Tesla, Inc. Review and Outlook
March 2024

1. **Baron Capital remains confident in Tesla and its business model.**
   The automotive industry, a multi trillion-dollar market, is going through significant, tectonic fundamental changes that we believe will allow Tesla to become a materially larger and more profitable business over time. Our deep fundamental research across the industry enhances our conviction that Tesla remains a key cost and architecture leader and that the current slowdown in growth is not structural, but rather driven by product launch cycles. We expect Tesla's earnings to improve materially over time as the company benefits from its cost and technology advantages across hardware, software, and artificial intelligence.

   We believe that Tesla's next vehicle platform can make it one of the largest, most profitable automotive Original Equipment Manufacturers (OEM) in the world. Other opportunities that are not being fully appreciated in the current stock price include robotics, power plant solutions, and compute.

2. **Tesla is the leading manufacturer of battery powered electric cars (EV).**
   Tesla has substantial quality and technical competitive advantages over other OEMs, in our view. It is a unique, low-cost vertically integrated manufacturer. Currently, fewer than 10% of all automobiles manufactured are battery powered plug-in hybrids or conventional hybrids. However, it's anticipated that hybrids or plug-in hybrids will eventually be phased out as they serve as a short-term strategy for Internal Combustion Engine (ICE) OEMs to delay the transition to EVs. We expect, if the current demand continues, that by 2035, most cars will utilize an electric powertrain. Additionally, we expect Tesla will be a low-cost battery producer for cars and provide low-cost battery storage for the industry and utilities.

3. **Baron Capital, on behalf of client managed and Firm accounts, initially purchased shares of Tesla between 2014 to 2016, at a total cost of approximately $400 million and at an average cost per share of $15. Since then and through the end of last year, we have made about $5.5 billion in realized and unrealized profits.**
   - At the time of our initial investment, Tesla's annual car production stood at approximately 31,000 units.
   - From the end of the summer of 2020 through the end of 2021, with Tesla producing 600,000 cars annually, we reduced our shares held by roughly 28% at an average price of $235. The increase in the value of the share price since the time of purchase resulted in an outsized position, causing us to sell shares to reduce some of our exposure.
   - Currently, Tesla is producing 1.8 million cars per year. Since the current production was publicly announced, in January of this year, the stock has traded between $160 and $206, and at an average of $183 per share.
   - For the next 12 to 18 months, we expect Tesla's unit growth to be modest until the new more affordable model is introduced in 2025. However, Tesla stated that its long-term goal is to produce 20 million cars per year.

4. **Autonomous driving software has the potential to generate hundreds of billions of annual high margin revenues over the next decade.**
   Tesla could license autonomous driving software to other OEMs also known as "Tesla Inside." With Tesla having manufactured five million EVs, three million of which drive on average 30 miles per day, the company is collecting 100 million miles of driving data daily. This accumulation of data will facilitate the training of Tesla's autonomous driving platform. In 18 months, Tesla expects to have more compute than any competitor to train cars, representing an unparalleled competitive advantage in our estimation.

5. **We believe that over the next decade, EVs can represent most new vehicle sales globally, with Tesla at the forefront.**
   Since the early 1900s, the automotive industry has leveraged combustion engine technology. We believe that the electric powertrain offers crucial architectural advantages that will allow it to continue to take share of the new vehicle market:

   - **Electric vehicles are safer.** Due to a vehicle's large battery pack, usually positioned at the vehicle's floor, EVs have a low center of gravity, making them less prone to rollovers and protecting passengers in case of a side collision.

   - **Electric vehicles are better.** EVs benefit from instant torque, which usually translates to better acceleration, while a low center of gravity improves maneuverability. In addition, EV batteries are serving as a power source to operate additional infotainment and advanced driver assist solutions effectively and efficiently.

   - **Electric vehicles are getting cheaper.** Tesla vehicles today are already cheaper than its competitors in the segment. For example, the Tesla Model 3 is priced at approximately $39,000 in the U.S., thousands of dollars below a comparable BMW 3 Series and well below the current average purchasing price of a new vehicle in the U.S. ($47,000). With lower operating costs, as of 2022, the Tesla Model 3 already offered a total cost of ownership similar to that of significantly cheaper vehicles such as the Toyota Corolla.

