

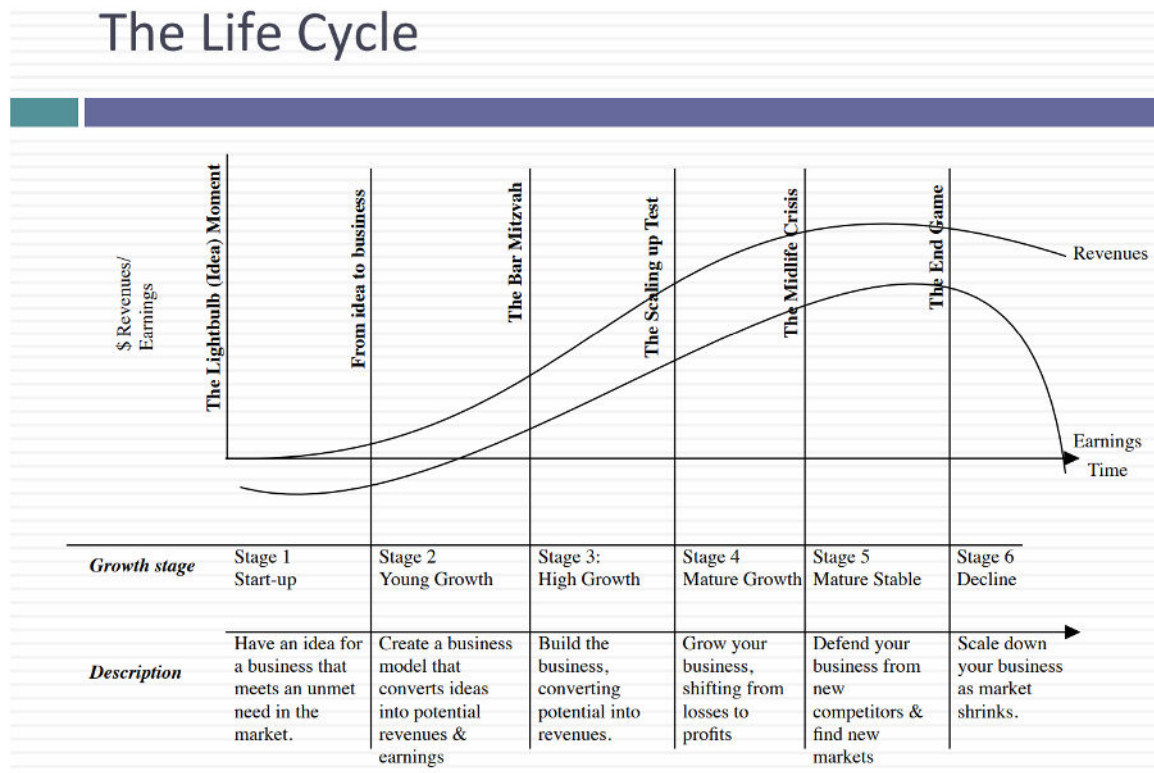
Tesla's Valuation Fountain of Youth

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Aswath Damodaran writes about what he calls the corporate life cycle.¹ He illustrates the life cycle with the graphic as shown below.



From a valuation perspective, Damodaran’s corporate life cycle can be broken down as follows. In the first part, Stage 1 and Stage 2, the company has no meaningful earnings and limited revenue. As a result, the P/E ratio is meaningless, and the P/Revenue ratio is exaggerated by the lack of revenue. These observations follow from the fact that most all the company’s value comes from what finance scholars call growth options. In finance, growth options refer to the opportunities available to a company to invest in new projects, expand operations, or enter new markets that have the potential to generate

¹ Damodaran, Aswath, 2019, The Corporate Life Cycle, <https://pages.stern.nyu.edu/~adamodar/pdffiles/country/corporatelifecycleShort.pdf>.

future growth. These options represent the potential value that can be created through strategic decisions and investments but have not yet been realized. During this growth option phase, companies are particularly difficult to value. Valuation multiples don't work. Future cash flows are distant and speculative making discounted cash flow valuation difficult at best. As a result, there are often widely varying valuations. Those who believe in the growth options place high values on the company while those who believe the options will never come to fruition give it little value.

As the company starts to exercise its growth options, earnings rise rapidly, and P/E and P/R ratios are high, reflecting the rapid growth. At this point, valuation ratios can be used to value the company but should be applied with care. Discounted cash flows valuations become less speculative because the company has some earnings history.

Once the company is mature earnings plateau and valuation ratios fall further to reflect that fact. At this point, more accurate valuations are possible. Valuation ratios are lower and more stable over time. There is a history of stable earnings that provides a basis for projecting future earnings in a discounted cash flow analysis.

Ford Motor company provides an example of the corporate life cycle. In the early days of Henry Ford, Ford was a startup whose value depended mostly on growth options. With the success of the Model-T, Ford's earnings and revenue exploded during a phase of rapid growth. Then, as competition emerged and growth slowed, Ford entered the mature phase as a major car maker with an established market presence but little growth.

Electric Vehicles and the Corporate Life Cycle

Electric vehicles are an interesting case, because by the time they were introduced the global market for light vehicles was already mature and growth was slow. Unlike the

early days of Ford, when the market for light vehicles was exploding, by the time Tesla began selling cars the market for light vehicles had already dropped to the overall rate of economic growth. Therefore, the growth options for EV companies were associated with a transition from one form of propulsion to another. This fact condensed the corporate life cycle. There was no need to introduce consumers to a fundamentally new product simply to convince them, and government regulators, to transition to EVs.

