September 10, 2013

Tesla Motors: A Disruptive Company but Speculative Investment

August saw markets largely churn. A brief rally to start the month faded into a panic-free selloff on the war drums beating towards a Syria intervention. Bonds did the inverse of stocks, with yields ending the month about where they began. Throughout the month there has been one story completely captivating the attention of market watchers like no other: Tesla Motors astonishing rally. In August, Tesla tacked on another 25.85%, bringing its year-to-date gain to 498%, up nearly five times from its 2012 close.

Following this impressive run, we have been asked by countless clients and interested observers whether we would buy the stock today. Due to the overwhelming interest in this question, we decided to use this commentary in order to explain our answer. We highlighted "following" at the beginning of this paragraph for a reason; for why is it that such intense interest in a stock only develops after it has had an impressive run? The answer is human nature, and this fact alone should be a key tell as to where we stand on the bigger question of whether to buy Tesla stock today.

Disrupting Disruptive Innovation

The Tesla Model S is an amazing car, Tesla Motors is a disruptively great company, and Elon Musk is the most visionary and adept leader for technology of this era. Musk has masterfully navigated nearly a handful of startups, in controversial sectors, to multi-billion dollar market capitalizations, but what he did with Tesla in particular is nothing short of a miracle and will be the subject of case studies in innovation for years to come.

The auto industry is one with immense barriers to entry and high capital requirements. Trying to enter the market with an electronic offering was thought of as a certain failure, with many established car players flopping in their own efforts. As our smartphone addictions demonstrate to us on a daily basis, battery technology has failed to keep pace with technological advances in processing power, let alone with the storage capacity of carbon-based energies. Due to this reality, many assumed a mass-adopted electric car would never work, or if it did, that it would emerge from a 1970s-like fuel price shock.

Undercutting price would have fit neatly within the prevailing paradigm of innovation. For much of the past decade, the S-curve of innovation, introduced and elaborated on in the *Innovator's Dilemma*[1], has been the blueprint for disrupting an existing market. The S-curve highlights how new innovations tend to undercut the existing market in both price and features, in order to bring a new spectrum of buyers into the fray. The incumbent firms view the innovative product as "worse" or lacking in features its customers hold dear, while the innovative company uses the earnings from new buyers it can draw into the market in order to invest in, and improve the technology. These improvements take the new entry to a point where it can "tip" the entire existing market into its hands.

While we are strong believers in the S-curve model for innovation, and have adopted it as one of our core "mental models" around which we assess different investment situations, we think Elon Musk has done something phenomenal in pulling a 180 on today's conventional wisdom in disruptive innovation. Whereas most viewed savings over carbon-based energy as the natural path to electric car adoption, Musk saw an opportunity in a high-end luxury experience worthy of outcompeting the Mercedes S Class, the BMW 7-series, or even sports cars like Aston-Martin. This is no small feat, for even established car companies (established in terms of a sales base and profitability), like Hyundai have been trying to break into the high-end market for years now to little or no avail.

Drivers of Value

There has been a confluence of powerful forces driving Tesla's stock to-date: 1) Tesla has virtually eliminated the risk of failure from the range of possible outcomes; 2) a large short-interest premised on political, rather than technological considerations, has been forced to cover its shares on a rapidly rising stock; and 3) The Model S has already captured 8.4% of the US luxury market as of halfway through 2013 and is outselling the BMW 7-series, the Mercedes S Class, and the Audi 8 series.[2] Consumer Reports assigned the Model S its highest test score, while musing whether it is "the best car ever."[3] [4] This is no fleeting accomplishment.

[1] http://www.amazon.com/The-Innovators-Dilemma-Revolutionary-Business/dp/0062060244
[2] http://evworld.com/news.cfm?newsid=30937
[3] http://www.consumerreports.org/cro/magazine/2013/07/tesla-model-s-review/index.htm
[4] http://www.consumerreports.org/cro/news/2013/05/video-the-tesla-model-s-is-our-top-scoring-car/index.htm

All this has been accomplished with capacity constraints preventing the company from matching orders with supply. But—and you knew there had to be a "but" after heaping all this praise— the company is priced not just for greatness, but for perfection. Aswath Damodaran, a prominent NYU professor on valuation analysis summed it up best: for the company to be worth $67.12 a share, one would have to "assume that Tesla will grow to be as large as Audi, while delivering operating margins closer to Porsche's." [5] Audi is the 13th largest car company in the world, while Porsche boasts the fattest operating margin of all the big players.

