STEPSTONE

The vintage year power law

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Introduction

It's no secret that venture capital (VC) has historically delivered outsized returns. Once an "access class" whereby only the most well-connected Ivy League endowments could secure a place in the top-performing funds of Silicon Valley, VC is now a category to which most sophisticated institutions realize they must be allocated. It's still considered risky—but thoughtfully constructed portfolios stand to benefit from the asset class's historical outperformance.

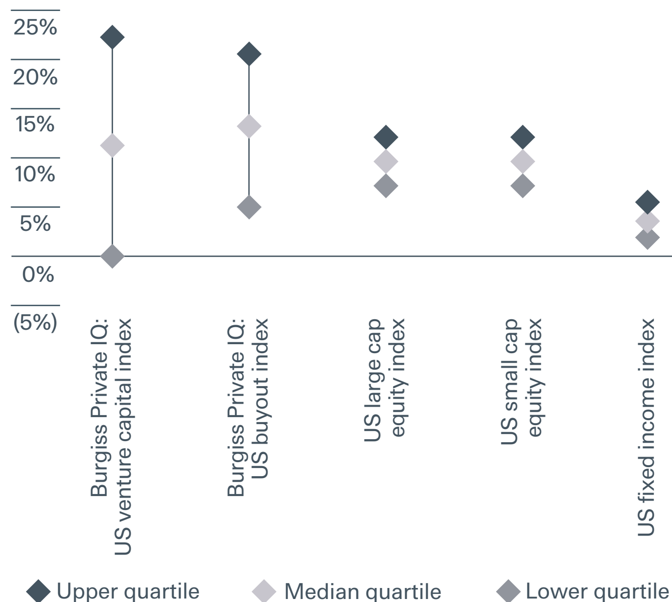
What is the primary driver, then, of strong performance for an institution's venture portfolio? It is a question that all groups must consider prior to starting a venture program, while implementing a program, and as a program seasons.

Manager selection seems like a logical place to start. In an industry defined by the widest disparity in performance between top- and lower-quartile managers (not to mention a profound spread between just the top quartile and

Introduction

the median), it's clear that gaining access and allocation to the best-performing funds matters (see **Figure 1**).

FIGURE 1: RETURN DISPERSION



Source: Burgiss, 3/31/2023.

However, we would argue that there is an equally important factor that's less well documented and understood. It's the concept we refer to as the *Vintage Year Power Law*. Simply put, this is the notion that a small number of vintage years within venture capital have historically produced most of the returns for the asset class.

Understanding performance through data

Having collected two-plus decades' worth of data on the asset class and having a proprietary database constructed to house GP research, StepStone Group is uniquely positioned to break down historical return attribution and determine to what extent the Vintage Year Power Law has shaped venture capital's performance.

To conduct this analysis, we started with first-party data and a robust sample size, including the performance of over 1,000 venture capital funds with vintage years ranging from 2000 to 2022. We measured the weighted return of each vintage relative to the total returns of the group. Specifically, we analyzed the performance appreciation of the entire group of funds in 5-, 10-, 15- and 20-year increments with NAV compounded quarterly to capture contributions and distributions over time. We then conducted the same analysis for each vintage year cohort (making sure to appropriately weight the returns for each vintage based on varying sample sizes). Finally, we divided each vintage year's contribution by the performance appreciation of the entire sample of funds. The results of the exercise were surprising.

As illustrated in **Figure 2** below, the analysis shows that 80% of venture capital returns have consistently been driven by

FIGURE 2: VC VINTAGE YEAR PERFORMANCE ATTRIBUTION

Percentage of aggregate performance of 1,000+ fund sample	Percentage of vintage years responsible for performance (# of VY's out of 23 total)			
	5-year	10-year	15-year	20-year
25%	4% (1)	4% (1)	4% (1)	4% (1)
50%	13% (3)	13% (3)	9% (2)	13% (3)
75%	22% (5)	26% (6)	22% (5)	22% (5)
80%	22% (5)	30% (7)	22% (5)	26% (6)
85%	26% (6)	30% (7)	22% (5)	26% (6)
90%	30% (7)	39% (9)	26% (6)	30% (7)
95%	39% (9)	43% (10)	26% (6)	35% (8)

Source: StepStone Analysis.

