AC/VC

Rivian, Tesla, and the Private-Market Liquidity Trap

A research thesis on capital intensity, hot-market IPOs and the structural incentives of late-stage venture capital

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Tesla

Selected analyst commentary, around the June 2010 IPO

> *"I don't know how this stock performs after an IPO. To me, it seems like an extraordinarily risky investment."*
>
> — Maryann Keller, independent auto analyst and author

> *"They are not Google. They are in manufacturing. Tesla operates in a capital-intensive business that is highly competitive, with major automakers poised to enter the electric car market."*
>
> — Jeremy Anwyl, Chief Executive of Edmunds.com

> *"There are enough problems with the financials. The euphoria will likely fade soon given the cost of this vehicle in the recessionary environment. There is a very limited market for Tesla's cars."*
>
> — Scott Sweet, Senior Managing Partner, IPO Boutique

> *"I just think that there were a lot more risks than there were positives at the price it was at."*
>
> — Carter Driscoll, analyst at Capstone Investments, with a Sell rating and $22 price target shortly after the IPO

> *"Tesla is an intriguing company that has already had a big achievement against long odds. But they've never made money, they don't expect to make money for years to come, and their business plan takes them out of the niche where they've had success and puts them in direct competition with the major auto superpowers. Put like that, buying Tesla's stock sounds kinda nuts, doesn't it?"*
>
> — John Rosevear, Senior Contributing Motley Fool Auto Analyst, in a February 17, 2010 article titled "Tesla's IPO: Tempting or Toxic?"

$319M	$1.7B	+26,860%
Total private capital raised pre-IPO	Market capitalisation at IPO close, June 2010	Total return since IPO, as of 22 May 2026

Rivian

Selected analyst commentary, around the November 2021 IPO

> *"With the popularity and consumer demand for EVs on the trucking/SUV market, we believe Rivian is in the catbird's seat to take considerable market share in this EV arms race under its visionary CEO and founder RJ Scaringe. We view the Rivian story as a game changer for the EV market."*
>
> — Daniel Ives, Senior Equity Research Analyst, Wedbush Securities, initiating coverage with an Outperform rating and $130 price target, December 2021

> *"Auto investors who missed Tesla have struggled to make the case for legacy OEMs and a raft of de-SPAC EV start-ups over the past 12 months. While risks remain, we believe Rivian has all the key attributes to be 'the one' that won't get away from your EV portfolio."*
>
> — Adam Jonas, analyst at Morgan Stanley, initiating coverage with an Overweight rating and $147 price target, December 2021

> *"Amazon's order amount could be stale, and be significantly higher over time."*
>
> — Adam Jonas, Morgan Stanley, on Amazon's initial 100,000-van order for Rivian's Electric Delivery Van

> *"Rivian is strategically positioned to capitalise on a largely untapped segment of the electric vehicle market. Electric SUVs and pickup trucks are virtually nonexistent in the current EV landscape, giving Rivian a unique opportunity to capture considerable market share in this specific niche."*
>
> — Daniel Ives, Wedbush Securities, December 2021

$10.5B	**$86B**	**−82%**
Total private capital raised pre-IPO	Market capitalisation at IPO close, November 2021	Total return since IPO, as of 22 May 2026

Executive summary

Tesla and Rivian are the two most prominent venture-backed pure-play electric-vehicle companies in American history. They are, in important respects, comparable: both pursued premium-priced battery-electric platforms in the United States; both built dedicated manufacturing capability; both took their first product public after years of private capital formation; both were buoyed by a national policy turn toward decarbonisation. And yet the histories diverge almost as completely as two histories can. Tesla raised roughly $200 million[1] of private equity in the seven years between incorporation and IPO. Rivian raised roughly $10.5 billion[2] in the same window, more than fifty times as much. Tesla delivered about 1,063 Roadsters[3] before its first day of trading. Rivian had delivered 156 trucks[4], almost all of them to its own employees. Tesla priced at $17.00 and reached a $1.7 billion market capitalisation on its first close. Rivian priced at $78.00 and reached $86 billion.[5]

Their post-IPO records have gone in the opposite direction. Tesla's stock spent thirty months trading sideways, then compounded into one of the highest equity returns of the last half-century. Rivian's stock has lost roughly 90 per cent of its IPO-day value, with the company still burning approximately $1.5 billion per quarter[6] and laying off staff in successive rounds.[7] This thesis argues that the divergence is not primarily about engineering, leadership or the macroeconomy. It is about the financial regime in which each company was assembled and, more specifically, the

[1] "History of Tesla, Inc.," summarising Series A through F. The "approximately US$187 million" figure cited reflects Tesla's cumulative position in January 2009, before the Daimler $50M (May 2009) and Series F $82.5M (September 2009) injections. https://en.wikipedia.org/wiki/History_of_Tesla,_Inc.
[2] TechCrunch, "Rivian raises another $2.5B, pushing its EV war chest up to $10.5B," July 23, 2021. https://techcrunch.com/2021/07/23/rivian-raises-another-2-5b-pushing-its-ev-war-chest-up-to-10-5b/
[3] Tesla, Inc., 10-K for fiscal year ended December 31, 2010; History of Tesla, Inc., op. cit. Tesla had delivered approximately 1,063 Roadsters worldwide as of the IPO date (June 29, 2010).
[4] Rivian Automotive, Form S-1/A, dated October 2021. SEC EDGAR. The amendment disclosed that as of October 31, 2021 the company had produced 180 R1Ts and delivered 156, "substantially all of which were sold to Rivian employees." https://www.sec.gov/Archives/edgar/data/1874178/000119312521289903/d157488ds1.htm
[5] Bloomberg News, "Rivian's Trading Debut Surge Drives Value to Almost $88 Billion," November 10, 2021. https://www.bloomberg.com/news/articles/2021-11-10/rivian-s-trading-debut-surge-drives-value-to-almost-88-billion
[6] StockAnalysis.com, Rivian Automotive market capitalization history; The Motley Fool, "Stock Market Today, May 1: Rivian Falls After Investors Focus on Cash Burn," May 1, 2026. https://www.fool.com/coverage/stock-market-today/2026/05/01/stock-market-today-may-1-rivian-falls-after-investors-focus-on-cash-burn-despite-beating-q1-expectations/
[7] TechCrunch, "Rivian lays off 10% of workforce as EV pricing pressure mounts," February 21, 2024. https://techcrunch.com/2024/02/21/rivian-lays-off-10-of-workforce-as-ev-pricing-pressure-mounts/

structural incentives of the private-capital institutions that built and then exited them.

First, Rivian raised between thirty and fifty times more pre-IPO capital than Tesla and delivered between six and ten times fewer vehicles. Second, Rivian's funding rounds took place during the most extreme private-asset bubble of the post-war era, an environment of zero real rates, hot exit markets and oversubscribed venture-fund commitments. Third, the academic finance research on hot-market IPOs, fund-size effects, late-stage crossover capital and management-fee economics predicts exactly the outcome we observed. Fourth, a $10-billion fund earns its general partners $200 million per year in management fees regardless of returns. The pump that filled Rivian was operating on its own clock; the dump was incidental. Tesla survived by being too small to interest that pump in 2009. Rivian was perfectly sized for it in 2021.

I. Two founders, two decades, two climates

Tesla Motors was incorporated by Martin Eberhard and Marc Tarpenning on July 1, 2003, four months after the NASDAQ Composite touched its post-dotcom-crash low. The next eighteen months were the bleakest stretch for early-stage technology venture capital in living memory: capital had retreated to safer credit allocations and consumer-facing technology was widely considered a failed asset class. The first round of Tesla's outside equity, a Series A of about $7.5 million in February 2004, was led by Elon Musk, who put in $6.5 million himself and became chairman of the board.[8] This was not a 2021-style coronation of an emerging unicorn. It was a small group of West Coast investors writing very small cheques because no one else wanted to. Tesla's commercial premise, a $100,000 electric sports car based on a Lotus Elise chassis with a battery pack engineered around lithium-ion cells normally used in laptops, was widely regarded as eccentric.

Rivian's path could not have been more different. R.J. Scaringe founded what would become Rivian in 2009 under the name Mainstream Motors, and the company spent its first eight years in stealth, scraping together small cheques from family offices,

[8] "History of Tesla, Inc.," summarising Series A through F. The "approximately US$187 million" figure cited reflects Tesla's cumulative position in January 2009, before the Daimler $50M (May 2009) and Series F $82.5M (September 2009) injections. https://en.wikipedia.org/wiki/History_of_Tesla,_Inc.

