




ARTICLE

## Capitalising on conjunctures: Tesla's ups and downs in financialised capitalism

Tobias Klinge<sup>1</sup> , Stefan Ouma<sup>1</sup> and Reijer Hendrikse<sup>2</sup>

<sup>1</sup>Department of Geography, University of Bayreuth, Germany and <sup>2</sup>Department of Geography, Cosmopolis Centre for Urban Research, Vrije Universiteit Brussel, Belgium

**Corresponding author:** Tobias Klinge; Email: tobias.klinge@uni-bayreuth.de

### Abstract

This article explores the puzzling ups and downs of Tesla, going through one of the most volatile stock market swings of the recent past, under conditions of financialised capitalism. We adopt a conjunctural approach, highlighting both the macro and micro dynamics shaping the firm's financial market trajectory. Among these, meticulously maintained narratives, boosted by social media, attracted dedicated followers, while the rise of new retail trading platforms and excitement around Tesla's index inclusion helped in producing its stock 'momentum'. This volatility was further supported by an exceptionally large volume of financial derivatives trading, paralleling a public battle between short sellers and the company's defenders. The resulting stock market boom enabled Tesla to stabilise its finances, whilst its 'mercurial' CEO Elon Musk negotiated the largest executive compensation package in US corporate history, turning him into the world's richest individual. In conclusion, we argue that Tesla serves as an emblematic case of an increasingly tech-driven financialised capitalism, which scholars could use as a window to study future conjunctures.

**Keywords:** corporate finance; financialisation; meme stock; speculation; Tesla

### Introduction

In the 2020s, it has become impossible to avoid Elon Musk. Even before his US\$44 billion Twitter acquisition in 2022 and the platform's compounding troubles since, Musk and the largest enterprise under his leadership – Tesla, Inc., formerly Tesla Motors, henceforth Tesla – had become a focal point of media interest. Closer scrutiny of the company's operations is warranted for a number of reasons. Industrially, Tesla's production facilities have been hailed as 'factories of the future', despite their ordinary reliance on harsh labour conditions (Minchin, 2021). Having moved into mass production, Tesla has become a key player in the global electric vehicle (EV) industry and is reviving the corporate business model of vertical integration. Ecologically, meanwhile, Tesla has been touted as the harbinger of sustainable mobility, despite the contradictions surrounding the replacement of internal combustion engines with batteries (Taffel, 2018). Geographically, Tesla's expanding production network spans the globe, fusing resource extraction in Africa and the Americas with North American, Chinese and European labour, casting doubt on notions of 'deglobalisation' amidst rising geopolitical tensions. Furthermore, Tesla's decisions on where and how to expand its operations illuminate ramifications for the green industrial policy race across advanced economies (Amaro, 2023). Politically, Tesla

not only ‘disrupted’ the automotive industry; its financial performance also aided Musk in expanding other ‘moonshot projects’ (Morozov, 2016). Besides SpaceX (including Starlink), Neuralink, and several others, this now also includes Twitter (since rebranded as X), making Musk one of the most influential and controversial public figures today. Indeed, over the years Musk has become ‘a more direct, Fordist political force’ (Robertson, 2022), as exemplified in his vocal and financial support for Donald Trump in late 2024 (Schleifer et al., 2024), whose successful re-election proved another boost to Tesla’s stock price and Musk’s clout.

All these aspects deserve the continued attention of both political observers and scholars as the latest materialisation and mutation of the ‘Californian ideology’ (Barbrook and Cameron, 1996). But since they cannot be separated from Tesla’s financial development – the foundation of Musk’s personal fortune – we offer a critical reading of the company’s rise as one of the most volatile stocks of the recent past. We posit that its tremendous stock rally at the start of the 2020s has received puzzlingly little academic attention, given its effects on the weight of Tesla in financial markets, on the consolidation of new actors, such as retail investors, and on the escalating dynamics of executive pay. In this article, therefore, we try to make sense of the ways in which Tesla has been operating under, and capitalised upon, dynamic conditions of financialised capitalism. We want to understand Tesla’s financial trajectory in relation to wider capital market dynamics, and how this contributed to financing the development of its industrial capacity. We focus on what actors, narratives, and instruments have propelled an initially struggling firm to become what it is today: a commercially successful, globally courted corporation. In doing so, we aim to fill a research gap left behind by social scientists, as reflected in the meagre academic interest in Tesla and/or Musk, and engage productively with the cacophony of professional and popular voices trying to come to terms with what kind of company Tesla actually is.

Up-and-coming firms, especially where they present themselves as ‘disrupters’, are often difficult to characterise, leading to struggles over discourse supremacy between different actors (Beunza and Garud, 2007). Unsurprisingly, Tesla has been no exception. For instance, public intellectuals like Yanis Varoufakis (2023) see in Tesla an ascending techno-feudal fiefdom of so-called ‘cloud capital’ and draw parallels with other Big Tech firms. This assessment is shared by others in the financial press, where analysts speak of the ‘magnificent seven’ US tech stocks (previously Big Five) to denote Big Tech, now including Nvidia and Tesla (Edelsten, 2024). In contrast, some journalists have instead insisted that ‘Tesla is a carmaker, not a tech firm’ (The Economist, 2023; see also The Economist, 2020). Yet the so-called ‘Tesla conundrum’ continues, since some voices still believe that ‘against its peers, it is barely a carmaker at all’ (Foley, 2024). Nowhere is this clearer than in the wildly diverging valuations produced by financial analysts, which vary depending on whether one focuses on renewable energy (production, storage and trading), cars, artificial intelligence (AI), or robotics.<sup>1</sup> Emphasising the enduring uncertainty around the company, Tesla critics Paris Marx and Edward Niedermeyer (2023) argue that its volatile stock works ‘like a macro indicator’ for the global economy, suggesting we should stay alert as to what we can learn about wider trends shaping finance and society from investigating Tesla’s financial performance.

