DATA RELEASE

Stock Market | October 6, 2020

DATA RELEASE: Silicon Valley and San Francisco stock trends six months into market recovery

SILICON VALLEY COMPANIES' MARKET REBOUND DOMINATED BY TECH

- In aggregate, market cap is up by 11% since February 19 -

October 6, 2020 – Analysis reveals that the market cap of Silicon Valley and San Francisco stocks, in aggregate, are now 11 percent and seven percent higher, respectively, than prior to the pandemic-related decline. Joint Venture Silicon Valley's Institute for Regional Studies examines how Silicon Valley and San Francisco's publicly-traded companies have fared in the six months following the market's lowest point on March 23. The analysis was conducted as an indicator of regional economic health, as opposed to market analyses focusing on the health of individual companies or interests of the stakeholder perspective.

The recovery of the region's public company market cap is in contrast to the overall *decline* of 12 percent for the NYSE Composite, nine percent for the Dow Jones Industrial Average, and four percent for the S&P 500. The value of the Nasdaq Composite – which is driven, in large part, by Silicon Valley tech stocks – was up eight percent since pre-pandemic declines. Likewise, other tech-driven market indices such as the NYSE FANG+ and the BVP Nasdaq Emerging Cloud (EmCloud) Index were up since mid-February by 30 percent and 37 percent, respectively.

> *"The market performance of our public companies – in aggregate – is an indicator of regional economic health," says Institute Director of Research, Rachel Massaro. "Those companies are not only significant contributors to the region's GDP, but also serve as major employers and thus sources of income for our residents. Whether or not they're faring well during this rough time has tangible impacts on our day-to-day lives."*

Background

Stock market declines due to the COVID-19 crisis began across U.S. exchanges on February 20, 2020, and continued through the first market-wide trading halt since 1997[1] on March 9 (which was the first *halt,* or suspension of trading, of the "modernized" Market-Wide Circuit Breaker[2]) and subsequent trading halts.

Volatilities in the market began early in the year as a result of multiple factors, including trade worries amid the COVID-19 outbreak in China, worries about the spread of COVID-19 beyond China, and disagreement in Russian dealings with the Saudi Arabian oil market. The market reacted to the World Health Organization's declaration of COVID-19 as a pandemic,[3] President Trump's declaration of impending limitations on international travel, and the announcement that the NBA postponed its season (which served as an indicator of the severity of the outbreak to the American public). The

"Market-Wide Circuit Breaker" across U.S. exchanges was subsequently triggered on March 9, March 12, March 16, and March 18.[4]

The S&P 500, Dow Jones Industrial Average, NYSE Composite, and Nasdaq Composite all began repaid declines beginning on February 20, bottomed-out on March 23, and then began to rebound to some extent.[5] In contrast, tech-driven market indices such as the NYSE FANG+ and BVP Nasdaq Emerging Cloud (EmCloud) Indices bottomed-out earlier (March 18 and 16, respectively) and began to rebound prior to March 23.

"This feels very reminiscent of the Great Recession recovery, in which Silicon Valley had a leg up – adding jobs back into the economy before other non-tech-centric regions," added Massaro.

Analysis

The Silicon Valley Institute for Regional Studies examined how the region's companies have fared overall, including snapshots of total market cap immediately prior to this first pandemic-related trading halt (close on February 19), between the beginning of the decline and the low point on March 23, after the first month of recovery (April 23), and again at the six-month mark (September 23). The analysis included stock prices and changes in market cap for both Silicon Valley and San Francisco public companies (approximately 330 in total, with some slight change in composition between analyses due to new IPOs, mergers/acquisitions or other delistings).

Market data was obtained from IEX Cloud. Silicon Valley is Joint Venture's city-defined region, including all of Santa Clara and San Mateo Counties, plus the cities of Fremont, Newark, Union City, and Scotts Valley.

