

Long: Rivian Automotive, Inc. (NASDAQ: RIVN)

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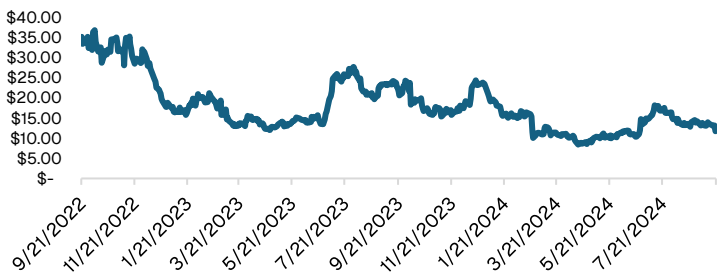
Company Overview

Rivian Automotive, Inc. (NASDAQ: RIVN) is an innovative electric-vehicle car manufacturer. They're headquartered in Irvine, CA and produce their vehicles in a plant in Normal, IL. Rivian generates revenue through an EV product line up, selling commercial vans and pick-up trucks.

Market Data & Valuation

| | |
|------------------|------------------|
| Price Target | \$30.20 |
| Potential Upside | 58.09% |
| Current Price | \$11.70 |
| Market Cap | 11.65B |
| 52-Week Range | \$8.26 - \$24.87 |
| Beta | 2.07 |

Rivian 2-Year Historical Price Movement



Thesis Overview

Thesis 1: Fiscal Policy & Sustained Consumer Demand Momentum Drives Growth

While the market is currently experiencing a temporary decline in interest due to limited options and Model Y saturation but can anticipate a resurgence driven by favorable tax incentives and rising gas prices. These dynamics present an opportunity for Rivian to capture increased market share and outperform current industry expectations.

Thesis 2: Expansion of Business Channels & Cost Reduction

Have identified compelling insights that underscore Rivian's strategic advancements in the electric delivery van market. With a focus on cost optimization and the production of more affordable EV options, Rivian is strengthening its competitive edge and operational efficiency.

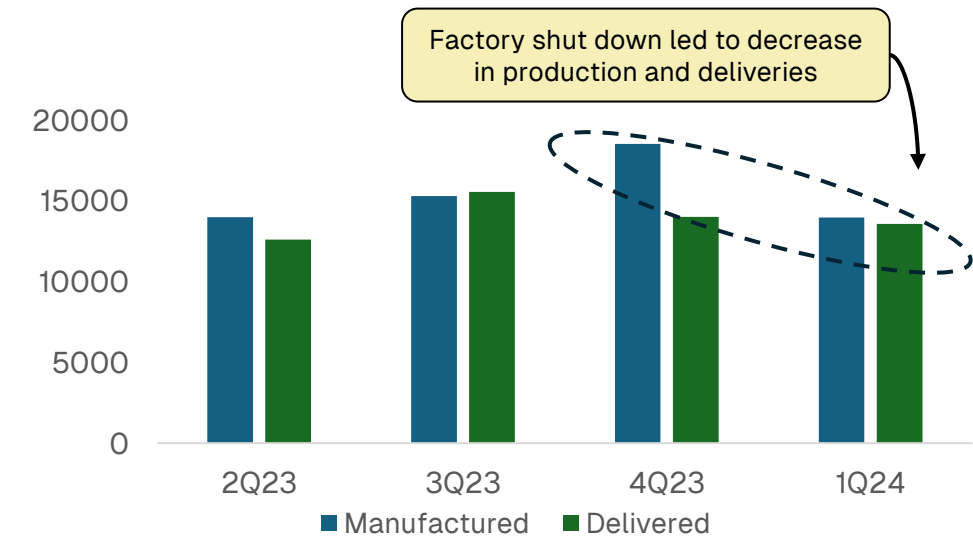
Company Description

- Rivian Automotive, Inc. (“Rivian”), founded in 2009, based in Irvine, California, is an American automotive manufacturer (OEM) that develops and builds electric vehicles (“EVs”) and accessories.
- The company currently offers the R1T five-passenger pickup and R1S seven-passenger SUV. It also provides Rivian Commercial Vehicle (“RCV”) for Electric Delivery Van (“EDV”) with collaboration with Amazon.com, Inc.
- Rivian is recognized for its innovative approach electric mobility, integrating advanced technology with sustainability. The company primary sells its vehicles directly to consumers through an online sales model and service network.

