Truth, or Consequences

Academic researchers are helping policy makers and practitioners understand the problems facing the venture capital industry

By Ari Ginsberg

Venture capitalists (VCs) have developed, over the years, a simple formula for success: To stay in business they must raise money for new funds. And to raise new capital, they must generate a track record and personal trust: We don't perform for you, you don't invest in us. The incentives provided by management fees, and the far more lucrative pay-outs for big hits, were designed to keep the game honest.

As long as there was a balance between available investment capital and opportunities for investments to succeed, that formula worked well. But during the boom times of the late 1990s, this balance became undone and so did the track records of venture capital funds and the trust placed in them by limited partners. The business models of many ventures were fundamentally flawed and expected growth rates were highly inflated. At the same time there was an overabundance of capital. This imbalance led to underpricing of capital and overfunding of new venture plans—many of which not carefully scrutinized, particularly those related to the Internet and telecommunications. In addition to the abysmal performance of these investments, the raising of management fees and carried interest to outrageous levels by many venture capital funds added insult to injury.

Today, as Congressional representatives vigorously debate corporate malfeasance in hopes of an electoral sound bite, a steady stream of legislation is making its way into law. The most recent and dramatic example, of course, is the Corporate Responsibility Act of 2002, which, among other provisions, requires CEOs to swear, to the best of their knowledge, that their books haven't been cooked.

New policies governing public companies have some in the venture capital industry concerned that government is about to step in and change the rules of the game for private investments. One of the major issues that has venture capitalists worried is the call for greater disclosure with respect to both their relationship with their limited partners and the workings of their portfolio companies.

The public outcry for "transparency" could require disclosure of information that VCs hold very close to the vest and which they may deem proprietary. For example, VCs rarely reveal any details about how they derive valuations, noting that a host of external factors, such as the quality of the management or market appetite for risk, makes the decision more of an art than a science. If policy makers start requiring certain disclosures, many feel that it will undermine the process. Will such regulations force the money to find some other place to go?

Reflected in the current debate about disclosure is a simple, if startling, fact. We actually know very little about how and why the venture capital industry works. In fact, empirical research on the subject has only really emerged during the past 10 years. This is in large part due to the dearth of available data on private investments.

Academic research into the workings of the venture capital industry is increasingly important as policy makers and practitioners struggle with issues targeting structural reform. First, it can explain precisely how the services provided by VCs function to add value to a young company. Second, it can provide a means of measuring broader assumptions, such as the role that venture capital plays in fueling innovation. Finally, academic research provides a nonbiased platform for evaluating the real-world impact of venture capital on the growth of an economy. Understanding the key features that explain why venture capital has been so successful in the United States, for instance, is a valuable resource as other governments, seeking to build or enhance their own venture markets, turn to the United States for pointers.

Policy makers and practitioners can play an important role in advancing the contributions of academic studies by providing access to relevant data and by examining the validity of analytical models and research findings. During the Financial Markets Conference 2002, co-hosted by the Federal Reserve Bank of Atlanta and the Berkley Center for Entrepreneurial Studies last May, academic researchers presented their observations on a wide range of important issues confronting the venture industry. What made this event particularly valuable was that these academics were not just talking to other academics, but to an audience of policy makers and practitioners who probed and challenged their conclusions and greatly enriched the discourse that ensued.

Drawing from the presentations delivered at the conference, we provide a sampling of the issues confronting policy makers, academics, and practitioners as they assess the evolving role of venture capital as a source for funding radical innovation and economic growth.

How Can We Get Clean Data?

Chief among the challenges facing both academics and practitioners is how to obtain good data. Many of the academic presenters at the conference lamented that good data is extremely difficult to find and that the lack of it has hampered their efforts to discover what, exactly, venture capitalists do.

Susan Woodward, founder of Sand Hill Econometrics, located in Menlo Park, Calif., and former chief economist for the U.S. Securities and Exchange Commission (SEC), believes that better data is critical for revitalizing private equity investment. Betting that investors will pay top dollar for reliable information, Sand Hill Econometrics, which was launched in 2001, has developed a proprietary system for evaluating private equity performance. Woodward's motive is simple: "Investment in pre-public companies is no longer experimental or exploratory, but is a permanent feature of the U.S. financial landscape. Private equity, the domain of venture capital, is here to stay."