Results

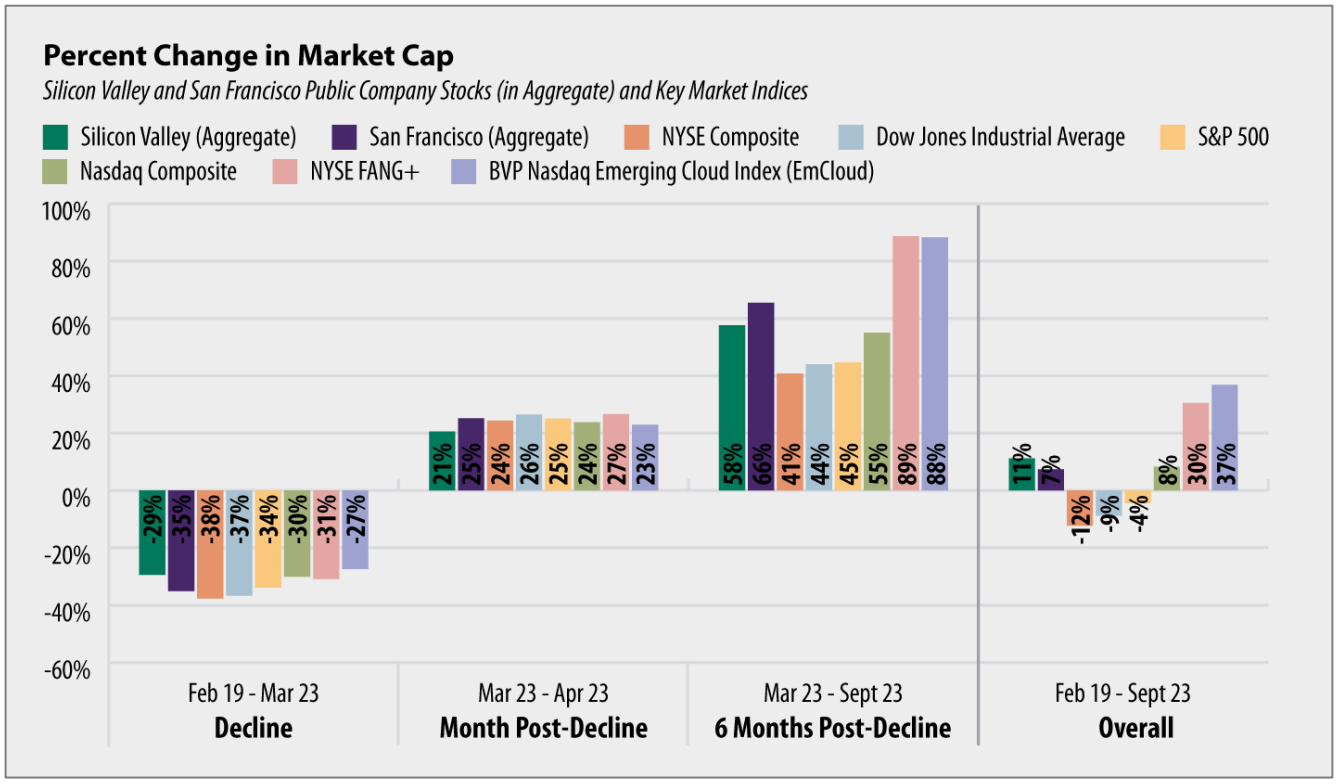
The analysis revealed that the market cap of Silicon Valley and San Francisco stocks, in aggregate, are now 11 percent and seven percent higher, respectively, than prior to the pandemic-related decline (when total market cap equaled $7.63 trillion).

During the decline period (February 19 – March 23), the region's public companies had a net loss of $2.32 trillion in market cap ($1.88 trillion in Silicon Valley, $437 billion in San Francisco), followed by a net gain of $3.12 trillion over the subsequent six months. This brought the region's public company aggregate market cap to $8.44 trillion in late September ($7.10 trillion in Silicon Valley, and $1.34 trillion in San Francisco).

The +11 percent recovery of the region's public company market cap is in contrast to the overall *decline* of -12 percent for the NYSE Composite, -9 percent for the Dow Jones Industrial Average, and -4 percent for the S&P 500. Major global market indices, such as the FTSE All-World, MSCI All Country World, and the S&P Global 1200 remained five to 21 percent below that of February 19 as of late September.

The value of the Nasdaq Composite – nearly 24 percent of which is accounted for by Facebook, Apple, Amazon, Microsoft, and Google combined[6] – was up eight percent since pre-pandemic declines. Likewise, other tech-driven market indices such as the NYSE FANG+ and the BVP Nasdaq Emerging Cloud (EmCloud) Index were up since mid-February by 30 percent and 37 percent, respectively.

