Silicon Valley

To fly, to fall, to fly again

The tech boom may get bumpy, but it will not end in a repeat of the dotcom crash

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LOOK out from Crissy Field, in San Francisco, on a fog-free day and chances are you will see some technology entrepreneurs leaping into the sky. The hybrid sport of kitesurfing has become a favourite pastime of the Bay Area’s startup crowd. Lifted by high-tension rigging, unpredictable gusts and a delight in daring, they fly up into the air before splashing back to the cold surf. Some landings are smooth; others are not. The sport requires skill, good equipment and hard-won experience, but chance and ambition also play a part. And even the most experienced cannot control the winds.

On shore, too, exhilaration and risk go hand in hand. San Francisco, Silicon Valley and the strip of land that runs along the shore of the Bay between them have had a tremendous decade as the hub of the global technology industry. The area’s biggest companies have soared to heights once unimaginable, coming to represent all that the world finds most exciting about American capitalism. Even its smaller fry have attracted mountains of money. The Valley has reshaped lives and languages, creating new verbs—to google, to facebook, to uber—and repurposing old ones—to tweet, to message, to like.

Every year new ideas grow from specks to spectacular. Startups are so commonplace that in San Francisco’s Mission district you can buy greeting cards that say “Congratulations on closing your first round.” Uber, a six-year-old taxi-hailing company, is valued at $41 billion; Airbnb, a seven-year-old firm through which people turn their homes into hotels, is valued at $26 billion. Each week bosses arrive from far off places to tour and learn from the centre of innovation. There is a pervasive sense of something wonderful afoot. Living in San Francisco today, with its bustle and big ideas, feels like “living in Florence
during the Renaissance,” effuses Sander Daniels, the fresh-faced founder of Thumbtack, an app that matches skilled labourers with tasks that suit them.

The steady return

Last year around 20% of American business-school graduates went to work for a technology firm, the highest percentage since 2000. As in gold rushes past, the influx generates grumbling from old-timers and newcomers alike. In every coffee shop from downtown San Francisco to Palo Alto you hear complaints about eye-watering property prices and unbearable traffic.

And at the same time, you hear the worry that the boom underpinning those problems cannot last. The NASDAQ has been hitting all-time highs, most recently on July 20th. Investors scrambling to profit from the next new thing are pushing up the valuations of the most popular, fast-growing startups by billions of dollars. Money has warped entrepreneurs’ expectations. When Facebook paid $1 billion for Instagram, a photo-sharing site with 13 employees and no revenue, three years ago many onlookers thought the price wildly generous. Kevin Systrom, Instagram’s 31-year-old founder, became the pin-up for startup success. Last year Facebook paid an astonishing $22 billion for WhatsApp, a messaging firm with just $10m in sales. Now people say Mr Systrom sold too soon.

Greed, profligacy, tiny companies with outlandish valuations: it is not hard to detect echoes of the turn of the century, when the dotcom bubble burst spectacularly and America’s economy stumbled as a result. But to see history as about to repeat itself is to miss how deeply things have changed. Today’s technology businesses are selling services and products from which they already generate income, rather than just saying that one day they might. And the group of people doing the investing is much smaller now than it was then. The risks are on fewer shoulders.
MBA graduates entering technology firms, %

- All business schools
- Individual schools
  - Berkeley, CA
  - Chicago, IL
  - Columbia, NY
  - Dartmouth, NH
  - Harvard, MA
  - MIT, MA
  - NYU, NY
  - Pennsylvania, PA
  - Stanford, CA
  - UCLA, CA
  - Virginia, VA

Sources: Business schools; The Economist
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A new breed of hero

That is not totally reassuring. If risks are limited to a smaller number, so too are benefits. The chance to invest in many of Silicon Valley's most exciting companies is restricted to a charmed circle of connected, wealthy insiders. That not only excludes the average investor; it also shields firms from the scrutiny public companies receive. Such shielding may be letting weak ideas go further than they should, increasing the chances of a reckoning.
The nagging fear of 2000 redux stems in large part from the sheer scale of that bust. In the three years to 2000 the NASDAQ index tripled as millions of Americans used their newly opened online-trading accounts to buy internet stocks. Companies like Garden.com, a website where gardeners would buy supplies and exchange tips, were taken public with no proven business model and no cash reserves. When in early 2000 several telecom companies went bankrupt the whole edifice collapsed; the decline in the NASDAQ wiped out some $4 trillion between March and December 2000. Silicon Valley was devastated; many of its firms went bust. The ensuing “nuclear winter”, when tech deals were at a standstill, lasted for years.