Asian strategics, and the Abdul Latif Jameel group in Jeddah. The decisive inflection came in 2019, when Amazon led a $700-million Series E in which Amazon alone contributed roughly $440 million.[9] From that point forward, Rivian raised an additional $9.5 billion in the space of thirty months, with successive mega-rounds led by T. Rowe Price (December 2019, July 2020, January 2021, July 2021), the Amazon Climate Pledge Fund, D1 Capital, Soros Fund Management, Coatue, Fidelity, Third Point, BlackRock-managed funds, and Dragoneer. By the time the company filed its S-1 in October 2021, it had absorbed more private capital than any other pre-revenue manufacturing company in the history of American capital markets.

The two firms were therefore born into mirror-image conditions. Tesla matured through the financial crisis, came within hours of bankruptcy on Christmas Eve 2008, and got out of the private market by accepting a Daimler equity investment at a depressed valuation and a $465-million conditional loan from the U.S. Department of Energy.[10] Rivian matured through the most permissive private-funding environment in history, attracted a multi-strategy crossover investor base, and went public into the single hottest weekly window for U.S. equity issuance since the late 1990s. In that respect the comparison is genuinely useful: both companies were as close to scientific replicates as the real world permits, with everything except the macro-financial regime held roughly constant. The macro-financial regime is the variable that did the work.

II. The capital stack: a comparative anatomy

Reduced to first principles, the difference between Tesla and Rivian at IPO is almost entirely a difference in the scale of the private capital stack assembled behind each company. Table 1 summarises the side-by-side financing history. The narrow framing of Tesla's pre-IPO equity raise, the figure most commonly cited in retrospect, is approximately $187 million. That is the cumulative position as of January 2009, before the Daimler equity injection and the September 2009 Series F. Including

[9]Rivian Automotive, press release on Series E, February 15, 2019; CNBC, "Amazon's $21 billion Rivian stake furthers its climate change reduction goals," November 13, 2021. https://www.cnbc.com/2021/11/13/amazons-rivian-bet-furthers-its-climate-change-reduction-goals.html

[10]Daimler AG, "Strategic partnership: Daimler acquires stake in Tesla," May 19, 2009. https://ir.tesla.com/press-release/strategic-partnership-daimler-acquires-stake-tesla

those rounds, Tesla's pre-IPO equity totals approximately $319 million. Either way, the comparable figure for Rivian is about $10.5 billion.[11]

Metric (at IPO)	Tesla (Jun 2010)	Rivian (Nov 2021)
Years from founding to IPO	~7	~12
Pre-IPO private equity raised	~$187M (narrow) / ~$319M (broad)	~$10.5B
Pre-IPO non-equity capital	$465M DOE loan facility (largely undrawn)	Negligible
IPO gross proceeds	$226M	$13.7B (with greenshoe)
IPO offer price / first close	$17.00 / $23.89	$78.00 / $100.73
IPO market capitalisation (close, day 1)	~$1.7B	~$86B
Peak market capitalisation (first 6 months)	~$2.2B	~$153B
Cumulative customer vehicles delivered	~1,063 (Roadsters)	156 (R1Ts, mostly to employees)
Revenue in trailing fiscal year	~$112M (FY2009)	~$0 (Q3 2021)
Accumulated deficit at IPO	~$236M	~$2.7B

Table 1: Pre-IPO financial position, Tesla vs Rivian.

[11]TechCrunch, "Rivian raises another $2.5B, pushing its EV war chest up to $10.5B," July 23, 2021. https://techcrunch.com/2021/07/23/rivian-raises-another-2-5b-pushing-its-ev-war-chest-up-to-10-5b/

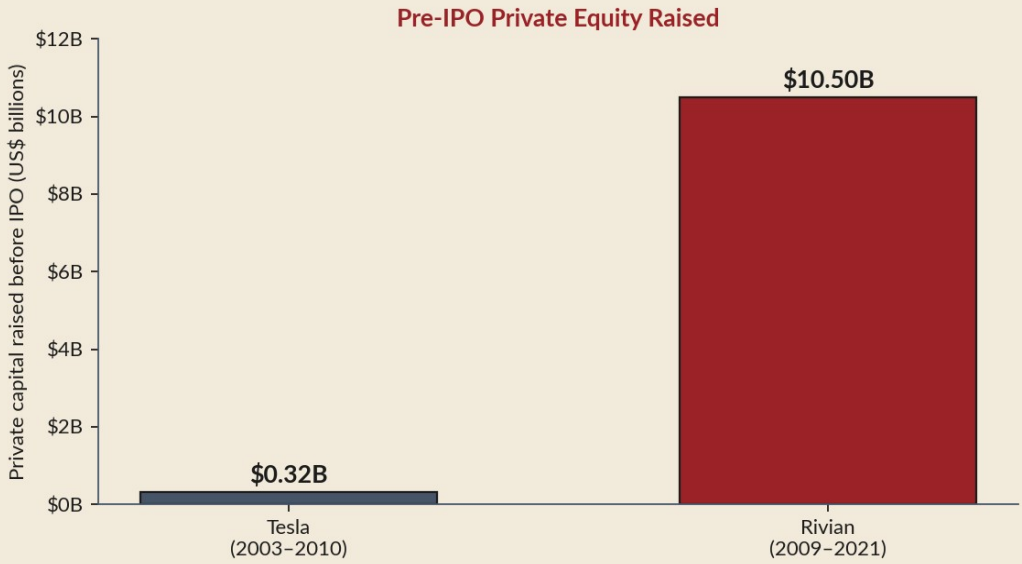

Chart 1: Cumulative private equity raised before IPO. Tesla figures include the Daimler $50M and Series F $82.5M rounds for the broad measure.

Tesla's private capital stack was held together by a combination of personal commitment, distressed pricing and disciplined fund sizes. The Series A through Series D were led, respectively, by Musk, by Musk again with Valor Equity and Compass Technology Partners, by VantagePoint Venture Partners, and by Technology Partners. All of these were small-fund-scale California venture capital firms whose cheques were measured in tens of millions. There were no mega-rounds, no crossover hedge funds and no $1 billion lead from a multi-strategy asset manager. The single largest source of catalytic capital came from a vehicle outside the venture industry entirely: the federal government, via a $465 million ATVM loan whose draw schedule was tied to factory milestones.[12] Tesla therefore reached IPO with the lowest practicable amount of dilution and an external debt facility that disciplined its capital programme. In May 2013, Tesla repaid the DOE loan nine years ahead of schedule.[13] The total external private capital deployed before that repayment was, for a company that had launched two vehicle programmes and built one factory, extraordinarily small.

Rivian's capital stack tells the opposite story. From 2019 onward, every successive round was a mega-round, almost every lead investor was a crossover or asset-

[12]U.S. Department of Energy, "Tesla gets loan approval from US Department of Energy," June 23, 2009. https://ir.tesla.com/press-release/tesla-gets-loan-approval-us-department-energy
[13]Tesla, Inc., Form 8-K, May 22, 2013, announcing full repayment of the DOE ATVM loan. https://www.sec.gov/Archives/edgar/data/0001318605/000119312513222376/d539676d8k.htm

management firm rather than a traditional Sand Hill venture fund, and the round sizes followed a doubling pattern from $0.7B (Feb 2019) to $1.3B (Dec 2019) to $2.5B (Jul 2020) to $2.65B (Jan 2021) to $2.5B (Jul 2021). T. Rowe Price, a publicly listed asset manager with approximately $1.5 trillion under management, alone led three of the five mega-rounds and owned a 18.6 per cent stake at IPO worth approximately $10.4 billion at the $78 offer price.[14] The round-by-round investor list runs through D1 Capital, Coatue, Fidelity, BlackRock-managed funds, Soros Fund Management, Third Point and Dragoneer, a who's-who of the late-cycle crossover-fund cohort that Sam Lessin would later argue had structurally displaced traditional venture capital.[15]

