

March/April 2010

What's Wrong with Venture Capital?

The old mechanism for funding the commercialization of new technologies is in trouble.

By James Surowiecki

In the summer of 1996, Silicon Valley venture capitalists put a few million dollars into a telecom-equipment startup called Juniper Networks. Three years later, after a few more rounds of funding and the release of its first product, Juniper enjoyed an initial public offering of shares, or IPO. At the end of its first day of trading, it was worth nearly \$5 billion, and within nine months, it was worth almost 10 times that. The original venture investors, meanwhile, were able to walk away with profits of better than 10,000 percent.

Around the same time Juniper went public, Silicon Valley venture capitalists were putting money into a new networking startup, Procket Networks. This time, the initial investments were bigger, and over successive rounds of financing, Procket collected almost \$300 million in venture money. Three years after it started, though, the company had still not launched a product, and in 2004 its assets were acquired by Cisco in a fire-sale deal. This time the VCs walked away with just a fraction of their original investments.

The difference between those two stories is, of course, the difference between the world of the late-1990s technology-stock bubble and the world after that bubble burst. But of late, it also seems like the difference between the historical image of venture capital and the harsh reality of the current business. A decade ago, venture capitalists seemed like genuine alchemists, able to turn even startup dross into purest gold. In recent years, however, the industry has seemed less magical than mundane. Since 2004, its average five-year return has oscillated around zero. High-priced IPOs have become rare events, even as VCs have continued to pour tens of billions of dollars into new companies every year. As Fred Wilson, a principal at Union Square Ventures, bluntly puts it, "Venture capital funds, as a whole, basically made no money the entire decade."

Naturally, venture capitalists have not remained indifferent to these developments. On the contrary, the soul-searching has sometimes resembled Maoist self-criticism sessions. The word *crisis* has become ubiquitous. Matrix Capital founder Paul Ferri told the *Wall Street Journal* in 2006 that the industry does not now have "an economically viable business model." In the June 2005 issue of this magazine, Yankee Group founder Howard Anderson bid "good-bye to venture capital." And when the executive search firm Polachi and Co. asked a thousand VCs last summer "Is the venture capital business broken?" more than half said it was. When you consider the key role that venture capital has played in funding American innovation over the last 50 years, that conclusion seems ominous. (For another practitioner's take on the state of venture capital, see Steve Jurvetson's Notebook "[*The Pace of Innovation Never Falts*](#)".)

Some of this breast-beating is, to be sure, inevitable. Booms and busts have been endemic to the venture capital industry since it was founded in the late 1950s. As Harvard's Josh Lerner puts it in *Boulevard of Broken Dreams*, his new book on the history of public efforts to boost venture capital, time and again "groups raised huge amounts of capital that they invested foolishly, either funding entrepreneurs who never should have raised capital in the first place, or else giving far too much money to promising entrepreneurs." (See "[*Publicly Funding Entrepreneurship*](#)" *Lerner's Notebook on the government's recent efforts to spur innovation.*) And the busts that follow those frenzies tend to engender profound pessimism--in 1994, just before the boom of the late 1990s, Paul Gompers, then at the University of Chicago, published a major study of the industry titled "The Rise and Fall of Venture Capital." Given that we've just lived through the bursting of two asset bubbles, and that the stock market--the traditional exit for venture capitalists--has gone nowhere in 10 years, it would be surprising if people weren't gloomy.

Nonetheless, it would be a mistake to assume that the industry's problems will vanish once the economy picks up. Instead, it seems clear that at least some of the factors that have made huge returns rare are the result of structural--not cyclical--shifts, and that venture capitalists will need to adapt.

To begin with, the costs of starting companies and of making companies profitable in sectors like information technology have fallen dramatically thanks to open-source software, the globalization of engineering, the commodification of bandwidth and infrastructure, and other factors. Wilson, for instance, estimates that costs have fallen "at least an order of magnitude" in the past decade. That's given entrepreneurs more leverage, since they're less desperate for capital. At the same time, sectors where venture capital has traditionally made a huge impact, like IT and telecommunications, are no longer growing as fast as they once did. And much of the value that new businesses are creating in fields such as social networking is, at least for the moment, "nonmonetized"--the benefits that users get don't translate into dollars. There is now a generation on the Net whose governing assumption is that things should be free. Any assumption that they will be as lucrative a group of customers as corporate IT departments may be mistaken.

