PitchBook

Venture Capital in the Great Recession

An exploration of early VC dynamics in and around 2008

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Update as of March 24, 2020

The novel coronavirus pandemic has shaken everyday life and financial markets in very noticeable and visible ways. However, the effects on the VC ecosystem are much more difficult to quantify given the illiquid nature of the investments and the extended time frames. In an attempt to investigate the effects of a potential downturn like this one, we are resurfacing this a previously published analysis that dives into the outcomes for businesses founded during the last recession. While each recession manifests itself in unique ways, especially when it comes to VC, we believe many of the same market dynamics will apply across time. For my updated VC valuation data, please see our latest US and European VC Valuations Reports.

We hope this report is useful in your practice. Please reach out to reports@pitchbook.com with any questions or feedback. We will be posting ongoing coverage of the current environment.

Introduction

Most asset classes struggle during economic downturns, but private market funds invested throughout recessions have proven quite resilient in the long run.[1] Even so, there's still much to be explored regarding company-specific performance and activity during recessions, particularly in VC where fates are frequently determined by the success of outlier investments. Leveraging PitchBook's venture dataset, we analyze VC during the Great Recession by making use of a "VC funnel" and descriptive statistics of companies that received their first financing round in recessionary years. With a focus on what happened to companies in early stages of the venture life cycle (angel & seed/early-stage rounds), we hope to better inform our readers' understanding of early venture activity in a recession.

Key takeaways include:

- Startups funded in the crisis appear to undergo longer periods between financings, as startups seeded in 2008 on average took nearly 2.1 years to raise a second round, several months longer than the near 1.7 year average seen in startups that raised VC in 2010.

1: The National Bureau of Economic Research (NBER) defines a recession as two consecutive quarters of real GDP declines. The effects of a recession are often manifested by a contraction in public equity markets, reduced discretionary spending by consumers and business and higher levels of unemployment.

Published on April 26, 2019

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- The 2008 cohort also saw a considerably lower step-up of just 1.35x from the post-money valuation of its first round to the pre-money valuation of its follow-on round, compared to post-recession cohorts whose median valuation step-up hovered in the 1.6x-1.8x range.

- Companies funded in the recession saw higher concentrations of bankruptcies in second-round outcomes and were less persistent in raising follow-on funding.

VC in the Great Recession

In VC, some speculated effects of a recession include:

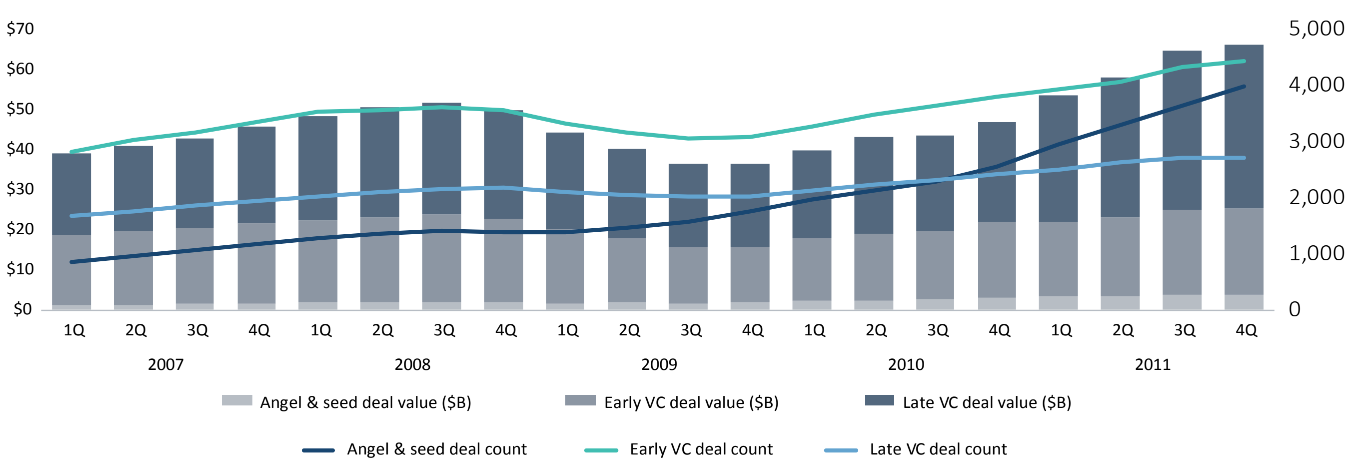
- **Fewer available funding sources:** As seen during the last recession, the selloff in public equity markets resulted in a "denominator effect" for asset allocations, whereby LPs' allocations for private capital became overweight following value drops in other asset classes. In a broader context, this effect may constrain the ability of LPs to make new fund commitments, with knock-on effects being that fewer funds will reach a close and fewer first-time managers will be seeded. We'd also expect pullback in venture investment from nontraditional investors such as mutual funds and family offices.

