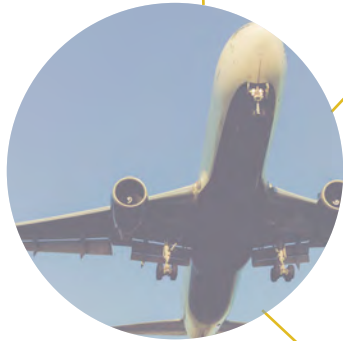
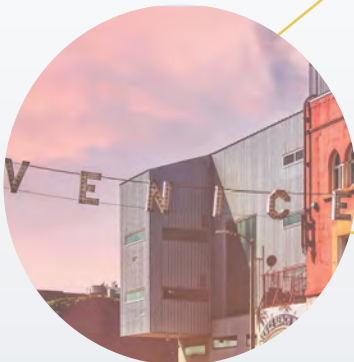


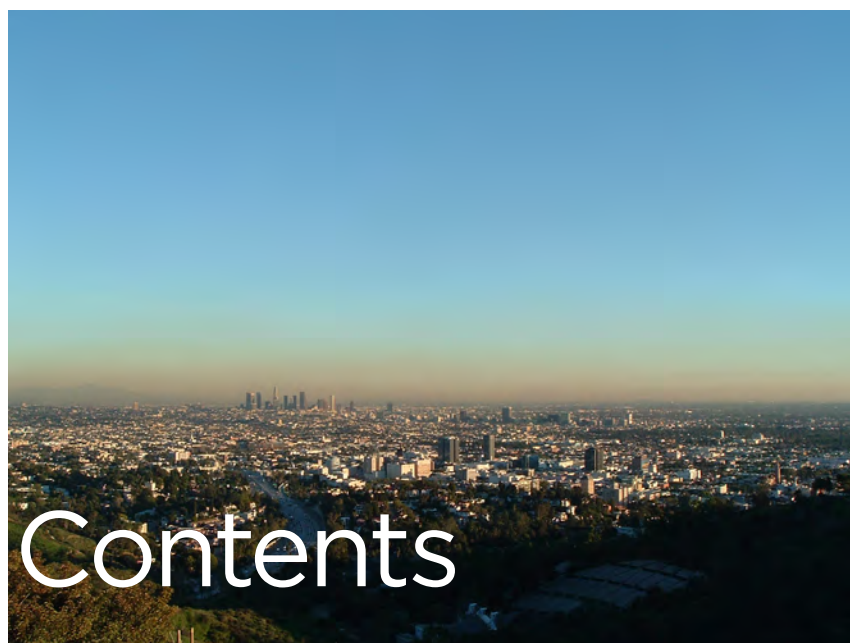
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2017





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A sizable, burgeoning VC ecosystem

Introduction

When it comes to analyzing trends in venture investment, thinking in terms of an ecosystem is one of the more powerful approaches, as much within venture capital is not quite as quantifiable as one would like. Moreover, framing an investment ecosystem as an overlapping, interlocking system of cycles is especially illuminating when it comes to analysis of VC within a specific region, given the interplay between general business cycles, fund investing lifecycles, policy mandates and more. When zeroing in on one of those metropolitan areas, the location-specific historical trend in the supply of startups jockeying for and garnering VC investment becomes a more critical component for analysis. The metro-specific growth over the past several years also matters considerably. On top of that, it's important to highlight how metro-specific venture activity is necessarily limited by the speed of the spread of viable information within a given network, plus the size of the nodes in a venture network, i.e. the size of capital sources. Likewise, livability and interconnectivity within a metro matter, ranging from metrics such as ease of doing business, to tax rates, to typical rents, to sprawl. The purpose of this report series is to place PitchBook venture data within a broader context on a more geography-specific basis, the better to illustrate potential use cases for analysis. It's critical to note that within that broader context one must take timing into account. The growth percentage over time is an important indicator of a venture ecosystem's overall health, and there is always more to any existing ecosystem than can be rendered in a dataset.

We welcome your feedback and questions—reach out to us at reports@pitchbook.com. I'd like to thank Okapi Venture Capital, Upfront Ventures and the National Venture Capital Association, among others, all of whom assisted in the production of this report.



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LA in the US Venture Ecosystem

Snapshot of LA MSA's size within the US venture ecosystem as a whole

In early August 2016 we released the first US Venture Ecosystem: FactBook, the largest PitchBook report ever and a compendium of venture and relevant economic datasets for the top 12 (by overall venture activity) metro areas within the US. Just as a recap, we have reproduced the table ranking the size

of the 12 venture ecosystems below, to provide some context for where the LA MSA venture ecosystem stood in terms of overall size in mid-2016. More rigorously assessing the quality of a given venture ecosystem is something we are still working toward, so we'd like to stress that size does not entail

quality in any way. In the case of Los Angeles, what's more interesting to assess is how it stacks up to what are normally thought of as epicenters of venture capital activity—the Bay Area-New York axis.

Note: As of 6/30/2016, this ranking was generated by weighting capital raised, VC invested, VC activity and venture-backed exit value equally, tallying up their ranking in each area, then summing and sorting from lowest to highest, with a lower score indicating a larger ecosystem.

MSA	Size of VC ecosystem, ranked	Total VC funds raised since 2006	Total VC invested since 2010	Total # of VC rounds since 2010	Total exit value since 2010
San Francisco	#1	#1 \$117.6 billion	#1 \$101.4 billion	#1 9,710	#1 \$90.8 billion
San Jose	#2	#4 \$35.5 billion	#2 \$43.3 billion	#3 4,152	#2 \$63.5 billion
New York	#3*	#2 \$43.6 billion	#3 \$33.9 billion	#2 6,174	#4 \$17.6 billion
Boston	#4	#3 \$41.2 billion	#4 \$30.7 billion	#4 3,664	#3 \$28.7 billion
Los Angeles	#5	#9 \$2.7 billion	#5 \$21.3 billion	#5 3,403	#5 \$11.2 billion
Seattle	#6	#5 \$7.6 billion	#7 \$8.4 billion	#6 1,717	#10 \$6.7 billion
Chicago	#7	#7 \$3.4 billion	#8 \$8.3 billion	#9 1,348	#6 \$9.95 billion
Washington, DC	#8	#6 \$4.8 billion	#9 \$8.2 billion	#7 1,416	#9 \$7.4 billion
San Diego	#9	#11 \$1.5 billion	#6 \$9.4 billion	#10 1,317	#7 \$8.7 billion
Austin	#10	#10 \$1.9 billion	#10 \$6.6 billion	#8 1,376	#12 \$3.7 billion
Philadelphia	#11	#8 \$3.0 billion	#12 \$4.8 billion	#11 1,003	#11 \$5.4 billion
Atlanta	#12	#12 \$1.15 billion	#11 \$5.0 billion	#12 837	#8 \$7.8 billion

Source: PitchBook. *New York and San Jose technically tied but given San Jose's exit value and VC invested we gave it second place.

