



# HALO Report™

## Annual Report on Angel Investments

### AGGREGATED NATIONAL & REGIONAL DATA

The HALO Report™ is a collaborative effort of the Angel Resource Institute™ and PitchBook™ intended to raise awareness of early stage investment activities by highlighting trends that may inform our decisions and impact opportunities for angels and entrepreneurs.



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ANGEL RESOURCE INSTITUTE

PitchBook

### Report Contacts

#### Gwen C. Edwards

Angel Resource Institute, Board of Trustees

#### ARI Data Team

research@angelresource.org

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# 2022: A Sobering Year

On the downward slide of the roller coaster, after a boom in 2021, 2022 was sobering, tough on entrepreneurs; their focus shifted from growth at full tilt to preservation. Yet, the year presented opportunity for cautiously optimistic investors—and those needing to protect current investments.

Fewer financings were recorded. We analyzed 1,424 transactions, down from 2,016 in 2021, a 29% decrease. Perhaps most remarkable to us about 2022 was the complexion of our dataset.

We found far fewer “Seed” deals in Pitchbook, nearly 42% less (from 1,732 in 2021 to 1,001 in 2022) and far more Series A deals in 2022 by almost the same percentage (43%) collecting 406 in 2022 from 284 in 2021. And the size of the Series A deals in total dollars invested highlighted the significantly lower amount of capital invested at the Seed Stage: from \$2B to \$4.9B at Series A and from \$4.3B in Seed in 2021 to

\$2.3B in 2022. We knew the pullback in 2022 was palpable, but to see the data in this manner is stark. Still, overall there was growth at these early stage investments with funding moving into more proven Series A companies. (See Highlights and Trends chart on page 5.)

While in our 2021 Report there were a few **revenue based financing (RBF)** deals, which we noted and captured as being of interest to the mix, we removed these transactions in this year’s report to have a cleaner data set of traditional angel investments. RBF grew phenomenally in 2022 (see page 35) and warrants separate analysis. We also excluded transactions primarily capitalized from incubators.

These two deliberate culls may account for some shrinkage in our Seed stage transaction dataset, but there is no denying that, consistent with other industry data, Seed deals slowed significantly in 2022.

## Data Validation & Methodology, 2022 HALO Report™

The data is sourced from Angel Investors who provide their data directly to ARI, as well as data we extract and augment from Pitchbook. We track only deals that are ‘Angel Backed’ and exclude any transaction that is beyond Series A. We cross-reference Pitchbook extractions by deal type with searches for all transactions from known Angel Groups in the industry.

Where available, we used SEC filings to validate round size and amount of equity sold. This year we further perused publicly available data from major groups who self publish their investments by company and year. This enabled us to calibrate volume of activity. But could not include all data without knowing amount invested, and other requisite details. We are confident groups who did not provide data directly may be underrepresented.

As we sought greater understanding of the context leading to fewer Seed deals, we found a remarkable number of incubator and accelerator deals in Pitchbook alone (533), and also found companies far beyond pre-Seed financing with a recorded “transaction” from their participation in an incubator/ accelerator. This is surprising, and perhaps indicates a need for many companies to find shelter from fund raising uncertainty, by joining a funding environment with accelerated learning, and networking.

We seek to further characterize these transactions as it may provide insight into the kind of talent that is on the horizon for investors, within particular industry segments and geographies.

*This material and report, including (without limitation) the statistical information provided herein, is intended for informational purposes only. The material is based in part on information from third-party sources that are believed to be reliable, but which have not necessarily been independently verified; for this reason, the information is not represented as accurate or complete. The information should not be relied upon in making any investment or other decisions. You should obtain relevant and specific professional advice before making any investment decision. Nothing relating to this material should be construed as a solicitation, offer, or recommendation to acquire or dispose of any investment, or to engage in any other transaction.*

## 2022-A Sobering Year (continued)

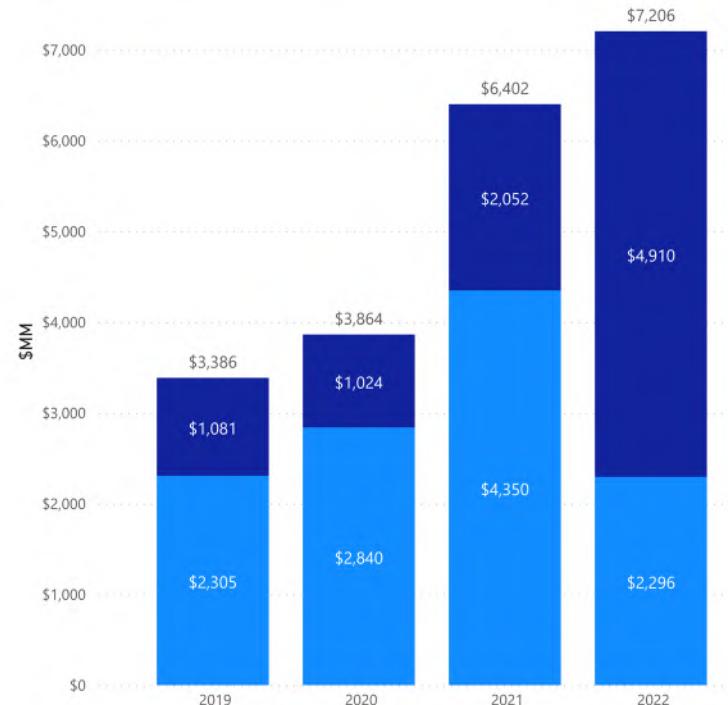
Where else did CEOs go for capital in 2022? We uncovered a significant volume of **equity-based crowd funded** deals, 328, that we excluded from our study. With equity-based crowd funding, the CEOs set their price and the market responds. We have an opportunity to delve into this area by looking at the Round Sizes filed with the SEC (some unlimited!) to see what was actually raised, at what valuations and with what industry sectors, locations, and CEO demographics. We also excluded product based crowd funding transactions.

Most remarkably, we found a list of 50 Revenue Based Financing (RBF) companies that raised over \$3.3B during 2021-2022 – putting 2022 as the record year for this category. The pie chart to the right reflects the actual count of transactions in our study except where we present our considered estimate of relative RBF transactions. (See page 34 for more details.)

To put our Angel Seed/Series A financing into the new 2022 context, we depict in Sum of Transactions the other financing types used at the early stage. Again, our study only includes Seed and Series A transactions.

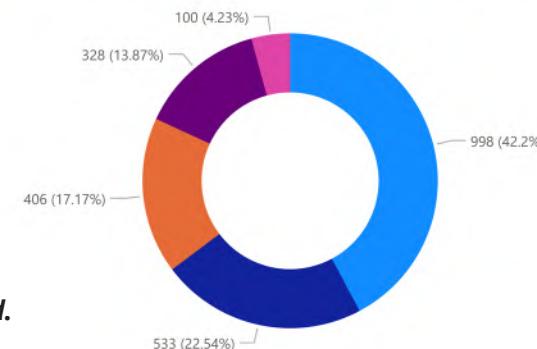
Total Value of Transactions Analyzed by Year & Stage

Stage ● Seed ● Series A



Sum of Transactions by Funding Type

● Seed ● Accelerators & Incubators ● Series A ● Equity Crowdfunding ● Revenue-based Funding



*2022 saw a period of CEO and Investor belt tightening, calling for highly-focused strategic investment choices as non-traditional sources expanded.*

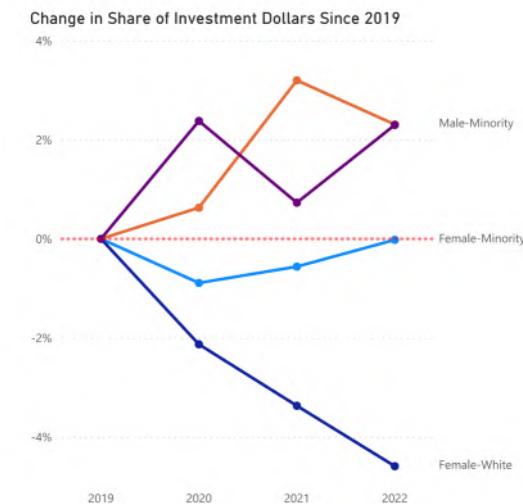
# 2022 HALO Report Highlights & Trends

## Key Findings

1. California held its ground as the state with the greatest number of companies funded, while the South East inched up for the 3rd year in a row to 2nd place.
2. A new first: the South East took the lead on greatest amount of capital invested from investors outside their region. They were 12% of total dollars of US-based investors, but jumped to over 16% when we include the international investors who chose to place sizable investment amounts in the South East region. These international deals put the South East slightly above California as the region to attract the most outside dollars.
3. California investors still fund more deals and put more dollars to work, increasing from 25% to 29% of all transactions and from 30% to 32% of all dollars in-country.
4. Valuations jumped significantly for Series A deals, with twice as many deals at the Series A level tracked than in 2021, as we saw a leap in median Pre-money Valuation (PMV) of 71% from \$16.2M to \$27.8; and at the Seed level the median PMV rose 20%, from \$7.5M to \$9.0M. This was in a contracting market, where deals generally moved more slowly and cautiously.
5. SAFE notes are taking hold, even in an investors market, growing to nearly twice the share of 2020 deals and 13% of Seed transactions.
6. The PMV Gender Gap shows signs of shrinking. Our Seed stage data shows women raising at slightly higher average valuations than men by 6.4%; with a median valuation even higher. This is a huge shift from the gap that has consistently been closer to 29% in prior years. We owe much of this positive shift to Minority Female CEOs. When we combined our Series A data with Seed, just for purposes of gen-

der comparisons and to increase the data set with our PMV data, and found a gender gap of 17% - undoubtedly a sizable improvement over prior years. (See pages 24-26.)

7. Female CEOs share of total dollars continued to decline, but very slightly (0.6%); same for Minority CEOs (0.3%).
8. The share of transactions led by Females increased by .82%-- still shy of pre-pandemic levels but by less than half a percent. The participation rate of Minority CEOs held constant at 18.9%.
9. Information Technology took the lion's share of transaction volume in 2022, a full 10% more than Consumer Products and Services (they were tied in 2021). The number of transactions in software and AI innovation appear to account for this step-up.
10. The propensity for Super Angels' to command better valuations reappeared. While their investments and round sizes were slightly lower, Pre-money Valuations they paid were half that paid by angels/ angel groups and other associated early-stage investors. Perhaps in tough times, just as in 2020, Super Angels with connections and deep domain knowledge can command their price.



## Where companies were funded in 2022

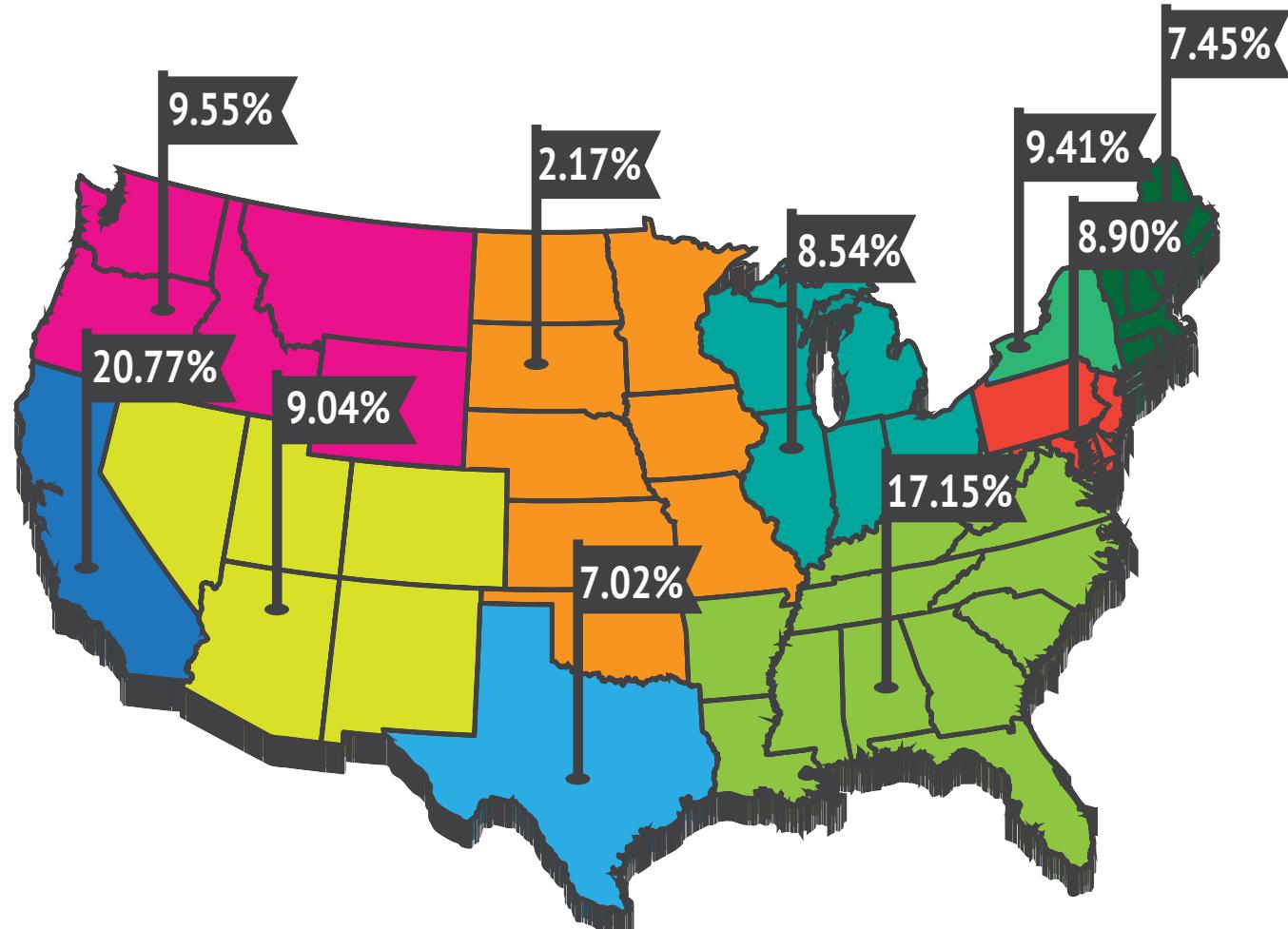
California leads all regions in attracting investments with 20.77% of all transactions nationwide, while the South East cemented its position as the next dominant region. Florida accounted for over a quarter of that region's activities (26.34%).

The Great Plains is an opportunity zone, with a percolating amount of activity in the region, a new focus on incubator growth, and firms like Flyover Capital with their tagline, "partners for the underestimated."

When we look in the remaining regions, they are all within 2.5% of each other, with the Northwest at 9.55% and Texas at 7.02%.

Ranking individual states across the board with more than 5% of the country's total transaction volume yields California, New York, Texas, Washington, and Massachusetts.

Note the share of dollars invested in each of the regions (versus share of transactions shown on the map): California takes 23.54% dollars and 20.7% of deals; the South East region accounts for 17.15% of all transactions and 14.27% of all dollars; followed by NY, then North West region, Texas and North East.



\* Puerto Rico included with South East Region, Hawaii with California, and Alaska with the North West region.

California investors lead the country in early stage capitalization by a significant margin, accounting for 27% of all transactions (while only 20.7% of all companies funded are in California). And California investors are the source for 31% of all dollars invested in the sector. Despite shifts in the landscape of the country, California is still significant to the innovation economy. Second to California by percentage of all deals are investors from the South East at 13%, and second to California in total dollars invested in the country are investors from New York, accounting for 13% of all dollars.

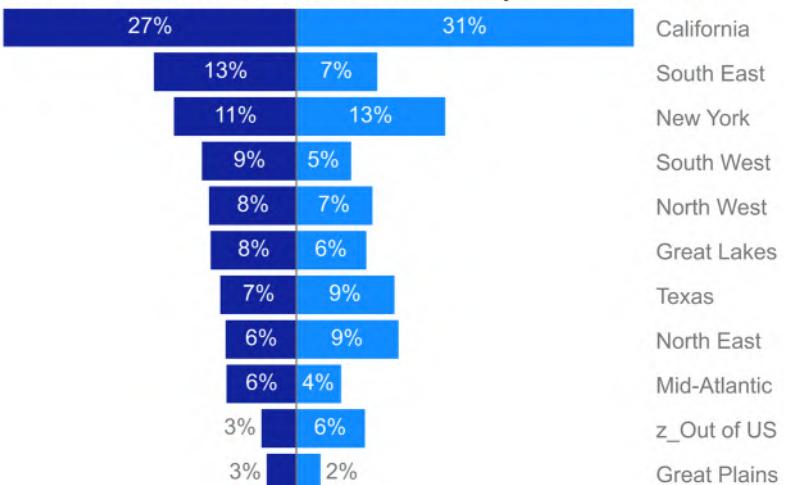
While California, New York and the South East still form a dynamic trio, this year the North East region and Texas weighed in with more significant dollars invested in the country at large.

#### ***Looking at In-region vs Out-of-region investing behavior***

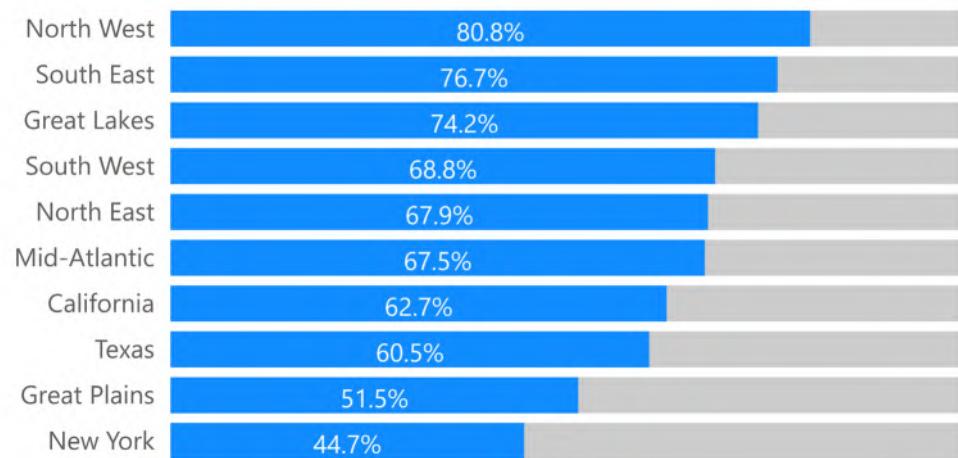
In 2021 the trend that began in the pandemic 2020 year continued, namely to invest close to home. But in 2022, without exception, each region increased investment activity into other regions. For example, while the North West continued to be the most internally focused with its capital, they went from keeping 95% of their capital within the region to 80.81% in 2022. The South East is a close second, while the South West kept to their region only 68.6% of the time. Note that the Great Plains invested in their region 51.5% of the time.

New York continued to be the State/Region where investors most frequently went outside their area to invest; only 44.7% of their investments were in companies within NY.

**Percent of All Deals vs. Dollars Invested by Investor Location**



**Percentage Deals In Region**



### **Where do investors go when they invest outside their region?**

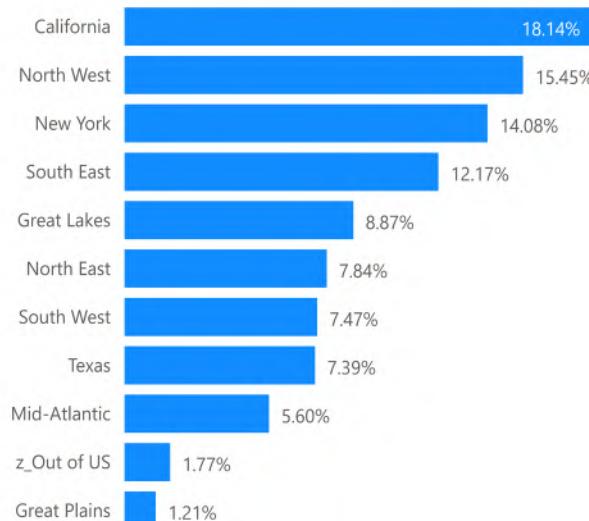
US investors predominantly choose California, followed by the North West, and then New York. But we see a spike in the importance of the South East region when we include foreign investors in US companies.