Look beyond the mere size of that boom and bust, though, and the differences with today’s situation are clear. For one thing, the base of today’s success is broader. In 2000 some 400m people around the world had access to the internet; by the end of 2015 3.2 billion people will. And the internet reaches into these people’s lives in many more ways than it could 15 years ago. “Technology is no longer a vertical industry, as it’s been understood by everyone for four decades,” says John Battelle, a journalist and entrepreneur who launched the *Industry Standard*, a magazine which reported on the dotcom boom before itself going bankrupt in 2001. “Technology is now a horizontal, enabling force throughout the whole economy.”

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**Legendary startups**

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<th>Biggest American “unicorns”</th>
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<th>Funds raised, $bn</th>
<th>Revenue, $m, 2014†</th>
<th>Employees, ‡ ‘000†</th>
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<td>Uber (2009)</td>
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<td>Airbnb (2008)</td>
<td>Accommodation for tourists and millennials</td>
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<td>600</td>
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<tr>
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<td>It is rocket science</td>
<td>12</td>
<td>1.1</td>
<td>825</td>
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<tr>
<td>Square (2009)</td>
<td>Mobile-payments system</td>
<td>6</td>
<td>0.6</td>
<td>900</td>
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Sources: CB Insights; Mattermark; PrivCo; The Economist

*Latest post-money †Estimate ‡Drivers are not employees †Not in Silicon Valley

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Smartphones have opened up global business opportunities that could never have existed previously—a taxi-hailing business like Uber could not work without them. Turning such opportunities into embryonic businesses is easy. The cloud, which allows companies to expand their processing power and data storage with no capital investment, keeps costs low; so does open-source software. Firms can use free social media for marketing.

Those advantages apply well beyond the San Francisco Bay; there are thriving tech scenes elsewhere. But nowhere else rivals San Francisco’s special elixir of brains, experience and money. The total value of Bay area tech companies worth more than $1 billion is now a hair over $3 trillion, a figure that has been growing healthily for almost a decade.
Though most technology firms going public today are unprofitable, just as they were in 1999, they have more realistic business models; most are losing money in a premeditated effort to expand, rather than through having no alternative. Last year the average American technology firm that staged an initial public offering (IPO) was 11 years old and had $91m in sales, compared with an average age of four years old, with $17m in revenue, in 1999, according to Jay Ritter, a professor at the University of Florida who studies public markets.

Public investors, some of whom quit their jobs to trade stocks during the 1990s, are less feverish today. Of 632 tech IPOs in 1999 and 2000, around 29% saw the companies double in value on day one, according to Mr Ritter. Of the mere 53 technology companies that went public in 2014, only two “popped” that dramatically. In the first quarter of 2000 the average price-to-earnings ratio on NASDAQ was almost 170. For the billion-dollar tech companies in the Bay area today the ratio is a modest 21.

But this relative sobriety masks two trends towards excess: the ever higher values placed on bigger companies that stay privately held and the amount of cash investors are giving them to spend in order to dominate their business category. Both will continue to have far-reaching impacts on the dynamics of startups, public companies and the city of San Francisco.

Sudden impact

Starting a tech firm has never been easier. Not only does it cost less, but there are more “angel” investors who are willing to write small cheques to breathe life into founders’ ideas. It’s the next stage that demands nerves and deep pockets. Most entrepreneurs and venture capitalists subscribe to the view that technology markets work on a winner-take-most basis. Businesses like Uber’s thrive on “network effects”; the bigger their presence, the more it makes sense for drivers and passengers to do business with them, rather than their rivals. Thus the company that establishes itself early enjoys disproportionate rewards. “First prize is a Cadillac Eldorado…Second prize is a set of steak knives. Third prize is you’re fired,” explains Stewart Butterfield, the boss of Slack, a two-year-old software company with a $2.8 billion valuation, quoting from David Mamet’s play “Glengarry Glen Ross”. Such beliefs produce a positive feedback loop. More funding leads to a higher valuation, which generates more interest from the press, which makes it easier to attract and retain employees, which makes it possible to outperform rivals, which brings in more funding.

Investors are willing to stomach high spending on gaining customers and intimidating competitors in an attempt to create what they call, in hushed whispers, “natural monopolies”. Bill Gurley, a venture capitalist at Benchmark, calls it the “grand experiment”. “There is no precedent of giving all these companies hundreds of millions of dollars, growing them so big, and telling them we don’t care if they are profitable.” And it is an experiment in which everyone has to participate. “If your competitors are acting like capital is free and doesn’t matter, then you have to live in that world,” says Mr Gurley.

