

Recommendation: **SELL****EXECUTIVE SUMMARY AND CURRENT HIGHLIGHTS**

Tesla is the leading powerhouse in the Electric Vehicle automotive market, offering premium vehicles along with service solutions and energy generation and storage systems. However, with a questionable leadership track record and erratic behaviors of the CEO and founder Elon Musk, and stock highly reliant on speculation, I believe Tesla's actual value lies South of its current price.

I issue a **SELL** recommendation for Tesla with a one-year target price of **\$329.89** triangulated between my Residual Income Model (RIM), Comparative Company Analysis (CCA), and Discounted Cash Flow (DCF). My target price represents a 67.50% downside from the last close of \$1014.97 on December 3, 2021.

TSLA.NSDQ Overview	
Date	December 3, 2021
Target Price	\$329.89
Last Close	\$1014.97
Downside	-67.50%
Market Cap	\$974.37bn
Shares Outstanding	960m
52-Week High	\$1243.49
52-Week Low	\$539.49
P / E (LTM)	257.61
P / BV (LTM)	46.30
EPS (2021)	\$1.17

I base my recommendation on the following current highlights: (1) macroeconomic conditions resulting from the global COVID-19 pandemic, (2) erratic and unpredictable actions of Elon Musk, and (3) a potential deal with the car rental company Hertz.

Macroeconomic conditions resulting from the pandemic

Since Q1 2020, there has been a seismic impact on the global economy due to the COVID-19 pandemic. As a result, Tesla temporarily suspended operations in each of their manufacturing facilities worldwide for a part of the first half of 2020. Some of Tesla's suppliers and partners also experienced temporary suspensions before resuming, including Panasonic, which manufactures battery cells for our products at our Gigafactory Nevada. Tesla also instituted temporary employee furloughs and compensation reductions while scaling back their US operations. Global trade conditions, such as the worldwide microchip shortage, and consumer trends, may further adversely impact Tesla and the industry. The contingencies inherent in the construction and ramp-up at new facilities such as Gigafactory Shanghai, Gigafactory Berlin, and Gigafactory Texas may be exacerbated by these challenges¹.

Erratic and Unpredictable Actions of Elon Musk

Elon Musk is the firebrand founder, CEO, and Board member of Tesla. He is an inventor by trade and is at the helm of several other companies he founded, such as SpaceX, Neuralink, and The Boring Company. He was named the wealthiest person on Earth in early 2021. What has become known as the "Musk Effect," the tweets of the 49-year-old are enough to shake the markets. For example, in February 2021, Musk announced that Tesla has bought \$1.5 billion worth of Bitcoin and will soon start accepting the virtual currency as a genuine mode of payment for electric vehicles. This news made Bitcoin reach fresh record highs. However, in May, he

decided to dump Bitcoin, saying Tesla will not be accepting the cryptocurrency anymore to buy Tesla vehicles, citing ‘environmental risks’ associated with the virtual currency. This news led to Bitcoin’s value tumbling to a three-month low². However, two of the most prominent faux pas Musk made were tweeting a poll to decide whether to sell 10% of his Tesla stock and tweeting that he was considering privatizing the stock. First, on November 6, 2021, Musk tweeted, “Much is made lately of unrealized gains being a means of tax avoidance, so I propose selling 10% of my Tesla stock. Do you support this?”³ This caused the stock price to go into a frenzy and fell sharply. Later it was found out that he had stock options that were expiring soon and would have to sell options to cover a \$15 billion capital gains tax bill and other debt obligations^{4,5}. Second, JP Morgan sued Tesla for \$162 million in November 2021. This lawsuit was based on Musk’s tweets from 2018 claiming he had funding to take Tesla off the New York stock market, which sparked volatility in the share price. Musk later abandoned this move, and he got fined by the SEC. JP Morgan claimed that Tesla violated a stock option agreement, and Musk’s tweets caused increased volatility⁶. These examples show that Tesla’s mercurial leader, Musk is often the driving factor behind the stock’s volatility.

Potential Deal with Hertz

In late October 2021, Tesla and top car rental company Hertz agreed to buy more than 100,000 Tesla vehicles for Hertz’s fleet by the end of 2022, one of the most significant purchases of battery-powered cars in history. This news triggered a surge in Tesla’s stock price, raising its market cap to over one trillion dollars⁷. But then, Elon Musk tweeted in early November that no

deal had been finalized and “no contract has been signed yet.” This tweet immediately caused the stock price to drop 8% the same day. Regardless, Hertz insisted that its plans haven’t changed and that deliveries of Teslas have already started⁸. The Hertz deal will be a major source of revenue for Tesla through the last quarter of 2021 and the entirety of 2022.

BUSINESS DESCRIPTION AND COMPANY OVERVIEW

Overview

Tesla, Inc. is a global electric vehicle and energy generation and storage systems manufacturer headquartered in Palo Alto, California, United States. With a high degree of vertical integration, Tesla designs, develops, manufactures, sells, and leases high-performance fully electric vehicles and energy generation and storage systems and offers services related to their sustainable energy products. Founded in 2003 in San Carlos, California, Tesla remains primarily in the electric vehicle market despite a pivot into solar energy via a merger and acquisition, which resulted in the subsidiary Tesla Energy. Tesla went public by filing its IPO on June 29, 2010, on the Nasdaq Index under the ticker symbol TSLA. Tesla’s workforce consists of more than 70k employees. Tesla reported \$31.5bn in total revenue in 2020 and produced an internal record of more than half a million vehicles¹⁰.

Business Segments and Geographic Reach

The company’s main business areas are the automotive, energy generation, and storage segments. The automotive segment involves the design, development, manufacturing, sales, and leasing of electric vehicles and sales of automotive regulatory credits, which account for 86.4%

of total revenue. In addition, 6.3% of total revenue comes from the energy generation and storage segment, which comprises the design, manufacture, installation, sales, and leasing of solar energy generation and energy storage products. Each segment has related services and other revenue streams, which account for 7.3% of the company's total revenue (Figure 1)⁹.

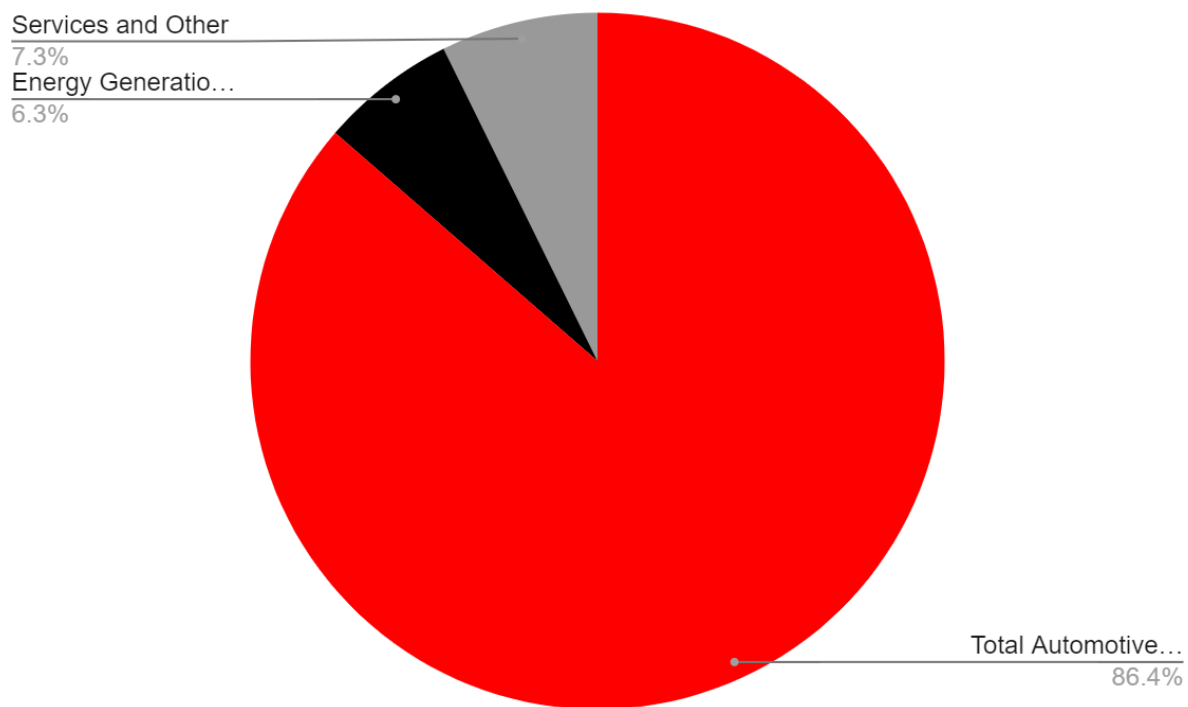


Figure 1: 2020 Revenue by business segment (Source: Company Data - 2020 10-K)

Tesla's products have a global reach, with 48% of 2020 sales generated from the US market, 21% of sales generated in China, and 31% from the other international markets (Figure

3). Tesla manufactures all its products using its proprietary manufacturing facilities. Tesla's primary manufacturing facilities include the Tesla Factory in Fremont, California, USA; Gigafactory Nevada, near Reno, Nevada, USA; Gigafactory New York, near Buffalo, New York, USA; and Gigafactory Shanghai in Shanghai, China. In addition to that, there are two new Gigafactories under construction in Texas and Berlin, Germany.