The South East Region basically tied California to attract the greatest percentage of all dollars from investors outside the State (including international). This is attributed to several major investments into South East region from the UK, and the UAE, along with investments from the Netherlands, Canada, and Japan. The South East region is attracting money from new sources in addition to fellow US investors. The South East region took first place with the greatest number of transactions from investors outside their region. Almost 16.8 % of their deals came from out-of-area investors.

New York State attracted the second great percentage of dollars and 3rd percentage of transactions. The North West region and Texas both attracted a significant share of dollars – almost 12% each.

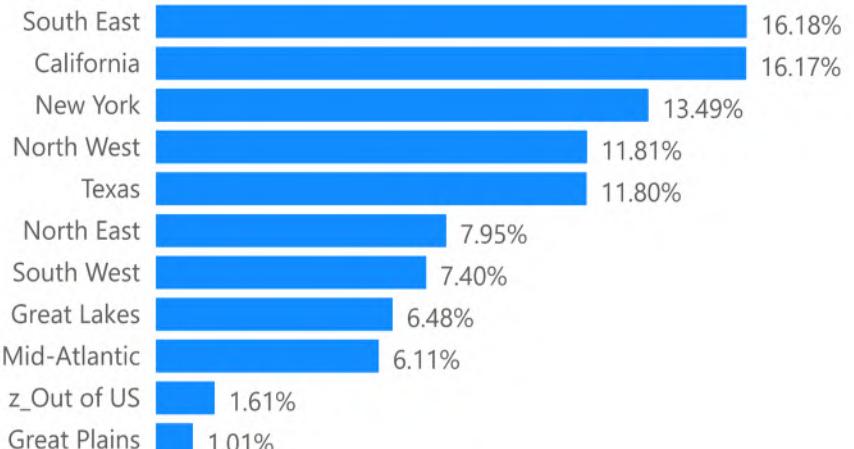
#### **Share of Out of Region US Investor Dollars ONLY**

*See page 10  
(Non-US Funding  
into US companies)*



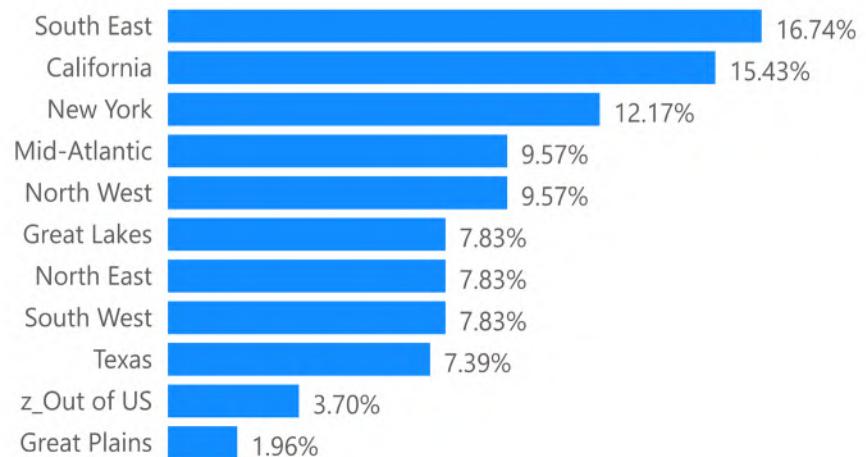
### **Allocation of Out of Region Investment Dollars**

US and Foreign Investors; Share of Dollars



### **Allocation of Out of Region Transactions**

US and Foreign Investors; Share of Transactions



### *Another perspective on the flow of capital between Regions.*

In this chart, the rows represent the home base of the investor and shows where they place their capital when they invest money outside of their home region. We see that Investors from California make investments in every region of the country, most intensely in New York and the South East.

Fun fact: What do California and the Great Plains have in common? They are the only two regions from which investors found deals in every other region of the country.

#### *How to read the chart:*

The chart describes out of region transactions. It shows the Deal flow, from giver to receiver, left to right.

The left-most column is the source of the transaction, and the rest of the columns on the right are where those transactions went (company regions).

In 2021, investors in the North West region invested predominantly in California when they ventured beyond their home territory. But in 2022 they were invested in many more states and regions

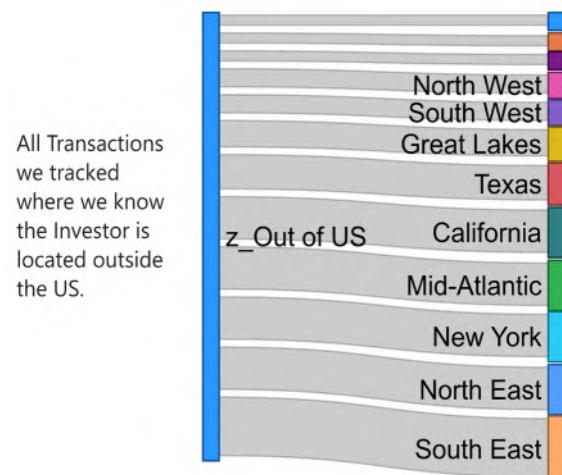
In 2022 investors from the North East leaned toward California companies, even more so than NY, who distributed their capital after California, to the North East, North West, South East and more.

**Investment Distribution when made outside investor region, by Investor Region**

Investor Region	California	Great Lakes	Great Plains	Mid-Atlantic	New York	North East	North West	South East	South West	Texas	z_Out of US	Total
California												100.0%
Great Lakes												100.0%
Great Plains												100.0%
Mid-Atlantic												100.0%
New York												100.0%
North East												100.0%
North West												100.0%
South East												100.0%
South West												100.0%
Texas												100.0%
z_Out of US												100.0%

# Non-US funding to US companies

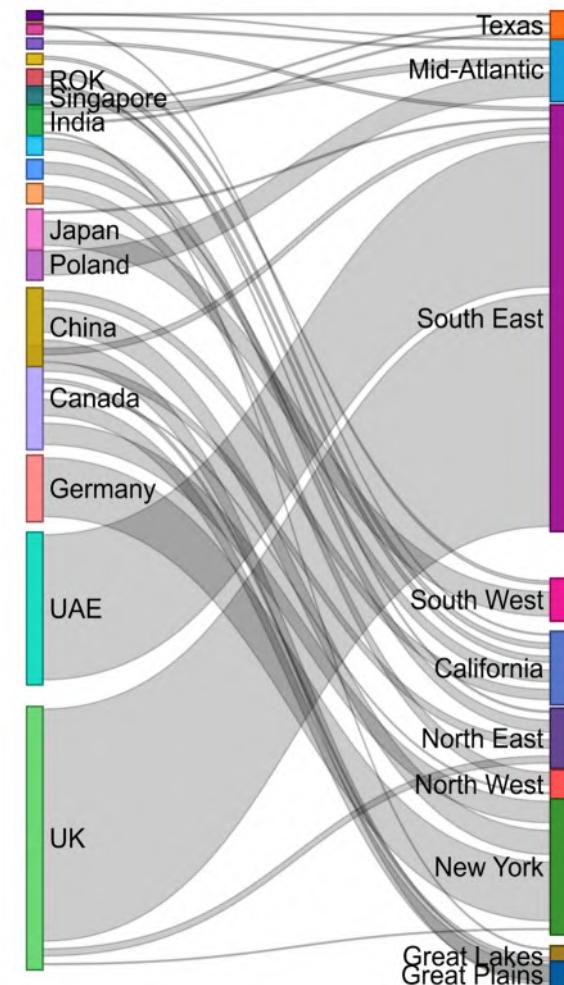
Again we do not hunt for international investors, but we do look closely at those who invest in early stage US transactions. When we find a firm or investor from outside the US, we note that in our records. This may lead us to report details that could be perceived as erratic, such as one year finding Sacramento Angels participating in a deal in Singapore, while in another year finding an investor out of Singapore. But with such an in-depth view into 1,400 companies across the country, we develop insights into the dynamic, and global, market of angel investing.



This year, as in 2021, we found every single region in the US attracted foreign investment, without exception. We are clearly in a global industry.

Stage	Count of Deals
1	1
Seed	26
Series A	13
<b>Total</b>	<b>40</b>

Investment Dollars to US Regions



The larger the connection the greater the total dollars invested.

# Angel Contributors and Pitchbook™ Data

Historically, we have only published names of groups who directly contributed their data to this study. But we think it is important to recognize the groups whose data was also included through our Pitchbook™ analysis and augmentation process. As such we acknowledge these Groups in the list of active investors, in their regions and nationally.

## **Top 12 National Angel Groups (Seed/Series A Activity)**

(Ordered by volume of transactions included in our data)

- Keiretsu Forum\*
- Golden Seeds \*
- Gaingels
- Alliance of Angels \*
- Desert Angels \*
- NuFund / Sand Hill Angels
- Houston Angels \*
- Sacramento Angels\* / Charlottesville Angels\*
- SeaChange\* / Life Science Angels\*

\* Transactions provided directly by Angel Group

## **Other Groups with Direct, Significant Contributions to the HALO 2022 study**

(Ordered by volume of transactions included in our data)

- Irish Angels - based in Chicago, Illinois
- Reno Seed Fund - based in Reno, Nevada
- Astia Angels - CA, NY
- Tie Angels – multi locations
- New World Angels - FL

We are confident that groups who did not provide data directly may be underrepresented in this study, but we have attempted to indicate their importance.

## **Other early funds and co-investor data included Seed and Series A**

- Alumni Ventures (multi region)
- Service Provider Capital (co-funds)
- 10X Capital, owns FlightVC - partners with Gaingels - NY
- 500 Global - CA
- Elevate Ventures - IN
- Capital Factory - Austin TX
- Impact Assets - NY
- FJ Labs - CA
- Founder Collective - NY
- Launch Capital, Launch Pad VC – MA, CT, NY, CA

## **Incubators/ Accelerators most frequently affiliated with Angel Investments in our data**

(Ordered by volume of transactions included in our data)

- Tech Stars
- Plug and Play
- Y Combinator

# Deal Structure and Investment Stage Statistics

The use of SAFE notes pre-Series A continued to climb, from 6.7% in 2020, 7.9% in 2021, then to almost 13% of all Seed deals in 2022. And this during a year in which Entrepreneurs had little negotiating power. Furthermore, this growth came mostly from the standard Convertible Note, which dropped from 43% at Seed Stage to 40%; while the percentage of Preferred rounds at Seed remained the same, almost 42% year-over-year. The percent of common stock deals was minimal at just over 5%.

At Series A there were no common stock investments, 85% Preferred Equity, and a few convertible notes clearly post-Seed and leading to an A. We found a few SAFE notes in this category.

Our focus by region is to understand the myriad of structures at the Seed level, where notes are most often found. Below, you can see where California at the Seed Stage has 26% of all SAFE notes

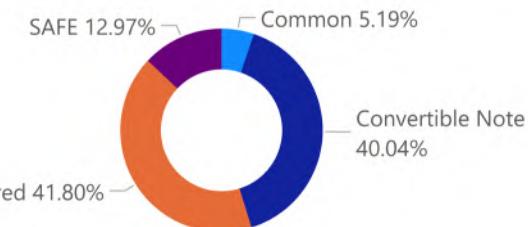
By contrast, the South East region, the country's second-largest region by volume of all deals used SAFE the least frequently.

California, New York, and Great Lakes had similar usage levels of SAFEs. While SAFEs are not as investor-friendly as Convertible Notes, they are an integral vehicle in the ecosystem. It remains important for investors to know when and how to best deploy SAFE notes.

Stage	Common	Convertible Note	Preferred	SAFE
Seed	5.19%	40.04%	41.80%	12.97%
Series A		13.33%	85.19%	1.48%

Composition of Seed Security Type by Investment Stage

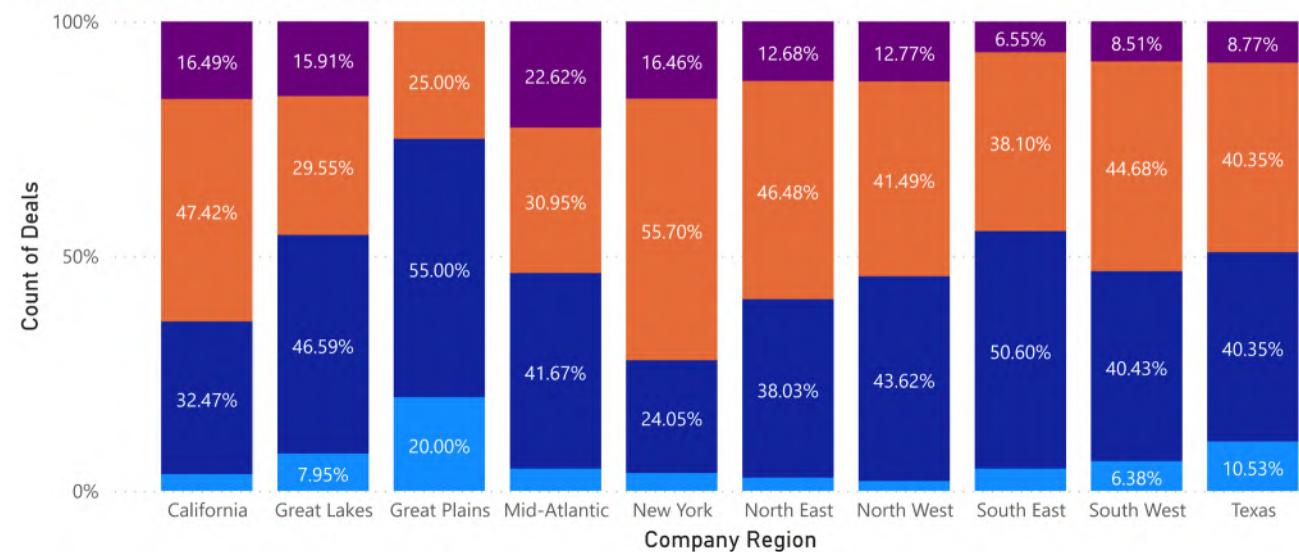
Seed Transactions



Composition of Security Type by Investment Stage

Seed Transactions

Stock Type ● Common ● Convertible Note ● Preferred ● SAFE



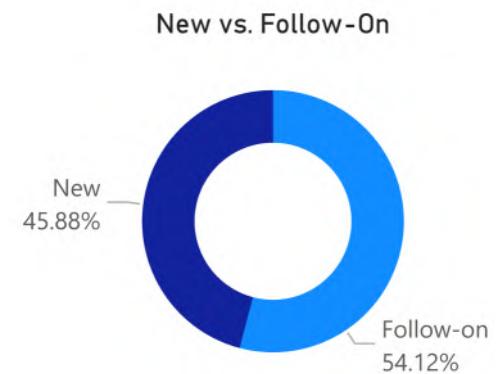
## Deal Structure and Investment Stage Statistics - continued

### New versus Follow-on

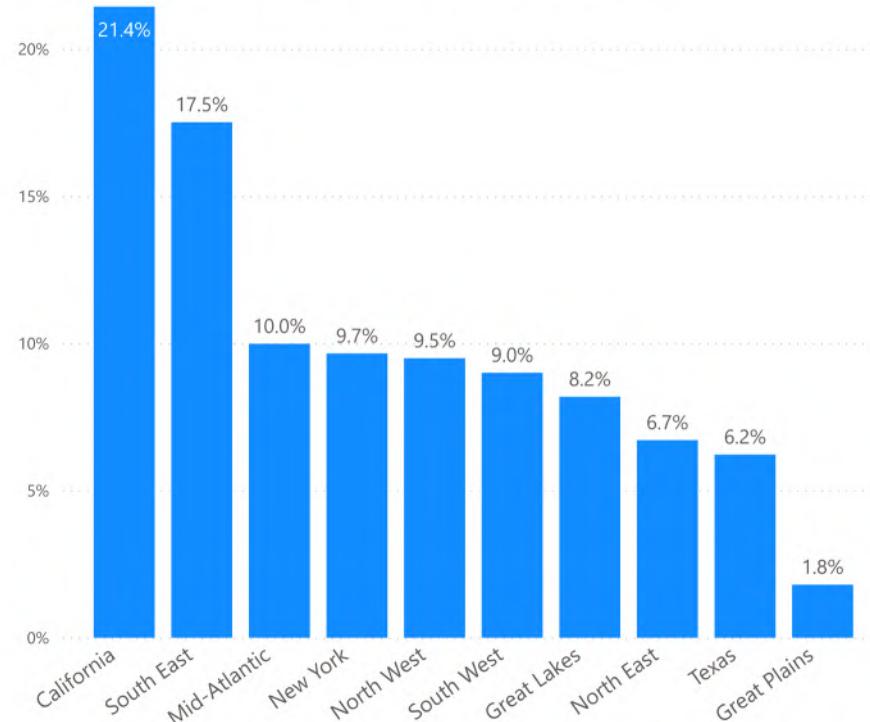
While 2021 showed a marked increase in the percentage of New investments relative to Follow-on investments, with almost 65% new (and heavily in the South East), we found 2022 decline significantly in New investments, both in absolute numbers and as a percent of total. In 2022, we found only 46% New investments.

The South East region, as an indicator, dropped their New investment activity from over 70% to 44%.

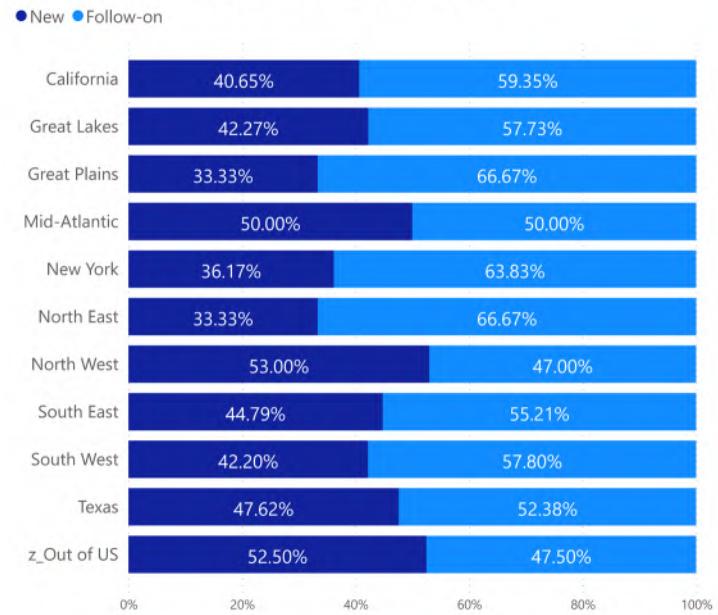
The North West region was the most active as a percent of total transactions with 53% New investments versus Follow-on.



### Percent First-time Seed Deals by Company Location



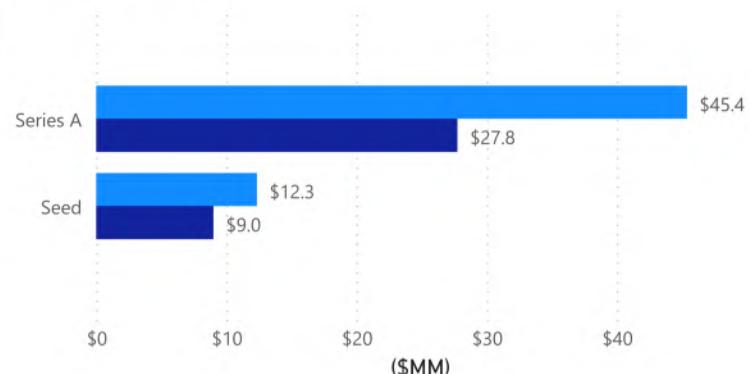
### Percent New vs. Follow-on by Investor Region



# High-level Summary of 2022 Seed & Series A

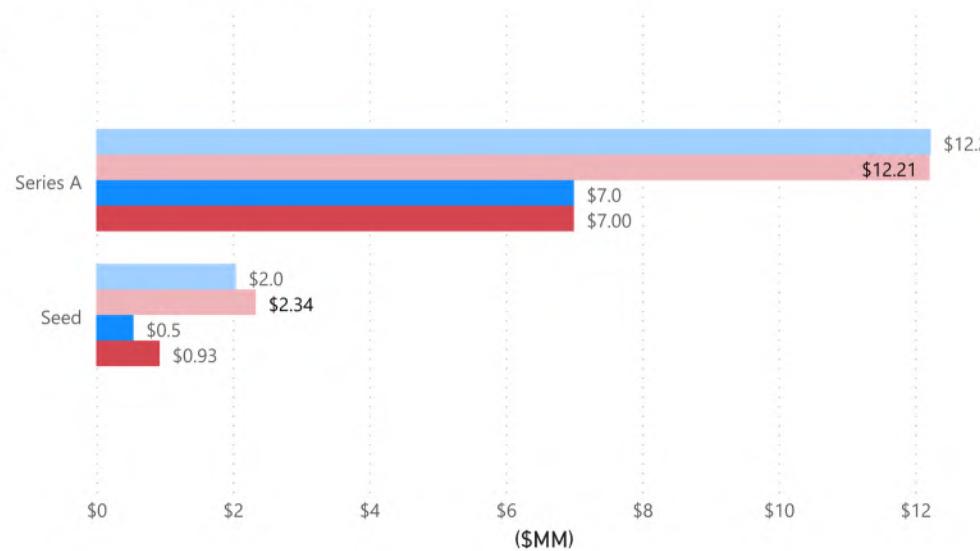
## Pre-Money Valuation by Investment Stage

- Average of PreMoneyVal
- Median of PreMoneyVal



## Investment & Round Size by Investment Stage

- Average of Investment
- Average of Round Size
- Median of Investment
- Median of Round Size



Despite the economic tightening in 2022 and fewer number of deals we were able to identify, the valuations of Seed and Series A rounds both increased. The Median Pre-money Valuation of Series Seed is \$9.0M (up from \$7.5M in 2021) and the Average PMV Seed deal was up only slightly from \$11.6M to \$12.3M.