Analytically, we follow a conjunctural approach, engaging with Tesla’s stock market trajectory in order to ‘read, translate, and problematise the general *through* the grounded interrogation of particular situations’ (Sheppard et al., 2024: 1, emphasis in original). On the one hand, this means that our goal is to learn more about the ongoing transformations of financialised capitalism *through* the prism of Musk’s Tesla. On the other hand, a conjunctural approach carries with it a desire to ‘prioritiz[e] moments, sites, and circumstances of social significance and political urgency’ (Sheppard et al., 2024: 1). As of writing, we consider it socially significant and politically urgent to better understand how

a powerful individual like Musk was able to capitalise upon a particular historical conjuncture to become one of the world's most influential corporate actors. Such a conjunctural sensitivity also helps us problematise the Silicon Valley myth of the prodigious wealth creator, with Musk allegedly building his Tesla empire using nothing but his own genius and resources.

Triangulating a range of academic and journalistic sources alongside financial information retrieved from Tesla's annual accounts, proxy statements, and select databases, we identify a set of factors which helped Tesla defy financial market 'normality'. In so doing, we detail how Tesla fuses tech, automotive, and social media-driven public relations components into a new whole, and how it leverages its future-making narratives financially, luring in small and large investors alike through what some have called the 'Tesla-financial complex' (Wigglesworth, 2021), ultimately benefiting its mercurial CEO above everybody else. Rather than excavating primary data, therefore, the remit of our article lies in collecting and integrating existing sources of information, which have hitherto been little studied in systematic fashion.

The article begins by explaining our conjunctural approach alongside a range of political economy concepts relevant to the current conjuncture. We then sketch out the extraordinary volatility of Tesla stock since its initial public offering (IPO) and provide some background on the firm's fundamentals. The rest of the article is devoted to unpacking the stock market performance of Tesla, identifying the key drivers behind this, and offering some thoughts on the meaning and significance of the Tesla case in connection with the broader development of financialised capitalism.

### **Conjunctures of financialised capitalism**

Why a conjunctural approach? As Jamie Peck (2024: 463) explains, the goal of conjunctural analysis is to 'understand politically active 'situations', critical junctures, unfolding crises, or problem spaces'. Studying such 'situations' requires invoking 'an "eventful" treatment of (always messy and mediated) causation' (Peck, 2024: 465). This makes the analysis of particular conjunctures inherently '[e]xploratory in nature' (Peck, 2024: 465), implying that we cannot claim to provide an exhaustive, complete account of the phenomenon in question, i.e., Tesla's stock market trajectory. Rather, we aim to learn about the state of 'late' financialised capitalism by means of grappling with this particular case.

Cédric Durand (2017: 4) describes financialisation as 'a cluster of interdependent processes constituting it as a historical and spatial incarnation of the capitalist mode of production'. Importantly, none of these processes should be framed in abstract terms, but instead be understood with reference to the actual conduct of and concrete interactions between social agents: namely, individuals (often taking on complementary and/or conflicting roles as workers, savers, and investors, among others), non-financial corporations, financial institutions, and state actors. What these interactions share is that newly forged or changing relationships between actors can shift power balances around new financial practices, instruments, or metrics. Put differently, the roles of financial actors and their relations are subject to continuous change.

Concretely, as Tristan Auvray et al. (2021) explain, the *first* phase of financialisation, roughly comprising the decades prior to the new millennium, saw monetary policy tighten, financial investors become empowered vis-à-vis corporate managers, and competitive pressures grow with increasing globalisation. The *second* phase of financialisation, in turn, saw interest rates fall, passive investment practices by 'new permanent universal owners' rise (Fichtner and Heemskerk, 2020: 495), and corporate concentration consolidate (in terms of both production and ownership).<sup>2</sup> Passive investment, coupled with the private authority of index providers, who create lists of

companies for asset managers to automatically buy into, created a new market environment where a firm's index inclusion may be instrumental to accessing capital (Petry et al., 2021).

Importantly, these financial developments received a phenomenal boost after the 2008 financial crisis, which saw central banks reduce interest rates to zero, whilst providing financial markets with unprecedented liquidity ('quantitative easing'), a policy repeated in response to the Covid-19 pandemic. This incentivised investors to seek riskier investments, benefiting stock markets in general and the tech sector in particular. These unprecedented monetary policies can be seen as a key component of what Daniela Gabor (2020) calls the 'derisking state', supporting the necessary conditions of globalised, market-based finance under US leadership, through which states effectively come to subsidise (and hence mobilise) private investments for particular ends, such as the transition away from fossil fuels. Many of these features intersected in the post-2008 conjuncture, as finance began to merge with tech (Hendrikse et al., 2018), whilst tech itself was increasingly imagined as a fix to all the world's pressing problems, including the fight against climate change (Morozov, 2013).

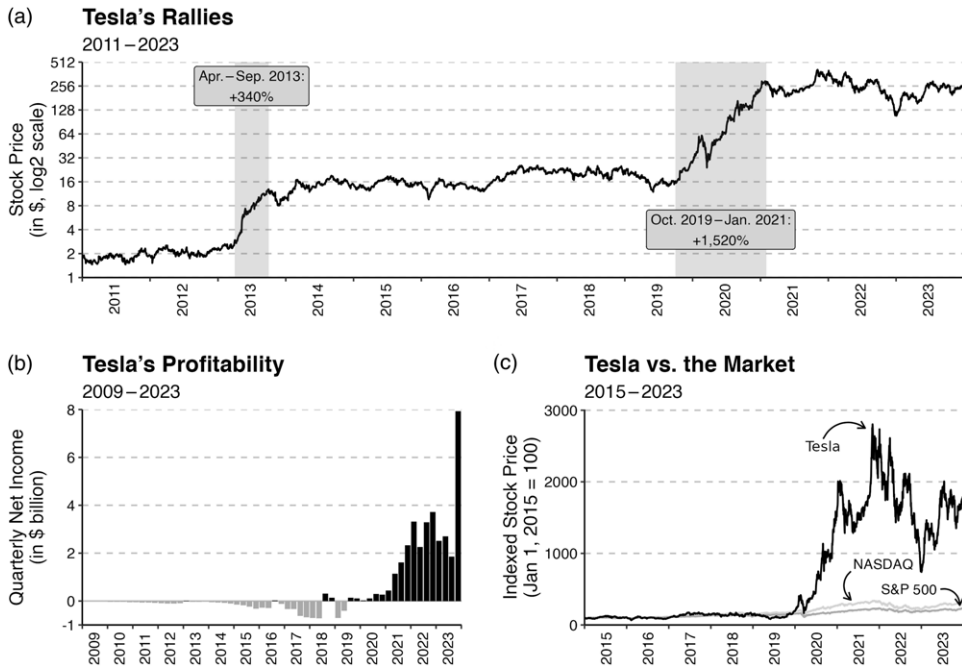
Accordingly, our analysis mobilising the frame of financialisation needs to 'specify its underlying tendencies and ascertain the particular form and content it acquires in different contexts' (Lapavitsas, 2013: 39). Two such tendencies are particularly important in the context of this article. First, the ability to quickly access vast amounts of capital through equity or debt markets is 'profoundly ambivalent' (Durand, 2017: 55), as it can facilitate *wasteful* speculation (as in propelling prices of existing financial assets in the anticipation of future gains that do not materialise), alongside *productive* speculation (as in financing productive capacity), especially in a financial market context awash with liquidity. Indeed, corporate strategies typically harness advantageous narratives to obtain the financial resources needed to turn words into action.