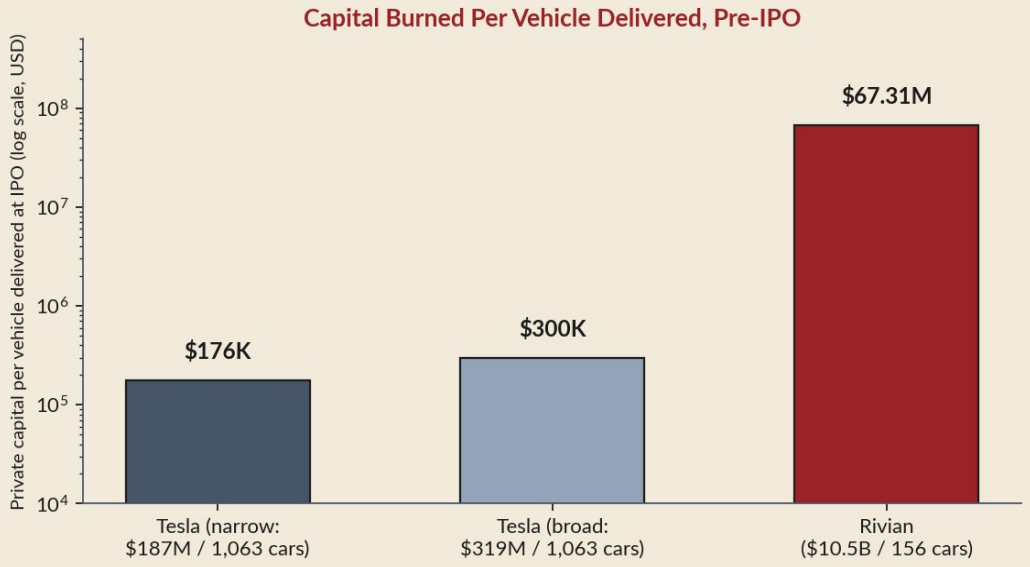

Chart 2: Pre-IPO private capital raised per customer vehicle delivered. Note logarithmic scale.

The clearest single metric of capital efficiency at the moment of listing is private capital raised per customer vehicle delivered. Tesla raised, on the broad definition, $300,094 of private equity for every Roadster on the road by the IPO date. Rivian raised $67,307,692, roughly 224 times more, for every R1T on a customer's driveway. By the narrow definition of Tesla's pre-IPO equity, the ratio is 382 times. Either number is, in any honest accounting, an obscenity for a manufacturing company. It corresponds to no plausible automotive operating model, no defensible

[14]CNBC, "EV start-up Rivian raises $2.65 billion in new funding round led by T. Rowe Price," January 19, 2021. https://www.cnbc.com/2021/01/19/ev-start-up-rivian-raises-2point65-billion-in-new-funding-round-led-by-t-rowe-price.html

[15]Sam Lessin, "The End of Venture Capital As We Know It," The Information, 2021. https://www.theinformation.com/articles/the-end-of-venture-capital-as-we-know-it

engineering economics, and no theory of customer adoption. It does correspond very precisely to the magnitudes that academic finance has documented for hot-market venture cycles.

III. Vehicles, revenue, and reality at the moment of listing

Quantitative comparisons of the kind in Table 1 can sometimes obscure the qualitative difference between the two companies on their IPO mornings. Tesla, in June 2010, was a small but functioning car company. The Roadster had been in customers' hands since February 2008, with deliveries proceeding at a slow but visible pace from the Lotus Hethel factory in the United Kingdom. Tesla's FY2009 10-K showed approximately $112 million of revenue. The Model S programme was in design and the company had purchased the NUMMI factory in Fremont, California, in a deal announced concurrently with the IPO, alongside a $50-million strategic investment from Toyota.[16] The IPO prospectus described a company that had already proven, at modest scale, that it could design, manufacture, sell, and service a battery-electric vehicle on the public road in volume measured in four digits.

Rivian, in November 2021, had effectively no commercial revenue. The S-1 amendment described 156 R1Ts delivered as of October 31, 2021, 'substantially all of which were sold to Rivian employees.'[17] The R1S sport-utility vehicle, the Amazon Electric Delivery Van (EDV) and the planned R2 platform had all been announced; none had been delivered. The prospectus disclosed a third-quarter 2021 revenue range of 'zero to $1 million' against an expected operating loss of up to $1.28 billion. The accumulated deficit at the half-year had crossed $2.7 billion. By any of the conventional empirical measures used by securities analysts, including revenue, gross margin, unit deliveries, customer base and cash-on-cash conversion of working capital, Rivian at its IPO was strictly less advanced than Tesla at its IPO.

[16]Bloomberg News, "Tesla Motors Raises $226 Million in First IPO of U.S. Carmaker in 54 Years," June 29, 2010. https://www.bloomberg.com/news/articles/2010-06-29/tesla-motors-raises-226-million-in-first-ipo-of-u-s-carmaker-in-54-years

[17]Rivian Automotive, Form S-1/A, dated October 2021. SEC EDGAR. The amendment disclosed that as of October 31, 2021 the company had produced 180 R1Ts and delivered 156, "substantially all of which were sold to Rivian employees." https://www.sec.gov/Archives/edgar/data/1874178/000119312521289903/d157488ds1.htm

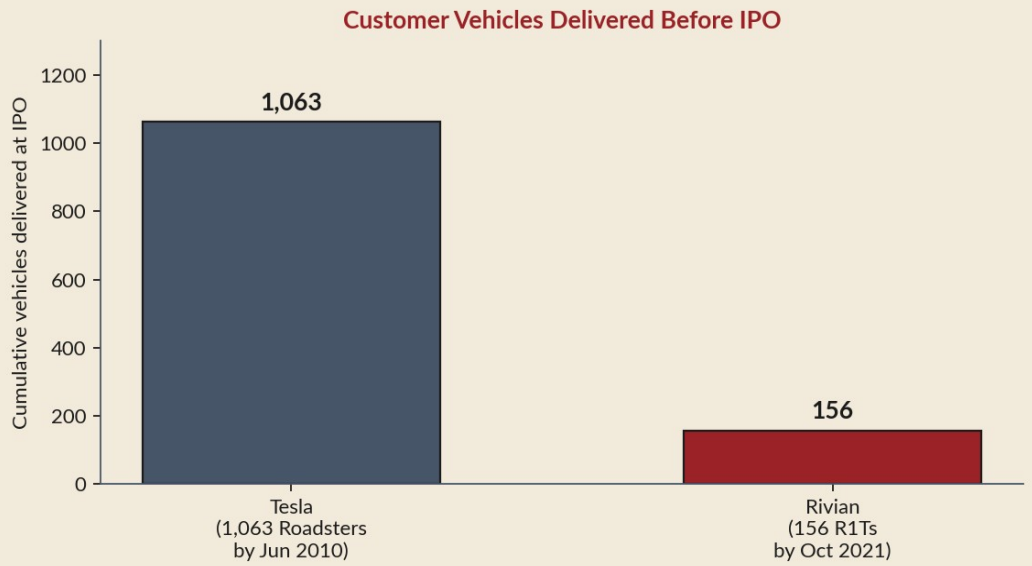

Chart 4: Cumulative customer vehicles delivered by IPO date. Rivian's 156 R1Ts are reported in the company's S-1; nearly all were sold to employees.

The market did not appear to care. Rivian's $78 IPO price implied a fully diluted market capitalisation of approximately $66.5 billion. Its first day's close at $100.73 implied approximately $86 billion.[18] Within six trading days, the stock had closed at $172.01, implying a market capitalisation of approximately $153 billion, more than the combined market capitalisations of Ford and General Motors at the same moment, despite Rivian having shipped roughly one-five-thousandth of their combined annual unit volume. Gene Munster of Loup Ventures memorably observed at the time that Rivian was trading at approximately $1.3 million per projected 2023 vehicle delivery, against approximately $500,000 per vehicle for Tesla, about 2.5 times Tesla's per-vehicle valuation despite Rivian still being in pre-volume.[19] The Mercer Capital valuation team noted at the same moment that Rivian had become the third-most-valuable automaker in the world before producing 200 paying-customer vehicles.[20]

If a single image captures the moment, it is the chart in Section IV showing the IPO-indexed trajectory of the two stocks. Tesla spent its first three years as a public

[18]Bloomberg News, "Rivian's Trading Debut Surge Drives Value to Almost $88 Billion," November 10, 2021. https://www.bloomberg.com/news/articles/2021-11-10/rivian-s-trading-debut-surge-drives-value-to-almost-88-billion

[19]CNBC, "Rivian's valuation looks 'wildly high' when using this nontraditional metric, says Loup's Munster," November 11, 2021. https://www.cnbc.com/2021/11/11/rivians-valuation-looks-wildly-high-when-using-this-nontraditional-metric.html

[20]Mercer Capital, "EV Start-Up Rivian IPOs at Valuation of $86 Billion," November 2021. https://mercercapital.com/ev-start-up-rivian-ipos-at-valuation-of-86-billion/

company trading roughly sideways. Rivian collapsed within months. The difference cannot be explained by product. It can be explained, at least in part, by the fact that the conditions that produced Rivian's IPO valuation were structurally untethered from the conditions that would later determine its post-listing returns.