- **More selective dealmaking:** Venture GPs are expected to be more selective in dealmaking during a recession and to place greater emphasis on a startup's burn rate and path to profitability. Unprofitable companies reliant on continued capital raising to maintain operations will find it harder to stay afloat if access to funding wanes.

- **Downward pressure on startup valuations and smaller round sizes**

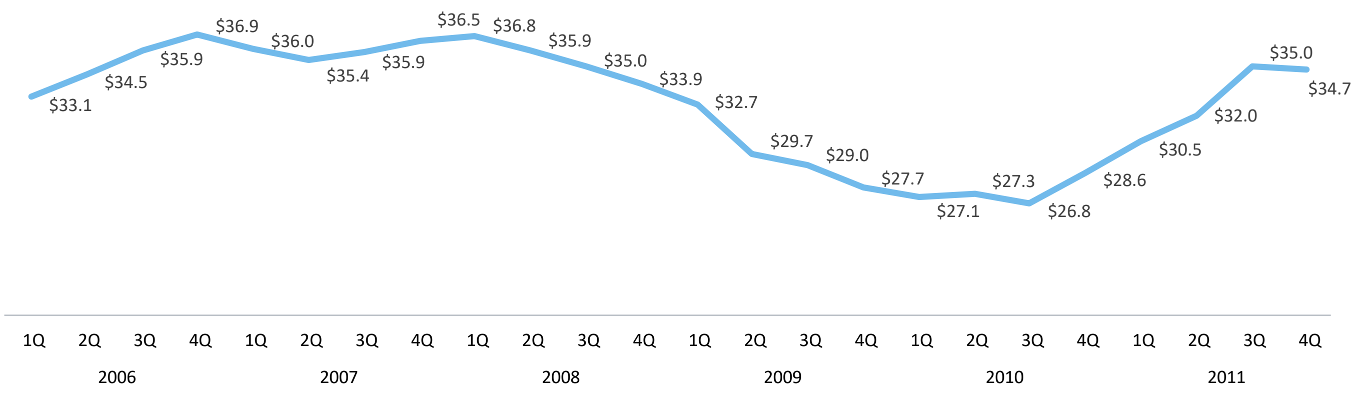
These speculated effects are, in fact, illustrated in venture activity data throughout recession years. We showcase the data using trailing four-quarter activity to minimize underreporting in certain periods.