Second, in the process of accessing capital, through issuing equity and trading it on secondary markets, different agents – ranging from early financiers and executives compensated in equity-related securities to all other buyers and sellers of stock – can benefit from changes in 'capitalised putative earning capacity' (Veblen, 1958 [1904]: 76). In institutionalist Thorstein Veblen's thought, which bears some semblance to related concepts in Marxist political economy,<sup>3</sup> this idea becomes particularly prominent:

The effective (business) capitalization, as distinct from the *de jure* capitalization, is not fixed permanently and inflexibly by a past act of incorporation or stock issue. It is fixed for the time being only, by an ever recurring valuation of the company's properties, tangible and intangible, on the basis of their earning capacity. (Veblen, 1958 [1904]: 70, emphasis in original)

Crucially, 'it is not [the company's] past or actual earning-capacity, but its presumptive future earning capacity; so that the fluctuations in the capital market [...] turn about *imagined future events*' (Veblen, 1958 [1904]: 76, emphasis added). Factors or inputs shaping processes of valuation and capitalisation, as reflected by any public company's continuously changing market value, can emanate from many different corners. Increasingly, remunerating corporate executives in share-based compensation – as has become the norm among US corporations since the 1980s (Lazonick and O'Sullivan, 2000) – further incentivises storytelling to influence a company's stock price.

Corporate trajectories on financial markets are shaped by accompanying narratives (O'Neill, 2001; Beckert, 2016), i.e., stories as to why stocks are attractive or not. Although inevitably geared towards 'future-making' (Mercante Thierhauf, 2024), during the post-2008 conjuncture, such narratives have become increasingly tech-driven. To mention but one example: 'mimetic' herd behaviour (Orléan, 1989) luring investors into buying certain



**Figure 1.** (a–c) Tesla's stock price, profitability, and performance against the S&P 500 and NASDAQ indices.  
 Source: Authors' calculations and visualisations based on data from Marketwatch.com and Macrotrends.net using R software (R Core Team, 2024) with patchwork (Pedersen, 2024), readxl (Wickham and Bryan, 2023) and tidyverse packages (Wickham et al., 2019).<sup>7</sup>

stocks now increasingly occurs via social media, updating old instances of 'irrational exuberance' (Shiller, 2016) through new algorithmic or 'memed' means.<sup>4</sup> Indeed, as Dhruv Aggarwal et al. (2024: 1389) argue, 'the emergence of meme stocks is part of longer-running and more systemic digital transformations in trading, investing, and governance'. In the case of Tesla, many tech-driven and future-making narratives are directly linked to Musk, whose celebrity status and alleged genius is carefully cultivated, managed, and mobilised for Tesla's (and his own) pecuniary ends (Ferrari Braun, 2023; Little and Winch, 2021).

Having laid out our general understanding of the political-economic present, in the remainder of the article we pin down the moving parts, actors, and relationships shaping Tesla's financial performance.

### The ups and downs of Tesla in financial markets

What are Tesla's market fundamentals?<sup>5</sup> From its 2010 IPO on the stock market until 2019, Tesla posted repeated net losses, adding up to more than a cumulative \$5.6 billion (Figure 1b). Between 2019 and 2020, in contrast, Tesla posted a net profit for four subsequent quarters, totalling \$368 million, which included revenues from selling US carbon credits worth about \$1 billion (Kane, 2020). By late 2023, Tesla achieved a net profit of \$15 billion, realising a net profit margin of 15.5% – outpacing automotive incumbents Ford, Toyota, and Volkswagen – whilst operating sprawling manufacturing plants in the US, China, and Germany.<sup>6</sup> In terms of volume, Tesla produced 1.8 million vehicles in 2023, compared to 2,150 vehicles in 2010 (Statista, 2024). In Musk's words, although the road to success led Tesla through 'production' and 'delivery logistics hell' (Shaban, 2018), Tesla left

small-scale production behind for good, eventually becoming the dominant EV manufacturer in Western markets. How long it will be able to cling to this title, however, is uncertain, as its biggest competitor, China's BYD, quietly superseded Tesla as the world's biggest producer of EVs in late 2023 (Gerbaudo, 2024). These developments are compounding concerns in the global EV market about oversupply, price wars, falling profitability, and geopolitical tensions, as exemplified by the recently announced US and EU tariffs against Chinese EV automakers (Kaufmann, 2024).

Tesla's operational growth has been accompanied by stock market volatility. Its stock traded at less than \$2 when the company went public in June 2010.<sup>8</sup> Over the course of 2013, it gained significant momentum, reaching around \$10 by year end (Figure 1a). This was the stock's first sizable rally, followed by another one in 2020 when it shot up beyond \$150 in August 2020 and, half a year later, passed \$300, trading at an eye-watering price-earnings ratio of 1,120 at year end.<sup>9</sup> With its shares in demand, Tesla seized the opportunity to issue fresh equity and raise \$10 billion to stabilise its finances, which had come under repeated stress (Grossman, 2020). Tesla's stock price peaked at \$407 on October 31, 2021, reaching a market capitalisation above \$1 trillion with the lowest revenues ever recorded (Dey, 2021). Between December 2019 and April 2021, Tesla's stock rally created \$600 billion of financial wealth with no changes in Tesla's 'fundamentals' sizable enough to justify the growth spurt (Cornell, 2021). Some optimistic news to justify shareholder bullishness circulated. In early 2020, Tesla had managed to improve its bottom line and ramp up production in Shanghai (Egan, 2020), and in late 2021, production increased further despite the Covid-19 shock, seeing rental company Hertz place the single-largest purchase order for EVs yet, worth \$4.2 billion (Schatzker, 2021).<sup>10</sup>