Finally, it's an open question whether IPOs will again become the gold mine they were for venture capitalists in the past. Just 13 venture-backed firms went public in 2009--down from 94 in 2004 and 271 at the height of the boom, in 1999. In an earlier era, Facebook and even Twitter would almost certainly have gone public. Yet neither company seems all that anxious to do so. The problem is on both sides: entrepreneurs don't yearn to take their companies public as they once did, and investors aren't clamoring for more public offerings. Running a public company is more difficult than ever: there are more rules to comply with, more pressure from shareholders, and, at least lately, more volatility. More important, IPO pricing is more rational than it once was. That is crucial, since turning startups into public companies has been the way venture capitalists made most of their money. Anderson, for one, thinks saner valuation is at the heart of the industry's problem. "The entire market has become more mature," he says. "This is not a bad thing in general, but it's not good for venture capitalists, because we love irrational markets. They make it much easier to have the outrageous winners you need in order to

make the economics of the business work." Exceptions exist--battery maker [A123 Systems](#) (which Anderson invested in) raised \$380 million when it went public last fall--but they have been rare.

There are some signs of adaptation. Tim Draper of Draper Fisher Jurvetson (DFJ), for instance, argues that "the next eight to 10 years are going to be the greatest venture capital years in the history of the world." But he believes that the drivers of future innovation aren't in traditional locations: in addition to Silicon Valley, DFJ is investing in China, India, and Vietnam. Meanwhile, even if, as Paul Kedrosky of the Ewing Kauffman Foundation argues, "too many venture partnerships [are] continuing to invest in information technology because they always have," many VCs have begun funding companies in industries like media, education, and even finance, where technological change is creating disruptive innovations and, therefore, opportunities for profit.

But it won't be enough for VCs simply to change what they invest in and where they invest. The real problem is not complex: there's too much venture capital, and there are too many venture capitalists, for the industry to be really profitable. The industry as a whole now has about \$200 billion under management, more than twice what it did in 1998, and venture funds invested \$20 billion to \$30 billion a year for most of the past decade. And on the level of individual funds, huge amounts of capital combined with falling startup costs have, in Anderson's words, made funds "musclebound": a \$500 million fund can't make too many small investments, even if that's what would make economic sense, because the partners don't have the time to supervise hundreds of companies. (This is one reason, along with the desire to limit risk, that many VCs have started to wait until later rounds to invest.) In the absence of another bubble, there's no way for new companies to generate profits big enough to provide a reasonable return on \$20 billion to \$30 billion a year. Kedrosky, for one, argues that for the industry to consistently generate competitive returns, annual investment and money under management need to fall by more than half. And while Wilson describes himself as "very optimistic" about the coming decade, he says that the industry "needs to return to the size and shape it was in the late '80s and early '90s."

The interesting thing is that this diagnosis is not especially controversial. Most people in the industry think there's too much money. It's like traffic, though: everyone thinks there's too much of that, but no one wants to take public transportation. And while in most businesses competition takes care of the problem by forcing the losers out, here winnowing takes much longer, because venture capital isn't like the stock market: if you get disillusioned, you can't just pull your money out of it. The limited partners who invest in venture capital funds make long-term, binding commitments to meet the "capital calls" of the general partners who manage the funds and make investments. This is, from the perspective of innovation, venture capital's great strength: instead of needing a quick return, it can afford to build companies. Nonetheless, it creates what Wilson calls "a huge amount of latency in the system." So even though the industry has been moving toward a more sensible balance between money under management and potential returns, it takes a long time to push underperformers out.

This suggests that the industry as a whole still has at least a few years of underperformance ahead. Although that's not good news for venture capital investors, it's not clear that it's a problem for the economy. What's peculiar about the debate over the brokenness of the venture capital model is that it isn't really a debate about whether it's important to have early-stage funding for innovative companies: everyone believes that. Nor is it an argument about whether venture capitalists add value: the complaints of many entrepreneurs notwithstanding, the historical evidence suggests that venture capital has played a key role in fostering innovation. In a study of Silicon Valley firms, for instance, academics Thomas Hellmann and Manju Puri found that venture-backed firms were significantly quicker than others to bring products to market and were more likely to pursue what they call an "innovator strategy." And in a study of patent data, Josh Lerner found that venture dollars were "three to four times as potent" as corporate R&D in encouraging innovation.