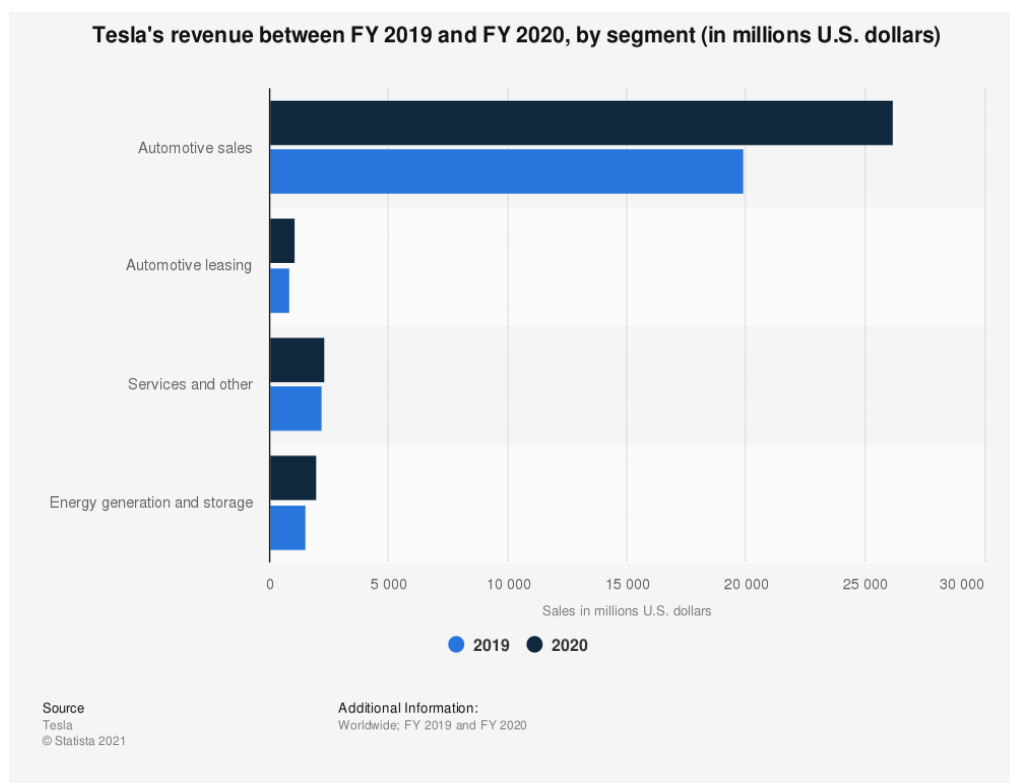


Figure 2: 2020 vs 2019 Revenue by segment (Source: Statista 2021).

<https://www.statista.com/statistics/314741/revenue-of-tesla-by-segment/>

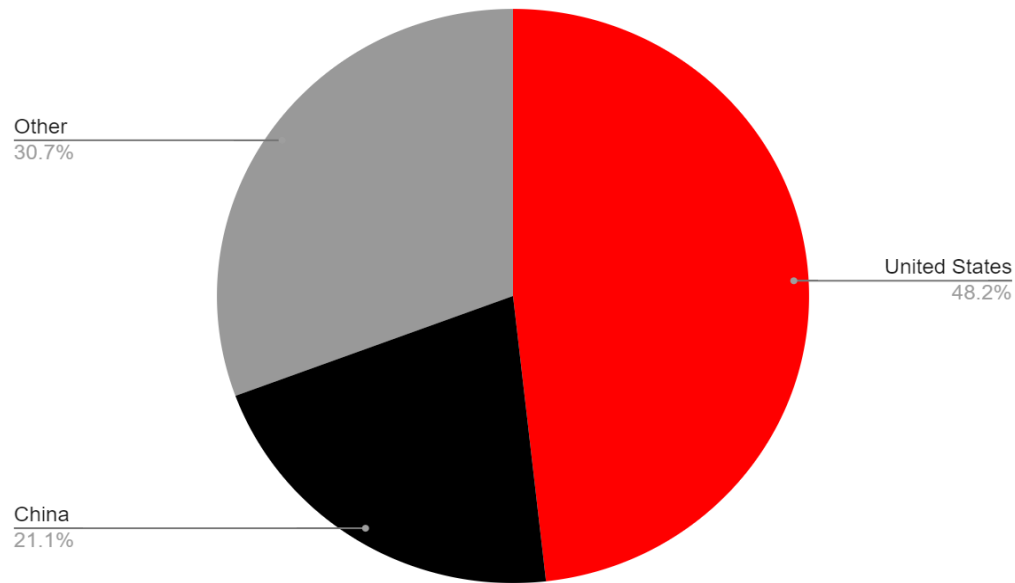


Figure 3: 2020 Revenue by Geography

(Source: Company Data -2020 10-K)

Impact of Covid-19

During the Covid-19 pandemic, Tesla had to temporarily suspend production at its Fremont factory and others, resulting in fewer vehicles in Q2 2020. This temporary suspension of production during the first half of 2020 caused limitations in production that, along with closed or reduced government and third-party partner operations, negatively impacted deliveries and deployments in 2020. While Tesla resumed operations in all factories worldwide, the temporary suspension at their factories incurred idle capacity charges. As part of their Covid-19 response strategy, Tesla has instituted cost reduction measures across their business globally proportionate to the scope of operations while they were scaled back in the first half of 2020. These included temporary labor cost reduction measures, such as furloughs and compensation reductions. In addition to that, they suspended non-critical operating spending and renegotiated

supplier and vendor agreements. Furthermore, government incentives in response to Covid-19 helped reduce the impact of Covid-19 on Tesla's financial results by providing payroll-related benefits. As a result, the effect of the idle capacity charges incurred during the first half of 2020 was almost entirely offset by the cost savings initiatives and payroll-related benefits¹.

Product Highlights:

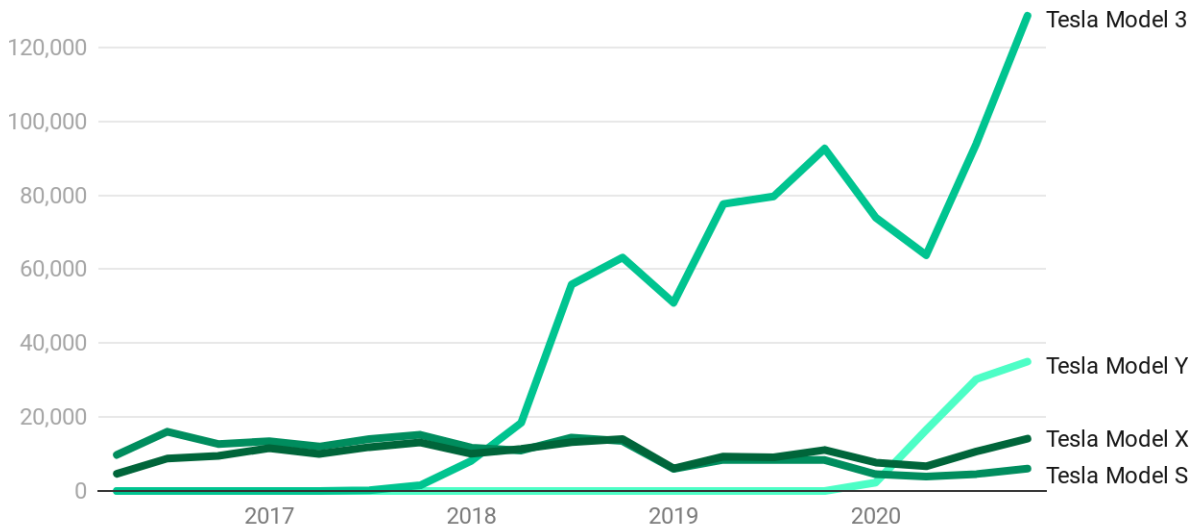
Tesla currently produces four electric vehicle models: Models 3, Y, S, and X. The Model 3 is a four-door sedan designed for manufacturability with a base price for mass-market appeal manufactured in the Fremont factory, and Gigafactory Shanghai began delivering in July 2017. The Model Y, which started delivering in March 2020, is a compact SUV (sport utility vehicle) built on the Model 3 platform also manufactured at the Fremont factory and Gigafactory Shanghai. The Model S is a four-door sedan manufactured in the Fremont factory and began delivering in June 2012. Finally, the Model X is a mid-size SUV that started delivering in September 2015 and is produced in the Fremont factory. The Model S and Model X feature the highest performance characteristics and most extended ranges offered in a sedan and SUV, respectively, by Tesla. Vehicle sales by the model are shown in Figure 4. Tesla has also announced several planned electric vehicles to target additional vehicle markets, including Cybertruck, the new Tesla Roadster, and a commercial electric vehicle called Tesla Semi.

Under the energy generation and storage segment, Tesla manufactures a set of energy solutions, Powerwall, Powerpack, Megapack, and Solar Roof, enabling homeowners, businesses, and utilities to manage renewable energy generation, storage, and consumption. Powerwall and Solar Roof are designed to store energy at home or in small commercial facilities. Megapack and

Powerpack are energy storage solutions for commercial, industrial, utility, and energy generation customers, which may be grouped to form larger installations capable of reaching gigawatt-hours (GWh) capacity or greater. By bringing cell production in-house at Gigafactory Nevada, Tesla manufactures batteries at the volumes required to meet production goals while creating jobs. In addition, Tesla is ramping up the volume production of Solar Roof in Gigafactory New York. This level of vertical integration has allowed Tesla to reduce battery cell costs significantly.

Within Tesla's services segment, Tesla offers numerous services to complement the automotive and renewable energy segments. Tesla provides access to its global network of Tesla Superchargers, industrial-grade, high-speed vehicle chargers. Select vehicle models have a self-driving "Autopilot" feature. Tesla also offers servicing of vehicles and limited warranties to customers. Tesla also provides purchase financing and leases for its electric vehicles and loan/lease options for its solar energy storage systems.

Tesla Vehicle Sales (Quarterly Deliveries)



In 2020, combined 3/Y and S/X estimates are from Tesla, while assumptions from Troy Teslike and CleanTechnica's Zach Shahan are used to come up with model-specific delivery estimates. Before 2020, Tesla provided Model 3 figures, and once upon a time, Tesla broke out Model S and Model X sales data.

Chart: CleanTechnica • Source: Tesla | Troy Teslike | CleanTechnica • Created with Datawrapper

Figure 4: Vehicle Sales (Quarterly Deliveries) by model (Source: CleanTechnica 2021.

<https://cleantechnica.com/2021/01/01/troy-teslike-estimates-502692-tesla-sales-in-2020/>)

Company Strategy:

The company's corporate strategy is to maintain its position as the leading electrical vehicle (EV) manufacturer and its share of the global EV market. Tesla currently has the largest market share in both the US and global EV markets, which are 66.3% and 15%, respectively¹⁷ (Figure 5). Tesla's mission is to accelerate the world's transition to sustainable energy. Central to these goals is to invest more in technology than its competitors and stay ahead of the competition. In the automotive segment, Tesla's future R&D is being directed towards five areas: increasing vehicle production and capacity, improving and developing battery

technologies, improving FSD (full self-driving) and Autopilot capabilities, increasing the affordability and efficiency of their vehicles, and expanding their global infrastructure¹¹. In the energy generation and storage segment, Tesla is directing future R&D towards ramping production of energy storage products, improving their Solar Roof installation capability and efficiency, and increasing the market share of retrofit solar energy systems. Recognizing the global trend towards electric vehicles and renewable energy sources, Tesla believes technology will allow it to outpace the market.

U.S. Electric new vehicle registration share by brand

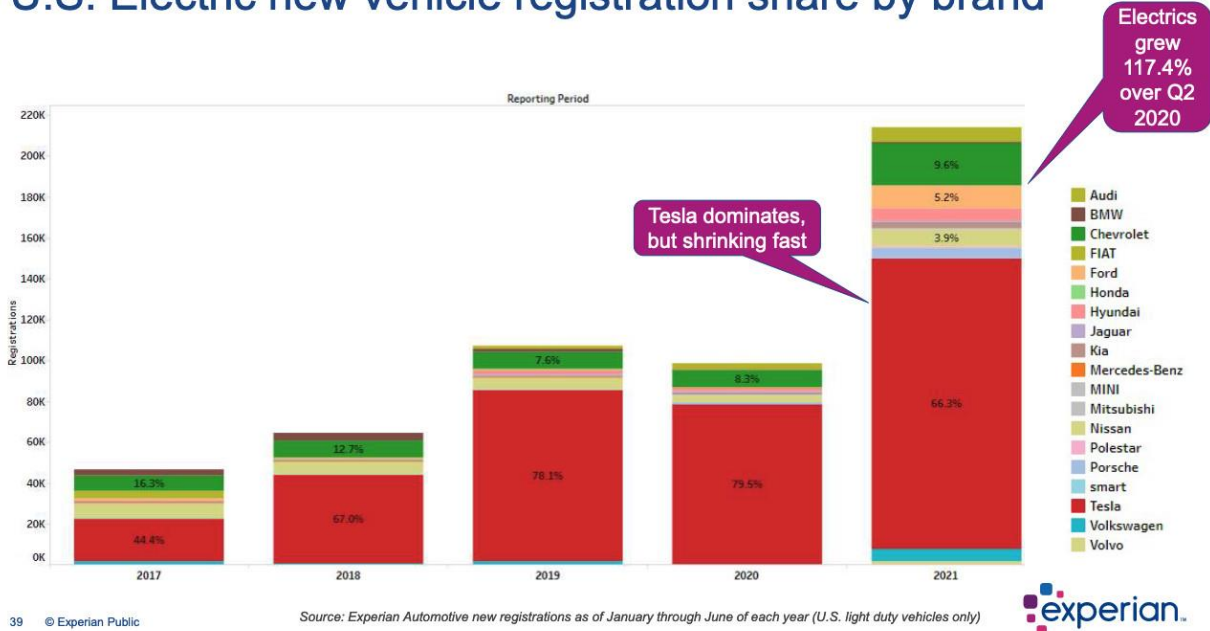


Figure 5: US New Electric Vehicle Registration by Brand and Market Share (Source: Experian)

Industry Overview and Competitive Positioning

The global electric vehicle market in 2020 was worth approximately USD 171.26 billion¹² (Figure 6). It is expected to reach a value of USD 725.14 billion by 2026, registering a

CAGR (Compound Annual Growth Rate) of about 27.19% during the forecast period of 2021-2026.

The COVID-19 pandemic undeniably impacted the electric vehicle market, just as it impacted almost every other industry. However, the electric vehicle market has seen substantial growth due to the swiftly accelerating adoption rate of electric vehicles across the world. For example, there was a dramatic rise in electric vehicle sales in China and Europe even during the pandemic.

Factors such as rising oil prices and an increasing number of government initiatives across different regions that incentivize electric vehicle use and manufacture are expected to promote the usage of electric vehicles over the forecasted period. In addition, infrastructure for charging stations, such as Tesla's Supercharger network, continues to expand. Countries like China continue to lead the passenger vehicles and urban buses market, leading to a well-established supply chain for batteries and traction motors.

