The Unicorn Hunters

by Kim-Mai Cutler

Venture capital is an integral part of Silicon Valley. But how does venture actually work? Why is it so important to the tech industry—and what kind of tech industry has it created?

The "Traitorous Eight," including Intel cofounders Robert Noyce and Gordon Moore, and Kleiner Perkins cofounder Eugene Kleiner. Photograph by Wayne Miller/Magnum Photos.

Where does innovation come from? Startups.

Where do startups come from? Venture capital.

For nearly half a century, this has been the conventional wisdom of Silicon Valley. Venture capital is the lifeblood of the Bay Area tech industry, ebbing and flowing with every business cycle. More broadly, venture has provided the initial form of financing for most of the world's fifty most valuable publicly traded global corporations that were founded after the late 1960s. And it has become a standard part of how institutional investors allocate capital, from public employee pension funds to university endowments to wealthy families.

At present, venture capital deploys roughly $84 billion per year in the United States. And venture capital is no longer solely an American phenomenon. The model has been replicated all over the world, especially in burgeoning Asian tech ecosystems from Beijing to Bangalore.

Yet relatively few people understand how venture works or where it comes from.

Scaling to Survive

Venture capital needs scale to survive. It needs to fund companies that have the potential to become very big in order to compensate for losses or break-even returns elsewhere in a portfolio.

This need for scale is a key part of what distinguishes venture from other kinds of capital. Venture specializes in funding the development of unproven applications of technology—an endeavor that poses large risks with the potential for large rewards. Banks, commercial lenders, and traditional sources of capital for small

businesses are highly restricted in the types of borrowers that they can afford to take risk on. Venture comes in to finance companies that traditional lenders can't. And they do so through equity investments, rather than debt.

In exchange for assuming greater risk, venture firms expect higher returns. Its model tolerates losses—sometimes obscene ones—for a chance at grabbing an entire market or customer "mindshare" first.

Since some of the companies a VC fund invests in will fail, the ones that succeed must succeed big time. The venture model requires large, disproportionate returns from a handful of investments. About 6 percent of investments generate about 60 percent of venture capital's total returns, according to a data set covering thirty years of returns from Horsley Bridge Partners, a firm that has invested in many well-known venture funds. Indeed, the *larger* the fund size or amount of capital under management, the *larger* the expectation of a big "exit"—an IPO or acquisition by another company.

A fund that has $100 million may only be able to justify investing in companies that seem likely to result in an exit that pays out $1 billion or more. And since most VC funds are structured as ten-year partnerships, they're not only looking for big exits—they're looking for big exits on schedule.

The VC model isn't right for everyone. Many companies will never match the "return profile"—the rate of growth—required by venture capital. Moreover, for a startup, a venture check is only the beginning. Even though venture capital rounds are often celebrated as major milestones, they are really just entry tickets. When a company accepts venture funding, it commits itself to steep expectations for future

growth. 2X a year is considered good, 3X is great, and 4X or more a year is amazing. These are challenging targets to meet, and the expectation to grow quickly can scale—but also contort—a founder's original vision.

Taking venture funding can also involve surrendering a certain amount of control, although the way that venture firms exert influence varies widely. At an early-stage firm like the one where I work, we engage in so-called "soft advising." By contrast, venture firms that invest at a later stage usually hold seats on the company's board, and can therefore exercise "hard control."

Sometimes this control is especially stark. In an earlier era, as many as 50 percent of original founders were thrown out in favor of professional management, according to an interview with Sequoia Capital founder Don Valentine. For the past decade, however, there has been a trend toward letting founders keep more power. The Facebook IPO set a new precedent by enabling Mark Zuckerberg to own most of the voting shares. Afterwards, venture firms marketed themselves as founder-friendly so as not to miss out on deals. But more recently, in the wake of the Uber crisis around Travis Kalanick, there is now some discussion that the industry has overcorrected toward too much founder control.

The Masters of the Masters of the Universe

To a startup founder seeking financing, venture capitalists might look like masters of the universe. But they answer to higher masters in the form of "limited partners." These are the masters of the masters of the universe—venture capital's customers, who supply most of the capital for a firm's different funds.

