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RESEARCH

Spring 2025 Industrials Report: Autos

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INDUSTRIALS OVERVIEW

Doubtful Horizon After Strong 2024

After exhibiting strong performance in 2024, the Industrials sector is gearing up for an uncertain 2025. In 2024, the Industrials sector select index posted a return of 16.75%, lagging a bit behind the S&P 500's 2024 return of 24.01%. Although industrials appear to trail the broader market, it is important to note that particular sectors, namely communications and technology, attributed to a major portion of the growth. Deal activity within industrials was equally strong for 2024 with a total of \$413 billion in M&A, a decrease of 6.9% YoY when compared to 2023. With performance metrics in mind, 2024 indicated that the sector can perform in an uncertain environment, but particularly unique regulatory and financing challenges presenting themselves in 2025 add another layer of difficulty for companies and investors to navigate.

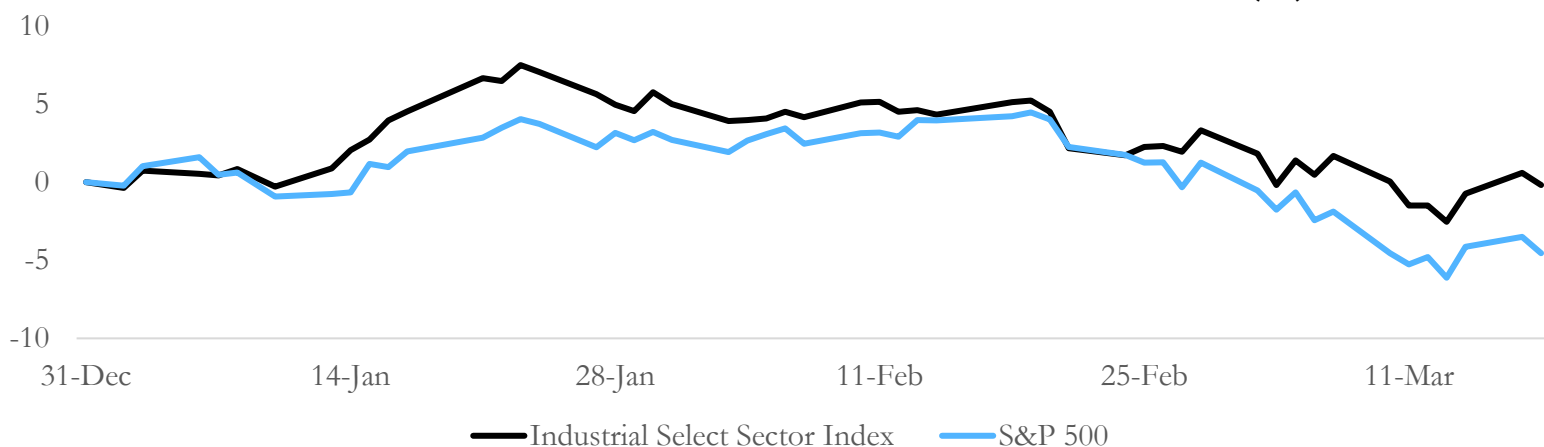
Interest Rate Environment

When the fed announced rate cuts in mid-December 2024, they also announced plans to slow further cuts in 2025 to curb inflation to a target rate of 2% annually. Since then, the fed has held true, keeping rates hovering between a target of 4.25% - 4.5% with signaling to remain as such until the effects of new economic policy is understood and inflation eases. The industrials sector is inherently capital intensive, and the outlook for a higher interest rate environment reflects negatively on the ability for the sector to make the necessary capital expenditures to grow in 2025 with the same momentum from the tail end of 2024.

Regulatory Shift and Outlook

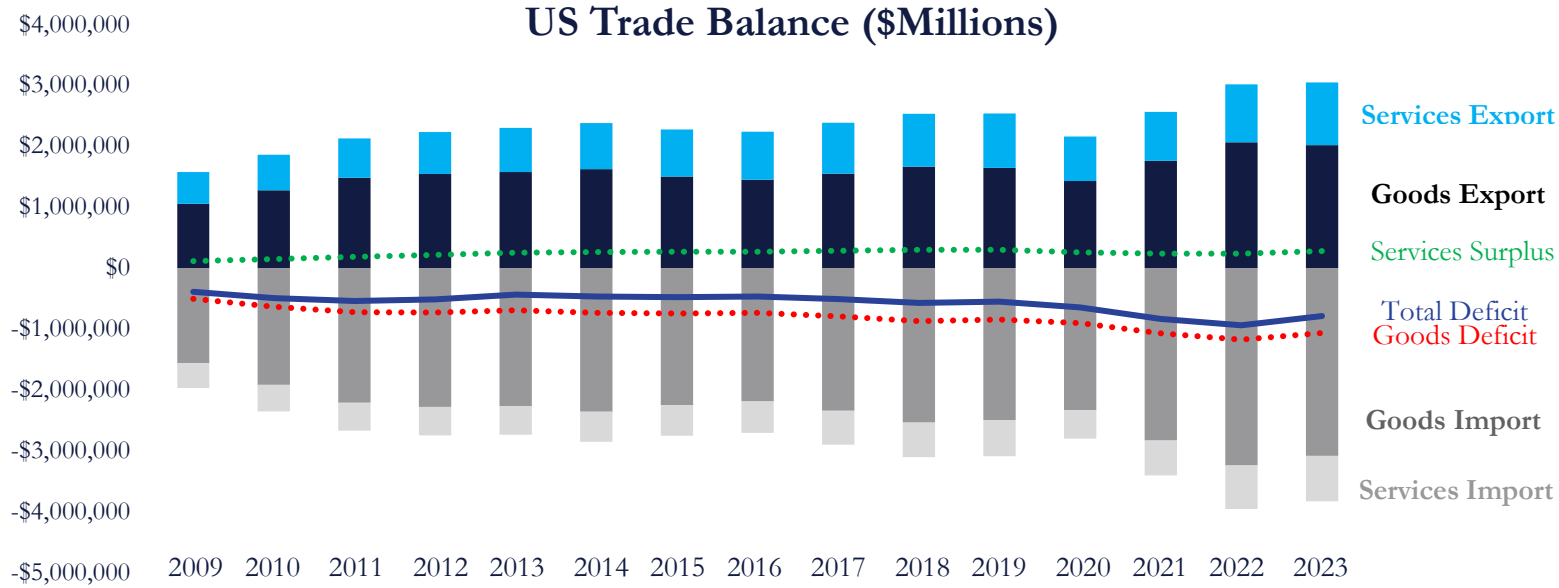
On the regulatory side of things, changes sparked by the new leadership are introducing similar cautions. A majority of Trump's presidency thus far has been centered around tariffs, with numbers as high as 34% for some of America's largest importing partners and for crucial manufacturing materials such as steel and aluminum. One of the few limiting factors for industrials in 2024 was supply chain issues, and the introduction of tariffs add a layer of slowdowns and pricing pressures. On the contrary, tariffs could stimulate domestic manufacturing, especially when combined with legislation already in place such as the CHIPS act (2022) and the Inflation Reduction Act (2022). Outside of tangible legislation and policy, NATO conferences featuring Donald Trump have included inspired conversations about raising defense budgets. While Trump made ambitious claims that may not be feasible, his remarks have sparked further conversation to raise defense spending targets among nations from prior targets of 2% of GDP to 2.5% of GDP. All in all, the industrials sector has proven resilient in the uncertain landscapes before. 2025 appears no different in terms of challenges for the sector, and as regulations shake up the environment, companies with strong balance sheets, investments in their supply chains, and exposure to areas of regulatory stimulation will be better positioned to navigate the changing landscape. It is crucial for investors to be selective as 2025 is exhibiting an entirely new environment for the sector. All in all, the short-term outlook for industrials is bleak, and 2025 will be a true test of resiliency.

YTD S&P 500 vs Industrials Select Index Performance (%)



TARIFFS

US Trade Balance (\$Millions)



Goal of Trump’s Tariffs

Donald Trump was elected on the idea that he would bring re-industrialization of the US primarily by voters affected by the outsourcing of manufacturing to foreign countries. Trump and his advisors (Scott Bessent & Steven Miran) point to the manufacturing value added by the US as 28% in 1950 and 10% today as a matter of national security. Were the US to enter wartime through a variety of means and they present the argument that the US would be placed at a disadvantage to other major powers. To understand the system, they are proposing it necessitates an understanding of the systems that proceed it; the Bretton Woods and Neoliberalism world orders. Following World War II countries met at the Bretton Woods country club to outline the policies of the system. The resulting effect was an inflation of the value of the dollar due to its newfound reserve currency status and a much higher international spend by the US. However, the downside to this growth was what came to be known as the Triffin dilemma, a fixed amount of gold meant that the US was left with two options:

Bretton Woods System	Neoliberalism	Trump’s Potential Plan
(1944 – 1970s)	(1970s – ~2010s)	(Today+)
<ul style="list-style-type: none">Fixed value of currency to USD (backed by gold)Rely on US for military protectionAccess to US markets	<ul style="list-style-type: none">Lower tariffsFree capital movementFlexible exchange ratesAmerica acts as a “World Police”	<ul style="list-style-type: none">Spur tariff chaos as a show of strength and creation of leverageMar-a-Lago Accord: Build a new trade system consisting of: “Vassal States”, Neutrals, and Enemies

make more dollars or unlink from gold to allow growth. What followed their decision to unlink became known as the Neoliberalism era, a more “free-trade” way of operating. The US dollar remained as the most convenient and reliable currency, providing an incentive to hoard the valuable currency. This hoarding caused countries to make it easier to export to the US and harder to import via tariffs placed upon them. This wasn’t a problem for Americans though as the reserve demand for USD shot up leading to an incredibly strong dollar making Americans richer. The downside: manufacturing in the US became too expensive, so companies offshored them, gave rise to the unhappiness in impoverished towns and cities that were previously manufacturing powerhouses. Biden’s administration, like China, attempted to subsidize industry, which led to positive investments but has since ended as the Trump administration announced it was unsustainable to the US National debt. In his paper on economic strategy Miran outlines a solution: “If dollar were to weaken slightly while staying a reserve currency it would even the playing field and make US exports more competitive.” The theory is that if the US can get trade allies to peg their currencies to dollar, and in the event the dollar gets too strong they appreciate their currencies against it. Miran’s rationale behind this is that these countries need the US consumer base to prop up their own GDP’s. The issue with this theory is that this would essentially turn these countries into Vassal states which requires a great deal of trust that Trump has been massively testing. If these countries decide not to engage, the US will have to decide between forfeiting reserve currency status or simply relying on foreign manufacturing.

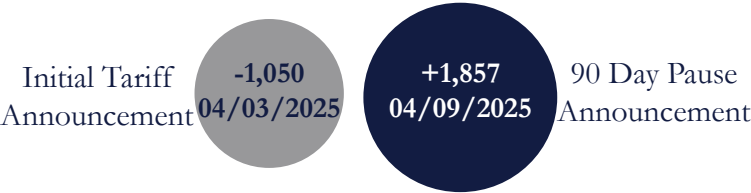
TARIFF EFFECTS

Street’s View of Trump’s Tariffs

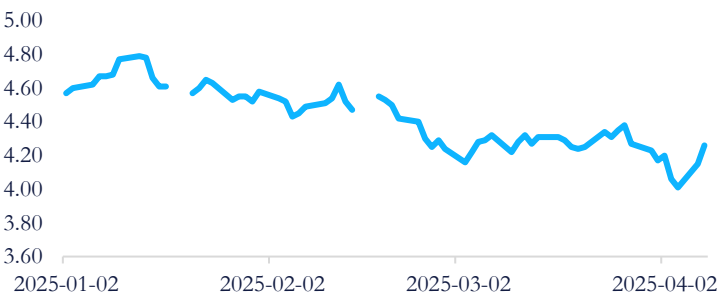
Equities

The equity markets responded with swift and condemning rejection in the 2 days following the tariff announcement with the S&P dropping 11%, NASDAQ down 20% from its February peak into bear market territory. Which is the furthest drop since the Dot Com bubble and the COVID pandemic. Overall, the market was down \$6.6 Trillion in two days and the dollar shed 6% of its value. A variety of factors caused the sell-off but a primary driver was the uncertainty the tariffs created which will inevitably lead to a slowdown of investment. Additionally, to companies like Apple, tariffs in full effect would cost them in the region of \$40 billion, forcing them raise the cost of all their products, and reduce their market cap. Forward multiples for US companies are down 20-25% which in extreme cases could mean that a company which had a record revenue YoY, would still have a stock that is relatively flat.

Largest NASDAQ Point Changes Ever



YTD 10-Year Treasury Yield



Fixed Income

While equities plunged, the bond market was similarly distressed through a very disorderly selloff at levels not seen since 2001. The 10-year Treasury yield jumped to a seven-week high of and continued to climb to 4.35% even after Trump announced a 90-day pause on most tariffs while simultaneously jacking up rates on Chinese goods to 125% which did little to calm markets. The Treasury auction of new 10-year bonds came in as expected, offering some relief however, concern is mounting about the long-term demand for U.S. Treasuries. Tariffs have fueled fears that China and others may reduce or even dump U.S. debt in retaliation. With U.S. deficits swelling and trade relationships fracturing, the foundation of the Treasury market is starting to look shaky.

BBR Worst Case

- China and US continue to fight, and China gathers US allies
- US, short of allies to sell newly issued treasury bonds, can’t raise funding
- Fed cuts rates to prop up business but consumer spending doesn’t slow leading to stagflation
- China escalates trade war and starts selling US Treasury bonds into weak treasury market

The US Dollar could collapse and may even result in the US taking military action against China

BBR Best Case

- US settles trade terms with trade allies
- China is isolated as US has settled with trade partners and must settle with the US
- With tariff sentiment dominating the news fed cuts 4 times to bolster economy
- US consumers prepare for a recession, cutting CPI down to 2%

Between each countries trade settlement, fed cuts and positive CPI print the market could re-enter Bull Market territory

WE ARE ~HERE

After the 90 day pause of tariffs on April 9th

TARIFF IMPACT

Countrywide Impact

Tariffs are once again emerging as a central aspect of U.S. trade policy sparked by the beginning of the Trump administration. Up to this point, reasonings such as drug trafficking, widening trade deficits, and onshoring efforts have all been cited for the sizeable American trade structure changes. In 2024, the U.S. trade deficit hit an all time high of over \$1.2T, with \$295B of the deficit coming from trade with China alone. Trump has been vocal about his concerns regarding the deficit, and the changes that have come about have reflected this concern. Thus far, tariffs centered around particular goods ranging from raw materials like aluminum and steel to finished goods like cars have all been put in place. Countries with which the U.S. has substantial trade deficits—namely China, Canada, and Mexico—have all been targeted with high blanketed tariffs as high as 34% on all goods entering the U.S. Outside of nations that run a trade surplus with the U.S., a 10% baseline tax has been set for imports from all countries. These tariffs are estimated to cover \$1.4T in goods and generate \$100B in annual revenue for the U.S. government. Many trade partners have already demonstrated their concern with these actions with their own retaliatory tariffs. China plans to impose an equally extreme 34% tariff on all U.S. imports, and many other trade partner nations have signaled towards a readiness to follow suit.