A relatively healthy economy

LA's current economic condition & recent trends

When assessing how the health of the local economy impacts the venture ecosystem, some primary factors to look at are tax burdens, relative wages, rental rates and the supply of talent. Taking those inputs in reverse order, the LA MSA enjoys the supply pipelines of graduates from multiple universities that thereby supports the incidence of entrepreneurship. Moreover, LA's cultural diversity and welcoming climate enhance livability. However, sunshine and taco trucks aren't enough to outweigh not being able to afford a place to live.

Luckily, even though rental rates and median home prices seem set on increasing in Los Angeles on the whole—and consumer prices are also rising in general—new home construction rates also are growing, as are wage rates and employment growth. As always, different data sources' narratives diverge, with Apartment List divulging that Los Angeles city rents were up 5.2% in 2016 relative to 2015. That dovetails neatly with UCLA declaring LA the least affordable rental market in the nation in 2014. On the whole, taking more recent data into account, living accommodations appear expensive yet not preposterous, especially given efforts to expand the supply of affordable housing.

The Los Angeles County Economic Development Corporation's forecast for 2017 and 2018 was for stable, albeit slower, growth for the state as a whole, with the LA county seeing

4.9% growth in per capita income in particular. Tax burdens remain fairly onerous, by and large, although that is on more of a statewide basis than anything especially related to the LA MSA. Regulatory burdens are also heavy.

All in all, accordingly, the economic forecast as it directly would affect

entrepreneurship and venture funding remains fairly promising, with only potentially higher costs discouraging those looking to bootstrap or run lean. Positive spillover effects from overall growth and rising wages—even if slower than in past—will counterbalance to a significant degree, however.

LA metropolitan statistical area (MSA)	Select statistics
Labor force, January 2017	6.65 million
Labor force growth, Jan. '16-Jan. '17	.01%
Employment growth, Jan. '16-Jan. '17	1.4%
Unemployment growth, Jan. '16-Jan.'17	-9.2%
Average hourly wage, all occupations, May 2015	\$25.96
Year-over-year percentage change in pay, 4Q 2016	2.3%
Approximate range of change in annual fair market rents, 1-4 bedrooms	3.4%-3.7%
Consumer price index annual increase for LA MSA, February 2017	2.7%
Forecasted nominal per capital personal income, Los Angeles County, 2017	\$57,168
Combined number of jobs in two fastest-growing industries (healthcare & social assistance, administrative & support services) forecasted over next two years, LA County, 2017-2018	54,200
Growth ranking among US metropolitan areas, 2010-2015	52
Forecasted annual percent change in real GDP for Los Angeles County, 2017	2.5%
Forecasted population growth rate in Los Angeles County, 2017	0.6%
Annual percent change in real GDP for Los Angeles County, 2016	2.2%
Forecasted YoY increase in residential permits, Los Angeles County, 2017	15.96%
Forecasted YoY increase in median home price in Los Angeles County, 2017	7.4%

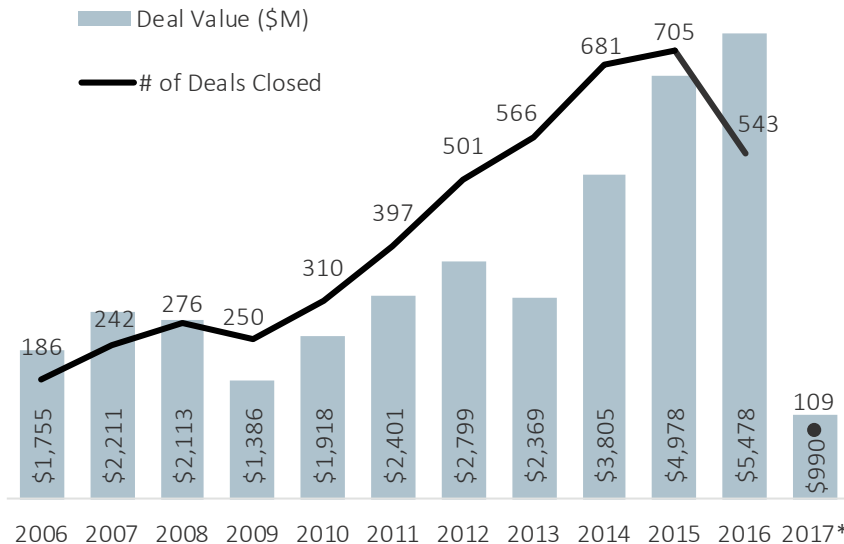
Sources: US Bureau of Labor Statistics, CA HUD FY 2017 Fair Market Rents, PayScale, Brookings Institution, Los Angeles County Economic Development Corporation

Where is LA in the cycle?

An overview of LA's venture investment activity

Mirroring national trends, VC invested stays robust even as financing volume declines

