%, well above the median auto margin of 4.81% or BMW's 9.89%, powered by brand name and pricing power.
- Invest more efficiently than the sector: Reinvest more efficiently, delivering about \$2.25 in revenues for every dollar of capital invested, much higher than than the typical auto firm. To provide perspective, Tesla in year 10 will have to deliver BMW-like revenues with about a third of BMW's invested capital
- Navigate its way through debt to safety: Finally, as it moves towards becoming a much larger, more profitable firm, Tesla will also have to meet its commitments on current debt and not add to the mix, at least for the near term. In terms of operating risk, Tesla will have to face a cost of capital of 8.29%, in line with the typical auto firm.

Tesla

The Royal Flush

Tesla will be able to pull off the equivalent of a royal flush by increasing revenues ten-fold over the next decade, to make itself among the ten largest auto companies in the world in terms of sales, while also improving operating margins to match the very top echelon of auto companies and reinvesting far more efficiently than the typical auto company. Along the way, it will be able to manage its debt burden and become an average risk company.

The Assumptions

	Base year	Years 1-5	Years 6-10		After year 10	Link to story
Revenues (a)	\$ 12,471	36.00% → 3.00%			3.00%	High-end mass auto company (BMW like)
Operating margin (b)	-11.37%	-11.37% → 12.00%			12.00%	At the 85th percentile of auto companies
Tax rate	25.00%	25.00% → 25.00%			25.00%	Global average tax rate, after NOLs run out
Reinvestment (c)		Sales to capital ratio 2.25		RIR =	30.00%	Invest more efficiently than other auto firms
Return on capital	-8.71%	Marginal ROIC =	33.04%		10.00%	Earn excess returns in the long term (brand)
Cost of capital (d)		8.29% → 7.50%			7.50%	Move towards average risk company

The Cash Flows

	Revenues	Operating Margin	EBIT	EBIT (1-t)	Reinvestment	FCFF
1	\$ 16,961	-6.69%	\$ (1,135)	\$ (1,135)	\$ 1,995	\$ (3,131)
2	\$ 23,067	-2.02%	\$ (466)	\$ (466)	\$ 2,714	\$ (3,180)
3	\$ 31,371	2.65%	\$ 832	\$ 832	\$ 3,691	\$ (2,858)
4	\$ 42,664	7.33%	\$ 3,126	\$ 2,537	\$ 5,019	\$ (2,483)
5	\$ 58,023	12.00%	\$ 6,963	\$ 5,222	\$ 6,826	\$ (1,604)
6	\$ 75,082	12.00%	\$ 9,010	\$ 6,757	\$ 7,582	\$ (824)
7	\$ 92,201	12.00%	\$ 11,064	\$ 8,298	\$ 7,608	\$ 690
8	\$ 107,138	12.00%	\$ 12,857	\$ 9,642	\$ 6,638	\$ 3,004
9	\$ 117,423	12.00%	\$ 14,091	\$ 10,568	\$ 4,571	\$ 5,997
10	\$ 120,945	12.00%	\$ 14,513	\$ 10,885	\$ 1,566	\$ 9,319
Terminal year	\$ 124,574	12.00%	\$ 14,949	\$ 11,212	\$ 3,363	\$ 7,848

The Value

Terminal value	\$ 174,403		
PV(Terminal value)	\$ 80,367		
PV (CF over next 10 years)	\$ (1,983)		
Value of operating assets =	\$ 78,384		
Adjustment for distress	\$ -	Probability of failure =	0.00%
- Debt & Minority Interests	\$ 11,875		
+ Cash & Other Non-operating assets	\$ 2,666		
Value of equity	\$ 69,176		
- Value of equity options	\$ -		
Number of shares	167.50		
Value per share	\$ 412.99	Stock was trading at =	\$360.00

Musk's Tesla Story: A Fairy Tale?

- If you believe Elon Musk, Tesla will be able to become a large automobile company with above-average margins, without having to access capital markets and turning the corner quickly when it comes to profitability.
- There is no chance that Tesla can deliver what it needs to, in terms of scaling up revenues and improving profitability, to justify its market capitalization, without raising new equity along the way.
- This is a fairy tale and if you are a Tesla investor, you have to hope that this is a bluff and that Tesla will be willing to raise new equity to keep its growth alive.