IV. The public-market verdict

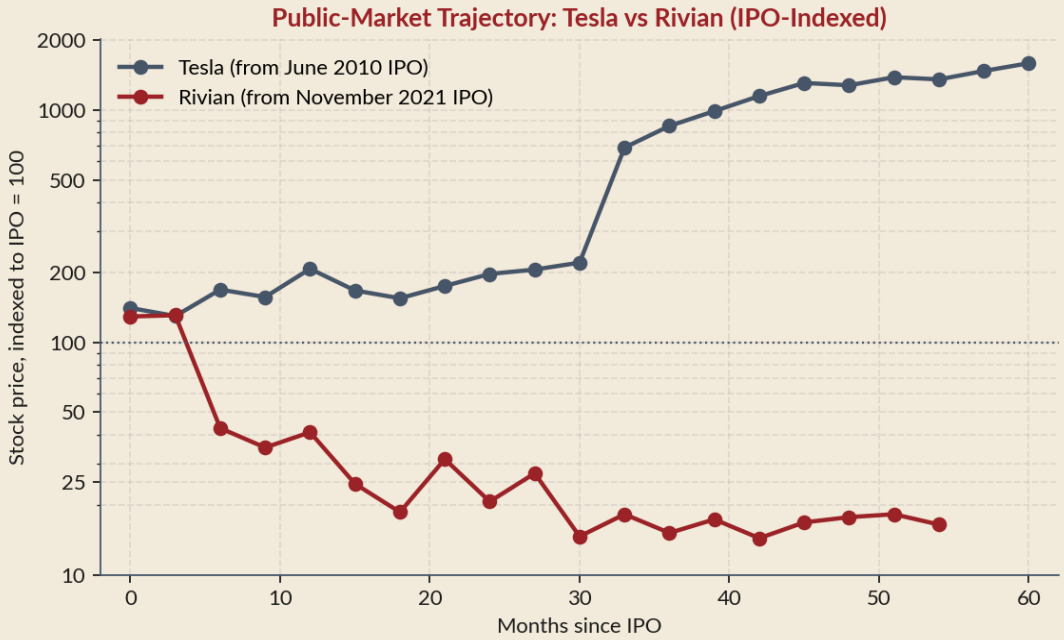

Chart 3: Post-IPO stock price trajectories, indexed to IPO = 100 (log scale). Tesla's first 60 months versus Rivian's first 54 months. Tesla data based on Q-end closing prices; Rivian data through May 2026.

The Tesla equity story, viewed through the lens of its first half-decade as a public company, is one of compounding patience. The stock did not break decisively higher until the second half of 2013, more than three years after the IPO. The catalyst of this bump was not another financing event, but deliveries of the Model S, the first quarterly GAAP profit, and the early repayment of the DOE loan. Tesla's market capitalisation at the end of 2013 was approximately $19 billion, about eleven times its 2010 IPO close. By 2026 it has traded for sustained periods at a market capitalisation in the trillions. Across the full sixteen-year holding period from IPO, Tesla has been one of the highest-returning large-cap equities in market history.

Rivian's trajectory has been the inverse. The stock peaked within six days of listing, then re-rated downward almost monotonically for the next eighteen months. By April 2022, Amazon, by then the company's largest pre-IPO investor, wrote down its stake by $7.6 billion in a single quarter.[21] Ford booked cumulative losses of approximately $7.3 billion across FY2022 before selling the majority of its stake in February 2023.[22] By the spring of 2026, Rivian's market capitalisation has fallen to roughly $17 to $19 billion, down approximately 89 per cent from its November 2021 peak and down approximately 78 per cent from its IPO day close. JPMorgan, in a May 2026 note, raised its expected 2026 free cash burn to $3.5 billion, with Rivian 'burning through roughly $1.5 billion per quarter' while scaling the R1 platform and preparing for the smaller R2.[23]

Most strikingly, the destruction of Rivian's market capitalisation since November 2021, roughly $135 billion in paper value, exceeds the entire cumulative capital ever absorbed by the U.S. EV-startup cohort across the 2020 to 2025 period. Lucid Motors, Nikola, Fisker, Lordstown, Canoo, Faraday Future, Arrival, Electric Last Mile Solutions, Proterra and Lion Electric have collectively lost between 80 and 100 per cent of peak market value, and many have entered Chapter 11.[24] Rivian is the survivor of that cohort. It is also, by any rational accounting of capital invested per dollar of public-market value preserved, among the worst capital allocations in modern manufacturing history.

V. The ZIRP background: why capital was cheap and plentiful

To understand how Rivian's $10.5 billion pre-IPO raise became thinkable, it is necessary to understand the macro-financial regime in which it took place. From

[21]CNBC, "Amazon takes $7.6 billion loss on Rivian stake after EV company's stock plunge," April 28, 2022. https://www.cnbc.com/2022/04/28/amazon-takes-7point6-billion-loss-on-rivian-stake-from-q1-stock-plunge.html

[22]TechCrunch, "Ford sells majority stake in Rivian after reporting $7.3B write-down," February 9, 2023. https://techcrunch.com/2023/02/09/ford-sells-majority-stake-rivian/

[23]StockAnalysis.com, Rivian Automotive market capitalization history; The Motley Fool, "Stock Market Today, May 1: Rivian Falls After Investors Focus on Cash Burn," May 1, 2026. https://www.fool.com/coverage/stock-market-today/2026/05/01/stock-market-today-may-1-rivian-falls-after-investors-focus-on-cash-burn-despite-beating-q1-expectations/

[24]Wolf Street, "The Collapse of the EV SPACs" series, 2023–2025. https://wolfstreet.com/2025/02/19/the-collapse-of-the-ev-spacs-nikola-joins-ev-spac-bankruptcy-lineup-here-are-those-already-bankrupt-and-those-not-yet/

December 2008 to December 2015, and again from March 2020 to March 2022, the Federal Reserve held the federal funds target rate at or near zero. Real ten-year Treasury yields, the relevant discount rate for long-duration equities, spent most of the 2010s below 100 basis points and most of 2020 to 2021 below zero. The implication for the present value of long-duration cash flows is mechanical: when the discount rate falls toward zero, the present value of profits expected in ten years approaches the present value of profits today. Long-duration equities, meaning companies whose value is concentrated in cash flows still many years from realisation, therefore become exceptionally valuable relative to short-duration equities, almost independently of the operating performance of the underlying business.

This created a peculiar pair of incentives for the private-capital industry. On the supply side, limited partners (pension funds, endowments, sovereign wealth funds and family offices) found themselves chronically short of expected return. Public-equity returns appeared rich, in part because of the same discount-rate effect, but the prospective forward returns implied by the resulting CAPE multiples were poor. The classic 60/40 portfolio was, on a forward basis, expected to deliver returns far below the discount rates implied by pension actuarial assumptions. The private-asset allocation (venture capital, growth equity, buyout, infrastructure) was the only large asset class that could plausibly hit those return targets. Limited partners therefore poured capital into the asset class at a rate that, by 2021, was raising approximately $130 billion of new commitments per year into U.S. venture capital alone, against an asset class whose long-run aggregate exit value had historically averaged perhaps a quarter of that.[25]

On the demand side, the same low-rate regime made it almost costless for general partners to deploy that capital. The opportunity cost of capital (the rate at which a portfolio company's prospective cash flows were discounted in any internal valuation model) was near zero, which meant nearly any growth story could justify nearly any valuation. SoftBank's Vision Fund, announced in May 2017 at $98.6 billion, was both the symptom and the catalyst.[26] Sebastian Mallaby argues persuasively in The Power

[25]Fred Wilson, "The Venture Capital Math Problem," AVC, April 29, 2009. https://avc.com/2009/04/the-venture-capital-math-problem/

[26]CNBC, "SoftBank's $100 billion Vision Fund 'reshapes' world of venture capital," May 17, 2019. https://www.cnbc.com/2019/05/17/softbanks-100-billion-vision-fund-reshapes-world-of-venture-capital.html

Law that the Vision Fund's effect on the global venture industry was not merely additive but structural: by raising fund sizes fifty times the prior frontier, by writing single cheques in the hundreds of millions to billions, and by repeatedly leading rounds at premium valuations to its peers, SoftBank reset the entire industry's anchor for what a 'normal' late-stage round looked like.[27] Marc Rubinstein, writing in Net Interest, has dissected how the Vision Fund worked as a bank-like leverage vehicle on private technology, with roughly $40 billion of its capital structured as preferred equity paying a 7 per cent coupon, meaning the fund was structurally compelled to deploy aggressively just to meet its own cost of capital.[28]