In the early stages of the electric vehicle transition investors placed huge valuations on the growth options. For instance, following its IPO Rivian's market capitalization was over \$120 billion, about equal to that of Ford and General Motors combined, even though the company was years away from selling its first car. In our publication, [Valuing the Automotive Industry](#), we warned that this was an unstable situation.² We said,

The analysis presented here implies that the transition to electric vehicles will not fundamentally change the nature of the automotive industry. Although electric cars will become predominant, the industry will remain highly competitive and capital intensive. If anything, the electric vehicle boom has made the market even more competitive as electric vehicles specialists enter to compete with traditional manufacturers. . Over the next decade, it will be difficult for investors in auto manufacturers to earn meaningfully positive stock returns with the outlook for investment in electric vehicle specialists being particularly bleak.

² Cornell Capital Group, 2021, Valuing the Automotive Industry, <https://www.cornell-capital.com/blog/2021/11/valuing-the-automotive-industry.html>.

That conclusion turned out to be spot on. As the EV market matured, competition became rampant, particularly from new Chinese companies, and growth options collapsed in value. For instance, the market capitalization of Rivian dropped 90% to \$14 billion. And compared to the fate of many other electric vehicle start-ups, that was a good outcome. Fisker, Lordstown, and Canoo all went bankrupt. Ford and GM cut back on their electric vehicle production stating that they were losing money on every car and truck they produced. Even Tesla suffered. Whereas the stock price reached \$404.62 in November 2021 by April 2024 it was trading at \$142.05. Tesla was rapidly becoming just another mature car company in a hotly competitive market. And then something interesting happened.

Between April 24, 2024 and July 10, 2024, Tesla's stock price rose from \$142.05 to \$263.26, an increase of 85.3%, that added more than \$350 billion in market capitalization. This run-up occurred despite a year-over-year decline in revenue, earnings and deliveries. Suddenly Tesla was no longer trading as the mature car company it had apparently become. Instead, from a valuation standpoint it looked more and more like a growth company in the early stages of Damodaran's life cycle. For instance, on July 10, 2024, Tesla's P/E ratio was 67.7, compared to 9.1 for Toyota, the most profitable automaker, and 5.7 for General Motors.

The explanation for this remarkable development was Elon Musk's ability to create growth options simply by declaration. For example, at the shareholders meeting on June 24, 2024, Mr. Musk said³,

And I think we could make one (Tesla robot) for a cost of maybe at really high scale of about \$10,000. It'd be less expensive than a car. And I think if you sell it for \$20,000, I think, this is at large scale volume, Tesla would basically make about a trillion dollars of profit a year from that. If the price earnings multiple is saying under 20, or 25, something like that, that would mean a \$20 trillion market cap from Optimus alone, and probably 5 to 10 from autonomous vehicles. So like I think it's actually conceivable, it's within the realm of possibility for Tesla to achieve a valuation 10 times that of the most valuable company today.

The stock responded by rising a remarkable 55% over the next eleven trading days. The only fundamental information that could possibly have contributed to that rise was the announcement that deliveries *fell* somewhat less than expected.

If any CEO other than Mr. Musk made statements about multi-trillion-dollar growth options, the stock price of their company would likely have dropped on concerns regarding the CEO's rationality. But in the case of Tesla many investors were willing, at least at that point in time, to accept the possibility that something at least akin to what Mr. Musk was describing may actually occur. After all, this is the man who transformed both the auto industry and the space launch industry. To such investors, Musk's

³ Tesla shareholder meeting transcript, <https://www.teslarati.com/tesla-2024-annual-shareholder-meeting-transcript/>.

purported growth options could easily justify the \$300 billion dollar increase in market cap. For instance, in early June fund manager Cathie Wood set a \$2,600 price target that Tesla would hit by 2029. She also listed a price target of \$3,100 in a bullish scenario along with a bear case of \$2,000. Given the stated magnitude of these growth options, it does not require a high probability that they will be realized to have a large impact on the current market price of Tesla's stock. Mr. Musk had discovered a fountain of youth for his company. Suddenly manufacturing and selling personal vehicles was going to take a back seat to Tesla's development full self-driving software, robotaxis, and personal robots – all stage 1 businesses in Damodaran's life cycle. Tesla was new once again.

But there is a nuance to consider. Mr. Musk's credibility and ability to create growth options may not be constant over time but might ebb and flow. For instance, [Mr. Musk has been predicting that full self-driving is about a year away since 2014.](#)

Currently, investors seem to be willing to overlook those failures, but will that always be the case? If full self-driving and robotaxis do not appear soon, could it destroy investor confidence in Musk's growth options and crater the stock price or will Mr. Musk be able to cast any failures aside with new decrees about other opportunities?

Investment Implications of Tesla's Fountain of Youth

Tesla's fountain of youth has three investment implications. First, it highlights the importance of Elon Musk for Tesla's valuation. His unprecedented ability to create growth options by decree allows Tesla to constantly reinvent itself as an early life company and avoid being valued as a rapidly maturing automaker. This implies that if Mr. Musk were to leave the company for any reason, the company's stock price would most likely drop precipitously as investors re-evaluated the company's growth options.

Second, and related to the first, it makes Tesla especially difficult to value. With a large and variable portion of the company's value continually dependent on early-stage growth options that will not produce earnings for years, discounted cash flow valuation becomes highly speculative. Try projecting the cash flows from the sale of robots a decade hence. Third, as Keynes observed, short-run movements in price depend not on the growth options per se but on investor sentiment regarding those growth options. Unfortunately, predicting how investor sentiment will evolve is perhaps even more difficult than predicting what Mr. Musk will say next. Finally, trying to predict the interaction between potential future Musk decrees and the confidence investors will have in them is, in our view, well nigh impossible.