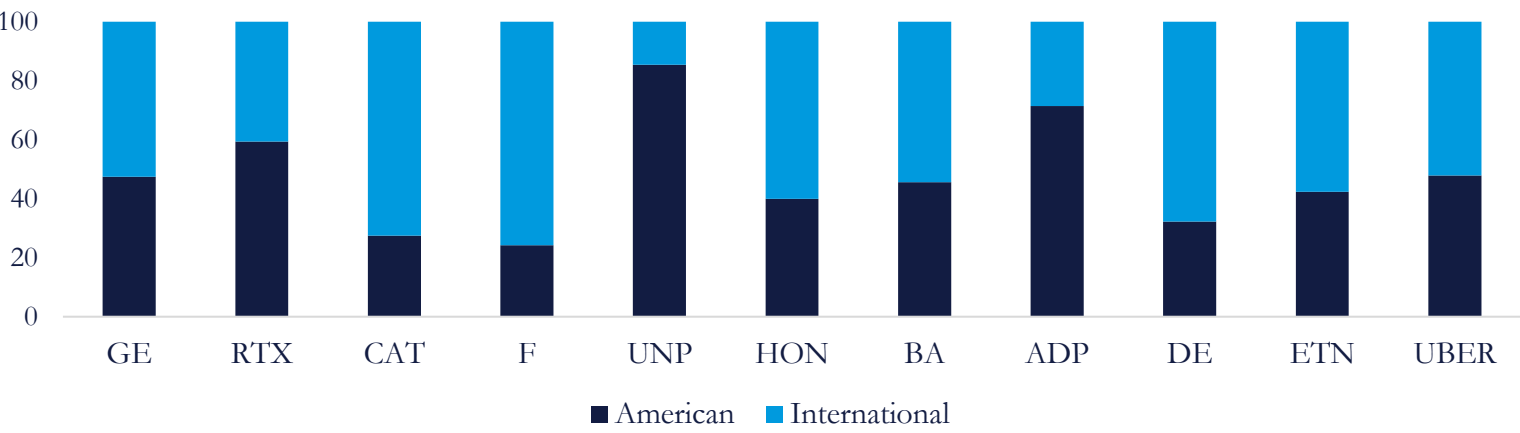
Consumer/Citizen Impact

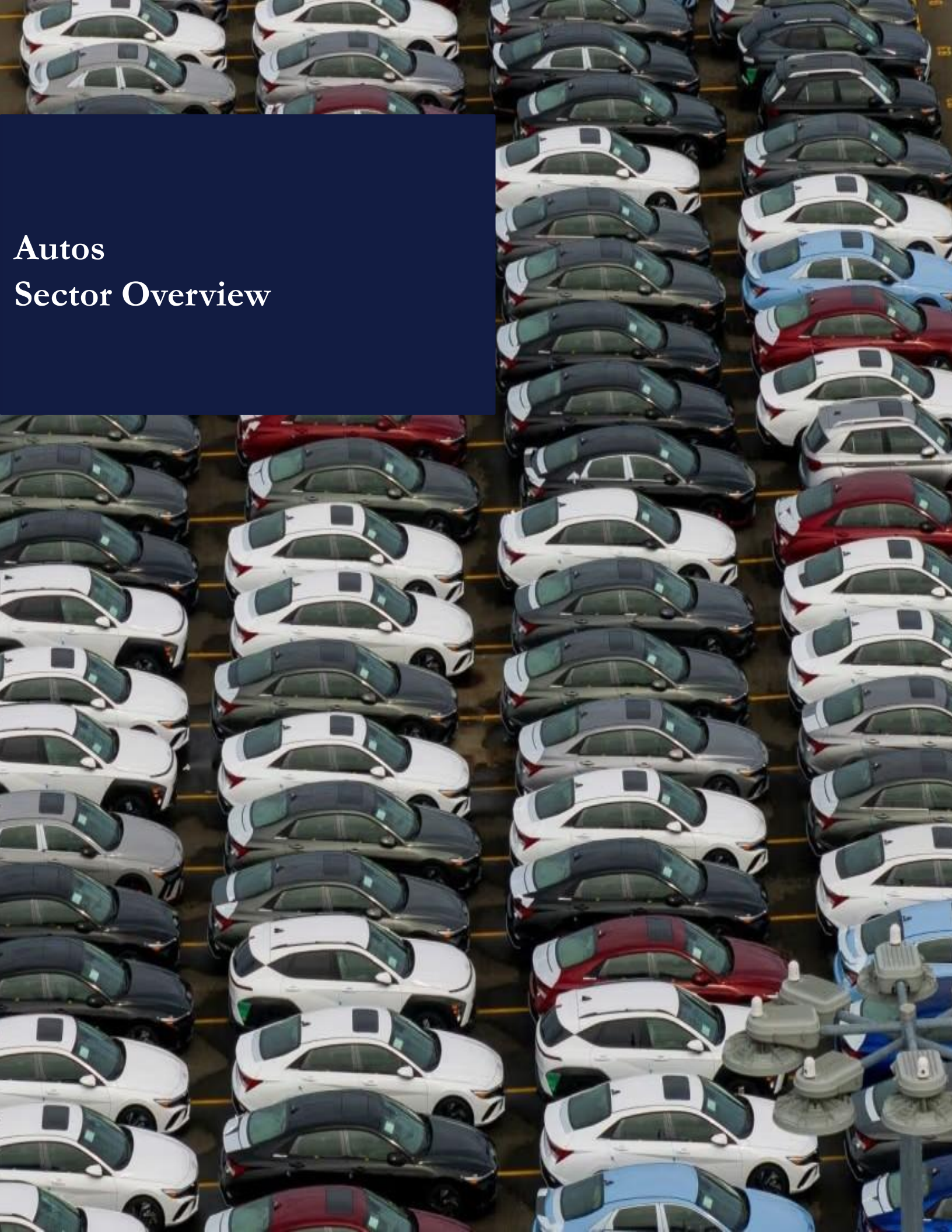
The primary impact on consumers globally is increased costs. Estimates for what the tariffs will cost to the average American household range from \$1,000 up to over \$5,000. These estimates continue to vary due to the nature of talks around tariffs, but the underlying impact is understood, nonetheless. This is not to say that the average American does not stand to gain from these changes. Establishing the U.S. and their manufacturing presence has been a central focus of these policies, and large names such as Hyundai, Honda, and Apple have all announced revised plans to create projects and jobs on U.S. soil to circumvent increased import fees. While sentiments remain mixed among Americans, strong claims from Donald Trump have assured that while the changes will be sharp in the short-term, the ultimate result will be worthwhile.

Domestic Company Impact

Domestic industry is heavily impacted by these changes, with sentiments being generally mixed based on sector and market positioning. American companies centered around the production of raw materials and necessities are likely to benefit from shifting demand towards American made products that will now be priced more competitively. Companies with domestically oriented supply chains such as Tesla, Parker-Hannafin, and Carlisle Companies are also positioned to benefit from lower dependence on foreign partners. However, this is not the case for many other sectors and companies. Automotive, aerospace, and retail sectors all find themselves in uniquely difficult positions due to their reliance on global production and supply chains. Automakers like General Motors, and Ford all face challenges as their supply chains are heavily reliant on Canada, Mexico, and China despite their strong American branding. Since the market close on 4/2, the industrials sector select index has seen a 12% drop, reflecting the sectors reliance on foreign production and imports that are essential to many supply chains. When looking at the top 10 holdings of the index plus Ford, ex Uber, on average 47.55% of suppliers were domiciled in the U.S. UNP stood out as being resistant to these tariffs with over 85% of their suppliers being in the U.S. while F displayed the opposite with only 24% of their suppliers in the U.S.

Percentage of American vs. International Suppliers
for Top 10 in the Industrial Index (& Ford)





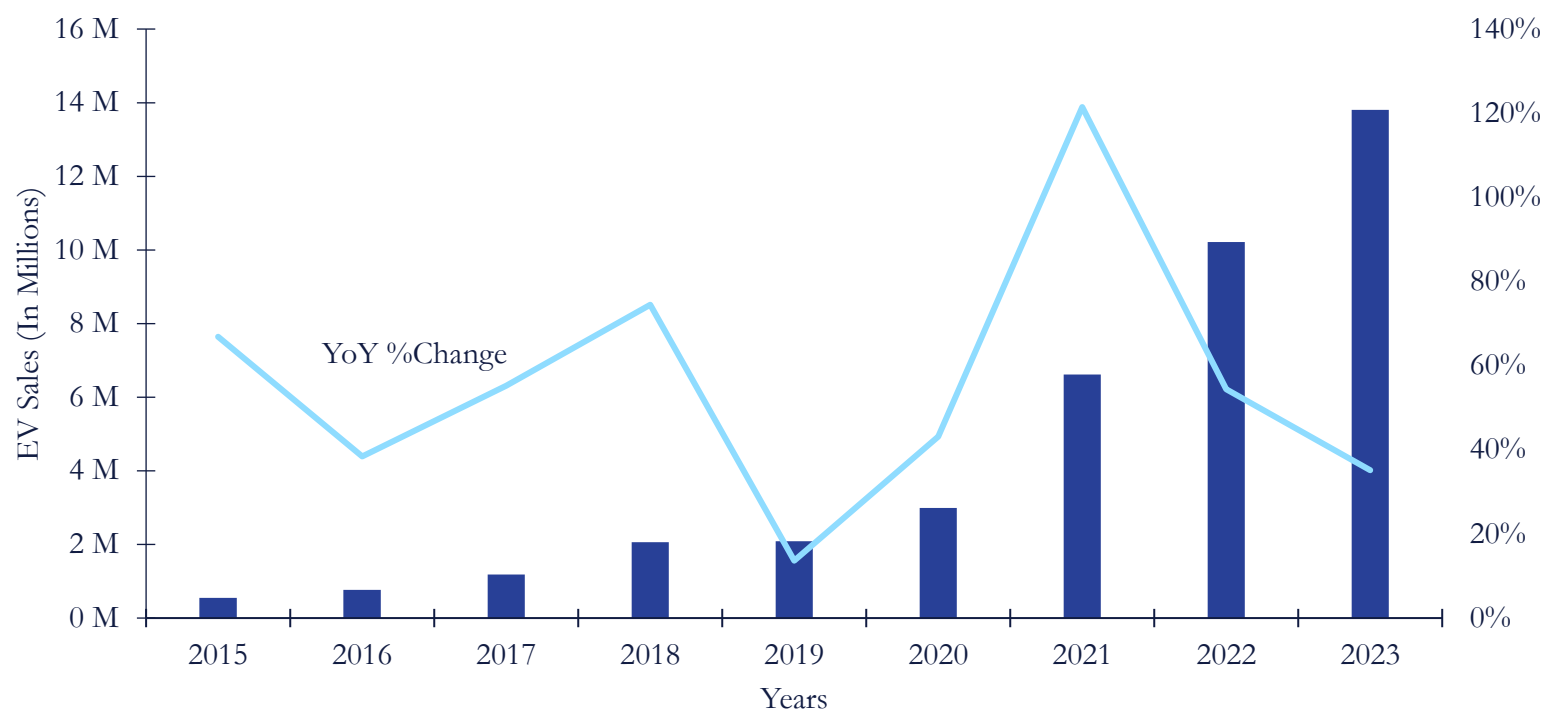
Autos Sector Overview

AUTOS OVERVIEW

Current Status

The automotive industry, a key vertical within the broader industrials sector, serves as a cornerstone of global production and plays a crucial role in the daily lives of people around the world. It enables transportation, supports employment, and drives both economic growth and technological innovation. This sector includes vehicle manufacturing, parts production, and emerging technologies such as electric and autonomous vehicle systems. Companies within the automotive industry display significant diversity in their offerings, ranging from luxury automakers like Ferrari (RACE) to legacy brands such as Ford (F), and EV-exclusive manufacturers like Tesla (TSLA). As of February 2025, there are 63 publicly traded automakers globally, with a combined market capitalization of \$2.66 trillion. The industry contributes significantly to national GDPs, accounting for 3% of GDP in the United States, 4.5% in Germany, and 8.2% in China. Major contributors include Toyota (TM), General Motors (GM), Volkswagen (VWAGY), and others. However, the industry has undergone notable transformations in recent years due to persistent supply chain disruptions, rising adoption of electric vehicles (EVs), and the implementation of new tariffs. These factors have collectively shaped a projected compound annual growth rate (CAGR) of 6.77% from 2023 to 2033.

EV Sales and Growth Rate by Year



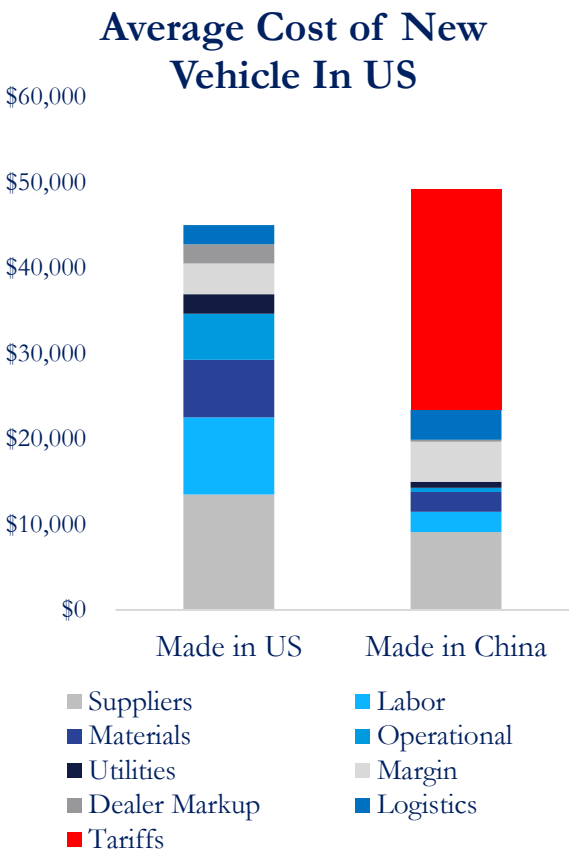
Future Outlook

The automotive industry is highly sensitive to global macroeconomic trends, including fluctuations in raw material costs, regulatory developments, and evolving consumer preferences. In 2019 global automotive sales were projected to reach 80 million units. However, the COVID-19 pandemic severely disrupted production and demand, leading to a notable decline. By 2023, sales had rebounded to 75.3 million units, with further growth expected due to economic recovery, rising incomes, and the easing of supply chain constraints. Some manufacturers are even facing oversupply in the post-pandemic period. One of the key growth drivers is the rapid expansion of the electric vehicle market, which has experienced over 30% year-over-year growth. This surge is largely fueled by government incentives, subsidies, and growing consumer interest in sustainability. Increasing emphasis on environmental, social, and governance (ESG) principles has also accelerated EV adoption, as consumers and regulators push for greener alternatives to traditional internal combustion engines. Despite positive growth trends, several challenges remain. Supply chain instability, evolving regulatory landscapes, and geopolitical tensions such as heightened U.S. tariffs on key automotive exporters continue to pose risks. Nevertheless, the industry is advancing through innovation in vehicle autonomy. Companies are investing heavily in artificial intelligence, machine learning, and advanced sensor technologies to develop self-driving vehicles, signaling a new era of mobility.

