AngelList Advisors Supplementary Data

In connection with the SEC's review of AngelList's proposals on the harmonization release, our subsequent discussions with the Staff, and the recent amendments to the definition of "Accredited Investor" that point to a lack of data on the performance of angel and early-stage venture investments, we are providing additional data relating to our recommendations to:

A. Improve stage-appropriate market liquidity for accredited investors;
B. Expand access to diversified funds investing in startups; and
C. Simplify the regulation of startup investing.

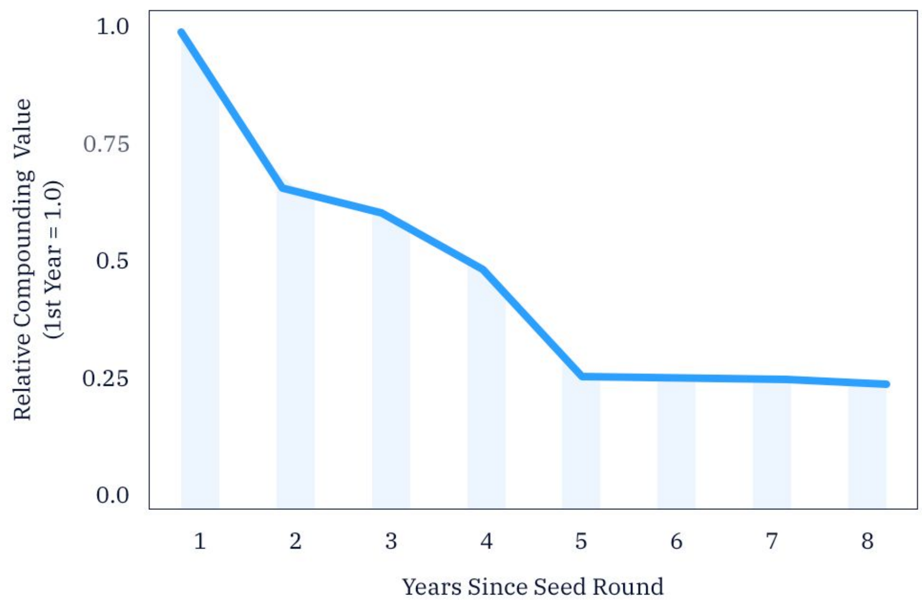
I. A Market Driven by Power Law Returns

The charts in this section, unless stated otherwise, are based on 684 AngelList-syndicated investments[1] that are (1) winning syndicates (i.e., syndicates with total value to paid-in capital greater than 1)[2] that (2) have at least one year to season (or have exited) and (3) for which we know the date of the seed round, as of December 6, 2019.

The data presented in this section supports the notion that "Investors who have chosen to participate in early-stage venture should broadly index". Power law states that a relative change in one quantity results in a proportional relative change in another. Since money losing investments (i.e., syndicates with total value to paid-in capital less than 1) do not appear to follow a power law, we do not consider them here. Our basis for this is that, regardless of whether the pool of money-losing investments represents 25%, or 50%, or 95% of the universe of early-stage investments, the losing fraction only affects the quantitative returns of an investor, rather than changing the strategic rationale for broadly indexing. As we will show, the logic of broadly indexing at the early stage is a direct consequence of the special kind of power-law returns that solely result from winning early-stage investments, and that is why we are not "cherry picking" by only considering winning investments in this Section. In Section III, we will present further evidence from the AngelList platform that supports the lexically similar, but logically distinct, statement "Investor portfolios could benefit from exposure to early-stage venture capital". In that Section we will consider all investments, including losing investments.

A significant amount of a startup's value is generated in its first years

[1] Syndicated investments are investments made on the AngelList platform into one special purpose vehicle that itself makes one underlying portfolio company investment, rather than investing in a diversified pool of investments.
[2] Valuations are generally marked to a company's latest priced financing round, as disclosed to AngelList. While AngelList's valuation sources are believed to be reliable, AngelList does not verify the accuracy of such valuations. Companies that have not received new investments in a priced round since the last mark are held at cost or may be marked down at AngelList's discretion according to its valuation policy. Valuations and returns do not account for liquidation preferences and other non-financial terms that may affect returns.



