Finance and Society (2024), 1–24
doi:10.1017/fas.2024.1

RESEARCH ARTICLE

The rapacious ambivalence of VC investment: Venture capital, value capture, and the valorization of crisis

Mark Howard

Department of Politics, University of California Santa Cruz, Santa Cruz, CA, USA
Email: mrhoward@ucsc.edu

Abstract

This article explores venture capital (VC) as a means and process of accumulating future social necessity. It explores the mechanisms of growth that make VC-backed firms distinct. I argue that a distinctive feature of surplus value capture through VC is valorization via *socially necessary contracted space-time*, a corrective to Marx's theorization of socially necessary labor time, which appears incomplete in the context of VC. First, extending Marx's general formula for capital, I develop a general formula for VC, demonstrating how the VC investment upends traditional theories of capitalist accumulation. Second, I argue that VC invests in firms seeking to capture 'human capital' resources and uncapitalized market 'space' (noncapitalist social logics of exchange) with the aim of achieving 'product-market fit'. Third, I demonstrate how time and space are contracted under the VC process as a value capture (VC) mechanism relating to future social necessity. VC is, I argue, about accumulating today what we will all need to be consuming tomorrow, just to keep up with social norms. Finally, I explore how the valorization of crisis (VC) demonstrates the accumulation of future social necessity in practice. I conclude with thoughts concerning the possibility of alternatives beyond the overdetermined rapacity of 'VC'.

Keywords: critical finance studies; innovation; Silicon Valley; value theory; venture capital

Introduction: Everywhere, nowhere, all at once

By the time the World Health Organization (WHO) announced on March 11, 2020, that the global health crisis surrounding COVID-19 was to be designated as a pandemic, Moderna was already in action. It had already more than two weeks prior sent the first batch of its messenger RNA vaccine (mRNA-1273) to the National Institute for Health (NIH) for a phase 1 study on human subjects in the US, having received the virus's genetic sequences only 42 days earlier when the WHO made them public and while the virus's spread was still thought to be contained within the East Asian region.

Moderna was not the only actor moving quickly – Pfizer, in partnership with BioNTech, had also developed an mRNA vaccine and was advancing to clinical trials apace. What makes the Moderna case remarkable, however, is that when mRNA-1273 came to market in late 2020, having received emergency use authorization from the FDA and a $1.5 billion preorder from the Trump administration, it constituted the first product Moderna had ever released in its decade long history, despite the fact Moderna had, almost two years prior, been subject to the largest biotech IPO (initial public offering) in history (Mukherjee, 2018; Pflanzer, 2018). Even more remarkable is that from at least 2016 up until well after

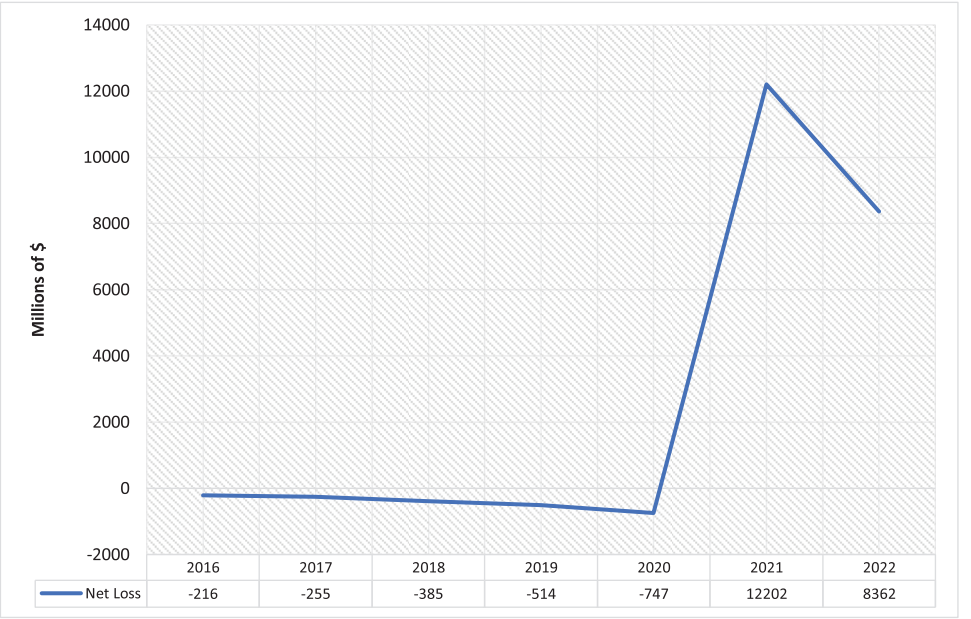

Figure 1. Moderna Therapeutics net loss.
Source: Moderna Annual Financial Reports.

the release of mRNA-1273, Moderna's annual net operating loss could be counted in the hundreds of millions, with a peak loss of $747 million in 2020.

By 2021, however, the story looks very different. That year, Moderna reported a $12.2 billion profit, followed by $8.4 billion in 2022. The resulting pattern is illustrated in Figure 1.

The clue to understanding how a company without a profit, running at a massive loss, might garner the largest pool of public investment in its industry's history lies in Moderna's path as a venture-backed company. As it happens, Moderna is more than that: it was conceived in what is commonly known as a 'venture studio'. Meaning, a group of venture capitalists (VCs) at Flagship Pioneering (a biotech VC firm) sat together over a decade ago and came up with some ideas about what might be a profitable company, then proceeded to raise and invest over $2.7 billion toward that idea while running at a massive loss, feasibly on the wager that something like the COVID-19 pandemic might come along (Glasner, 2020). But here is the thing: the VC model of investment, accumulation, and profit, which typically ends with an exit event (IPO, acquisition, or wind-down), did not depend on the pandemic at all. All that was required was its possibility.[1] In theory, by the time COVID-19 happened, VCs had long left the scene, having moved on to their next investment in future possibility.

The crucial feature of this story is that it is not atypical. Massive IPOs often happen for unprofitable companies – Amazon, Twitter, Snap, Spotify, Lyft, Peloton, and Uber all went public while operating at a (sometimes massive) loss. Some are still immensely unprofitable. Amazon, which holds something approximating a monopoly in online retail, ran at a loss until 2003, six years after going public, and didn't have profits exceeding $1 billion until 2016 (it posted a $2.7 billion loss in 2022). Uber runs at multibillion-dollar losses every year and has done so since going public. And Peloton, despite modest profits at the height of the pandemic, has also consistently run at a loss ranging from millions to billions. In every case, VC investors made a mint at the point of exit, regardless of whether some financially prophesied future event ever occurred in reality.

https://doi.org/10.1017/fas.2024.1 Published online by Cambridge University Press

When such events do occur, be they pandemics or any other type of crises, VC – venture capital, value capture, and the valorization of crisis – is both nowhere and everywhere to be seen. Given that VC is often held up to be a socially necessary ingredient of competition through innovation and is sometimes described as the 'fuel' of technological progress, it might be expected that VC would be a key actor during crises, helping us carve a technological path to safety and stability.[2] But VC does not typically react to events – it prepares for their possibility.[3]

Characterized by a combination of temporal displacement and spatial convergence – space-time contraction – VC employs the finance mechanism to act in the past future (our present) while exploiting globalization to apply these actions to markets with full planetary scope. Often described as 'risk capital' for its attachment to inchoate ideas with no certainty of realization, VC is an exemplary demonstration of the risk society: the actual future is irrelevant, and only imagined futures matter (Beck, 2009; 1992; 1999). And from the standpoint of both social and capitalist accumulation, matter they do, for VC is, at root, a process for accumulating perceived or actual future social necessity. Consequently, when crises occur and options are limited, mRNA vaccines and online retail seem like remarkable conveniences to have lying around and acquire an air of both brilliance and necessity. However, while some may cry 'what a time to be alive!', the story is more insidious and problematic; for when the accumulation of future social necessity is a *fait accompli* achieved in the past future through the triumph of monopolist value capture, the question must be asked: did we really have options at all?

To explain how and why VC acts and produces the outcomes it does, this paper formalizes and explores the VC process in four parts. First, as a critical supplement to Marx's general formula for capital, I present a model of VC accumulation and argue that in the short term, the product of VC is neither commodities nor profits, but *growth*. Second, I unpack the notion of growth, describing it as the accumulation of both human capital and uncapitalized market space pursued with the aim of achieving 'product-market fit'. Third, I develop the general model for VC by exploring its 'value capture' mechanism, arguing it is rooted in the accumulation of future social necessity. VC, I maintain, is about accumulating today what we will need to be consuming tomorrow, just to keep up with social norms and obligations. Finally, I explore how the valorization of crisis offers one way of demonstrating how the accumulation of future social necessity is operationalized in practice. I conclude with some thoughts about the possibility of alternative futures beyond the overdetermined rapacity of 'VC'.

The general formula for venture capital

The general pattern of VC accumulation may be expressed as a subroutine of Marx's general formula for capitalist accumulation (see Figure 2). In Marx's original formalization, capital accumulation occurs when money (M) is used to buy the raw materials and labor power used to produce commodities (C), which are then sold for a greater sum of money (M'). The difference between the initial M that began the process and the M' that ends it is considered net profit. To continue acting as capital the money accumulated (M') must be reintroduced into the process to begin the cycle anew. In sum, Marx's general formula for capital may be expressed as M-C-M' (Marx, 1976: 247–57).