6. **Tesla is a cost leader in EV manufacturing and well-positioned to continue to take share with its existing vehicle programs.**
   As of the end of 2023, the company produced its vehicles with an average cost of approximately $36,000 and generated close to $7,000 of gross profit per unit sold. Competitors in the industry continue to present deep losses on their EV operations, with each EV sold also detracting from their ability to sell ICE vehicles. For example, in the fourth quarter 2023, Ford reported an EBIT loss of $47,000 per EV sold, despite having higher average transaction prices than Tesla. At the same time, Ford generated over $1,000 of EBIT profit per ICE vehicle sold.

7. **Tesla's vertical integration and scale allow for faster innovation and further cost reductions.**
   Tesla's strong technical skill allows the company to identify cost efficiencies that traditional OEMs, which leverage the traditional automotive supply chain, cannot achieve, in our view. With the continuous pursuit of efficiency, the company developed key technologies internally that can further improve product quality while reducing costs. For example, Tesla's revolutionary battery cell, the 4680, is expected to provide the company with an important advantage in the single largest cost driver of an EV, its battery. Moreover, as a key leader in the EV space, Tesla is a strategic customer of the EV supply chain, providing the company negotiating advantages with its suppliers.

8. **Manufacturing innovation should extend Tesla's advantage and significantly expand its addressable market.**
   Tesla is developing its next generation EV platform. The company has a goal to reduce its EV costs by around 50%, aiming to reach a groundbreaking manufacturing cost per unit of $20,000. Its factory floor space for its next generation car would be about 40% less than current factories, with similar unit output. By achieving this goal, Tesla would be able to significantly improve its margin structure and take material share of new vehicle sales. Management's goal is to sell close to 5 million units a year of the next generation platform.

9. **Tesla is leading the industry with its artificial intelligence and software capabilities, which should allow the company to potentially generate hundreds of billions of incremental value well beyond its hardware-based margins.**
   Since its inception, Tesla has delivered connected vehicles to its customers, enabling over-the-air updates and improved product functionality beyond the factory. This is a feat the industry has been trying, but so far failing to achieve.

   In 2016, Tesla's management decided to equip every vehicle it produced with an advanced set of hardware, which includes cameras and compute power. We believe that with a car fleet that spans over 5 million vehicles today, the 2016 decision has provided a material advantage in data collection for the company.

   With this very large and growing data set advantage, Tesla is continuously evolving its Full Self-Driving functionality, positioning the company at the forefront of the autonomous vehicle market.

   With over 11 trillion miles travelled globally each year, we believe that autonomous vehicles represent a high-margin, multi-trillion market opportunity for the company.

10. **Tesla's software initiatives are expanding well beyond its vehicles.**
    The company currently offers customers a unique insurance product, advanced energy transaction system (Autobidder), virtual power plant solutions, and even a potential competitor for NVIDIA through its Dojo development program. Tesla humanoid is evolving rapidly and offering opportunities in this new and large future market.

In our view, the software opportunity at Tesla is not fully appreciated. As an example, an OEM that sells 10 million cars a year at $35,000 each and 10% EBIT margins would generate $35 billion of EBIT profit a year. However, assuming a 10-year life cycle of a car, the same OEM has a car fleet of approximately 100 million units. At $200 per unit per month subscription revenue with extraordinary margins, this OEM can earn up to $200 billion of EBIT per year from software alone.

11. **Tesla leverages its battery and software expertise to expand to new markets that were not feasible for the traditional automotive industry participants. This includes energy storage, a rapidly growing segment within the company with "quasi-infinite" demand.** The company deployed close to 15GWh of energy storage in 2023, materially above its 6GWh installed in 2022 and 3GWh in 2020. The company is currently ramping up two facilities with a combined annual capacity of 80GWh. As battery costs reduce, and as alternative energy becomes a larger part of our energy ecosystem, we believe there are tremendous growth opportunities encapsulated within Tesla's energy storage segment. In 2023, the segment represented around 5% of overall revenues, while growing significantly faster than the automotive segment and presenting gross margins well above expectations.

    We expect that with battery innovation, cost reduction initiatives, additional cell availability, improved integration with the rest of the energy ecosystem including solar and grid, and the Autobidder functionality, return on energy storage investment will continue to improve, supporting long-term growth in the segment.

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