The Median PMV for Series A stood at \$27.8M, up from \$16.2M in 2021, and the Average PMV rose even more significantly from \$27.7M to \$45.4M while the Average and Median of amount invested and round size was almost constant in 2022 vs 2021. **It appears Series A investors were not investing more dollars per deal than in 2021, but were making more investments at Series A, and at far higher valuations.** We think this indicates a flight to safety during 2022. Recall the volume of Series A transaction in our data set almost doubled over 2021.

At the Seed Stage, we saw very little difference between investment amounts between 2022 and 2021. The Average of investment went from \$1.7M to \$2.0 while the Median was slightly lower in 2022 at \$.5M vs \$.8M in 2021. The round sizes in 2022 both Average and Median were also slightly lower in 2022 than in 2021, signaling lower expectations from entrepreneurs when establishing and disclosing their Round Size.

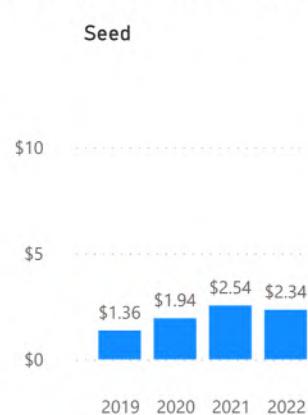
These are all signs that discriminating investors are looking to add to their Series A investments, participate at the Seed Stage, and even pay a premium if they can secure an attractive company without expending more capital than in 2021 when the economy was in aggressive recovery mode.

# Four Years' Data: Seed / Series A Metrics

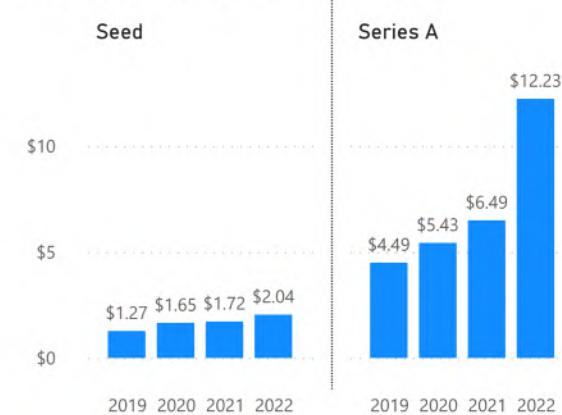
Average Pre-Money Val by Year and Stage



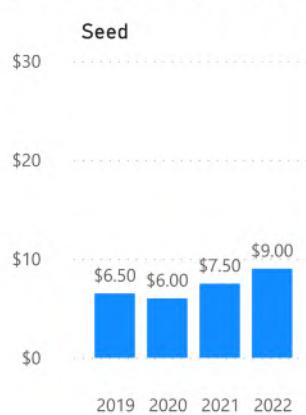
Average Round Size by Year and Stage



Average Investment by Year and Stage



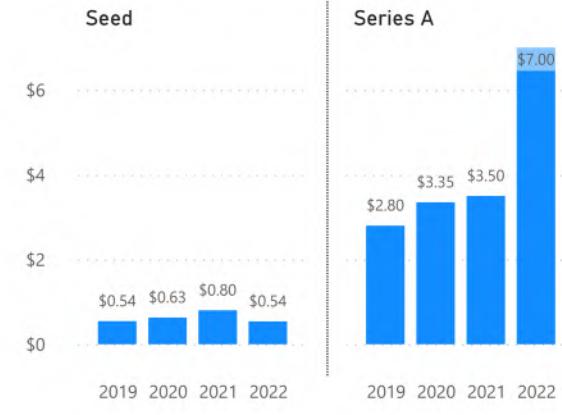
Median Pre-Money Val by Year and Stage



Median Round Size by Year and Stage



Median Investment by Year and Stage



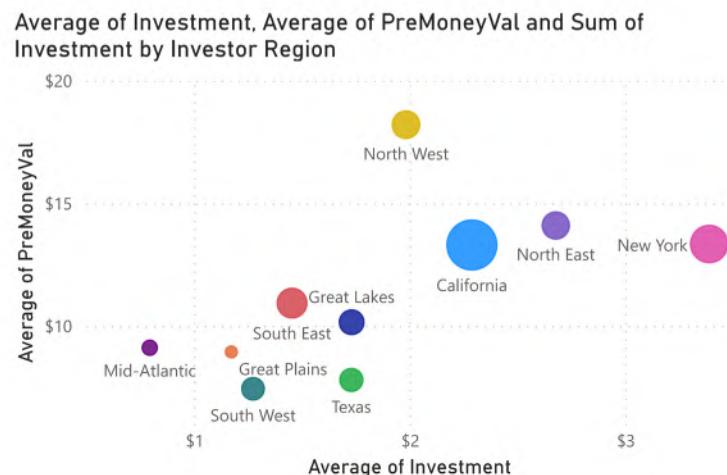
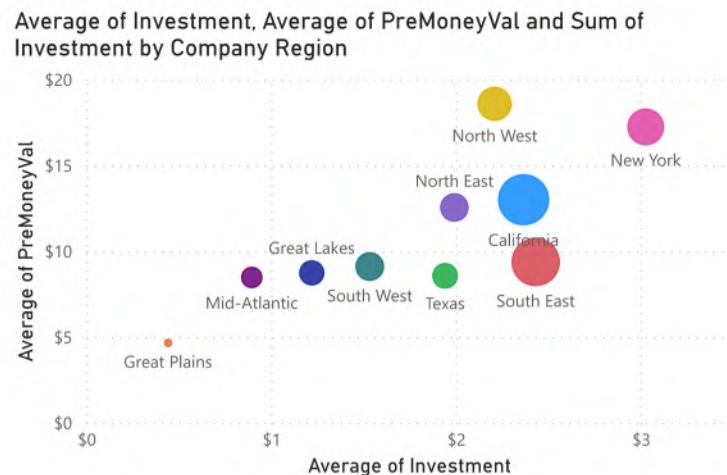
While we expected a pause in valuations in 2022 over 2021, we saw this only at the Seed Stage where round sizes and more critically Median amount invested dropped by 34% and the aver-

age amount invested at the Seed Stage increased by only 15%. Some highly-valued outliers pulled up the average.

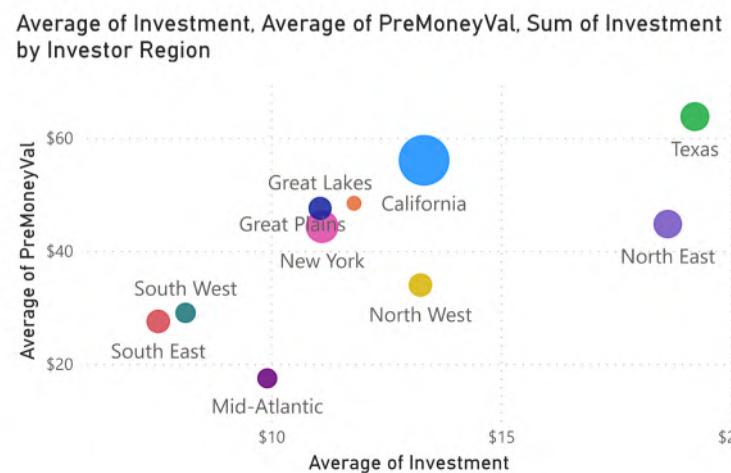
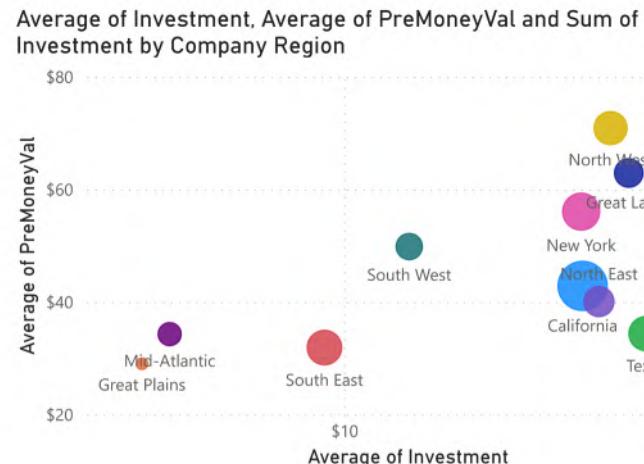
Meanwhile Series A leapt forward on all fronts –including number of deals and total dollars (see page 5).

# Characteristics of Seed & Series A Investments

**Seed Transactions:** Companies in the North West received the highest valuations with average amounts per deal in line with California and the South East. Companies in New York commanded second highest valuations and invested amounts. There was a clear Average PMV across multiple regions with the different between them at Seed Stage being Average amount invested per deal. Investors from the North West drove the highest valuations, while NY investors drove the largest investment amounts.



**Series A Transactions:** Companies in the North west received the highest average valuations at Series A (as well as Seed). The average amount invested was tightly clustered for 6 of the 10 regions but with very significant differences in Average PMV. Investors in Texas drove the largest deals and highest valuations, with the North East second, while a clear cluster of comparable size and valuations formed with NY, California and the Great Lakes, with the Great Lakes also close to center on both metrics.



# Industry Analysis

## Industry Sectors Angels Prefer

Recall that in 2021 there were as many Consumer Products and Services companies raising capital during the boom as Information Technology companies. This was a first, but apparently an anomaly perhaps correlated with the amount of capital flowing in 2021.

A clear favorite is back in 2022 as Information Technology companies accounted for almost 33% of all transactions (vs. 27% in 2021). Con-

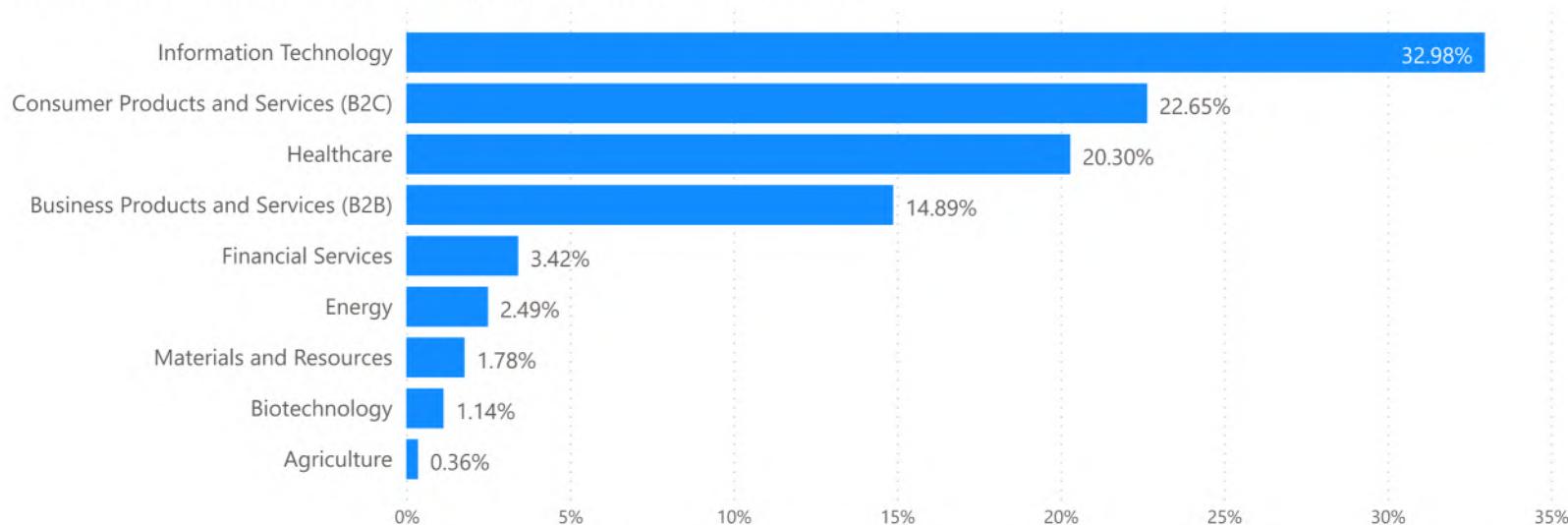
sumer Products and Services dropped almost proportionally from 2021 to 22.7% and the second-most favored segment.

Healthcare was a close 3<sup>rd</sup>, and if we were to add Biotechnology to Healthcare, it would account for 21.4% of all investments in our study.

Business Products and Services has been a constant, year-over-year for the 3<sup>rd</sup> year in a row, with almost 15% of all transactions, down less than 1%.

The other industry segments are important to distinguish for analysis purposes, but to keep them in perspective, they collectively constitute just over 8% of total deals. We monitor for both emerging trends and outliers.

2022 Seed/Series A Deals by Industry - percent of all transactions



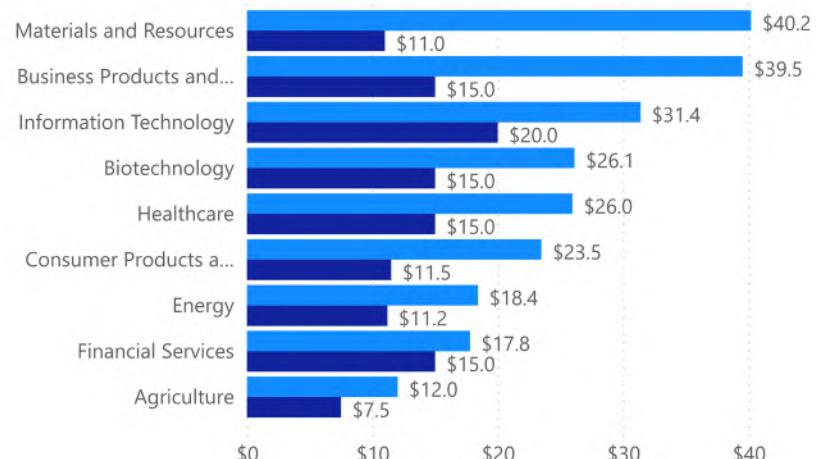
# Industry Segments & Valuation

The highest valuations were commanded by some of the lowest-volume industries, such as Seed Stage deals in Materials and Resources, Agriculture and Financial Services (shown on the previous page).

At Series A, the most highly-valued segments were Materials and Resources, followed by Business Products and Services. The data is presented here by Average and Median; Seed and Series A for PMV, amount invested, and round size.

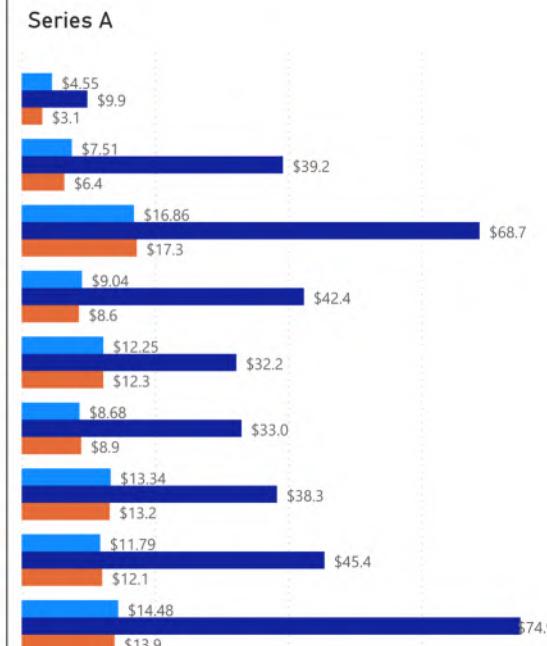
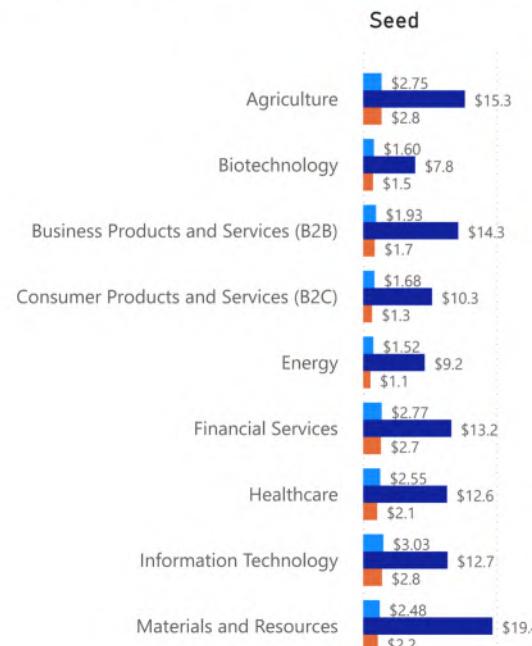
## Pre-Money Valuation of Seed & Series A Transactions

● Average of PreMoneyVal ● Median of PreMoneyVal



## Average of Round Size, Average of PreMoneyVal, Average of Investment and Count of Deals by Industry (groups) and Stage

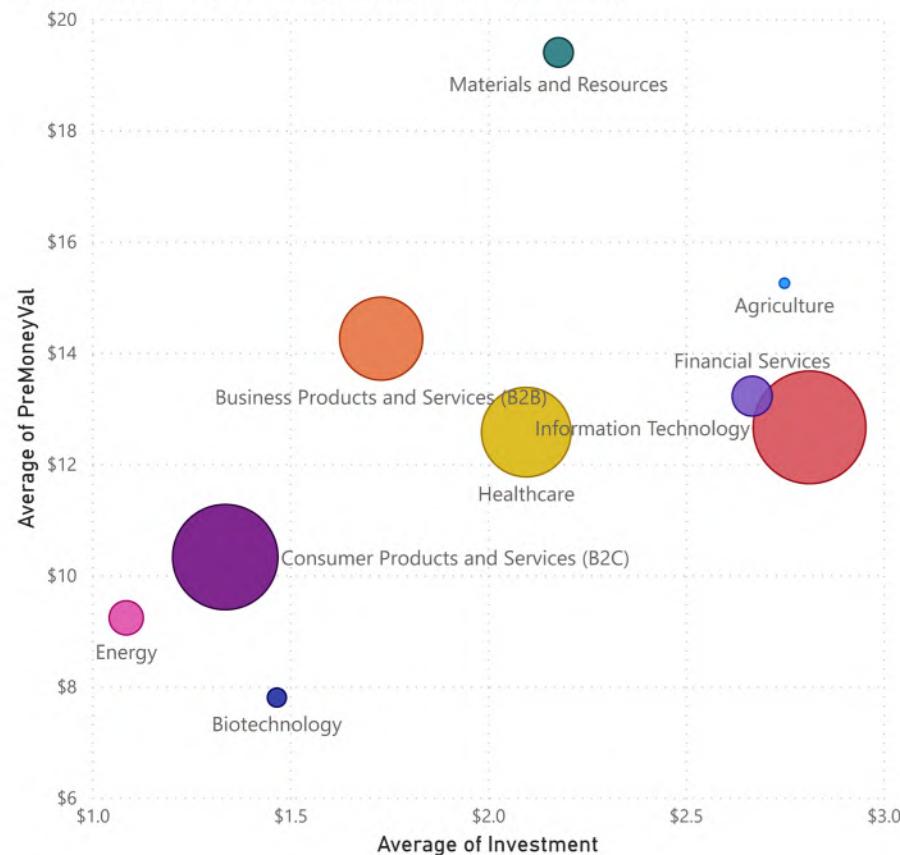
● Average of Round Size ● Average of PreMoneyVal ● Average of Investment