At each stage of the general formula, a would-be capitalist faces problems that may inhibit the realization of accumulation. First, the bearer of money capital (M) must be able to both find and purchase the requisite input commodities (C) – raw materials, labor power, machinery – required to initiate production and thus complete the sequence M-C. This presumes a ready supply of inputs available on the market. Second, the capitalist must be able to convert those input commodities (C) into output commodities (C') through the

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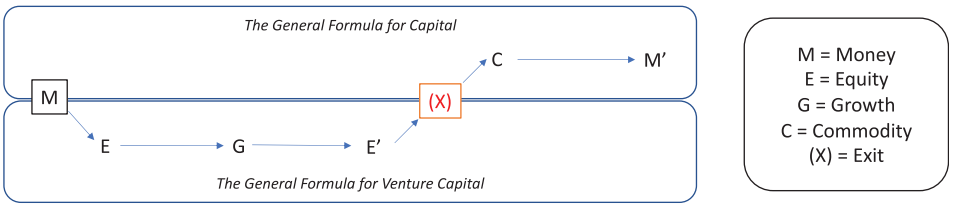

Figure 2. The general formula for venture capital.

production process itself. And finally, these commodities (C') must be sold on the market for a greater sum than the initial money (M) forwarded plus all the costs involved in the production process (C'-M'). As Marx says in *Capital, Volume II*:

> The circuit of capital proceeds normally only as long as its various phases pass into each other without delay. If capital comes to a standstill in the first phase, M-C, money capital forms into a hoard; if this happens in the production phase, the means of production cease to function and labour-power remains unoccupied; if in the last phase, C'-M', unsaleable stocks of commodities obstruct the flow of circulation. (Marx, 1992: 133)

The key problem with this statement from the perspective of VC is the qualifier 'without delay'. While historically the credit system and, today, mass financialization, have alleviated Marx's realization problem by allowing investors to 'buy time' on investments, such instruments have traditionally been used to provide short-term liquidity and valorization opportunities for relatively illiquid assets over time; they provide an avenue for investors with sunk M to obtain market liquidity in the present, while they await the realization of valorization on sunk capital through the appreciation of some underlying asset (Meister, 2021: 21–6; Konings, 2018; Adkins, Cooper, and Konings, 2020).

VC investments are, however, long-term commitments in generally illiquid assets that have no obvious short-term liquidity option. A General Partner (GP) at a VC firm (whom we will simply refer to as the VC), investing on behalf of Limited Partners (LPs) from a pre-established fund, will take a sum of money capital (M) to invest in a startup with high-growth potential by purchasing equity (E) in that firm. The expectation is that this investment in E will be valorized over a period of anywhere from around 5 to 10 years, though in extreme cases, early-stage funds have been known to stay active for up to 20 years (Feld and Mendelson, 2019: 175–6; Kupor, 2019: 65). As should be clear, this scenario produces significant delay.

Furthermore, unlike in the general formula for capital, the immediate product in this subroutine is not the commodity (C), but growth (G). Meaning, in exchange for capital (M), a firm's agents (hereafter referred to as either 'entrepreneurs' or 'founders') are expected to deliver G, which will in turn valorize the initial equity (E) as E'. This forms its own internal circuit, E-G-E', and represents the general formula for venture capital in its most abstract form. In fact, as can be seen in Figure 3, VC investment takes place in the context of a portfolio of investments, wherein the requirement for a valorized outcome (E') only occurs at the level of the fund or portfolio as a whole. In any case, Marx's realization problem is seemingly deferred for up to 10 years or more, while production in the form of growth (G) is substituted for commodities (C), and accumulation in the form of equity (E') is substituted for profit (M').

Crucially, the deferral of profit realization is not an anomaly but is rather a feature of the VC process itself. According to PitchBook data, of all the VC-backed private companies it has on record, 87 percent are classified as revenue generating but unprofitable. Even

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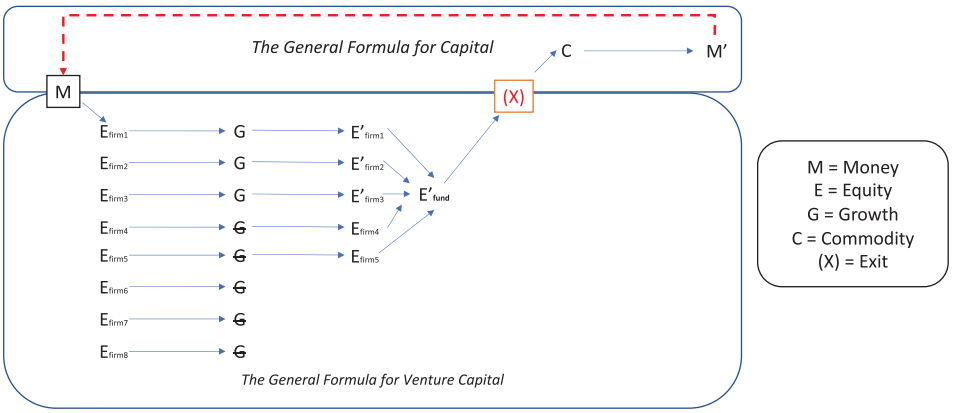

Figure 3. The general formula for venture capital (portfolio/fund view).

more remarkable is that 27 percent of these unprofitable companies are categorized as being 'late-stage' (PitchBook Data, n.d.). In some cases, even revenue is deferred, and often this can go on for many years. As one VC put it to me: 'If a company was profitable, it wouldn't need venture capital'.

The internal circuit of the VC process ends with the exit event ((X)), which occurs on a per-firm basis via either public offering (IPO), acquisition, or wind-down, and at the point of which the VC will typically divest themselves of all interest in the firm.[4] While this event theoretically forms part of the internal form of the VC process and we could feasibly express the general formula for VC as E-G-E'-(X), the exit event should be considered a threshold marker between VC and its external relation to the general formula for capital. Exit ((X)) therefore applies just as much to the general formula for capital (which might be completed as (X)-C-M') as it does to VC. The exit event is, as such, both internal and external to the general formula for VC, hence why this formula is described as a *subroutine* of the general formula for capital and not expressed on its own terms. Understood as a full sequence, the VC accumulation process may therefore be expressed: M-E-G-E'-(X)-C-M'. And thus while commentators such as famed VC-turned-academic William Janeway (2018: 81) claim that if you 'substitute "company" for "commodity" [in M-C-M'] you have ... the charter of the professional venture capitalist', this oversimplifies the matter profoundly. To say as much is to gloss over the implication that in the context of VC, ownership (E) of the company (startup) has *itself* become the commodity.

While this may seem like mere semantics, the consequences are significant. First, to suggest that VCs invest in companies so as to then sell them for more money, while not strictly false, is to suggest that VC has an interest in the company rather than in its growth potential as a portfolio asset (Cooiman, 2024: 593). In the latter case, despite VC claims about the social value of their endeavors, if the company is itself commodified, then it has, via the investment process (from an investor's perspective), been stripped of all use-value and reduced to its (future) exchange-value proposition. In this context, then, we can see a formal parallel between the general formulas for capital and VC: just as money (M) is but a special, *universal*, expression of the commodity (C) form, so too is equity (E) nothing but a special, *universal*, expression of the growth (G) outcome. In both cases, the former (E/M) is characterized by the fact that its use-value *is* its exchange-value, notwithstanding the key distinction that while M is pure liquidity, E is in principle illiquid.

The significance of this is that while there is the condition that a startup must grow exponentially to become either a behemoth of industry or be sold to one,[5] the actual character of that startup – the actual social benefit or harm it produces, which given the

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growth trajectory of that company may be significant on a global scale – is abridged from consideration in the value proposition. Beyond the exit event, the growth trajectory of the firm is entirely irrelevant from a VC standpoint, and this therefore produces a moral hazard.[6] The incentive for VC to produce and buttress world-defining corporate actors needs to pay no heed to the world definition contained within the vision and actions of those corporations.

The second reason, then, why we should not simplify the VC process in the manner of Janeway does is that even when we expand the process to M-E-G-E'-(X)-C-M', we still discover very little about the content character of either E or G. All we know is that E is the universal symbol of value related to G, which is in turn a symbol of some underlying valorization process. Evidently, for the movement M-E to take place in the first instance, there must be an assumption of E-G. Moreover, while E' is not necessarily guaranteed by the movement E-G, it is sufficient to say that the realization of E' implies E-G. Thus Marx's realization problem is not eliminated, but *deferred* or *suspended* – ultimately, the realization of M' depends on the realization of E', which in turn depends on the movement E-G. Understanding how E-G produces M' *without* the requirement to produce underlying profits is therefore crucial to understanding the entire VC process. Not only may valorization take place without any profit realization for the underlying company, but the satisfactory realization of M-C-M' may take many years including up to and beyond a decade. At the point of exit E' is valued as a commodity based not merely on the historical trajectory of E-G but also on some speculative assumption of E'-G occurring in the future. That is, the value of E' as C is measured in terms of its future growth potential beyond the point of exit, the reality of which is – abstracting from exceptional cases – entirely immaterial to the VC process.[7] Naturally, the *appearance* of E'-G is crucial for the VC process to exit successfully and in a way that maximizes M'; however, the reality beyond exit is irrelevant.[8]

Capturing uncapitalized market space

To unlock the VC process, we must interpret the meaning of E, which entails understanding the substance of G. Just as Marx (1992) explores the meaning of value via the commodity, we must do so with growth (G). It is by interrogating the commodity's dual structure as both use-value and exchange-value that Marx presents the theory of surplus value extraction and from that observation logically deduces the substance of value as 'socially necessary labor time' (SNLT).[9] However, in startup-based equity financing, SNLT is incomplete as a theory of value.

