

VC Returns by Series: Part III

An investigation of deal-level performance on a capital-weighted basis

PitchBook is a Morningstar company providing the most comprehensive, most accurate, and hard-to-find data for professionals doing business in the private markets.

Credits & contact

PitchBook Data, Inc.

John Gabbert Founder, CEO
Nizar Tarhuni Senior Director,
Institutional Research & Editorial

Institutional Research Group

Analysis

Cameron Stanfill, CFA Senior Analyst, VC
cameron.stanfill@pitchbook.com
pbinstitutionalresearch@pitchbook.com

Data

Alex Warfel Data Analyst

Publishing

Designed by **Megan Woodard**

Published on September 2, 2021

Key takeaways

- **Investors are consistently allocating larger sums of capital to startups that go on to exit successfully.** This trend holds throughout all series investigated but becomes more distinct at the later financing stages. This data also suggests a relationship exists between capital raised and company success or failure, which we expect is influenced by a mixture of the capital itself driving growth and skillful investors choosing successful startups.
- **Series A investments outperform, while other series find tighter ranges.** Similar to our previous analyses, the earliest stages show asymmetrically high returns: Series A investments display a 26.7% annualized return relative to the Series B through F group, which all hover between 15.2% and 19.4%. Previously, we saw a more gradual decline in annualized returns post-Series A, thus implying that returns of recorded exits have been more balanced.

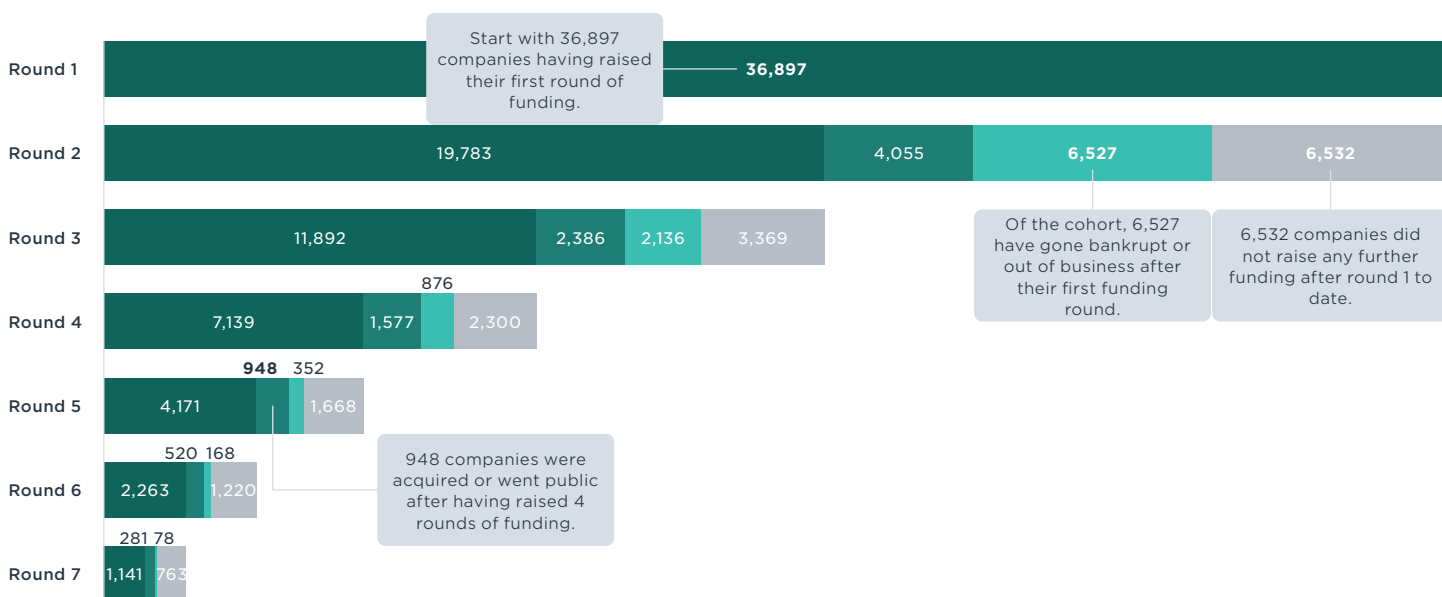
Contents

Key takeaways	1
Introduction	2
Returns	3
Conclusion	5

Introduction

In our initial two-part analysis on [VC returns by series](#), we documented VC returns on the deal level rather than the fund level. In those first two reports, we stitched together deal data with exit data using our VC funnel analysis to estimate the failure rates of investments at each stage. This funnel analysis categorizes advancers as those that either exit or raise a subsequent VC deal, which led us to include many companies that had not yet completed an exit or gone out of business—thus necessitating adjustment.