LA MSA venture activity

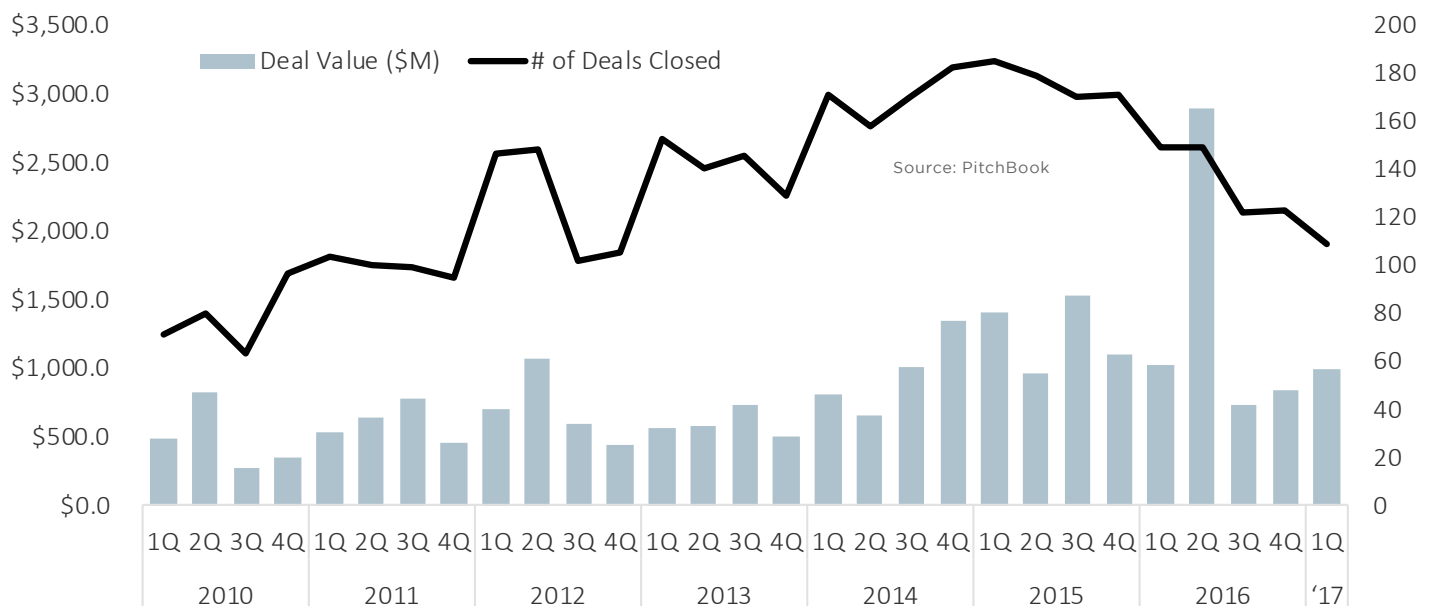


Source: PitchBook. *As of 3/31/2017

Key factors induce the prolongation of the VC investment cycle nationwide, including LA

Observers of the US venture industry have noted that by and large, transaction volume began to slip several quarters ago, even as capital invested stayed robust if not at record aggregate highs. As much of the national decline is attributable to angel & seed financing volume diminishing, the ongoing health in overall VC invested, not to mention venture fundraising, has suggested a cautious pullback primarily centered at earlier stages. Multiple factors are behind that overarching trend, key among which have been: the fluctuating participation of nontraditional large investors in venture, the shakeup of traditional funding models at the earliest stage, and artificial prolongation of market cycles via abnormal monetary policies that render private equity in general more alluring.

LA MSA venture activity



Source: PitchBook

Ample supplies of capital coupled with modification to angel & seed strategies exert sustained pricing pressure

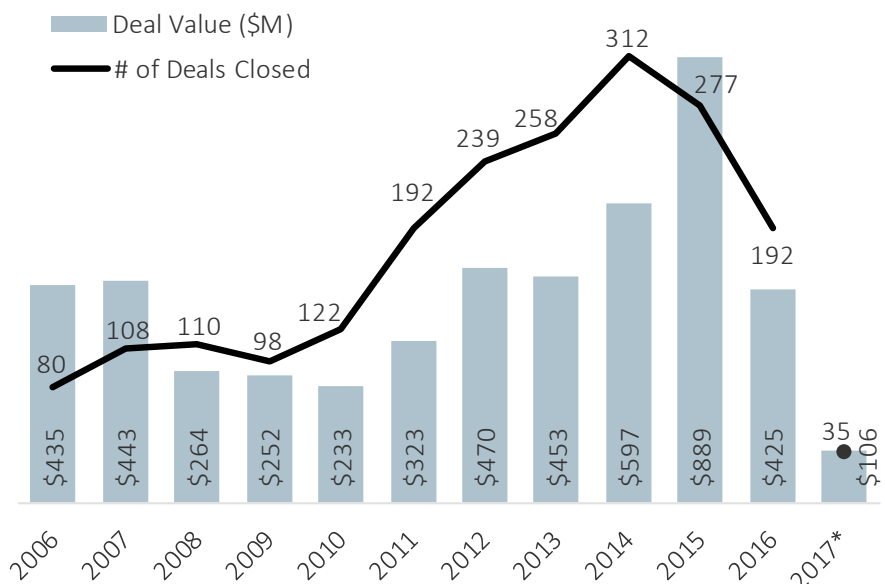
The current equilibrium at the national level is reproduced in microcosm in the LA MSA. Three primary factors exist in presently stable balance: significant levels of capital raised, the impact of accelerators/incubators, angel groups, and micro-VC funds upon the angel & seed stage, and the number of startups. The first factor exerts continual competition among investors seeking to deploy VC and consequently affects pricing pressures. Simultaneously, angel groups and accelerators/incubators formed and ramped up the sophistication of support available to founding teams, not to mention additional pricing pressure from the onset of fundraising strategies customized to that earliest of stages. Yet it is not as if the supply of startups has grown massively in response as of yet—accurate data on entrepreneurial rates is notoriously difficult to come by, but even if the Los Angeles-Long Beach-Santa Ana metropolitan area has a 0.51% rate of new entrepreneurs, according to

the Kauffman Foundation, that's not a large number. Moreover, quality constraints remain in place, leading to the present equilibrium of lots of dollars in the hands of cautious investors available for deployment, yet a relatively stable supply of new

startups to assess. Last but not least, in terms of technology industry cycles, much of the low-hanging fruit has already been snagged, thus contributing to the general decline in first-time financings not only nationwide but also in the LA MSA.