Venture capitalists don't just provide capital, in other words. They also have to raise it. A firm's managers—called "general partners"—are responsible for finding limited partners to finance investments. They also often have to invest a meaningful amount of their personal wealth in the fund they work for, so that limited partners are assured they have skin in the game.

Historically, limited partners have included major pension funds, endowments, and other large institutions. The city of San Francisco, for example, has $1 billion out of its $20 billion under management allocated to venture capital to fund the retirements of city workers. Even if these investment officers are leading mission-driven or civic institutions like philanthropic foundations or state retiree funds, they are legally bound to do what is in their client's best financial interest—regardless of whether the side effects of generating those returns may conflict with the ostensible values of the institution's beneficiaries. As global wealth inequality has deepened, venture firms are also increasingly raising funds from "family offices," which manage the private wealth of the world's richest families.

Every two to four years, venture capital firms embark on a fundraising roadshow. General partners pitch chief investment officers on their ability to secure exclusive access to a high-quality "deal flow" while being responsible stewards of capital for stakeholders like retirees or charitable foundations.

The dynamic isn't all that different from that of a hopeful entrepreneur seeking seed investment from a few dozen venture firms. Venture firms raise money from institutions, so that founders can raise money from them. The pressure to scale moves up the chain: a startup has to make it big in order to deliver large returns for its venture investor, so that its venture investor can deliver large returns to its limited partners.

In order to succeed, venture firms pursue all kinds of strategies. They can make concentrated bets with high ownership stakes in a small number of companies. They can use their reputation to do highly selective momentum-based bets on growth-stage companies. They can "spray and pray"—go for smaller participation in a wider net of hundreds of companies. They can orient their entire fund around a specific theme like AI or robotics, or a geographic area like the Midwest.

Depending on the strategy, the payoff may arrive sooner or later in the fund's lifetime. Because returns aren't realized for years, it can be hard to know whether a fund is high-performing at first. The privately held companies that a venture fund invests in don't have the same reporting requirements as public companies, so it's not simple to judge how a portfolio is doing overall.

However it's achieved, the highest return comes from perceiving value in ideas and people that the rest of the world doesn't see yet. While venture investors say no a lot more than they say yes, one can never totally rule anything out. After all, businesses that were unworkable in the first dot-com boom (Webvan) became workable in the second one (Instacart) because of mobile phones and greater familiarity with e-commerce. There is always a chance that a bad idea in one business cycle becomes a brilliant idea in the next.

These brilliant ideas aren't evenly distributed across the industry, however. A small number of venture firms have disproportionately high returns compared to the rest. Across the entire industry, annual venture capital returns over the past ten years have been 9.1 percent compared to 7.9 percent for the S&P 500, which doesn't look impressive. But the top quartile of funds might return something north of 20 percentas once-a-decade companies like Google or Facebook blow returns from other companies and funds out of the water.

Traitors

In order to understand venture capital, you have to understand not only how it works, but where it comes from. Venture capital emerged from a particular moment in American history, when military funding for technological development was waning, and investors were pioneering new ways of managing risk.

The story of venture capital began at a semiconductor company called Shockley Semiconductor Laboratory in Mountain View, California. In the late 1950s, a group of eight physicists and electrical engineers who had been working at the company got fed up with their tyrannical boss, Nobel Prize winner William Shockley, and quit. But after they left Shockley, they faced a problem: there were few competing employers that could hire them. If they wanted to stay in the Bay Area instead of going back to the East Coast, they would have to start a company themselves.

A young securities analyst named Arthur Rock tried to find funding for them. He pitched thirty large aerospace and electronics companies. All refused. The only place they could secure financing from was a failing aerial camera manufacturer named Fairchild. Its founder, Sherman Fairchild, was an eccentric bachelor who happened to be a prolific inventor, heir to the IBM fortune, and sympathetic to their cause.

They eventually closed the deal. Those eight engineers—the "Traitorous Eight"—would go on to form Fairchild Semiconductor through a $1.38 million loan from Fairchild Camera for their first eighteen months of operation. And Rock would in turn become one of Silicon Valley's very first venture capitalists. He would later move to the Bay Area in 1961 and realize $90 million of proceeds from an initial $3 million investment in companies like Teledyne and Scientific Data Systems.