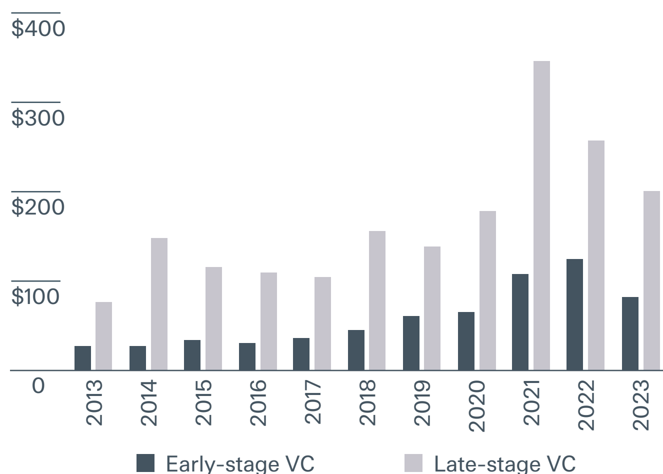
22–30% of vintages over each of the measured time periods. Put differently, of the 23 vintage years assessed, 80% of returns come from just five to seven separate vintage years over the short, medium, and long term. Furthermore, 95% of returns come from six to ten of the 23 vintages measured over each time frame.[1] These statistics speak to the degree of impact that the strongest vintages have on industry-level performance and underscore the difficulty of trying to "market time" the asset class.

When the going gets tough, the tough keep allocating

In VC, we often observe two behavioral phenomena hindering successful outcomes that are closely linked: recency bias and the fear of missing out. Quite simply, investors tend to allocate more heavily to the asset class during periods in which recent performance has been strongest. Concerns over not capturing upside when the stars seem to be aligned can further exacerbate aggressive investing at market peaks.

Take 2021 as a prime example. At the end of 2020, the performance of venture capital funds over a one-year period exceeded the S&P 500 by 33%, one of the widest margins in venture history. Performance had also outpaced the S&P 500 by nearly 14% over the preceding three-year period.[2] US venture funds raised $168 billion in 2021, 1.9x more than the prior year and 2.5x more than the average raised during each of the prior five years.[3] The fundraising totals clearly show investors flocked to the asset class like never before. 2021 also coincided with the highest valuation environment in venture history (**Figure 3**). Average early-stage valuations rose 64% from the prior year and surpassed five-year averages by 124%. Later-stage valuations followed suit, rising 93% from 2020 and 150% versus averages over the five prior years. Further, $340

FIGURE 3: AVERAGE VC PRE-MONEY VALUATION DISPERSION IN $M



Source: PitchBook, 6/30/2023.

billion was invested in venture-backed companies, 2x more than any other year in the history of the asset class.[4] With an overabundance of capital pouring into venture, plus a zero-interest-rate environment (leading to an insatiable demand for risk assets), valuations peaked. Consequently, we think it is safe to say that 2021 will not be a power law vintage year.

Conversely, we believe 2024 very well could be a power law vintage. We expect US-based venture funds to raise approximately $70–80 billion this year and continue at a similar pace in 2024, positioning capital-raising totals just $5–15 billion above five-year averages prior to 2021.[5] As fundraising totals return to normalcy, "dry powder," or the amount yet to be invested, is expected to shrink. With less capital chasing a similar number of investment opportunities, it is reasonable to conclude that valuations will remain

[1] SPI Research.
[2] Ibid.
[3] PitchBook, 6/30/2023.
[4] PitchBook NVCA Venture Monitor Q2 2023.
[5] NVCA.

relatively attractive, if not decline further. Finally, if interest rates remain elevated, risk assets will remain less attractive on a relative basis versus safer debt instruments, creating further downward pressure on valuations. All these dynamics have historically created an opportune time to put money to work in VC.

Yet, despite a variety of macroeconomic and industry-specific factors that point to the makings of a power law vintage, many investors will struggle to participate in venture in a meaningful way. Exuberance during market highs has led to an overallocation problem. So how do institutions find the liquidity needed to participate? One viable solution is to sell fund interests on the secondary market. This is a way to crystallize some of the large gains accumulated over the course of the past decade's bull run. While investors may need to part with portfolios at material discounts, the strong performance of mature funds (2.24x average net multiple across the 2010–2018 vintage years)[6] provides a sufficient buffer to ensure strong end-of-day returns are still achieved.

While secondaries can be a helpful tool in staving off overallocation to stay active in venture, we believe the key to success is taking emotion and externalities out of the equation. By investing when allocation is hard to come by and by holding fire in the face of external pressures, limited partners can better position themselves to take advantage of power law vintages and avoid the outsized sting of being overexposed in poor vintages.

[6] Supra note 1.

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All data is as of October 2023 unless otherwise noted.

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