REGULATORY LANDSCAPE

Tariffs

An increasing concern of the legacy US Manufacturers is the increasing threat of Chinese manufacturers producing ever more competitive products at ever lowering cost. As such, lobbying efforts for higher tariffs on Chinese auto companies from agencies such as the Alliance for Automotive Innovation (AAI), who represent most manufacturers selling in the Unites States, have increased. The AAI cited overproduction and Chinese subsidies of EVs specifically as a catalyst to crater the US auto market by offering vehicles at “below market value”. In response to these efforts the Biden administration finalized a 100% tariff on Chinese EVs in September of last year practically nullifying any chance of the sale of Chinese EVs in the US. Conversely, looking to the future under the Trump administration, proposed tariffs on Mexican and Canadian imports are spooking manufactures selling in the US. Approximately 16.2 million vehicles sold in the US on a yearly basis either are made Mexico or Canada or have a substantial number of parts imported from within the two countries. On April 2, 2025, President Trump declared “Liberation Day”, announcing a sweeping tariffs including a 25% tariff on all imported automobiles. With approximately 16.2 million vehicles sold in the U.S. annually many of which are either assembled in or rely heavily on parts from Mexico and Canada the 25% auto tariff alone is projected to increase the average vehicle price from \$48,000 in 2024 to \$60,000 in 2025.



Timeline of Trump’s Tariffs



Emissions

As part of the first string of executive orders in January, Trump withdrew from the Paris Agreement, the legally binding international treaty aiming to reduce greenhouse gas emissions. This past year, the EPA finalized two new, more stringent sets of emissions rules covering light to heavy vehicles. However, the stance of the current administration, along with the recent gutting and restructuring of other government agencies, could result in these rules being rolled back or delayed for several years. The new administration has also taken significant steps to reverse federal support for electric vehicles revoking the previous administration's target for EVs to comprise 50% of new car sales by 2030 and halting the expansion of EV infrastructure. These actions indicate the future of emissions regulations in the US will be much more relaxed potentially lowering the massive R&D costs associated with lowering greenhouse gas emissions.

Safety

Unlike emissions, safety regulations in the US are largely independent of political motives, as such, additions to safety regulations by the National Transportation Safety Board and National Highway Traffic Safety Administration are frequent. This past year the NHTSA updated a few of their policies requiring more advanced driver assistance systems to be standard on all new vehicles, aiming to enhance road safety and is expected to save over 25,000 lives by 2038. More broadly, regulations of autonomous vehicles have entered development by the United Nations Economic Commission for Europe. With estimates that Level 5 autonomous vehicles could enter the roadways by 2035. In the US, a few companies have already achieved this level of autonomy with Waymo operating fully autonomous taxis in San Francisco. However, it is important to note that these taxis are operating in a beta state allowed by the state of California and require significant improvement before they will be fully legal.

AUTO TARIFFS

What Tariffs Mean for the Auto Industry

In the short term; prices will go up. It is important to note that the 25% tariff does not mean that the cost of new cars will increase 25%. Analysts' estimates are that there will be a roughly 5-10% increase in the cost of new cars depending on the manufacturer. As it stands right now there are numerous carve outs for componentry that will reduce the impact the tariffs have. Additionally, manufacturers and subsequently their respective dealers who operate on high margins are planning on absorbing some of the costs. These inflated prices will also hit the used market as higher prices will inflate demand as higher cost push price sensitive consumers to the “cheaper” alternative. Long term manufacturers are weighing options of bringing manufacturing facilities back to the US, but with high uncertainty no concrete decisions being made.

Winners

- **Tesla:** Vertically integrated US based supply chain means Tesla is skirting nearly all tariffs
- **Luxury Manufacturers:** Price insensitive buyers will likely be unfazed by relatively marginal increase in costs to their desirable vehicles

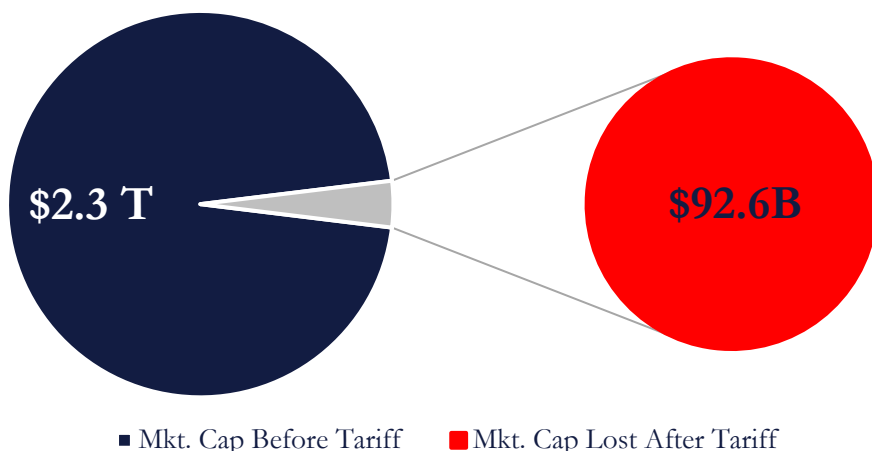
Losers

- **US & EU Autos:** A majority of the cars built by US & EU companies imported to the US are built in either Canada, Mexico or Europe and will be subject to the Tariffs imposed
- **US Consumers:** Facing higher costs across the board
- **US Reputation:** Former trade allies feel somewhat betrayed by US actions against them

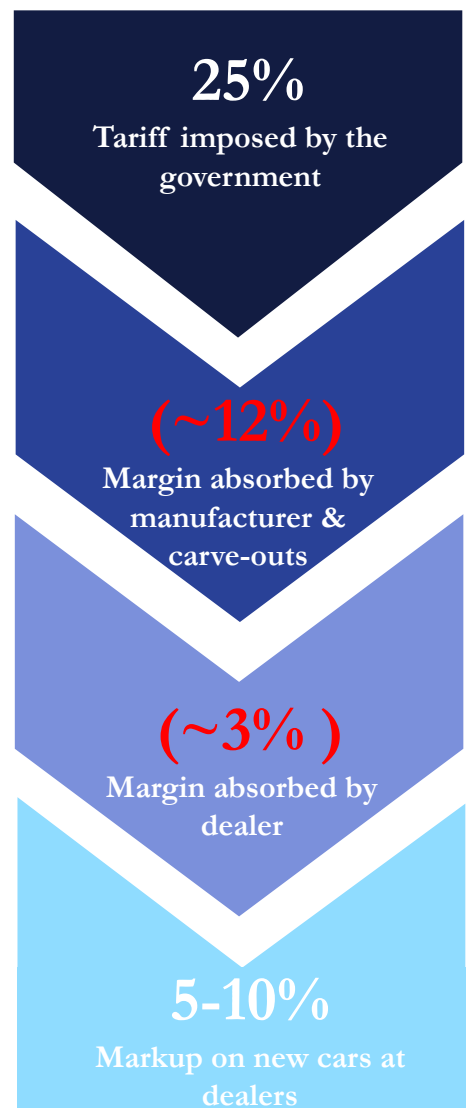
Automakers Reactions

There have been mixed reactions from the auto industry in response to the Trump administration's tariff policy. There are two main camps of thought amongst the producers. The first is simply taking a “wait and see” approach, pausing production for the US, relying on existing inventory to hold them over until they have a solid idea of if these tariffs are going to be permanent. The other is going ahead and subtly raising prices immediately, starting in highly desirable models with higher margins and price insensitive buyers. In terms of production effects; GM, Nissan, Volvo, and Mercedes have all increased production in their US factories even going so far as to shift new models to existing factory lines. On the opposite end, Stellantis announced the suspension of operations at their Mexico and Canada plants, a decision that resulted in approximately 900 US workers being laid off. Apparently unconcerned with the sentiment of consumers, Volkswagen announced a “import fee” that passes 100% of the tariff onto the consumer. Taking a more considerate approach, BMW and Ford are both offering locked pricing for a “limited period” in hopes to increase sales of existing inventory before having to eventually pass those costs onto the consumer.

Market Reaction to April 2nd Tariff Announcement



Flow of Tariffs



Supply Chain Issues

Supply chain issues remain a major concern for most automakers. COGS, representing around 80% of automakers revenue, can either make or break the performance of an automotive company. Supply chain issues caused by geopolitics, tariffs, labor, and operational issues—have been driving operational expenses higher, squeezing profits. With threat of tariffs, the president of Canada's Automotive Parts Manufacturers' Association stated, "At 25%, absolutely nobody in our business is profitable by a long shot." An average car is comprised of 30,000 different parts ranging from raw materials to semiconductors, many of which, can cross boarder 6-8 times before final completion.

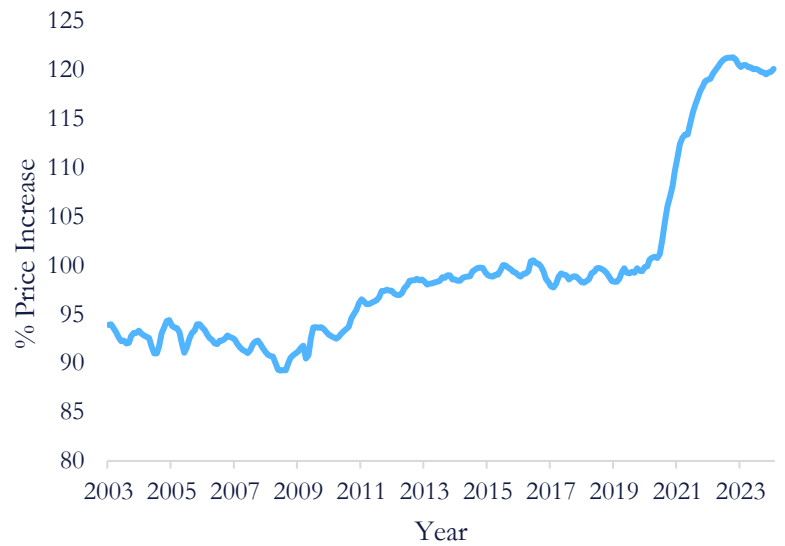
NA and European Competition

The automotive industry remains a highly competitive landscape with most automakers at single digit profit margins. Mature markets like the US, Japan, and Europe are stagnant without sales growth. In January 2025, the seasonally adjusted annual rate of car sales was 16.1 million, compared to that of 16.9 million 20 years ago in 2005. Thus, auto manufacturers are left to trade market share in a zero-sum game. In an industry with high fixed costs, it is necessary to spread expenses over many vehicles. This remains a hard feat to accomplish as each sale must be won from a competitor. Many EV's are completely unprofitable, for instance Ford who loses tens of thousands on each vehicle sale, or Rivian who is completely unprofitable.

US Vehicle Sales (Millions)



US New Vehicle Prices



Chinese Competition

Tough competition, particularly coming from China, has been testing the strength of European and North American auto companies. According to forecasts by S&P Global Mobility, North America vehicle production is expected to fall from 15.5 million in 2024 to 15.3 million in 2025. China's EV production increased in 2024, hitting a record-high 786,000 units in September, according to the China Association of Automobile Manufacturers. Despite holding the title for the most cars exported for a second year in a row in 2024, Chinese exports are expected to modestly grow by 10% in 2025. This production has been reflected in manufacturing facilities across the world, specifically forcing some plants in Europe to close affecting Volkswagen and Stellantis despite rising tariffs.

New Car Prices

New car prices have continued to rise to new records in the US, regardless of tariffs implemented on foreign manufacturers. US consumers typically prefer larger more expensive cars such as SUV's and trucks which hold higher profit margins for auto companies. Along with higher production costs, this has led to many US and European car manufactures such as GM, Stellantis, and Ford to discontinue more affordable sedan models and push for bigger vehicles. The lack of affordability has led to many consumers being hesitant about buying new cars. Cars are discretionary purchases, meaning that sales are dependent on consumers personal financials, and therefore won't be support during economic downturns.

TAILWINDS

Autonomous Vehicles

Autonomous vehicles (AV) remain a key factor for sector growth in the automobile industry. As technology advances and excitement grows their adoption is expected to accelerate rapidly. Today, there are 1,400 AV vehicles on the road, yet estimates predict this number will jump to 33 million by 2040. Globally, analysts value the AV market at ~\$200 billion and are expecting its market to grow 10x in the next 5 years. Major automakers like Tesla, Volkswagen, Ford, are spending billions trying to establish a foothold into the market. Waymo, an AV subsidiary of Google, already operates in major U.S. cities such as San Francisco, Phoenix, and LA operating at a level 4 autonomy.

Recurring Revenues

Automakers are continuously looking for new ways of making money in an overly crowded market. Subscription-based revenue is a tailwind in the automotive industry as companies are trying to capture reoccurring revenues. General Motors projects that subscription services could generate up to \$25 billion annually by 2030. Whether it is starting the engine remotely or cruise control automakers are trying to capture the high margins and predictability of selling subscriptions. Subscriptions not only improves profitability but also strengthens customer retention by enabling continuous software updates and price hikes. Other services like ones that cater towards the commercial and government markets are also beneficial. For instance, Ford’s high margin subscription service Ford Pro grew 15% in Q4 of 2024, contributing to Fords bottom line.