Tesla's financial success – as expressed in net income – has steadied considerably since the early days of the pandemic and the subsequent monetary interventions (Figure 1b). But at the time, such developments did not stop observers from comparing Tesla with some notorious stocks from the dotcom bubble, framing it as the latest instance of 'irrational exuberance' (Egan, 2020). In December 2022, after a tumultuous year in which Musk took over Twitter, using his Tesla shares as collateral, Tesla's stock price finished at less than \$110. From ups of \$293 to downs of \$108, Tesla's share price swung back and forth over the course of 2023 too. These volatile swings are remarkable and stand out even when gauged against Big Tech companies over the same period. While the latter did exceptionally well up until mid-2021 (Klinge et al., 2022), their relative gains simply paled in comparison to Tesla. This is noteworthy because while Tesla is mostly considered an EV manufacturer, its valuation resembles Big Tech, mainly due to its perceived tech leadership and Silicon Valley 'mindset'. Even more extreme did Tesla's stock perform when judged by what happened in the wider market as exemplified by the NASDAQ and S&P 500 indices (Figure 1c). Of course, the financial ups and downs of Tesla could be shrugged off as an idiosyncratic anomaly with limited consequences, but doing so would be to ignore one of the most instructive and politically consequential stock market trajectories in financialised capitalism today.

## **The moving parts of the ups and downs**

### ***Owning the narrative***

The first development might be the least novel, or most established, as most followers of financial markets readily accept that stock market activity is – and always has been – shaped and influenced by storytelling, or narratives, given fundamental uncertainty about the future (Beckert, 2016). How management communicates with investors, and how such communication is received, transformed, and passed on is crucial to evaluating episodes of extreme volatility. For Tesla, the obvious entry point is Elon Musk himself. Indeed, Musk

disbanded Tesla's official PR department in 2020, justifying the move by allegedly not believing in 'manipulating public opinion' (Lambert, 2021). Such justification would no doubt strain the patience of longstanding Tesla critics like Edward Niedermeyer who, in his maverick account *Ludicrous* (2020), argues that Tesla's distinctive model revolves around Musk's public eccentricity and his penchant for bold claims and promises running ahead of the company's capabilities. In the same spirit, Bradford Cornell argues that:

Elon Musk's behavior, which many have claimed is erratic and unpredictable, is far from irrational. It gives Tesla a distinct competitive advantage in the production of automobiles. The questionable tweets, the continual special events and production introductions, the nutty interviews, the exotic lifestyle, all portray the image of a creative genius. (Cornell, 2020a: 3)

'Fake it until you make it' is a proven Silicon Valley recipe for future making. From announcing repeated breakthroughs in autonomous driving to promising the most sophisticated battery charging infrastructure and unprecedented safety, critics contend that Musk's public communication ranges 'from mere exaggeration to quasi-delusional fantasy' (Niedermeyer, 2020: 90).<sup>11</sup> Communicating in a 'financial feedback loop' (Niedermeyer, 2020: 94), Musk's *visions* effectively become the product investors buy into. While few US CEOs are active on social media, Musk's quotidian tweets – even when they are less consequential than his public consideration to take Tesla private in 2018 – have been found to impact its share price noticeably (Strauss and Smith, 2019).<sup>12</sup>

Musk's seemingly 'impulsive' and 'open' communication via Twitter/X sharply contrasts with Tesla's tight control over information flows via confidentiality and non-disclosure agreements handed out to workers, customers, and reporters (Niedermeyer, 2020), suggesting a larger strategy of storytelling through which the company maintains its investor- and government-pleasing appearance.<sup>13</sup> Musk's promotion of Tesla's 'full self driving' technology is a case in point. At a time when fundamental obstacles had hobbled autonomous driving technology for so long that many of Tesla's competitors publicly backtracked on the industry's projections of mass adoption, Musk doubled down on them (Marx, 2022). In fact, it was recently uncovered just how much effort went into misleading promotional videos (Hull and O'Kane, 2023). Against more cautious voices from both in- and outside Tesla, and despite numerous serious accidents, Musk pushed on where others folded (Metz and Boudette, 2021). Why? In his own words, solving autonomous driving is 'really the difference between Tesla being worth a lot of money and being worth basically zero' (Musk, quoted in Hull, 2022).

The combination of a charismatic CEO, who is positioning his company as a 'disruptive' force in a sluggish industry environment by means of well-orchestrated product presentations and celebratory investor days, coupled with simple and appealing narratives, has been one of the most important intangible assets impacting Tesla's stock price (Khurana, 2002; Sharma and Grant, 2011). Tellingly, every annual report flags Tesla's dependence on Musk's public appearances as a risk factor. But as anecdotes and analyses of Musk's leadership in his various corporate ventures and his personal ideology,<sup>14</sup> remind us:

charismatic leaders reject limits to their scope and authority. They rebel against all checks on their power and dismiss the rules and norms that apply to others. As a result, they can exploit the irrational desires of their followers. (Khurana, 2002)

Whether 'irrational' or not, these desires were further amplified by vocal 'Tesla bulls' in the financial community. Such voices included prominent veterans, such as long-time Tesla investor Cathie Wood, as well as lesser-known Tesla stock owners, endorsed by Tesla

through affiliate marketing, who promote the product in the online ecosystem of Twitter/X, Reddit, and blogs such as *Electrek* or *Teslarati*.<sup>15</sup>

### **Gathering momentum**

Tesla's first stock market rally in 2013 took analysts by surprise. Over the course of a year, its market capitalisation swelled from below \$5 billion to above \$30 billion. Deploying highly optimistic discounted cash flow models, financial analysts were struck by the strong divergence between their estimates and Tesla's share price, especially considering that no new information seemed to justify it (Cornell and Damodaran, 2014). What they found instead was a substantial decrease in the stock holdings of large institutional investors by 25%, supporting the view 'that Tesla's stock price was driven, at least in part, by investor sentiment, stoked by momentum [among] noise traders' (Cornell and Damodaran, 2014: 21, 19) – that is, small retail investors buying into the Tesla boom in a process somewhat reminiscent of the cryptocurrencies later hyped by Musk.