The volume of first-time financings is still subdued

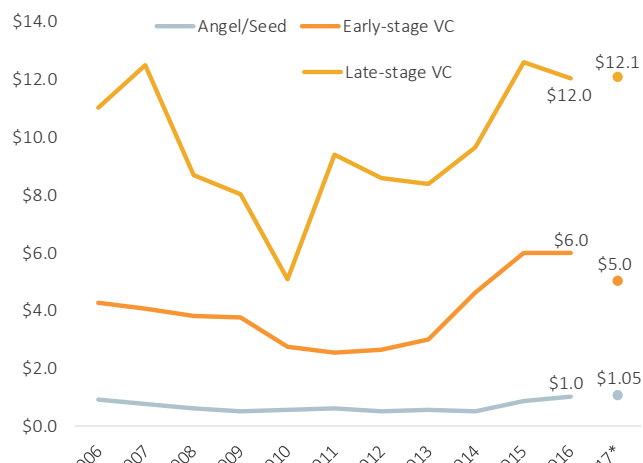
First-time financings of LA MSA-based startups



Source: PitchBook. *As of 3/31/2017

Deal sizes maintain at an elevated level

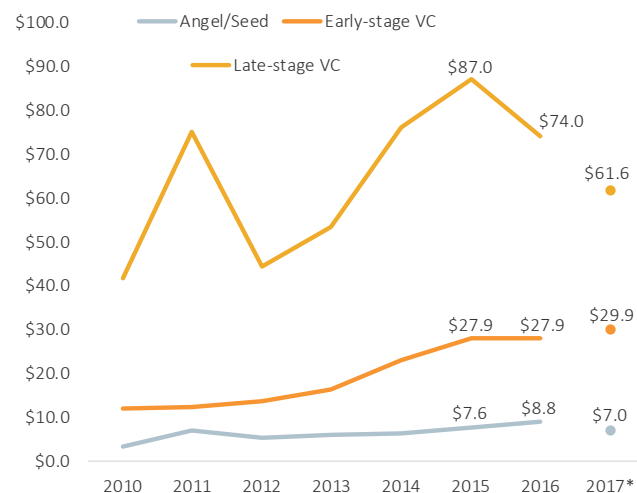
Median venture financing size (\$M) in LA MSA



Source: PitchBook. *As of 3/31/2017. Note: This chart was modified on 4/25/2017 as labels were incorrectly placed.

Valuations at the late stage slide once more

Median venture financing post-valuation (\$M) in LA MSA



Source: PitchBook. *As of 3/31/2017

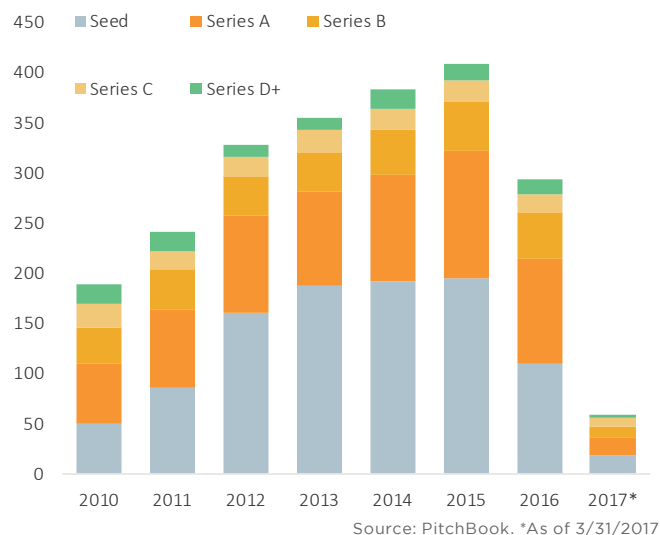
The great seed shakeout of 2016 testifies not only to the abandonment of traditional round nomenclature but also to the challenges of early-stage investment

During the course of research for this report, one source stated that the traditional nomenclature of early-stage VC was completely inapplicable now. That transformation has been ongoing for some years now, but its eventual effect on both later stages

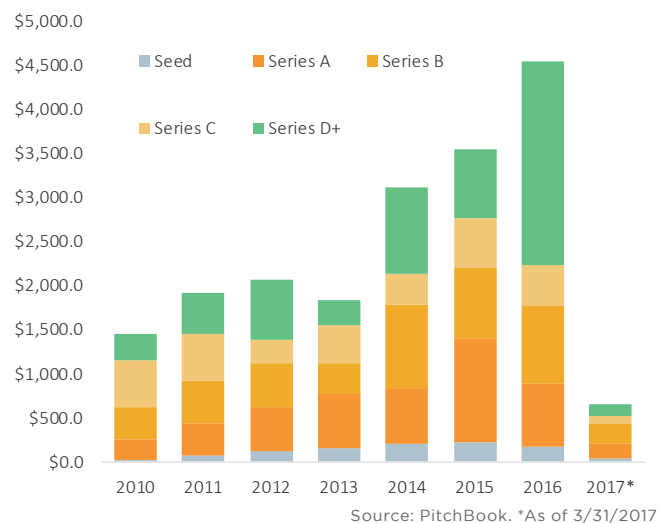
of the capital stack and angel & seed financing is worth spelling out. The first is evident in the sums invested and resilience of deal volume at the late stage. For the second, the pressure for earlier success grew only more intense given increased competition, as the volume of fundings swelled in the wake of the advent of novel strategies and consequent overly exuberant behavior on the part of some investors. The sad reality is that failure rates remained

at least the same. Thus, a shakeout simply due to the risk levels inherent at the angel & seed stage, especially after a boom, was highly likely. Subsidence to more typical historical levels is to be expected, which is borne out by the data thus far. For the burgeoning LA MSA ecosystem, however, that softening may well be especially lax, given the number of positive macro factors already cited.

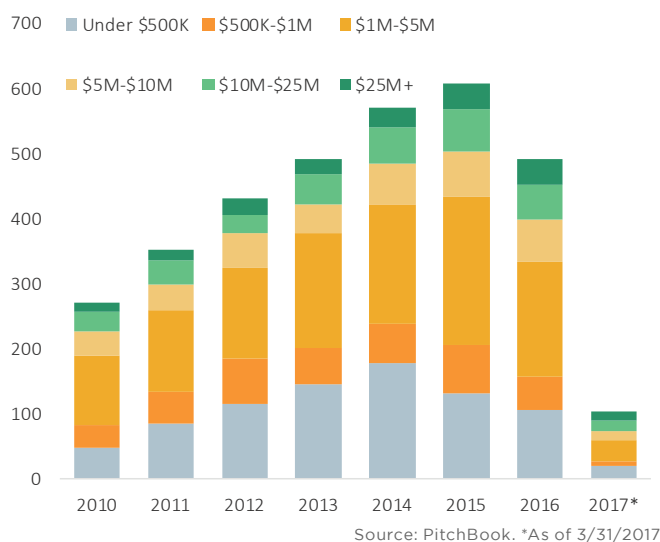
2016 saw the first significant plunge in seed volume LA MSA VC activity (#) by series