It is certainly within the realm of possibilities for Tesla to justify today's valuation, though it is highly unlikely. As the past decade has taught us, stock prices are particularly vulnerable to herd-like behavior, and often shoot up far past rational fundamental levels only to then collapse well below fair value. Should Tesla be a merely "great" company, it would take over a decade for a buyer of Tesla's stock today to own a company with an intrinsic value matching its stock market value today. A company with Audi's sales and Porsche's margins would be pretty great, though it would also be worthy of a 60% haircut to today's market value.

While we are neither averse to investing in growth, nor the auto sector, and do have notable investments in both, the prospect of buying Tesla today is pure speculation. It is a wager that someone will be willing to pay more than today's price in hope of the company continuing to exceed expectation. As everyone should know by now, hope is not a viable investment strategy. We often stress that prices which have traveled too far, too fast, correct in one of two ways: either price (by the stock dropping) or time (by the stock traveling sideways for an extended period). Most often it's a combination of the two, and while it's certainly possible that Tesla corrects by merely moving sideways, we think the risk of downside is simply too great and the opportunity cost of sideways for a decade too steep.

Lumps along the way

We certainly expect Tesla to become a staple of the automobile landscape, though the path to such an outcome remains very unclear. There are varying degrees of "staple" status in autos, with a wide range of possible outcomes In order to achieve the market's implied growth targets necessitated by today's price, the company will have to invest considerable

---

[5] http://aswathdamodaran.blogspot.com/2013/09/valuation-of-week-1-tesla-test.html

sums of capital in both design and capacity. To date, Tesla has invested over $1 billion to get to a 20,000 annual run-rate in sales and a push past breakeven when subsidies are taken into account. Since we know further growth will have to come with expanded offerings beyond high-end luxury, and that subsidies will not continue in perpetuity, it's safe to assume capacity will have to rise in order to grow revenues profitably. Capacity must be built with incremental investment moving forward, and this will eat up a considerable portion of the company's operating cash flow over the next several years.

Further, any valuation of Tesla is long in duration (in other words, the valuation is based on projections looking many years forward), and such valuations are inherently sensitive to assumptions. In such cases, the slightest of tweaks to a model could have the largest of consequences. Models also have a straight-line bias, assuming that growth will happen in compound fashion, while many forget that growth tends to be lumpy (which just so happened to be our theme in last year's August investment commentary)[6]. Higher growth will certainly "lump" around the new model launches and price cuts for Tesla, with more sideways action in between. These pauses in momentum will lead to uncertainty over assumptions and pressure on share prices.

Lastly, we also know that automobiles are a cyclically sensitive business, dependent on a strong economy. As we witnessed over the past five years, the auto business experiences deep slumps during economic contractions. While we remain of the belief that a recession is not imminent, we do know that a recession is inevitable at some point. Considering Tesla's market cap today relies on straight-line revenue growth in excess of 20% for over a decade, and since the Post-World War II US economy has experienced a recession at least once in each decade, it's clear that the company's stock price will be particularly vulnerable to any recession within that timeframe. One bad year during which Tesla executes its strategy perfectly, but the economy stagnates will seriously derail the assumptions underlying today's optimistic stock price and lead to a sharp drop in its share value. This is a 'when', not 'if' question and such a happening along with forced selling is most likely what it would take for us to own this stock in the future.

[6] http://www.rgaia.com/august-2012-commentary-politics-are-short-term-focus-long-term/

Thank you for your trust and confidence, and for selecting us to be your advisor of choice. Please call us directly to discuss this commentary in more detail. You can reach Jason or Elliot directly at 516-665-7800. Alternatively, we've included our direct dial numbers with our names, below.

Warm personal regards,

Jason Gilbert, CPA/PFS, CFF
Managing Director
M: (917) 536-3066
jason@rgaia.com

Elliot Turner, Esq.
Managing Director
M: (516) 729-5174
elliot@rgaia.com

Past performance is not necessarily indicative of future results. The views expressed above are those of RGA Investment Advisors LLC (RGA). These views are subject to change at any time based on market and other conditions, and RGA disclaims any responsibility to update such views. Past performance is no guarantee of future results. No forecasts can be guaranteed. These views may not be relied upon as investment advice. The investment process may change over time. The characteristics set forth above are intended as a general illustration of some of the criteria the team considers in selecting securities for the portfolio. Not all investments meet such criteria. In the event that a recommendation for the purchase or sale of any security is presented herein, RGA shall furnish to any person upon request a tabular presentation of: (i) The total number of shares or other units of the security held by RGA or its investment adviser representatives for its own account or for the account of officers, directors, trustees, partners or affiliates of RGA or for discretionary accounts of RGA or its investment adviser representatives, as maintained for clients. (ii) The price or price range at which the securities listed in item (i) were purchased. (iii) The date or range of dates during which the securities listed in response to item (i) were purchased.

1 Linden Place, Suite 302, Great Neck NY 11021 | Tel: (516) 665-7800 | www.rgaia.com