# Industry Investments & PMV by Investment Stage

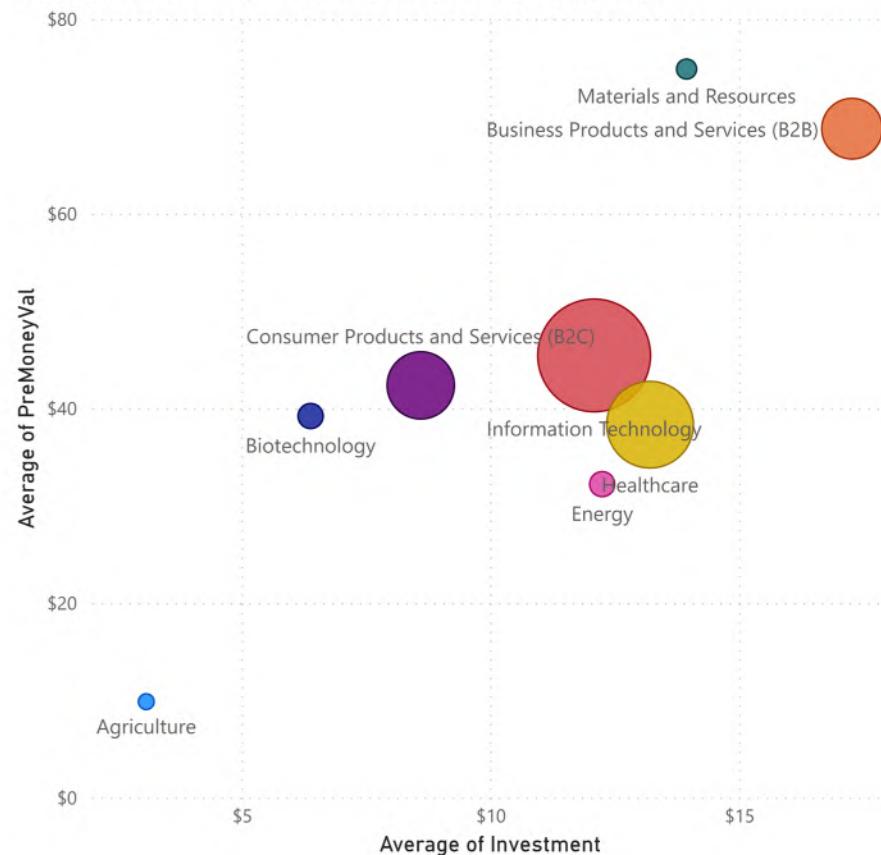
Materials and Resources companies commanded the highest valuations at the Seed Stage by a significant amount, followed by Agriculture. Financial Services and Information Technology commanded the greatest amounts of capital, and strong valuation, but lower than B2B.

Seed Deals: Average of Deal Investment, PMV by Industry



For Series A, Materials and Resources also commanded the highest valuations along with B2B; the latter is in top position on average amount invested. Note the relative conformity around other industry sectors for Series A PMV.

Series A Deals: Average of Deal Investment, PMV by Industry



*The size of the circle represents the sum of transactions (volume).*

# Industry Concentrations by Geography

When we look at where the companies are located, and know their industries, do interesting patterns emerge? Here are a few highlights from a review of the heat map.

The most dominant industry sector, Information Technology, is also most dominant in California, with the South East holding the second most concentration. Although Financial services volume is low, the South East is home to 25% of the transactions in the sector. The South East

also leads the country in Healthcare, and is second only to California in both Business and Consumer Products and Services, IT, and even Materials and Resources.

And while Biotech is concentrated in California, the South West region was home to 25% of the transactions this year, mainly in Arizona.

No single region accounted for a majority of transactions in either Energy or Agriculture.

## **How to read this chart:**

The color depth is based on the number of transactions per region (top row). Lighter colors indicate few transactions. Percentages are by row (left to right).

Industry (percentage of Seed & Series A transactions within company location)

Industry	California	Great Lakes	Great Plains	Mid-Atlantic	New York	North East	North West	South East	South West	Texas	z_Out of US	Total
Agriculture	20.00%	20.00%	20.00%					20.00%	20.00%			100.00%
Biotechnology	37.50%			6.25%		6.25%		18.75%	25.00%	6.25%		100.00%
Business Products and Services (B2B)	22.01%	8.61%	4.31%	6.22%	8.61%	7.66%	11.00%	16.27%	8.13%	6.22%	0.96%	100.00%
Consumer Products and Services (B2C)	22.01%	9.75%	0.63%	9.12%	10.38%	6.29%	11.01%	15.72%	9.43%	5.66%		100.00%
Energy	14.71%	14.71%	5.88%	11.76%	5.88%	5.88%	8.82%	8.82%	5.88%	11.76%	5.88%	100.00%
Financial Services	12.50%	6.25%		10.42%	10.42%	6.25%	6.25%	25.00%	14.58%		8.33%	100.00%
Healthcare	14.84%	10.25%	2.83%	10.95%	5.30%	11.66%	7.07%	19.08%	10.25%	5.65%	2.12%	100.00%
Information Technology	23.26%	6.09%	1.74%	7.83%	11.96%	5.87%	10.22%	16.09%	6.96%	9.78%	0.22%	100.00%
Materials and Resources	24.00%	12.00%		16.00%	4.00%	4.00%	4.00%	20.00%	12.00%		4.00%	100.00%

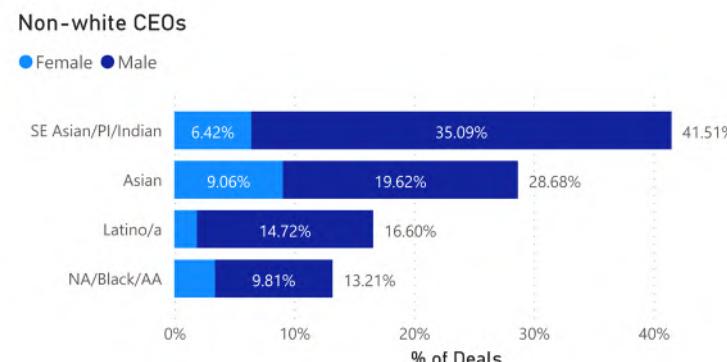
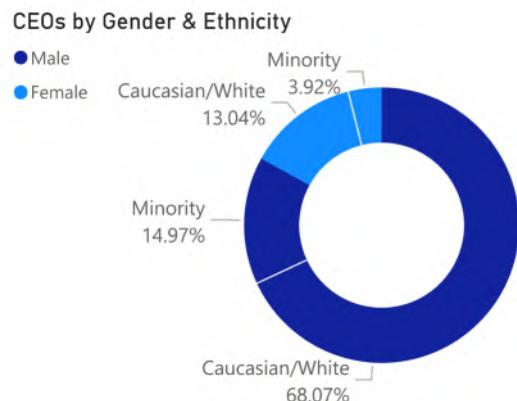
# Gender & Ethnicity

This year, the CEOs' gender and ethnic diversity was almost identical to 2021. With less than a 1% difference in gender, the slight increase in Female CEOs moves the participation rate of Females almost to the pre-pandemic rate of 17%. The increase in female CEOs by almost 1% included .6% for ethnic females and a fraction, .23% for white females. Males are 83% of total. The percentage of White Males remained constant at 68% of all CEOs, while the participation of Ethnic Male CEOs was reduced by .77%.

Independent of the gender mix, the record-breaking year in 2021 of 19% of all CEOs from diverse ethnicities almost held its ground in 2022 at 18.86%, during a year marked by a sharp downturn in the economy and far fewer transactions.

We also find more Female participation amongst ethnically diverse CEOs: 20% are Female (vs 16% for non-minority CEOs). In 2022, South East Asian/ Indian CEOs were 41% of the total ethnic population who raised capital, and 15.6% were Females (almost identical to Caucasian CEO

distribution). Yet, 31.6% of the Asian CEOs who raised capital were female; and of the Black/ African American CEOs, 26.5% were Female, all of which served to present for a second year an overall stronger participation of Females among ethnic CEOs than white CEOs by a full 4%. (See table below for gender/ethnicity composition.)



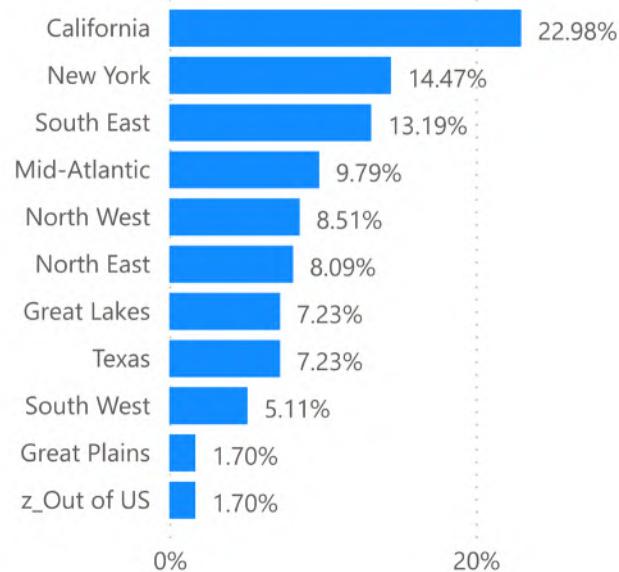
CEO Ethnicity (Grouped)		Asian	Caucasian/White	Latino/a	NA/Black/AA	SE Asian/PI/Indian	Total	
CEO_Gender	#	%	#	%	#	%	#	%
Female	24	31.58%	179	16.03%	5	11.36%	9	25.71%
Male	52	68.42%	939	84.06%	39	88.64%	26	74.29%
<b>Total</b>	<b>76</b>	<b>100.00%</b>	<b>1117</b>	<b>100.00%</b>	<b>44</b>	<b>100.00%</b>	<b>35</b>	<b>100.00%</b>
							<b>109</b>	<b>100.00%</b>
							<b>1380</b>	<b>100.00%</b>

# Gender & Ethnicity - Nationwide

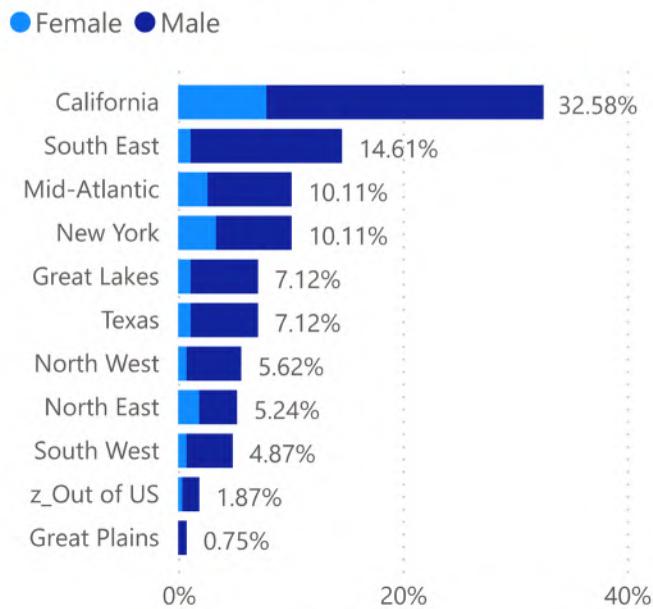
If we just look at all CEOs who raised capital in 2022 and their corporate HQ, we find almost 23% of the females run companies in California (3% fewer than in 2021), followed by New York at 14.5%, the South East at over 13%, and the Mid Atlantic region, each of whom increased their % of total; the Mid Atlantic region by 3%, from 6.79 % to 9.79%. Texas increased from 3.7% to 7.23%

Nearly a third of Minority CEOs live in California: 32.56%, an increase of over 2%. The South East also increased their share by over 2% to 14.6%. New York's percent decreased by over 1% and Mid Atlantic's percentage increased, so both regions in 2022 claim just over 10% of the country's ethnic CEOs.

## Where Female CEOs Reside

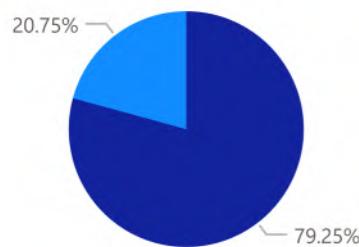


## Where Minority CEOs Reside



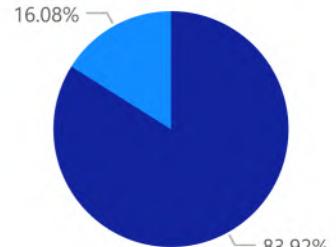
## Ethnic Diversity of CEOs by Gender

● Male ● Female



## White CEOs

● Male ● Female



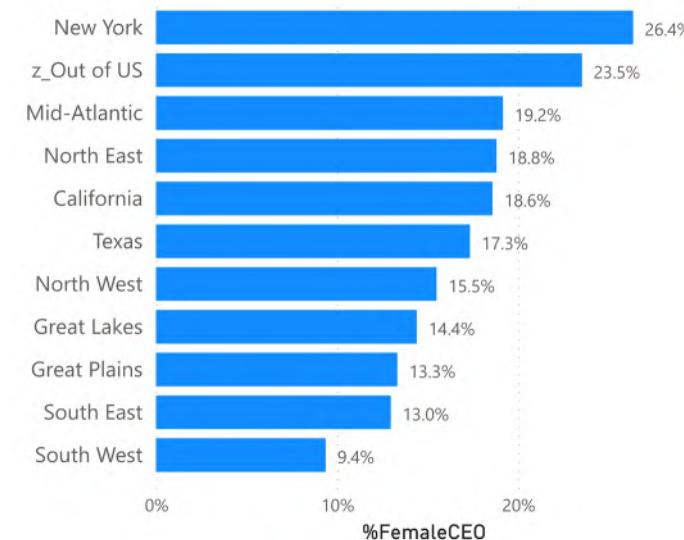
# Gender & Ethnicity Within Each Region

When we look at the gender and ethnic composition of CEO's *within* each region we see a rich view of diversity less distorted by the larger national numbers. For example, while New York accounts for 14% of the female CEO's and only 10.11% of the ethnic CEO's overall, within its own region over 26% of the CEO's who raised funds in 2022 were Female, and almost 21% of NY's CEO's were of diverse ethnicities.

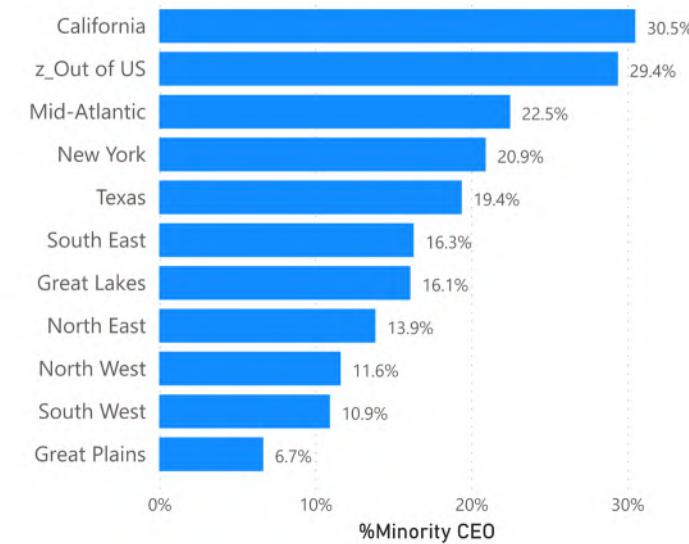
Within California, while 30.5% of the CEO's within the region are Ethnically Diverse, only 18% are Female, just 1% above the national average. In the Mid Atlantic Region 19.2% are Female and 22.5% of ethnically diverse backgrounds. The North East region has slightly more Female CEO's as a percent of their total than California does of its total, and Texas is above the National average within it's region

with 17.3% Female CEO's and 19.4% minority CEO's. The South East Region, important in size and growth rates, also increased its percentage of diverse CEO's by over 2% from 2021 and increased its percent of female CEO's from 12.3% to 13%. Declines in diversity were seen in the North West region; fewer Female CEO's raised capital in 2022 than in 2021 by 3.4%, and the percentage of ethnic CEO's at the helm dropped from 18.7% to 11.6% in 2022. The shift within and between regions explain the national numbers.

Company Regions Ranked by % Female CEOs



Company Regions Ranked by % Minority CEOs



# Capital Raising Attributes

## The Gender Gap

### The Gender Gap May Be Narrowing

While we usually focus our detailed analysis on Series Seed companies, where we would have more data points than at Series A, this year we have almost equal numbers of transactions with Pre-money Valuation for Seed and Series A, and almost an identical proportion of Female CEOs raising at Seed and Series A.

At the Seed Stage we see Female CEO's exceeding their Male counterparts for the first time—average valuations were 6.5% higher. This is a far cry from the 28-29% negative gap for Female CEOs in years past.

Given equal number of PMV data points at

Series A, we looked separately at this Series A dataset, at the difference by gender, and found that Female CEOs still fall behind Male CEOs by 21% (an \$9.9M delta in Average PMV, and \$4.5M delta in Median PMV).

Given the consistent ratios of Seed to Series A, we combined the data to assess the gap where the only difference was gender. In this case, "Seed and Series A Combined", we see a gender gap, but one that is significantly reduced: the Median PMV gap is closer to 11% and the Average PMV gap is 17%. We could also surmise that at the Seed Stage deals are more influenced by Angels, while VCs typically drive the Series A valuations.

To further understand what may be behind this significant shift in 2022, we added an additional screen to identify investors who had Females noted as deal leads, or were groups of angels or funds focused on Female companies. Further analysis of this data will provide additional insights. At present we know that the higher valuation data for female CEOs at Seed stage was achieved by ethnic female CEOs. (See page 27.)

### Seed & Series A where PMV >\$0

Stage CEO_Gender	Seed			Series A			Total		
	%Deals	Avg PMV	Med PMV	%Deals	Avg PMV	Med PMV	%Deals	Avg PMV	Med PMV
Male	80.81%	\$12.2	\$8.0	81.75%	\$47.2	\$29.0	81.28%	\$29.9	\$16.8
Female	19.19%	\$13.0	\$10.0	18.25%	\$37.3	\$24.5	18.72%	\$24.9	\$15.0
<b>Total</b>	<b>100.00%</b>	<b>\$12.3</b>	<b>\$9.0</b>	<b>100.00%</b>	<b>\$45.4</b>	<b>\$27.8</b>	<b>100.00%</b>	<b>\$29.0</b>	<b>\$15.5</b>

## **Capital Raising Attributes - the Gender Gap (continued)**

Average valuations for Females 17.2% lower than Males when Seed and Series A are combined and 10.7% lower Median valuations.

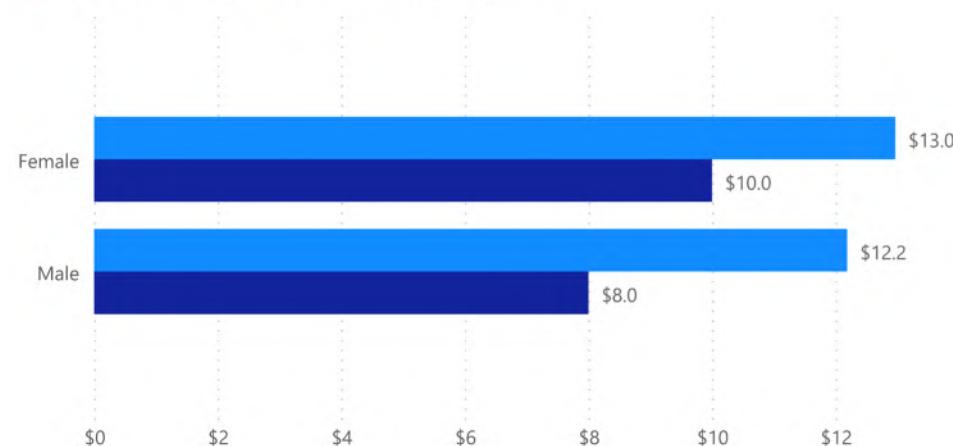
At Seed stage \$821K was the tipping point, putting Female CEOs ahead of Male CEOs on Average Valuations by 6.3% and 20% higher Median Valuations.