VC funnel*



Source: PitchBook | Geography: Global
 *As of August 5, 2021
 Note: For illustrative purposes only

With this latest report, the success and failure rates come only from our exit dataset, which is the same dataset used to calculate the payout and series-level returns. This refined approach now focuses only on companies with concrete outcomes rather than assuming eventualities about companies that are still progressing through the VC lifecycle. Because this revised dataset includes all tracked failures, it also eliminates the need to add a failure rate estimation assumption—or the “out-of-business adjustment”—which had introduced further complexity to the early iterations. While this omission may introduce some undercounting failures, we believe that the information presented is more useful for deeper analysis.

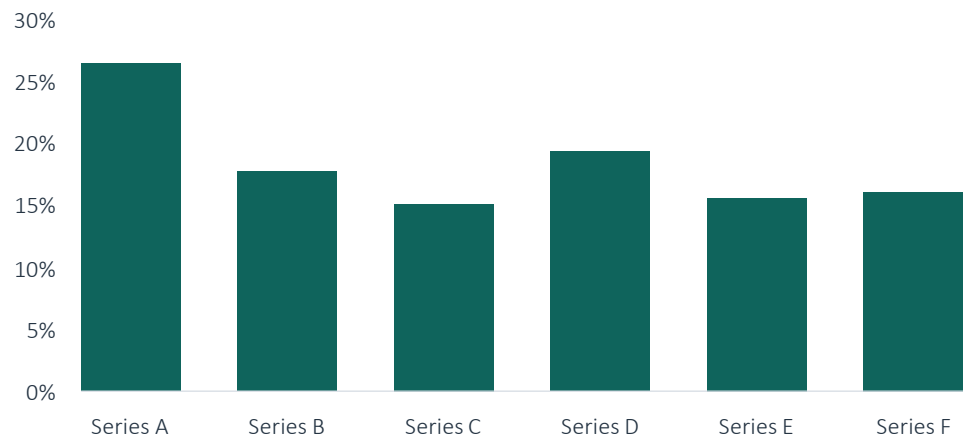
We made one other notable change: To enable richer analysis of these companies’ incoming and outgoing capital, we added the ability to assess the success or failure of startups in terms of capital rather than by company counts. Analyzing solely by the number of companies obscured the measure of scale via deal sizes in VC investing.

The data in this report incorporates all tracked exits from 2009 to August 2021 of the startups for which we have full deal history coverage. This data completeness stipulation is to ensure we can match the correct total capital investment to the payout at exit for each investment series. By using that data in aggregate, we investigate the outcomes for investors at each stage of the VC-backed company lifecycle across different time periods, sectors, and exit types.

Returns

Similar to what we displayed in the previous analyses, the earliest stages show asymmetrically high returns: Series A investments display a 26.7% annualized return relative to the Series B through F group, which all hover between 15.2% and 19.4%. This outperformance at Series A isn't too surprising given the nature of early-stage VC investing, wherein small initial investments can turn into giant payouts if those bets are placed on home-run companies. Furthermore, from a market dynamics perspective, this also validates the theory positing that investors taking the greatest risks expect the highest rewards. However, the quick drop between Series A and B, which marks the start of the annualized return plateau, is slightly unexpected. Series B takes place at an average company age of about five months older than a Series A. In our earlier analyses, we saw a more gradual decline in annualized returns post-Series A, thus implying that returns of recorded exits have been more balanced of late, with some outliers driving the spike at the beginning of our dataset.

Annualized VC returns by series*



Source: PitchBook | Geography: Global
*As of August 5, 2021

While we do account for the risk of investing at each VC stage via the capital investment into companies, gaps likely still exist in that overall risk assessment given the survivorship bias of VC data. Failures, especially those at the early stages in a startup's lifecycle, tend to be less widely broadcast in VC. This is one factor that may contribute to a lower-than-expected failure rate at Series A.