Tiger Global followed in 2021 with a series of $10 billion-plus venture funds and a cadence of investment that produced more than 300 portfolio commitments in a single calendar year. Crossover hedge funds including Coatue, D1, Dragoneer, Altimeter and Lone Pine built their own multibillion-dollar venture practices on the same logic. Even the storied artisanal Sand Hill funds (Sequoia, Andreessen Horowitz, NEA) launched growth vehicles to compete. The result, captured in Lessin's Information essay, was that for the first time non-traditional tech investors deployed more capital into private companies than traditional Silicon Valley venture firms.[29]

The macro setting was reinforced by a structural regulatory shift that has gone largely unremarked in the consumer-facing financial press but is well documented in the academic literature. Michael Ewens and Joan Farre-Mensa, in a 2020 Review of Financial Studies paper, trace the long decline in U.S. IPO volume to the 1996 National Securities Markets Improvement Act (NSMIA), which removed state 'blue-sky' restrictions and effectively uncapped the number of qualified purchasers a private fund could solicit. The deregulation, they argue, 'has increased the supply of private capital to late-stage private startups, which are now able to grow to a size that few private firms used to reach.'[30] The implication is that the same companies that would once have been forced into a $200 million IPO in their seventh year now

[27]Sebastian Mallaby, The Power Law: Venture Capital and the Making of the New Future (New York: Penguin Press, 2022). See in particular the chapters on Masayoshi Son and the Vision Fund.
[28]Marc Rubinstein, "The Bank Inside SoftBank," Net Interest, 2021. https://www.netinterest.co/p/the-bank-inside-softbank
[29]Sam Lessin, "The End of Venture Capital As We Know It," The Information, 2021. https://www.theinformation.com/articles/the-end-of-venture-capital-as-we-know-it
[30]Michael Ewens and Joan Farre-Mensa, "The Deregulation of the Private Equity Markets and the Decline in IPOs," Review of Financial Studies, vol. 33, no. 12 (December 2020), pp. 5463–5509. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3017610

had the option to raise a $2.5 billion private round in their tenth. Ewens and Farre-Mensa are careful to argue that this is not, in itself, an IPO-market failure: founders use their increased bargaining power against VCs to delay listing. The corollary in a ZIRP environment, however, is that the late-private regime accumulates capital indefinitely, and the company that eventually does list often does so at a valuation that no longer bears any disciplined relationship to its operating fundamentals. Rivian, having absorbed eleven separate private rounds across twelve years before its IPO, is the regime's logical end-state. This was the river that flowed into Rivian.

VI. The academic case against hot-market IPOs

Long before the 2020 to 2022 cycle, finance academics had built a substantial empirical literature on what happens when companies issue equity into hot markets. The foundational paper is Loughran and Ritter's 1995 'The New Issues Puzzle,' which followed U.S. companies that issued equity between 1970 and 1990 over the five years post-offering. They found that average annual returns to IPO investors were approximately 5 per cent and to SEO investors approximately 7 per cent, both far below size-matched non-issuers. Operating performance, they showed, peaked at the issue year and deteriorated thereafter. Issuers, they argued, were timing offerings to coincide with windows of opportunity.[31]

Joshua Lerner's 1994 paper in the Journal of Financial Economics extended the point by following 350 venture-backed biotech firms across the 1978–1992 period. Lerner demonstrated that venture capitalists systematically take portfolio companies public when public equity valuations are elevated and use private financings to bridge cold markets. 'Seasoned venture capitalists,' he wrote, 'appear to be particularly proficient at taking companies public near market peaks.'[32] Rivian's November 2021 listing, at the precise weekly peak of the post-COVID NASDAQ, is, to use Lerner's language, textbook proficiency. Paul Gompers' 1996 'Grandstanding' paper provided the complementary diagnosis: young VC firms rush portfolio companies to IPO earlier in the lifecycle, accepting more underpricing, in order to establish a track

[31]Tim Loughran and Jay R. Ritter, "The New Issues Puzzle," Journal of Finance, vol. 50, no. 1 (March 1995), pp. 23–51. https://onlinelibrary.wiley.com/doi/10.1111/j.1540-6261.1995.tb05166.x

[32]Joshua Lerner, "Venture Capitalists and the Decision to Go Public," Journal of Financial Economics, vol. 35, no. 3 (June 1994), pp. 293–316. https://www.sciencedirect.com/science/article/abs/pii/0304405X94900353

record they can market while raising their next fund. The Rivian syndicate was older and larger than Gompers's archetypal grandstanding fund, but the signalling logic (exit while you can, to support the next fund) is identical.[33]

Jean Helwege and Nellie Liang's 2004 study in the Journal of Financial and Quantitative Analysis tested an even more disquieting hypothesis: do hot-market issuers and cold-market issuers differ in fundamentals, or only in pricing? Their answer was that the two cohorts have essentially the same operating performance, but that hot-market issuers deliver materially worse subsequent stock returns. The implication is uncomfortable for a thesis built on 'this time it's different': the post-IPO underperformance of hot-market issuers is not driven by which companies issue, but by the price they issue at.[34] The corollary is that the same Rivian, listed in a cold market, would probably have generated acceptable subsequent returns. The pricing, not the company, was the problem.

> *The two sets of firms have similar operating performance, but stock returns are worse for firms that went public in the hot market.*

More recent work pushes the same diagnosis directly onto the VC-supply channel. Nain, Ying and Arthur, in a 2023 University of Iowa working paper covering 8,182 U.S. IPOs from 1980 to 2021, instrument for exogenous variation in state-level VC supply and show that 'an increase in the supply of venture capital (VC) leads to a decline in the quality of firms going public... Post-IPO abnormal returns indicate that the stock market does not fully incorporate this decline in quality at the time of the IPO.'[35] A one-standard-deviation increase in VC supply produces a 0.5 percentage-point reduction in three-year post-IPO operating margin, a 1 percentage-point reduction in three-year sales growth, an approximately 14 per cent increase in the three-year failure rate, and (most pointed for the present argument) a Fama-French-Carhart abnormal return of approximately negative 9.84 per cent over the first twelve months post-listing in the high-VC-supply cohort, versus statistically insignificant abnormal returns in the low-supply cohort. The mechanism they

[33]Paul A. Gompers, "Grandstanding in the Venture Capital Industry," Journal of Financial Economics, vol. 42, no. 1 (September 1996), pp. 133–156.
[34]Jean Helwege and Nellie Liang, "Initial Public Offerings in Hot and Cold Markets," Journal of Financial and Quantitative Analysis, vol. 39, no. 3 (September 2004), pp. 541–569. https://www.federalreserve.gov/econres/feds/initial-public-offerings-in-hot-and-cold-markets.htm
[35]Amrita Nain, Jie Ying and Joseph Arthur, "The Rise of Venture Capital and IPO Quality," working paper, University of Iowa Tippie College of Business, September 2, 2023. https://www.biz.uiowa.edu/faculty/anain/Working%20papers/NainYingArthur_Sep2023.pdf

propose is consistent with the Helwege-Liang result: when VC capital is abundant, the best firms remain in the private market at premium valuations, and the marginal firms that do reach the IPO window are systematically lower-quality than the cohort would suggest. Public-market buyers, who cannot observe the quality of the firms staying private, fail to price in the resulting adverse selection. The first-year post-IPO drawdown of 9.84 per cent in their high-supply cohort is, by the standards of cross-sectional finance, very large. It is also the order of magnitude one would have needed, ex ante, to predict Rivian's first-year experience.

Loughran and Ritter's later 2002 work in the Review of Financial Studies on why issuers do not get upset about leaving money on the table in IPOs supplied the behavioural finish: when issuers learn of upward price revisions, the wealth gain from the unexpected price move dwarfs the regret over money not captured. Hot-market issuers therefore tolerate enormous first-day pops because their paper net worth has just exploded. Rivian's $13.7 billion of gross proceeds at $78, collapsing immediately to a $172 close within six trading days, distributed roughly $20 billion of paper value to existing pre-IPO holders in less than a week, all of it created at the cost of underwriting bank fees of approximately $170 million.[36] The mechanism is what Loughran and Ritter described twenty years earlier; the magnitude is at the upper limit of the historical distribution.