AngelList compared the relative value of each year of a startup's life on its compounded returns. The results suggest that each successive year of a company's existence is worth less and less from the perspective of compounding investment growth. The first year of a company's investable life creates as much value to investors as years five through eight combined. By the time companies go public, growth rates will have tailed off significantly, resulting in lower expected returns for public investors.

Performance of early-stage investments are drawn from a heavy-tailed power-law distribution

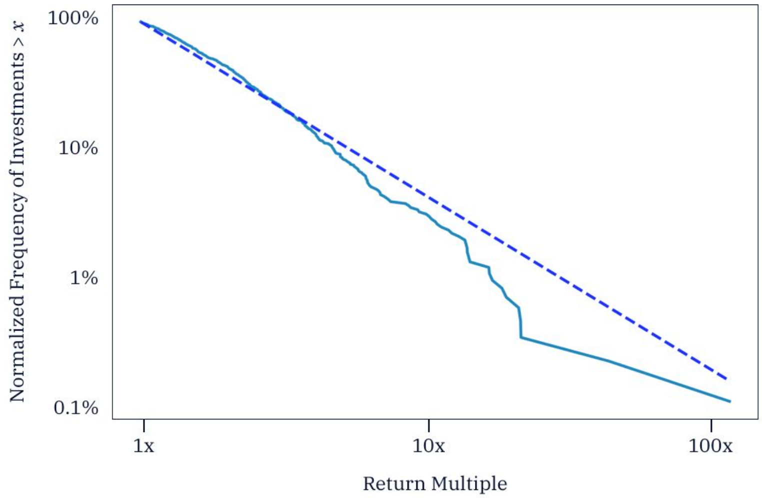
The returns of winning early-stage venture capital investments are consistent with a power-law distribution where huge outliers drive a large discrepancy between average (mean) and typical (median) returns: that is, the best investments are worth exponentially more than the great investments, which are themselves worth exponentially more than merely good investments. AngelList's data support this intuition.

The returns draw from a probability distribution

$$p(x) \propto x^{-\alpha},$$

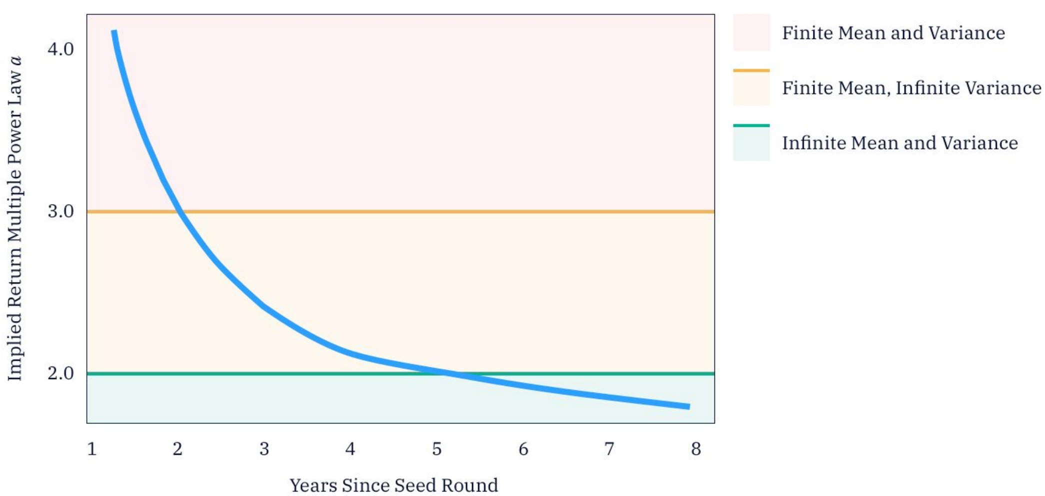
where α is the exponent. Using the log-likelihood maximization technique from the work of Clauset et al. (2009)[3], we derived a fit of $\alpha = 2.42$ based on AngelList data (dotted line below).