Series A alone showed Female CEOs with Average Valuations of 21% lower, and Median Valuations were lower by 15.5%.

### **PMV for Seed Transactions by Gender**

PMV > \$0

● Average of PreMoneyVal ● Median of PreMoneyVal



### **PMV for Seed & Series A Transactions by Gender**

PMV > \$0

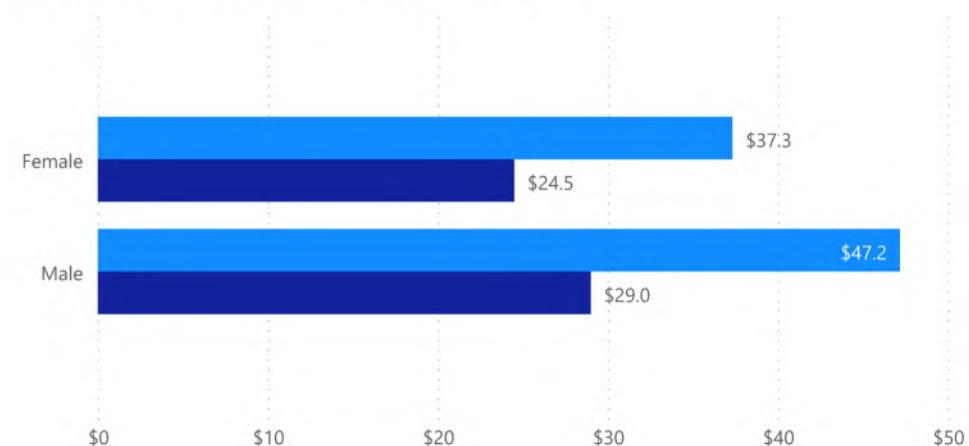
● Average of PreMoneyVal ● Median of PreMoneyVal



### **PMV for Series A Transactions by Gender**

PMV > \$0

● Average of PreMoneyVal ● Median of PreMoneyVal



## Capital Raising Attributes - the Gender Gap Seed Deals Only

Looking at Gender and Ethnicity data over the last 4 years shows a positive trend towards narrowing the Gender Gap in PMV. We also observe that the Gender Gap narrows in tough economic cycles, as it did in 2020 vs 2019 and again in 2022 vs 2021. We will take this positive news, modulated by what we observed with Series A data, and consider that female CEOs are more recognized as contenders in 2022.

Females Stopped Giving Away PMV in 2022  
Difference between Average PMV (Female CEOs Avg PMV - Males')



Average SEED Pre-Money Valuations (Millions of US Dollars)

Transaction Year	Female CEOs	Male CEOs	Gender GAP	PMV Haircut	Fem.	All	Gender % Fem
2019	\$8.23	\$14.01	(\$5.78)	41.28%	69.00	232.00	29.74%
2020	\$6.76	\$9.59	(\$2.83)	29.50%	75.00	279.00	26.88%
2021	\$8.71	\$12.36	(\$3.65)	29.56%	81.00	410.00	19.76%
2022	\$12.96	\$12.15	\$0.81	-6.68%	52.00	272.00	19.12%
Total	<b>\$8.86</b>	<b>\$11.99</b>	<b>(\$3.13)</b>	<b>26.09%</b>	<b>277.00</b>	<b>1,193.00</b>	<b>23.22%</b>

Instead of a gap for women at the Seed Stage, we find women who raised in 2022 commanded higher valuations than their male counterparts by over 6%. A close look at the table below shows female CEOs owe this gain in particular to the very strong valuations achieved by Asian and Indian CEOs.

Data presented in the table to the right provides granularity into the attributes of capital raising by gender and ethnicity.

Capital Raising Attributes by CEO Gender & Ethnicity (Seed, 2022)

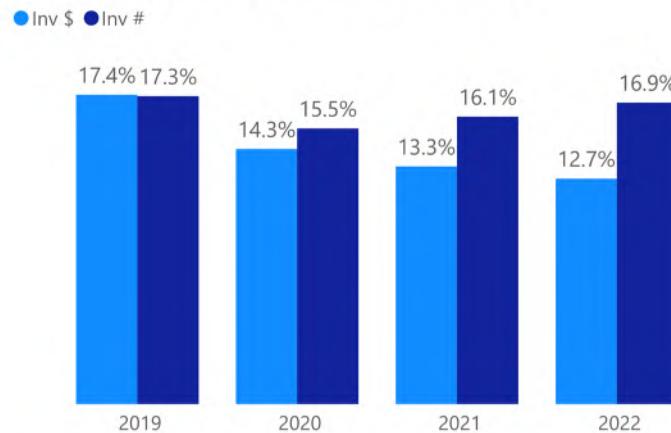
Gender Ethnicity-Industry (groups)	Female			Male			Overall		
	#	AVG Pre-MV	MED PreMV	#	AVG Pre-MV	MED PreMV	#	AVG Pre-MV	MED PreMV
Asian	18	\$24.29	\$15.00	41	\$8.44	\$4.00	59	\$13.48	\$8.15
Black/AA	7			23	\$7.93	\$5.00	30	\$7.93	\$5.00
Caucasian/White	129	\$10.76	\$10.00	670	\$12.73	\$8.15	799	\$12.35	\$9.00
Latino/a	4			28	\$7.28	\$5.00	32	\$7.28	\$5.00
SE Asian/Indian/PI	13	\$15.75	\$14.00	64	\$13.21	\$10.00	77	\$13.61	\$10.00
Overall	<b>171</b>	<b>\$12.96</b>	<b>\$10.00</b>	<b>826</b>	<b>\$12.15</b>	<b>\$8.00</b>	<b>997</b>	<b>\$12.31</b>	<b>\$9.00</b>

# Gender and Ethnicity Share of Total Dollars & Deals: Trends

Females are still losing ground as a percent of total dollars invested. Female CEOs share of dollars dropped again. While just .6%, this decline is enough to reveal a steady decline: from 17.5% in 2019 to 12.7% in 2022. The number of female CEOs participating is still not back to 2019 levels, but moved up again slightly from it's low point in 2020 to almost 17%.

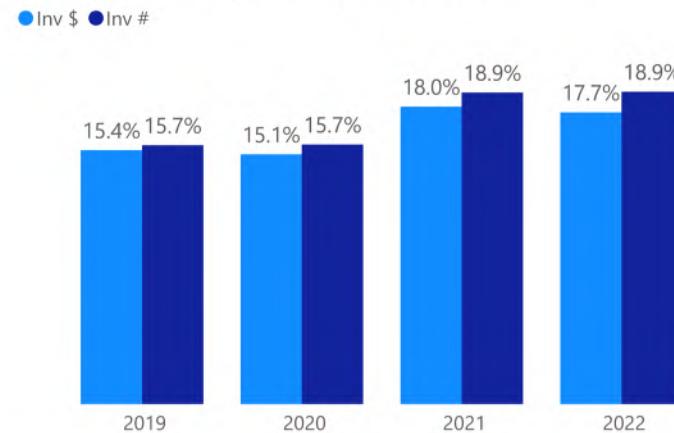
Ethnically Diverse CEOs saw a .3% decrease in share of total dollars invested but continued to hold their participation rate at almost 19%, a significant increase from 15.4% in 2019 and 15.1% in 2020.

Share of Investments and Deals - Female CEOs



End of Year	Investment Share - Female CEOs	Investment in Female CEOs	Transactions Share - Female CEOs	Transactions with Female CEOs
2019	17.4%	\$550.4	17.3%	336
2020	14.3%	\$534.9	15.5%	274
2021	13.3%	\$644.1	16.1%	325
2022	12.7%	\$885.8	16.9%	237
<b>Total</b>	<b>14.0%</b>	<b>\$2,615.2</b>	<b>16.4%</b>	<b>1172</b>

Minorities' Share of Investments and Deals



End of Year	Investment Share - Minority CEOs	Investment in Minority CEOs	Transactions Share - Minority CEOs	Transactions with Minority CEOs
2019	15.4%	\$484.9	15.7%	302
2020	15.1%	\$556.3	15.7%	272
2021	18.0%	\$870.3	18.9%	380
2022	17.7%	\$1,237.1	18.9%	265
<b>Total</b>	<b>16.9%</b>	<b>\$3,148.5</b>	<b>17.2%</b>	<b>1219</b>

## **Ethically Diverse Female CEOs Increased Total Dollars, Share of Dollars, Participation Rate, and even PMV!**

A more granular look at the data reveals the significance of ethnic females to the data set. Without minority participation, female CEOs would be demonstrably poorer in their share of dollars and transactions.

Ethnic female CEOs were counted again in the aggregate data for ethnic CEOs, camouflaging the ethnic male CEO's slight decline in share of total dollars raised and share of deals. Non-minority males increased their percent of total dollars by 1.5% while holding steady in participation rate.

Asian Female CEOs are significantly contributing to the Round Size,

Average and Median Pre-money Valuations for Female CEOs, as are Southeast Asian/Indian Females.

Southeast Asian/Indian Male CEOs are doing the same for Male CEOs at large, establishing notably higher rounds and Valuations.

See tables below for more detail on ethnic groups and gender and charts on next page.

### **Total Investments in CEOs (Seed & Series A)**

Ethnicity Group - Gender Transaction Year	Minority-Female			Minority-Male			Non-minority-Female			Non-minority-Male			Total		
	Investment	%Inv	% Deals	Investment	%Inv	% Deals	Investment	%Inv	% Deals	Investment	%Inv	% Deals	Investment	%Inv	% Deals
2019	\$92.36	2.93%	3.94%	\$392.53	12.46%	11.04%	\$451.87	14.34%	17.70%	\$2,214.31	70.27%	67.32%	\$3,151.06	100.00%	100.00%
2020	\$74.96	2.04%	2.84%	\$481.32	13.09%	12.87%	\$448.92	12.21%	13.07%	\$2,670.41	72.65%	71.22%	\$3,675.60	100.00%	100.00%
2021	\$114.41	2.37%	3.36%	\$755.89	15.66%	15.58%	\$529.71	10.97%	12.86%	\$3,428.11	71.00%	68.20%	\$4,828.12	100.00%	100.00%
2022	\$203.34	2.91%	3.94%	\$1,033.73	14.77%	15.03%	\$682.43	9.75%	12.88%	\$5,078.64	72.57%	68.15%	\$6,998.14	100.00%	100.00%
<b>Total</b>	<b>\$485.07</b>	<b>2.60%</b>	<b>3.94%</b>	<b>\$2,663.46</b>	<b>14.28%</b>	<b>15.03%</b>	<b>\$2,112.93</b>	<b>11.33%</b>	<b>12.88%</b>	<b>\$13,391.47</b>	<b>71.79%</b>	<b>68.15%</b>	<b>\$18,652.93</b>	<b>100.00%</b>	<b>100.00%</b>

### **Capital Raising Attributes by CEO Gender & Ethnicity (Seed, 2022)**

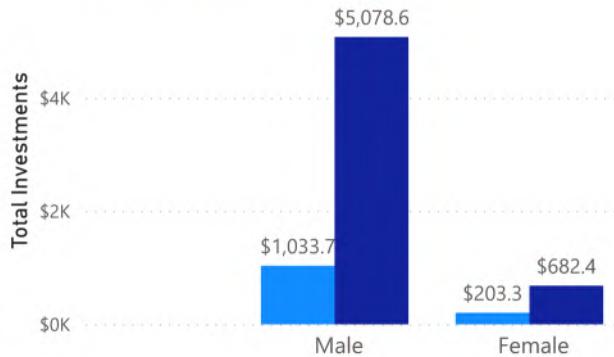
Gender Ethnicity-Industry (groups)	Female				Male				Overall						
	#	AVG Inv	MED Inv	AVG Pre-MV	MED PreMV	#	AVG Inv	MED Inv	AVG Pre-MV	MED PreMV	#	AVG Inv	MED Inv	AVG Pre-MV	MED PreMV
Asian	18	\$2.05	\$1.50	\$24.29	\$15.00	41	\$1.40	\$0.64	\$8.44	\$4.00	59	\$1.60	\$0.70	\$13.48	\$8.15
Black/AA	7	\$0.80	\$0.53			23	\$1.32	\$0.50	\$7.93	\$5.00	30	\$1.20	\$0.51	\$7.93	\$5.00
Caucasian/White	129	\$1.76	\$0.46	\$10.76	\$10.00	670	\$2.25	\$0.53	\$12.73	\$8.15	799	\$2.17	\$0.50	\$12.35	\$9.00
Latino/a	4	\$1.76	\$1.41			28	\$1.42	\$0.61	\$7.28	\$5.00	32	\$1.46	\$0.71	\$7.28	\$5.00
SE Asian/Indian/PI	13	\$1.65	\$2.00	\$15.75	\$14.00	64	\$1.58	\$0.75	\$13.21	\$10.00	77	\$1.59	\$0.88	\$13.61	\$10.00
<b>Overall</b>	<b>171</b>	<b>\$1.74</b>	<b>\$0.58</b>	<b>\$12.96</b>	<b>\$10.00</b>	<b>826</b>	<b>\$2.10</b>	<b>\$0.54</b>	<b>\$12.15</b>	<b>\$8.00</b>	<b>997</b>	<b>\$2.04</b>	<b>\$0.54</b>	<b>\$12.31</b>	<b>\$9.00</b>

## Investment Changes by Gender and Ethnicity since 2019

### Total Investments by Ethnicity & Gender Group (2022)

Seed & Series A Transactions

Ethnicity (groups) ● Minority ● Non-minority



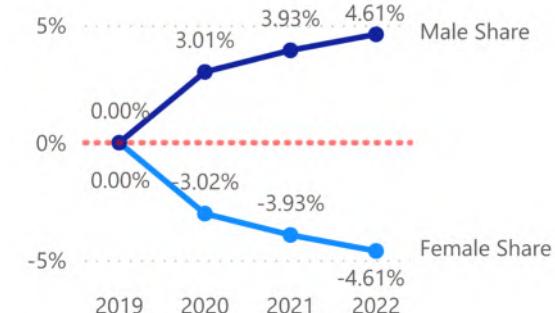
### Change in Total Dollars (Mil) Received by Gender/Ethnicity by Year

● Female Investments ● Male Investments

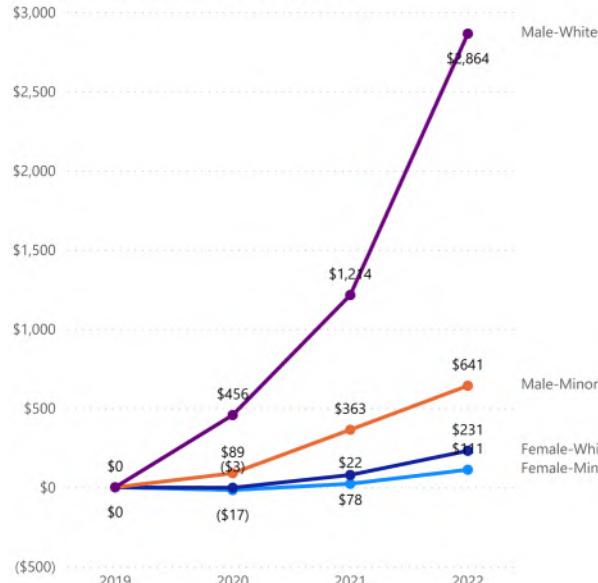


### Females Losing Share of Investment Dollars

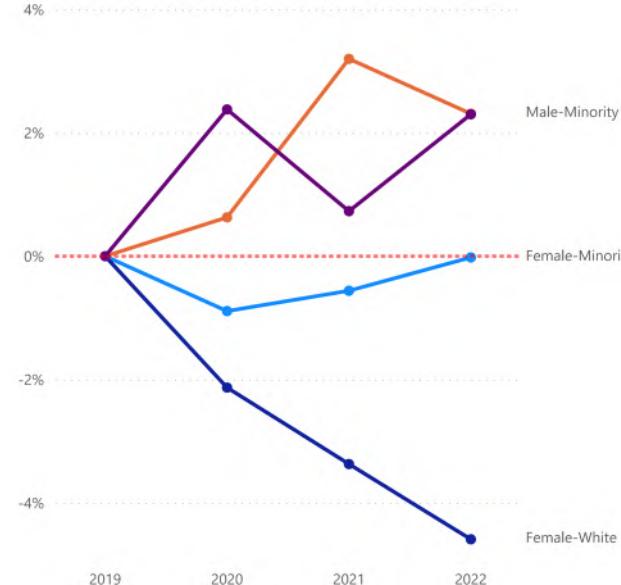
Change in Share Since 2019



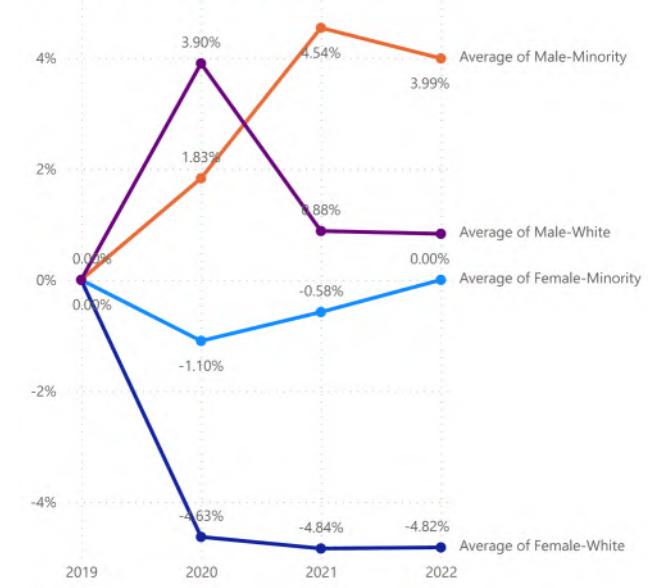
### Change in Total Dollars (Mil) Received



### Change in Share of Investment Dollars Since 2019



### Change in Share of Deals since 2019



# Gender Analysis by Industry Segment

Female CEOs are still heavily focused on Consumer Products and Services with over 40% their deals in that sector. Even when IT and Healthcare are combined, Female-led CEO deals still add up to 37% ( shy of Consumer Products and Services companies).