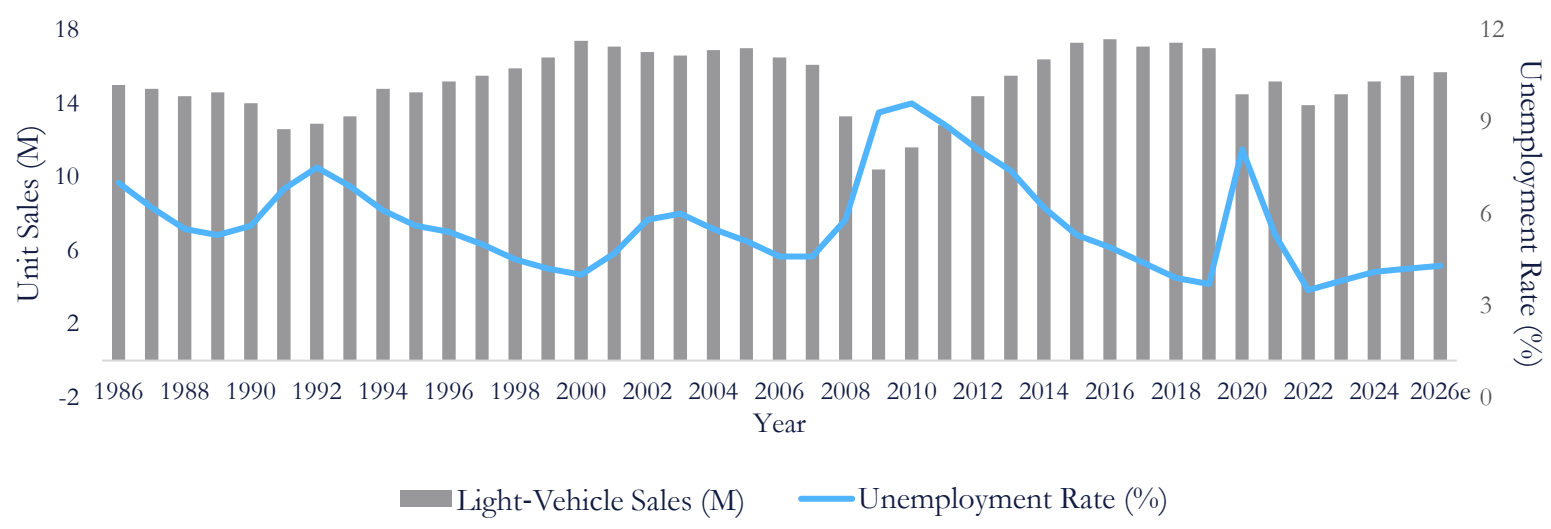
Cyclicalilty

The auto industry is inherently very cyclical following the greater economy. Forecasts expect around 50 bps of Fed rate cuts for the remainder of 2025. Rate cuts are bullish, supporting economic activity and making car loans more affordable. Jobs also remain strong with unemployment at 4%. Lastly, GDP forecasts for 2025 remain around 2.7%. Due to the discretionary characteristic of vehicles, consumers will only make purchases when financially confident. The health of the greater economy will further support car sales and drives stock prices. Though these factors remain as tailwinds, economic forecasting is inherently unreliable while the Trump Administration adds more uncertainty.

Innovation

The automotive industry is always changing and finding new ways to innovate. AI has changed the way manufactures design and model cars through tools such as Autodesk AI and Fusion which can create thousands of designs quickly. This will reduce costs and increase efficiency within the industry. Software-defined vehicles are also taking off within the automotive industry. Software-defined vehicles increase connectivity, automation, personalization, and allows for continuous optimization. They support increased sales and sales through additional products such cruise control. There are also safety implications with airbag control units, anti-lock braking systems, and stability control systems.

Light Vehicle Sales and Unemployment

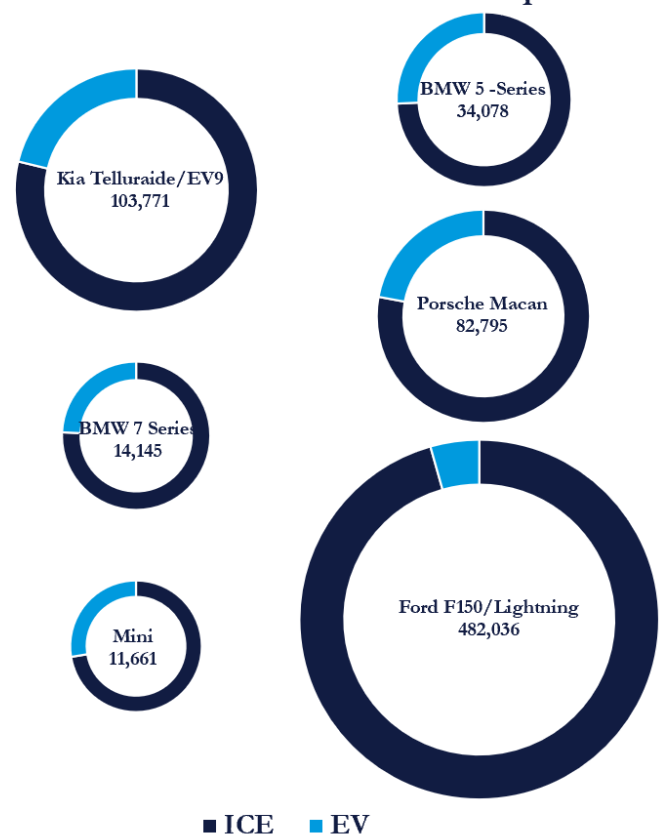


MARKET LANDSCAPE

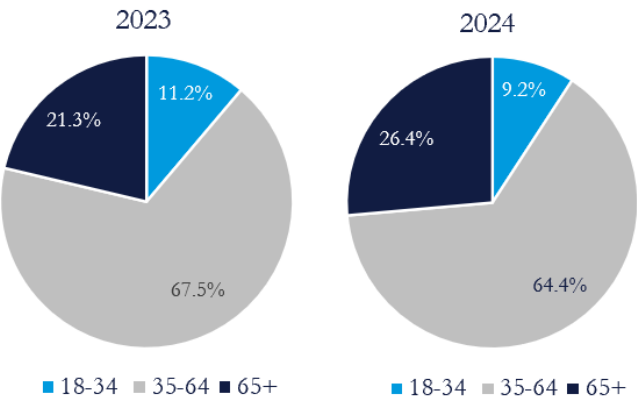
Electric Vehicles

Over the past eight years, following the sudden and incredibly successful rise of Tesla, automakers began a rushed integration of electric vehicles into their lineups. In their attempts to play catch-up claims of full fleet transitions to electrics and hundreds of millions in resources were allocated to this expansion into the EV market. For a while, the growth was strong, with sales EV sales increasing 55% from 2021 to 2022 and 35% from 2022 to 2023. While sales were strong, automakers had predicted stronger and new EV products on whole were significantly outsold by their gas counterparts. Consumers felt as though the risks of range anxiety, faulty infrastructure, and overwhelming depreciation outweighed the benefits of EVs. As such, automakers have begun to rollback their previous claims with the likes of Mercedes, GM, Ford, Volvo, Stellantis, and Volkswagen all pushing back their expectations for EV sales. Additionally, with the new administration in the US rolling Biden’s plan of having 50% of all new cars sold to be electric the incentive for automakers to spend millions to develop a new EV has greatly diminished. It is important to note that some dedicated brands such as Tesla still have very strong sales numbers but there is a general sentiment that in the near term the tide is turning against EVs.

Sales Percentage of Brand New "Dual-Platform" ICE Vehicles and Their EV Counterparts



Percent of New Car Buyers by Age



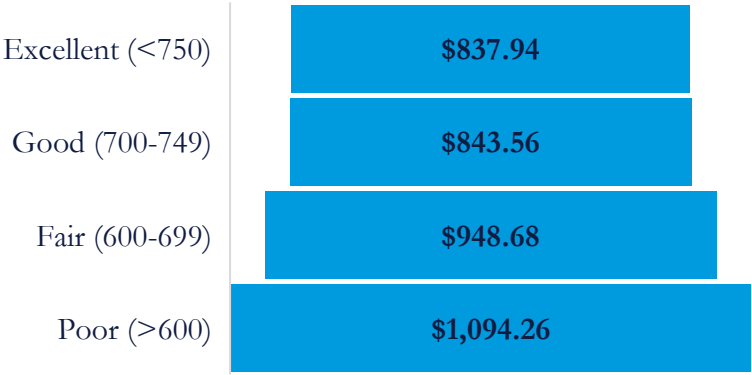
Buyer Demographics

The new car market rebounded in 2024 returning to pre-pandemic levels with notable shifts in the demographics of those buyers. The share of new vehicle sales in the 18-34 age bracket dropped to 9.2%, the lowest on record, while buyers aged 65 and older accounted for over 26% of sales, the highest on record. High interest rates also attributed to a smaller and cheaper models like the Honda Civic and Nissan Sentra experiencing sales growth of 23% through 2024. Further highlighting the affordability issue, 62% of new buyers faced monthly payments exceeding \$600, and 35% paid \$800 or more, a 12% increase from the average in 2023.

Financing

The average cost of a new car increased to \$47,000 in 2024, which combined with an average financing rate of a 60-month loan at 7.42% has made new car ownership much more challenging. Despite these hurdles new car sales increased 2.2% from 2023 to 2024 highlighting the persistent strength of the vertical despite headwinds. However, the affordability crisis pushed more buyers toward the used car market, where sales grew at a stronger rate of 4.3% year-over-year. With interest rates for used car loans often exceeding 9% for borrowers with fair credit, many consumers turned to longer loan terms or credit unions for better financing options.

Monthly Payment of a \$47,000 Vehicle over 68 Months



M&A ACTIVITY

Target Profile

Leapmotor is a Chinese electric vehicle (EV) manufacturer specializing in cost-effective EV production and battery technology, focusing on affordable, high-performance vehicles for urban mobility.

Acquirer Profile

Stellantis, formed from the merger of Fiat Chrysler Automobiles and PSA Group, acquired approximately 20% of Leapmotor for €1.5 billion in October 2023. This deal grants Stellantis exclusive rights to sell, export, and manufacture Leapmotor products outside China through a joint venture, Leapmotor International, in which Stellantis holds a 51% stake.

October 2023

STELLANTIS

Acquisition of



LEAPMOTOR

for
€1.5 Billion

Target Profile

Dowlais Group, the parent company of GKN Automotive, is a UK-based auto parts supplier specializing in driveline and powertrain systems for electric and hybrid vehicles. With a global footprint and strong OEM relationships, the company is well-positioned to capitalize on the industry's shift toward EV and advanced mobility solutions.

Acquirer Profile

American Axle & Manufacturing (AAM), a U.S. automotive supplier known for driveline and powertrain components, acquired Dowlais Group for approximately £1.16 billion. The deal strengthens AAM's EV capabilities, expands its global reach, and enhances competitiveness as the industry transitions away from internal combustion engines.

January 2025

DOWLAIS

Acquisition of



for
\$1.44 Billion

Target Profile

Aviva Links specializes in Automotive SerDes Alliance (ASA) compliant in-vehicle connectivity solutions, providing high-speed data transmission essential for advanced driver-assistance systems (ADAS) and in-vehicle infotainment (IVI) applications.

Acquirer Profile

NXP Semiconductors, a leading global automotive chip manufacturer, agreed to acquire Aviva Links in December 2024 for \$242.5 million. This acquisition aims to enhance NXP's automotive networking portfolio, enabling automakers to implement interoperable network architectures based on open standards, crucial for the development of software-defined vehicles.

December 2024

AVIVA

Acquisition of



for
\$242.5 Million

Target Profile

Veoneer's Arriver unit specialized in advanced driver assistance systems (ADAS) and autonomous driving software, developing perception and driving policy software for vision-based driver assistance.

Acquirer Profile

In 2021, Qualcomm acquired Veoneer's Arriver unit for \$4.5 billion, strengthening its automotive solutions by integrating ADAS technology into its Snapdragon Ride Platform. This enhanced Qualcomm's autonomous driving capabilities, positioning it as a key player in next-generation electric and connected vehicles.

October 2021

-Arriver™

Acquisition of

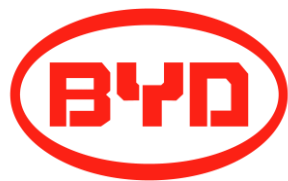
Qualcomm

for
\$1.4 Billion

NEW ENTRANTS

While the automotive industry has fairly high barriers to entry due to the significant production costs and capital required, there are still a few new entrants finding their footing. As the EV market expands, many new entrants in the automotive industry are focusing exclusively on electric vehicles, often positioning themselves as EV-only manufacturers to attract investor funding. This shift toward electric cars is largely driven from overall macroeconomic factors such as governmental incentives for EVs and worldwide concerns regarding automobiles and their environmental impact. These companies are largely rebounding from the supply chain issues in the pandemic and are often growing quite strongly. Overall, while the EV industry may not be the hot new thing that they once were, which can be seen through the performance of these companies, such as Fisker, many of the leading new entrants are in fact, EV companies.

Success Stories



BYD Company

Shenzhen, China

SEHK: 1211

Founded: 2003

Key Metrics

Market Cap: \$148B

TTM Revenue: \$95B

Net Income: \$3.9B

R&D Spending: \$6.7B

52 Week Chart



BYD Company is a Chinese multinational manufacturing company who is the owner of BYD Auto, a battery and plug-in EV producer. The second largest EV-exclusive manufacturer in the world (behind TSLA), BYD is the top selling battery-powered car brand in the world as well as the top selling automotive manufacturer in China. In fact, they even outsold Tesla for a recent quarter, showcasing their growth and high expectations. BYD is known for their ultrafast charging system and strong battery technology.



Rivian Automotive

Irvine, California

Nasdaq: RIVN

Founded: 2009

Key Metrics

Market Cap: \$12.9B

TTM Revenue: \$5B

Net Income: -\$4.6B

R&D Spending: \$1.6B

52 Week Chart



Rivian is a California-based EV maker that focuses on adventure-based trucks and SUVs. Their first two models, the R1T truck and R1S SUV are known for their off-road abilities and strong batteries. Rivian has received funding from Amazon and Ford and worked on expanding production. However, Rivian has faced production delays and legal disputes with Tesla, both factors in the stock being down 90% all time. The company is also in talks with Volkswagen about a potential joint venture focusing on software and electric technology.

Failed EV Startup



Fisker Inc.

Manhattan Beach, CA

NYSE: FSR

Founded: 2016

Key Metrics

Highest Market Cap: \$4.6B

Net Income (2023): -\$939M

Total Raised: \$1B+

Vehicles Produced: 10,142

Vehicles Unsold (2023): 5,442

52 Week Chart



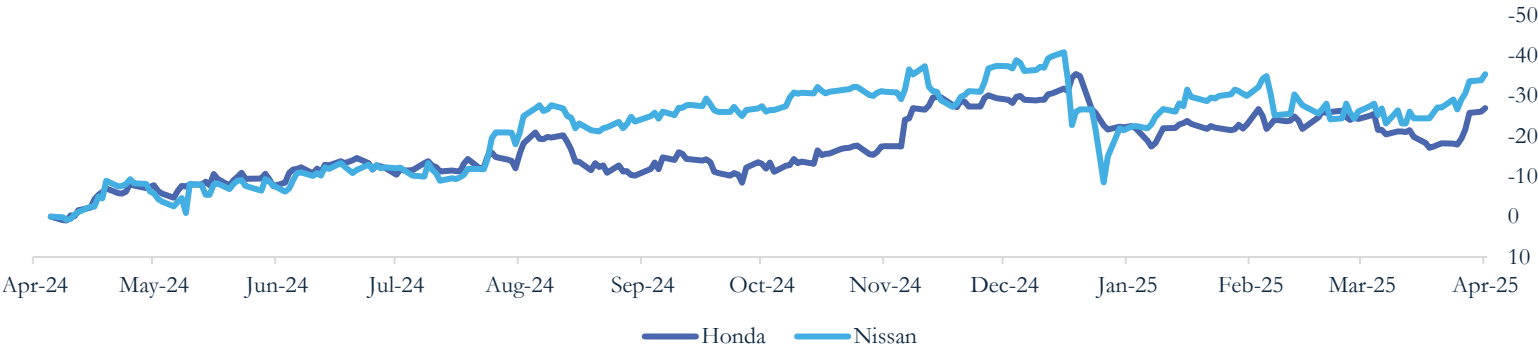
Fisker Inc. was an American EV manufacturer based in California founded by Henrik Fisker and came out of Fisker Automotives which folded in 2016 after going public through a SPAC. Fisker was the first luxury plug-in EV company they marketed themselves as especially sustainable. However, due to financial and operational struggles such as software, supply chain and safety issues, the brand never took off. In 2024, the company was struggling with liquidity issues and had to file for bankruptcy in June leading to them being delisted from the NYSE.