Lowry, Officer, and Schwert (2010) demonstrated separately that the monthly volatility of IPO first-day returns is itself a hot-market phenomenon: pricing becomes less informative as market conditions warm.[37] Klausner, Ohlrogge, and Ruan (2022) provided the cleanest contemporary empirical proof, this time on the SPAC cohort, which they showed structurally dilutes net cash per share by approximately $3.60 of every $10 raised, and which experienced average post-merger returns of negative 54 per cent across the July 2020–December 2021 vintage.[38] Pástor and Veronesi's 'Rational IPO Waves' model in the Journal of Finance closes the theoretical loop: IPO waves are rationally preceded by high market returns and rationally followed by low

[36]Bloomberg Law, "Rivian's IPO Delivers Underwriters $170 Million in Fees," November 12, 2021. https://news.bloomberglaw.com/mergers-and-acquisitions/rivians-ipo-delivers-underwriters-170-million-in-fees

[37]Michelle Lowry, Micah S. Officer, and G. William Schwert, "The Variability of IPO Initial Returns," Journal of Finance, vol. 65, no. 2 (April 2010), pp. 425–465.

[38]Michael Klausner, Michael Ohlrogge, and Emily Ruan, "A Sober Look at SPACs," Yale Journal on Regulation, vol. 39 (2022), p. 228. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3720919

ones.[39] Rivian, issuing at the absolute peak of the wave, was therefore positioned exactly where the literature predicted disappointing forward returns. It is now delivering them.

Gornall and Strebulaev (2020) added the final piece: late-stage private valuations are systematically inflated by the contractual seniority of the latest investor's preferred class. Across 135 U.S. unicorns, they found reported post-money valuations averaged 48 per cent above their model fair value. Once liquidation preferences, ratchets, IPO guarantees, and other downside protections were properly priced, common-share valuations were overstated by 56 per cent, and 65 of 135 unicorns lost unicorn status.[40] Rivian's January 2021 Series E priced at a $27.6 billion post-money valuation; its July 2021 Series F was widely reported around an $80 billion post-money. Both prints carried the kind of preferred-share protection Gornall and Strebulaev describe. The conversion of those preferred classes to common at IPO crystallised the gap between sticker valuation and economic value, a gap the public market then closed with brutal speed.

VII. The real engine: AUM, fees, and the crossover funds

If the academic literature is right that hot-market IPOs reliably underperform, and the fact pattern was visible in advance to anyone with a copy of Loughran-Ritter on their bookshelf, the natural question is why sophisticated private investors kept writing nine- and ten-figure cheques into Rivian in 2020 and 2021. The argument of this thesis is that they did so because, under the standard economics of a modern venture or crossover fund, they were paid to. The compensation function of a multibillion-dollar fund decouples general-partner take-home from portfolio outcome to a degree that is poorly understood outside the industry, and decisively rewards the deployment of capital regardless of the IRR ultimately realised on that deployment.

[39] Ľuboš Pástor and Pietro Veronesi, "Rational IPO Waves," Journal of Finance, vol. 60, no. 4 (August 2005), pp. 1713–1757.
[40] Will Gornall and Ilya A. Strebulaev, "Squaring Venture Capital Valuations with Reality," Journal of Financial Economics, vol. 135, no. 1 (2020), pp. 120–143. https://www.sciencedirect.com/science/article/abs/pii/S0304405X19301692

The canonical academic decomposition is in Metrick and Yasuda's 2010 paper in the Review of Financial Studies. Using detailed contractual data on 238 funds raised between 1993 and 2006, the authors decompose general-partner compensation into a fixed component (management fees, transaction fees, monitoring fees, all of which scale with assets under management) and a variable component (carried interest above hurdle). The headline finding is that approximately two-thirds of expected GP revenue across the sample comes from fixed, AUM-scaling fees, not from carry.[41] The arithmetic for the modern era is unforgiving. A $10 billion fund earning 2 per cent of committed capital per annum generates $200 million of fee income per year, or approximately $2 billion across a ten-year fund life, and that revenue is recognised regardless of whether the underlying investments return capital. A $200 million fund earns $4 million per year. Chart 5 illustrates the relationship at scale.

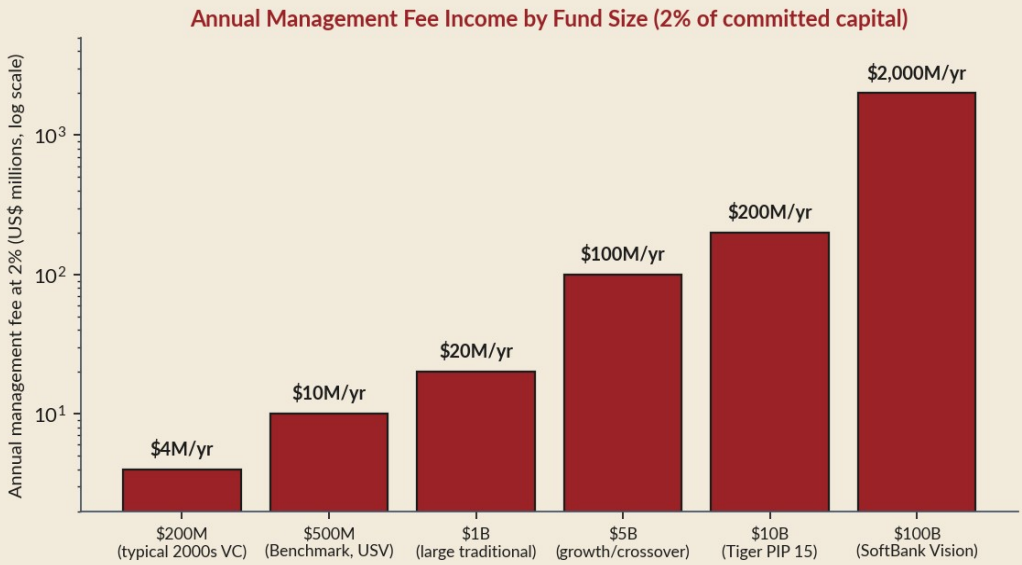

Chart 5: Annual management fee income at a 2% rate across representative fund sizes (log scale). Vision Fund I closed at roughly $100B; Tiger Global's 2021 vintage PIP 15 at $12.7B.

A general partner whose primary compensation comes from carry must be selective, because her risk-adjusted return on time depends on backing winners. A general partner whose primary compensation comes from management fees on a multibillion-dollar fund must, above all else, deploy. Every quarter of unused capital is a reduction in the present value of her fee stream, both because the fee runs

[41]Andrew Metrick and Ayako Yasuda, "The Economics of Private Equity Funds," Review of Financial Studies, vol. 23, no. 6 (2010), pp. 2303–2341. https://academic.oup.com/rfs/article-abstract/23/6/2303/1569783

against committed capital and because failure to deploy this fund threatens her ability to raise the next, larger one. Diane Mulcahy's seminal 2012 Kauffman Foundation report, drawing on two decades of Kauffman's commitments to venture funds, established that the strongest-performing funds in the Kauffman portfolio averaged $96 million in committed capital, and that 'successful funds led managers to raise successively larger funds which significantly eroded returns.'[42] The Kauffman thesis was, in retrospect, prophetic.

The 2014 paper by Harris, Jenkinson and Kaplan in the Journal of Finance, extended in 2020 by Harris, Jenkinson, Kaplan and Stucke, demonstrated that VC funds outperformed public markets in the 1990s but underperformed in the 2000s, exactly the period during which average fund sizes began to inflate.[43] Kaplan and Schoar's 2005 paper had separately documented that, while skilled GPs do outperform persistently, 'better-performing partnerships are more likely to raise follow-on funds and larger funds. This relationship is concave so that top-performing partnerships grow proportionally less than the average performers.'[44] In plain English: median venture capitalists scale assets faster than skill warrants, because LPs reward the appearance of success with disproportionate increases in commitment. The result is an industry whose median fund grows faster than the median set of investment opportunities, with the gap filled by deploying capital at higher prices, exactly the situation that produced a $27.6 billion January 2021 valuation for a company that had delivered no vehicles.