VC deal activity by stage, rolling four-quarter sum



Source: PitchBook | Geography: Global

Late-stage VC pre-money valuations ($M), rolling four-quarter median



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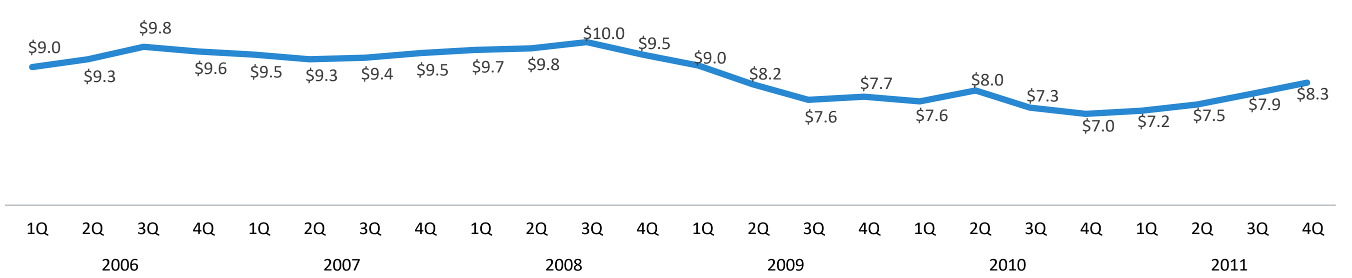
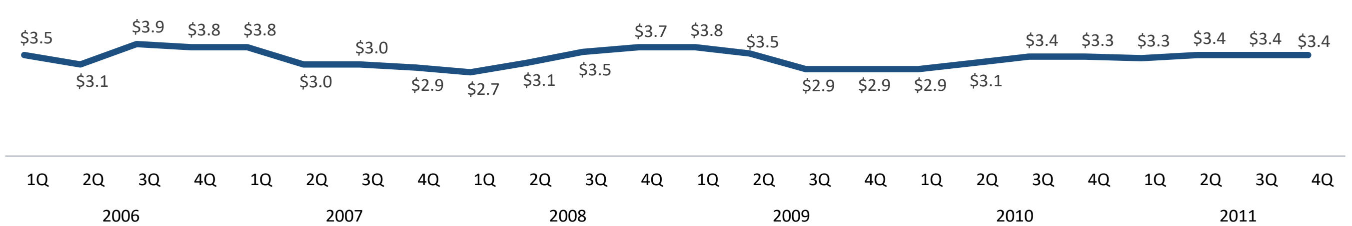
Early-stage VC pre-money valuations ($M), rolling four-quarter median



Source: PitchBook | **Geography:** Global

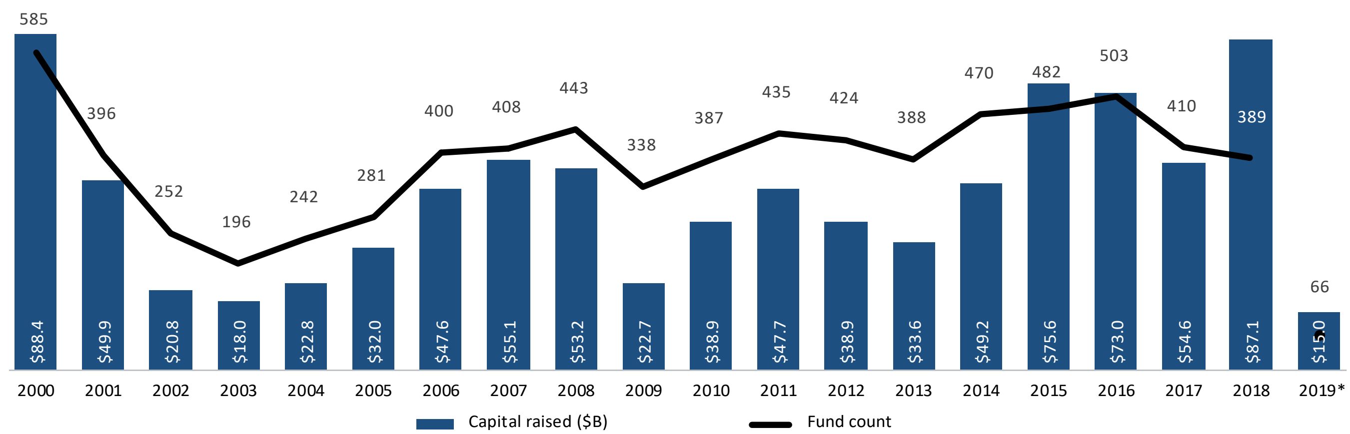
Angel & seed pre-money valuations ($M), rolling four-quarter median