Financial Statistics

- Share Price: \$11.70
- BVPS: \$6.76
- Market Cap: \$11.65B
- Beta: 2.07

R1 Operations



Brand Image



- Rivian represents itself as a brand for those who seek adventure, stressing the fact that they’ve built vehicles designed for off-roading or outdoors.



- The company also focuses on building a sustainable environment as it prioritizes ecological responsibility, which is the main reason to building electric vehicles

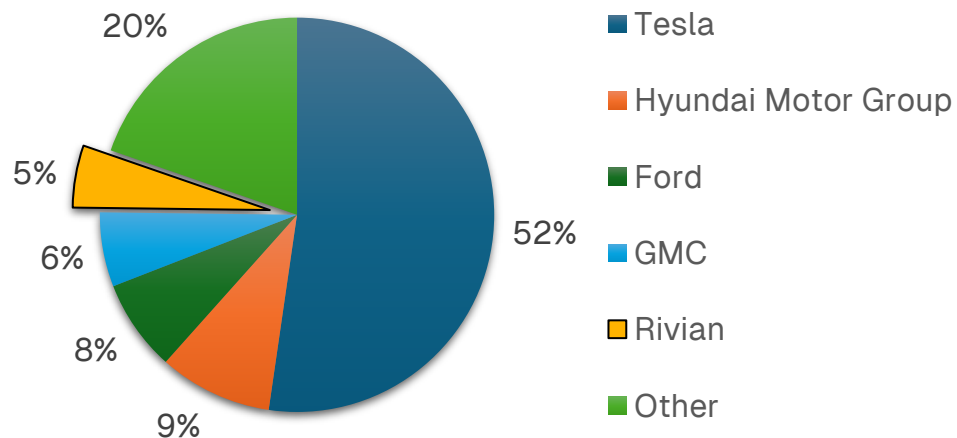


- Positioned in a premium vehicle market (for now), Rivian offers high-quality artisanship, luxury design, and unique features that appeal to both performance and comfort

Industry Overview

- In 2024, EV market is projected to reach \$623.3 bn worldwide, demonstrating a steady annual growth rate of 9.82% (CAGR 2024-2028)
- Increasing gas prices (19%) due to the conflict in Ukraine, nationwide tax incentives, and high inventory levels have increased car shoppers' interest in EVs
- The rapidly changing market structure, reducing price of EV batteries, government initiatives pertaining to EVs, and high investment costs for charging infrastructure, create lower barriers to entry as more EV startups compete for market share
- Consumer segments ranging from EV skeptics to EV enthusiasts typically purchase an EV based on three factors, (1) what is cheapest, (2) range, (3) charging infrastructure/time

EV Market Share (1Q24)



Major Competitors



- Often seen as the leader of EVs, Tesla's chokehold of US EV market has been waning as they've commanded about 79.4% of the EV market back in 2020 to about 55% last year in 2023 as more companies release their own EVs
- As of now, Tesla only sells consumer EVs (5 models) but plans to expand its commercial business with Tesla Semi and Electric Semi-Truck



- Despite producing mostly ICEs, Ford continues to invest in EV programs to build a full EV line-up, including Rivian as they were an early investor before its IPO and then exited after to focus on its own EV developments
- Simultaneously, Ford is expanding its hybrid EV offerings and fully electric vehicles like Ford-150 Lightning (a direct competitor of Cybertruck & R1T)



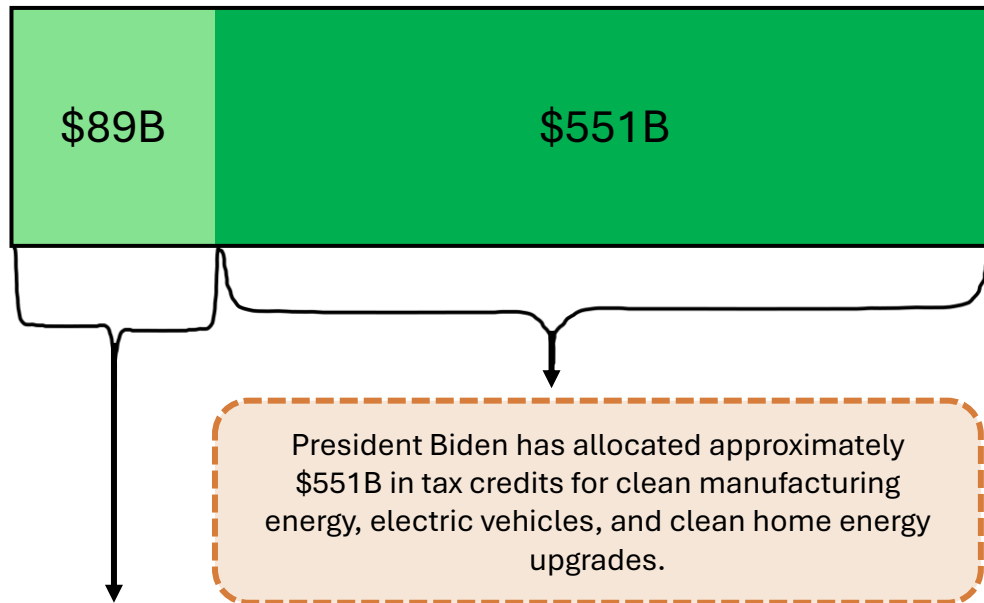
- Lucid designs, engineers, and manufactures fully electric vehicles, and currently only offers a sedan (Lucid Air) but plans to also sell a luxury electric SUV (Lucid Gravity)
- Initially benefiting from EV optimism post-pandemic, investors soon realized Lucid's still in its early stages and found lackluster growth and spiraling losses that are yet to change as it declines its sales for "growth" company