Crossover funds extended the dynamic into a still larger pool of capital. Tiger Global's PIP 15 closed at $12.7 billion in late 2021 and was almost fully deployed within six months. Its subsequent performance, written down by approximately one-third within twenty-four months, is widely documented.[45] Coatue, D1, Dragoneer, Altimeter and others followed similar deployment patterns and recorded similar

[42]Diane Mulcahy, Bill Weeks, and Harold S. Bradley, "We Have Met the Enemy... and He Is Us: Lessons from Twenty Years of the Kauffman Foundation's Investments in Venture Capital Funds and the Triumph of Hope Over Experience," Ewing Marion Kauffman Foundation, May 2012. https://www.kauffman.org/reports/we-have-met-the-enemy-and-he-is-us/

[43]Robert S. Harris, Tim Jenkinson, Steven N. Kaplan, and Rüdiger Stucke, "Has Persistence Persisted in Private Equity? Evidence From Buyout and Venture Capital Funds," NBER Working Paper 28109 (2020). https://www.nber.org/papers/w28109

[44]Steven N. Kaplan and Antoinette Schoar, "Private Equity Performance: Returns, Persistence and Capital Flows," Journal of Finance, vol. 60, no. 4 (August 2005), pp. 1791–1823.

[45]TechCrunch, "A new disclosure shows, again, how badly Tiger's 'spray and pray' fund performed," December 10, 2024. https://techcrunch.com/2024/12/10/a-new-disclosure-shows-again-how-badly-tigers-pray-and-spray-fund-performed/

mark-downs. The point is not that any single one of them behaved fraudulently or unprofessionally; the point is that their incentive structures functioned exactly as designed. Bill Gurley of Benchmark, who has spent two decades arguing for small fund sizes and capital discipline, captured the dynamic with a single sentence: 'It's hard to get excited about a $7 million investment if you're managing billions and writing $500 million checks.'[46] Sequoia's Roelof Botha, speaking in October 2025, was even blunter: 'If you take out the top 20 or so venture firms out of the industry's results, we [as an industry] actually underperformed investing in an index fund.'[47]

Rivian's pre-IPO syndicate was, in dollar terms, dominated by exactly the cohort of crossover and mega-funds whose incentives Mulcahy, Gurley, Wilson, and Botha have criticised most pointedly. T. Rowe Price (with $1.5 trillion under management) led three of five mega-rounds. D1, Coatue, Soros, Fidelity, BlackRock-managed funds and Dragoneer participated in the others. The funds that wrote the cheques were of a scale where each $500-million commitment to Rivian represented a small fraction of their AUM; the fee income they earned on those AUMs would have been collected whether or not Rivian ever shipped a vehicle. Rivian was not, from their point of view, a binary bet on whether electric trucks would become a category; it was a deployment vehicle whose principal output, from a fee-economics standpoint, was the deployment itself.

> *Late-stage venture capitalists invest in private companies that will, in effect, be flipped to index funds when they IPO.*[48]

This is the structural conclusion the rest of the thesis has been building toward. Byrne Hobart, in his Diff essay on SPACs and late-stage venture rounds, described how late-stage growth capital functions as a mechanism for transferring risk from informed insiders to public-market index buyers. The pre-IPO round prices the company in a thin, private, opaque secondary market populated by repeat-game players. The IPO repackages those positions into shares deliverable into index funds, most importantly the Vanguard Total Stock Market Index and similar mass vehicles whose buying pressure is mechanical rather than discretionary. The mark-down

[46]Bill Gurley, "On the Road to Recap," Above the Crowd, April 21, 2016. https://abovethecrowd.com/2016/04/21/on-the-road-to-recap/
[47]Roelof Botha, Sequoia Capital, remarks at TechCrunch Disrupt 2025, October 27, 2025. https://techcrunch.com/2025/10/27/venture-capital-is-not-an-asset-class-says-sequoias-roelof-botha/
[48]Byrne Hobart, "SPACs as a Call Option on Hype," The Diff. https://www.thediff.co/archive/spacs-as-a-call-option-on-hype/

occurs after the transfer is complete. The general partners earn fee income across the entire arc. The retail buyers of the index fund absorb the difference. Rivian, in this telling, did not fail at producing electric trucks. It succeeded at producing fee income and exit liquidity, and the truck programme was a means to that end.

VIII. The counterfactual: what a $200M Rivian might have looked like

Suppose Rivian had been financed in the manner of Tesla: approximately $200 million of equity raised across a decade, no mega-rounds, no crossover funds, an Amazon strategic stake of perhaps $50 million rather than $1.8 billion, a Ford strategic stake of perhaps $30 million rather than $1.2 billion. What would the company have looked like at the moment of an IPO in 2021?

It would have had less factory capacity, certainly. It would have shipped first by partnering with a contract manufacturer (the Lotus role in Tesla's first chapter) rather than by acquiring a former Mitsubishi plant in Normal, Illinois. It would probably have brought the R1T to market a year later. It would have shipped that R1T in lower initial volumes and at higher unit prices, possibly without the Amazon EDV pipeline. It would have been a smaller, slower, leaner company. It would also have been a substantially better business, because every constraint imposed on a manufacturing start-up by capital scarcity is also a constraint on the organisational drift toward complexity, parallel development tracks, premature scaling, and unit-economic dilution. Tesla's near-bankruptcy in 2008 is, in retrospect, what cemented its discipline; the company emerged from that experience knowing how to operate at a fraction of its theoretical burn rate, a capability it has used continuously ever since.

There is an enormous literature, much of it from inside the venture industry itself, on this point. Andy Rachleff and Bill Gurley, both Benchmark co-founders, have argued for two decades that the best technology companies are built on a 'non-consensus right' insight that allows them to win markets with relatively little capital. Andreessen and Horowitz, defending the opposing case for scaling venture, frame the traditional model as a 'sushi boat restaurant' of passive selection; but even on their own terms the empirical record favours the small-fund case, since Andreessen

Horowitz's own carry-relevant returns are concentrated in its earliest, smallest funds. Fred Wilson's 2009 'The Venture Capital Math Problem' essay argued, prophetically, that the industry could not absorb the volume of capital it was being asked to take.[49]

It is not possible to know whether a $200 million Rivian would have succeeded. It is possible to observe, however, that a $200 million Rivian would not have left $135 billion of paper value destruction in its wake. The asymmetry of bad scenarios is itself revealing: extreme overcapitalisation produces extreme value destruction, while extreme undercapitalisation produces an unremarkable shut-down. The modal capital-allocation error of the 2020 to 2022 vintage was one of excess rather than scarcity.

IX. Was this predictable?

Defenders of Rivian's 2020 to 2021 financing rounds might reasonably say that the post-IPO outcome was contingent on a macro shock (the 2022 rate hikes, the inflation surprise, the broader compression of long-duration equity multiples) that no investor could have forecast at the time. The argument is not unreasonable, but it is also not sufficient. Several lines of evidence suggest the outcome was, at minimum, foreseeable in distribution if not in timing.

First, the long-run academic literature on hot-market IPOs predicts substandard returns regardless of subsequent macro conditions. Loughran-Ritter's results held across multiple business cycles. The cohort of issuers in 1999 to 2000 underperformed for reasons that are visible without any later macro information: they were priced for terminal-value assumptions that the underlying business models could not support. Second, contemporaneous market participants flagged the dislocation in real time. The Loup Ventures observation that Rivian was trading at 2.5 times Tesla's per-vehicle valuation was published the week of the IPO. The Mercer Capital valuation analysis appeared within days. The Motley Fool's piece titled 'Did the Lucid and Rivian Bubble Burst Just Signal a Stock Market Top?' was published on November 24, 2021, eight days after Rivian's all-time high. The

[49]Fred Wilson, "The Venture Capital Math Problem," AVC, April 29, 2009. https://avc.com/2009/04/the-venture-capital-math-problem/

disagreement at the time was not over whether Rivian was overvalued but over whether the broader market was about to follow it down.

Third, the structural fragility of the EV-startup cohort more broadly was already visible by mid-2021. Nikola was under SEC investigation. Lordstown had announced its first going-concern warning. Fisker, Canoo, Faraday Future, Lion Electric, Arrival, Electric Last Mile Solutions, and Proterra were collectively burning approximately $4 billion a year. The pattern was the same in every case: a SPAC or hot-IPO listing in 2020 or 2021, raised against forward projections that the SPAC structure permitted but a traditional S-1 would not have allowed; rapid customer-vehicle pre-order claims that did not convert into deliveries; subsequent collapses in share price. By the time of Rivian's IPO, the empirical base rate of this cohort delivering on its forward projections was approaching zero.[50]

Fourth, even the supply-side of capital was beginning to inflect. By the third quarter of 2022, Carta's Q3 data showed down rounds rising sharply; by Q1 2024, 23 per cent of all priced rounds were down rounds, the highest level in five years.[51] Cooley's data set, biased toward priced deals, showed an even more dramatic Q1 2024 figure of 32 per cent.[52] Distributions to LPs from venture funds fell by approximately 84 per cent between 2021 and 2023, a near-Global-Financial-Crisis level of liquidity drought. The crossover-fund cohort of 2020 to 2021 has retreated almost completely, and Tiger Global's 2025 successor fund closed at $2.2 billion against a $6 billion target. The unwind, in other words, was systemic, predictable and predicted.