In 2020, Tesla stock rose spectacularly while the world economy was shook by the pandemic, and central banks once again injected unprecedented liquidity into financial markets. Accordingly, 'meme stock mania' spread when retail investors piled into US stock markets using novel digital investment channels such as Robinhood, a popular trading app that does not charge commissions (Fitzgerald, 2020; Hughes, 2023).<sup>16</sup> Next to funds and blue-chip stocks, analysts singled out Tesla as one individual growth stock supposedly benefiting from popular retail interest surging in mid-2020.<sup>17</sup> Called on by the company fanbase, Tesla – having just finished its first four consecutive profitable quarters – built on the plague-induced momentum and announced a five-for-one stock split in August 2020, claiming to make the stock more accessible to individual investors. In the second half of 2022, and on the back of yet another three-for-one stock split, Tesla became the most popular stock among small retail investors (Mozée, 2022).

Where the stock splits failed to match the pockets of small retail investors, firms offering so-called fractional trading bridged the gap. Having first appeared in the dotcom era, fractional trading was reintroduced by financial services and technology providers such as Interactive Brokers, Robinhood, and Fidelity in late 2019, and became especially popular since the pandemic. Fractional trading allows retail investors to buy fractions of individual shares in line with their budget, lowering the bar to entering the stock market (White, 2020). With young investors leading the way, fractional trading quickly grew. In the first nine months of 2020, for example, Fidelity reported that 630,000 accounts traded fractional shares, with an inclination toward tech stocks, including Tesla (Carey, 2020). Whether out of faith in the company's future or driven by the herd, Tesla's stock market performance became ever more important to small investors. Examining Tesla's second large run-up between late 2019 and early 2021 underscores this point. Here too, financial analysts were unable to produce any conventional calculation justifying Tesla's skyrocketing share price.<sup>18</sup> Based on his reconstruction of events – which resulted in 'strident push back on the internet, and even personal insults and threats' – Cornell (2021: 15) found that few things, other than Tesla's own narrative of not being an automotive but an integrated 'renewable energy, artificial intelligence, and robotics company ... on the verge of a 'Model-T moment', set into motion a classic self-reinforcing boom.

Marx and Niedermeyer (2023) make an even larger point, arguing that Tesla took the venture capital (VC) logic – according to which 'everything is always at risk and risks are always justifiable' – to public markets. But while so-called sophisticated investors have resources and experience to assess Tesla's promises (such as the battery swap or the autonomous driving technologies), retail investors likely do not. By becoming further enrolled into the Tesla scheme via the 'democratisation' of the company's stock, they remain an important factor in its valuation story.



### **Joining the club**

Small retail investors were not the only financial actors purchasing Tesla stock, and they are unlikely to ever mobilise enough financial capacity to exclusively drive corporate valuations. Instead, it is large institutional investors who form the backbone of today's financial markets, and particularly in the low-fee segment of passively managed funds, such as exchange-traded funds (ETFs). Tesla is no exception to this rule. In the realm of passive investment, (not) being part of an index impacts a company's stock, and financial services providers compiling such indices thus exert private authority over public markets (Petry et al., 2021). Since 2013, Tesla has been far from a negligible stock, and between 2017 and 2018, its market capitalisation hovered roughly between \$30 billion and \$60 billion. Regular losses, however, kept it outside major indices. When signs mounted that this situation might change, individual investors bet on institutional investors' required purchases, pushing up the stock price and helping to bring about the desired event. Since index inclusion promises a steadier inflow of funds, Tesla's August 2020 stock split was thus interpreted as an explicit attempt to solicit for inclusion in the Dow Jones Industrial Average index (Caplinger, 2020).

This first attempt fell flat, but in November 2020, S&P Dow Jones Indices announced that Tesla would join the S&P 500 index by the end of the year. By virtue of the S&P 500 being weighted by market capitalisation, Tesla's then \$387 billion valuation would have made it the index' tenth largest company on the day the announcement broke, prompting wariness in the financial press about the potential disruption that an extremely large stock like Tesla – trading at no less than 100 times its earnings at the time – could bring into index funds (Financial Times, 2020; Waters, 2020). Subsequent events seem to have vindicated this caution. In the month following the announcement, the stock gained a whopping 70%, whilst on the very day before entering the index, more than \$148 billion of Tesla stock changed hands (Mackenzie et al., 2020). When the company joined the first tier of listed US companies, it was the largest-ever addition to an index as it became the sixth largest S&P 500 constituent. Three months later, in March 2021, at least 7% of Tesla stock was held by ETFs, while the number of ETFs holding Tesla stock rose from 106 in July 2018 to 244 in December 2021 and 331 in June 2024 (Sharma, 2021; ETF.com, 2024). According to one ETF manager, this made Tesla 'the most prominent example to date of index manufacturers' influence on the direction of billions of dollars of investors' capital worldwide' (Losavio, 2021). In February 2023, following Musk's repeated stock sales, the Big Three passive investors – BlackRock, Vanguard, and State Street – owned more of Tesla stock than the company's CEO (Wigglesworth, 2023). As passive investment funds impact large-cap stock prices disproportionately, it is not unlikely that whatever path Tesla's stock price were to take in the future, this would be amplified by corresponding fund movements (Balchunas, 2019). However, Tesla's 2022 stock plunge contradicts the argument that index inclusion alone suffices to prop up underperforming stocks (Wigglesworth, 2023).

The pressure to eventually buy Tesla stock was not limited to passive investors, however. In the medium-fee segment of actively managed funds, fund managers sceptical of Tesla due to its volatility either shunned it entirely or held less of its stock in their funds than others in their industry. In doing so, however, they saw their funds underperform during Tesla rallies (Hajric and Wang, 2021). The coercive laws of money management (Ouma, 2020), then, may well compel even the more doubtful among financial professionals to follow the herd despite their own reservations.