The first problem arises from startup employees' ambivalent status as both workers and – as holders of equity options – capitalists. If the labor power employed to grow a startup increases the value of the equity held by laborers, then it becomes hard to demonstrate exploitation or a process of surplus value extraction that does not simply return surplus value to those laborers. This thereby negates or diminishes its status as 'surplus' value.

The second issue with SNLT as an explanation for VC valorization, particularly considering the diminution of labor exploitation as a factor in surplus value creation, is the high valuations awarded to such companies. Prominent VCs argue that only potential 'unicorns' – private firms with a valuation of $1 billion or more – should be part of a portfolio of investments (e.g., Thiel and Masters, 2014: 86). Coined in 2013, the term 'unicorn' was introduced to denote the mythical, magical, impossibility of such entities existing (even though they obviously did exist), and yet by 2022, unicorns had become so common that commentators were calling for a new term – 'dragons' – to be introduced for companies privately valued at $12 billion or more (Primack, 2021).

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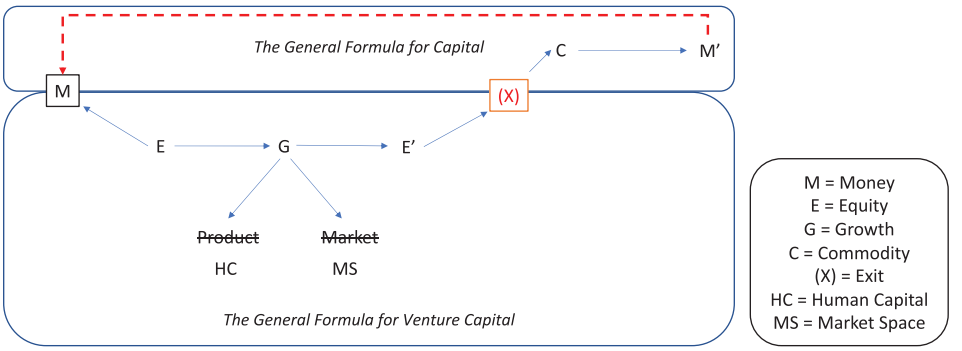

Figure 4. The general formula for venture capital (product-market fit).

The puzzle, then, is how to explain unprecedentedly high valuations for privately backed startups that delay the realization of monetary profit for many years while avoiding excessive labor exploitation. Can G, as a factor of E, explain this?

Traditional methods of valuation, such as discounted cash flow (DCF) and 'comparable company' analyses – based on projected future cash flows and analogous firms respectively – are mostly inadequate for VC given the generally un-operationalized novelty of a startup's value proposition. Ultimately, VC-backed valuations are driven not by quantitative rigor but by 'gut feel' grounded in social factors such as the level of competing investor interest and hype – all of which could be summarized as 'fear of missing out' (FOMO).[10] Sometimes, it is expressed as the 'what do I need to believe' method (Kupor, 2019: 153; Lenhard, 2021). But what is such belief based upon? Potential indicators of growth include the rate of acquiring customers or partners, the caliber of the team, established distribution agreements, vast unmet market demand, a probable monetization path, and even occasionally demonstrated revenue growth. But no one of these factors is alone sufficient or necessary. What unites them is their utility in forming a picture of potential 'product-market fit' – the holy grail of startup success.

The term product-market fit (originally attributed to Andy Rachleff) was popularized by Marc Andreesen in a blog post entitled 'The Only Thing that Matters' (Andreessen, 2007). Andreesen begins with the three elements of a startup: team, product, and market. Of these, 'market' is most important – without it, everything is futile. 'Product' is bottom of the pile with 'team' in second place. Andreesen justifies his rationale by quoting Rachleff: 'When a great team meets a lousy market, market wins. When a lousy team meets a great market, market wins. When a great team meets a great market, something special happens' (Andreessen, 2007).

The thing is, product-market fit is an aspirational goal rather than an explanation of growth (G). It is the goal to be achieved (by sufficient approximation),[11] a measure of success represented as E', not G. The implication is that the drive *toward* product-market fit defines the substance of the growth (G) process. Thus, I propose that the value capture mechanism underlying growth (G) not be expressed simply as product-market fit, but rather as the accumulation and valorization of human capital (HC) and market space (MS) (see Figure 4).

Growth as the accumulation and valorization of human capital

HC may be conceptualized in two ways: as general HC, pertaining to generalized life experiences (including education), and specific HC, obtained from experience and education relating to specialized activities (Becker, 1964; De Clercq and Dimov, 2012: 102).[12] In terms of VC, there are likewise two dimensions to consider. First, the introduction of new

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HC via the establishment of a VC-entrepreneur relationship codified with the signing of a 'term sheet',[13] what we might call HC valorization in absolute (quantitatively additive) terms. Second, the elevation of existing HC via the mentoring, governance, and network access afforded to members of the VC-HC community.[14] We may call this scenario the relative (qualitative) valorization of HC, and it applies as much to existing VCs and members of the entrepreneurial community as to neophyte entrepreneurs. In both absolute and relative terms, the goal is to capture and valorize the most talented HC as HC' across the network and to combine old and new experiences, know-how (including, naturally, technical or scientific knowledge), and action toward the goal of producing maximally valuable outcomes (i.e., products and their various iterations) in terms of capital accumulation.

By combining these elements, a venture maximizes the means available for product creation and iteration.[15] Although identifying the right market is a prerequisite and often requires the deliberative vision of an experienced VC, having the right team increases the probability of unearthing the right combination of elements to approximate the fulfillment of perceived unmet market demand (Nicholas, 2019: 198–9; Mallaby, 2022: 186). The priority of 'team' over 'product' is evidenced by the common practice of 'pivoting', whereby the original product (and occasionally market) proposed by a founding team is not the product (or market) that eventuates as the realization of E' (Christensen, 2016: 155). Famous VC-backed pivots include Twitter, Slack, YouTube, Instagram, Flickr, and Yelp. Furthermore, successful entrepreneurs, or 'proven HC', can provide additional long-term value by de-risking future VC financings. When Mosaic Ventures, for instance, performed an analysis of 200 unicorn founders, it discovered that two in three were serial entrepreneurs (*The Economist*, 2022), a point that emphasizes why the 'capture' of HC is not just about immediate gain but also long-term valorization of the network – a feedback loop that increases the HC value of the VC ecosystem for both future investors and founders.[16]

Growth as the accumulation and valorization of market space

So far, the accumulation of HC has been represented in its internal relation to the VC process, in relation to HC producers. There is also, however, a human collection dynamic external to the VC process: the capture of humans as consumers. In some, but not all cases, this may be literally represented as the accumulation of HC, but this is not a universal trait. Thus, we cannot refer to this as HC but must use a different term. I refer to this as 'market space'.

The clue to understanding market space can be derived from the phrase 'total addressable market' (TAM), an industry term used to measure or assess the size of potential markets for new ventures. The notion of 'addressability' here points to the spatial dynamics of markets still in formation. Whereas economists, financiers, and VCs often use the term 'market share' to denote capitalist expansion into markets, the term 'market space' better captures the essence of markets in the context of VC, for the former denotes an achievement and the latter a possibility. Market share refers to *already* captured market space and therefore cannot be used to explain growth (G) in our model.[17]

The alternative, market space, may be 'found', as is the case with new markets, or produced, as is the case with both new and 'disrupted' markets.[18] The goal in any case is to mobilize HC (supply) and potential MS (demand) toward a new value capture opportunity and to avoid – where possible – engaging in competition. As infamous VC Peter Thiel puts it, 'Competition Is for Losers' (Thiel, 2014). The goal of a new venture should be to build (ideally before anyone notices) a small monopoly – to colonize a small segment of market space – and then expand (G) that monopoly into adjacent market space.[19] By monopolizing small, you avoid early competition. This, Thiel observes, is how Facebook achieved global dominance in social media: it started with Harvard students, expanded to other college campuses, and only then expanded into society. Through this method, Facebook was able to grow and iterate its product while avoiding competition (Thiel and Masters, 2014: 50).

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By the time it encountered its first real threat – Instagram – it had enough market power to simply expand its market space by absorbing the competition through acquisition (an exit, from the perspective of Instagram) (Rusli, 2012).

Promoting monopolization should not be misinterpreted as a fringe view. The international bestseller *Blue Ocean Strategy: How to Create Uncontested Market Space and Make the Competition Irrelevant*, for instance, offers almost identical recommendations to would-be entrepreneurs and executives. Here, a distinction is made between the red 'bloody' oceans of competition constituting *known* market space and the blue oceans of *unknown* market space ripe for the (supposedly peaceful) taking (Kim and Mauborgne, 2015: ix, 4). Nevertheless, the principle is the same: find and dominate uncontested market 'space'.