Meanwhile, the alumni of Fairchild Semiconductor—or "Fairchildren," as they were called—would go on to include Intel cofounders Robert Noyce and Gordon Moore, Sequoia Capital founder Don Valentine, and Kleiner Perkins cofounder Eugene Kleiner.

The birth of venture capital came at an opportune time. Military funding for technology companies began receding in the late 1950s and early 1960s, creating a crisis for a young Silicon Valley still heavily dependent on military money. Just a few years after the historic Fairchild deal, Defense Secretary Robert McNamara began reducing weapons systems orders under the Kennedy Administration. This triggered a severe slowdown in the semiconductor industry known as the "McNamara Depression."

The loss of revenue from large-scale military contracts reordered the entire industry. It forced Silicon Valley companies like Fairchild to shift toward selling transistors and diodes in the civilian market. It also compelled them to cut labor costs by looking abroad—particularly to East Asia. In 1963, Fairchild opened an assembly plant in Hong Kong, where the hourly rate was 25 cents an hour, compared to $2.80 in the Bay Area.

Fairchild eventually turned around, reaching $100 million in sales in 1964. But its success created a whole new set of problems, fueling friction between the company's West Coast engineers and its East Coast management. These tensions eventually led to the exit of two of the original Traitorous Eight, Robert Noyce and Gordon Moore. Noyce and Moore turned to Arthur Rock to raise capital for their next company. That would be Intel—the $220 billion giant whose chips still run 80 percent of the world's PCs.

A few years later, two of the longest-standing venture firms came into existence. A young manager at HP Labs, Tom Perkins, teamed up with another of the Traitorous Eight, Eugene Kleiner, to create Kleiner Perkins—the storied firm that would back Amazon, Google, and Genentech, and then be pulled into a public trial during the Ellen Pao case four decades later. Yet another of the "Fairchildren," Don Valentine, would go on to create Sequoia Capital, an eventual investor in Apple, Google, Oracle, and PayPal.

Rethinking Risk

By the early 1970s, venture capital had established itself in Silicon Valley. But it remained small: when Kleiner Perkins and Sequoia Capital closed their first funds, there was maybe $50 million devoted to venture in the whole of the United States. A limiting factor, enshrined in law, effectively capped the size of the venture industry. For venture capital to fill the void left by the decrease in defense contracts, and nourish a new tech industry, the law would have to be changed.

In 1830, Harvard College sued a man named Francis Amory. Amory was accused of mismanaging funds that were intended to be donated to the university once a donor and his wife had passed away. Amory put the money into riskier investments like insurance, manufacturing, and banking stocks—and then lost half the money. Harvard sued and the judge sided with the college against Amory, establishing the "prudent man rule."

The prudent man rule required that investment managers exercise caution and care, avoid speculation, and behave as if the money they are investing were their own. In the 1960s and early 1970s, as the first venture capital firms were getting established, the prudent man rule was interpreted as a restriction on the kinds of

risks that early-stage investors could take. This norm effectively prevented venture firms from raising capital from large institutional investors, which capped the possible size of the industry.

If venture capital was going to grow, it would need a different interpretation of prudent investing. It would need to change how investors managed risk.

In the late 1970s, venture capital scored a major victory. Congress was crafting a comprehensive set of rules governing private pension management to ensure that workers could feel secure that their retirement savings were being managed responsibly. They applied the prudent man rule to pension investments, which the investment management industry interpreted as a ban on riskier investments such as venture capital.

But a Ford Foundation vice president named Roger Kennedy took it upon himself to convince policymakers that it was "prudent" to invest not only in low-risk bonds, but in higher-risk equities. He wanted to create a standard of prudence that took into account the *whole* composition of the portfolio rather than individual investments. A Nobel Prize-winning economist and student of Milton Friedman named Harry Markowitz had developed a similar idea as part of "modern portfolio theory." This would be a fundamental shift from a principle of *risk avoidance* to one of *risk management*.