Source: PitchBook | **Geography:** Global

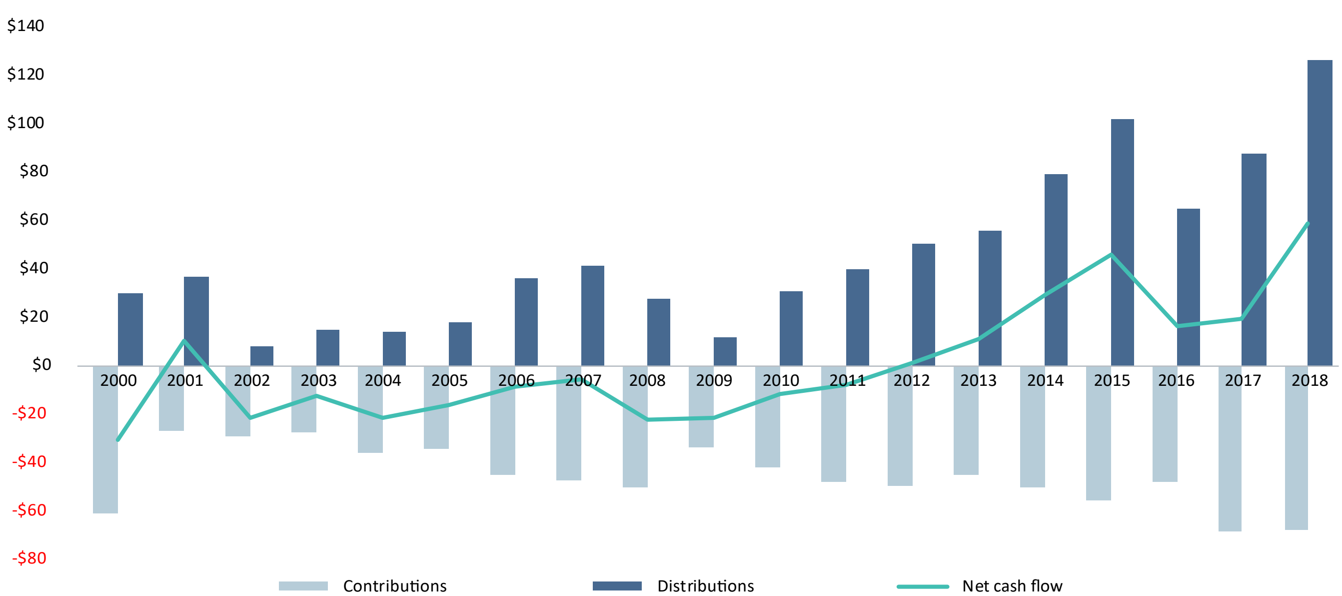
The Great Recession officially began in December 2007 and persisted for 18 months through June 2009. As with many other areas of finance, the trends suggest that VC is not immune to the events of a recession, but rather absorbs the impact at a lag. As the accompanying charts illustrate, the effects of the economic downturn were not fully reflected in venture markets until the second half of 2009, which continued to stagnation in 2010 until a recovery in 2011. Late-stage valuations bore the brunt of the impact on an absolute dollar basis, with the median falling from $36.8 million in four quarters ending 1Q 2008 to $28.6 million in 4Q 2010. Meanwhile, early-stage valuations saw the greatest decline on a percentage basis over the same period, falling 27.3% before recovering in the latter half of 2011.

VC fundraising activity



Source: PitchBook | **Geography:** Global
*As of April 12, 2019

VC cash flows ($B)



Source: PitchBook | **Geography:** Global
*As of September 30, 2018

Fundraising and cash flow activity also shows a lag. Although fundraising remained elevated in the leadup to the crisis and through its official onset, the 2009 value for capital raised represents the third lowest point in PitchBook's venture dataset since 2000. Additionally, distributions by venture fund managers back to LPs in 2009 fell to our second-lowest recorded value, right behind the years that followed the dot-com crash. While the dip in cash flows from venture funds likely sapped demand for the asset class in the recovery period (especially in light of negative sentiment toward risky assets), the denominator effect may also have enhanced the difficulty of fundraising for venture GPs. With the sustained downturn in public markets, private market funds (which don't sell holdings for an extended period of time) garnered a growing weight in LP portfolios relative to target allocations. Accordingly, many LPs could not re-up on private market assets with the overallocation, adding to difficulty in fundraising for venture fund managers.