[3] https://www.cse.cuhk.edu.hk/~cslui/CMSC5734/Clauset_Shalizi_Newman_09.pdf



The above plot of the normalized number of AngelList's 684 winning investments to their corresponding return multiple shows that AngelList's results are consistent with the fairly extreme power-law distribution. That is to say, a small number of highly successful investments account for a substantial portion of returns for the overall market. Abraham Othman, PhD, Head of Data Science at AngelList, discusses this topic at length in his paper Startup Growth and Venture Returns. [4]

After five years, winning seed investments begin to draw from a power-law with theoretically unbounded mean



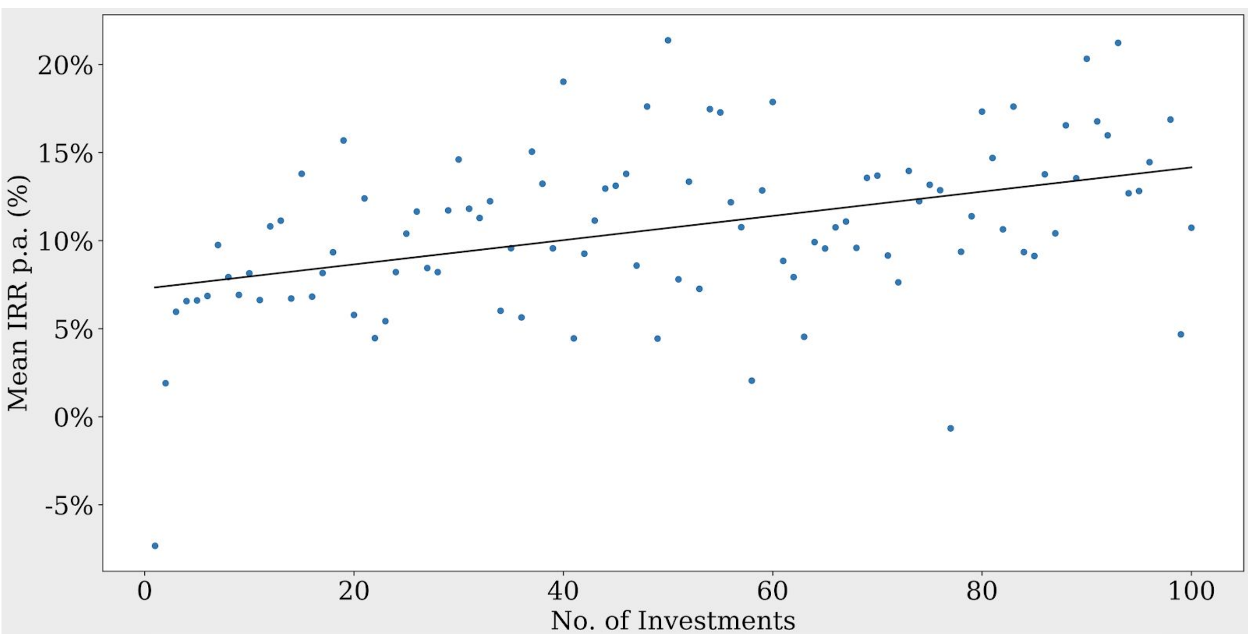
While it is evident that the earliest years of a company's existence tend to have the highest growth rates, companies we show data for here still tend to continue growing in their later years. Because these companies continue growing, the exponent of return multiples of a seed round investment continues to decrease, producing