Thesis 1: Fiscal Policy & Sustained Consumer Demand Momentum Drives Growth



Significant Tailwind In Fiscal Policy

Legislation such as the Inflation Reduction Act, CHIPS Act, and tax credits provide aid to build EV infrastructure, such as charging networks, optimized batteries, etc. President Biden and Congress's incentive is to push America into greener jobs and outcompete China.



Only a limited amount of the \$89B announced to reduce healthcare costs and promote clean energy has been spent.

President Biden has allocated approximately \$551B in tax credits for clean manufacturing energy, electric vehicles, and clean home energy upgrades.

Increasing Gas Prices

A given change in gasoline prices has roughly 4-6X effect on demand of EVs than a similar percentage change in electricity prices. The EV market continues experiencing growth as gas prices have increased nearly 60% in the last 4 years.

Tax Incentives

As the U.S. fights against climate change, it proceeds to invest in greener solutions. To promote EVs, Congress have signed the Inflation Reduction Act which provides tax credits up to \$7,500 for new EVs and, for the first time, \$4,000 for used EVs, motivating consumers to switch to electric vehicles.

Desaturation of EV Market

Nearly 7 in 10 EV buyers in the U.S. desire an EV for under \$50k but considering the average price of an EV in 2024 was \$56k, the EV market is saturated with Tesla's Model Y and Model 3 as consumers are dissatisfied with limited options. However, as legacy automakers and new start-ups expand their EV product line, consumer demand for EV undergoes growth.

Thesis 2: Expansion of Business Channels & Cost Reduction

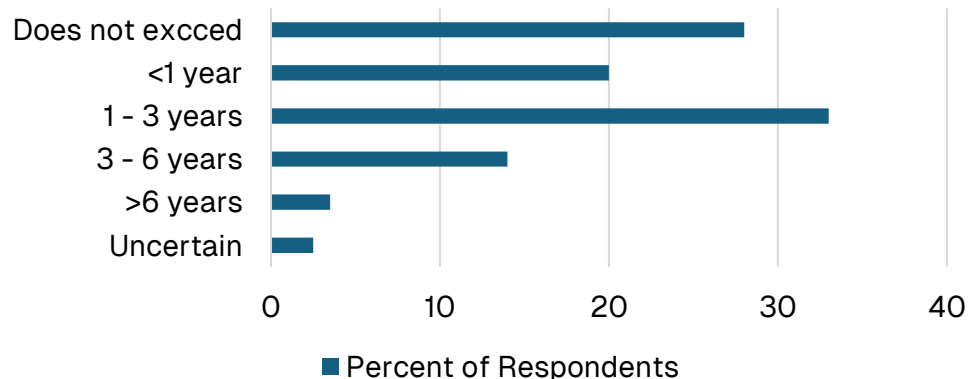


Electric Delivery Van

- In Nov. 2023 Rivian had ended their termination of exclusivity with Amazon which open doors for other commercial customers
- Rivian now offers 2 types of Electric Delivery Vehicles ("EDVs"), Delivery 500 and Delivery 700, both starting around approximately \$90k.
- Rivian still plans to deliver 100,000 vans to Amazon by 2030 in part with the company's plan to switch to electrify its delivery fleet

Aging Fleet Creates Potential Demand

- The Work Truck Association (NTEA) published in 11th annual Fleet Purchasing Outlook in 2023. The NTEA forecasts that many fleets will acquire more vehicles due to aging fleet that hasn't been replaced for the past several years.
- The following graph shows the average age exceeding replacement cycles and the corresponding percent of respondents. As more fleets switch to electric with limited options, it creates potential demand for Rivian's EDVs.