The Asia-Pacific region is expected to experience the fastest growth, followed by Europe and North America. This is because the automotive industry in countries such as China, India, Japan, and South Korea is inclined towards innovation, modern technology, and advanced electric vehicle development. In addition to that, the increasing demand for reducing carbon emissions and developing more efficient and faster-charging stations is expected to propel the growth of electric vehicles in the market during the forecast period.

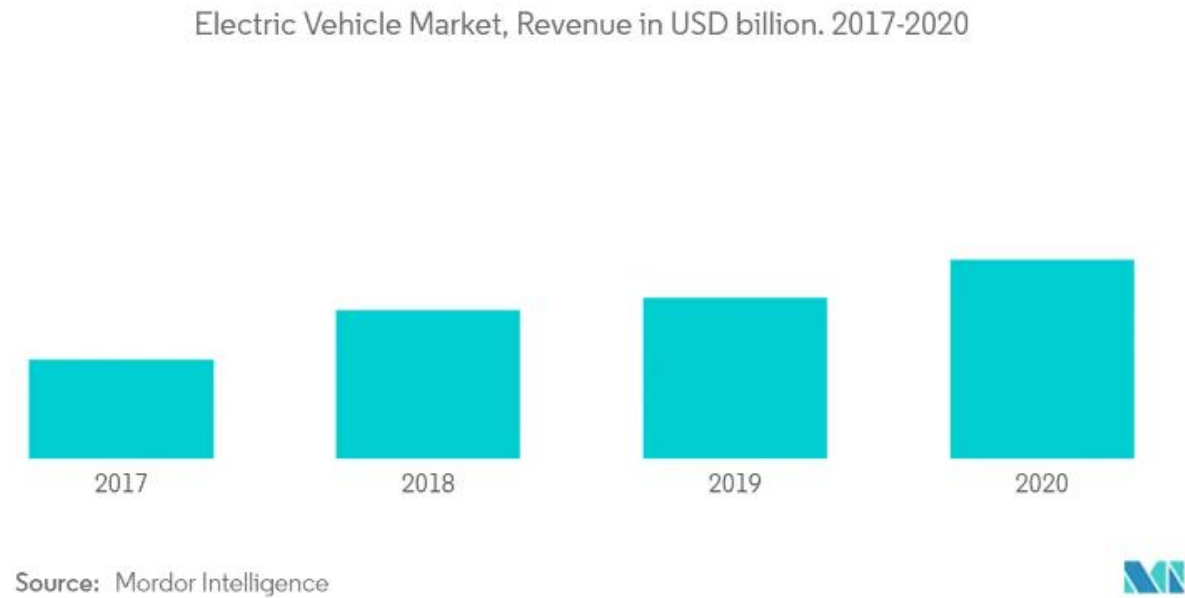


Figure 6: Electric Vehicle Market Revenue in USD billions

For both the manufacturing/development and usage of electric vehicles, the key markets are Asia Pacific, Europe, and North America (Figures 7, 8). The **heavy investment from key automakers in electric vehicles, significant growth in the Chinese market, rising consumer spending on electric cars, increasing government support for electric vehicle adoption, and a growing range of electric vehicles offered by automakers** are the main driving factors of the industry in the coming years. In the U.S., the major electric vehicle manufacturers are Tesla, General Motors, and Nissan. China's top electric vehicle selling companies are Tesla, BYD, SAIC, NIO, BAIC, and Chery. In Europe, the companies selling the most electric vehicles are Volkswagen, Stellantis, BMW, Daimler (Mercedes Benz), and Renault-Nissan-Mitsubishi Alliance.

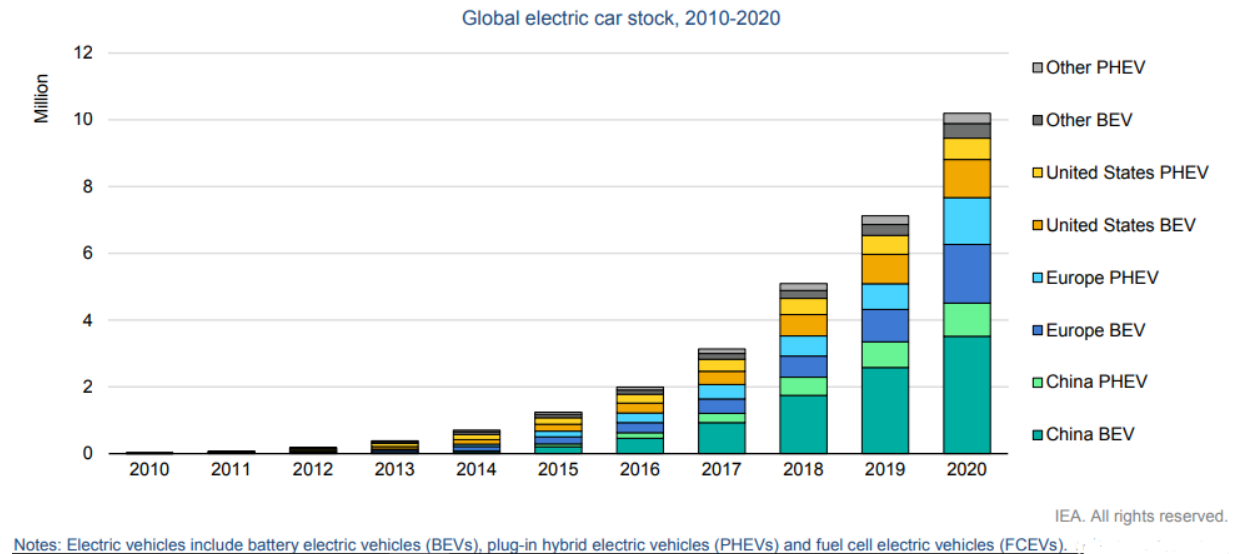


Figure 7: Global electric passenger car stock, 2010-2020 (Source: IEA)

Heavy investment from key automakers: Automakers are making significant investments to cater to the growing demand for electric vehicles and thus play a significant role in the evolution of the electric vehicle market. Automotive manufacturers offer electric vehicles in different segments ranging from hatchbacks such as the Nissan Leaf to high-end sedans like the Tesla Model 3. For example, some of these heavy investments are:

- Ford Motor Company had previously committed to investing USD 11.5 billion on electrifying its lineup of vehicles through 2022 by manufacturing new hybrid and fully electric vehicles in Canada. However, its recent announcement increased its investment in autonomous and electric vehicles amid continuous lockdowns to boost vehicle sales, notably mentioning the development of the 2022 Ford F-150 Lightning truck.
- Mercedes Benz confirmed that it would roll out 25 new plug-in hybrid electric vehicles (PHEV) in addition to fully electric vehicles by 2025. The broad product offering by the

companies attracted many customers. It resulted in a growing market for electric vehicles in all segments.

- Taiwanese electric vehicle company Ahmani EV Tech formed a joint venture with Renon to produce battery packs for the Indian automobile market.
- To fulfill the charging station gap in North America, Tesla will construct numerous charging stations across the United States and Canada, including solar-powered charging stations, to improve infrastructure for electric vehicles.

Significant growth in the Chinese market: China is expected to solidify its position as the leader in the electric vehicle market during the forecast period. With a sales share of around 85%¹³, domestic vehicle manufacturers currently dominate the Chinese electric vehicle market. However, China imposed a quota on manufacturers for 100% electric or hybrid vehicles, representing at least 10% of total new sales. In addition to that, several major cities and provinces have imposed their own increasingly stringent regulations on vehicles using fossil fuels.

For example, the city of Beijing only issues 10,000 permits for the registration of combustion-engine vehicles per month to encourage its residents to switch to electric vehicles. Measures like these are leading China to formulate determined and optimistic prospects for developing electric vehicles in the country, which is expected to drive the market upwards.

Generous subsidies and tight regulation continue to drive much of the growth. Electric vehicles are exempt from license-plate lotteries and auctions in some Chinese cities. This still plays an instrumental role in expanding electric vehicle adoption. After a successful pilot program in selected cities, the Chinese government decided last year to introduce green license plates for new energy vehicles (primarily electric vehicles) across the country.

BYD, BAIC, Chery, and SAIC are key regional players in the Asia-Pacific electric vehicle market.