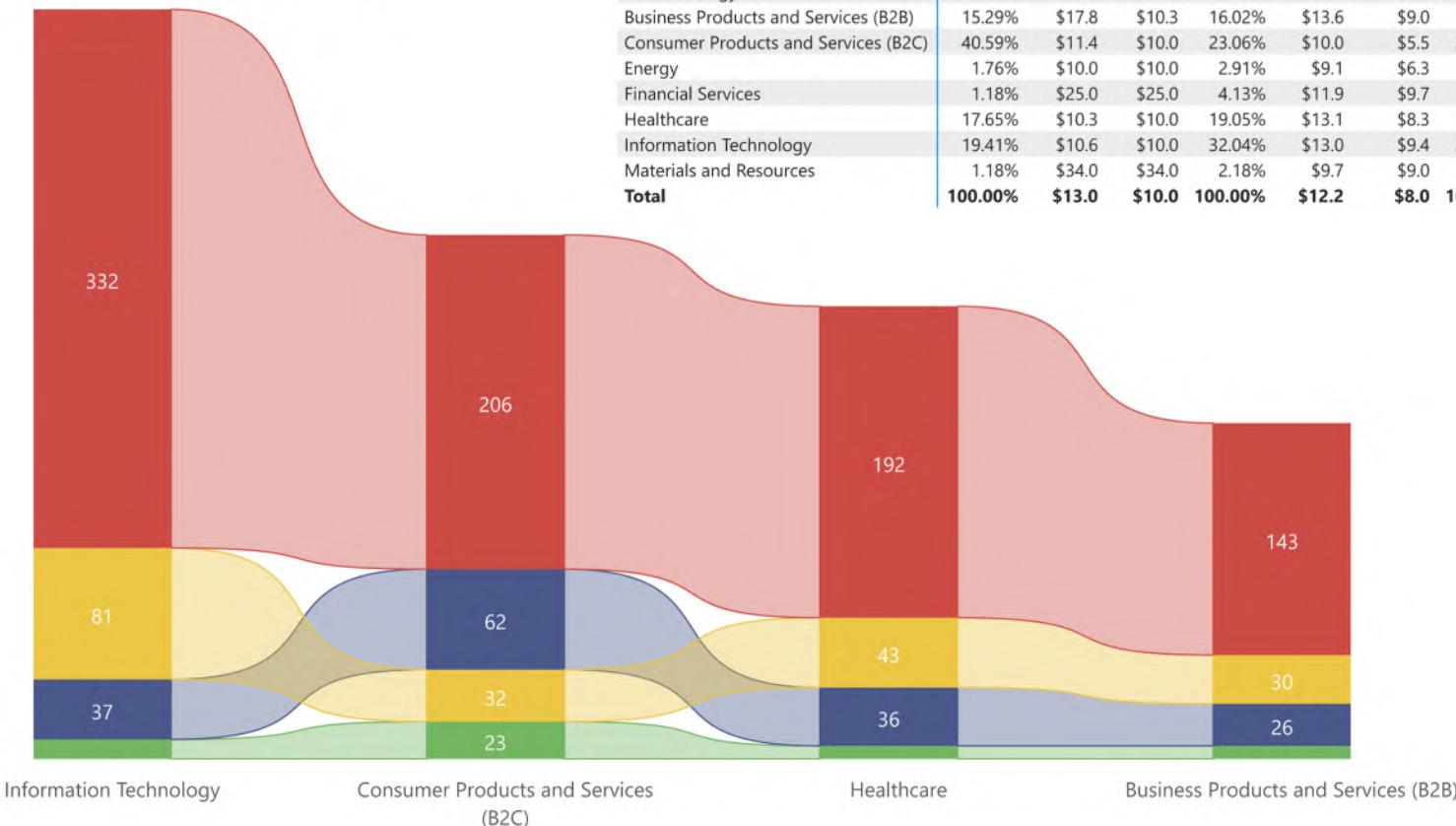
Male CEO's choose IT 32% of the time, followed by Consumer Products and Services, then Healthcare. Business Products and Services are almost evenly split by gender.

We see differences in valuation data for men and women, but with no logical distinctions. Female CEO's commanding higher valuations on Consumer Products and Services and lower valuations on IT.

Count of CEO Demographics by Industry

● Female-Minority ● Female-White ○ Male-Minority ● Male-White

This shows the demographic shift by industry.



Pre-Money Val by Industry & Gender (Seed deals only)

CEO_Gender Industry	Female		Male		Total			
	%	Avg Pre-MV	%	Avg Pre-MV	%	Avg Pre-MV	Med Pre-MV	
Agriculture	0.59%	\$26.0	0.12%	\$4.5	4.5	0.20%	\$15.3	\$15.3
Biotechnology	2.35%	\$9.7	0.49%	\$5.0	\$5.0	0.80%	\$7.8	\$5.0
Business Products and Services (B2B)	15.29%	\$17.8	16.02%	\$13.6	\$9.0	15.90%	\$14.3	\$9.0
Consumer Products and Services (B2C)	40.59%	\$11.4	23.06%	\$10.0	\$5.5	26.06%	\$10.3	\$7.0
Energy	1.76%	\$10.0	2.91%	\$9.1	\$6.3	2.72%	\$9.2	\$8.0
Financial Services	1.18%	\$25.0	4.13%	\$11.9	\$9.7	3.62%	\$13.2	\$9.9
Healthcare	17.65%	\$10.3	19.05%	\$13.1	\$8.3	18.81%	\$12.6	\$9.0
Information Technology	19.41%	\$10.6	32.04%	\$13.0	\$9.4	29.88%	\$12.7	\$10.0
Materials and Resources	1.18%	\$34.0	2.18%	\$9.7	\$9.0	2.01%	\$19.4	\$10.0
<b>Total</b>	<b>100.00%</b>	<b>\$13.0</b>	<b>\$10.0</b>	<b>100.00%</b>	<b>\$12.2</b>	<b>\$8.0</b>	<b>100.00%</b>	<b>\$12.3</b>

# CEO Gender & Ethnicity by Industry

Almost half (46%) of the Black/African American CEOs who successfully raised money in our 2022 study did so in the Information Technology industry. This is a noteworthy increase from 2021 where this number was 29%. Their second-highest concentration was Consumer Products and Services, mirroring the White and Asian populations. The Asian and Southeast Asian/Indian populations were dominant in IT and in Healthcare, with the LatinX population slightly more dominant in Consumer Products and Services.

With now 3 years of data on gender and ethnicity by industry, we have the opportunity to look at more data points without double-counting companies, and secure an even clearer view of sector preferences.

Industry	Female-Minority	Female-White	Male-Minority	Male-White	Total
Information Technology	12	37	81	332	<b>462</b>
Consumer Products and Services (B2C)	23	62	32	206	<b>323</b>
Healthcare	8	36	43	192	<b>279</b>
Business Products and Services (B2B)	8	26	30	143	<b>207</b>
Financial Services	1	3	11	32	<b>47</b>
Energy		4	8	24	<b>36</b>
Materials and Resources	3	1	5	16	<b>25</b>
Biotechnology	1	7	2	6	<b>16</b>
Agriculture		3		2	<b>5</b>
<b>Total</b>	<b>56</b>	<b>179</b>	<b>212</b>	<b>953</b>	<b>1400</b>

## Industry Segment by Ethnicity

CEO Ethnicity Industry	Asian		Black/AA		Caucasian/White		Latino/a		SE Asian/Indian/PI	
	#	%M	#	%M	#	%M	#	%M	#	%M
Agriculture					5	0.44%				
Biotechnology	1	1.32%			13	1.15%	1	2.27%	1	0.90%
Business Products and Services (B2B)	11	14.47%	5	13.89%	169	14.93%	8	18.18%	14	12.61%
Consumer Products and Services (B2C)	17	22.37%	9	25.00%	268	23.67%	13	29.55%	16	14.41%
Energy	1	1.32%			28	2.47%	3	6.82%	3	2.70%
Financial Services	1	1.32%	1	2.78%	35	3.09%	3	6.82%	7	6.31%
Healthcare	19	25.00%	3	8.33%	228	20.14%	6	13.64%	23	20.72%
Information Technology	23	30.26%	17	47.22%	369	32.60%	9	20.45%	44	39.64%
Materials and Resources	3	3.95%	1	2.78%	17	1.50%	1	2.27%	3	2.70%
<b>Total</b>	<b>76</b>	<b>100.00%</b>	<b>36</b>	<b>100.00%</b>	<b>1132</b>	<b>100.00%</b>	<b>44</b>	<b>100.00%</b>	<b>111</b>	<b>100.00%</b>

# Super Angels

We found 88 transactions in 2022 that appeared to be driven by Super Angels – high net worth individuals investing by name or family office. The majority of these Super Angels were from California, New York, and the South East. While 32% of total were located in California, they invested in and out of region almost equally; they showed no particular propensity to invest close to home. And, as in 2021, we continued to find these Super Angels in every region of the country.

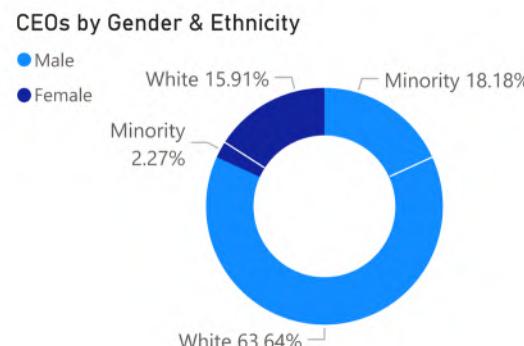
You can see from the heat map where they invested. Their investments were mostly in California and New York, with North West region following and then the South East. Yet 50% of the time Super Angels invested outside their region. We found networks of Super Angels investing together from multiple regions, too.

The Super Angels chose ethnic male CEOs more often than the rest of the population, and more Female CEOs, but fewer ethnic female CEOs.

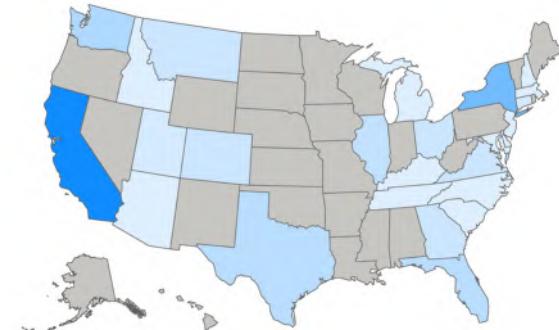
2022 was a year of economic tightening, as was 2020. Interestingly, the 50% discount we discovered in 2020 and that all but disappeared in 2021 reemerged for Super Angels in 2022. In fact the 50% discount was almost exact! Super Angels invested in deals with an Average PMV of \$7.0M while the rest of the community paid \$14.2M. The Median PMV also shows a 50% discount.

Super Angels continued to be invested mostly in Information Technology and Consumer Products and Services where their expertise, and “Rolodex” can assist immensely.

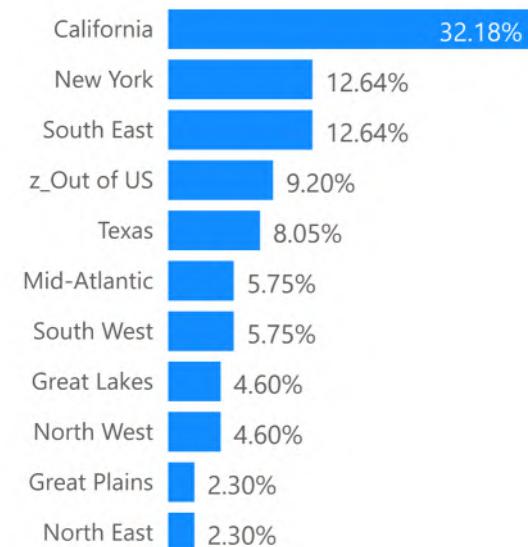
Note that Super Angels invested much less per deal than angel groups and others. Their median investment amount was less than 50% of the community at large. But clearly their personal “value add” of experience (often as exited entrepreneurs or executives) and industry knowledge serves them well. Our 2020 and 2022 findings reveal that Super Angels’ value is more appreciated by entrepreneurs in challenging economic times.



Deals by Company Location



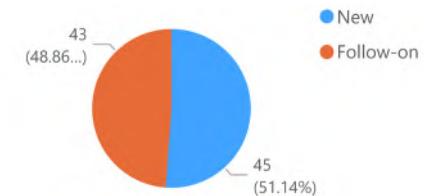
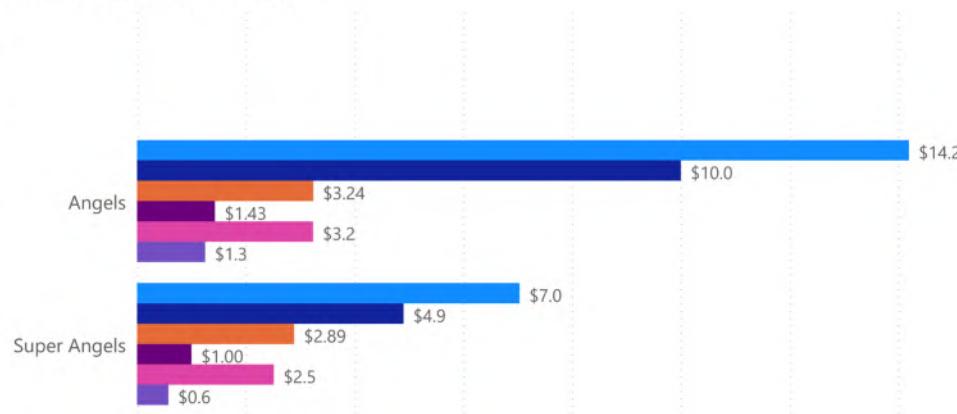
Location of Super Angels



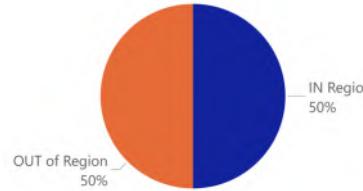
Stage Industry Sector	Seed		Series A		Total	
	Deals	% Deals	Deals	% Deals	Deals	% Deals
Business Products and Services (B2B)	1	1.14%	7	7.95%	1	1.14%
Consumer Products and Services (B2C)	1	1.14%	25	28.41%	2	2.27%
Financial Services			4	4.55%	1	1.14%
Healthcare			9	10.23%	4	4.55%
Information Technology			27	30.68%	6	6.82%
<b>Total</b>	<b>2</b>	<b>2.27%</b>	<b>72</b>	<b>81.82%</b>	<b>14</b>	<b>15.91%</b>
					<b>88</b>	<b>100.00%</b>

### Super Angels' Discount (Series Seed only)

- Average of PreMoneyVal
- Median of PreMoneyVal
- Average of Round Size
- Median of Round Size
- Average of Investment
- Median of Investment



Super Angels In-Out Ratio for Seed/Series A Deals



# How the 2022 Angel Investment Landscape Changed

Last year we wrote about how palpable the dislocation and relocation of employment and the dynamic uptick of entrepreneurship in many places across the country. We found it energizing. And the pandemic stimulated a shift that impacted much about how we lived, how we learn, from where and how we received medical care and did business. Investing became virtual too. Capital-raising was a Zoom call away rather than an airline flight. Many angel groups started investing more broadly out of their regions, with greater ease. We are living in a very different literal landscape post-2020, and our research uncovered some surprising facts:

Surprise #1 The anticipated change in deal location given the demographic shift to the Southeast was not as dramatic as we expected.

Is this because investment activity overall was so muted in 2022, that the potential of what is incubating around the country is yet to be realized? We know companies are waiting for capital to ignite their growth. Should we anticipate this geographic shift more fully in 2024?

We also thought California would see a decline in relative activity. It did not. The number of AI and IT companies in California may create a sustainable stronghold for the region. And we also know the soil is being tilled for highly diversified growth nationwide. And as Investors also relocate and add offices in new areas.

Surprise #2: Relative to the decline in the number of Seed deals, there was a disproportionate number of new deals in incubators and accelerators.

We even saw companies post-Series A and a few post-Series B appear in the “accelerator” transaction data set. We did not include these records in the Halo Report, but think such data contains clues as to what is in fact waiting for fuel. Where are these companies located? What industries are they in? What is the demographic information on the CEO's. Would we characterize them in any remarkable ways as different from the companies that DID receive capital in 2022? We are often asked what we know about the companies who did NOT raise capital, as clearly, our report is, by design, biased to study only the successful capital raises each year. A look at the demographics of the incubating companies will tell us much about the potential mix for new Seed investments.

Surprise #3: The sheer volume of equity-based financing deals in 2022.

Equity-crowd funding (ECF) deals were over 1/3rd the volume of the traditional Seed transaction – again proportionally very high. And from some compelling CEOs. Consider Isaac Hayes III, with a game-changing company called Fanbase. He won't raise a dime of Angel or Venture capital, (unless friends and family), and has raised over \$3.5M in a second crowd-funded deal for his company in one

year. The valuation is close to \$90M.

We also took note when we observed crowd-funded companies' transactions in the same year or sequenced a year before a successfully closed qualified Seed or Series A financing. ECF has been slow to emerge (and with vastly different current market size estimates from \$1.5B to \$12B) but we think this segment will become more obviously part of the broader mix of options. Note, a most obvious complement to traditional angel and super angel capital is product-based crowdfunding, which can prove market appetite with no dilution. Companies like Oculus will long be remembered as a company many angels wished could have been angel funded, to earn a small piece of their \$2B exit.

Surprise #4: 2022 was the most significant year of growth for Revenue Based Financing (RBF) companies since the segment began. An estimated \$1.5B- \$3B was raised. No longer a niche funding methodology, will Revenue Based Financing really grow at 62% CAGR to be a \$49B category as forecast by 2028? Axios thinks so. We identified individual RBF companies with valuations above \$1B, as well as several publicly traded companies in the sector including Bloom at close to \$2.4B, Mollie at \$6.5B, CapChase at \$1.0B, and PIPE at \$2.0B. Clearly what we once thought was an interesting new development is not only mainstream but can complement traditional sources of early-stage capital.

## How the 2022 Angel Investment Landscape Changed (continued)

And who is investing in these revenue-based platforms? Major players in the ecosystem of growing companies for the highest possible returns such as top-tier VC's like A16 Andreesson Horowitz and Bain Capital, even Y Combinator with its birds' eye view of early talent and its own equity funds. It doesn't hurt that investing in this alternative form of financing can serve as a source of a safe haven with consistent returns in contracted markets with low interest rates. It can fuel platforms that fund some of their portfolio companies – without further diluting the teams. There are fiscal and strategic benefits to these moves.

While RBF may only represent 10% of the Seed Stage investment category (an estimate based on the approximate present market), it is likely the single most significant growth capital segment for early-stage companies (and their investors) to consider. A side benefit of RBF is the algorithmic nature of the allocations – it is gender and color-blind. What matters to RBF underwriting is traction to date, rate of adoption, churn rate, and margins. This segment also feeds undisturbed through geo- and demographic shifts and in systems where the cost to launch a company continues to decline. A new industry segment, Decentralized Physical Infrastructure Networks or DePINS, with tokenized business models, could further reduce cost and geography preferences.

If Angel capital, approximately \$29B today, grows at a more tempered rate of 8% a year, is there a point in the foreseeable future where "alternatives" become mainstream, perhaps 2030? The

good news is that entrepreneurs will not stop innovating, and capital markets are reinventing how to fuel these innovators.

Along with equity and product crowdfunding, and new platforms through which to raise even traditional Angel capital such as sidecar funds for angels and other platforms that aggregate angel capital with venture-like due-diligence leaders, RBF reminds us that aspects of our own industry are advancing at the same pace as the companies in which we invest.

We are witnessing a profound shift in the structure and nature of early-stage investing. The days of formulaic progressions of friends and family, then angel, then venture are now much more highly nuanced, if not obviated altogether by alternative structures. We even have Venture funds designed to replace "friends and family" funds for people of color such as Impressionism Capital and revenue-based financing alternatives for underserved CEOs such as Founders First with a \$100M fund. Where there is a market, there is an innovative solution emerging. Capitalizing on so many underlying FinTech technologies, both disruptors, and traditional angels, VCs and LPs are creatively participating in our ecosystem's redesign

Geographic dispersion, structural innovation, and ways to reach a vastly broadened talent base have combined as a trifecta for change in our business landscape.

Imagine the day when raising capital will not depend on geographic location, nor special affinities

to capital, but rather on talent, creative solutions, and product market fit; where access to capital will be timely, where time-to-invest is a requirement for market relevance, where algorithms can empower diligence, and where platforms enable portfolios to be built with ease.

Imagine where more Venture funds increasingly take the risks historically reserved for angels. It's not difficult. Already Pear VC, proudly backing great teams with great ideas, is now building a network, aka pipeline, of Future Technical Female Founders while Precursor Ventures (Charles Hudson, now Chair of NVCA) continues to build stellar success with a pre-Seed-focused strategy.

Angels also have new alternatives to consider—hands-on or less hands-on—and strive to redefine exciting new business models accordingly.