If the frontier metaphors in this description are not immediately apparent, then the authors of *Blue Ocean Strategy* make it explicit via something called the 'pioneer-migrator-settler' (PMS) map.[20] In this model, pioneers 'create' blue oceans by 'pushing value to new frontiers', settlers operate in red oceans producing value conforming to established industries, and migrators move between the two spaces (Kim and Mauborgne, 2015: 98–9). As we know from the history of frontier colonization, pioneers, feeding off the social power of their bounty, quickly become settlers and use their power to hobble the realization of alternative possibilities. Furthermore, 'blue oceans' are rarely as uninhabited as they are presented. What we are really talking about is not uninhabited, but *uncapitalized*, space, which invokes both Marx's argument concerning 'So-Called Primitive Accumulation' (Marx, 1976: 871–940) and David Harvey's (2004) theory of 'Accumulation by Dispossession'. The latter, which describes an ongoing process, is a corrective to the former, which characterized the taking possession of 'space' as a (bloody) onetime act. In both cases, however, the argument is that capital is not *created* in the first instance but *taken* and then valorized through an accumulation process. The origin story of every capitalized resource involves the transfer of uncapitalized space into the capital process, and according to Harvey (2001), when capital runs out of physical space, it must either find new space to take possession of, or it must destroy existing space to make way for new avenues of valorization and accumulation. Here, then, we have a parallel to the creation and disruption of market space.

In the context of VC, dimensions of space are multitudinous and proliferating greenfields. Consider, for example: cyberspace, outer space, atmospheric space, air space, sea space, subterranean space, genomic space, and attention space (i.e., span). Many of these 'spaces', segmented into smaller monopolizable opportunities, are spaces that – until capitalized – we may not even realize are (or were) sites for accumulation.[21] Thus, the day may come when we seek to go about our everyday lives, dwelling in spaces we are familiar with, only to discover the accumulation of those spaces by capital is a *fait accompli*.

Consider the so-called 'metaverse'; while virtual and augmented reality (VR/AR) may seem like a fanciful distraction in a world of oil mining, hedge funds, and online retail, for many investors and entrepreneurs, it is a new gold rush. Meta (formerly Facebook) is just one actor in this scramble, alongside names such as Somnium, The Sandbox, Decentraland, and Cryptovoxels (the 'big four' in metaverse real estate). These startups are taking possession of metaverse space on the wager that one day, others – potentially all of us – will have an interest in dwelling in that space. But by then, to 'dwell' in such space will be impossible; all we will be able to do is 'consume'. Other startups, such as SuperWorld and Upland, are taking an AR approach to spatial accumulation, selling real-world addresses and landmarks as virtual parcels to private speculators (Statt, 2022). It could be that your house or local park has already been dispossessed, valorized, and sold in the metaverse. Thus, by the time future generations take an interest, or governments and legislators have been engaged, *de facto* property rights will have already been established and by the course of history will become *de jure*. As Jack Dorsey (2021), founder of Twitter put it: 'You don't own "web3". The VCs and their LPs do. It will never escape their incentives. It's ultimately a centralized entity with a different label'.

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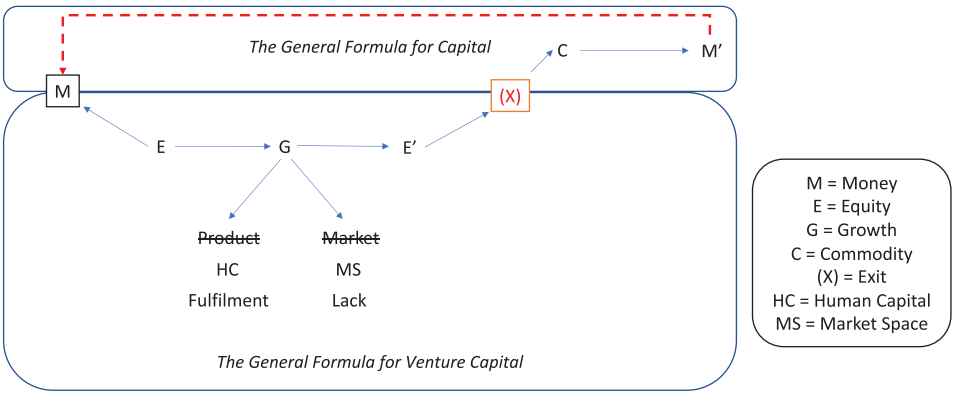

Figure 5. The general formula for venture capital (desire basis).

The accumulation of future social necessity

It remains to be explained *how* a market may be rendered in spatial terms. To address this topic, note two features relating to the accumulation of market space via VC: (1) market space is empty until occupied (and becomes market share), and (2) VC accumulation does not occur in the present, but the past and present future. Accordingly, there are both spatial and temporal dimensions to VC accumulation.

Figure 5 adds an additional layer to the general formula for VC. In this new expansion, MS is translated as lack and HC as fulfillment – that is, a market is produced when some perceived human lack (demand) is met with an approximation of fulfillment (supply).[22] Thus, market space is conceptualized around a mapping of socially shared lack, and the size of that market is the sum of individual consumers potentially interested in having that lack fulfilled.[23]

The problem with lack, and of discovering 'new' lack, is that beyond basic sustenance, shelter, clothing, and social interaction, all lack is historically and socially contingent. It pertains, that is, to the interminable list of human wants. We might need water to survive, but we do not need to drink products other than water – we *want* them. And we only want them because they exist in the first place.

We are now in the realm of human (consumer) desire and its confused (in)ability to distinguish between wants and needs. Marx supposedly asserted that English workers need beer, just as the French proletariat need wine (Althusser, 2014: 50). But while the word 'need' is here invoked, what is truly being denoted is *social* necessity, not human need as such, but social need – that which is required to participate in society at a given moment in history. Crucially, when particular wants become the primary means of engaging with social norms, those wants become the historical minimum for social reproduction and adopt the false appearance of *need*. To mis-paraphrase Marx: they know everyone does it, so they do it as well.

Consider a concrete example relating to VC investment. Electric vehicles (EVs), such as Tesla, Rivian, or Lucid, are becoming a social necessity due to both the impending impacts of climate change and now, as a result of those impacts, widespread legislation to phase out the production and sale of gasoline-based vehicles. In some locations, bills are being proposed to phase out gasoline filling stations altogether (in conjunction with government funding of EV charging station infrastructure), making it essential that one must, at some point, purchase an EV or not drive at all (Asiedu, 2022; Lopez, 2022; Jenkins, 2022). Investment in EVs today, therefore, is an investment in a socially necessary future, as is investment in products utilizing the latest battery or charging technologies underpinning the transition to an EV mass market.

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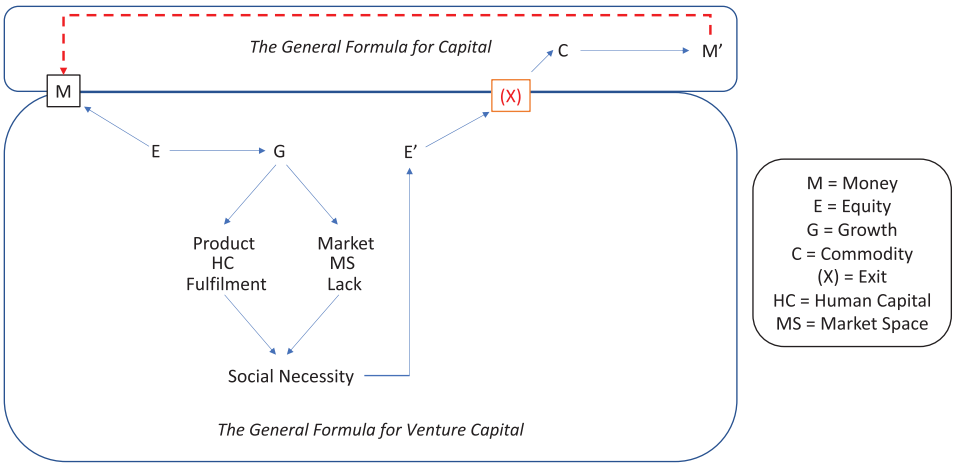

Figure 6. The general formula for venture capital (social necessity).

Wherever you look across the vast range of VC interests, you will find a process seeking to valorize today what has a probability of being socially necessary tomorrow, whether it be floating cities to hedge against rising sea levels (Minter, 2022), virtual reality headsets to escape from increasingly widespread social ennui, digital and home-care health services to fill the gap left by neoliberal public healthcare reforms, mRNA therapeutics to aid off whatever seasonal viruses may threaten social reproduction in future, carbon removal systems to fill the shortfall of emissions reductions fossil fuel capitalism cannot countenance, generative AI to help us think apace with others, or anything else you can imagine (Condra, 2022). And VCs are frequently explicit about this being their aim. Consider Josh Wolfe of Lux Capital, who describes his investment in Kurion (a nuclear cleanup robotics company) as meeting an 'unmet, inevitable need with no solution in sight' (Wolfe, n.d.),[24] or Harold Callais of Callais Capital, who claims his firm's mission is to invest in 'startups ... poised to take advantage of long-term inevitable trends' (Maloney, 2022). Again and again, the appeal is to *inevitability*, to the extent that one firm even named itself 'Inevitable Ventures'.