### **Weighing all options**

In addition to actual stocks and index funds, the trade in options – financial instruments known as derivatives, deriving their 'value' from an underlying equity, e.g., Tesla stock –

became a hallmark of what journalist Robin Wigglesworth (2021) has called the Tesla-financial complex: ‘a vast, tangled web of dependent investment vehicles, corporate emulators and an enormous associated derivatives market of unparalleled breadth, depth and hyperactivity’. Options occupy the centre of this financial web, allowing investors to bet both on and against Tesla stock. Remarkably, Tesla’s footprint in the US options market in late 2021 was so large that it accounted for more than all S&P 500 companies *combined* (except for Amazon). Betting on Tesla could be done reasonably cheaply by purchasing a call option, that is, the right to buy a share at an agreed price at a fixed future date. Such options require someone else to offer them – a counterparty – and typically these sellers are large financial institutions. Continuously monitoring their risk, these counterparties hedge themselves against losses by buying or selling the underlying stock they need to deliver or purchase in the future (Wang, 2021). In this way, the trade in options can influence the underlying stock’s trajectory. Since ‘it is unprecedented to have such a huge stock [as Tesla] that is also so volatile’ (analyst cited in Wigglesworth, 2021), it is not far-fetched to ascribe some of Tesla’s stock price volatility to its outsized options market. Even before the 2022 Twitter fallout, Tesla stock was known for reacting erratically. In July 2020, for instance, it shed some 10% of its stock price despite the company reporting favourable quarterly figures. Analysts were puzzled, since they ‘had not been able to identify where that extraordinary level of volume [was] coming from, whether it’s quants, index [trackers], options, other derivatives, retail, momentum [traders]. There are forces at work bigger than Tesla’ (Platt and Henderson, 2020). And indeed, in late 2020, it was revealed that the Japanese conglomerate Softbank – whose Vision Fund is the world’s largest VC investor in Big Tech companies – was the ‘Nasdaq whale’ responsible for much of the interest in Tesla options (Inagaki et al., 2020).

### **Missing a big short**

Tesla’s stock performance has defied the gravity of financial market fundamentals (Wigglesworth, 2021). Its perplexing trajectory has therefore been a call-to-arms for those wishing for this aberration to end. In the past, Musk notoriously complained about Tesla becoming the obsessive target of short sellers and painted regulators – most prominently the Securities and Exchange Commission (SEC) – as being in allegiance with them, calling them the ‘Shortseller Enrichment Commission’ (Ingram, 2018). Indeed, Tesla has repeatedly been the most-shortened US stock, being over-represented compared to stable heavyweights such as Apple, with short sellers vocally building their case against Tesla since 2013 (Niedermeyer, 2020). Heated exchanges developed between Musk and his followers on the one side, and outspoken short sellers on the other, each accusing the other of pernicious motives and manipulation in the press. As part of their trade, short sellers made no bones about their assessment of Tesla. For instance, Mark Spiegel labelled Musk a ‘pathological liar’ and ‘the most vile person ever to head a large-cap U.S. public company’, calling Tesla ‘the biggest bubble stock in this entire bubble era, which will soon be to electric cars what Blackberry became to smartphones: the pioneer that wound up with arrows in its back’ (Celarier, 2022).

In early 2020, by the time Tesla’s second stock market rally began, Tesla’s so-called short interest amounted to almost \$16 billion. This means that around 18% of its issued shares were borrowed and sold in anticipation of falling stock prices, an uncommonly high level for a stock of its size (Reinicke, 2020). Over the course of the subsequent rise, those betting against the company lost a staggering \$38 billion in 2020, more than any other group of short sellers (Winck, 2021; see also the original analysis by Dusaniwsky, 2020a; 2020b). By November 2021, Tesla’s short interest had fallen to 6% of its float (Nuttall, 2021). As well as making for an enticing drama between financial elites, the short sellers’ wager might well have backfired because to close their position, short sellers generally have to

purchase the stock and return it to the original owner. In an unfortunate twist of fate from their perspective, being forced to do so in the middle of a bull market means further pushing up stock prices in a ‘short squeeze’, thereby helping to bring about the exact opposite of what they hoped for.

### **Removing the ceiling, raising the floor**

On the side of those benefiting from rising rather than falling stock prices, Elon Musk stands out as Tesla’s largest individual shareholder. While his equity share in Tesla decreased from 27.5% in 2010 to 15.7% in mid-2022, Musk became the world’s richest individual in January 2021 when Tesla’s market capitalisation hit \$700 billion. This stock ownership was not only the result of his early investment in Tesla, however, but also a consequence of the compensation he received as CEO.<sup>19</sup> Between 2009 and 2021, Musk received virtually all (99.97%) of his pay in the form of stock options which, valued at the time of their approval, added up to \$2.39 billion. The largest chunk of this package, options originally expensed at \$2.28 billion and having swelled up in value since, was granted to him in 2018. Crucially, this package would only vest – in twelve tranches – when certain performance targets were hit.<sup>20</sup> Once exercised, Musk would need to hold on to the shares for five years before being allowed to sell them. Compared to earlier CEO compensation in 2009 and 2012, when performance targets were set with regard to production volume and successful prototype development (Tesla Motors, Inc., 2014: 114–116), the 2018 performance award was oriented along the lines of market capitalisation (\$100 billion plus several increases of \$50 billion) and revenue or adjusted EBITDA.<sup>21</sup> By 2022, all required milestones for the twelve tranches had been reached (Tesla, Inc., 2023: 79–80).

Both the size of this compensation package and its focus on driving up the company’s market capitalisation made this performance award remarkable. After all, none of the executives leading neighbouring Big Tech firms ever received such valuable options (Klinge et al., 2022). Indeed, financial outlet Bloomberg – calculating Musk’s net worth based on his stock options – placed Musk on the top of its list of the highest-paid US CEOs for no less than four years in a row (a finding disputed by Tesla because of the restricted nature of his options). With Tesla’s stock climbing, the gap between Musk and other C-suite executives widened over time. In 2018, Musk left his runner-up behind by \$257 million; in 2019, the second-highest-paid executive was ascribed \$462 million less than Musk; in 2020, Tesla’s stock market rally prompted this difference to surge to more than \$6 billion; and in 2021, Musk’s salary amounted to \$7.8 billion more than that of the second-highest and \$9.2 billion more than that of the third-highest-paid CEO (Melin et al., 2019; Melin and Sam, 2020; 2022; Melin, 2021). Remarkably, the discrepancy grew so large that in 2020, the Bloomberg website allowed readers to compare CEO pay on a scale with or without Elon Musk on it.