With current levels of dry powder sitting well above 2007 and 2008 values, the effects of a recession could create an even-more-severe denominator effect for LPs given recent increases in allocations alternative assets. Even if capital dried up overnight, however, VCs would still have approximately 3.0 years before they ran out of capital to deploy (in aggregate).

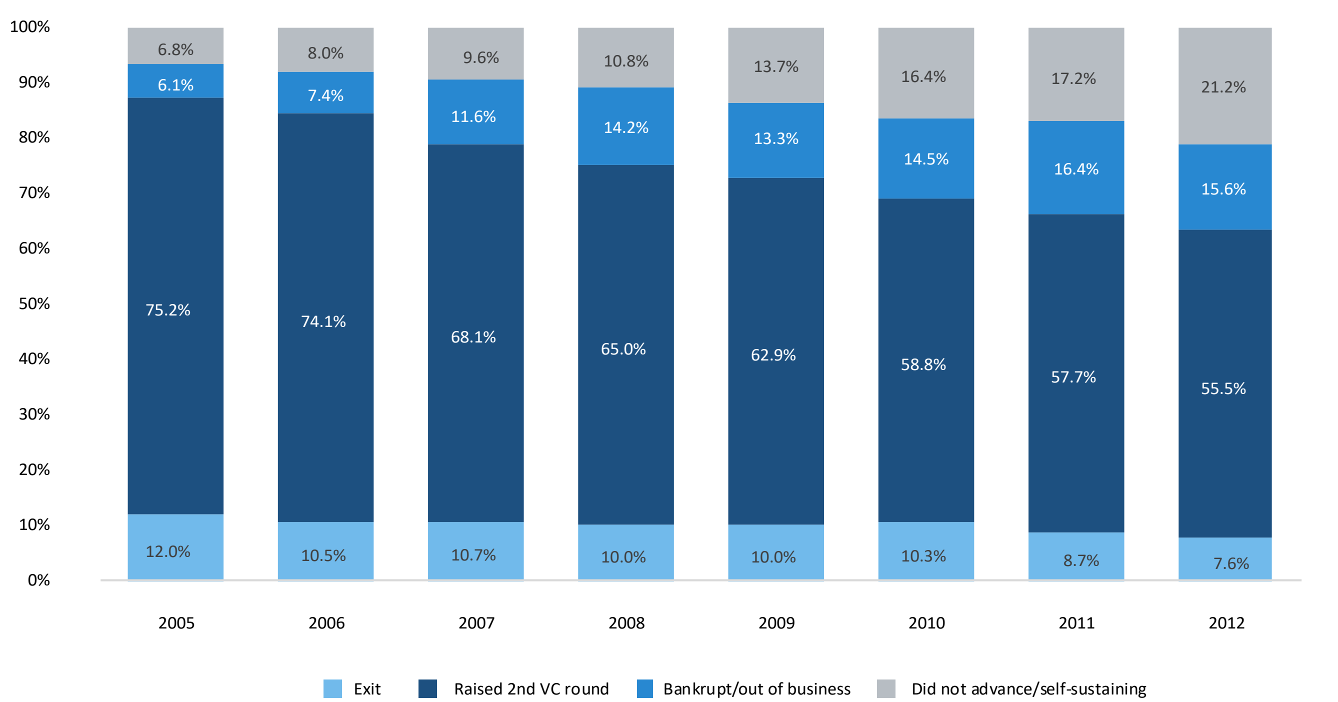
A "VC funnel" groups venture-backed startups in cohorts by the year of their first venture round.

We use these cohorts to highlight proportionate exit, bankruptcy, follow-on or self-sustaining outcomes.