Failure rates by basis*

	Series A	Series B	Series C	Series D	Series E	Series F
Company count failure rate	23.6%	16.7%	13.5%	12.1%	10.8%	11.8%
Dollar failure rate	16.1%	12.5%	9.8%	9.6%	7.7%	4.5%

Source: PitchBook | Geography: Global
*As of August 5, 2021

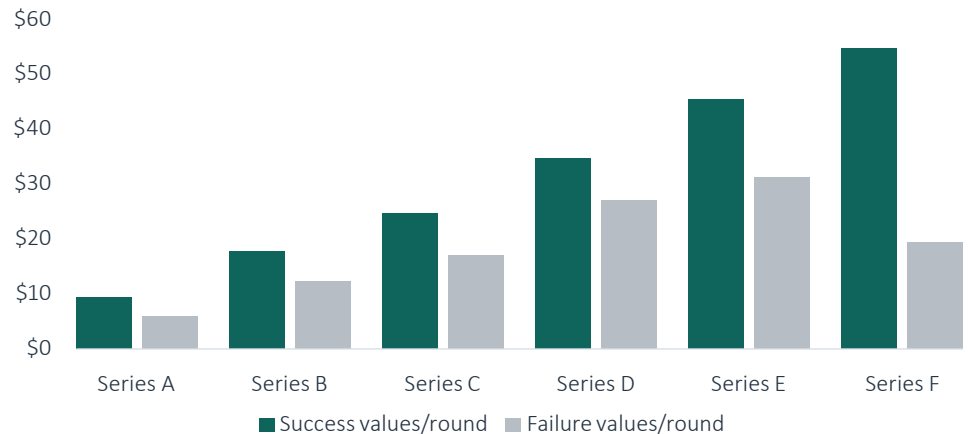
When observing failure rates in company counts, we see a rational decline over the lifecycle, with a steady progression from 23.6% failure at the Series A level to 10.8% at Series E. This represents a slight mismatch to heuristics around startup failure rates, as well as some of our past multiple on invested capital (MOIC) calculations—again confirming some intuition surrounding undercounting the negative outcomes. However, the companies in this dataset had to have reached the Series A level. In the current VC ecosystem, Series A represents a higher bar than it did 10+ years ago, which is perhaps leading to increased maturity and lower failure rates. When broken down by total dollars invested in companies that ended up failing, we actually see lower proportions, with the dollar data showing a steady decline from 16.1% of capital investment at Series A to only 4.5% at Series F.

This disconnect between the proportion of failures in company count relative to failure in capital investment demonstrates that investors are consistently allocating larger sums of capital to successful startups, with the relationship becoming more distinct in the later stages of the VC lifecycle. This is logical, as companies gain visible traction and more financials are available to the businesses as companies reach the Series D, E, or F levels. At Series A, investors allocated an average of \$9.0 million to the successful exiting companies relative to \$5.6 million into those companies that ended up failing. Similarly for Series F deals, successful businesses received an average of \$54.5 million relative to \$19.2 million in the unsuccessful startups. Series F is also the first round with a decline in capital investment per failure. Further, Series D businesses showed the lowest percentage difference in capital investment between the two outcomes, with the successful businesses receiving on average only 29.7% more than those that failed. The average capital investment into a failed business doesn't decrease until Series F, which implies that Series D and E businesses that failed to exit were still able to raise substantial financing rounds. This actuality indicates that exit uncertainty remains at the Series D and E levels and also highlights the growth in deal sizes during the last 10 years.

The allocation of more capital to successful businesses suggests a relationship between capital raised and company success, be it causal or correlative. We expect it's likely a mixture of the actual capital driving growth and a measure of investor skill. While dangers exist for startups raising excessive amounts of capital, it does seem that these outsized rounds can provide some competitive advantage. This is especially true

in core VC industries such as biotech and software, in which there exists a direct relationship between capital and growth. For example, allowing a biotech company to develop a wider array of drugs or a software business to hire a larger sales team drives accelerated revenue growth.

Average capital investment (\$M) per company by VC exit outcome*



Source: PitchBook | Geography: Global
*As of August 5, 2021

The financial markets have enjoyed an 11-year period of relatively uninterrupted growth, which has likely led to these outcomes skewing positively. This is especially true for the outlier cases such as massive IPOs, which return most of their capital to the VC landscape and have been assisted by an open IPO window and high-flying public markets.

Conclusion

The global financial crisis-induced low interest rate environment strengthened the venture capital strategy as one of the few investment opportunities enabling access to growing businesses and potentially elevated returns. The attractive [VC fund returns](#) of the past couple years have accelerated the increase in allocated capital to VC. The company-level returns in this analysis, wherein we calculated annualized returns surpassing 15.0% across every series since 2009, have mirrored this success.

Despite the data's limitations, we believe looking at returns in this fashion can provide valuable insights to many private market participants, particularly those that don't fall into the traditional VC fund investor bucket. As we expand upon this analysis in the future, we intend to develop it into a portfolio decision-making tool for investors across the entire VC strategy—be it dedicated VC firms or crossover investors expanding a VC allocation.