EmCloud includes 54 companies, 31 (57 percent) of which are headquartered in either Silicon Valley or San Francisco (such as Adobe, Box, DocuSign, Dropbox, PayPal, Proofpoint, Salesforce, ServiceNow, Slack, and Zoom).[7]



While the effect of earlier pandemics on financial markets is difficult to obtain, one analysis[8] indicated that the S&P 500 fell by 24.7 percent in 1918 (the year of the Spanish Flu) then rose 8.9 percent the following year; the 1918 decline, however, was also influenced by World War I and so cannot be attributed to the pandemic alone.

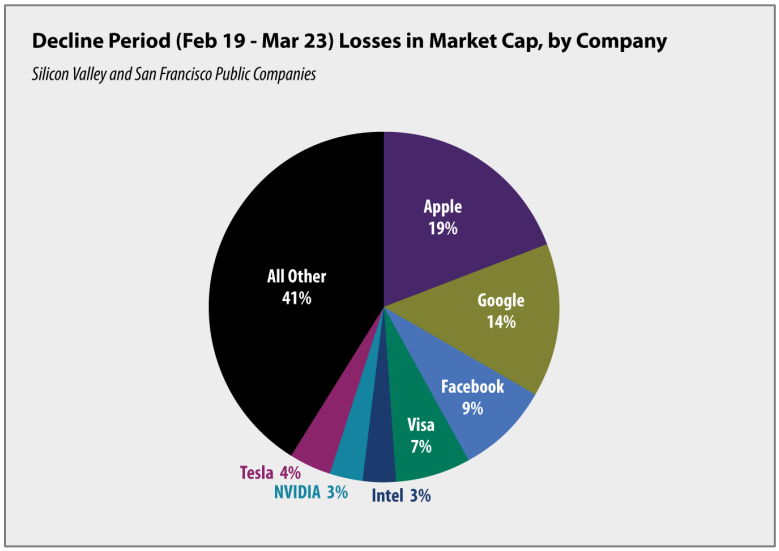
Key findings include:

DECLINE PERIOD (February 20 – March 23)

- Silicon Valley stocks, in aggregate, lost a slightly smaller share of market cap during the decline period (down 29 percent) than San Francisco stocks (down 35 percent). The NYSE Composite (down 38 percent), Dow Jones Industrial Average (-37 percent), and S&P 500 (-34 percent) declined by a greater degree than the more tech-driven market indices, such as the

Nasdaq Composite (-30 percent), NYSE FANG+ (-31 percent), and Nasdaq EmCloud (-27 percent). For comparison, major global market indices (FTSE All-World, MSCI World, and S&P Global 1200 Indices) declined by an average of 33 percent.

- Of all 300+ companies, there were only 13 that increased their market cap during the decline period. They included Adesto Technologies (+18 percent), Arrayit Corp. (+63 percent), Cloudflare (+19 percent), Core-Mark Holding Co. (+8 percent), Gilead Sciences (+8 percent), Humanigen (+141 percent), IGM Biosciences (+8 percent), LiveWorld (+34 percent), MediaG3 (+33 percent), NeoMagic Corp. (+20 percent), Tintri (+6 percent), Vir Biotechnology (+114 percent), and Zoom Video Communications (+54 percent).
- Categorizing the 13 companies listed above loosely by industry, four are in biotechnology, six are in software/cloud computing, and the other three are in media/marketing.
- 19 percent of the region's public companies (16 percent of Silicon Valley's and 26 percent of San Francisco's) **lost more than half** of their market cap during the February 19 to March 23 decline period. Two companies – San Mateo-based Sonim Technologies, and San Francisco-based TPG RE Finance Trust – lost more than 75 percent of their market cap (-80 percent or $53 million, and -76 percent or $1.2 billion, respectively). Both companies remained below mid-February market cap, as of September 23.
- Silicon Valley and San Francisco public companies lost a **net** of $2.32 trillion in market cap during the decline period. Of the total (**non-net**, including only the companies that lost market cap during that period) losses of $2.27 trillion, 59 percent was accounted for by seven companies alone: Apple (-$435 billion), Google (-$324 billion), Facebook (-$198 billion), Visa (-$152 billion), Tesla (-$87 billion), Intel (-$75 billion), and NVIDIA (-$62 billion).