The point is that when product-market fit has supposedly been achieved due to some (perceived or produced) lack being fulfilled, the product that fulfills it (and is continuously iterated to renew and reproduce that fulfillment) will appear as a socially necessary good (regardless of negative spillovers). Hence, the appearance of this achievement appears to be the endpoint of the valorization process (G) and the primary source of E' (see Figure 6).

However, there is a twist, for the actuality of establishing dominance over some future social necessity need only be *implied* for the VC process to realize valorization, and *this* is the secret to why G is crucial to the function of E'.

Contracted time: The voice of exit

The goal of growth (G) is to facilitate the projection of valorization into the future and to imply a particular product that will serve as the dominant means of fulfilling some future social necessity. As illustrated by Moderna, whether social necessity is realized or merely projected is immaterial from the perspective of a VC process with a terminal exit point. What matters is the exit valuation; whether Marx's general formula can be driven to its conclusion (M') and the cycle can begin anew.

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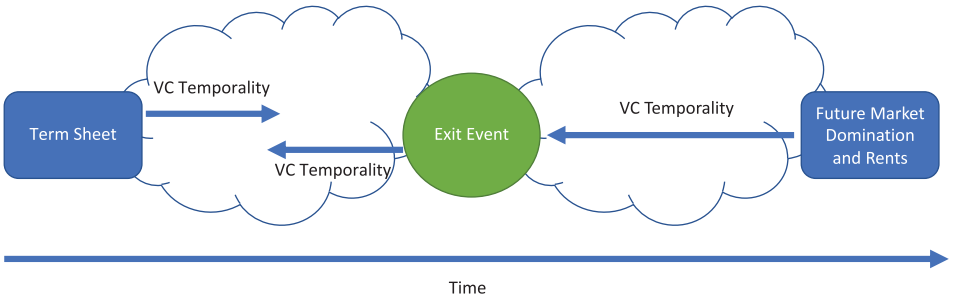

Figure 7. Contracted time: The voice of exit.

Figure 7 illustrates how the VC process achieves its valorization goals, either in actuality or via the mere probability of achieving socially necessary fulfillment in the future. Note that for the duration of the VC process leading up to the exit event, time is neither cyclical nor strictly secular.[25] The temporal horizon structuring the VC process is, rather, a time that *contracts*.[26] As soon as an entrepreneurial team receives VC funds, a figurative clock begins ticking. GPs, recall, must return invested capital to their LPs by the end of a fund's lifetime (typically 10 years), inducing founder-entrepreneurs to develop an exit strategy (acquisition or IPO) from the outset (Kerrest, 2022).

Entrepreneurial action is thus doubly contracted: VC-backed entrepreneurs are legally *contracted* to a *contracting* temporal structure. It is contracted time that helps explain why growth (G) – or 'hypergrowth' in VC parlance – becomes the product startups must produce. Regardless of the world-benefiting aims an entrepreneur may begin with, the disciplinary effects of an approaching exit determine that all use-value propositions must be subordinated to the goal of growth (G) as a product supporting the eventual exchange-value of the venture (E' commodified so that M' may be realized). Once contracted to the VC process, an entrepreneur has no escape aside from the inevitable exit event (including wind-down or bankruptcy), and the imperatives for that event need to coincide in no way with the imperatives of a startup's social or business goals.[27] Form dominates content.

Such is the nature of contracted time *internal* to the VC process. Contracted time also, however, relates to exit's external relation to some potential future event. This future event is the achievement of social necessity which, from a content perspective, pertains to the achievement of product-market fit, and from a form perspective, pertains to the achievement of market dominance or 'proto-monopoly' (Kenney and Zysman, 2019: 42). The event, which may or may not be realized, need only be implied for the exit event to bring it into its present so that its possibility may be expressed as value. Which is to say, when a VC-backed company is sold to an acquirer or makes a public offering, it is contracting into that event both the past trajectory of G and the possibility of dominating some part of future social necessity. Time contracts from both the past and the future into the exit event to produce the representation of value.[28]

Contracted space: The Silicon Valley Consensus

VC valorization also entails a dimension of contraction in relation to space. This is illustrated in Figure 8, via what I call the *Silicon Valley Consensus* (SVC).[29] While Silicon Valley constitutes a concrete geographical location and has had a significant role in the history of both VC and the many of the startups that are, today, household names, it is treated here as simultaneously an idea (*eidos*) and a place (*topos*).[30] Treating Silicon Valley as both *eidos* and *topos* allows us to understand how and why such global hubs as Silicon

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Figure 8. Contracted space: The Silicon Valley Consensus.

Allee, Silicon Beach, Silicon Roundabout, and so on have emerged globally and what binds them. The Silicon Valley Culture (also SVC) emerged when former science and technology entrepreneurs became VCs to fund a new generation of entrepreneurs and engineers. The practice of former entrepreneurs financing future entrepreneurs produced a unique finance- and innovation-led culture tied to geographical place (Saxenian, 1996: 39).

Today, this tethering of entrepreneurs underpins the accumulation of value as HC. Not only are the best sources of business ideas and technological know-how (often harvested from the 'best' universities, Stanford being a prime example) contracted toward a system (SVC) that demands VC as a means of valorization, but they are also sucked into particular contracted valorization arrangements – namely, the sharing and vesting of equity, which complements contracted time to further dominate the incentives and character of HC resources within the SVC.

There is also an external dimension to contracted space, this time in relation to market space. Not only is the content of the entrepreneurial output dominated by the imperatives of VC returns (hypergrowth leading to E'), but so too is the form, which must seek to dominate the space of its market *on a global scale* (as much as is feasible), or – more importantly – to be on a trajectory that suggests this will be the case. Therefore, the space of lack on a global scale must be reduced – contracted inward – toward singular (monopolistic) conceptions of product fulfillment. And if this cannot be achieved, then the venture must at least be sellable to an existing dominator of the global market space.[31] Not only is fulfillment according to this Silicon Valley Consensus reduced invariably to technology-based 'fixes', eschewing social forms of fulfillment, but it is reduced to technology-based 'fixes' developed by a particular culture (SVC) of HC resources motivated by investor returns and delivered under the contracted obligations of capitalist private property relations.[32]

Socially necessary contracted space-time

We thus finally arrive at the true meaning of E' as an expression of value: socially necessary contracted space-time (SNCST). The effect of the VC process is to contract both time and space into an exit event that binds past and future expectations into legal contracts (i.e., public/private equity ownership, patents, employment contracts, etc.) based on a projection of future social necessity.[33] The general formula for VC is thus structured by, and grounded in, contracted space-time (see Figure 9).

SNCST is not a refutation of SNLT but its critical supplement; the two are both related and distinct. On the one hand, SNLT is an unmodified *part* of SNCST – that is, SNCST both includes and expands the meaning of SNLT. On the other, 'social necessity' in SNCST obtains a double meaning.

Beginning with the latter, Marx's original formalization of SNLT pertains to the admixture of variable capital (i.e., wage labor) and constant capital (e.g., machinery) as it combines to produce value within a given, limited time period (e.g., a 40-hour week).[34] New value, says Marx (1976: 323), comes only from variable capital, which constant capital helps make more efficient.[35] However, in Marx's description of SNLT, constant capital is

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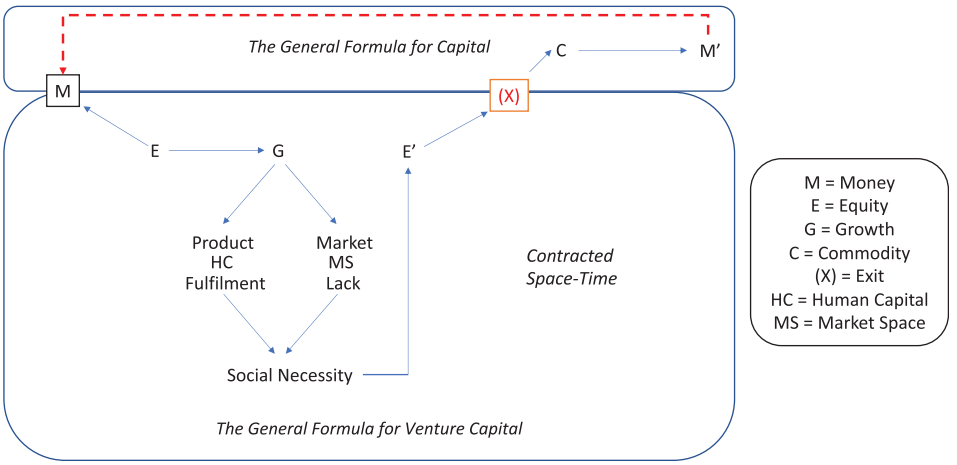

Figure 9. The general formula for venture capital (contracted space-time).

dealt with only in general terms. Any general technology (method or machine) bestowing a competitive advantage to capitalists in production will eventually become a standard in terms of the amount of value to be produced in a given time.[36] What makes SNLT socially necessary, then, is the competitive demand to produce a certain amount of value within a given time so as to stay in business and thus to subsist as a capitalist. SNCST does not deny this, but it does invoke a second (additional) dimension of social necessity pertaining to the *particularization* of any given constant capital, a necessity that emerges following the proprietary (actual or approximate) monopolization of constant capital advantage. Thus, SNCST stipulates that it is not only socially necessary for a specific technology to be adopted to stay competitive but that (to various degrees) a *particular* product form of that technology be used.[37]