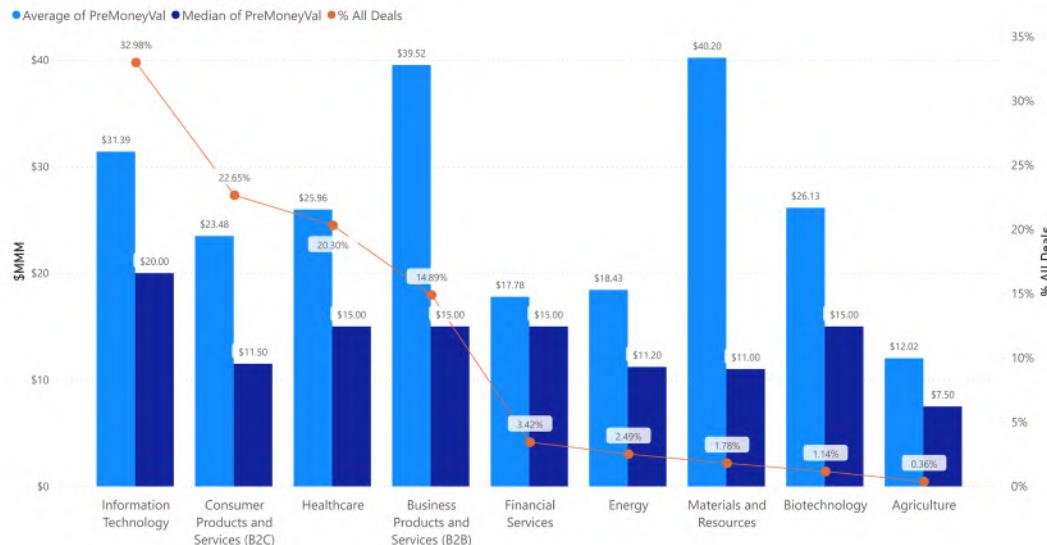
The situation is further enhanced by the crossover of experienced Venture Capital people into angel investing. Complementing the new Chair of NVCA is the new Chair of ACA Ron Weissman, not only a deeply experienced angel, but a former VC, able to bring immense perspective to the angel community across investment stage and type.

Despite the economy and our many challenges, we are in an environment in which people can both invest and innovate with greater ease and fewer barriers than ever before.

These are indeed exciting times to learn, inspire, and participate!

# National Summary & Regional Statistics

## Industries Angels Like



## Deal Structure (% Deals)

**Preferred**

41.80%

**Convertible Note**

40.04%

**SAFE**

12.97%

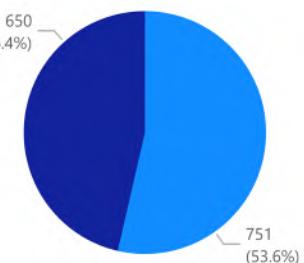
**Common**

5.19%

## Deals by Investment Stage

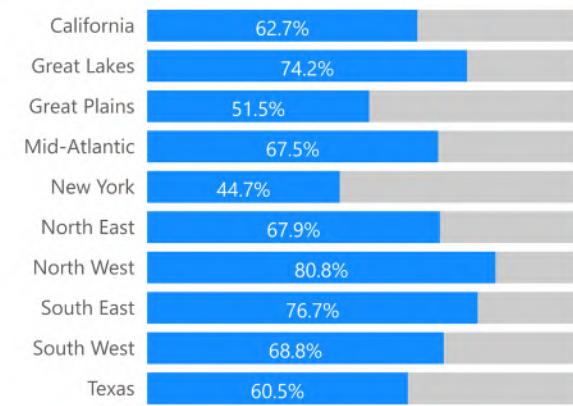
**Follow-on**

**New**



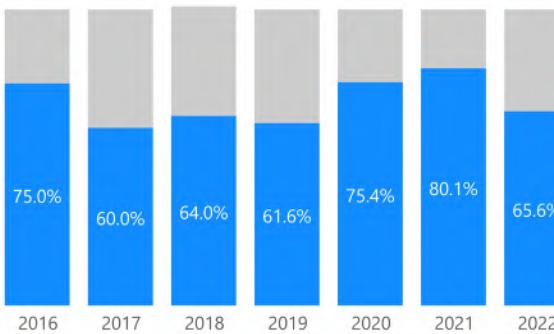
**NOTE:** Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

## Percentage Deals In Region



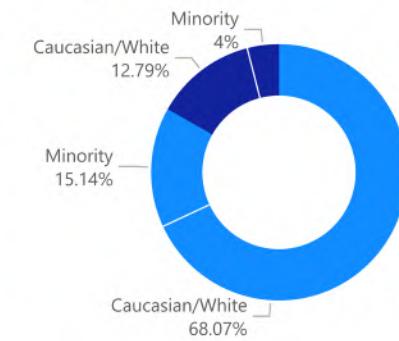
## Historical In/Out Ratio

**%in** **%out**



## CEOs by Gender & Ethnicity

**Male** **Female**

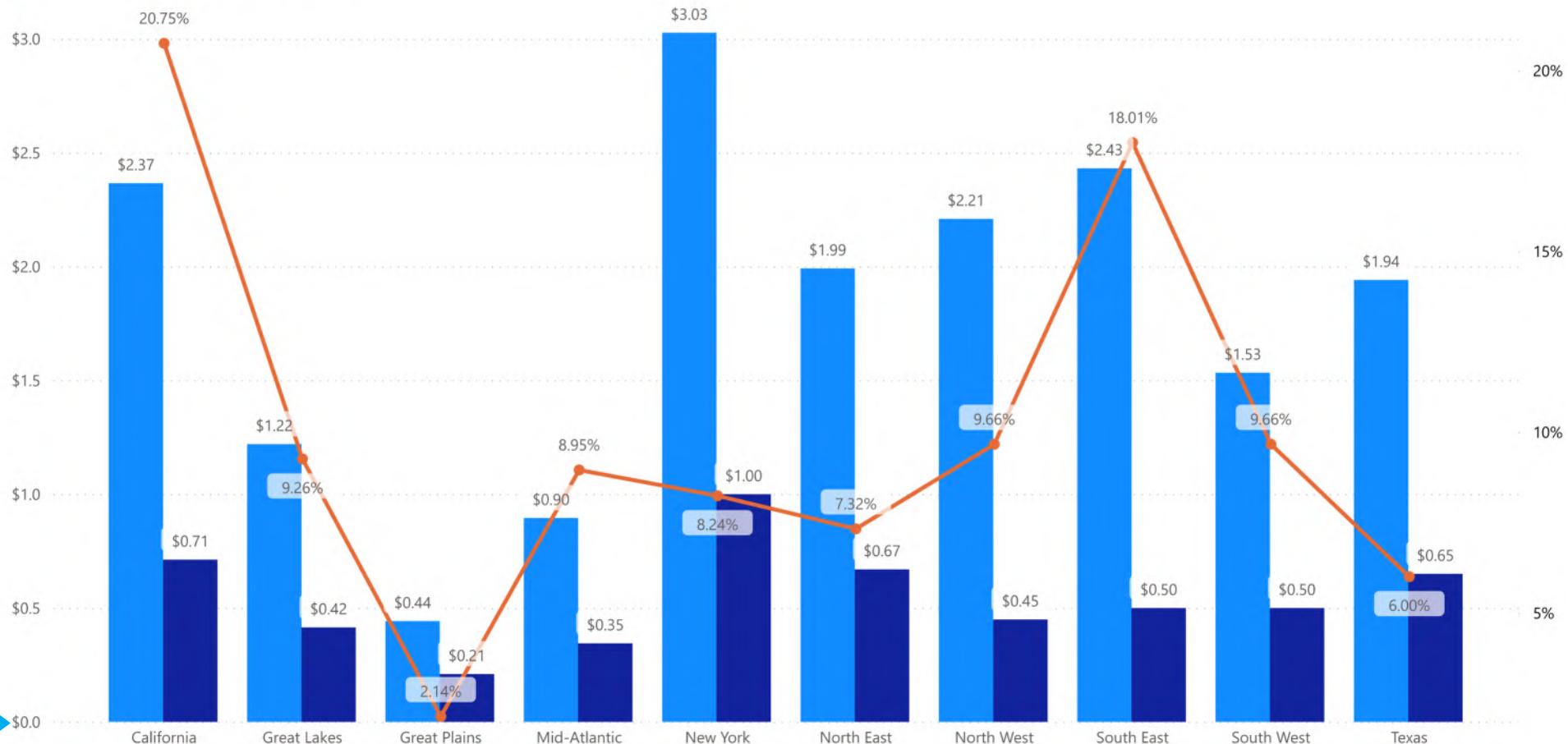


## National Summary & Regional Statistics (continued)

### Regional Comparison of Investment and Transactions

(Seed Transactions only)

● AVG Inv. ● MED Inv. ● % Total Transactions



2022

# CALIFORNIA

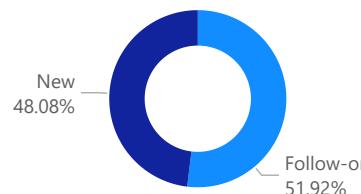
### Pre-Money Valuation (MM) by Investment Stage



### Investment & Round Size (MM) by Investment Stage



### New vs. Follow-on

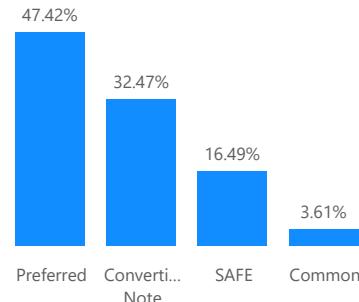


CEO Ethnicity	Female	Male	Total
Asian	4.91%	7.72%	12.63%
Black/AA	0.70%	1.05%	1.75%
Caucasian/White	11.23%	58.25%	69.47%
Latino/a	0.35%	3.16%	3.51%
SE Asian/Indian	1.40%	11.23%	12.63%
<b>Total</b>	<b>18.60%</b>	<b>81.40%</b>	<b>100.00%</b>

### Regional Industry (% deals)

Industry	% Deals
Information Technology	36.81%
Consumer Products and Services (B2C)	24.31%
Business Products and Services (B2B)	15.97%
Healthcare	14.58%
Biotechnology	2.08%
Financial Services	2.08%
Materials and Resources	2.08%
Energy	1.74%
Agriculture	0.35%
<b>Total</b>	<b>100.00%</b>

### Deal Structure (% Deals)

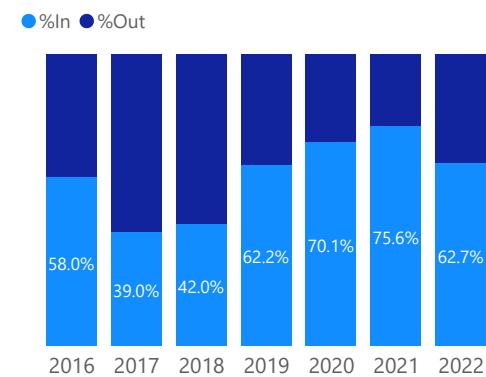


NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

### Most Active Angels

- #1 Keiretsu Forum
- #2 Golden Seeds, Nu Fund, Sand Hill
- #3 Sacramento Angels
- #4 Gaingels
- #5 Band of Angels, Life Science Angels
- #6 Astia Angels

### Percent Deals In Region



2022

# GREAT LAKES

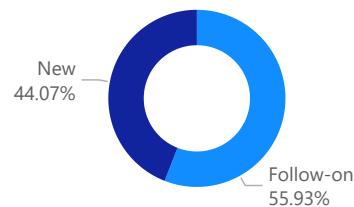
## Pre-Money Valuation (MM) by Investment Stage



## Investment & Round Size (MM) by Investment Stage

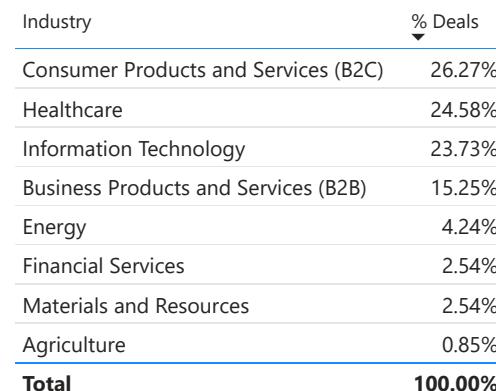


## New vs. Follow-on



CEO Ethnicity	Female	Male	Total
Asian	1.69%	<b>1.69%</b>	
Black/AA	0.85%	1.69%	<b>2.54%</b>
Caucasian/White	11.86%	72.03%	<b>83.90%</b>
Latino/a		3.39%	<b>3.39%</b>
SE Asian/Indian	1.69%	6.78%	<b>8.47%</b>
<b>Total</b>	<b>14.41%</b>	<b>85.59%</b>	<b>100.00%</b>

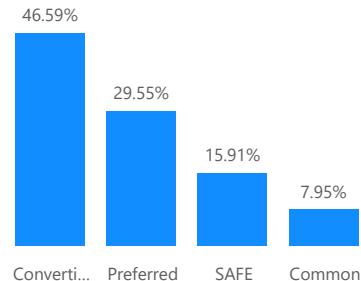
## Regional Industry (% deals)



## Most Active Angels

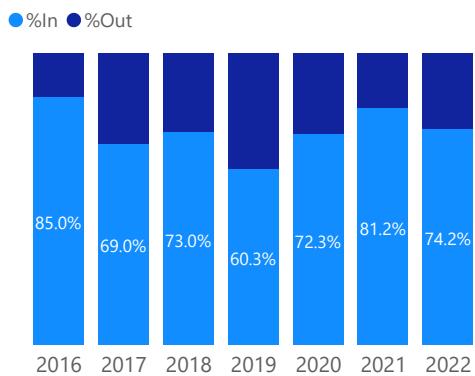
- #1 Keiretsu Forum
- #2 Elevate Ventures
- #3 TechStars
- #4 Ag Venture Alliance,, Countryside Angels, AgStart Up Engine

## Deal Structure (% Deals)



NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

## Percent Deals In Region



2022

# GREAT PLAINS

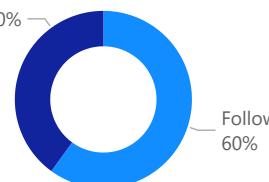
## Pre-Money Valuation (MM) by Investment Stage



## Investment & Round Size (MM) by Investment Stage



## New vs. Follow-on



CEO Ethnicity	Female	Male	Total
Caucasian/White	13.33%	80.00%	<b>93.33%</b>
Latino/a		3.33%	<b>3.33%</b>
SE Asian/Indian		3.33%	<b>3.33%</b>
<b>Total</b>	<b>13.33%</b>	<b>86.67%</b>	<b>100.00%</b>

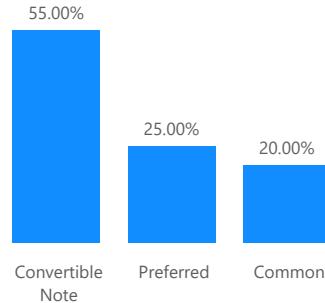
## Regional Industry (% deals)

Industry	% Deals
Business Products and Services (B2B)	30.00%
Healthcare	26.67%
Information Technology	26.67%
Consumer Products and Services (B2C)	6.67%
Energy	6.67%
Agriculture	3.33%
<b>Total</b>	<b>100.00%</b>

## Most Active Angels

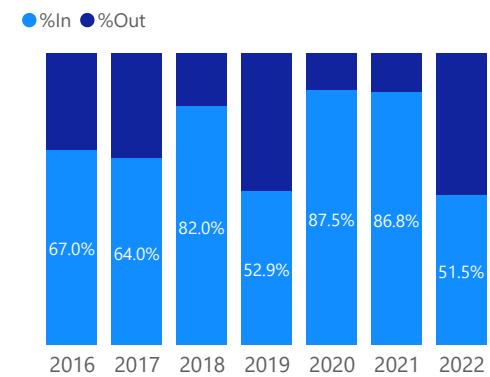
- #1 Ag Venture Alliance, Countryside Angels, AgStart Up Engine
- #2 Cultivation Capital
- #3 Fly Over Capital
- #4 Keiretsu Forum
- #5 Nebraska Angels, St. Louis Arch Angels, ISA Ventures Syndicate

## Deal Structure (% Deals)



NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

## Percent Deals In Region



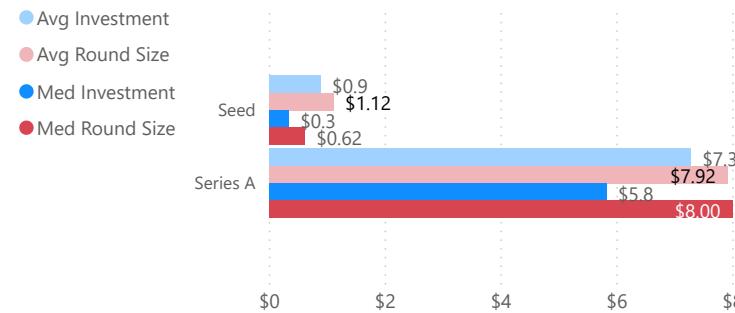
2022

# MID-ATLANTIC

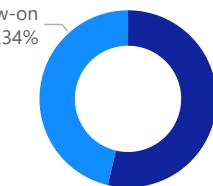
## Pre-Money Valuation (MM) by Investment Stage



## Investment & Round Size (MM) by Investment Stage



## New vs. Follow-on

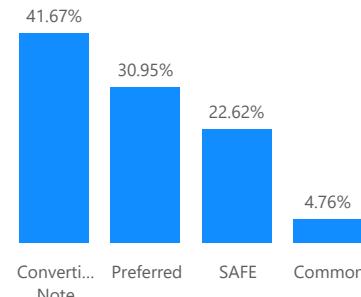


	Female	Male	Total
Asian	3.33%	4.17%	<b>7.50%</b>
Black/AA	1.67%	0.83%	<b>2.50%</b>
Caucasian/White	13.33%	64.17%	<b>77.50%</b>
Latino/a		2.50%	<b>2.50%</b>
SE Asian/Indian	0.83%	9.17%	<b>10.00%</b>
<b>Total</b>	<b>19.17%</b>	<b>80.83%</b>	<b>100.00%</b>

## Regional Industry (% deals)

Industry	% Deals
Information Technology	29.27%
Healthcare	25.20%
Consumer Products and Services (B2C)	23.58%
Business Products and Services (B2B)	10.57%
Financial Services	4.07%
Energy	3.25%
Materials and Resources	3.25%
Biotechnology	0.81%
<b>Total</b>	<b>100.00%</b>

## Deal Structure (% Deals)

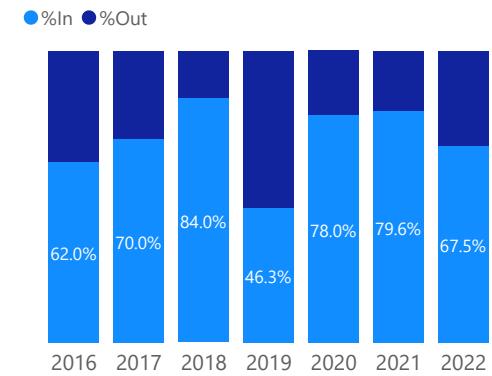


NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

## Most Active Angels

- #1 Keiretsu Forum
- #2 Ben Franklin Tech Partners
- #3 Gainangels
- #4 Golden Seeds
- #5 Irish Angels, Houston Angels, Life Science Angels

## Percent Deals In Region



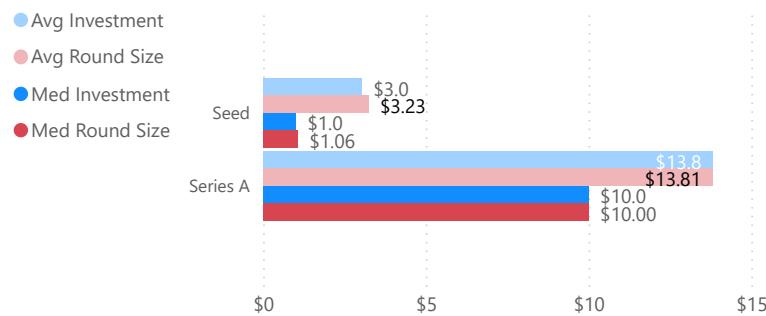
2022

**NEW YORK**

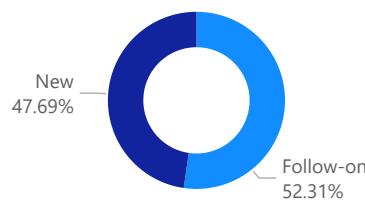
### Pre-Money Valuation (MM) by Investment Stage



### Investment & Round Size (MM) by Investment Stage

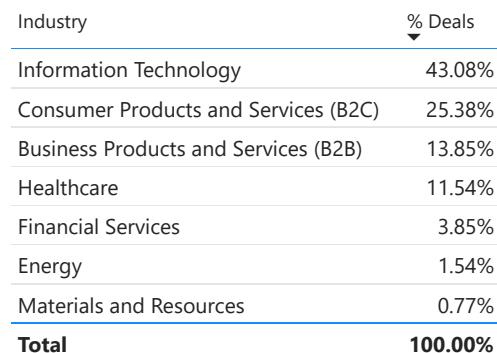


### New vs. Follow-on



CEO Ethnicity	Female	Male	Total
Asian	2.33%	4.65%	<b>6.98%</b>
Black/AA	0.78%		<b>0.78%</b>
Caucasian/White	19.38%	59.69%	<b>79.07%</b>
Latino/a	1.55%	0.78%	<b>2.33%</b>
SE Asian/Indian	2.33%	8.53%	<b>10.85%</b>
<b>Total</b>	<b>26.36%</b>	<b>73.64%</b>	<b>100.00%</b>