[4] https://angel.co/pdf/growth.pdf

more extreme return multiples, over time. After approximately 5.1 years the investment's return multiple begins to draw from an α < 2 power law, where the expected return from the investment becomes theoretically unbounded. The lines at α = 2 and 3 represent breakpoints in the qualitative properties of power-law distributions and are drawn for reference. Typical time from seed to IPO is now well extended beyond five years as startups are opting to raise IPO-sized equivalent funding while maintaining private backing, resulting in rising private-market valuations.[5]

The opportunity cost for missing a winning early-stage investment is unbounded

α < 2 power laws are an unfamiliar probability distribution, even for seasoned statistical practitioners, and carry with them some unintuitive results. It is not the case, for example, that investors should expect to make an infinite amount of money investing in startups. Instead, the way an "unbounded mean" distribution manifests itself in practice is through seeing a sample mean increase in the size of the sample. That is, under an α < 2 power law we would expect to see an increase in expected returns from investors who make more investments. This is supported in AngelList data on the performance of our investors:



To make this figure, nearly 10,000 investors on the platform were grouped by the number of investments that they had made, and then the average IRR per annum (p.a.). was calculated for each group. The black linear regression line has a slope of 6.9 bps, indicating that we would expect the average portfolio with 100 investments to perform nearly 7% better each year than the average portfolio of a single investment.

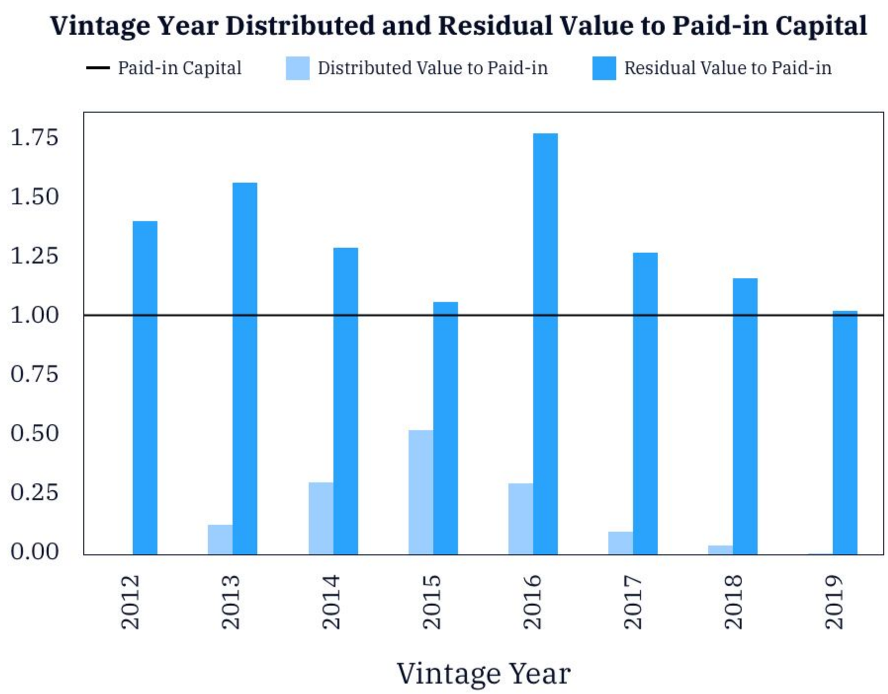
Now we can draw together the logic behind broadly indexing: our data shows that winning early-stage investments draw their returns from an α < 2 power law, and that such power laws uniquely manifest in practice

[5] Pitchbook NVCA Venture Monitor Q4 2019, page 12.

through increasing an investor's expected returns from making more investments. It follows that early-stage investors increase their expected return when exposed to *every* winning investment of the asset class. The implementable policy to be exposed to every winning investment in the asset class is to be exposed to every investment in the asset class through broadly indexing.

II. The Growing Cost of Illiquidity

Value generated remains locked up in companies staying private for longer



Source: Based on 3,594 AngelList investments closed before or on December 31, 2019. Distributed value and residual value as of February 25, 2020.