My Tesla Story

- Revenues of \$100 billion: Tesla will be able to grow revenues substantially over the next decade.
- With very good margins: Improve margins to rank among the more profitable auto companies.
- Reinvest efficiently: I also think that Elon Musk will back track on his promise of not having to raise fresh capital and that Tesla will invest billions into new plant and equipment, more efficiently than other auto companies.
- Keeping risk in check: On the risk front, I am comfortable with assuming that operating risk will stabilize over time, but I also think that the debt burden will pose a danger to survival, at least for the next year or two.

Tesla

An Optimistic Story

Tesla will create a niche for itself as a high-end auto company, delivering \$100 billion in revenues in year 10, while also delivering on profitability (with margins in the 75th percentile of auto firms) and raising enough capital to cover its large reinvestment needs for the much of the next decade. While Tesla's operating risk will move towards average over time, its debt burden puts it at risk of default, albeit small (5%), in the near future.

The Assumptions

	Base year	Years 1-5	Years 6-10		After year 10	Link to story
Revenues (a)	\$ 12,471	32.00%	3.00%		3.00%	Eight-fold increase in revenues; about 1.6 million cars sold in year 10.
Operating margin (b)	-11.37%	-11.37%	10.00%		10.00%	At the 75th percentile of global auto
Tax rate	25.00%	25.00%	25.00%		25.00%	Global average tax rate, after NOLs used up
Reinvestment (c)		Sales to capital ratio 2.00		RIR =	30.00%	Invest more efficiently than typical auto firm.
Return on capital	-8.71%	Marginal ROIC = 22.14%			10.00%	Brand name power generates excess returns
Cost of capital (d)		8.29%	7.50%		7.50%	Converge on average risk firm over time.

The Cash Flows

	Revenues	Operating Margin	EBIT	EBIT (1-t)	Reinvestment	FCFF
1	\$ 16,462	-7.09%	\$ (1,168)	\$ (1,168)	\$ 1,995	\$ (3,163)
2	\$ 21,730	-2.82%	\$ (613)	\$ (613)	\$ 2,634	\$ (3,247)
3	\$ 28,683	1.45%	\$ 417	\$ 417	\$ 3,477	\$ (3,060)
4	\$ 37,862	5.73%	\$ 2,168	\$ 1,967	\$ 4,589	\$ (2,622)
5	\$ 49,978	10.00%	\$ 4,998	\$ 3,748	\$ 6,058	\$ (2,310)
6	\$ 63,072	10.00%	\$ 6,307	\$ 4,730	\$ 8,729	\$ (3,999)
7	\$ 75,939	10.00%	\$ 7,594	\$ 5,695	\$ 8,578	\$ (2,882)
8	\$ 87,026	10.00%	\$ 8,703	\$ 6,527	\$ 7,391	\$ (864)
9	\$ 94,684	10.00%	\$ 9,468	\$ 7,101	\$ 5,106	\$ 1,996
10	\$ 97,525	10.00%	\$ 9,752	\$ 7,314	\$ 1,894	\$ 5,421
Terminal year	\$ 100,450	10.00%	\$ 10,045	\$ 7,534	\$ 2,260	\$ 5,274

The Value

Terminal value	\$ 117,192		
PV(Terminal value)	\$ 54,004		
PV (CF over next 10 years)	\$ (12,671)		
Value of operating assets =	\$ 41,333		
Adjustment for distress	\$ 1,033	Probability of failure =	5.00%
- Debt & Mnority interests	\$ 11,875		
+ Cash & Other Non-operating assets	\$ 2,666		
Value of equity	\$ 31,091		
- Value of equity options	\$ -		
Number of shares	167.50		
Value per share	\$ 185.62	Stock was trading at =	\$360.00

The Bottom Line

- There is no denying the fact that Elon Musk has been central to the Tesla story so far and that his vision and charisma have been largely responsible for pushing the stock price to its current levels.
- That said, we are at a point in Tesla's history where I think that the question can be raised as to whether the negatives that Musk brings to the job are starting to catch up with and perhaps overwhelm the positives.
- This is a company in clear need of checks and balances, either from a strong management team or a powerful board of directors. Unfortunately, neither exists at the company now, and if are bullish on Tesla, that should scare you.