Figure 8: Electric Vehicle Market – Growth Rate by Region (2021-2026)

Rising consumer spending on electric cars: Consumers spent USD 120 billion on electric car purchases in 2020, a 50% increase from 2019, which breaks down to a 41% increase in sales and a 6% increase in average prices. The rise in average prices reflects that Europe, where prices are higher on average than in Asia, accounted for a more considerable proportion of new electric vehicle sales and registrations. As a result, in 2020, the global average battery electric vehicle (BEV) was around USD 40,000. A plug-in hybrid electric vehicle (PHEV) was around USD 50,000.

Sales of new electric cars globally breached the 1 million threshold in 2017. This was an increase of about 54% compared to 2016. In 2018, the industry breached the 2 million sales mark. Sales of internal combustion engine (ICE) vehicles have saturated in some countries, like Norway, where customers purchase electric vehicles at a higher rate than ICE ones. However, the uptake of electric vehicles is still majorly driven by the policy environment. The ten leading countries (such as China, the United States, Norway, Germany, Japan, the United Kingdom, France, Sweden, Canada, and the Netherlands) in electric vehicle adoption all have a range of policies in place to promote the uptake of electric vehicles (Figure 8).

Increasing government support for electric vehicle adoption: Governments worldwide spent USD 14 billion on direct purchase incentives and tax deductions for electric cars in 2020, a 25% rise year-on-year. Despite that, the share of government incentives in total spending on electric vehicles has been downward from roughly 20% in 2015 to 10% in 2020 (Figure 9). The majority of the increase in government spending was in Europe, where many countries responded to the pandemic-induced economic downturn with incentive schemes that boosted electric car sales. In China, government spending decreased as the eligibility requirements for incentive programs tightened.

An important novelty in subsidy schemes was the introduction of price caps in Europe and China; that is, no subsidy will be provided for vehicles above a certain price threshold. This may have resulted in electric car prices falling in Europe and China. For example, BEV cars sold in China were 3% cheaper in 2020 than in 2019, while PHEV cars were 8% cheaper in Europe.

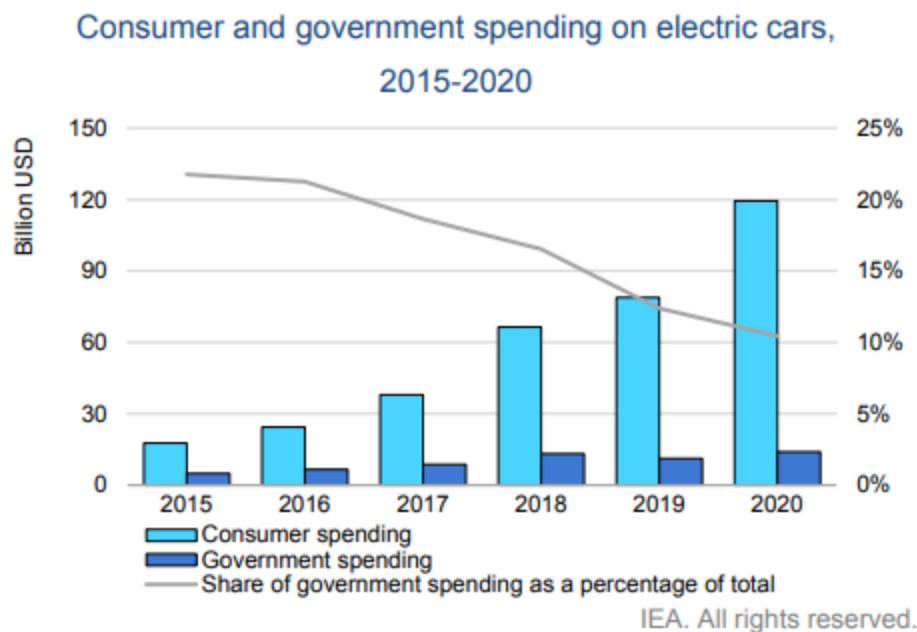


Figure 9: Consumer and government spending on electric cars, 2015-2020. (Source: IEA)

Growing range of electric vehicles offered by automakers: Globally, around 370 electric car models were available in 2020, a 40% increase from 2019. China has the most extensive offering, reflecting its less consolidated automotive sector and that it is the world's largest electric vehicle market. But in 2020 the biggest increase in number of models was in Europe where it more than doubled.

BEV models are offered in most vehicle segments in all regions; PHEVs are skewed towards larger vehicle segments. Sport utility vehicle (SUV) models account for half of the available electric car models in all markets. China has nearly double the electric car models available in the European Union, which has more than twice as many electric models as the United States. This difference can partially be explained by the comparatively lower maturity of

the U.S. electric vehicle market, reflecting its weaker regulations and incentives at the national level.

The average driving range of new BEVs has been steadily increasing. In 2020, the weighted average range for a new battery electric car was about 350 kilometers (km), up from 200 km in 2015. The weighted average range of electric cars in the United States tends to be higher than in China because of a bigger share of small urban electric cars in China. The average electric range of PHEVs has remained relatively constant about 50 km over the past few years (Figure 10).

The widest variety of models and the biggest expansion in 2020 was in the SUV segment. More than 55% of announced models worldwide are SUVs and pick-ups (Figure 10). Original equipment manufacturers (OEMs) may be moving to electrify this segment for the following reasons:

- SUVs are the fastest growing market segment in Europe and China, and by far the largest market share in the United States.
- SUVs command higher prices and generally offer higher profit margins than smaller vehicles. This means OEMs find it easier to bear the extra costs of electrification for SUVs since the powertrain accounts for a smaller share of the total cost compared with a small car.
- Electrifying the heaviest and most fuel consuming vehicles goes further toward meeting emissions targets than electrifying a small car.
- In Europe, the ZLEV credit scheme in the most recent CO₂ emissions standards offers strong incentives for selling electric SUVs from 2025, as it relaxes emissions standards in

proportion to their potential to reduce specific CO2 emissions. In fact, in Europe, the share of electric SUV models is higher than for the overall market.

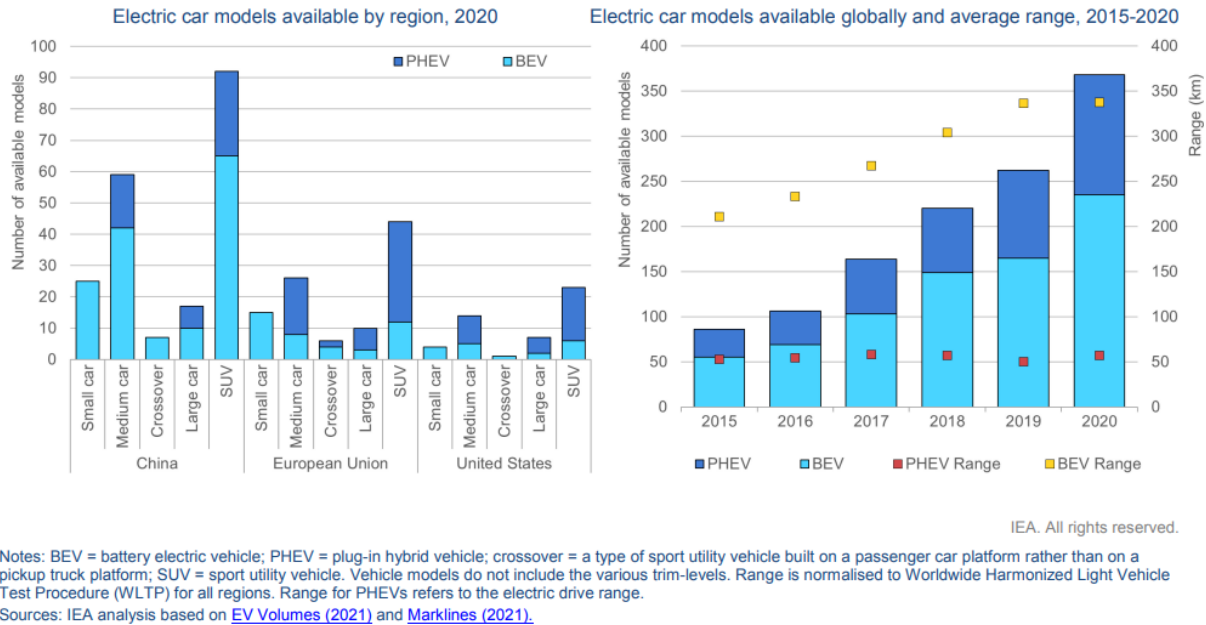


Figure 10: Electric car models available by region, 2020; Electric car models available globally and average range, 2015-2020. (Source: IEA)