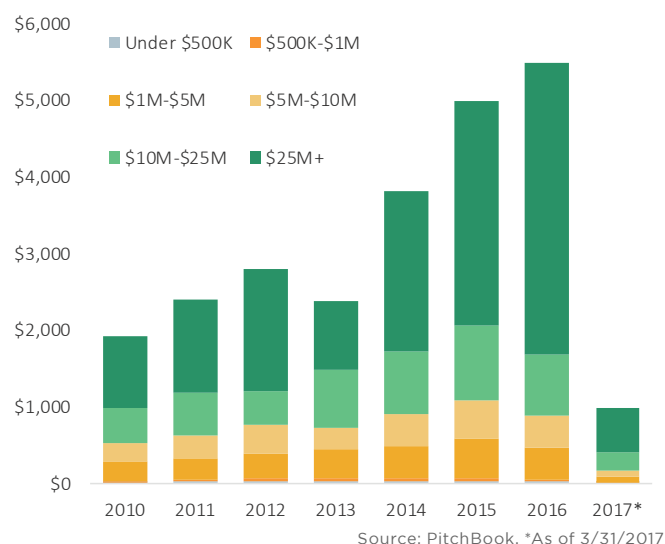
The blurring of traditional nomenclature continues LA MSA VC activity (\$M) by series



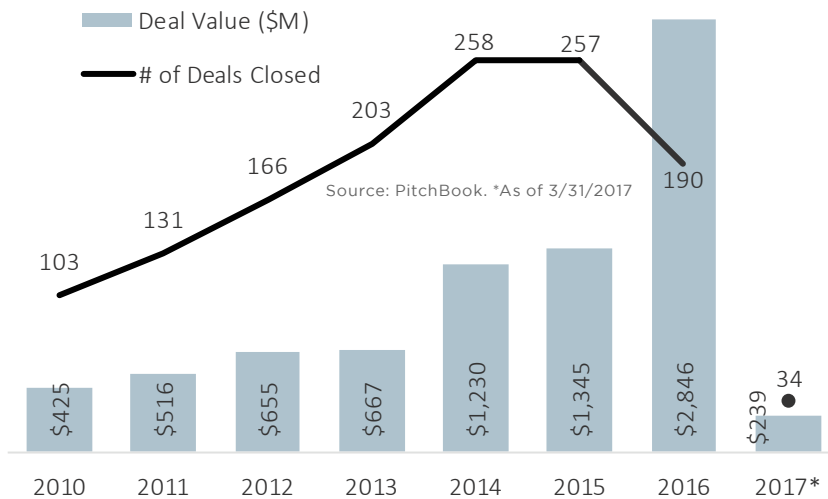
Smaller rounds dwindle LA MSA VC activity (#) by round size



Frontrunners propel larger rounds to forefront LA MSA VC activity (\$M) by round size



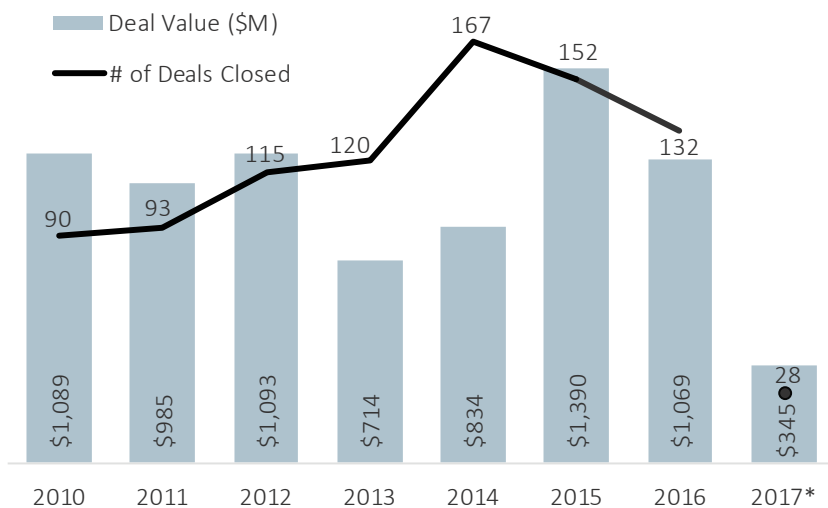
VC activity in the city of Los Angeles



Granular geographic levels hint at sector-driven disparities, although the LA MSA still sees most VC flow to software, even as deal volume diverges to a wide variety of industries

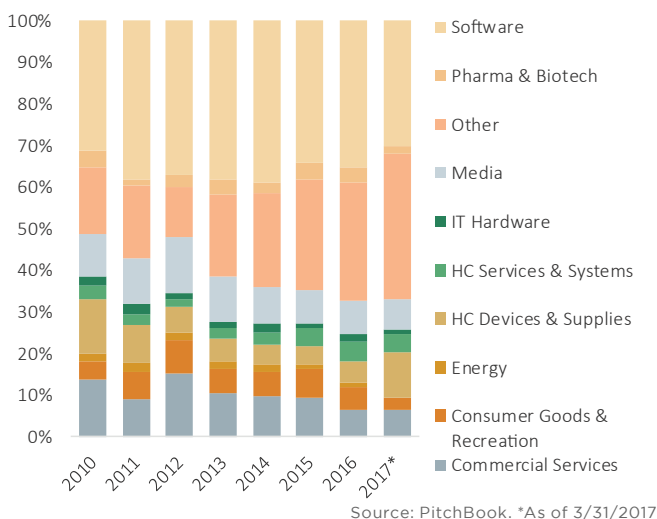
The more granular the scope of analysis, more volatility emerges, as few naturally occurring systems are truly simple. Hence, it is difficult to read too much into disparity between venture funding within the confines of the city of LA and that of Orange County. That said, the difference in deal volume is rather striking, although it's intriguing that the OC certainly attracts more consistent levels of VC invested, even stretching back to 2010. Anecdotally, more enterprise-focused businesses across the sector spectrum are based in the OC—Yamsafer, Karma Automotive, LunchBadger—as opposed to a consumer-centric Los Angeles—Snap, The Honest Company, Maker Studios. That level of granularity produces datasets that are too variable to read any distinct trends into, but the more consistent appeal of funding enterprise-focused businesses could help explain the OC's steady level of VC invested throughout the years.