In relation to the inclusion and expansion of SNLT within SNCST, it must first be restated that, aside from the double meaning of social necessity, SNLT remains intact as a theorization of valorization in the wage labor process. VC may help to produce an innovative form of constant capital that adds efficiency to production and therefore helps another capitalist produce more surplus value. This remains true for both SNLT and SNCST. Where SNCST expands this definition is by accounting for the various forms of valorization that are now able to take place beyond the wage labor process. The emergence of the 'user' is the most obvious innovation in this regard, for the user constitutes a form of variable capital that does not manifest as wage labor. Users partake in contracted space-time in several ways. Firstly, the time that value may be harvested from a user is not limited to any given legal limit on working days or hours; depending on the product, a user can be available to produce value 24 hours a day, every day.[38] Secondly, as we have seen, the space in which value is produced can be virtualized and thus multiplied. As a result of this virtualization, a user can produce value in multiple dimensions of space at one (and any) time, *including* during the labor process, simply by producing data as they consume (regardless of whether this consumption coincides with labor, leisure, or rest). They may, for example – simultaneously, across different spatial dimensions – be monitoring their health, checking their social media, charging their electric vehicle, and so on, all the while producing data and being nudged into behavioral patterns that can be packaged into products and sold to third parties (e.g., advertisers). Exploitation is now no longer limited to the exploitation of wage labor, but rather to the exploitation of consumer lack – and we are now referring to contracted space-time not merely in terms of investor-entrepreneur

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relations but also in terms of how the world is experienced by a consuming society both within and beyond the labor process. Social necessity reappears now as the compulsion to engage in these activities – whether induced by convenience, addiction, price advantage, or any other mechanism. And in any case, from any perspective, space-time contraction in a field of social necessity increases the density, and thus intensity, of surplus value production and accumulation (Marx, 1976: 534).

The valorization of crises

The argument so far has attempted to establish that the VC process entails the promotion of growth toward the goal of achieving a representation of SNCST as E'. Underlying this conception is the idea of lack-fulfillment, which pertains to the product-market fit pursued by new and existing ventures. The questions that remain are (a) how lack is continuously renewed to maintain a steady supply of emerging startups and (b) how it is possible for these startups to obtain increasingly astronomical valuations.

It was noted above that market space may be created through either the formation of new markets or by disrupting existing markets. One way of interpreting this is to think of market space as being created by (1) the production of new 'lack' concomitant with products to fulfill it (new market creation), or (2) by the disruption of existing lack-fulfillment relations such that an existing lack is reconceptualized and therefore in need of a new source of fulfillment, or (3) via the development of a new source of fulfillment that is perceived to better meet an existing lack and therefore replaces (disrupts) what preceded it.

Leaving aside the possibility of creating a genuinely 'new' lack, there are various ways in which lack may be disrupted to appear in need of new fulfillment (whether that fulfillment is available or not). One possibility is through addiction: give users a product that fosters a habit to keep them returning. 'Free' products such as social media are designed to give 'dopamine hits', natural highs that raise moods while the product is being used leading to an inevitable drop when usage stops. The result is a product-induced lack continuously in need of fulfillment.[39] Another method is through the means of conveniences that, again, can become habit-forming; for example, being able to hail a ride from your smartphone without having to wait on the street, being able to track your vehicle's approach and not having to deal with the awkward engagement of a cash transaction, and so on. Once experienced, comparative services appear lacking, thus producing a newly formed sense of lack.[40]

In each case, the new value proposition is simultaneously a devaluation of existing modes of fulfillment. The goal of not simply 'adding value' but manufacturing a value gap that can be served with a newly designated solution. Did anyone really know their life was missing TikTok until they began obsessively 'doomscrolling'?[41]

One way devaluation occurs outside of the production process is through crisis, via a sudden widespread constraint upon action limiting or even determining possible modes of being. Crises take many forms – environmental, economic, political, ideological, social, or cultural – but are generally overdetermined to produce new modes of 'common sense' necessity.[42] When a nuclear spill occurs, for instance, it is necessary that evacuations occur, that resources are diverted to quarantining that physical space and containing any airborne or other type of spread, and so on; when a massive market crash occurs, it is necessary (from an investor standpoint) that certain assets be sold and others be swapped. Some businesses may find it necessary to downsize or take out new loans. Some may be forced to close; when a political event, such as an uprising or military engagement, occurs, it is necessary that alternative lines of communication be available, that (from the perspective of political power) surveillance technologies exist to be deployed, and so on. In

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each case, we are dealing with predictable events and consequences, and in each case, there is a produced lack with multiple means of fulfillment. But at the moment when options are limited, rapid decision-making is imperative, and as Naomi Klein (2007: 1–25) has documented, whatever unfashionable (or 'contrarian') ideas are lying around suddenly find their moment in the sun. The difference between Klein's 'disaster capitalism' and the VC mode of valorizing crisis that I am proposing is that instead of 'ideas', what decision-makers find lying around are concrete ready-to-go products. Moreover, not only have VCs often already exited and profited by the time crisis decisions are made (or not),[43] but *precisely because of this*, they can profit regardless of whether the crisis occurs at all. VCs as such invest and profit on the premise of possible worlds.

To consider how and why, we need to return to the concept of contracted space-time. In Harvey's (1990: 240–2) articulation of time-space compression, he describes it as a revolution in the objective qualities of space and time, altering our representation of the time it takes for space to be traversed. Contracted space-time does not refute this expression but introduces an additional dimension, suggesting a revolution not only in the velocity of capital's movement through time and space but in the very density of space-time through which capital operates. That is, contracted space-time brings the past, future, near, and far together in concentrated arrangements, thereby limiting the range of ideas and materials pertaining to lack-fulfillment, and monopolizing those ideas and materials such that there is simply less space and time to maneuver. The exit event thus appears, from the perspective of VC, as a moment of singularity.

In terms of crisis, this has significant ramifications. In *The Limits to Capital*, Harvey proceeds through three 'cuts' at a theory of crisis: (1) crises of realization relating to production and exchange (failure to achieve C-M'), (2) temporal crises related to financial speculation and the devaluation of money, and (3) spatial crises relating to the geography of uneven development and the fixity of legacy capital structures impeding revolutions in the means of production. Contracted space-time navigates VC accumulation through all three dimensions of crisis.

First, VC avoids crises of realization by negating the realization of profit as a necessary component of accumulation. By suspending the temporality of M-C-M' and substituting it with E-G-E', VC is able not only to bide its time waiting for an appropriate exit moment (measured against both macroeconomic conditions and the sentiments of investors and markets) but also need not worry about problems of overaccumulation and realization. This is possible because the exit event – based on speculation of future growth (G) trajectories – severs VC liability from the investment and any potential problems with future realization. In fact, VC can actively risk and profit from overaccumulation provided it gets its exit timing right.[44]

Second, by dampening the temporal requirement for realization, VC permits growth (G) to take the place of commodification (C) under the intense disciplinary force of contracting time (focusing on lack-fulfillment and market space domination as opposed to maximal profit-seeking and gross margins). In the short term, this substitutes the monopolization of market space for monopoly profits. However, what is implied by valuation at the exit event is precisely the possibility of future monopoly profits. Uber, for instance, exited with a public offering premised on its possible achievement of future global monopoly, yet remained immensely unprofitable for four years while directing its focus toward building that monopoly by accumulating market space and share. Will it eventually adopt monopoly pricing? It does not matter – the VC process premised its exit strategy upon this deferred future possibility of social necessity permitting such monopoly pricing to be imposed.[45]

Finally, by contracting both producers and consumers inward toward a particular culture of, on the one hand, equity-based incentives and, on the other, monopoly-oriented solutions framed around the accumulation and colonization of market *space*, the VC

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process is both enacting its own form of spatial fix (by seeking valorization in *empty* market space in order to bypass the stagnation of legacy capital structures) and, at the same time, providing a cultural template for VC-based entrepreneurship and innovation (production) processes that may be – and increasingly are – geographically dispersed. The accumulation of HC into this culture of growth over all other aims is not simply a Silicon Valley phenomenon but a cultural process occurring around the world based on the Silicon Valley model (Irani, 2019; Thompson, 2019; Twilley, 2020).

Concluding remarks

In sum, I have argued that the VC process constitutes a modification of the general formula for capitalist accumulation while somewhat paradoxically leaving this formula intact. By substituting growth for commodification in the medium term, VC seemingly violates the principle of realization underpinning prevailing (heterodox) accounts of capitalist exigency. However, as I have endeavored to show, it does this in order to intensify the outcomes of capitalist accumulation realized at the point of exit, when VCs and entrepreneurs typically (though not invariably) part ways. To explain, I unpacked the model of VC presented, arguing that the so-called product-market fit cannot fully explain growth because the former pertains to a fixed state (an achievement) and the latter a movement and trajectory. Growth is better explained, to borrow a phrase from Althusser (1996: 193–218), as a 'complex structured whole', an overdetermination comprised of, on the one hand, human capital (HC) performing an act of iterative fulfillment (appearing in product form) and, on the other, market space (MS) conceptualized as human lack (represented as unfulfilled market demand). Only when taken together do these elements produce, by approximation, the coveted product-market fit. Nevertheless, given that this entire edifice is constructed upon a continuously moving target (human desire), the incentives are drawn toward anchors of fixity: the will to monopolization and the will to dominate social necessity – what we might describe as supply- and demand-side monopolization, respectively. The VC process facilitates this contradiction through contracted space-time – through the densification of space and time leading to an intensification of accumulation represented as equity. The twist is that realization for VC does not depend on realization for any underlying firm. It is a VC norm that investor profits may be realized for unprofitable firms, and thus the eventual realization (or not) of profits or monopoly rents for firms has no logical dependence on VC or the VC process. From a VC processual standpoint, intertemporal and interspatial *potential* is contracted into equity as a transferable and thus quantifiable representation of value – into the singularity of the exit event.