Competitive Positioning:

Porter's 5 Forces (External Environment)

Internal Industry Rivalry:

- Concentrated industry, not many electric vehicle manufacturers – 3
- All firms following similar strategy – 4
- High fixed costs – 4
- Not easy for customers to switch products and the product is highly differentiated – 3
- High exit barriers – 5

Overall: 4

Threat of Entry:

- Significant economies of scale present – 5
- Product is highly differentiated – 5
- Large amounts of capital are needed for manufacturing – 4
- Distribution channels controlled by Tesla, so no reliance on competitors – 1
- Regulations promoting electric vehicle manufacturing incentivizes entry to the market – 2

Overall: 4

Power of Buyers:

- More buyers than sellers – 1
- Each buyer usually buys a few products – 2
- Buyers cannot quickly shift to other suppliers – 2

Overall: 2

Power of Suppliers:

- Fewer suppliers than buyers – 4
- Suppliers sell a small amount to buyers – 2
- Costs of shifting to other suppliers are high – 3

Overall: 3

Threat of Substitute Products

- No significant threat in the short-term but major vehicle manufacturers have started producing their own electric vehicles, which may pose significant competition to Tesla

Overall: 3

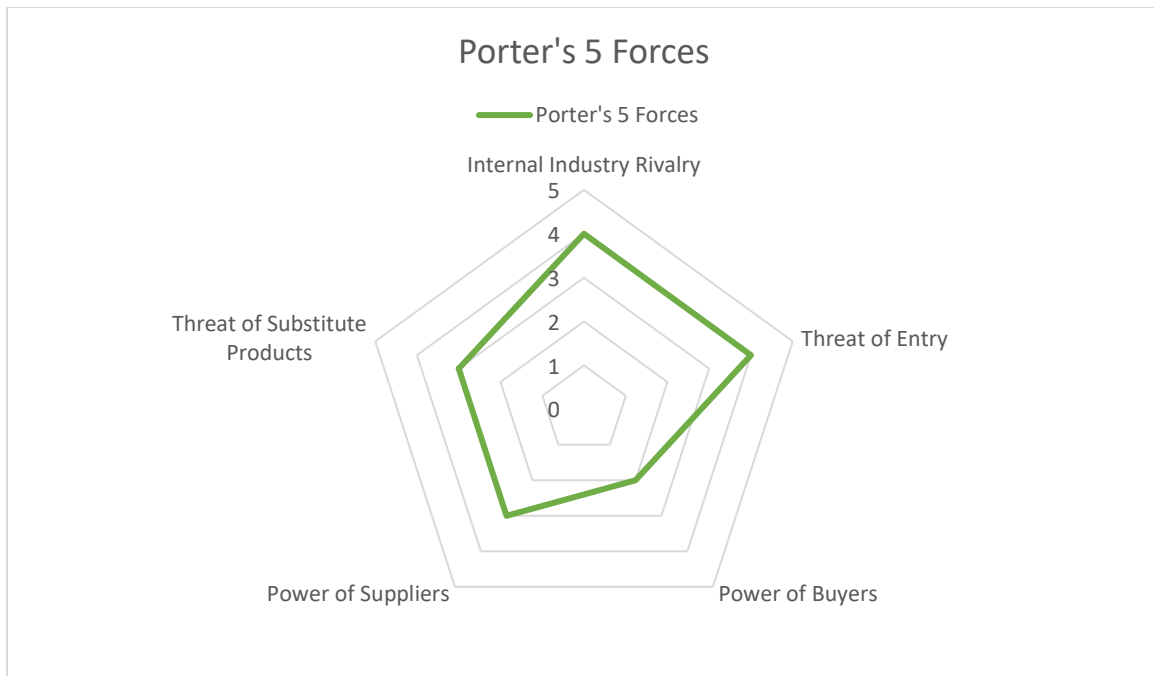


Figure 11: Porter's 5 Forces Radar Chart

Resource View:

Tesla looks to achieve and sustain a competitive advantage by developing products that are valuable, costly to imitate due to patented design and software capabilities, and effectively implemented. Tesla vehicles are not rare but still maintain a brand desirability and elite factor that adds to its value. Tesla recently made their full self-driving (FSD) feature called Autopilot available on all of its vehicles, effectively implementing their software advantage onto their hardware. Due to these factors, Tesla can maintain a competitive advantage in the electric vehicle market.

Porter's 3 Strategies (Internal Competitive Resources)

1. **Cost Leadership Strategy:** Under the cost leadership strategy, Tesla has not historically strived to be the lowest-cost producer as they have designed products for the luxury car market and have only recently begun designing and manufacturing cars for the mid-tier market by lowering their costs. Tesla sells products at a price above the industry average.

However, Tesla does have a relentless drive for scale and efficiency as displayed by its construction of Gigafactories around the world that increase efficiency and create economies of scale. Tesla does make an effort to minimize agency costs as it automates many of the monitoring and logistical procedures to streamline efficiency within management. Tesla has tight controls over its production facilities as they build, operate, and maintain their Gigafactories in-house. Tesla cannot eliminate unprofitable customers because Tesla has not yet made a profit selling cars to customers⁴. Tesla's first profitable year was achieved in part due to selling regulatory credits to other car manufacturers. Tesla does have control over its distribution costs as they sell their cars direct-to-consumer primarily on their website.

- a. Therefore, a cost leadership strategy will not work for Tesla as there are significant economies of scale, but they are already exploiting them, there is significant potential for product enhancement, and the buyers are less price sensitive in the electric vehicle market than in the conventional automotive market due to fewer competitors.
2. Differentiation Strategy: Tesla has a highly differentiated product due to its unique design, advanced software capabilities and FSD Autopilot feature. Tesla provides enhanced product benefits compared to their rivals' products. They maintain a costly position by incurring costs to achieve this unique position. Tesla has differentiated itself in terms of product, service, sales, and delivery. The product is highly differentiated, the service is provided automatically by means of software updates, sales are conducted almost completely online using a direct-to-consumer model, and the delivery of its products is also different as Tesla does not operate any dealerships, so the car comes to the customer. Tesla markets its products aimed at buyers' expectations and perceptions.
 - a. Therefore, a differentiation strategy might be the most suitable for Tesla as buyers are willing to pay a premium for the unique differences in its products, scale economies have already been exploited, and the good relies on an experience dependent on its reputation, image, reliability, and characteristics.
3. Focused Strategy: Tesla does not focus on a narrow segment of the electric vehicle market, but instead designs products to cater to all segments of the market, including the commercial sector. Tesla does not hope to achieve a local competitive advantage but instead seeks an industry-wide advantage.
 - a. Therefore, a focused strategy will not work for Tesla as they seek to cater to all segments of the market and gain an advantage across the whole industry.

Conclusion: Among the 3 Porter's Strategies, the Differentiation strategy is most suitable for Tesla.