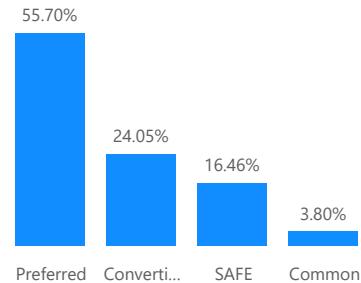
### Regional Industry (% deals)



### Most Active Angels

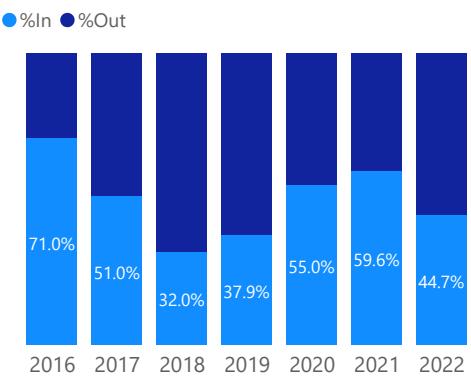
- #1 Golden Seeds
- #2 New York Angels
- #3 Keiretsu Forum
- #4 10X Capital
- #5 Founders Collective, HBS Angels, Gainangels, NuFund, Sand Hill

### Deal Structure (% Deals)



NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

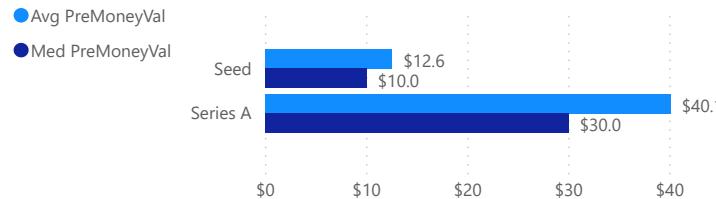
### Percent Deals In Region



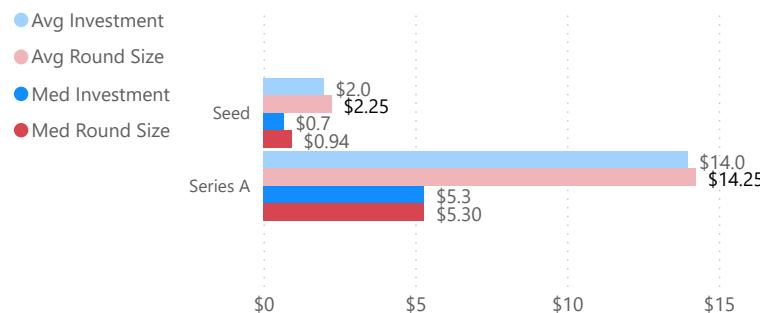
2022

# NORTHEAST

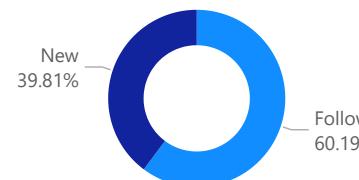
## Pre-Money Valuation (MM) by Investment Stage



## Investment & Round Size (MM) by Investment Stage

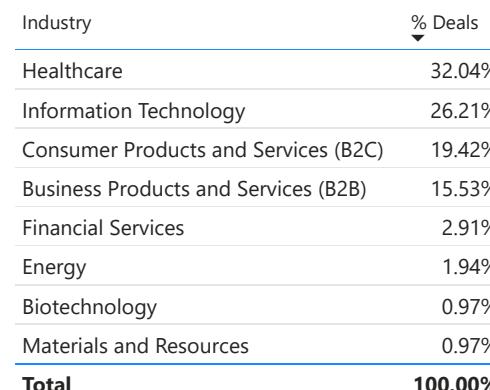


## New vs. Follow-on



CEO Ethnicity	Female	Male	Total
Asian	0.99%	4.95%	<b>5.94%</b>
Black/AA	0.99%	0.99%	<b>1.98%</b>
Caucasian/White	13.86%	72.28%	<b>86.14%</b>
Latino/a		0.99%	<b>0.99%</b>
SE Asian/Indian	2.97%	1.98%	<b>4.95%</b>
<b>Total</b>	<b>18.81%</b>	<b>81.19%</b>	<b>100.00%</b>

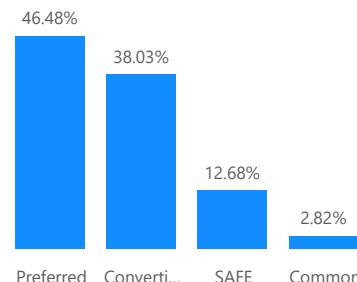
## Regional Industry (% deals)



## Most Active Angels

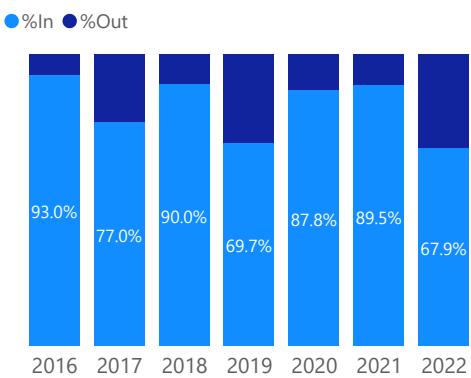
- #1 Alumni Ventures
- #2 Keiretsu Forum, Golden Seeds
- #3 Gainangels, Walnut Ventures, Launch Capital
- #4 E-Coast Angels, NuFund

## Deal Structure (% Deals)



NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

## Percent Deals In Region



2022

# NORTHWEST

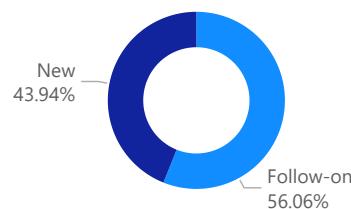
## Pre-Money Valuation (MM) by Investment Stage



## Investment & Round Size (MM) by Investment Stage



## New vs. Follow-on

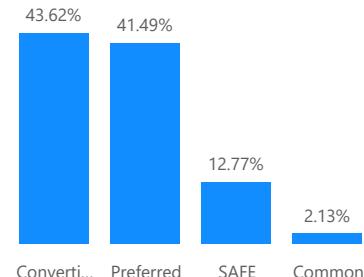


CEO Ethnicity	Female	Male	Total
Asian	0.78%	2.33%	<b>3.10%</b>
Black/AA		2.33%	<b>2.33%</b>
Caucasian/White	13.95%	74.42%	<b>88.37%</b>
Pacific Islander		0.78%	<b>0.78%</b>
SE Asian/Indian	0.78%	4.65%	<b>5.43%</b>
<b>Total</b>	<b>15.50%</b>	<b>84.50%</b>	<b>100.00%</b>

## Regional Industry (% deals)

Industry	% Deals
Information Technology	35.61%
Consumer Products and Services (B2C)	26.52%
Business Products and Services (B2B)	17.42%
Healthcare	15.15%
Energy	2.27%
Financial Services	2.27%
Materials and Resources	0.76%
<b>Total</b>	<b>100.00%</b>

## Deal Structure (% Deals)

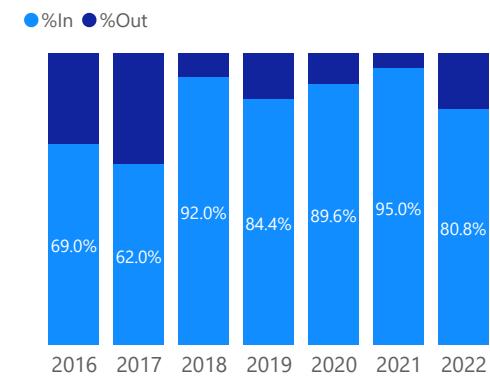


NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

## Most Active Angels

- #1 Alliance of Angels
- #2 Keiretsu Forum
- #3 Sea Change Fund
- #4 WRF Fund

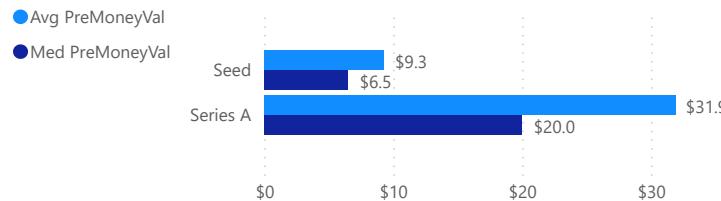
## Percent Deals In Region



2022

**SOUTHEAST**

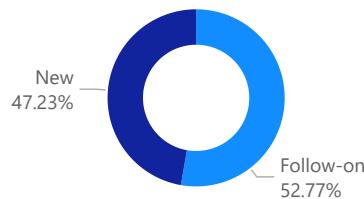
#### Pre-Money Valuation (MM) by Investment Stage



#### Investment & Round Size (MM) by Investment Stage



#### New vs. Follow-on

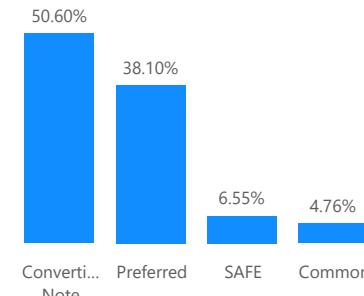


CEO Ethnicity	Female	Male	Total
Asian	0.42%	2.51%	<b>2.93%</b>
Black/AA	0.84%	4.18%	<b>5.02%</b>
Caucasian/White	11.72%	71.97%	<b>83.68%</b>
Latino/a	5.02%		<b>5.02%</b>
SE Asian/Indian	3.35%		<b>3.35%</b>
<b>Total</b>	<b>12.97%</b>	<b>87.03%</b>	<b>100.00%</b>

#### Regional Industry (% deals)

Industry	% Deals
Information Technology	31.36%
Healthcare	22.88%
Consumer Products and Services (B2C)	21.19%
Business Products and Services (B2B)	14.41%
Financial Services	5.08%
Materials and Resources	2.12%
Biotechnology	1.27%
Energy	1.27%
Agriculture	0.42%
<b>Total</b>	<b>100.00%</b>

#### Deal Structure (% Deals)

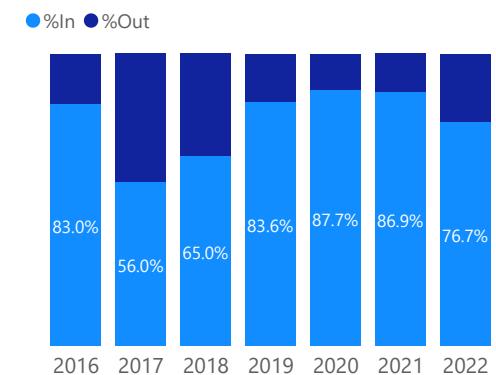


NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

#### Most Active Angels

- #1 Charlottesville Angels
- #2 Duke Angel Network
- #3 Keiretsu Forum
- #4 TIE Angels
- #5 Collective Capital
- #6 Triangle Tweener Fund, Florida Funders

#### Percent Deals In Region



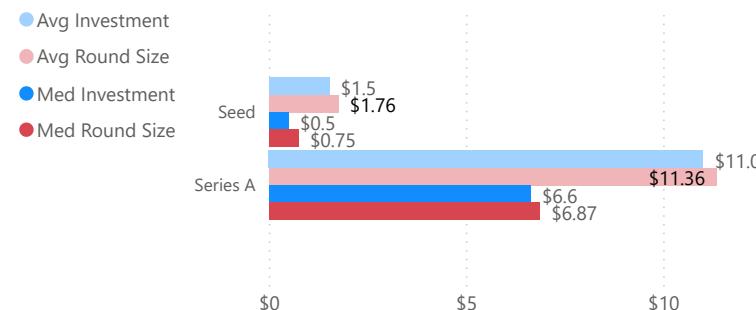
2022

# SOUTHWEST

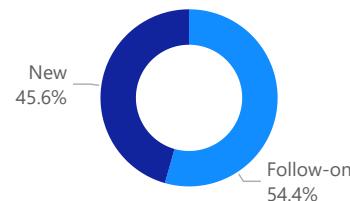
## Pre-Money Valuation (MM) by Investment Stage



## Investment & Round Size (MM) by Investment Stage



## New vs. Follow-on

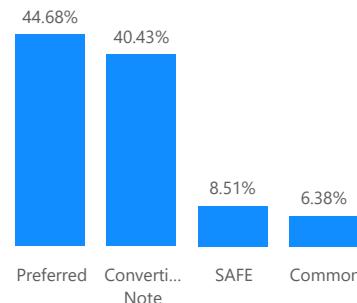


CEO Ethnicity	Female	Male	Total
Asian	0.78%	<b>0.78%</b>	
Black/AA	0.78%	2.34%	<b>3.13%</b>
Caucasian/White	7.81%	81.25%	<b>89.06%</b>
Latino/a	0.78%	1.56%	<b>2.34%</b>
Native American Indian	0.78%	<b>0.78%</b>	
SE Asian/Indian	3.91%	<b>3.91%</b>	
<b>Total</b>	<b>9.38%</b>	<b>90.63%</b>	<b>100.00%</b>

## Regional Industry (% deals)

Industry	% Deals
Information Technology	25.60%
Consumer Products and Services (B2C)	24.00%
Healthcare	23.20%
Business Products and Services (B2B)	13.60%
Financial Services	5.60%
Biotechnology	3.20%
Materials and Resources	2.40%
Energy	1.60%
Agriculture	0.80%
<b>Total</b>	<b>100.00%</b>

## Deal Structure (% Deals)

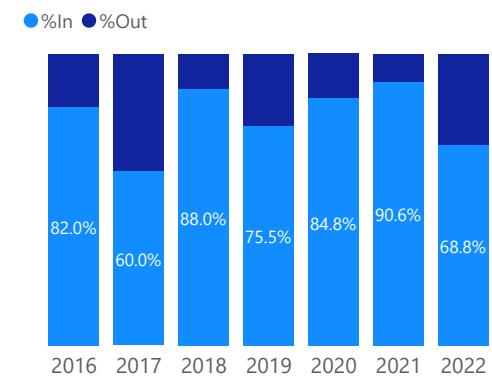


NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

## Most Active Angels

- #1 Desert Angels
- #2 Reno Seed Fund
- #3 Keiretsu Forum

## Percent Deals In Region



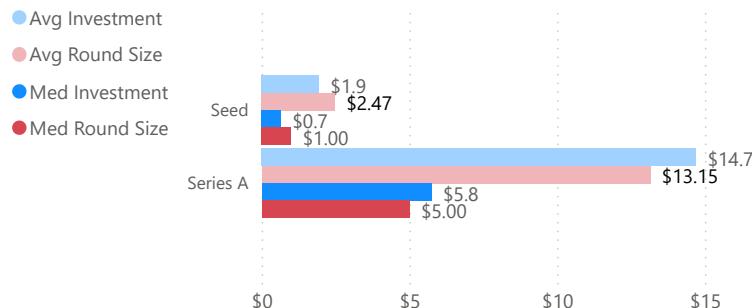
# 2022

# TEXAS

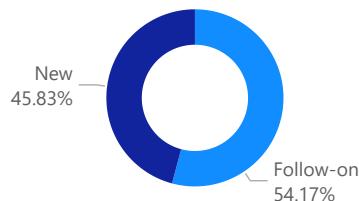
### Pre-Money Valuation (MM) by Investment Stage



### Investment & Round Size (MM) by Investment Stage

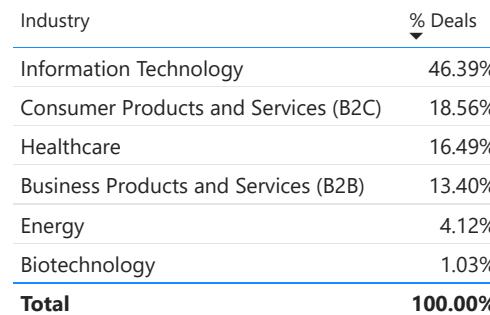


### New vs. Follow-on



	Female	Male	Total
Asian	2.04%	<b>2.04%</b>	
Black/AA	3.06%	<b>3.06%</b>	
Caucasian/White	14.29%	66.33%	<b>80.61%</b>
Latino/a	1.02%	4.08%	<b>5.10%</b>
SE Asian/Indian	2.04%	7.14%	<b>9.18%</b>
<b>Total</b>	<b>17.35%</b>	<b>82.65%</b>	<b>100.00%</b>

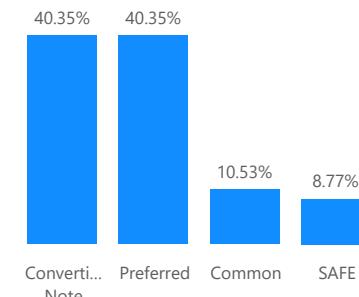
### Regional Industry (% deals)



### Most Active Angels

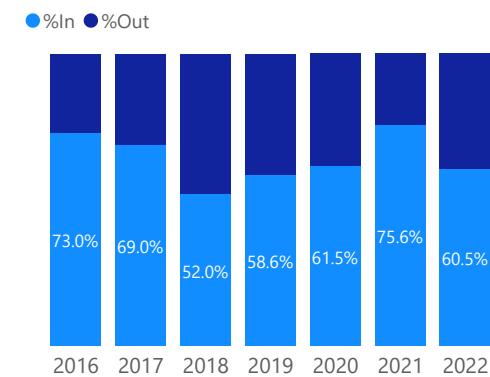
- #1 Houston Angels
- #2 Keiretsu Forum
- #3 Capital Factory
- #4 Gainangels
- #5 CTAN, Golden Seeds, Geekdom Fund

### Deal Structure (% Deals)



NOTE: Seed transactions only (to keep Series A Preferred from over-weighting the distribution).

### Percent Deals In Region



# THE HALO REPORT™

The **2022 HALO Report** provides early-stage investors and entrepreneurs with comprehensive data and associated analysis from both third party sources and Angels themselves, resulting in an enhanced understanding of how Angels invest, startups are funded, and the ecosystem's demographic shifts.

## About the HALO Report

The HALO Report provides analysis and trends on the US angel community. Angels, and angel groups, invest alone, together and with many other types of investors. The HALO Report data focuses on early stage investments primarily Seed Stage and those Series A deals that include significant angel participation.

### Angel Resource Institute™ (ARI)

The Angel Resource Institute (ARI) is a 501(c)(3) charitable organization devoted to education, mentoring and research in the field of angel investing. ARI was founded by the Ewing Marion Kauffman Foundation in 2005 to serve the research and educational needs of the angel community. The programs of ARI include educational workshops and seminars, research projects and reports, and information about angel investing for the general public. ARI also provides customized educational programs for corporations, angel

groups, and ecosystem leaders around the world. ARI's programs have been delivered in over 40 countries, and range from introductory sessions for those considering becoming angels to sophisticated risk mitigation strategies for angel fund and group managers. More information is available at [www.angelresourceinstitute.org](http://www.angelresourceinstitute.org).

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PitchBook, a Morningstar company (MORN), is the industry's leading resource for meaningful information about global VC, PE and M&A activity. PitchBook empowers over 2,000 clients to make the most informed business decisions by providing them with the highest quality information on the entire investment life-cycle through its flagship product, the PitchBook Platform. This award-winning, web-based platform features a powerful suite of integrated technology that meets the diverse, data-driven needs of the private markets. For more information visit [www.pitchbook.com](http://www.pitchbook.com).

**A special thank you** to our data analysis support team, George Self with Heer Barot, MS, Business Analytics, Fund partner and angel Maria Piensar and retired MIT friends, whose keen interest enabled us to look at every single data point in this study.

And to Zack Self and extended team whose enthusiastic support encouraged ARI to go deeper than in years past. A data scientist turned entrepreneur with a passion for the industry, Zack's ongoing support with both technical and creative insights, immense patience, and "can do" attitude, was constant inspiration. [www.zackself.com](http://www.zackself.com).

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**2022 AGGREGATED NATIONAL & REGIONAL DATA**

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