NOTABLE DEALS

Terminated Merger Talks Between Honda and Nissan

In February 2025, Honda and Nissan officially ended merger talks that aimed to create a \$60 billion automotive giant. The deal collapsed over internal disagreements, particularly Honda’s push to make Nissan a subsidiary an idea Nissan strongly opposed. Had the merger gone through, the combined company would have become one of the world’s largest automakers, especially in the EV space. Analysts projected it could have better competed with Tesla and BYD by streamlining R&D, reducing production costs, and accelerating innovation potentially reshaping the global auto market. Although talks have halted for now, the recent resignation of Nissan CEO Makoto Uchida reportedly linked to tensions over the failed merger has reignited speculation. With new leadership, there’s growing belief that discussions could resume. In the meantime, both companies continue collaborating on EV technologies to remain competitive in a rapidly evolving market.

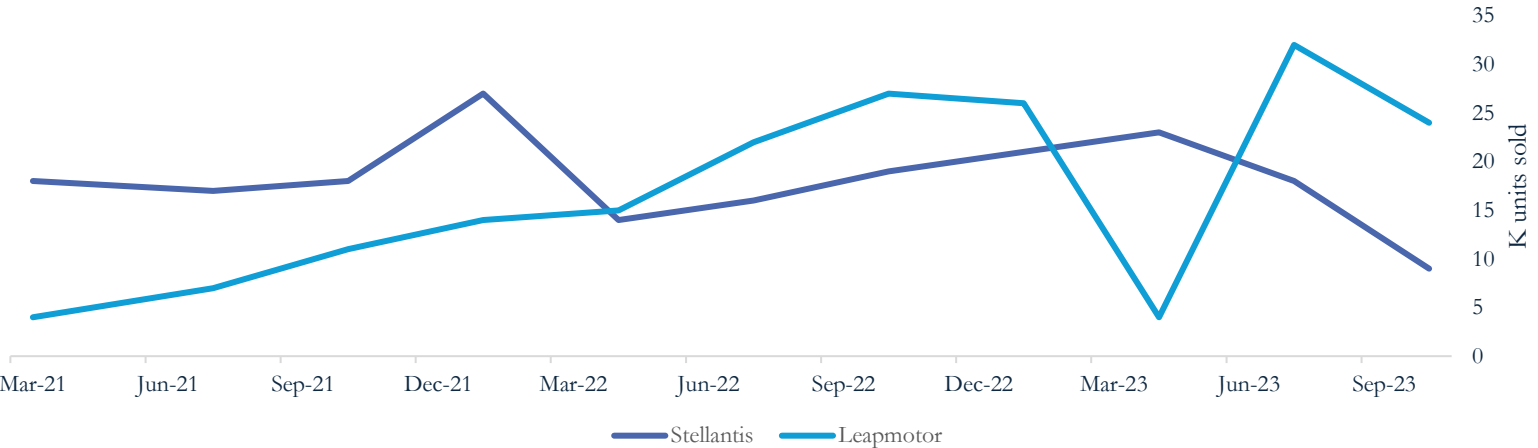
Honda & Nissan Stock Price Percent Change



Stellantis’ Acquisition of a Stake in Leapmotor

In October 2023, Stellantis, the parent company of brands like Peugeot, Fiat, and Chrysler, acquired approximately 20% of the Chinese electric vehicle manufacturer Leapmotor in a deal worth €1.5 billion. This strategic investment grants Stellantis exclusive rights to sell, export, and manufacture Leapmotor products outside of China under a newly established joint venture, Leapmotor International, in which Stellantis holds a 51% stake. The partnership aims to bolster Stellantis’ position in the global electric vehicle market and reflects the industry’s shift towards electrification.

Stellantis Shrinks in China as Leapmotor Rises



General Motors’ Partnership with Nvidia

In March 2025, General Motors (GM) partnered with Nvidia to advance its autonomous vehicle and manufacturing projects. GM will utilize Nvidia’s Omniverse 3D graphics platform for simulations to boost efficiency in assembly lines and integrate Nvidia’s “AI brain” for advanced driver assistance and autonomous driving in its next-gen vehicles. Additionally, Nvidia’s AI training software will enhance GM’s vehicle assembly line robots. This collaboration aims to revitalize GM’s self-driving projects and positions Nvidia’s Drive AGX system-on-a-chip as a foundational element in GM’s future autonomous vehicle technology.



Comparable Companies Analysis

COMPARABLE UNIVERSE

Logo	Company	Description	Market Cap (\$ Billion) (4/7/2025)
	GM	Major American automaker with a global presence, producing vehicles under brands such as Chevrolet, GMC, Cadillac, and Buick.	\$43.96
	Ford	Legacy American automaker with a manufacturing trucks, SUVs, and electric vehicles.	\$38.10
	VW	German automotive giant with a diverse brand portfolio including Volkswagen, Audi, Porsche, and Lamborghini. Focused on electrification, autonomous driving, and mass-market mobility.	\$52.43
	Tesla	Global EV leader known for cutting-edge electric vehicles, energy storage solutions, and autonomous driving technology. Revolutionized the auto industry with direct-to-consumer sales.	\$750.25
	Ferrari	Luxury sports car manufacturer renowned for high-performance, Italian-designed vehicles. Specializes in exclusive, race-inspired models and maintains a strong presence in Formula 1 motorsports.	\$78.12
	Hyundai	South Korean automaker with a strong global reach. Offers a wide range of affordable, fuel-efficient vehicles and is expanding into electric and hydrogen fuel cell vehicles.	\$33.13
	Toyota	World's largest automaker by sales, recognized for reliability, fuel efficiency, and innovation in hybrid technology. Offers a wide range of vehicles and leads in hybrid and hydrogen vehicle adoption.	\$251.58
	Rivian	American electric vehicle startup focused on “adventure” oriented EVs trucks, SUVs, and work trucks. Emphasizes sustainability, advanced technology, and outdoor lifestyle integration.	\$12.68
	Mercedes	German luxury automotive brand known for premium vehicles with an increasingly strong focus on electrification through the EQ series and autonomous driving innovation.	\$52.21

The global automotive industry features a mix of legacy manufacturers and innovative entrants. Companies range from luxury brands like Ferrari and Mercedes-Benz to mass-market leaders like Toyota and GM. Traditional automakers such as Ford, Hyundai, and Volkswagen are scaling up while investing in electric and autonomous technologies. Toyota leads in volume and efficiency, strengthened by its resilient supply chain post-COVID. Tesla transformed the industry with its integrated supply chain and direct-to-consumer model. Rivian targets lifestyle markets with electric trucks and SUVs. Ferrari remains exclusive, now exploring electrification. Together, these companies reflect major industry trends in electrification, platform integration, and shifting competitive dynamics.

Market Cap (\$Billions)

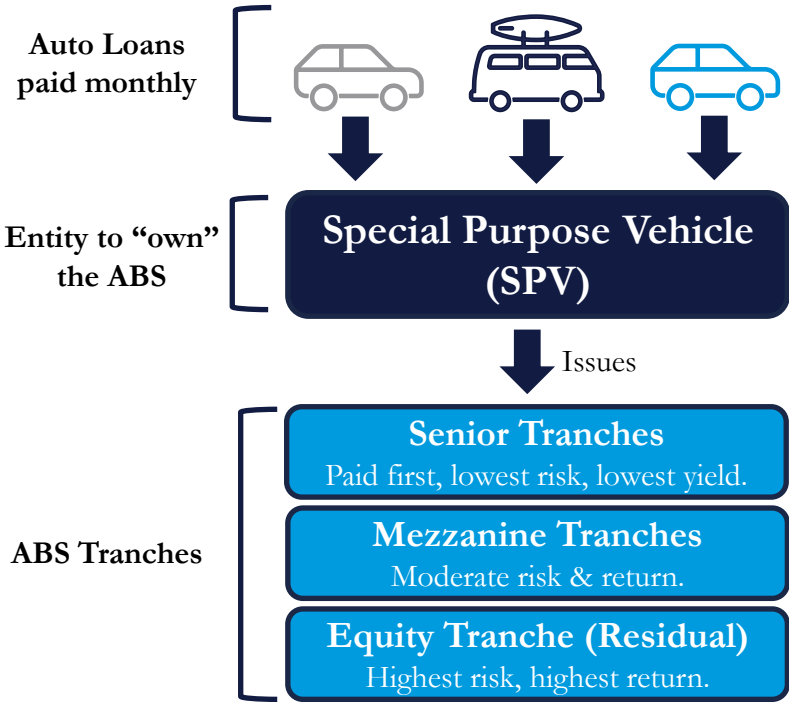
■ GM
 ■ Ford
 ■ VW
 ■ Tesla
 ■ Ferrari
 ■ Hyundai
 ■ Toyota
 ■ Rivian
 ■ Mercedes



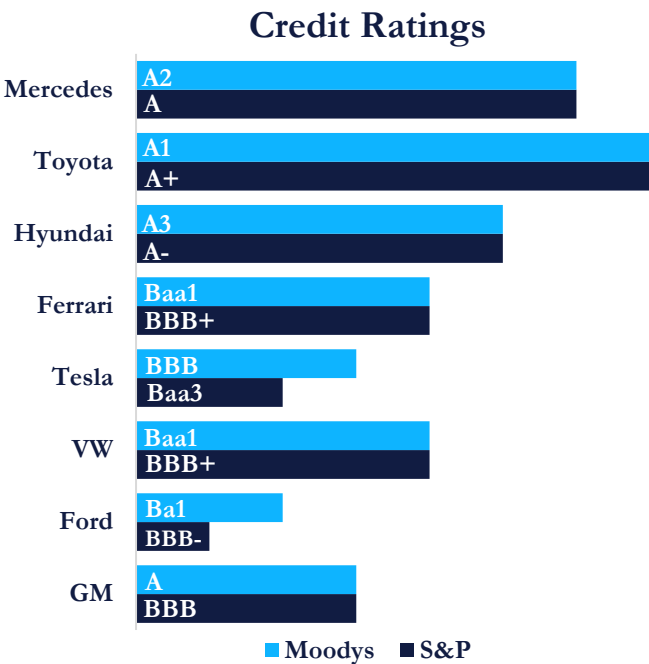
CREDIT BREAKDOWN

Securitization

A large aspect of the auto industry is financing, and securitization plays a key role in how automakers manage and scale their business. Through securitization, the financing arm of companies like Ford or GM bundle the cash flows from thousands of individual auto loans and transfer them to a Special Purpose Vehicle, which then issues Asset-Backed Securities (ABS) to investors. These securities are divided into tranches based on risk and return with senior tranches being the safest, typically receive AAA ratings from credit agencies, while mezzanine and equity tranches carry higher risk and receive lower ratings or remain unrated. For example, Ford might create a structure like “Ford Credit Auto Owner Trust 2025” to package \$1 billion in auto loans. This trust sells ABS to institutional investors, giving Ford an immediate influx of capital, reducing risk exposure, and allowing it to originate even more loans. This system not only helps finance vehicle sales but also strengthens liquidity and credit management for automakers.



Corporate Credit Ratings



Credit ratings serve as a vital measure of an automaker’s financial health, reflecting its ability to meet long-term debt obligations and withstand economic pressures. Issued by agencies like Moody’s and S&P, these ratings influence borrowing costs, investor perception, and access to capital markets. Toyota, Mercedes, and Hyundai maintain investment-grade ratings, signaling stable cash flows, disciplined financial management, and resilience through economic cycles. Companies with mid-tier investment grades, such as GM, VW, and Ferrari, still demonstrate solid fundamentals but may face greater exposure to cyclical shifts or operational risks. Meanwhile, firms near or below the investment-grade threshold, like Ford and Tesla, operate with tighter margins for error. Ford’s split ratings (Ba1/BBB-) place it at the cusp of junk status, potentially increasing its borrowing costs and limiting access to conservative investors. Tesla, though recently upgraded to investment grade, remains closely watched due to the capital-intensive nature of its growth strategy and competitive volatility in the EV market.

Street Outlook

Ryan Switzer – *Securitized Senior Associate*

Morgan Stanley

- “Outlook for 2025 remains cloudy and will be dependent on broader macro conditions, but risks appear skewed to the downside currently”
- “2025 YTD issuance volumes are down 18% YoY as recent primary activity has ground to a halt due to tariff-induced volatility and a more uncertain outlook for US consumer health”
- “Proposed auto tariffs could result in even higher vehicle prices, leading to lower sales volumes and further challenges to affordability but could lead to rising used vehicle prices, benefitting recovery rates for existing securitization”

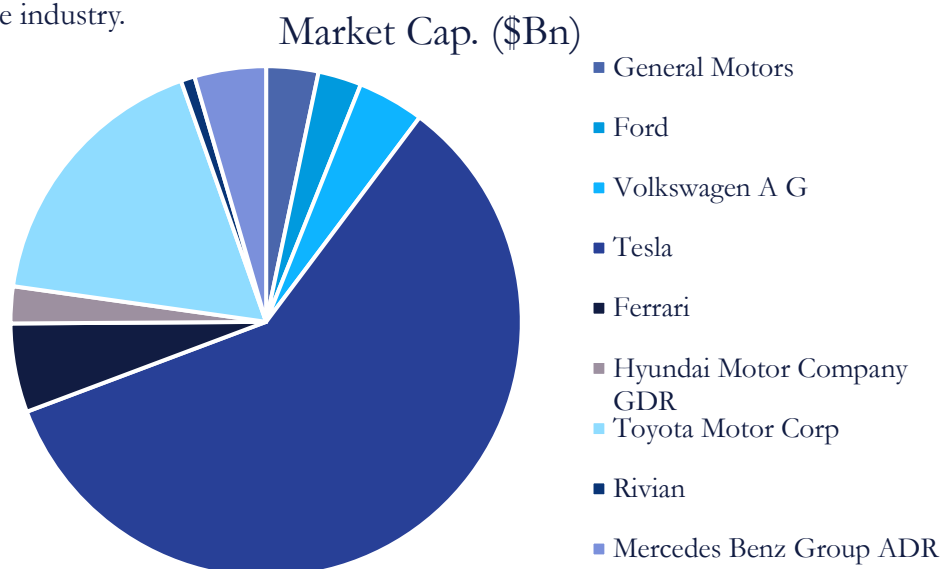
COMPANY INFORMATION

Company Name	Ticker	Market Cap. (\$Bn)	USD Stock Price (03/09/25)	Revenue (TTM \$Bn)	Revenue Growth (YoY)	Basic EPS (TTM)	Beta (5Y)
General Motors	GM	\$47.2	\$47.44	\$187.44	9.08%	\$6.37	1.43
Ford	F	\$39.24	\$9.90	\$184.99	5.00%	\$1.46	1.61
Volkswagen A G	VWAGY	\$60.25	\$12.05	\$351.80	(0.46%)	\$2.64	1.24
Tesla	TSLA	\$844.88	\$262.67	\$97.69	0.95%	\$2.05	2.51
Ferrari	RACE	\$80.38	\$449.56	\$7.22	13.93%	\$9.13	0.94
Hyundai Motor Company GDR	HYMTF	\$33.37	\$50.01	\$57.98	(1.70%)	\$17.26	1.05
Toyota Motor Corp	TM	\$248.51	\$190.18	\$121.72	24.85%	\$25.79	0.30
Rivian	RIVN	\$12.63	\$11.17	\$4.97	31.86%	(\$4.69)	2.04
Mercedes Benz Group ADR	MBGYY	\$64.75	\$16.56	\$157.50	(4.50%)	\$2.86	1.12