SWOT Analysis

Strengths:

- Strong brand image
 - A brand that consumers aspire to achieve
- Produces electric vehicles with longer range capabilities compared to competitors
- Eco-friendly product
 - appeals to environmentally sensitive customers
- Leader in electric vehicles
 - Tesla has the highest revenue growth compared to other automakers
- Supercharger network of charging stations make charging easier and more convenient for Tesla owners
- Elon Musk's engineering expertise and vision keeps the company's technology on the cutting edge

Weaknesses:

- Tesla spends large amounts of money on research and development (R&D) and production, which leads to net losses
- Weak balance sheet: negative working capital (current liabilities are higher than current assets)
 - could slow growth and puts the company at risk of default
- Elon Musk's unpredictable behavior (questionable tweets, questionable company claims) could be a turn-off for some investors and puts the company at risk of SEC scrutiny
- The company is challenged to profitably produce electric vehicles that price-conscious consumers can afford
- Tesla lost its recommendation from Consumer Reports for the Model 3 as a result of issues with door handles, cracked windows, loose interior trim/ molding, and paint defects
- Supply chain limitations
 - had to use employees to volunteer to deliver vehicles to their customers
- Production challenges
 - Model 3s were built in a tent to reach production goals in 2018

Opportunities:

- Develop or adopt improved battery technology and production to lower the cost of their electric vehicles - this can help Tesla achieve sustained profitability. Tesla could also consider selling batteries to other companies or licensing their technology to them
- New vehicle models: Model Y (lower priced SUV as compared to Model X), Semi truck (to drive the future of commercial transportation), Cybertruck pick-up truck (new market where the traditional automakers have had strength), new version of the roadster (provides another model for high-end consumers)
- Expand the energy generation/storage business to residential & commercial markets
- Gain production efficiencies at the manufacturing level to drive down costs
- Continue to develop self-driving vehicle technology and expand it to entire product line

- Expand globally for electric vehicles and the energy business

Threats:

- Competition remains the largest threat as other automakers increasingly produce electric vehicles. On the high-end, Tesla faces competition from Jaguar, Audi, BMW, and Mercedes Benz who have or are planning to produce luxury electric vehicles. Tesla's Model 3 competes with the Chevy Bolt and Nissan Leaf with Volvo and Volkswagen planning to launch electric vehicles in 2020
- Sustained low oil prices could reduce demand for electric vehicles (EVs)
- The \$7500 U.S. federal tax credit for electric vehicles expired for Teslas purchased in 2018 because Tesla hit the 200,000 vehicles sold threshold. This tax credit for Tesla's EVs was cut in half to \$3750 in the beginning of 2019 and will be reduced to \$1875 after July 1, 2019. However, a bill known as the Driving America Forward Act has been proposed to increase the tax credit to \$7000 and allow for an additional 400,000 EVs sold per manufacturer before the tax credit is reduced. That would be in addition to the 200,000 threshold for the \$7500 tax credit. The bottom line is that Tesla is subject to the government's decisions on these credits which could affect affordability and demand for their EVs. Reductions in these credits could negatively affect sales, especially for the more price sensitive consumers that are considering the Model 3
- Tesla is subject to government regulations for self-driving vehicles, which could delay the company's plans to get autonomous vehicles on the road legally

VRIO Analysis

Valuable?	Rare?	Costly to imitate?	Exploited by firm?	Competitive Implications	Economic Performance
Yes	No	Yes	Yes	Temporary competitive advantage	Temporarily above normal

Analysis: Tesla's products are highly valuable due to its product differentiation, brand desirability, and reputation. Tesla vehicles are no longer rare as they can now be seen in almost every major city in the U.S. It is very costly to imitate Tesla's products as it involves high fixed costs and they have already exploited the key economies of scale. As a result, Tesla is at a temporary competitive advantage with an economic performance temporarily above normal. This

is true as major auto manufacturers around the world are investing heavily in electric vehicles which will pose significant competition to Tesla and its competitive advantage.

INVESTMENT SUMMARY

I issue a SELL recommendation on TSLA with a target price of \$329.89 using my DCF, CCA, and RIM valuation methodologies. This presents a 67.50% downside from the last close of \$1014.97 on December 3 2021, and implies a 4.1x 2021F P/E over the industry P/E. I am positive on TSLA's ability to deliver a strong EPS CAGR of 27.19% 2021A-2026F CAGR given its (a) increased competition in the electric vehicle (EV) market and Tesla's declining market share, (b) corporate governance issues resulting in shareholder returns not being maximized, and (c) online hype and speculation leading to an overpriced stock.

Increased competition in the EV market

Tesla is facing stiff competition as traditional automakers are transitioning to EVs and making heavy investments in the sector. The global EV market is also exponentially increasing in size, allowing newer EV companies to gain market share. The "EV Big Three" comprising of Tesla, Rivian, and Lucid are all worth more than Ford and GM. The traditional "Big Three" automakers which are Ford, GM, and Stellantis (formerly Fiat Chrysler) are all pivoting to produce their own electric vehicles. For example, Ford Motor Company recently committed to investing USD 11.5 billion on electrifying its lineup of vehicles through 2022 by manufacturing new hybrid and fully electric vehicles in Canada. Tesla has also been gradually losing market share over the past few years. In the second quarter of 2020, Tesla's US EV market share was 79.5%. Their market share fell to 66.3% in Q2 2021 and has since been on a downward trend¹⁷.

This is not a good sign for Tesla as it not only indicates that it is failing to capture the booming EV market whereas its competitors are chipping away at Tesla's market share.

Corporate governance issues

Tesla received an ISS Corporate Governance rating of 10, the highest on the scale, indicating severe flaws in the corporate governance structure and high governance risk. The score breakdown is 9 for Board Structure, 10 for Shareholder Rights, 10 for Compensation, and 7 for Audit and Risk Oversight¹⁸. This means that Tesla's Board of Directors is not fully independent, shareholder rights are not entirely protected, company officers are overcompensated, and there is room for improvement in risk management and audit oversight.

This is not a good sign as a low ISS Corporate Governance rating indicates a strong, independent board that acts as a means of checks and balances for the C-suite officers and protects shareholders' wealth. CEO Elon Musk continues to serve on the Board and used to be Chairman until his tweets on possibly taking Tesla off the stock market resulted in SEC action that forced him to step down. Given Musk's capricious track record, it cannot be assumed that he has the shareholders' best interests in mind when he makes decisions, which are often made on a whim. As a result, I have slightly depressed my forecast for Tesla as a poor corporate governance structure cannot be the basis of a company that is highly successful in the long-term.

Online hype and speculation leading to Tesla's overpriced stock

2021 showed up that the power of retail investors' collective action is massive. Reddit forum r/wallstreetbets served as a platform where retail investors could collaborate and in January 2021, they decided to act by enacting a short squeeze on several highly-shorter stocks, such as GameStop and AMC. GameStop stock saw a massive surge to a high of \$483.00, which

represents a 3878.58% increase. Tesla stock also surged during that period, highly adding to its volatility. Tesla and Musk have long been darlings to retail investors and the emergence of Wall Street Bets as a forum for retail investors to collectively trade has resulted in hype and speculation dictating the share prices of many popular stocks, as opposed to being based on the financials of the company. This has caused Tesla's current stock price to balloon well above my target price, resulting in a significant downside of 67.5%.

FINANCIAL ANALYSIS

In 2020, Tesla saw dramatic growth, particularly in its automotive segment. This propelled the company to an excellent financial year, exceeding the sales growth estimates and beating EPS targets. This was reflected in the company's ratios. The liquidity of the company improved year-over-year and rose above the industry average. In the future, we can expect to see these figures remaining just above the industry average. Using the momentum built in 2020, the company hopes to build two new Gigafactories in Berlin and Texas and a new Megafactory in Lathrop, CA by 2022. These capital-intensive projects are going to cut into the available cash in 2022, however projected increases in revenue should cover the new capital projects and then some. The current projections indicate that the current ratio will rise from 1.88 in 2020 to 2.84 in 2022. The 2020 industry average was 1.09.

In comparison to the 2020 industry average, the profitability levels of the company were low. This can be attributed to the possibility that Tesla is not utilizing its assets effectively. Tesla also has a unique direct-to-consumer sales model that the company uses to sell new vehicles, which gives them a competitive advantage, which is not being effectively taken advantage of. Moving forward, the company can utilize the relations it has built with suppliers to keep a gross

profit margin above the industry average. Currently, the industry average sits at 9.04%. Since 2016, the company has been able to dramatically increase its operating profit margin from (9.56)% to 6.32% in 2020. The industry average currently sits around 2.64%. Moving forward, the forecast is that these margins for TSLA will continue to go down, as they will have more factories (leading to greater operational costs) and greater global expansion along with a more streamlined corporate structure, making it a leaner organization. However, in 2022, we can expect to see this margin decrease slightly. Inflation and increasing capital expenditures will decrease these margins. As the company leaves 2022, and some of the inflationary pressures are cut, we can expect to see these margins rise again. However, increased revenues will make the margins smaller. The same situation is true for the net profit, where the net profit margin is expected to fall in 2022 and rise momentarily in 2023. This is also, in part, due to the cyclical and seasonal nature of Tesla's revenues. The net profit margin has also been increasing since 2016, going from (11.07)% to 2.73% in 2020, the industry average currently sits at 1.40%.