If venture capital is both necessary and useful, then, why does it matter, from a societal point of view, if it's oversupplied? What we care about, after all, is not whether investors get good returns or VCs are well paid. We care about whether new companies are getting started and innovations are being funded. One of the fundamental truths of profitable innovation is that it is hard, if not impossible, to identify in advance. (That's why the familiar venture capital model depends on having a couple of huge hits in a portfolio to outweigh all the mediocre results and outright misses.) So while the shakeout will be welcome, it may actually be more important for the well-being of the industry than for the rest of us. As Tim Draper says, "There are never enough VCs or entrepreneurs or money for new efforts." After all, even though venture investors undoubtedly put too much money into me-too software companies and clean-tech firms that never panned out, would we really have preferred that money to have gone into some bank's collateralized debt obligation instead?

Probably, no. But there are reasons to think that a too-flush venture capital industry isn't a good thing. First of all, since VCs get a percentage of assets under management, having tens of billions come into the industry every year makes it possible for a venture capitalist to make a good living even from investments that go nowhere. That's not a recipe for creating focused VCs. And the "muscle-bound" problem is real, too: to the extent that having too much money means venture capitalists wait to enter until later rounds of financing, the value that they add is reduced. It's also likely that because the size of these funds has required VCs to spread their investments across more companies, their effectiveness as monitors of corporate performance has been diminished. To many entrepreneurs, this may not sound so bad, but Lerner's research, at least, suggests that the guidance and monitoring VCs provide is an important part of why VC-backed firms have historically done better at sparking innovation. It may be a coincidence that the oversupply of venture capital has coincided with an era that produced, arguably, just two transformative venture-funded startups: Facebook and [Twitter](#) (*for an analysis of Twitter's business, see "[Can Twitter Make Money?](#)"*). But it may also be that the industry as a whole just got a little too comfortable.

That's changing, for the good: VC funding was just \$17.7 billion last year, down 40 percent from the year before. And although it will be painful, the industry needs investors to leave if it's going to return to a more rational size. It is highly unlikely that the pendulum will swing back too far--that venture capital will become underfunded. The allure of huge profits is not going to vanish. And the activities of venture capitalists are still associated more with hugely profitable investments like Juniper (and, before it, Cisco, Apple, and Digital Equipment Corporation) than with ventures like Procket.

Venture capitalists, like entrepreneurs, are overconfident: they believe they can identify and exploit profit opportunities that others are missing. If this may not be a great thing for them or their investors, it's a good thing for the rest of us, since it guarantees a constant flow of new money into new businesses. Venture capital needs to become a more rational business. But not too rational.

James Surowiecki writes "The Financial Page" for *The New Yorker*.

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March/April 2010

The Pace of Innovation Never Falters

Innovation and entrepreneurship are thriving.

By Steve Jurvetson

Innovation is critical to economic growth and progress, and yet it seems so random. But if we step back, a pattern emerges. The pace of innovation is accelerating and is exogenous to the economy. At Draper Fisher Jurvetson, we see that pattern in the diversity and quality of the entrepreneurial ideas coming into our offices. Scientists do not think more slowly during recessions. Startup proposals seem better during downturns.

For a model of the pace of innovation, consider Moore's Law--the annual doubling of computer power or data storage capacity. As Ray Kurzweil has plotted, these increased exponentially from 1890 (with punch-card computing) to 2010, across countless technologies and human dramas. Most recently, we have seen Moore's Law revolutionize the life sciences, from genomics to medical imaging, and work its magic in ever bigger and more diverse industries.

Technology's nonlinear pace of progress has created a juggernaut of perpetual market disruption, spawning wave after wave of opportunities for new companies. Without disruption, entrepreneurs, and VCs like me, would not exist.

During previous recessions, false oracles declared innovation dead because they did not see any in mature industries like enterprise software. Predictable and stable industries resist new entrants. Entrepreneurs and VCs have to follow disruption across markets. Many of the TR50 will no doubt lead the way.

Here are two foundational innovations to ponder that offer a variety of disruptive opportunities in coming years.

First, 2010 will be the year of the first scalable quantum computer. (I am an investor in D-Wave, a startup building a commercial quantum computer: see "[Riding D-Wave](#)," May/June 2008.) If it follows "Rose's Law" (named after Geordie Rose, a cofounder of D-Wave), annually doubling qubits for the next 10 years, it will handily outperform all computers on the planet combined.

It will also be the year of the first synthetic life form: 100 percent of its DNA will be made from scratch, from beakers of chemicals. This will introduce a new era of intelligent design in biology, in which technologists will write the code of life as if it were a computer program. Energy and chemical giants will experience the whiplash of Moore's Law, as biotech companies create and test billions of novel microbial workhorses every day.

I don't accept the gloomy assessment captured by James Surowiecki (*see* "[What's Wrong with Venture Capital?](#)"). We haven't seen anything yet.

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