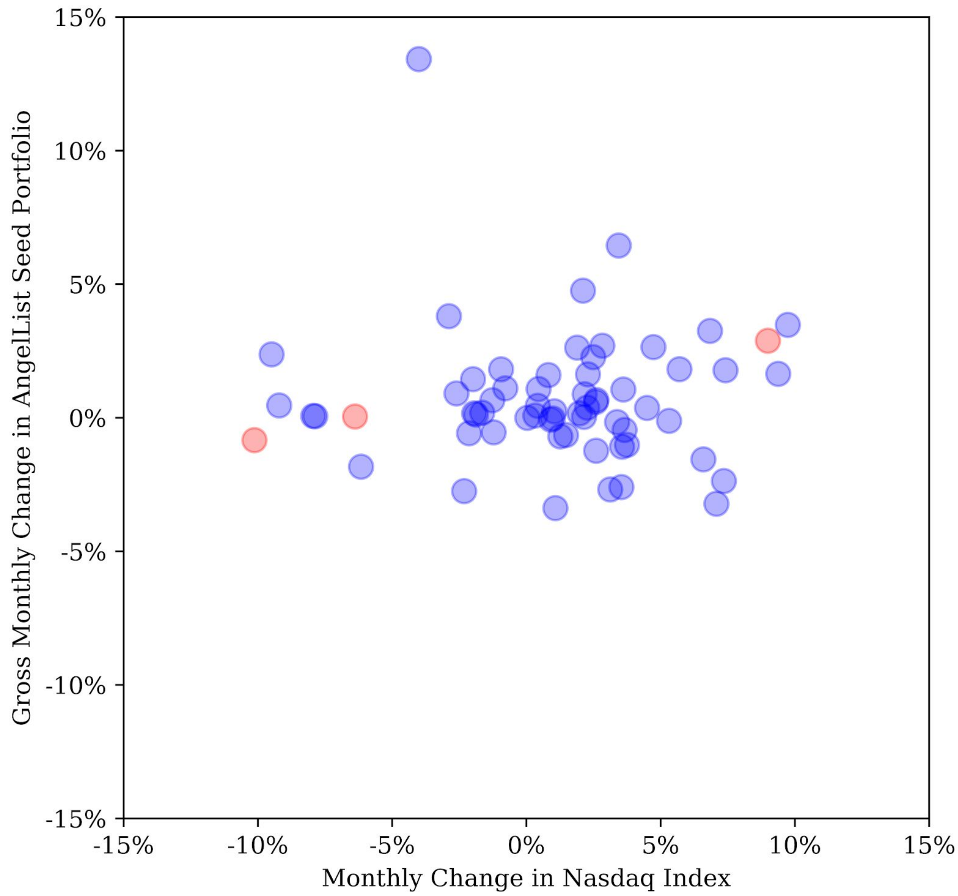
Much of the value generated in early-stage investments remains locked up, even after five years from the date of the first investment. We calculated the ratio of Distributed Value to Paid-in-Capital (DPI) and Residual Value (unrealized gains in value) to Paid-In-Capital (RVPI) for each vintage year for the 3,597 syndicate and fund investments made on AngelList since 2012. Each vintage we analyzed has positive aggregate returns (total DPI plus RVPI exceeds paid in capital). Across all years, however, the unrealized value of that vintage year's investments is greater than the amount of capital paid in, and the amount of distributions (money returned to investors) is less than the amount of money originally paid in. Companies choosing to stay private longer exacerbates the impacts of this illiquidity.