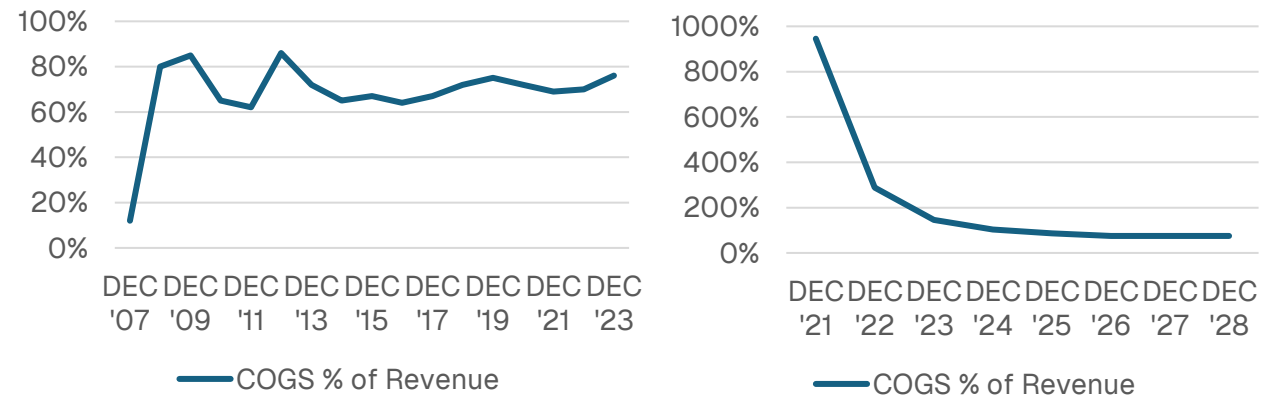


Cost Reduction

Investors with a myopic perspective believe that Rivian is inefficient due to its large cash burn as it lost an average of \$1.455B in the last two quarters of 2024. However, this is largely due to optimizing its plant and vehicle designs as it reduces loss in each vehicle sold for the second generation R1 vehicles.

1. Simplifying Design: Rivian has managed to reduce 500 parts from the second gen R1 vehicles from battery production to body shop
2. Production Efficiency: Manufacturing plant in Normal, IL was shut down to integration 600 new or modified robots to optimize manufacturing process
3. Reducing Components: Second Gen R1 vehicles use 10 less ECUs (electrical control units), 1.6 millions miles of less wiring, and reduced 44 pounds

Cost of Goods Sold (COGS)



By comparing Tesla's COGS % of Revenue (on the left) we can see how it has transformed over time, noting that it has maintained to keep it under 80% since 2008. We can extrapolate Rivian's and cap it under 72% since 2025 in accordance with the company's projection of positive gross profit margin by Q4 2024 on Q2 2024 earnings call.

Recent Developments & Near-term Catalysts



1

AT&T to buy Rivian EDVs

- AT&T have started an EV pilot program on Dec. 2023 to improve safety, reduce costs, and cut carbon emissions
- To support this effort, AT&T have ordered Rivian's EDVs and R1 trucks to add to their fleet near the beginning of this year
- This partnership signals a new chapter of expanding Rivian's business and commercial customers



2

Launch of R2, R3, & R3X

- Rivian launched its new midsize platform in Mar. 2024 that supports the new R2 and R3 product lines
- The new R2 vehicles will be in production by early 2026 and will start at \$45k as its main intention is to be smaller and more affordable while offering good performance to attract more consumers and the R3 will be priced lower than the R2 with a more sporty, athletic silhouette
- R2 will be using 45% less in materials to reduce cost and have a higher efficiency in operation to aid the company reach a double-digit gross profit margin by 2025 according to a Q2 2023 earnings call



3

Volkswagen's \$5B Investment

- Volkswagen and Rivian announced in Jun. 2024 to form an equally controlled and owned joint venture to build next-generation electrical architecture and software
- The joint venture (JV) is intended to provide Rivian with additional cash and Volkswagen the ability to utilize Rivian's existing electrical architecture and software benefiting both parties
- The initial \$1B investment into Rivian will form of an unsecured convertible note that will be convertible into Rivian equity and the rest of \$4B investment will be split into half, one through Rivian shares and the other \$2B will be spent related to the joint venture