As startups grow faster than ever before, many are also staying private longer. It used to be extremely rare to find a startup valued over $1 billion, but today there are 74 such “unicorns” in America’s tech sector, valued at $273 billion (see chart). That is 61% of all the unicorns in the world by number, according to CB Insights, which tracks the private market.
Many entrepreneurs view life as a public company, with its quarterly appraisals and activist shareholders, as akin to being the giant effigy at the focus of the annual “Burning Man” gathering in the Nevada desert: yes, you may be quickly built into the biggest thing around, but the experience promises more than a little pain. And drumming up capital without the help of the public markets is unprecedentedly easy. In the face of low interest rates, investors have scrambled to find any sort of yield. Mutual funds such as Fidelity and T. Rowe Price are investing in unicorns in late-stage rounds, as are hedge funds, sovereign-wealth funds and large firms.

Foul play

As waiting to go public becomes the norm, the attraction of investing early grows. Nice as it was to be an early investor in Google, Amazon or Microsoft, most of the value at those older companies was created after they went public, which gave later investors a chance to make a killing too. By contrast, the venture-capital firm Andreessen Horowitz points out that at LinkedIn, a professional networking website, 40% of the company’s value was created before its 2011 IPO; for Twitter, all the value creation took place before its IPO.

Mark Mahaney, an analyst at RBC Capital, a Canadian investment bank, says it was Facebook that changed the way that investors thought about high prices. Started in 2004, it stayed private for eight years. In 2007, when a $240m investment by Microsoft valued the social-media firm at $15 billion, critical onlookers said the price was a “nosebleed”. Considering Facebook’s $276 billion public valuation today, most wish in retrospect that they had been able to join in the nasal discomfort.

The lack of other investment opportunities and the fear of missing out—an emotion so widely felt as to have earned its own acronym, FOMO—have driven unicorn valuations that are hard to justify using the firms’ financial performance. For example Pinterest, a website that allows users to share photos of things they would like to buy, has negligible revenues but a valuation of $11 billion. “We call [them] ‘private
market’ valuations, but it’s not really a market. It’s a handful of optimists” who are setting prices, says one banker.

One cynical venture capitalist sees many of the valuations as relying on a “squint test”: if by squinting you can convince yourself that a company looks vaguely like one which has already commanded a high price, you should value it as people have the other one. For example, squint at Snapchat, a messaging service anomalously based in Los Angeles with more than 100m monthly users but no proven revenue model, and it might look a little like WhatsApp, which sold itself so lucratively to Facebook last year. That could go some way to explaining its $16 billion valuation, despite the firms’ very different offerings.

Magnum force

High valuations obviously come with a risk for investors. As tech firms move into new markets they can face a lot of regulatory uncertainty. Uber, for example, is sparring with regulators across much of the world and risks being forced to recategorise some of its drivers as employees instead of freelancers, which would damage its lean business model. Homejoy, a housecleaning service backed by venture capitalists, has announced it will shut down at the end of July because of lawsuits over whether its workers should be categorised as employees or contractors.

Less obviously, the valuations can damage the unicorns themselves. When a young entrepreneur desperate to join the “three comma” club accepts an overvaluation he runs the risk of a subsequent “down round”—a lower valuation when looking for future funding or going public. That is a reputation killer in a place where reputation has come to matter a lot. In 1999 the mainstream media were just beginning to home in on Silicon Valley; now the press covers it assiduously. “Today the cast of entrepreneurs is acting like Hollywood stars,” says Randy Komisar of Kleiner, Perkins, Caufield & Byers, a venture-capital firm. “There is a lot of strutting and vogueing for the cameras.”

Some unicorns have grown so big that they are sitting in a “valuation trap”, too expensive to be sold to a corporate buyer like Facebook, Google or Apple and unable to successfully float on public markets for what they are claimed to be worth. The high valuations across the board also make it harder for the
unicorns to thin their ranks, or to ease the competitive pressures that are forcing them to spend so freely, by turning to eat each other. At least one mooted merger between unicorns in the same sort of business has fallen through because of the rate at which their values rose during the negotiations.

Another problem brought on by the enthusiastic investment in young companies is bidding up talent. Competition for skilled workers “is more intense than I have ever seen it,” says Jim Breyer, a prominent venture capitalist. The average software engineer in San Francisco now earns $150,000, according to Glassdoor, a database for employer reviews and job listings. In HBO’s comedy series “Silicon Valley”, the fictional startup Pied Piper finds itself so desperate for a good engineer that it is willing to make an offer to one who claims to be a cyborg, only to be turned down because he has so many other employers to choose from. It is the sort of exaggeration with a nub of truth that makes the show as popular among San Francisco techies as “Sex and the City” was among women in New York.