Thus stated, the preceding argument presents a landscape of social necessity formed around and through a VC process that, in moments of crisis (to give one example), becomes implicated in notions of hegemony and common sense. *Of course*, it was a good thing Amazon had the economies of scale to help everyone get the things they needed during a pandemic; *of course*, without Zoom, social life could never have gone on during this time; *of course*, many more (white, affluent) people would have died if they couldn't have had their groceries delivered by Instacart;[46] *of course*, we would have all gone crazy or become dysfunctional without Netflix to keep our families entertained under lockdown. But these are retrospective judgments put upon a path-dependent present that offers few – if any – alternatives due to the saturation of market spaces that we did not even know were capitalizable through VC-backed product fulfillment.

In a world dominated by firms and actors that have eliminated competition and taken over parts of our lives before we knew it was happening, how can we imagine alternatives? By the time social necessity becomes a reality, if indeed it does, VC has often departed to work on the next phase of our socially necessary future. It is happening right now.

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And thus, an old question lingers: what is to be done? At first glance, the options that confront us appear twofold: (1) reclaim control of social necessity, take back what has been sequestered by class-based interests, and put social necessity to work for all members of society – that is, make equity *equitable*, or (2) negate social necessity, act to bring about spaces, modes, and opportunities for the enactment of social freedom – that is, tie realization to *self*-realization. The reality is that neither alone will suffice to bring about social justice – just as capital knows neither alone will suffice to bring about social domination. VC works and is successful because it merges social necessity and freedom in a dialectic of social reproduction and renewal – it takes radical novelty and brings it into the fold of hierarchical tradition. In doing so, it legitimizes itself as 'progressive'. Social justice movements, to build their own consensus, must take note of this. As political philosophers (and capitalists) have long realized, the answer lies somewhere in a balance of freedom and necessity, in a system of grounded openness. Given the massive, often monopolistic scale of VC-backed firms and ideas, human life is increasingly dominated by socially necessary products and services that deny in advance the legitimacy of alternatives (or simply erase them from view). And yet, these are the same products and services we associate with social progress and prosperity: mRNA vaccines, satellite communications, search engines, and so forth.

In the final analysis, I shall therefore say this: social necessity is not, in itself, an ill. The essence of the problem lies in the erasure of alternatives as a means of consolidating and preserving power. In seeing a better future, we should look to generality over particularity – to generative AI as opposed to OpenAI, to search engines instead of Google, to mRNA vaccines instead of Moderna, and to social necessity not reduced to supply-side monopoly. Only then, might social freedom be realized in conjunction with that which is necessary.

Notes

1. A coming pandemic was hardly unexpected. See, for example, Hoffower (2020).
2. The causal relation between VC and innovation is controversial. Arguably, the debate began in 1976, when the National Venture Capital Association (NVCA) lobbied the US government arguing that innovation was so essential to economic growth, and VC such an important engine for the innovation process, that capital gains tax cuts incentivizing VC investment were inextricably tied to America's economic future. The US government seemingly agreed, implementing the said tax cuts shortly after (see O'Mara, 2019: 163; Rothstein, 2022: 1220, 1224). Lerner and Kortum (2000) have since shown that these changes led to significant growth in the patenting of industrial innovations, while others have suggested that patents filed by VC-backed startups tend to be 'of higher quality and economic importance' when measured in terms of citations (Howell et al., 2020: 4). Equating economic and social progress, many thus take VC to be a catalyst for social prosperity. Mallaby (2022: 2), for instance, has suggested the 'belief most social problems can be ameliorated by technological solutions' has become a 'creed' in Silicon Valley circles, while Nicholas (2019: 316) writes: 'Numerous innovations developed by VC-backed firms … have moved society forward – and in turn, stimulated additional waves of technological development with immense collective impact'.
3. VCs are not immune to bandwagoning, and exorbitant valuations given to startups in 'hot markets' are frequently attributed to the so-called 'FOMO' (fear of missing out). Even in such contexts, however, VC investments are generally made on the basis of projected rather than present value and premised on the possibility of establishing future dominance within a discrete market segment. Sometimes markets may be narrowly defined and explicitly targeted so that the firm seeking a monopoly position can be acquired by a larger firm looking to expand their own market dominance (Coinbase, e.g., has acquired over 20 smaller VC-backed firms). In other cases, the opportunity to dominate is *facilitated* by the advent of an already-established VC-backed monopoly. While it may appear in such cases that VC is simply reacting to the past, this is not entirely true. OpenAI, for instance, has already all but monopolized generative AI. However, investment hype around generative AI investment is not focused on competing with OpenAI, but rather on winning the race to invest in applications that OpenAI (and generative AI as a general-purpose technology) has made possible in its role as a *platform* (Langley and Leyshon, 2017: 24). Thus, VC investments in generative AI are still focused on future possibility and potential even as they appear to be a reaction to past events. The same may be said of

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earlier VC hypes around minicomputers and the Internet – general-purpose technologies that VC Marc Andreessen (2014) has explicitly equated to contemporary hype around Bitcoin.

4. Several qualifications apply. First, in the case of an exit by IPO, lockup agreements imposed by investment banks typically deny investors the right to divest stock within six months of the public offering and heavily restrict the volume and speed of divestment thereafter (Bagley and Dauchy, 2018: 741–5). While this would imply that VCs are not able to exit at exit, mechanisms exist for them to do so, including the common practice of distributing public shares to limited partner (LP) investors at exit as opposed to waiting for access to secondary markets (Gompers and Lerner, 2006: 352). Second, strong growth in public equities has seen a recent trend toward the use of 'crossover funds' (funds that invest in both private and public equities), and in 2022, Sequoia Capital announced it was developing an 'evergreen' fund to exploit post-exit growth opportunities (Sequoia, 2022; Woodman, 2021). In the aftermath of the 2022–23 global inflation crisis, however, funds have seen massive losses amidst stock market volatility (Jin, 2023). Finally, the claim I am making pertains to the process itself as it is structured around exit. Individual VCs and VC firms, such as Sequoia, may feel ambivalent about events beyond exit – both interested and disinterested at once – but this does not negate the fact that the VC process is designed such that investors are to exit *at* exit. As I argue below, exit fulfills a disciplinary role in the VC process and tends to normalize agent behavior. As process deviants such as Sequoia have recently discovered, the process often knows better.
5. Eight of the ten largest corporations by market capitalization received VC-backing (Largest Companies by Market Cap, n.d.). Most (>75 percent) successful exits today, however, are by acquisition (Harrison, 2023). As Ben Horowitz (2019: 69) notes, the motivation underlying such firms isn't just to produce a new business, but to make it *the* business.
6. 'Moral hazard' applies to any situation in which risks realized by one agent are weathered by another. The term is frequently invoked in mainstream VC scholarship, where 'agency theory' is the dominant framework for interpreting VC-entrepreneur relations (e.g., Sapienza and Villaneuva, 2007).
7. See note 5.
8. Theoretically there are two paths: one for the firm, E-G-E'-(X)-(G), where the final 'G' is in parentheses because only implied, and another for the VCs, E-G-E'-(X)-C-M'. Elder-Vass (2021) has argued that implied valuations are maximized by 'asset circles', groups persuaded by the growth and value projections of equity investments as assets.
9. With the qualification 'socially necessary', Marx is making a different argument to Ricardo's labor theory of value, one that accounts for labor exploitation and technological change as functions of relative surplus value production (Harvey, 1999: 14–5).
10. FOMO plays a significant role in how VCs assess opportunities: 'Many of these firms don't care if they own 3% or 12% of the company at the seed stage ... They just want to make sure that they have an inside lane to put more money into these companies at later stages... They are just buying lottery tickets' (Temkin, 2021). See also Cooiman (2024: 593), who notes that FOMO 'speaks to the dynamic nature of the valuation process', and note 3 in this paper.
11. True product-market fit is arguably unachievable given the market's basis in human desire and the inadequate fulfillment of that desire via mass-market product offerings.
12. 'Human capital' is frequently invoked in VC. Consider, for example, Deloitte's 'VC Human Capital Survey' (run in conjunction with the NVCA), which measures VC diversity, equity, and inclusion (DEI). In 2022, women comprised only 26 percent of the VC population, black employees 5 percent, Asian/Pacific Islanders 22 percent, and Hispanic employees 6 percent (Deloitte, 2023).
13. Term sheets establish the economic and governance terms of a VC-entrepreneur relationship. They are considered morally rather than legally binding. Legal documents are referred to as 'definitive agreements' (Feld and Mendelson, 2019: 40).
14. Mallaby (2022: 81) and Nicholas (2019: 280) both note the importance of the venture 'network' for VC-entrepreneur value creation. The role of this network is one reason why Silicon Valley has endured as the epicenter of global VC.
15. Emphasizing the fundamental role of iteration and pivoting, Eric Ries (2011: 9) notes that 'the fundamental activity of a startup is to turn ideas into products, measure how customers respond, and then learn whether to pivot or persevere'. The point is that product-market fit has an ontological dependency on HC and MS.
16. Getting a first look at the next unicorn is what distinguishes top VC firms (Martinez, 2016: 156–7: 158). In 2021, VC Ali Tamaseb (2021: 60–1) compared data on unicorns with 200 randomly selected startups and discovered that nearly 60 percent of unicorn founders had previous experience as a startup founder.
17. The tension between market space as potentiality and market share as a *fait accompli* not only reveals the dynamic, intertemporal nature of growth as a product of VC investment but also explains how past investment encourages future investment as a means of transforming uncaptured market space into captured

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market share. Investment in this potentiality effectively enables its realization. See Kenney and Zysman (2019: 42).