Potential Risks & Mitigants

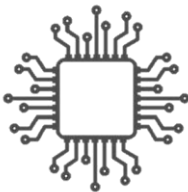


Power of Vertical Integration

- Like what China experienced near the beginning of its electrification transition and the demand for electric vehicles, the U.S. is bound to see shakeouts and consolidation of the EV market.
- Major vertically integrated EV companies such as Tesla and BYD can survive the shakeout due to their vast power over large parts of the supply chain
- Legacy automakers have an advantage over EV start ups as they can ride off cooling EV demand by shifting to hybrid vehicles as more established automakers have invested a significant portion into expanding their EV product line
- Although Rivian does make its motors, software, and some electrical hardware in-house, Rivian doesn't have significant power of its supply chain

"You have more control, you can present a more coherent product and a more coherent brand and identity if you control the whole [manufacturing chain]."

- John Paul MacDuffie, Professor of Management at UPenn

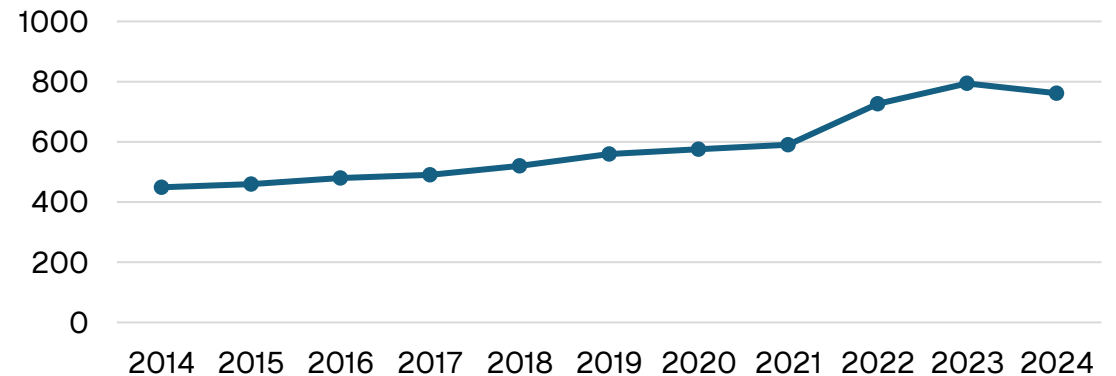


- In 2022, a pandemic computer chip and semiconductor shortage caused Rivian to half its 50,000-unit goal during its first full year of production
- Recently, a part (not specified) shortage halted the production of Amazon's order of EDVs as Rivian slowly recovers from supplier shortages

Potential Drop in Demand

- Overall, macro environment trends such as high vehicle prices and high interest rates making it unpleased to own a car post-pandemic due to supply shortages
- Additionally, electric vehicles are falling short of expectations as consumers struggle to adapt to high prices, short range, and a lack of proper charging networks

AVG New Car Payment



Mitigants

- Rivian is propelling towards vertical integration as it plans help achieve profitability by investing in a vertically integrated supply chain and manufacturing its own battery cells
- As CEO of Rivian stated, EV demand is temporarily cooling down due to the "extreme" lack of choice as models under \$50k directly compete with Tesla's dominance and there is much more EV demand on the sidelines

Calculating WACC

| | |
|---------------------|--------|
| Risk Free Rate | 3.74% |
| Beta | 2.07 |
| Equity Risk Premium | 5.0% |
| Cost of Equity | 14.09% |
| Cost of Debt | 4.41% |
| Percent of Equity | 67.35% |
| Percent of Debt | 33.65% |
| Tax Rate | 0% |
| WACC Calculation | 10.97% |