A particular bone of contention when it comes to hiring is common stock, which startups give to new hires. The value of common stock is assessed by outside firms, but the appeal of a low value, which maximises the upside for employees, leads some companies to try to make sure the assessment comes out that way. Public companies cannot play such games. Many employees have become wise to this and understand the arbitrage of going to work for a startup instead of a public firm. “Wall Street used to be the only place where there was profit without value,” says the boss of a public technology company. “Now there is the potential of this happening in Silicon Valley.”
The technology industry is starting to look like Wall Street in other ways, too. Ambitious young things who would once have headed for banks now go into tech instead. “The upside is better, the hours are no worse, and the economy is moving more in the direction of technology,” says Jon Bischke of Entelo, a software company that helps firms recruit. The attraction is not limited to those fresh from college: in some circles Uber is known as “Goldman West” because of its phalanx of former bankers. At a time when Wall Street has had its purse strings pulled tighter by regulations designed to curtail big bonuses, Silicon Valley can still offer spectacular reimbursement, as Google surely did when it recently hired Ruth Porat from Morgan Stanley to become its chief financial officer. Anthony Noto, Twitter’s CFO and a former Goldman Sachs executive, received over $70m in compensation last year.

The last stand

The backlash against such excess has not yet reached the scale achieved by the “Occupy Wall Street” movement in the wake of the financial crisis, but cause for resentment is building, particularly in San Francisco. In the 1990s most of the activity was to the south, in Palo Alto, Mountain View and Silicon Valley itself, which is still where the area’s big public companies are mostly based (see map). Today’s startups tend to be much closer to the city itself; Uber, Dropbox, Pinterest and Airbnb all have their headquarters there. Brash young “brogrammers” who work for companies farther south prefer to live in the city and travel to work each day by a luxurious company bus. Property prices have soared as a result. Districts that were once affordable, like Soma and the Mission, are being overrun by engineers and entrepreneurs, pricing out people who have long called them home.

Demand for office space is as heated as the housing market. Venture-capital firms once happy with just a spot on Palo Alto’s Sand Hill Road, which runs along the side of the Stanford University campus, have opened offices in San Francisco to be near the young, urban entrepreneurs who find the Valley distant and boring. Rents are rising fast enough—for San Francisco as a whole the price per square foot is up by over 30% since 2010—that some failed companies have made up a good bit of their losses thanks to the increased value of their office space. As in the dotcom bubble, startups are signing leases for offices far larger than they need so that they can lock in space at today’s high prices rather than tomorrow’s stratospheric ones. Those who think the property market is bad now should wait until more of the San Francisco-based firms go public, says Naval Ravikant of AngelList, a website that helps startups get funding.

As sure as the fog will roll in, at some point San Francisco’s tech economy will slow down. A rise in interest rates could make investors less enthusiastic about technology, because they could earn a higher yield elsewhere. A few well-known unicorns could collapse, killing the prospects of other startups raising funds. A sequence of down rounds across the sector could spook investors.

But the correction will not be like that of 2000. It will not be as indiscriminate, as deep, or as quick. The fact that so many of the large technology companies are private gives them more time to adjust to a market correction than technology companies had last time. Their investors could mark down the value of their investments slowly, as private-equity firms did during the financial crisis of 2008. In the dotcom bust many firms saw their values fall to zero. Many firms may be overvalued this time, too, but few are worth nothing.

Suspend your disbelief

A lot of the unicorns have strong underlying businesses and could pull in their horns if the market turned against them. Indeed, some firms are raising money so they have extra cash on hand just in case. “I’ve asked the board, what’s the best way to store fat for the winter,” says Mr Butterfield of Slack, the software company. “The best answer is cash. You can’t really store up goodwill.” According to Mr Butterfield, his firm has “hundreds of millions of dollars in the bank” and is close to breaking even. Many other unicorns have money that could help cushion them. Palantir, which does data analysis, had $1 billion in cash at the end of last year.
Booms and busts are part of the history of Silicon Valley, and California more generally. But the Valley’s influence over the future of consumers and capitalism is here to stay. It has become a nexus of dealmaking and fortune-seeking, a realm of creativity and wild ideas, and it will remain so. But the geeks and dreamers who populate the Valley will need to be able to navigate both smooth and rough waters. Some will try to go too high and wipe out into the bay. Others will be diverted by wild winds. But many will make it safely back to shore—only to head back out again for the thrill, the challenge and the future.