So Kennedy and his allies lobbied to make the prudent man rule more flexible. The political climate helped: the stagflation crisis of the 1970s, along with rising anxiety about emerging competitors like Japan, stoked fears among policymakers that the country would fall behind if it didn't stimulate new business development.

In 1979, they succeeded. The Department of Labor ruled that diversification across an entire portfolio could be a factor in weighing the prudence of an individual investment. Risky investments were allowed, so long as they were balanced out with safer ones. This was also the year after the capital gains tax rate was nearly slashed in half, from 49 percent to 28 percent, under the Carter Administration. As a result, the venture capital industry exploded in the 1980s, growing from between $100 to $200 million raised a year to $4 billion by the end of the decade.

“And all of a sudden University of California was willing to give us money, Yale University was willing to give us money, Alcoa was willing,” recalled Sequoia’s Don Valentine. “So a whole bunch of people who had been sitting on the edge of their seats to make more aggressive investments with a very small part of their funds finally got a small go ahead, and people like us were able to start in business.”

The floodgates had opened. The influx of money into venture capital in the coming decades would help propel Silicon Valley’s growth, and transform a handful of startups into some of the world’s biggest companies.

Rocket Fuel, With Strings Attached

What’s next for venture capital?

In the past decade, Silicon Valley’s venture model has scaled globally. Venture has been exported all over the world, with China committing $50 billion to the U.S.’s $84 billion in 2017. Meanwhile, India, which had just over 100 million internet users five years ago, is now a bonafide market with roughly a half-billion people

online and between $5 to $7 billion committed each year to venture-backed companies.

Several factors are fueling venture's global growth. As internet penetration has deepened, an increasingly unified market of more than 3 billion online consumers has made it easier for nascent businesses to quickly grow and acquire millions, if not hundreds of millions, of customers. And in the post-2008 world of low interest rates and cheaper access to capital, there is a lot of money out there looking for higher returns, leading many investors to venture on top of many other kinds of investment products. Moreover, new capital sources from Saudi Arabia's sovereign wealth fund to Japanese corporation SoftBank's Vision Fund have offered an influx of additional funding at the very late stage.

But there are challenges ahead. This includes a record level of capital entering the industry and chasing a small number of venture-backable companies, which exerts downward pressure on returns as initial valuations increase. Moreover, plentiful capital lets companies stay private for longer, which pushes out exits for venture capital firms and their limited partners. Finally, the American venture industry remains highly geographically concentrated, with about half of all dollars invested going into the Bay Area.

Venture also faces an interesting conundrum with the emergence of cryptocurrency-based initial coin offerings (ICOs). ICOs offer a relatively unregulated way for a project to crowdfund capital by selling "tokens," which will appreciate if the value of the project is perceived to grow.

The growth of ICOs has been explosive. In total, ICOs raised north of $4 billion in 2017, but their pace has been slowing down recently as lower-quality offerings and anticipation of SEC enforcement has made it harder for projects to reach their funding targets.

That said, founders in the crypto space still aim to raise orders of magnitude more in capital for projects that haven't even launched yet, compared to venture-backed founders that have spent years building a profitable business. Last year, a project named Block.one raised at least $700 million for its tokens—even though all it had produced was a fourteen-page white paper. The shopping startup Stitch Fix, by contrast, raised less than one-fifth as much during its recent IPO, even though the business pulled in nearly $1 billion in revenue this fiscal year.

Whether ICOs will cannibalize part of the venture industry—or implode out of existence—is uncertain. What's clear is that venture capital, or something conceptually like it, will continue to exist for the foreseeable future. Institutional investors that are managing billions of dollars of assets don't have the time or bandwidth to evaluate tens of thousands of nascent projects to try to determine which ones might grow big enough to deliver large returns.

That's where venture comes in. It's the intermediary that sifts through a glut of new and untested ideas to identify those that have the potential for massive scale—and then makes them fulfill that potential. For founders, it's rocket fuel, with strings attached. It can help them reach entirely new markets, but it also sets up daunting expectations for scale that can alter their original vision—and have unintended consequences for society at large.

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