Discounting Cash Flows

| Period | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
|------------------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | FY2024E | FY2025E | FY2026E | FY2027E | FY2028E | FY2029E | FY2030E | FY2031E | FY2032E | FY2033E | FY2034E |
| Revenue | 5623.27 | 8268.51 | 14153.96 | 31015.10 | 34649.84 | 38013.86 | 42179.86 | 46214.10 | 50617.31 | 55989.27 | 61380.35 |
| -COGS | (4306.00) | (6614.81) | (10190.85) | (22330.87) | (24947.89) | (27369.98) | (30369.50) | (33274.15) | (36444.47) | (40312.27) | (44193.85) |
| -SG&A | (1741.00) | (1571.02) | (2689.25) | (5892.87) | (6583.47) | (7222.63) | (7170.58) | (7856.40) | (8604.94) | (9518.18) | (10434.66) |
| -DA | (487.00) | (661.48) | (1132.32) | (2481.21) | (2771.99) | (3041.11) | (3374.39) | (3697.13) | (4049.39) | (4479.14) | (4910.43) |
| EBIT | (910.73) | (578.80) | 141.54 | 310.15 | 346.50 | 380.14 | 1265.40 | 1386.42 | 1518.52 | 1679.68 | 1841.41 |
| Tax Rate | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | 0.08 | 0.08 |
| Taxes | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | (134.37) | (147.31) |
| Interest Expense | 220.00 | 300.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| NOPAT | (1130.73) | (878.80) | 41.54 | 210.15 | 246.50 | 280.14 | 1165.40 | 1286.42 | 1418.52 | 1714.05 | 1888.72 |
| +DA | 487.00 | 661.48 | 1132.32 | 2481.21 | 2771.99 | 3041.11 | 3374.39 | 3697.13 | 4049.39 | 4479.14 | 4910.43 |
| CapEx | (1026.00) | (1074.00) | (1074.00) | (1074.00) | (1074.00) | (1074.00) | (1074.00) | (1074.00) | (1074.00) | (1074.00) | (1074.00) |
| FCF | (1669.73) | (1291.31) | 99.86 | 1617.36 | 1944.49 | 2247.25 | 3465.78 | 3909.55 | 4393.90 | 5119.19 | 5725.15 |
| | | 0.90 | 0.81 | 0.73 | 0.66 | 0.59 | 0.54 | 0.48 | 0.43 | 0.39 | 0.35 |
| PV of Cash Flows | | (1163.66) | 81.09 | 1183.56 | 1282.28 | 1335.44 | 1855.96 | 1886.63 | 1910.76 | 2006.09 | 2021.77 |

Revenue Forecast

| | 3Q23 | 4Q23 | 1Q24 | 2Q24 | 3Q24 | 4Q24 | FY2024E | FY2025E | FY2026E | FY2027E | FY2028E | FY2029E | FY2029E-FY2033E | FY2034E |
|------------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------------|-----------|
| EDVs | 2000.00 | 2000.00 | 2500.00 | 1500.00 | 1500.00 | 2000.00 | 7500.00 | 9000.00 | 10000.00 | 10000.00 | 12500.00 | 12500.00 | - | 12500.00 |
| R1 | 13564.00 | 11972.00 | 11088.00 | 12290.00 | 13311.00 | 14199.50 | 57088.00 | 79924.00 | 50000.00 | 96708.00 | 112122.00 | 124807.20 | - | 188233.20 |
| R2S | | | | | | | | 152985 | 345450 | 345450 | 345450 | | - | 345450 |
| Total Sold | 15564.00 | 13972.00 | 13588.00 | 13790.00 | 14811.00 | 16199.50 | 64588.00 | 88924.00 | 212985.00 | 452158.00 | 470072.00 | 482757.20 | - | 546183.20 |
| ASP (R1) | 85903.37 | 94116.81 | 88607.59 | 83973.89 | 86241.19 | 89432.11 | 87063.70 | 92984.03 | 99678.88 | 106457.04 | 113696.12 | 121427.46 | - | 169354 |
| ASP (R2) | | | | | | | | | 53425.00 | 56897.63 | 59287.33 | 61777.39 | - | 79274.2 |
| Revenue | 1337 | 1315 | 1204 | 1158 | 1277.32 | 1448.76 | 5623.27 | 8268.51 | 14153.96 | 31015.10 | 34649.84 | 38013.86 | - | 61380.4 |

DCF Valuation

| | |
|----------------|----------|
| NPV | 32175.68 |
| Net Debt | -1737.00 |
| Equity Value | 30438.68 |
| Shares | 1008.00 |
| Target Price | 30.20 |
| Implied Return | 58.09% |

Resources Used

- <https://knowledge.wharton.upenn.edu/article/who-will-survive-a-shakeout-in-the-electric-vehicle-market/>
- <https://insideevs.com/news/722265/rivian-r1s-r1t-wiring/>
- <https://analystreports.som.yale.edu/report/download/593/24606>
- <https://insideevs.com/reviews/721298/rivian-r3-everything-we-know-design-range-features/>
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- <https://www.aboutamazon.com/news/transportation/everything-you-need-to-know-about-amazons-electric-delivery-vans-from-rivian>