Such conspicuous compensation had consequences. On the one hand, corporate governance advisors argued that ‘Tesla’s moonshot grant set off a lingering echo in many executive suites’ (Melin, 2021), serving as a justification for other CEOs to seek higher compensation. On the other hand, one of Tesla’s minority shareholders took the company to court in Delaware – the US number one (offshore) location of incorporation among public companies – over the performance award, arguing that Musk exerted undue influence over the board approving his pay. In January 2023, while not agreeing with all the plaintiff’s complaints, the respective judge rescinded the pay package, at the time valued at \$56 billion, on the grounds that its negotiation breached fiduciary duties (McCormick, 2024). Musk swiftly responded by calling for a shareholder meeting with the aim of holding votes to reapprove the pay package and reincorporate Tesla in Texas, both of which passed with comfortable margins. To collect sufficient votes, retail investors proved instrumental, as stances between institutional investors, although important for

passing the resolutions, varied strongly.<sup>22</sup> However, this manoeuvre did not end the legal fight. With the pay package valued above \$100 billion following the re-election of Donald Trump, the Delaware judge stuck by her original decision. As of writing (December 2024), the case looks likely to continue and involve Delaware's Supreme Court.

Tesla vowed to appeal against the decision. 'This ruling, if not overturned, means that judges and plaintiffs' lawyers run Delaware companies rather than their rightful owners – the shareholders', it said. 'Absolute corruption', Musk wrote on X. (Indap and Morris, 2024)

The options and the equity which Tesla's board and its shareholders put in Musk's reach are the basis of what analysts have called Musk's 'own ATM machine' (Daniel, 2022). While they do not equal cash, once the options vest they do enable him to borrow against them as collateral, which is explicitly permitted by Tesla up to the value of 25% of the shares' value. In early 2022, Musk was said to have 'already pledged more than half his 21% Tesla stake as collateral for loans – some of which were taken out when the shares were worth far less' (Durot, 2022). One year later, this percentage had grown to 63%, as Musk's Tesla holdings were mobilised to finance his Twitter takeover (Kinder et al., 2023). But Musk does not depend on loans alone. Since 2021, he has routinely sold large chunks of Tesla stock, at times contradicting earlier announcements and feeding suspicions of insider trading (Greenwald, 2023; Michaels, 2022). Between November 2021 and December 2022, Musk's repeated sales amounted to nearly US\$40 billion (Mohamed, 2022), allowing him to pay tax, cover interest payments, and purchase Twitter (Isidore, 2022; Brower and Waters, 2022), essentially by drawing on capitalised future earning capacity or 'hype'. All told, the size of these sales almost equalled the US\$41 billion in equity that Tesla has raised and the retained earnings it has reached since commencing business (Kay, 2023).

### Concluding remarks

How do the moving parts that produced Tesla's ups and downs come together and what does this all mean? The post-2008 conjuncture was defined by financial markets awash with liquidity fuelling a tech boom, alongside wider state-led policies of derisking to encourage private investors to transition away from fossil fuels. In this context, Tesla presented itself as the ultimate tech solution in a world threatened by climate change. In so doing, the company capitalised upon the macro environment, from securing crucial government funding at critical junctures, selling carbon credits (and other non-production related 'derivatives'), to attracting financial investors large and small – the latter buying into Tesla via novel retail trading platforms. With finance and tech merging, Tesla not only managed to capitalise on the expanding toolbox of (tech-driven) finance to boost its stock price, but also managed to push favourable narratives on various tech platforms to fight short sellers, with Musk's purchase of Twitter cementing Tesla's reach over 'memetic' future making. As Tesla capitalised on this conjuncture, its stock price diverged markedly from both its automotive and Big Tech peers. And still, as of writing, financial market analysts remain divided over the future health of Musk's largest corporate enterprise.

Both Tesla's volatility as well as its peak valuations are very much tied to the 'genius performativity' and narrative skills of Elon Musk, displayed online on an almost daily basis. His curated performances are complemented by legal strategies – for example, the ample use of non-disclosure agreements among customers, journalists, and workers – alongside dedicated online communities ready to defend the company against public criticism. This has allowed Tesla to 'own the narrative' about its present and future capabilities and its (expected) valuation, despite news repeatedly flagging major and minor operational,

technological, and safety challenges. Defending the narrative, however, was crucial for buying the time needed to bring about some of the initially claimed development, not least by allowing the firm to consolidate its finances. Indeed, especially during its second pandemic-driven stock rally between 2019 and 2021, government action and investor appetite ‘provid[ed] Tesla with a subsidised reduction in the cost of capital’ (Cornell, 2020a: 2).

Key to Tesla’s spectacular valuation story has also been the enrolling of both large and small investors through a variety of financial instruments, comprising public equity, index funds, stock splits, and fractional trading, amongst others capitalising on the rise of digital trading platforms allowing small investors to buy into Tesla. In an unprecedented fashion, Tesla has taken the VC logic to public markets, where its stock meets a diverse demand side of actors. These actors have accepted its future-making promises for various reasons: because of a genuine desire to invest in the future of EVs; because of a limited understanding of the business; because of adherence to Silicon Valley ideology; or because of their exposure to investment peer-pressure in financial markets, which extends to both institutional and retail investors. In addition, frantic options trading, highly volatile in nature, is also part of the story, having had a strong influence on the company’s financialised rollercoaster.

Along the ride, Musk has enjoyed a clear financial incentive to keep the stock’s value as high as possible, occasionally even admitting that the valuation was excessive (Musk, 2020). In contrast to other ‘founders’ or early angel investors, Musk has managed to retain a firm grip on the company and negotiated an unprecedented stock-option compensation package in the process. In so doing, Musk has assumed an almost singular position within ‘late’ financialised capitalism, as he has virtually remained a venture capitalist in his own business, who – in retrospect – has capitalised on surging Tesla valuations to build or acquire other companies. Note that this is not just about leveraging Tesla stock to buy other companies; it is also about harnessing ‘genius performativity’ and using high Tesla valuations to mobilise funds from investors for other seemingly spectacular side projects. In retrospect, Musk’s acquisition of X, partially financed from his own personal fortune, represents his hitherto most rewarding side project despite the platform’s commercial troubles. Musk’s financial and infrastructural support of Donald Trump helped boost the latter’s campaign, and Trump’s ultimate win seems to have put Musk in a position of unprecedented political power, which in turn has had a significant upward impact on Tesla stock valuations.