Lower	36.31	11.61	32.60	-0.01	1.76	1.00
Median	60.25	47.44	121.72	0.05	2.86	1.24
Mean	159.02	116.62	130.15	0.09	6.99	1.36
Upper	164.45	226.43	186.22	0.19	13.20	1.83

The automobile industry is diverse with companies spanning different classifications including market segment, powertrain, geography, and legacy status. Within the market segment space stands Ferrari and Mercedes representing the luxury manufacturers, holding generally higher profit margins but less market share. Companies like Ford, General Motors, and Toyota represent manufacturers selling to the mass market with considerably tighter margins but with a larger pool of customers. Another identifying characteristic of autos is the makeup of their powertrains, with companies such as Tesla and Rivian representing pure electric vehicle companies. Others remain in the middle, offering some combination of EV's, hybrids, and internal combustion engines such as Ford and Hyundai. Some manufactures who offer ICE vehicles are committing to an all-electric future such as General Motors with goals to be fully electric by 2035. Lastly, auto manufacturers can further be classified by legacy status and geographic region with the "big three" American brands representing Ford, General Motors, and Stellantis. More internationally, Toyota and Volkswagen represent traditional legacy carriers for Japan and Germany respectively. Metrics within the space remain modest with median revenue at 5%, EPS at 2.86, beta at 1.24 reflecting the maturity of the industry.

From this set of comps, total market caps stands at ~1.4T, with a significant \$844 billion coming from Tesla alone. This large valuation has mainly been justified through Telsa's early leadership in electric vehicles, autonomous driving and AI narrative, and expansion potential with various gigafactories. Notably, Tesla holds a fraction of the revenue as some of the other manufacturers. After Tesla, Toyota is the 2nd largest auto manufacturer by market cap. In 2024 Toyota also boasted the highest number of cars sold and remains as the manufacturer with the highest market share.



PRODUCT PIPELINES

GM


New Vehicles in the Next 5 Years

ICEs: 5

EVs: 6

Total: 11

The only new vehicles GM are releasing are EV Trucks and SUVs in the Chevy, GMC and Cadillac brands. Also, the new Bolt, previously a bestseller is also getting a replacement in the coming years.

Volkswagen



New Vehicles in the Next 5 Years

ICEs: 6

EVs: 5

Total: 11

Volkswagen's key launches in the next few years include the affordable ID.2all then even cheaper ID.EVERY1 by 2027. VW is also planning electric versions of bestsellers like the Golf and T-Roc, pushing for mass-market adoption.

Toyota


New Vehicles in the Next 5 Years

ICEs: 10

EVs: 9

Total: 19

Toyota is set to introduce a redesigned RAV4 in 2026 and a mini Land Cruiser targeting off-road enthusiasts. The company is also expanding its EV lineup with models like the Urban Cruiser SUV and plans to launch nine new 2030

Tesla



New Vehicles in the Next 5 Years

ICEs: 0

EVs: 2

Total: 2

Tesla is expected to launch the 2 door upmarket Roadster and Model 2, the long awaited \$25,000 EV. They also continue to facelift existing models in the Model 3 and Y to maintain market dominance

Ferrari



New Vehicles in the Next 5 Years

ICEs: 6

EVs: 1

Total: 7

Ferrari is launching 7 new models by 2030 including its first fully electric vehicle this year. The company is also continuing its commitment to ICE vehicles with releases like the 12Cilindri grand tourer and 296 GTB replacement.

Ford



New Vehicles in the Next 5 Years

ICEs: 10

EVs: 4

Total: 14

Ford is expanding its EV lineup with the electric Puma crossover in 2024 and a new EV commercial van by 2026. The company also plans to launch 2 new electric pickup trucks as production ramps up at its new BlueOval City plant in Tennessee.

Mercedes



New Vehicles in the Next 5 Years

ICEs: 11

EVs: 7

Total: 18

Mercedes' new EVs include the EV G-Wagon and the next-gen CLA on a new EV platform. Mercedes is also maintaining key models like the E-Class and the next gen C-Class as ICE with mild-hybrid tech, after enthusiast criticism.

Hyundai



New Vehicles in the Next 5 Years

ICEs: 9

EVs: 12

Total: 21

Hyundai is launching several new models, including the flagship three-row SUV; the IONIQ 9. Additionally, the company plans to introduce the INSTER, an urban electric SUV, a commitment to launching 21 new models by 2030

Rivian


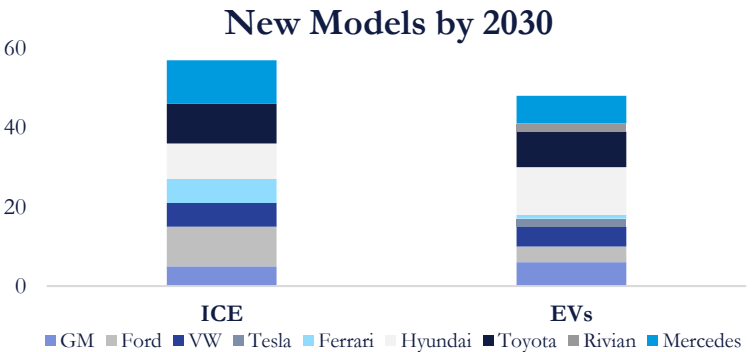
New Vehicles in the Next 5 Years

ICEs: 0

EVs: 2

Total: 2

Rivian's EV lineup will expand with the upcoming R2, a more affordable SUV starting at \$45,000, expected to begin production in 2026. Alongside it, Rivian revealed the R3 and R3X, compact SUVs with rally-inspired styling priced below the R2.



Company Name	Gross Margin	Operating Margin	Profit Margin	EBITDA (\$Bn)	EBITDA Margin	ROA	ROE
General Motors	19.41%	6.82%	3.21%	31.66	13.63%	2.17x	3.21x
Ford	8.38%	2.82%	3.18%	13.42	7.25%	2.11x	13.42x
Volkswagen A G	18.21%	6.05%	3.97%	52.13	14.82%	2.10x	7.58x
Tesla	17.86%	7.24%	7.26%	12.44	12.74%	6.20x	10.46x
Ferrari	50.13%	28.27%	22.79%	2.76	38.26%	17.34x	46.15x
Hyundai Motor Company GDR	23.18%	8.35%	15.48%	6.78	11.69%	13.51x	14.68x
Toyota Motor Corp	26.49%	17.61%	25.03%	23.01	18.90%	17.12x	23.83x
Rivian	-24.14%	-94.35%	-95.51%	-3.66	-73.60%	-29.50x	-60.48x
Mercedes Benz Group ADR	19.39%	8.44%	7.01%	20.44	12.98%	4.12x	11.98x

Lower	13%	4%	3%	4.77	9%	2.11x	5.40x
Median	19%	7%	7%	13.42	13%	4.12x	11.98x
Mean	18%	(1%)	(1%)	17.66	6%	3.91x	7.87x
Upper	25%	13%	19%	27.34	17%	15.32x	19.26x

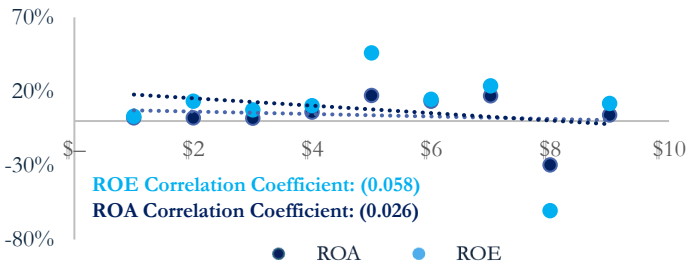
The automotive sector shows major profitability gaps between legacy manufacturers and newer EV or high-performance brands. Industry-wide gross margins average 18%, with Ferrari standing out at 50.13% due to its premium pricing power. In contrast, Rivian struggles with operating margins of -24.14% and -94.35%, underscoring the challenges EV startups face in cost control. Traditional players like GM (6.82%), VW (6.05%), and Ford (2.82%) report modest operating margins. Profit margins follow suit: Ferrari (22.79%), Toyota (25.03%), and Rivian (-95.51%). EBITDA further highlights scale differences—Volkswagen (\$52.13B), GM (\$31.66B), and Toyota (\$23.01B) lead, while Ferrari (\$2.76B) and Rivian (-\$3.66B) trail. Ferrari posts a strong EBITDA margin of 28.26%, compared to Toyota’s 18.90% and Rivian’s -73.60%. Rivian’s financials reflect ongoing risk, and without significant cost improvements, it may continue to rely on external financing—challenging in today’s high interest rate environment.

EBITDA by Company (\$Bn)



While the traditional automakers and luxury players like Ferrari post high EBITDA figures, their ROA and ROE vary widely. Return on assets (ROA) and equity (ROE) further illustrate capital efficiency. Ferrari (ROA: 17.34x, ROE: 46.15x) and Toyota (ROA: 17.12x, ROE: 23.83x) stand out, while Rivian shows alarming inefficiencies (ROA: -29.50x, ROE: -60.48x), signaling a heavy reliance on external funding and poor capital deployment.

ROA/ROE vs. EBITDA

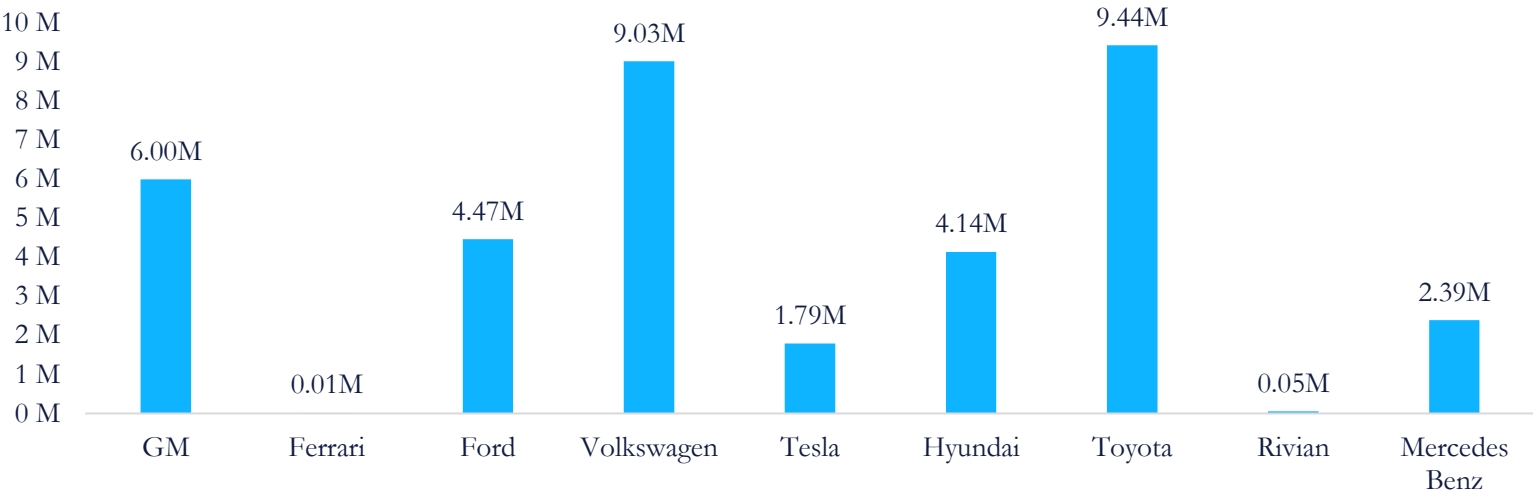


MARKET SHARE

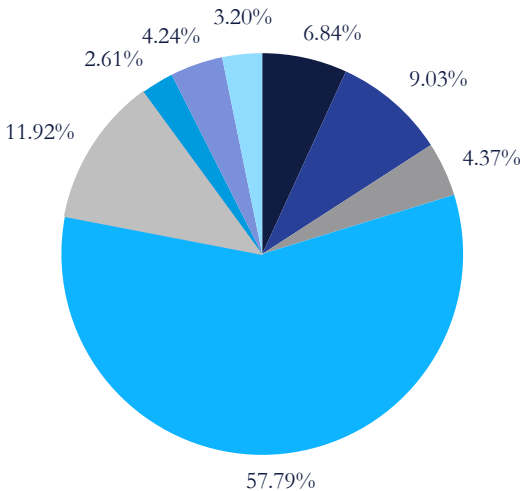
Overview

These graphs show how the differing automotive companies stack up against each other with regards to how successful they are from both a valuation standpoint, but also in terms of actual production and sales. While different companies have different goals and strategies, as Ferrari is unlikely to sell more cars overall than Toyota and Tesla exclusively makes EVs, these graphs do give a strong idea of where said companies are in their fields. General Motors, Ford, and Toyota are some of the largest overall manufacturers, while Mercedes Benz and Ferrari produce significantly less vehicles, but are still successful because they know their niche. Toyota and Volkswagen are still the two dominant forces when it comes to all vehicle sales worldwide, combining to make up almost the same number of sales as all the other comparables combined. Of US based companies, General Motors has found the most success, measuring third in overall vehicle sales, but still well-off Volkswagen and Toyota. Within the EV specific market, it's interesting to see how legacy automakers are trying to catch up to Tesla and how Hyundai seems to be doing the best at this. Despite the attempts to bridge the gap, Tesla is still dominant, making up almost 60% of all EV sales in the United States. For the future, the market share could very well be defined by how well companies develop autonomous and electrical technology, and how the China market is rapidly increasing in importance. More so, if BYD expands to the United States, it will be interesting to track how well they do when it comes to penetrating the EV market here in the states.