For year-end 2020, the company had a debt ratio of 0.54. The industry average is 0.78. This decrease in the debt ratio is caused by the elimination of resale value guarantees and a decrease in long-term debt and capital/finance leases. The book-debt-to-equity ratio in 2020 was 1.28, which was higher than the industry average, 0.75. The high debt-to-equity ratios are driven by the increasing amount of debt taken on to fund capital expansions. A smart strategy would be to leverage debt now to ensure greater revenues in the future.

Tesla rarely buys back their shares, and as of 6/30/2021, 960 million shares are outstanding out of an issued 984 million. Tesla conducted a stock buyback of more than \$12 billion spread throughout FY 2020. This can explain why the EPS of the firms has increased so dramatically from 2019 – 2020, even when sales grew fairly modestly. In 2020, there was a 28%

growth in sales and EPS was \$0.74, this number became positive for the first time in Tesla's history in 2020. In the 2019, Tesla's EPS was \$(4.93). In 2020, the company was able to maintain production when many competitors had to shut down due to COVID-19, which gave them a competitive edge. When a firm typically buys shares, it can indicate to investors that the company is bullish about the near-term future of the company, causing exuberant buying among investors. If the company decides to buy back more of its shares, it may benefit the company's stock and investors.

VALUATION

Discounted Cash Flows:

The discounted cash flow model (DCF) was used to predict cash flows from fiscal year 2021 – 2026 to generate a perpetuity DCF and an EV/EBITDA DCF. The total present value of cash was found to be \$83.54 billion, with a total enterprise value equaling \$564.24 billion (total present value of cash flows + present value of terminal value). The EBITDA DCF is a product of exit year EBITDA with the EBITDA multiple to find the terminal value, which was discounted to the present. The EBITDA multiple of 712.07 was calculated using Total Enterprise Value/EBITDA. For the calculation, EBITDA for fiscal year 2020 was used.

Company Comparable Analysis:

The Company Comparable Analysis (CCA) compared the financial performance of Tesla to the auto and truck industry. Two models were used in the CCA analysis: Operation Statistics and Valuation Statistics. Company revenue and EBITDA were multiplied by industry averages and used in their subsequent models. Tesla has EV/Revenue and EV/EBITDA valuations much

higher than those of the industry. As a result, the EV/EBITDA using CCA produced a much lower result than the EV/EBITDA when the DCF model was applied.

The Residual Income Model:

The Residual Income Model (RIM) used a rolling trailing EPS. The model used an EPS growth rate of 285% (the difference between rolling trailing EPS and rolling forward EPS), and EPS growth rate of 1.50% in perpetuity. The cost of equity was 16.77%.

INVESTMENT RISKS

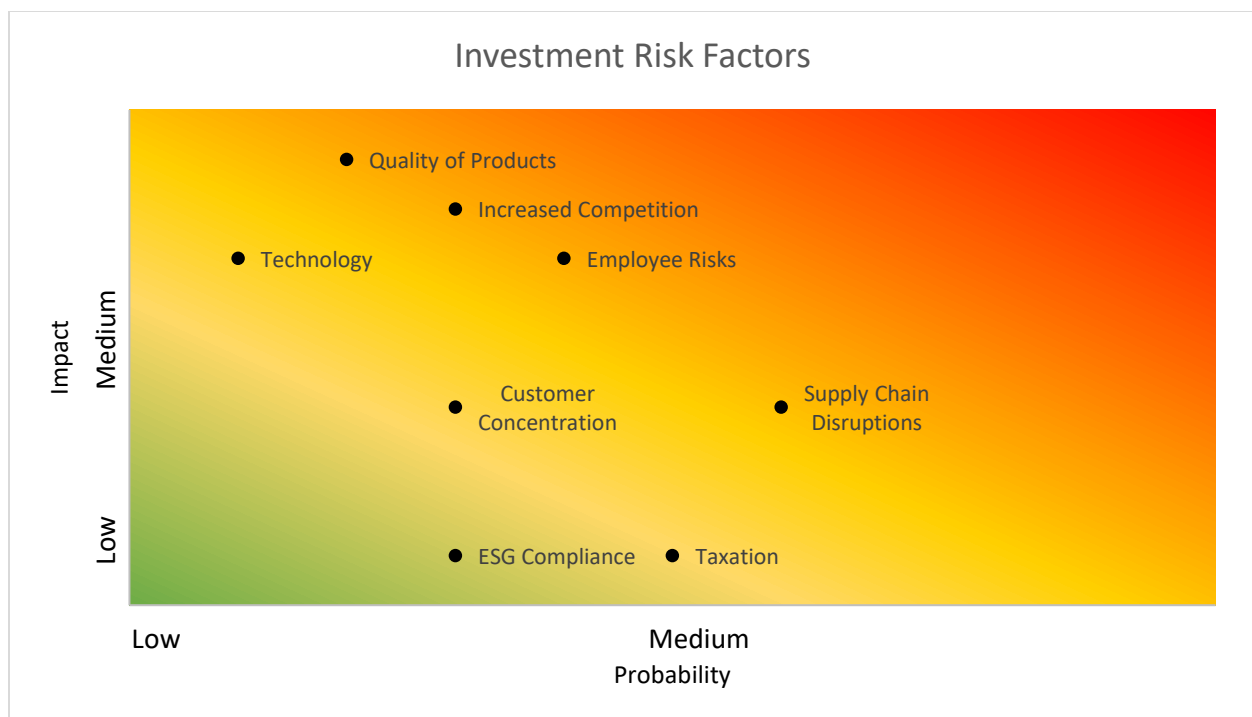


Figure 12: Investment Risks Matrix for Tesla

CORPORATE GOVERNANCE

Tesla has several issues regarding corporate governance, primarily stemming from the fact that Tesla's firebrand CEO Elon Musk is also on the Board of Directors. In addition, many of the other Directors on the Board also have ties to Elon Musk. This creates a conflict of interest. As a result, the Board cannot successfully oversee the management and thus cannot fully protect shareholders' interests.

Tesla received an ISS Corporate Governance rating of 10, the highest on the scale, indicating severe flaws in the corporate governance structure and high governance risk. The score breakdown is 9 for Board Structure, 10 for Shareholder Rights, 10 for Compensation, and 7 for Audit and Risk Oversight. This means that Tesla's Board of Directors is not fully independent, shareholder rights are not entirely protected, company officers are overcompensated, and there is room for improvement in risk management and audit oversight¹⁸.

Tesla's Board of Directors consists of Elon Musk, Robyn M. Denholm, Ira Ehrenpreis, Larry Ellison, Hiro Mizuno, James Murdoch, Kimbal Musk, Kathleen Wilson-Thompson¹⁹.

For years, Tesla's remaining board members stayed invisible as superstar CEO and board member Elon Musk took the company to record stock prices. Recently, given Musk's questionable behavior, that reassurance is coming into doubt as experts call on the Board to step into the limelight and act on the company's leadership.

Musk's list of offenses includes berating Wall Street analysts, declaring on Twitter that he would be taking the company private, confessing to being overwhelmed with job stress. In any other company, the Board would have swiftly acted. Yet Tesla's eight-member Board, which includes Musk and his brother, Kimbal, has largely been silent. Moreover, at least three of the

company's seven non-executive directors have strong ties to Musk or one of his other companies, throwing their independence into question.

Kimbal Musk is among the directors with ties to Musk. Another director, venture capitalist Ira Ehrenpreis, is an investor of SpaceX, Musk's privately held rocket company. Australian telecommunications company executive Robyn Denholm was the other Tesla director until 2017 when two were added after investors complained about a lack of independence, James Murdoch, the CEO of 21st Century Fox, and Linda Johnson Rice, the chairman, and CEO of Johnson Publishing Co., joined the Board in July of 2017. James Murdoch still serves on the Board²⁰.

Two significant firms specializing in corporate governance issues advised Tesla shareholders to shake up the company's Board, citing troubling conflicts of interest and decisions that raised questions about the directors' links with Musk.

Shareholders wound up rejecting the recommendations of Institutional Shareholder Services and Glass Lewis & Co. at Tesla's annual meeting in June 2018. Instead, they re-elected all three directors — Gracias, Murdoch, and Kimbal Musk — whose terms were expiring.

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