VC activity in Orange County



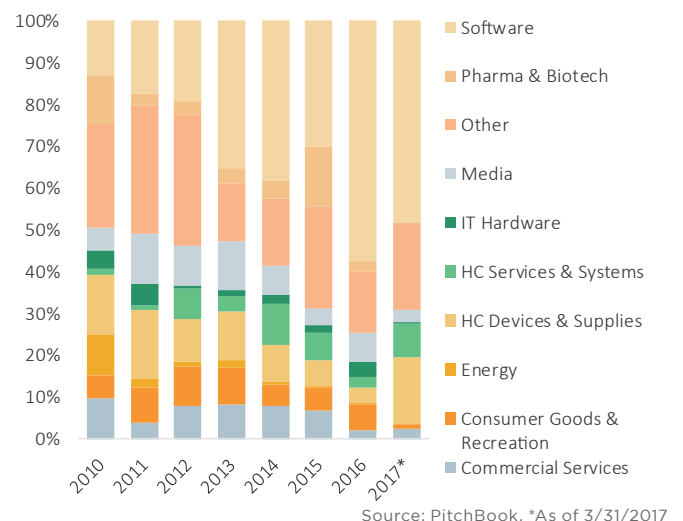
Diversity is evident

LA MSA VC activity (#) by sector



Most capital is still invested in software

LA MSA VC activity (\$) by sector



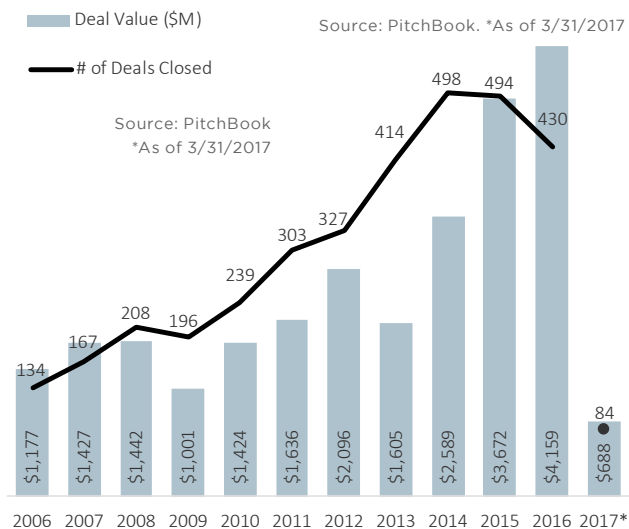
Silicon Valley drives massive proportion of all LA MSA VC activity, investors from further afield remain active

Proximity to Silicon Valley, relatively speaking, has its perks. VC invested by firms outside of LA MSA soared to a new high in 2016, borne by Snap's \$1.8 billion round, while 1Q 2017 turned in a healthy \$688 million. More interestingly, however, is the

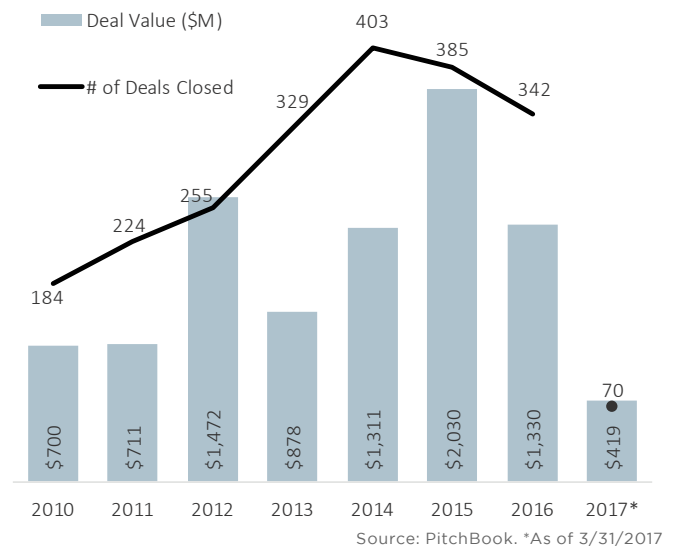
still-substantial rate of financing by investors that aren't headquartered within the state at all. Understandably, overall volume has lowered in tandem with national trends over the past few years, but last year alone 342 rounds for a cumulative \$1.3 billion occurred in LA MSA at the behest of outside investors, whether they were from Seattle or New York. Understandably, outside activity has skewed more

toward larger rounds as of late; risk profiles have grown more stringent and, moreover, typically larger and more established businesses attract outside investment in the first place. LA MSA is hardly alone in the trend of more firms sourcing abroad even if they don't end up closing that many more deals as a result. Recent examples include Chicago-based Pritzker Group Venture Capital, which is ramping up its presence in LA.

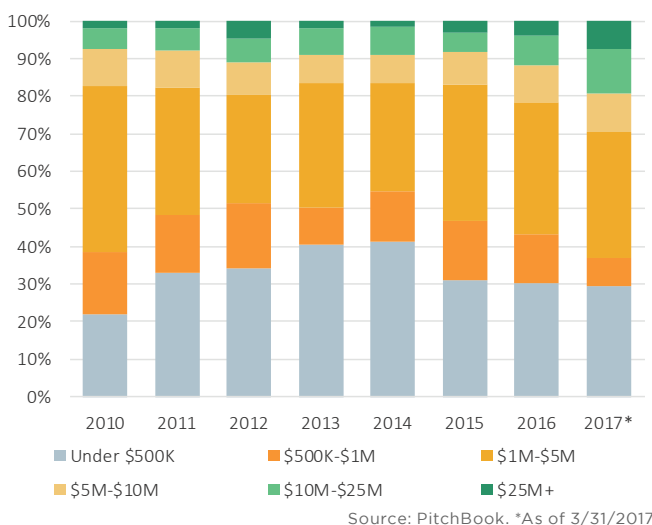
Investment in LA MSA-based companies by investors HQ'd outside LA MSA



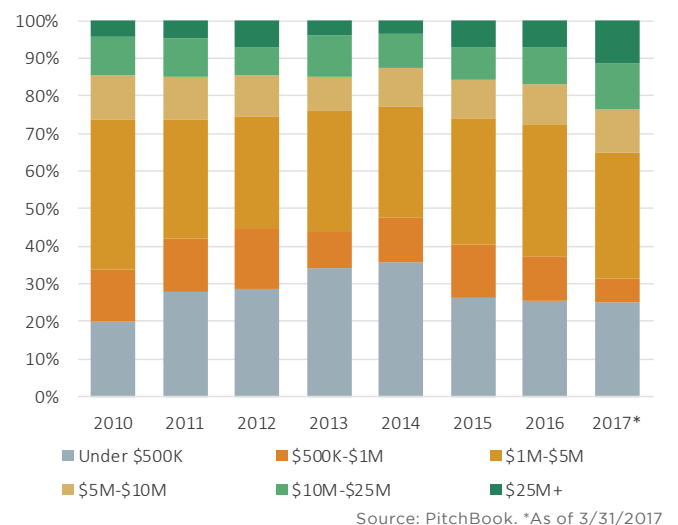
Investment in LA MSA-based companies by investors HQ'd outside California