VC funnel cohort analysis

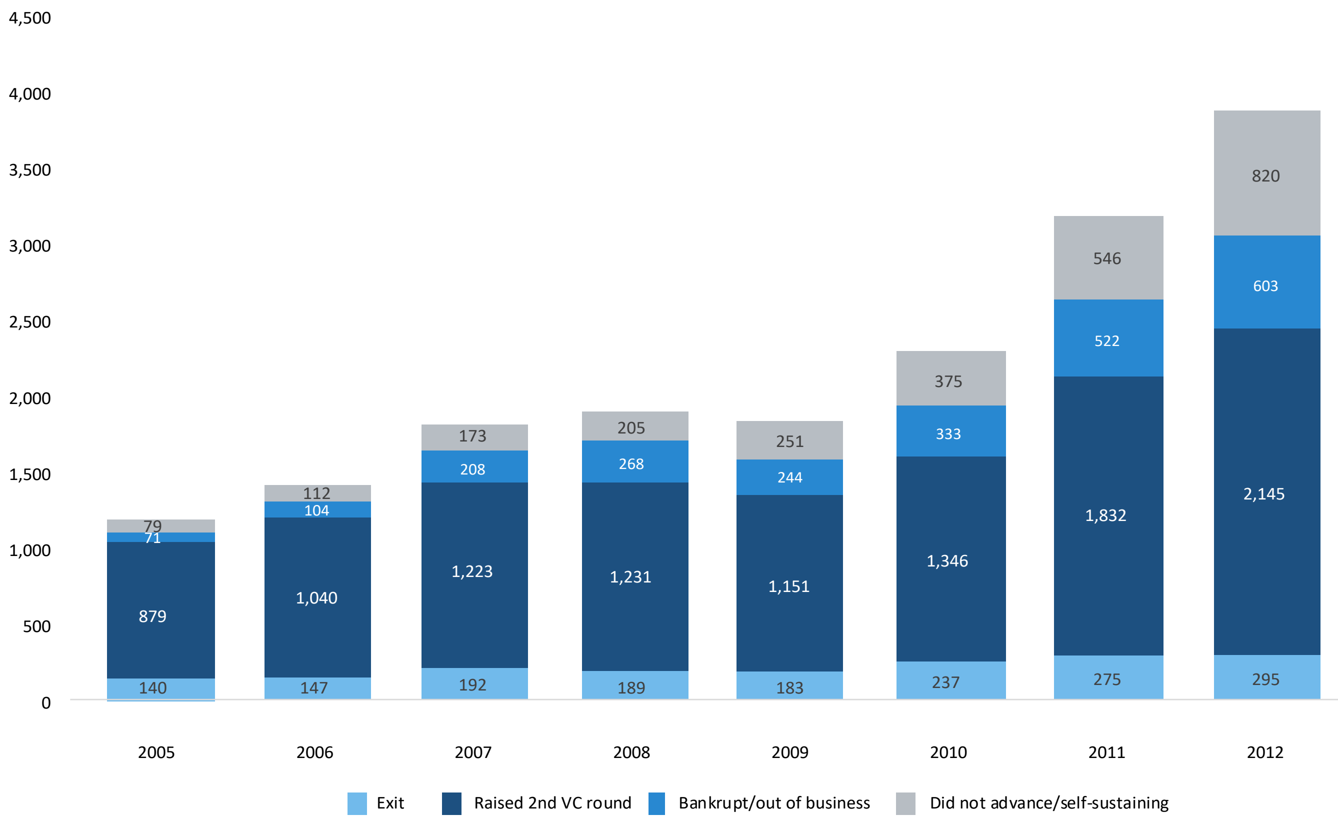
Moving beyond macro trends, we employ a "VC funnel" that groups startups in cohorts by the year in which they received their first round of funding to identify the proportion that went on to a specific outcome. We funnel the outcomes by the number of companies that went on to bankruptcy,