In conclusion, the extent and modes of financialisation at work around Tesla are profound, amplified and defended through the digital sphere. Ultimately, the giant Tesla-financial complex cannot be understood without considering the various moving parts detailed above, coming together in a larger macroeconomic environment of ‘Big Techification’ (Hendrikse et al., 2022), low interest rates, and a wall of money seeking (greener) returns. Short sellers quickly became suspicious of these circumstances, taking out massive bets against the company. With interest rates rising, fuelling the fall of the company’s stock over the later part of 2022 and seemingly proving the short sellers right, the 2023 and 2024 upturns of the stock has put them back into serious financial trouble. As the conjuncture described here is shifting once again, the question is how long Musk and his followers can keep investors, large and small, on board to buy into Tesla’s spectacular trajectory, or whether (and when) the time arrives that they experience a change of heart. If anything has become clear from our attempt to disentangle the drivers behind Tesla’s ups and downs, it is that bold predictions are likely to age badly. That said, looking back on Tesla’s financial rollercoaster might serve social scientists well as a window into future conjunctures and transformations.

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## Notes

1. See Elder (2023a, 2023b) for examples.
2. On the dominance of US finance capital regarding corporate ownership, see Gibadullina (2024).
3. For example, Rudolf Hilferding, 1955[1910]: 144) theorised the economic category of ‘Gründergewinn’ (*founder’s profit*) around the time of Veblen’s writing, which ‘amounted to capitalised future profit of enterprise’ (Lapavistas, 2013: 58) whenever equity would first be emitted.
4. See Dal Maso (2023) on ‘memed’ investor exuberance and stock market volatility in China.
5. While we choose the IPO date as our starting point of analysis, it is important to highlight that Tesla was founded in 2003 by Martin Eberhard and Marc Tarpenning, joined by investor Musk a year later. A bitter debate and subsequent settled lawsuit in 2009 assured Elon Musk would be credited as ‘co-founder’.
6. By now, in 2024, Tesla is also generating significant revenue streams from its battery production, electricity production, and electricity trade. While its carbon trade has become a well-known source of revenue, the latter three emerged more recently as important sources.
7. The log<sub>2</sub> scale is useful for highlighting the periods of extreme appreciation.
8. At its 2010 IPO, Tesla shares were priced at \$17. The numbers provided throughout this article refer to recalculated values following the 2020 and 2022 stock splits.
9. The ratio of 1,120 is the result of the stock prices (\$235) divided by earnings per share of \$0.21 on December 31, 2020. Toward the end of 2020, major automotive firms such as Ford (0, due to a net loss), Toyota (14.3), or Volkswagen (9.2), as well as internet technology companies such as Apple (35.3), Alphabet (29.9), and even Amazon (75.1), traded at much lower multiples. All numbers come from financial news outlets <www.macrotrends.net>; <www.marketwatch.com>; and <www.companiesmarketcap.com>.
10. In 2024, Hertz again announced it would shrink its electric fleet, citing escalating depreciation costs due to price cuts for new EVs as well as relatively higher repair costs (Ewing, 2024).
11. Reports on serious technical and safety problems with the autopilot system are only the latest manifestation of this (Siddiqui et al., 2022; Spector and Levine, 2021). Another singular promise of the company has been that Tesla car owners – like owners of Tesla stock – can make a bet on the future earning potential of their vehicle. When autonomous driving arrives, they would be able to use Tesla vehicles as robotaxis earning them passive income (Stangel, 2019).
12. The tweet led to an inquiry by the Securities and Exchange Commission (SEC), resulting in Musk’s removal as chairman, a \$40 million fine, and the installation of a ‘Twitter sitter’ overseeing Musk’s social media communication (Securities and Exchange Commission, 2018). As of February 2023, the SEC deems the latter still necessary in the face of Musk’s legal attempt to exit the agreement (Rosenblatt, 2023).
13. In 2010, Tesla received about \$465 million in low-interest loans from the US Department of Energy to accelerate the production of affordable, fuel-efficient electric vehicles’ (Tesla Motors, Inc., 2010). The money went into the production of the Model S and the building of a powertrain manufacturing plant. Tesla has seen other forms of government support, such as regulatory credits for producing zero-emissions vehicles, state and local subsidies for building factories, and, indirectly, electric vehicles tax credits for consumers (see also Niedermeyer, 2020). As the leading EV producer, it was also well-positioned to benefit from the 2022 Inflation Reduction Act. Musk’s move to support Donald Trump during the 2024 election and his ascent to Trump’s inner circle is further proof of how Musk systematically capitalises on government access and state support.
14. For example, see Bhuiyan (2022), Crandall et al. (2021), and Minchin (2021).
15. The importance of this narrative and the new social media context through which it circulates is further elaborated in Niedermeyer (2020), and more recently, in Paris Marx’s (2023) four-part podcast series on Musk.
16. In late 2019, established brokerages such as Charles Schwab and TD Ameritrade abolished commissions for their customers, responding to Robinhood’s ‘maverick’ practices since the mid-2010s (Aggarwal et al., 2024: 1393).
17. Note that, however, Dhruv Aggarwal et al. (2024: 1413) explicitly argue that ‘Tesla has been excluded from most academic analyses of meme stocks since it differs from AMC, GameStop, and others in crucial ways (by, for example, having a credible business model and sufficient analyst coverage that could plausibly explain the stock’s success instead of online coordination by meme investors)’. This does not mean, of course, that retail-investor ‘momentum’ has been of no importance in the case of Tesla.
18. For a closer look at the run-up following the August 2020 stock split, see Cornell (2020b).

19. According to stock ownership data from Refinitiv Eikon (retrieved September 2022).
20. When a stock option vests, it means that it is available to exercise.
21. EBITDA stands for earnings before interest, taxes, depreciation, and amortisation.
22. In his *Financial Times* coverage of the event, Morris (2024) reports that ‘attendees lined up to sign a “Don’t mess with Tesla retail shareholders” flag’. Other journalists reported ‘that Tesla succeeded in getting retail investors, who were overwhelmingly supportive of Musk, to vote in far greater numbers than they usually do’ (Sorkin et al., 2024).

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