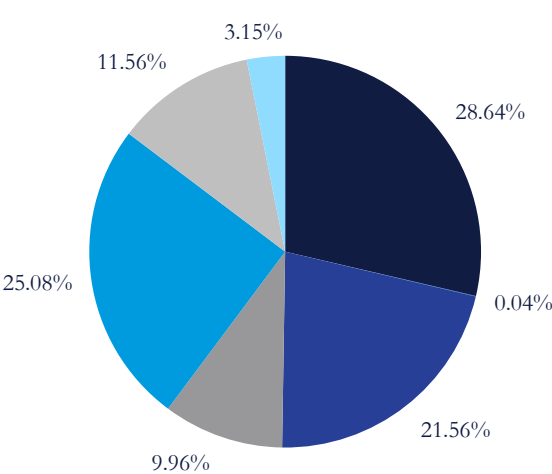
World Wide Vehicles Sold by Company



US EV Market Share By Company



US ICE Market Share By Company



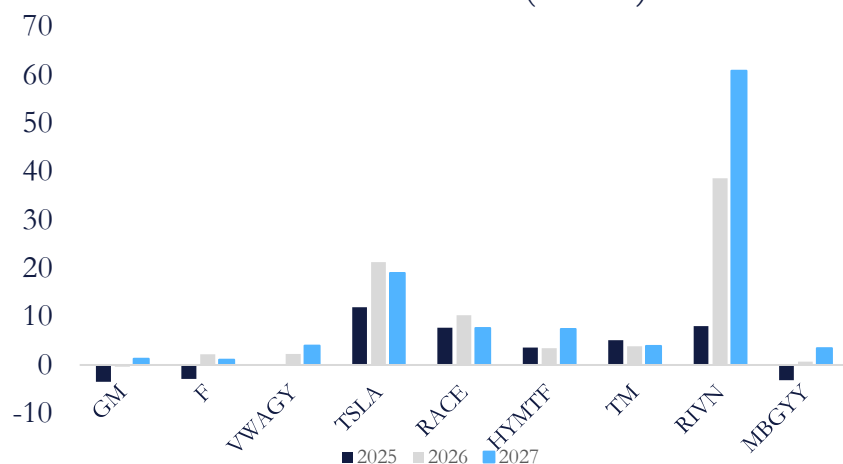
■ GM ■ Ford ■ Volkswagen ■ Tesla ■ Hyundai ■ Toyota ■ Rivian ■ Mercedes Benz

VALUATION AND GROWTH

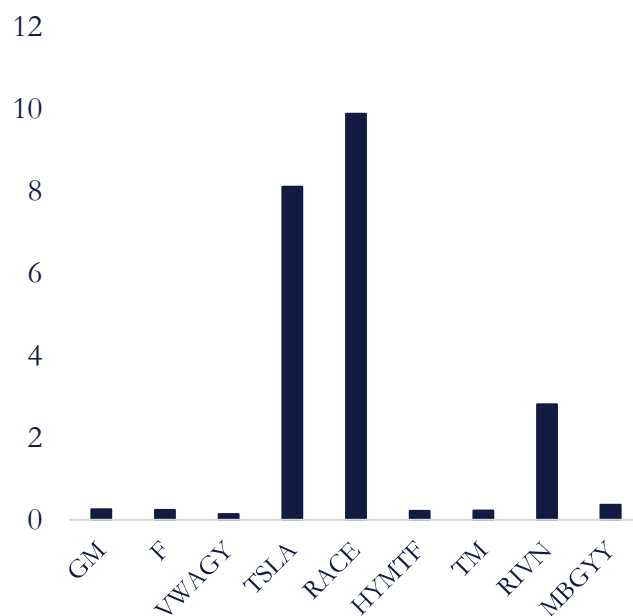
Company Name	Valuation				Est Growth (YoY%)		
	EV/EBITDA	Price/Book	P/E	P/Sales	2025	2026	2027
General Motors	1.69	0.75	8.58	0.26	-3.48%	-0.40%	1.26%
Ford	2.37	0.88	6.74	0.24	-2.89%	2.24%	1.07%
Volkswagen A G	0.55	0.29	4.07	0.14	-0.03%	2.25%	3.98%
Tesla	60.34	11.84	181.09	8.12	11.96%	21.25%	18.98%
Ferrari	28.59	21.89	48.50	9.90	7.71%	10.31%	7.66%
Hyundai Motor Company GDR	3.55	0.59	4.57	0.22	3.60%	3.46%	7.44%
Toyota Motor Corp	9.58	0.37	4.46	0.23	5.10%	3.85%	3.95%
Rivian	-3.35	2.29	-2.81	2.82	8.04%	38.59%	60.82%
Mercedes Benz Group ADR	0.95	0.56	5.28	0.37	-3.12%	0.68%	3.45%
Lower	0.75	0.47	4.27	0.23	-3.01%	1.46%	2.36%
Median	2.37	0.75	5.28	0.26	3.60%	3.46%	3.98%
Mean	11.59	4.38	28.94	2.48	2.99%	9.14%	12.07%
Upper	19.09	7.07	28.54	5.47	7.88%	15.78%	13.32%

Valuations in the automotive sector vary widely, reflecting the differentiated nature of the industry. When looking at positive outliers like TSLA and RACE with EV/EBITDA figures of 60.34 and 28.59 respectively, the metric is reflective of investor sentiment that both companies have future potential for immense growth in their respective sectors of BEVs and luxury sports cars. Traditional, established makers such as F, GM, and VWAGY garner more modest enterprise valuations due to their established nature and comparatively flat growth trajectories. The relatively low EV/EBITDA median reflects investors exhibiting caution in the sector relating to shifting market dynamics and macroeconomic risk. Similar trends are visible in the Price/Book, P/E, and P/Sales metrics where investors are looking towards companies with weaker earnings and balance sheets in favor of potential future growth. In the case of RIVN, growing pains are not reflective of valuation as while showing negative earnings since their IPO, they still trade at a premium when assessing their balance sheet.

Estimated Growth (YoY%)



P/Sales



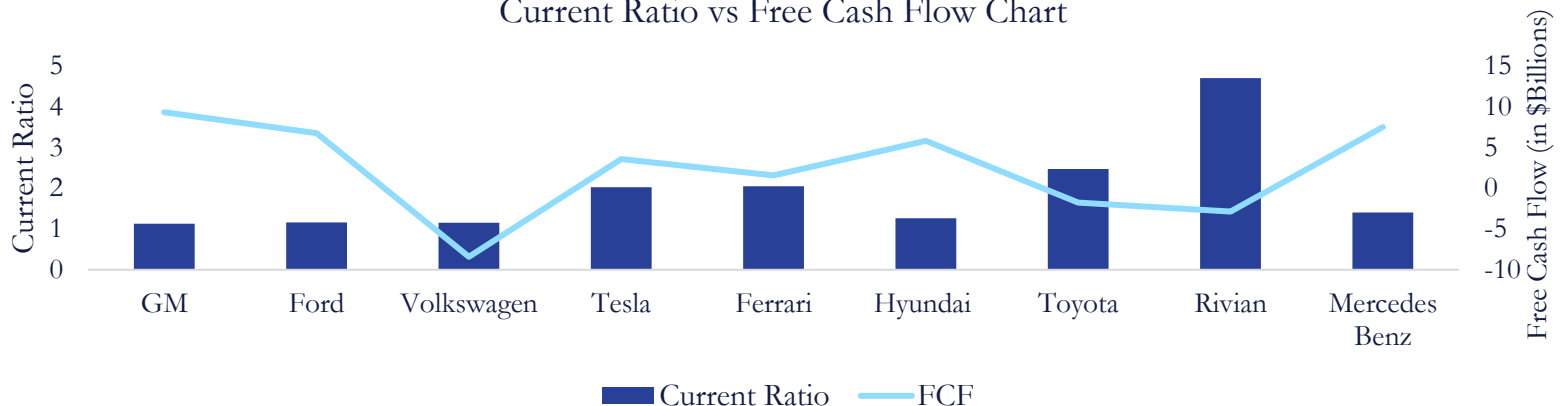
Growth estimates in the automotive sector are highly indicative of shifting market dynamics in favor of BEVs and luxury vehicles. RIVN, TSLA, and RACE find themselves at or above the upper quartile for growth for all years projected. Established automakers exhibit lower projections, but American manufacturers such as GM and F show particularly flat trajectories with 2027 growth figures of only 1.26% and 1.07%, respectively. RIVN stands out in growth projections with figures of 8.04%, 38.59%, and 60.82% over the next 3 years. The BEV maker was founded only 16 years ago but is soon expected to find its footing.

LIQUIDITY AND LEVERAGE

Company Name	Current Ratio	Cash Ratio	Quick Ratio	Free Cash Flow (\$Bn)	Net Operating Assets (\$Bn)	CapEx (\$Bn)
General Motors	1.13x	0.28x	0.90x	9.30	169.15	10.83
Ford	1.16x	0.36x	0.98x	6.74	167.37	8.68
Volkswagen A G	1.15x	0.34x	0.74x	(8.41)	407.83	28.58
Tesla	2.02x	1.27x	1.42x	3.58	50.74	11.34
Ferrari	2.05x	0.71x	0.85x	1.56	5.33	0.52
Hyundai Motor Company GDR	1.26x	0.65x	0.92x	5.78	38.77	2.93
Toyota Motor Corp	2.47x	1.44x	1.77x	(1.76)	90.82	6.00
Rivian	4.70x	3.42x	3.62x	(2.86)	3.78	1.14
Mercedes Benz Group ADR	1.40x	0.31x	0.92x	7.49	203.04	8.27
Lower	1.16	0.33	0.88	(2.31)	22.05	2.04
Median	1.40	0.65	0.92	3.58	90.82	8.27
Mean	1.93	0.98	1.35	2.38	126.31	8.70
Upper	2.26	1.36	1.60	7.12	186.10	11.09

When analyzing the liquidity ratios and other financial metrics for the listed major players in the automotive industry, one thing that immediately stands out is how Rivian is far ahead of the rest of the field. Their current ratio is double all but one other company, they have a cash ratio almost two points higher than anyone else, and their quick ratio is similarly significantly higher than anyone else. These ratios show that Rivian is the most liquid out of the comparable set and has more money tied up in assets than liabilities such as large cash reserves a inventory, which greatly outweigh their liabilities, such as debt. Rivian’s strong asset vs liability status can be explained by the company’s overall focus on long-term investments and strong financial backing from investors. Of companies that seem to be the most liquid (Rivian, Tesla, Ferrari, and Toyota Motor Corp.), Toyota is notable due to their offerings compared to the rest of that group. After all, Tesla and Ferrari are EV-exclusive manufacturers and Ferrari is a luxury vehicle company, while Toyota is a legacy automaker, renowned for its affordability. In fact, purely from a product offering standpoint, Toyota is significantly nimbler than companies such as Ford and Hyundai Motor Companies, making their liquidity numbers all the more impressive. Toyota and Volkswagen have negative cash flow numbers, due to their aggressive push into electrification while Rivian’s could be due to its aim of scaling up. Rivian and Ferrari are also significantly lagging the competition when it comes to Net Operating Assets and Capital Expenditures, which can be explained by their smaller size with lower production. Overall, the differing liquidity profiles can show different strategies, Rivian and Tesla maintain high liquidity indicating a nimbler strategic approach, while the more established, legacy automakers (such as GM and Volkswagen) carry high capital expenditures funding long-term transformation.

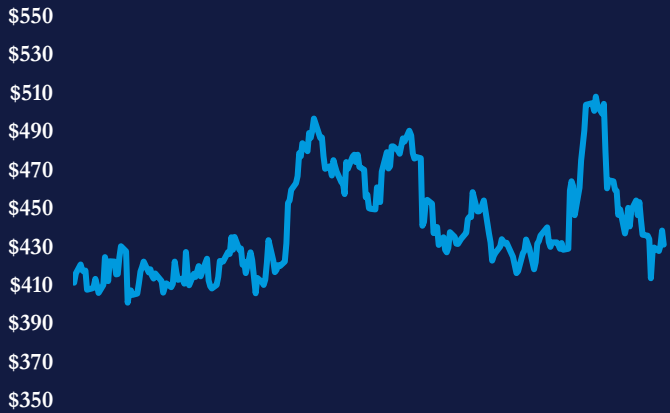
Current Ratio vs Free Cash Flow Chart



Initiating Coverage: Ferrari - RACE



Ferrari - RACE

Recommendation:	HOLD	P/E	42.17x	52 Week Price 
Price Target:	\$ 471.18	EV (\$Bn)	\$77.9	
Current Price:	\$ 431.23	EV/EBITDA	27.74x	
52-Wk Range:	\$399.27 – \$509.13	Beta	0.67	
Market Cap (\$Bn)	\$76.22	EPS	9.14	
Shares Outstanding (Mn):	178.2			

Company Overview

Ferrari is perhaps the most iconic luxury vehicle maker in the world. The Maranello based company exclusively builds high-end cars, with the average sale price over \$400,000. Founded by Enzo Ferrari in 1929 as a racing team, Ferrari has gone on to become one of the most notable car companies in the world. After going public in 2015, Ferrari’s strategy began to shift, as they began to prioritize shareholder value. A primary example of this was the creation of the Purosangue, an SUV that was met with a great deal of controversy from the traditionalist enthusiasts claiming the brand had lost touch with its roots. However, since it’s launch it has been their bestselling car and is sold out for years. Compared to other auto manufacturers, Ferrari sells significantly fewer cars each year, only having sold 13,663 vehicles in 2023. However, from a financial standpoint, they have year-over-year revenue growth of over 10% as well as incredibly strong operating margins. Ferrari also trades at a P/E ratio higher than almost any other car company. This ratio is attributed to investor confident and belief in its long-term brand power, pricing ability, and growth prospects, despite its relatively low production volume.

Latest News

Ferrari continues to outperform in Q1 2025, with strong demand for its high-margin models and record order backlogs extending into 2026. The brand’s exclusivity and pricing power have shielded it from broader auto industry slowdowns. Its Purosangue SUV and continued electrification roadmap have kept investors optimistic. They are continuing to offer new models with the 296 VS (Version Speciale) being released April 25th and the high-performance variant of the 12-Cilindri being launched later.



Investment Rationale

While Ferrari remains one of the strongest and most iconic brands in the luxury auto market, we offer a HOLD recommendation due to a mix of solid performance and emerging cautionary signals. The company continues to deliver exceptional financial results with an ability to consistently grow revenues at double-digit rates. This combined with industry-leading operating margins and a premium valuation reflects investor confidence in its unique positioning. However, since their IPO, Ferrari’s strategic shift toward maximizing shareholder value raises concerns about the long-term preservation of its brand exclusivity. The introduction of models like the Purosangue SUV and EV expansion of its lineup, while commercially successful, have the potential to erode the brand’s scarcity premium over time. With increased pressure to meet growth expectations, Ferrari risks sacrificing pricing power and brand mystique, central to its value proposition. As a result, we advise holding the stock while monitoring how Ferrari balances growth with brand integrity moving forward.

STREET PERSPECTIVE - RACE

Company Name

Select Commentary

JP Morgan

Price Target: \$460

Rating: **OVERWEIGHT**

- Price target cut from \$525 due to potential earnings risk from tariffs, and these new tariffs are specific worse for them due to them affecting Italy.
- "Ferrari derives upward of ~40% of its sales from the US, which happens to be its higher margin market."
- "While Ferrari demand may prove amongst the least elastic to moderate changes in price, Ferrari purchases are arguably amongst the most discretionary."