Outcome of startups following first VC round (%) by first-financing cohort



Source: PitchBook | **Geography:** Global

Outcome of startups following first VC round (#) by first-financing cohort



Source: PitchBook | **Geography:** Global

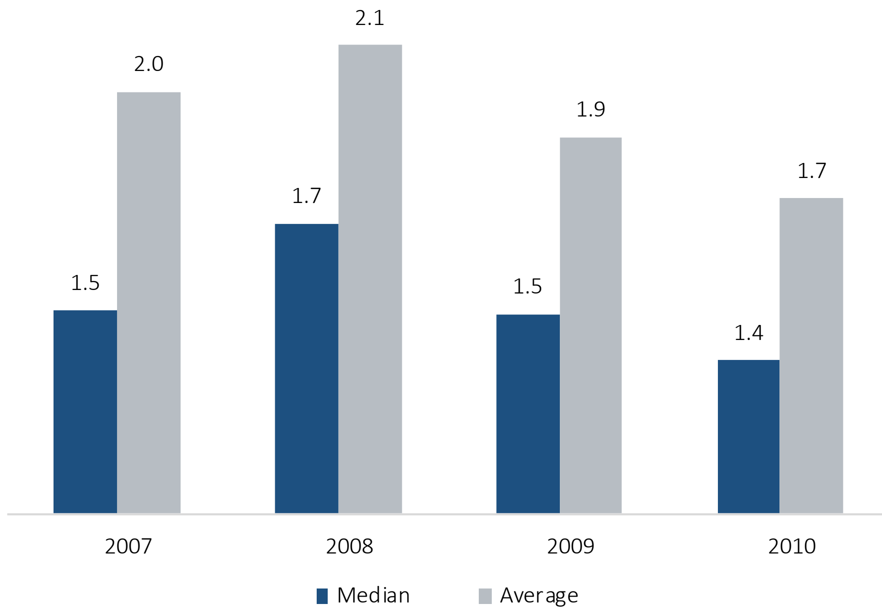
experienced an IPO/acquisition/buyout, raised a follow-on round of funding or went on to self-sustain. From this point, the term "cohort" will refer to the sample of companies that received their first VC round in a designated year.

Step-ups and time between rounds

Companies funded just before the recession (2005 and 2006 cohorts) altogether were more persistent in raising a follow-on round than companies funded in the recession; 75.2% of companies that raised their first round in 2005 went on to raise a second round, whereas only 65.0% of companies that raised in 2008 and 62.9% in 2009 did the same.[2] Although these data points suggest low values for that point in time, we also see the proportion of startups that raised a second VC round level out in the high 50s in later years, as VC investment became more prevalent. Although there were likely cyclical factors at play in the follow-on success rate, the total number of companies receiving financing grew considerably after the recession, which likely also contributed to lower baseline for follow-on success rates following 2009.

2: We note that as with all private markets data, reporting may be biased toward companies that survived and not totally reflect all outcomes.

Median and average years between first and second VC rounds by first-financing cohort