X. Lessons

Several lessons follow from this case study, ordered from the narrow to the broad.

[50]Wolf Street, "The Collapse of the EV SPACs" series, 2023–2025. https://wolfstreet.com/2025/02/19/the-collapse-of-the-ev-spacs-nikola-joins-ev-spac-bankruptcy-lineup-here-are-those-already-bankrupt-and-those-not-yet/

[51]Carta, "State of Private Markets, Q1 2024," reporting that 23% of all priced rounds were down rounds, the highest rate in more than five years. https://carta.com/data/state-of-private-markets-q1-2024/

[52]Cooley LLP, "Q1 2024 Venture Financing Report," May 2, 2024. https://www.cooley.com/news/insight/2024/2024-05-02-q1-2024-venture-financing-report

First, capital efficiency is, for capital-intensive businesses, a more reliable predictor of long-run public-market performance than capital availability. Tesla survived the 2008–09 financial crisis on $9 million of cash and a Christmas Eve convertible round; the discipline that imposed cemented operating habits that the company has continued to compound for fifteen years. Rivian entered 2022 with approximately $18 billion of cash on hand and has spent the four subsequent years working through it at $1.5 billion per quarter. The first company learned how to operate under constraint; the second company is learning what it costs to operate without constraint.

Second, hot-market IPOs are not an exception to the long-run record of equity underperformance; they are the leading example of it. The Loughran-Ritter result has been replicated across multiple decades, multiple industries, and multiple geographies. The 2020–21 cohort is an unusually large data point on what is, by now, a thoroughly established curve. The Rivian post-IPO drawdown is not a freak outcome; it is the modal outcome at the upper end of the hot-market distribution.

Third, the principal incentive of a modern multibillion-dollar venture or crossover fund is the deployment of capital, not the maximisation of IRR. Metrick and Yasuda established this two decades ago; Kaplan and Schoar, Mulcahy, Wilson, Gurley and Botha have repeated and confirmed it. The Rivian case study illustrates the consequence: companies receive far more capital than they can productively absorb, value is destroyed in the process, and the fee economics of the funds that allocated the capital remain unaffected. The losses are real, but they accrue to the limited partners and, after IPO, to public-market investors. The general partners are paid in either case.

Fourth, the gap between private and public market pricing in the 2020 to 2021 cycle was not an information gap; it was a regulatory and structural gap. Late-stage private rounds priced companies in a market with no continuous quote, no mandated disclosure, no margin enforcement and no short-side discipline. The IPO transferred those positions into a market with all four of those features. The collapse was not caused by the IPO; it was revealed by the IPO. Any framework that takes private valuations as informative about public-market fair value, in either direction, is misreading the structural function of the two markets. The private market is, among other things, a balance sheet on which paper values can be maintained without

challenge for years. The public market is, eventually, the bridge to mark-to-market reality.

Fifth, and most uncomfortably, the institutional structure of late-stage venture capital and crossover investing has not changed in any way that would prevent the next iteration. The 2/20 fee structure remains intact. Mega-fund sizes have if anything continued to grow, particularly in artificial intelligence, where 2024 and 2025 saw single rounds in the $5–10 billion range at valuations exceeding $300 billion. The institutional, structural, and behavioural conditions that produced Rivian's $10.5-billion private capital stack are the same conditions in which a future Rivian will be financed. The names will change. The mechanism will not.

The story, properly understood, is not about electric vehicles. It is about the limits of capital as an input to entrepreneurship and the structural conflicts of an asset class that is paid to deploy regardless of the productivity of the deployment. Tesla and Rivian were the same kind of company born into different macro-financial regimes. The regime produced the difference. The next time the regime returns, and it will, the same difference will be produced again, with new names attached. The Rivian and Tesla case study is, finally, useful less as history than as a forward-looking diagnostic. When one finds, in any era, a capital-intensive company that has absorbed an order of magnitude more private capital than the closest historical precedent, with no proportional advance in operating performance, one is looking at the leading indicator of the next major paper-value destruction. The pattern is now empirically established, theoretically grounded and structurally maintained. It will not stop on its own.

XI. Used by capital, or using it

The Tesla and Rivian comparison can be reduced to one simple question of whether the company used venture capital, or whether it was used by venture capital.

Tesla used venture capital. Its founders raised the cheques they needed at each stage and deployed the proceeds against a product roadmap whose end-state was a car the public would buy. The IPO itself was a financing event rather than the product. The company's value depended on whether real customers would write real

cheques for real vehicles, and the company arranged itself to make that the determining variable. Capital was an input Tesla put to work.

Rivian was used by venture capital. The cap table was assembled, from 2019 onwards, by crossover funds and multi-strategy asset managers whose primary need was to deploy capital at speed and at scale. The technical roadmap, the Amazon delivery-van pre-order, the pre-IPO marketing and the willingness to accept an unprecedented $10.5 billion private capital stack from that cohort were all consistent with that need. The IPO was the moment at which the private-market position could be transferred to a public-market vehicle. Capital was not an input Rivian put to work. Rivian was a place capital could go.

This was not a new observation by November 2021. Bill Gurley, writing in his 2016 essay On the Road to Recap at a moment when most of the industry was insisting the unicorn boom was different from the dotcom one, had already located the cause in plain terms: “The reason we are all in this mess is because of the excessive amounts of capital that have poured into the VC-backed startup market.”[53] Five years on, Rivian was the largest single object lesson in his point. The company did not fail at producing electric trucks. It succeeded at absorbing what was poured into it, and was then handed off to the public market at the price that absorption demanded.

A company that uses capital is a candidate for compounding because its growth depends on customers. They buy the product, the revenue funds further development, the product gets better, more customers buy. Tesla's first thirty months as a public company were unimpressive on the scoreboard, with the stock trading roughly sideways until the Model S programme caught up in 2013. The hundred-bagger that followed was earned by operating performance rather than handed over by sentiment. A company that is used by capital has no equivalent discipline waiting for it on the other side of a listing. The flywheel that funds it is the fundraising cycle, not the customer purchase cycle, and the IPO forces a switch from one to the other. The result is what Rivian shareholders have been watching since November 2021.

The diagnostic applies forward as well as back. SpaceX has IPO'd into a setting analogous to Tesla's in 2010, with a great deal of growth already priced in and the

[53]Bill Gurley, "On the Road to Recap," Above the Crowd, April 21, 2016. https://abovethecrowd.com/2016/04/21/on-the-road-to-recap/

next operating catalyst some years away. The likely early trajectory is a version of Tesla's first three years, the public price moving sideways while the operating business compounds underneath. The reason to expect that pattern rather than Rivian's is that SpaceX has plainly used the capital it raised. Its launch business carries paying contracts across NASA, the Department of Defense and the commercial satellite market. Starlink has paying retail subscribers whose number scales with the constellation's coverage. The capital that has flowed in has produced reusable launch hardware and a satellite network no rival can replicate at price. The post-IPO drift is likely to be a slow re-rating against operating performance, not a drawdown against discovered overvaluation.

OpenAI and Databricks, both reportedly preparing public listings, sit closer to the Rivian end of the spectrum. Both have raised private capital at a scale with no real precedent in software history, principally from the same small cohort of mega-funds whose deployment incentives mirror those that funded Rivian. Both have built consumer and enterprise software products whose unit economics, at the price points the public market would have to underwrite, remain unproven. Neither has the long-duration customer-revenue stack that would discipline the public market into pricing on fundamentals rather than option value. If the pattern of the last cycle holds, both are far more likely to behave on the public scoreboard the way Rivian did than the way Tesla did. The pre-IPO valuations were not set by the public. They were set by funds whose incentive function is to deploy, and the public market will then, as it always does, take the other side.

A reader weighing any company that has just made the transition from private to public capital is therefore left with one direction-of-verb question to answer. Did the founders raise capital, or were they raised against capital? Did the company use the money, or was the money the point? The answer will not be in the press release. It will be in the unit economics, the customer revenue, the burn rate per delivered product and the composition of the cap table. Gurley's diagnosis still holds. The mess is what happens when too much capital flows into companies that cannot productively absorb it. The names change with each cycle. The mechanism does not.

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