Investment (#) by size in LA MSA-based companies by investors HQ'ed outside California



Investment (#) by size in LA MSA-based companies by investors HQ'ed outside LA MSA



Healthy positioning

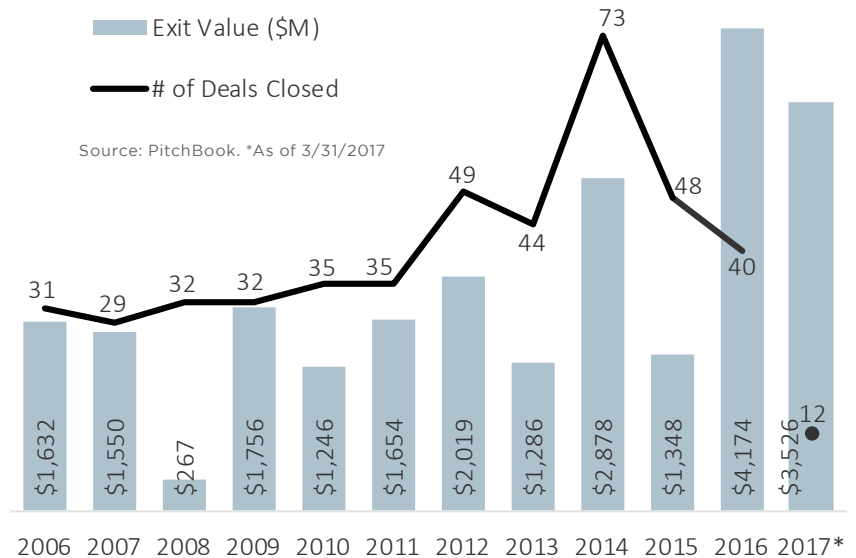
Datasets of venture-backed exits and local venture fundraising in LA

Investing cycle positioned to support steady exit volume in the coming year

Skewed by Snap's IPO, LA exit value could still end up comparing favorably to prior yearly totals should the momentum of exit volume hold throughout the year. Assessing historical exit volumes in tandem with AUM (on the following page) it's clear that portfolios have been refilling for some time and consequently VCs and founders may begin looking to exit sooner rather than later, while the M&A climate is still fair and IPO avenues appear open. The former remains as important as ever to LA VCs, relative to the latter, judging by the historical preponderance of M&A in VC-backed exit tallies.

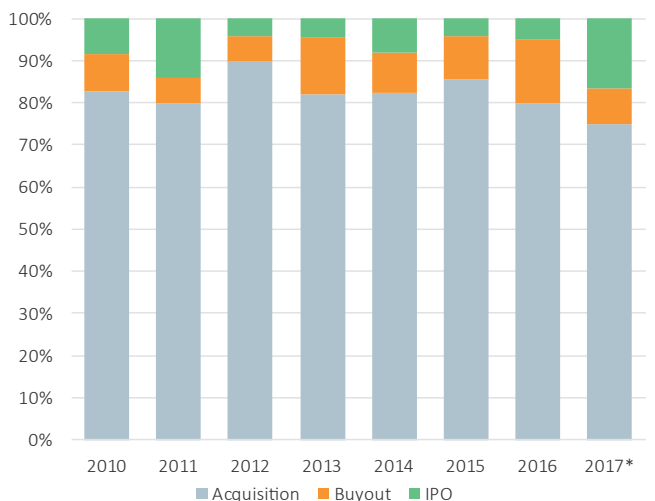
The past five quarters have been highly lucrative for exits