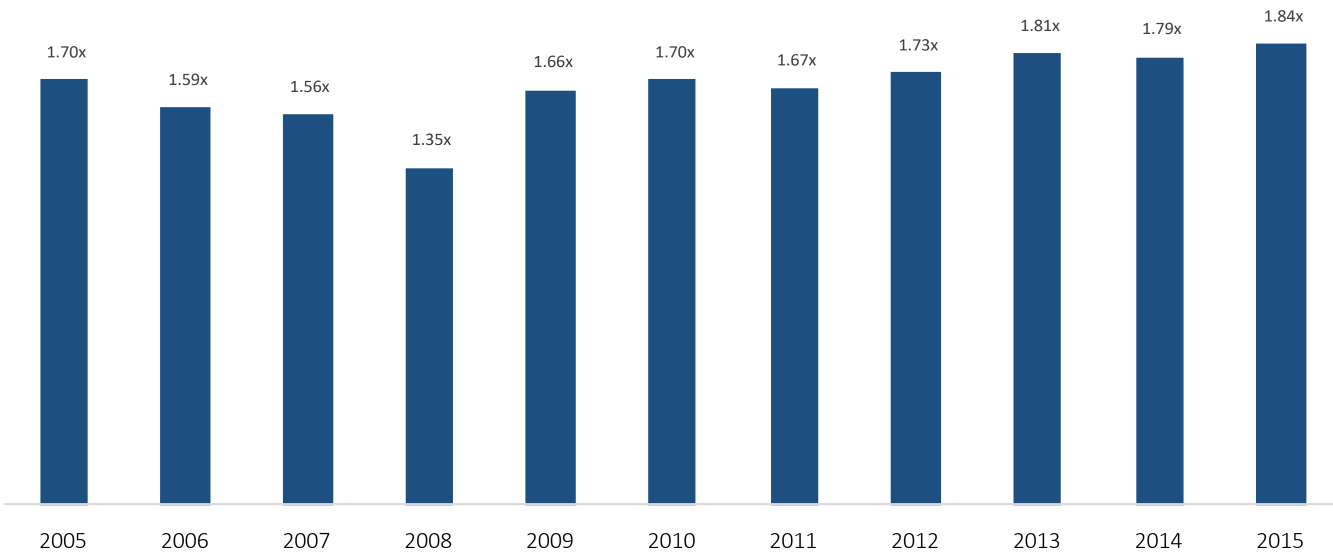


Source: PitchBook | **Geography:** Global

Additionally, startups funded in the run-up to the crisis appear to experience longer periods between financings, as startups in 2008 on average took nearly 2.1 years to raise a second round, compared to the near 1.7 year average seen in the 2010 cohort. The 2008 cohort also saw a considerably lower step-up from the post-money valuation of its first round to the pre-money valuation of its follow-on round, at about 1.4x, a significant departure from post-recession cohorts whose median valuation step-up hovered in the 1.6x-1.8x range.

Taken together, these observations suggest that startups seeded in 2008 took a longer amount of time to create less value. Though we can only speculate on what the exact effects the recession had on these companies, the trends suggest they likely bootstrapped for longer periods and/or retained discipline in burn rate, as investors were likely more selective in choosing strong companies. Additionally, given the attrition in follow-on financings, businesses that did secure a follow-on round may have exhibited strong fundamentals, products or business models that facilitated resilience throughout.

Median VC valuation step-up between first and second round by first-financing cohort



Source: PitchBook | **Geography:** Global

Bankruptcy and exit outcomes

Companies funded in the recession also saw higher concentrations of bankruptcies in second-round outcomes compared to cohorts preceding the recession, which may indicate greater risk for the investors involved. Of the 1,893 companies that closed their first round in 2008, at least 14.2% went bankrupt or out of business, compared to at least 6.1% for the 2005 cohort.[3] Startups in this period likely saw a higher attrition rate with less access to or less willingness from investors to provide risk capital. We hypothesize that companies developing software products (rather than hardware or physical consumer goods) may have not experienced as much pressure thanks to lower capital expenditure costs. The exception may be in healthcare, where investors have low revenue expectations for biotech and drug discovery startups, instead prioritizing successful development and delivery of novel treatment.

In the years following the recession, we also see a greater portion of companies that did not raise another venture round or that self-sustained. Due to the inherently opaque nature of private and venture markets, we do not know for certain the outcomes of these companies. For example, a number of VC-backed companies may have ceased to exist rather than filing actual bankruptcy proceedings. Therefore, it's worth noting that there could be a higher proportion of unreported bankruptcies in post-crisis cohorts as well.

3: Within the data, there could be underreporting of companies' outcomes, particularly in this earlier period of venture funding. All reported bankruptcy statistics should be thought of as a minimum boundary of possible bankruptcies for a cohort.

Conclusion

Our initial analysis of venture activity in the Great Recession shows that startups seeded in the crisis seemingly had a greater degree of difficulty raising follow-on funding. When crisis cohorts did raise a second round, it appears it took several months longer and was also at a lower valuation step-up than second rounds raised in pre- and post-crisis years. While the most successful exits always have elements of luck and timing, these businesses may also have found success later on thanks to resilient business models, disciplined operations and cash spend, and inelastic products or services.

The goal of this analysis was to provide greater insight into outcomes for startups initially financed in the recessionary period, to better round hypotheses in what to expect in the case of another crisis. Beyond these preliminary findings, there is still much to be explored in terms of characteristics of exits for later VC rounds for recession cohorts. Given the complexity of this topic, we reserve that research for future analyses.