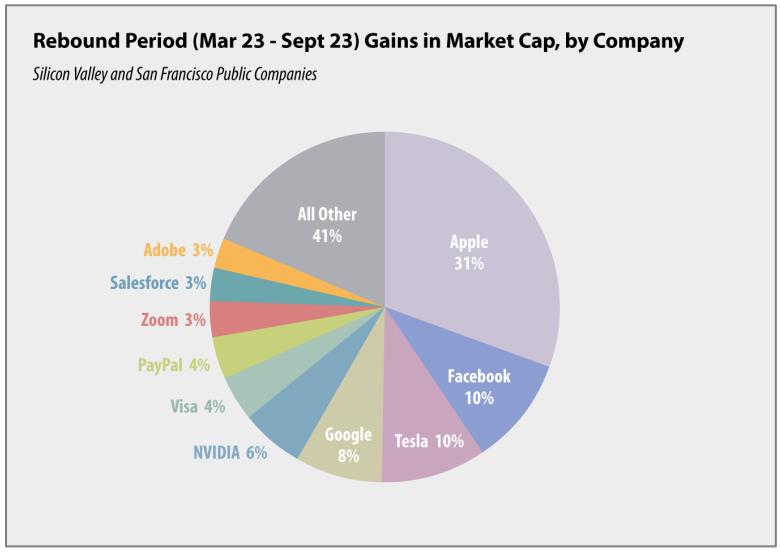


SIX MONTHS OF RECOVERY (March 23 – September 23)

- While the two tech-driven stock indices analyzed (EmCloud and NYSE FANG+, and to some extent the Nasdaq Composite) were not necessarily faster to recover *in the first month since the decline*, over the *six-month period* post market-low they had a significantly higher percent growth compared (+88 percent and +89 percent, respectively) to the NYSE Composite (+41 percent), Dow Jones Industrial Average (+44 percent), or S&P 500 Indices (+45 percent). The

largest recovery period percent growth examined was the NYSE FANG+ Index, which includes ten large technology and consumer discretionary companies with seven out of ten based here (Facebook, Apple, Netflix, Google, NVIDIA, Tesla, and Twitter) plus Amazon, which has a large presence here.[9]

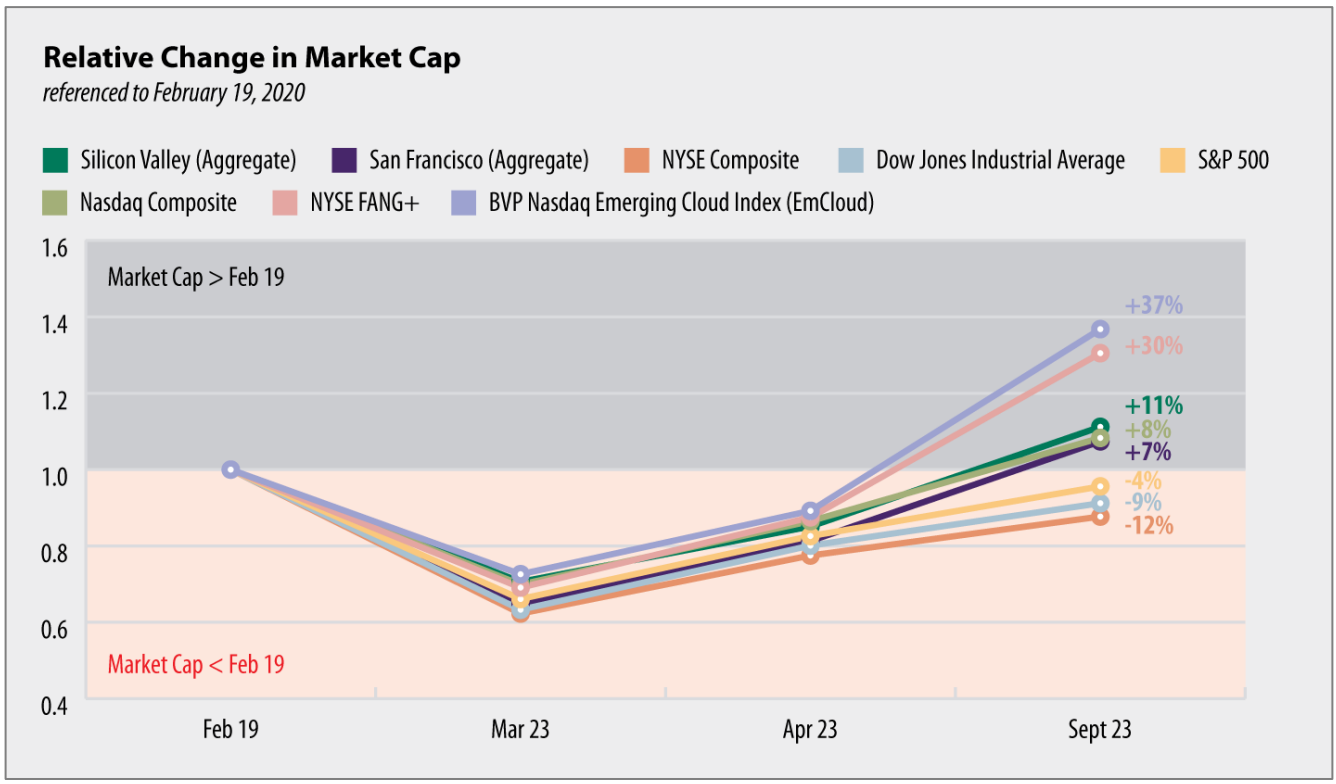
- Silicon Valley and San Francisco aggregate stock market cap rebounded by 58 percent and 66 percent, respectively, over the six-month period after the March 23 market-low.
- Silicon Valley and San Francisco public companies gained a **net** of $3.13 trillion in market cap during the six-month period between March 23 and September 23. Of the total (**non-net**, including only the companies that gained market cap during that period) increase of $2.87 trillion, 82 percent was accounted for by ten companies alone: Apple (+$885 billion), Facebook (+$287 billion), Tesla (+$276 billion), Google (+$234 billion), NVIDIA (+$169 billion), Visa (+$114 billion), PayPal (+$113 billion), Zoom (+$98 billion), Salesforce (+$89 billion), and Adobe (+$79 billion).
- In terms of percent growth (as opposed to dollar values), notable companies with the most dramatic growth between the market-low on March 23 and September 23 were: Zosano Pharma (+916 percent), SunRun (+632 percent), Livongo Health (+577 percent), Avinger (+514 percent), Fastly (+438 percent), Invitae (+354 percent), Tesla (+351 percent), PG&E (+333 percent), and Bloom Energy (+329 percent).
- While San Mateo-based Sonim Technologies was the hardest hit among all of the region's companies during the market decline (-80 percent loss of market cap between February 19 and March 23), it was among the companies with the greatest percent increase during the six-month recovery period with a gain of 302 percent ($39.1 million). As of September 23, its market cap remained 21 percent below that of February 19.
- The market cap of San Jose-based Zoom Video Communications grew by 220 percent ($97.9 million) during the recovery period, despite not having lost any market cap during the decline period. As of September 23, its market cap was 391 percent ($113.4 million) higher than that of February 19.