Venture-backed exits of LA MSA-based companies



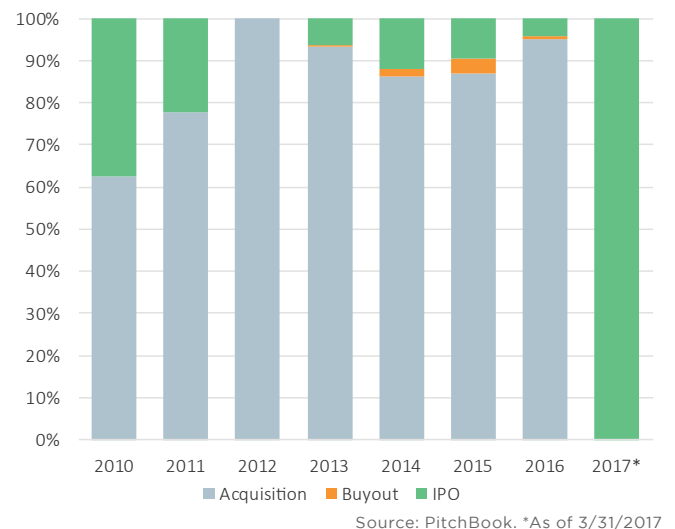
Corporate buyers provide most liquidity

Venture-backed exits (#) by type of LA MSA-based companies



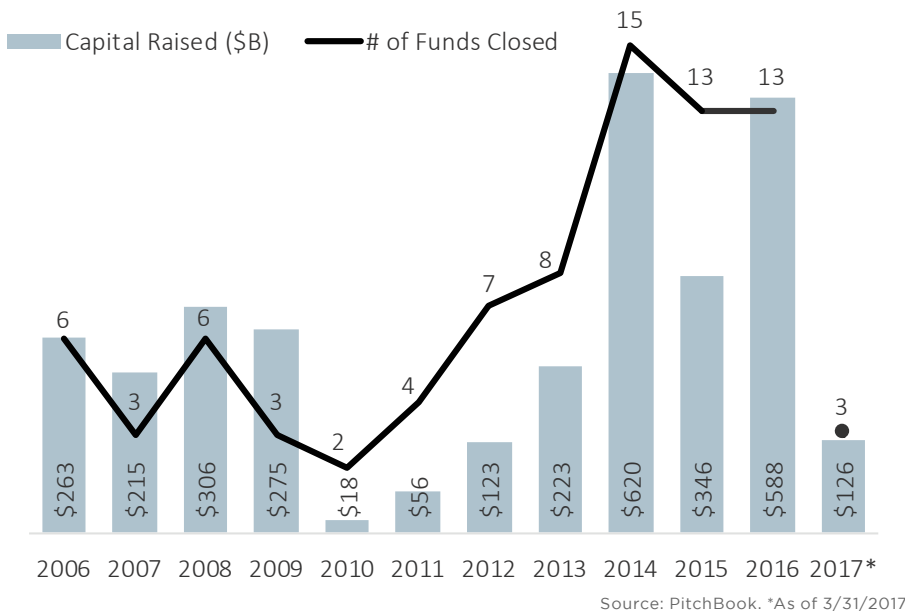
Snap's IPO skews 1Q results

Venture-backed exits (\$M) by type of LA MSA-based companies



Growing interest in the LA startup ecosystem is evident

LA MSA venture fundraising

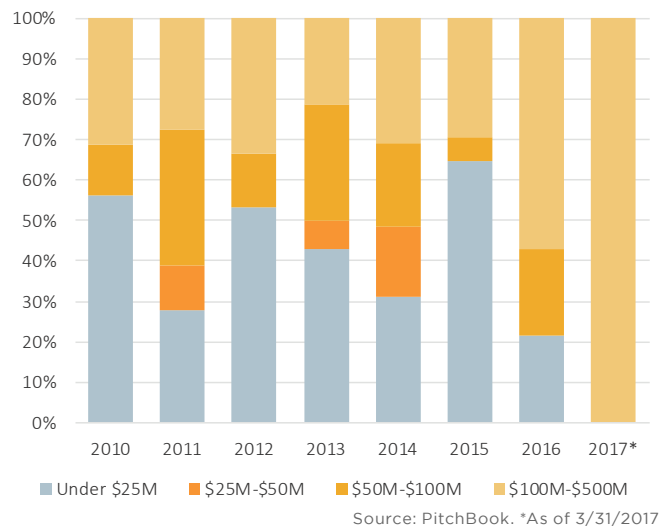


Significant number of relatively youthful funds point to solid capital base for the future

Between 2014 and 2016, inclusive, 41 domestic venture funds were closed on just over \$1.5 billion in commitments. Although fundraising momentum heading into 2017 in terms of volume and value is mildly slower, that level of relatively recent capital collection indicates a healthy capital base for future funding efforts within the LA ecosystem. Such success is explained in part by the prevalence of generously sized VC-backed exits over the past few years, although the growing reputation of the LA startup ecosystem hasn't hurt. One last note of import: The slow increase in local VC AUM is useful as an indicator of where we stand in the current cycle, with the steady ramp-up since 2013 paired with lowering deal volume speaking to the VC investment cycle entering later innings.

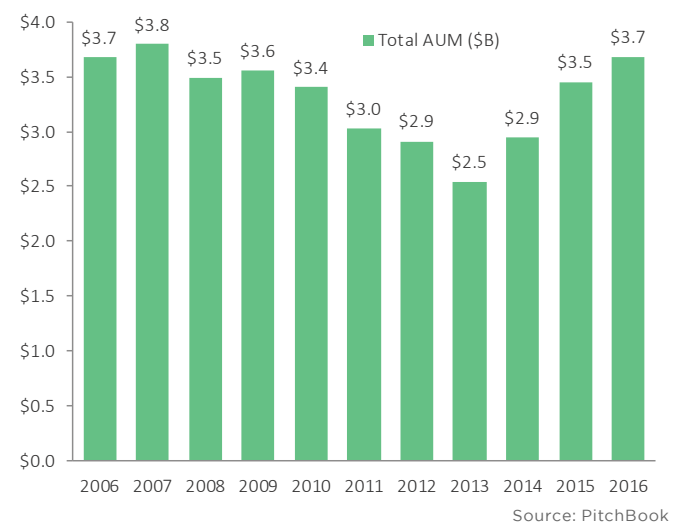
A fair proportion of large exits over the years

Venture-backed exits of LA MSA-based companies (#) by size



Total AUM has bounced back since lowering in a cyclical response to the financial crisis

VC AUM in LA MSA



Select League Tables

Select rankings of most active investors and deals in LA

Most active investors in LA MSA, 2016

Third Wave Digital	12
Upfront Ventures	10
Greycroft Partners	10
Kleiner Perkins Caufield & Byers	9
Wavemaker Partners	8
Tech Coast Angels	8
TenOneTen Ventures	7
Frost Data Capital	7
Comcast Ventures	6
General Catalyst Partners	6
Double M Partners	6
Plug and Play Tech Center	5
Sherpa Capital	5

Source: PitchBook

Select 1Q 2017 venture financings of companies headquartered in LA

Company	Deal size (\$M)	Series/stage	Sector
ServiceTitan	\$80.0	Series B	Business/Productivity Software
ProducePay	\$77.0	Early-stage	Financial Software
Rocket Lab	\$75.0	Series D	Aerospace and Defense
Elements Behavioral Health	\$56.8	Late-stage	Hospitals/Inpatient Services
Netwrix	\$56.0	Series A	Network Management Software
VertiFlex	\$40.0	Late-stage	Surgical Devices
Hyperloop Transportation Technologies	\$31.8	Angel	Other Transportation
Tala	\$30.0	Series B	Financial Software
Vixlet	\$28.6	Angel	Social/Platform Software
AirMap	\$26.0	Series B	Communication Software
InvestCloud	\$25.2	Series B2	Financial Software
Ivantis	\$25.0	Series C	Surgical Devices

Source: PitchBook

League tables are compiled using the number of completed VC rounds (excluding accelerator/incubator rounds) for LA MSA or LA-based companies in 2016. To ensure your firm is accurately represented in future PitchBook reports, please contact survey@pitchbook.com.

Venture capital

Venture capital, for the purposes of this report, is defined as institutional investors that have raised a fund structured as a limited partnership from a group of accredited investors, or a corporate entity making venture capital investments.

Valuations

Pre-money valuation: the valuation of a company prior to the round of investment. Post-money valuation: the valuation of a company following an investment.

Exits

This report includes both full and partial exits via mergers and acquisitions, private equity buyouts and IPOs.

Fundraising

This report includes LA-based venture capital funds that have held a final close. Funds-of-funds and secondary funds are not included.

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private comps,
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growth metrics.**

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