Research Team

- Ryan Brinkman, Lead Automotives Analyst

Morgan Stanley

Price Target: \$520

Rating: **BUY**

- Ferrari's high P/E is driven by its ultra-luxury brand, strong pricing power, and highly stable earnings.
- Over 80% of sales come from existing customers, showing brand loyalty and low demand volatility.
- Now trading below Hermès, Ferrari offers a unique opportunity in the luxury auto space with strong long-term upside.

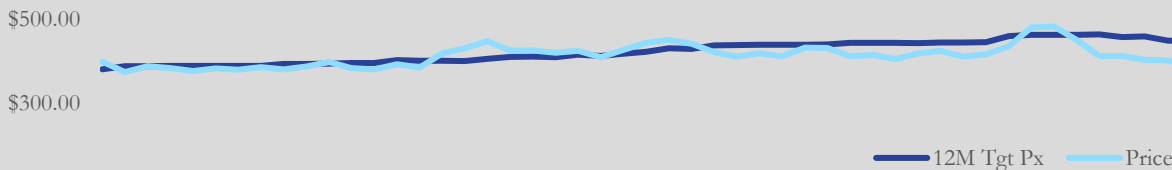
Research Team

- Adam Jonas, Managing Director

Price Analysis

Consensus Rating

Price vs 12M Target Price



BUY:	27.0%
HOLD:	60.5%
SELL:	12.5%

Comparative Analysis

Date

Analyst

Firm

Rating

\$453.00

\$471.18

04/04/25

Sam Perry



Neutral

\$397.40

04/03/25

Harald Hendriske



Sell

\$419.48

04/03/25

Rella Suskin



Hold

\$575.00

04/02/25

Stephen Reitman



Outperform

\$388.80

04/01/25

Daniel Schwartz



Hold

\$464.92

03/31/25

Nicolai Kempf



Hold

\$540.60

03/31/25

Tom Narayan



Outperform

\$445.00

03/31/25

James Grzinic

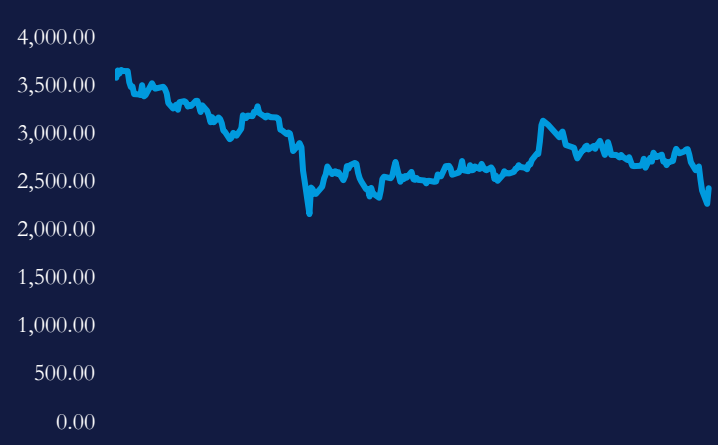


Hold

Initiating Coverage:
Toyota - 7203 JT (NIKKEI)



Toyota – 7203 JT (NIKKEI)

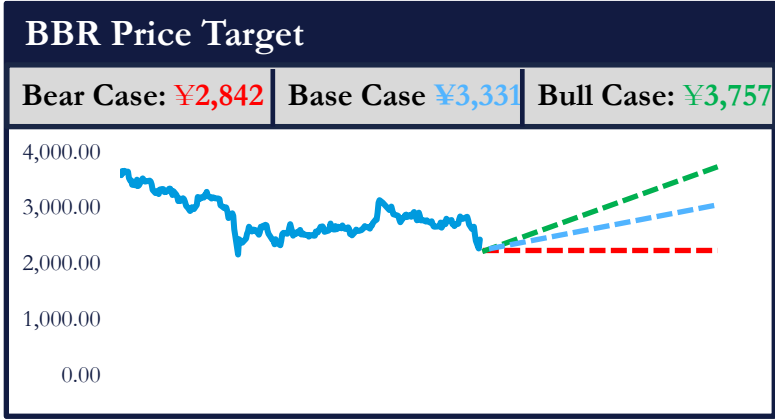
Recommendation:	BUY	P/E	6.29x	52 Week Price 
Price Target:	¥ 3,331.77	EV (\$Bn)	388.98	
Current Price:	¥ 2,407.50	EV/EBITDA	8.39x	
52-Wk Range:	¥ 15.31 - ¥ 24.94	Beta	1.33	
Market Cap (\$Bn)	216.40	EPS	23.52	
Shares Outstanding (Mn):	1309.6			

Company Overview

Toyota is one of the most established and trusted automakers globally, known for its commitment to reliability, innovation, and efficiency. Headquartered in Japan, Toyota pioneered hybrid technology with the Prius and is now expanding further into the battery electric vehicle (BEV) market amid tightening emissions regulations and shifting consumer preferences. In 2024, most of its revenue came from vehicle sales, supported by a strong global presence, brand equity, and a diverse product lineup—from compact cars to trucks and luxury models. Founded in 1937, Toyota has set industry standards in quality and production innovation, particularly through its lean Toyota Production System. Its growing pipeline of hybrid, plug-in hybrid, and fully electric vehicles underscores its commitment to sustainable mobility. Investments in solid-state batteries, hydrogen fuel cells, and autonomous driving technology highlight Toyota’s long-term, future-focused strategy. As demand rises for decarbonization and energy efficiency, Toyota is well positioned to lead, leveraging its global scale and R&D strength to maintain a competitive edge.

Latest News

Toyota reported record hybrid sales in Q1 2025, driven by strong demand in North America and Asia, offsetting slower BEV growth. The company still faces challenges scaling its EV lineup due to battery constraints and rising competition. In response, it announced a \$1.3 billion EV investment in Kentucky and a new battery partnership with Panasonic. CEO Koji Sato reaffirmed Toyota’s dual-track strategy, boosting investor confidence despite macroeconomic headwinds.



Investment Rationale

Toyota is a compelling investment due to its ability to balance stability with innovation. Unlike many automakers struggling to adapt, Toyota has taken a strategic, measured approach to electrification—leveraging its dominance in hybrid technology while steadily scaling its EV capabilities. Its global manufacturing expertise, trusted brand, and efficient supply chain give it a strong competitive edge as the auto industry undergoes a major transformation. Toyota’s investments in solid-state batteries, hydrogen fuel, and autonomous driving technologies position it to lead in next-generation mobility. At the same time, its consistent profitability and strong operational execution make it a reliable pick in a sector often defined by volatility. With a clear long-term vision and the infrastructure to back it, Toyota stands out as both a defensive and forward-looking play in the global automotive market.

STREET PERSPECTIVE - TM

Company Name

Select Commentary

Morgan Stanley

Price Target: ¥ 2,850
Rating: **EQUAL WEIGHT**

- “Toyota is targeting 3.5M BEV sales by 2030; gigacasting and new BEVs with LFP batteries and OS 'Arene' launching in 2026.”
- “Hybrid Electric Vehicle earnings to rise with 5th-gen Toyota Hybrid System (THS).”
- “Investing ¥5T in BEVs by 2030 (¥3T in batteries, ¥2T in vehicles).”
- “Expanding battery partnerships with CATL, LGES, Panasonic, plus in-house efforts.”

Research Team

- Hirota Segewa, Equity Analyst

Zacks Equity Research

Price Target: \$90
Rating: **BUY**

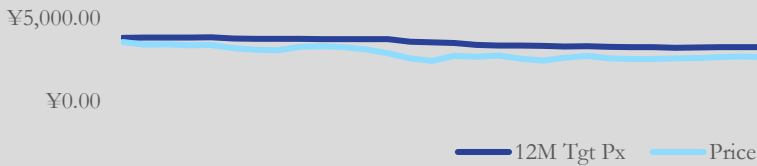
- “Toyota anticipates continued growth in hybrid sales, predicting that hybrids will account for more than 50% of the company’s total volume next year.”
- “Toyota Motor’s aims to generate 40% of its global sales from EVs by 2025 and 70% by 2030.”
- “Toyota’s commitment to maximizing shareholders’ value via dividends and buybacks is also praiseworthy.”

Research Team

Price Analysis

Consensus Rating

Average Price vs 12M Target Price



BUY:	69.2%
HOLD:	26.9%
SELL:	3.8%

Comparative Analysis

Date

Analyst

Firm

Rating

¥ 3,331.77

¥3500.00

4/2/25

James Hong



MACQUARIE

Outperform

¥3300.00

4/1/25

Yoshitaka Ishiyama



Buy

¥2630.00

3/28/25

Seiji Sugiura



東海東京証券

Neutral

¥3640.00

3/28/25

Vincent Sun



Buy

¥2900.00

3/27/25

Shinya Naruse



Neutral

¥3600.00

3/27/25

Toshihide Kinoshita



Buy

¥3300.00

3/20/25

Matthias Volkert



Buy

¥2850.00

3/16/25

Hiroto Segawa

Morgan Stanley Equal Weight



Initiating Coverage: Tesla - TSLA

Recommendation:	BUY	P/E	42.17x	52 Week Price 
Price Target:	\$ 300.16	EV (\$Bn)	30.46	
Current Price:	\$ 239.43	EV/EBITDA	27.13x	
52-Wk Range:	\$138.80 - 488.54	Beta	2.58	
Market Cap (\$Bn)	859.71	EPS	2.04	
Shares Outstanding (Bn):	3.21			

Company Overview

Tesla is the most tech-forward automaker in the U.S., and their valuations are reflected as such. Based in Texas, Tesla builds intelligent BEVs with models ranging from relatively inexpensive entry level vehicles to high-end, luxury performance vehicles. While primarily thought of as an automaker, Tesla also brands itself as an energy company with sustainability at the forefront of their business model. 74.2% of Tesla’s revenue in 2024 was derived from their auto sales while the remainder was attributed to their other ventures. Founded in 2003, Tesla is a relatively new to market automaker, but their consistent innovation has brought them to the top of the BEV market and established them as a household name in the larger automotive space. Differentiating their vehicles through a mix of intelligence, performance, and luxury they have built confidence in investors as reflected with their 41.17x P/E ratio, surpassing all other comparable automakers. Since 2014, they have averaged 44.86% YoY revenue growth. Given larger trends in the automotive market shifting towards electric vehicles, Tesla is well positioned to grow as regulation and consumers align more with their business model.

Latest News

Tesla stock has retreated nearly 35% YTD. Tesla deliveries for Q1 of 2025 declined by 13% to the weakest point in nearly 3 years. The sudden decrease in deliveries was defined by rising global competition, preparation for a refreshed model Y, and backlash over Elon Musk’s political affiliation. Tesla dealerships, charging stations and vehicles themselves have been the targets of vandalism and other attacks. Shares rebounded after reports he would be stepping down from his role in the government in the coming months.



Investment Rationale

Tesla's stock price volatility reflects the mixed and uncertain investor sentiment towards the company. We believe short term headwinds remain a hurdle for growth but are confident in Tesla's long-term commitment to innovation and new technologies. We see certain challenges within Tesla, such as Elon Musks involvement in DOGE, slowdown of deliveries, and some market share declines as temporary issues. Additionally, compared to peers, Tesla is well positioned for broader economic events such tariffs due to its reliance on domestic production in all nations it operates in. As an added benefit, Tesla stands to be a significant benefactor of AI, aiming to be a leader within the robotics space. Autonomous vehicles, or robotaxis, represent a largely untapped market, with introduction planned for the next year. Tesla has also been working on the release of humanoid robotics, which are already being deployed in manufacturing plants. For these reasons, we cite Tesla as a buy for its strong growth and market positioning with stronger trajectory than the larger auto space.

STREET PERSPECTIVE - TSLA

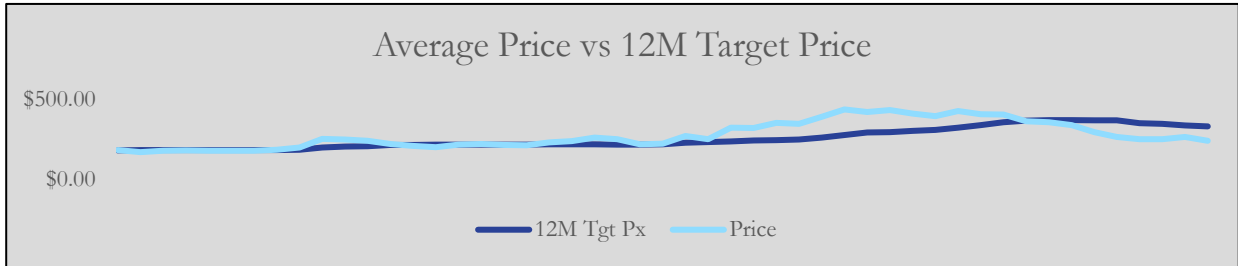
Company Name

Select Commentary

<div>JP Morgan</div> <div>Price Target: \$120 Rating: SELL</div> <div> <ul style="list-style-type: none"> "Mr. Musk's work with the Department of Government Efficiency has proven controversial domestically, ... the effect on Tesla sales seems nevertheless negative". "We now expect Tesla 1Q25 deliveries of just ~355K, which is -8% y/y from 387K in 1Q24 and -28% q/q from 495K in 4Q24, while also down substantially from our prior estimate of 444K and -15% below Bloomberg consensus for 418K." </div> <div>Research Team</div> <div> <ul style="list-style-type: none"> Ryan Brinkman, Rajat Gupta, Jash Patwa </div>	<div>Deutsche Bank</div> <div>Price Target: \$345 Rating: BUY</div> <div> <ul style="list-style-type: none"> "Our view is that Tesla's stock has been under pressure recently driven by much weaker auto volumes, broader de-rating in growth assets and to some extent, political/policy uncertainty." "We see material downside to 1Q deliveries, reducing our forecast by about 50k to 345k implying -11% YoY". "For January and February combined, Tesla's Europe registrations declined by >40% YoY". </div> <div>Research Team</div> <div> <ul style="list-style-type: none"> Laura Li, James Mulholland </div>
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Price Analysis

Consensus Rating



BUY:	50.0%
HOLD:	25.0%
SELL:	25.0%

Comparative Analysis	Date	Analyst	Firm	Rating
<div>\$300.16</div> <div>\$345.00</div>	4/28/25	Laura Li, James Mulholland	Deutsche Bank	Buy
<div>\$130.00</div>	4/14/25	Colin Langan, Kosta Tasoulis	WELLS FARGO	Underweight
<div>\$120.00</div>	3/12/25	Brinkman, Gupta, Patwa	J.P.Morgan	Underweight
<div>\$275.00</div>	3/12/25	Mark Delaney	Goldman Sachs	Neutral
<div>\$280.00</div>	4/2/25	William Stein	TRUIST	Neutral
<div>\$430.00</div>	3/16/25	Vijay Rakesh	MIZUHO	Outperform
<div>\$455.00</div>	3/31/25	Stephen Gengaro	STIFEL	Outperform
<div>\$315.00</div>	3/31/25	Dan Ives	WEDBUSH	Buy