18. Scott Shane (2003: 21) describes this as a distinction between Kirznerian and Schumpeterian conceptualizations of entrepreneurial opportunity, respectively.
19. Doganova and Muniesa (2015: 122) have argued that the intention and capacity for startups to colonize future social activity has become a common feature of the business models pitched to and developed in collaboration with VCs. Jim Breyer of Breyer Capital describes this as the 'land-and-expand' strategy (quoted in Griffin, 2017: 89).
20. As Margaret O'Mara (2019: 286–7) notes, frontier metaphors have long been used to explain innovation and technological change. The Internet era has only exacerbated this tendency.
21. Consider the following 'hot markets' for VC: the metaverse, in-space manufacturing, carbon capture, flying taxis, seasteads, underground/sea data centers, mRNA therapies, and so on.
22. Fulfillment and lack can only be approximated, hence the requirement for product iteration and the association of fulfillment via HC rather than the product itself.
23. 'Founders have to choose a market long before they have any idea whether they'll reach product-market fit' (Chris Dixon quoted in Griffin, 2017: 92).
24. Kurion's moment came with the Fukushima nuclear cleanup in 2011. Wolfe's cofounder, Peter Hébert (n.d.), states his goal is 'to seek out founders developing things most people thought would not work, yet if they did, would become so intrinsic to our way of life that we would someday take them for granted'.
25. Cyclical accumulation may occur but need not depend on the general formula for capital. While M-C-M' may occur *during* VC accumulation, it is not *necessary*. Regardless, exit remains an approaching inevitable endpoint disciplining agents and structuring outcomes.
26. I am influenced here by Agamben's reading of St. Paul. While it may seem fanciful to draw upon messianic time in my description of VC accumulation, there are uncanny parallels. Not only is VC time a contracting 'time within a time' dominated by an irresistible outside force (the will of God; M-C-M'). But also, the prophesied coming of the next world (kingdom of God; achievement of social necessity – each the negation of freedom) needs only *be* a prophecy for its effects to take hold in the present. The exit event, like the apocalypse, is a threshold toward judgment, and what follows will remain uncertain and irrelevant until it happens (Agamben, 2005).
27. Even founder equity is typically vested. This ensures founders do not abandon the venture prematurely (Martinez, 2016: 255; Kupor, 2019: 95; Feld and Mendelson, 2019: 66).
28. This could be represented as E'-(X)-(G), with growth forming a separate branch to VC realization (E'-(X)-C-M'). The parentheses symbolize its character as *implied* (rather than actual) growth.
29. 'It is symbolic of global acceptance that the Silicon Valley model for innovation and entrepreneurship . . . is embraced by both local governments and educational institutions as an optimal economic development goal . . . [as] the most desirable model' (Kenney and Zysman, 2019: 47). Rothstein (2022: 1212) similarly argues that the 'Silicon Valley model' has achieved so great an influence over global economic policy that it has led to 'near universal adoption'.
30. I exploit here the alternative meaning of *topos* as 'turning point' and gesture to the way contracted time disciplines entrepreneurs through incentives and imperatives. Entrepreneurs embedded within the VC process are subject to a 'turning' process whereby they must adopt the goals of the VC as their own. On Silicon Valley as *eidos*, consider the words of Margaret O'Mara (2019: 2): 'Silicon Valley is no longer merely a place in Northern California. It is a global network, a business sensibility, a cultural shorthand, a political hack. Hundreds of places around the world have rebranded themselves Silicon Deserts, Forests, Roundabouts, Steppes, and Wadis as they seek to capture some of the original's magic'.
31. Eric Schmidt once claimed Google was acquiring one company a week (Rao, 2011).
32. Even when using a 'free' product (e.g., social media), terms and conditions apply to the products of your engagement (e.g., data). While companies often do not 'own' your data, they own information produced from your data via algorithms (patented via contracts) and use that for their monetization/valorization proposition. The system is held together by contracts. A whole genre of business models has been developed from this concept. See Doganova and Muniesa (2015: 115).
33. Harvey's space-time compression is related but different. Compression acts upon an object or process from the outside, tightening its elements; contraction internally draws those elements in upon the object or process – it is density formed via a 'bringing together' (Harvey, 1990: 240–2).
34. Marx (1976: 308–9) describes this as the limitation of *absolute* surplus value. It is both a physical and legal limitation in the sense that the duration of labor can only be extended to a certain point and then no more.
35. The efficiency given by constant capital allows for the extraction of what Marx calls *relative* surplus value. It is the means by which a capitalist may extract additional surplus value beyond the temporal limitations of absolute surplus value by intensifying production. See Marx (1976: 420–1, 429).

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36. Note that in the lack of a constant capital advantage, the rate of exploitation of variable capital may be intensified in order to produce the same value output given the same time period. This can happen, for instance, when a capitalist outsources labor to a poorer region and pays workers a lower (or no) wage to do the same work, potentially over a prolonged duration. See Tomba (2009).
37. As David Harvey (1999: 35) notes, SNLT describes 'a standard of value only in so far as a capitalist mode of circulation and a capitalist mode of production with distinctive social relations have come into being'. My argument is that VC is a modification of capitalist circulation and production that facilitates new standards of value and new social relations.
38. Marx (1976: 717) states that a worker's consumption may be individual or productive. A user's consumption is almost always both.
39. Social media professionals freely admit that this is a strategic design goal (Eyal, 2014; Orlowski, 2020).
40. Bradley Tusk, a political 'fixer' turned VC who helped Uber achieve global dominance, explains: 'in any jurisdiction with the rule of law . . . Uber is better off entering the market with or without permission, demonstrating the product to the public and building a customer base. When riders then, at the behest of the incumbents (taxi industry), try to shut Uber down, they turn their riders into advocates and use grassroots political pressure to ensure Uber's continued existence' (Tusk, 2018: 109). Tusk subsequently used this playbook to help the online gambling firms FanDuel and DraftKings achieve legal standing. Gambling is notoriously addictive, and the convenience of online gambling arguably exacerbates this addiction. Tusk used consumers of these gambling platforms as political advocates for their establishment as legal entities (Tusk, 2018: 155).
41. Sophisticated algorithms such as those used by TikTok create a virtual space that users do not want to leave. Once administered a dopamine high, the outside world seems like a comedown (Fisher, 2009: 25).
42. While the precise nature of the solutions to a given crisis is not given, a certain consensus will emerge for any given era in which some options seem valid and others invalid. This is the ground of hegemony, in which solutions – in my argument, science and technology-based innovative solutions – become 'just how things are' to be done. They win consent and enter common sense. See Hall and Massey (2010: 57–9).
43. There are exceptions. During the recent military conflict in Ukraine, Starlink, owned by VC-backed SpaceX, boosted its value by providing satellite communications for Ukrainian troops. So effective was this demonstration in a moment of crisis that the Pentagon awarded Starlink an exclusive contract. SpaceX CEO Elon Musk won this deal by asserting Starlink was too expensive to maintain long term. By offering the service all but for free and then threatening to pull it, Musk created a sense of social necessity tied both to the Ukrainian state and Western geopolitics (Stone and Roulette, 2023).
44. Consider Peloton, a fitness startup producing on-demand workouts tied to physical exercise bikes. After raising VC and exiting via IPO, its value plummeted due to pandemic-induced overaccumulation. For VC, this is irrelevant as it already received its IPO payout (Clark, 2018; Franklin, 2019; Thomas, 2022). Nicholas (2019: 227, 287, 299) variously documents this phenomenon going back to at least the early eighties during other periods of relatively irrational exuberance.
45. Lena Khan (2017) has outlined this phenomenon in relation to Amazon. The problem with promoting growth over profits from an antitrust standpoint is that the law is biased toward defining monopoly on the basis of consumer (price) outcomes. Like other companies prioritizing growth over profits, Amazon substitutes the accumulation of gross margins for the accumulation of market space and share. Regardless of weak profits, stock value for such companies rockets because, even if the law cannot see a monopoly being formed, investors clearly can. Whether monopoly pricing is ever imposed is immaterial; investors profit today.
46. To see how sections of society were subjected to the risk of death during the pandemic to promote the continuing function of capitalist economic relations, see Howard (2022).

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Cite this article: Howard, M. (2024) The rapacious ambivalence of VC investment: Venture capital, value capture, and the valorization of crisis. *Finance and Society*. https://doi.org/10.1017/fas.2024.1