III. The Benefits of Broad Access to Diversified Pooled Investment Vehicles

AngelList Venture

Early-stage venture capital returns are competitive, but have no correlation with public markets

In total, investments on the AngelList platform have an overall 13.8% return per year, compared with a return of approximately 13.4% per year in the NASDAQ Composite Index over the same period.[6]

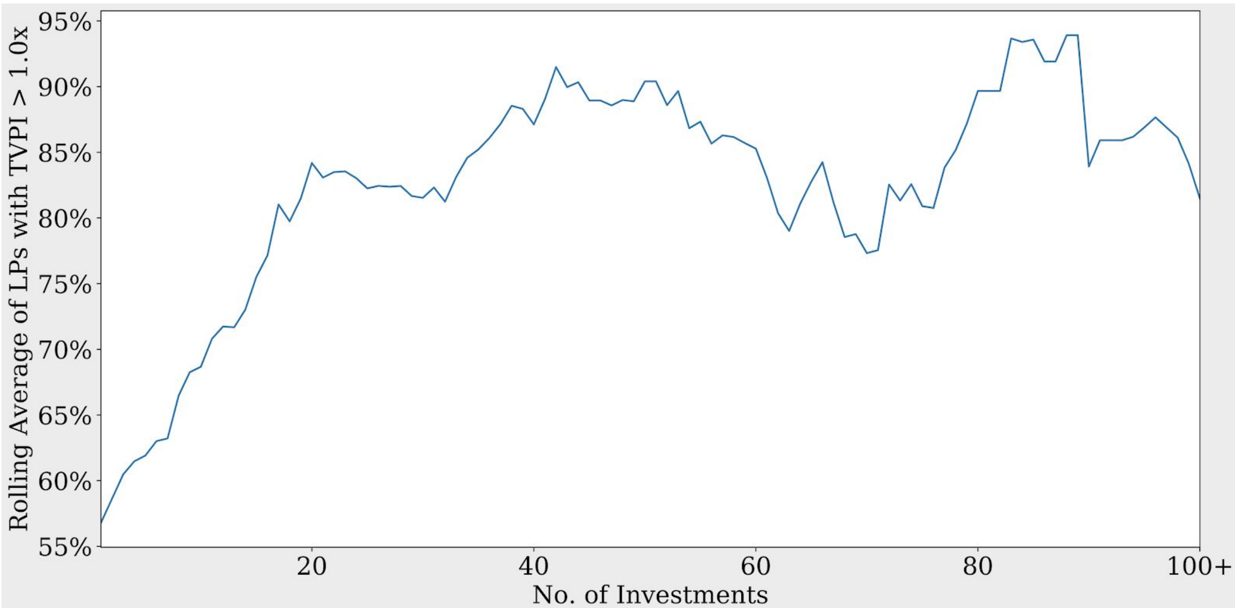


Source: Gross monthly returns of AngelList seed investments from January 1, 2015 through April 1, 2020. Nasdaq monthly returns are calculated over the same period. The red dots are from January, February, and March 2020.

We compared monthly percentage changes in the Nasdaq index since 2015 to corresponding monthly changes in the total gross value of a portfolio of every seed investment on AngelList (4,806 investments) with the results shown above. A correlation of -0.0 suggests that our results are consistent with there being no correlation between the performance of seed investments in AngelList's portfolio and the Nasdaq. To our knowledge, there is currently no diversified fund product that is broadly available to provide investor access to the startup equity asset class.

[6] AngelList platform returns are calculated net of fees, expenses and carried interest, as of April 1, 2020, and are partially or fully unrealized. Nasdaq returns are calculated from January 1, 2013 through April 1, 2020.

Diversification leads to a more stable value-generating portfolio



Source: AngelList performance data as of April 15th, 2020 from the approximately 10,700 investors with AngelList portfolios of at least a year of effective duration.

The fraction of investors with portfolio value, or Total Value to Paid-In Capital (TVPI), greater than 1 increases with the number of investments those investors have made. Almost 90 percent of investors with exposure to 90 or more investments through the AngelList platform have positive portfolio values.[7] Similarly, more than half of AngelList LPs with three or fewer investments have negative portfolio values, indicating that they have lost money on the platform. Keep in mind that most of the portfolio net values are unrealized and that they may or may not lose value in the future.

7 Of the approximately 10,700 investors that have invested through the AngelList platform for longer than one year, 869 have exposure to 90 or more investments, either through syndicate or pooled investment funds.