OVERALL SINCE PRE-PANDEMIC EFFECTS (February 19 – September 23)

- Of all of those ten companies listed above (responsible for 82 percent of the region's aggregate market cap gains over the six-month period following the March 23 market-low), only one of them had *not* lost market cap during the decline period: Zoom Video Communications. Zoom gained $16 billion in total market during the late February – March market decline, then another $98 billion in the following six months. This adds up to a net increase of $113 billion between pre-pandemic market effects (February 19) and September 23.
- Relative to pre-pandemic market effects (taken as close on February 19), Silicon Valley and San Francisco public companies – as well as highly tech-driven market indices such as EmCloud, NYSE FANG+, and the Nasdaq Composite – displayed significant buffering against the blow suffered by the U.S. markets overall, and recovered more quickly.
- Between February 19 and September 23, major U.S. and global market indices remained *down* by an average of nine percent (including the Dow Jones Industrial Average, S&P 500, NYSE Composite, FTSE All-World, MSCI ACWI, and S&P Global 1200); those market indices that are highly tech-driven, such as the NYSE FANG+, Nasdaq Composite, and EmCloud, were *up* by an average of 25 percent.
- Out of the 312 public companies in Silicon Valley and San Francisco that were on U.S. markets in mid-February *and* late-September, nearly half (146 companies, or 47 percent) had a higher market cap on September 23 than they did prior to the pandemic-related market declines; As of September 23, 53 percent (166) of those 312 companies still had not recovered their market cap losses.

"Silicon Valley's public companies, overall, showed significant resilience in the face of pandemic-related market declines compared to the U.S. and global exchanges overall – there was some buffering effect going on, likely as a result of those local technologies that were critically needed in the face of social distancing," said Massaro. "The fact that Zoom and other emerging cloud companies in the EmCloud Index like Square, Twilio, and Coupa Software showed even more buffering capability indicates that the region's resilience was likely highly influenced by that sector."



"The only reason why we didn't nosedive into smoldering ruins as a national economy is because our region's technology companies have made it tolerable," said Institute President, Russell Hancock. "Without them, there could be no functioning of the economy and limited communications, not to mention the services and entertainment we all rely upon."

"You can argue that our region's companies have not only made our lives better and more convenient, but that they're what's made it possible for it all to hang together at all. In contrast to so many other industries like retail and food service, we have very strong tech and professional services sectors that have remained largely intact. In fact, in some cases, they've actually benefited from the crisis."

In conjunction with the analyses regarding public company stock market trends amid the pandemic, the Institute has created a near-real-time online tracker for the region's public company market performance (https://siliconvalleyindicators.org/stock-tracker). The site employs Silicon Valley and San Francisco public companies (as indicated on Crunchbase) and a widget powered by TradingView.

Data Sources: Crunchbase (www.crunchbase.com); IEX Cloud (https://iexcloud.io); Google Finance (www.google.com/finance)
Analysis: Silicon Valley Institute for Regional Studies
Notes: The analysis includes all public companies in Silicon Valley (Joint Venture's city-defined region) and San Francisco listed on Crunchbase as of April 7 for February and April data, and as of September 22 for September data. Includes multiple exchanges worldwide (e.g., NASDAQ, NYSE, OTC, LSE, SSE), excluding companies listed on the Australian Securities Exchange (ASX) and Toronto Stock Exchange (TSX) as those are not included in the IEX Cloud database. Does not include special purpose acquisition company (SPAC) IPOs. Shares outstanding as of each company's last balance sheet report was used to calculate market cap for February and April data, unless it was unavailable on IEX Cloud (in which case, the market cap from the closest date was used). For September 23 data, market cap as of that date was used. Analysis from February 20 begins with the closing price on February 19. Closing prices are unadjusted.

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[1] Wall Street Journal, *Circuit Breaker Halts Stock Trading for First Time Since 1997*. March 9, 2020 (www.wsj.com/articles/traders-closely-watching-circuit-breakers-thresholds-11583761223) & NPR, *How Stock Market Circuit Breakers Work*. March 9, 2020. (www.npr.org/2020/03/09/813682567/how-stock-market-circuit-breakers-work)
[2] New York Stock Exchange, *Assessing NYSE Model Performance During 2020 Volatility*. March 16, 2020 (www.nyse.com/article/assessing-nyse-model-performance)
[3] World Health Organization, *WHO Director-General's opening remarks at the media briefing on COVID-19 - 11 March 2020* (www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020)
[4] New York Stock Exchange, *Assessing NYSE Model Performance During 2020 Volatility*. March 16, 2020 (www.nyse.com/article/assessing-nyse-model-performance)
[5] Google Finance
[6] Howard Silverblatt of the S&P Dow Jones Indices, via Forbes, *U.S. Tech Stocks Are Now Worth More Than $9 Trillion, Eclipsing The Entire European Stock Market.* August 28, 2020 (https://www.forbes.com/sites/sergeiklebnikov/2020/08/28/us-tech-stocks-are-now-worth-more-than-9-trillion-eclipsing-the-entire-european-stock-market/#238125c33e61).
[7] Nasdaq, BVP Nasdaq Emerging Cloud Index (EMCLOUD) Weighting, accessed September 30, 2020 (https://indexes.nasdaqomx.com/Index/Weighting/EMCLOUD).
[8] Fidelity International, *What happened to stock markets during previous pandemics?* April 6, 2020 (www-stat.wharton.upenn.edu/~steele/Pandemic/Resources/FidelityPandemic.pdf)
[9] ETFdb.com, NYSE FANG+ Index (+300%) – ETF Tracker (https://etfdb.com/index/nyse-fangtm-index).

For further reference
To access Silicon Valley's online data hub, visit www.SiliconValleyIndicators.org

About the Silicon Valley Institute for Regional Studies
The Silicon Valley Institute for Regional Studies is the research arm of Joint Venture Silicon Valley, and is housed within the organization. The Institute provides research and analysis on a host of issues facing Silicon Valley's economy and society. https://jointventure.org/institute/about-the-institute.

About Joint Venture Silicon Valley
Established in 1993, Joint Venture provides analysis and action on issues affecting the Silicon Valley economy and quality of life. The organization brings together established and emerging leaders—from business, government, academia, labor and the broader community—to spotlight issues, launch projects and work toward innovative solutions.
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