Unfortunately, in the absence of disclosure requirements, the world of private equity investments in pre-public companies is quite opaque. There are no SEC rules for enhancing transparency, as is the case with public entities. Rather, data has been collected primarily through commercial venues, such as VentureOne (in partnership with PricewaterhouseCoopers) and Venture Economics (owned by Thomson Financial), and through trade organizations, such as the National Venture Capital Association (NVCA). Late last year, all three of these data trackers formed a strategic alliance to pool their research and jointly publish quarterly information regarding the venture capital industry.

The data, however, is incomplete. It is not always clear, for instance, how much each investor contributed to a particular round of financing. In spite of the trend over the past few years of publishing a press release announcing an investment (a tactic intended to boost a young company's value), valuations are rarely disclosed. Woodward noted that pricing events for private companies are intermittent and infrequent. Prices are set only when a company raises money (private or public), when it is acquired, or when it ceases operations.

Using existing resources as a starting point, Woodward and her team have set about cleaning up the data and designing a database that can be used for analysis. To this end, she borrowed from her experience working as a deputy assistant secretary at the Department of Housing and Urban Development, where she helped to construct price indices for residential real estate. As Woodward summarized her approach, "The novelties in our application lie in the extension of the repeat sales approach to private companies and the correction for selection bias made necessary by the non-random nature of the reporting of transactions." The end result is the creation of the "Sand Hill Index," which measures the marketwide valuation for private equity much as the S&P 500 Index does for publicly traded equity.

By facilitating securitization of venture investments, price indices may prove particularly useful in making fundraising for start-ups more efficient. If VCs can raise much more money from financial intermediaries than before, they will become less dependent on the time-consuming process of courting limited partners for money and also be able to spend more time on building the businesses in their charge. Limited partners, who have recently come to distrust VCs because of their outrageous management fees and disastrous performance, are also likely to prefer the benefits of liquidity and transparency that securitization can provide.

Do VCs Add Value?

Studies conducted by Thomas Hellmann, associate professor of strategic management at the Graduate School of Business at Stanford University, and Manju Puri, assistant professor of finance at Stanford, question if the changes that have occurred in the venture capital industry have weakened the fundamental value-added role of venture capital. Analyzing data collected by the Stanford Project on Emerging Companies (SPEC), their research provides answers on how venture capital functions to help start-ups succeed.

The data collected by the SPEC grew out of a discussion among Stanford faculty as they set the agenda for the school's Human Resources Management Initiative. The question arose: How and why do firms get locked into a particular way of organizing and managing their workforces? According to SPEC literature, understanding how early events in a firm's history determine its future path requires collecting data on the earliest decisions made in shaping an organization. Thus, the project ended up collecting data on such issues as how financial players and professional service providers influence early practices.

It was this segment of the SPEC research that gave Hellmann and Puri a means to track the fundamental contributions of VCs. As Hellmann explained, "The unique feature of this project is that while it examines an environment in which venture capital is prominent, the sampling procedure itself is not contingent on the presence of venture capital. As a consequence, the sample naturally generates variation between firms that do and do not obtain venture capital. Another advantage of SPEC is that it used a large variety of data collection methods, involving [all] surveys, interviews and direct observation of both quantitative and qualitative information. While any one method of data collection has its strengths and weaknesses, the compilation of various methods gives us greater confidence in the accuracy of our results."

So, what were the results? Noting that the SPEC research does not account for the Internet bubble—it was a five-year project that began in 1994 and is only periodically updated—Hellmann and Puri discovered that VCs play an important role in helping their companies establish themselves in the marketplace and in helping professionalize these companies as they grow. They found that relative to a baseline probability of bringing a product to market, venture capital increases this probability by 79 percent. Companies going into established markets without venture capital support were found to have a longer development cycle.

Hellmann and Puri next decided to "open up the black box" in order to explore the "dark side" of venture capital. In particular, they wanted to examine the treatment of founders to discover if the axiom "venture capital in, founders out" held true. Tapping into the SPEC database, they discovered that in about 40 percent of all companies, the founders stayed involved after the arrival of a new CEO. Interestingly, they also found that having venture capital made no difference in the rate of founder retention. Moreover, "the effect of venture capital on outside CEOs applies equally to events where the founder stayed or left. This evidence thus does not support the view that venture capitalists treat founders in a particularly hostile manner. But it does support the view that venture capitalists play an active role in helping companies to recruit professional CEOs."

How Does Venture Capital Influence Innovation?

If Hellmann and Puri painted a rosy picture for the positive impact of venture capital on the development of private companies, Josh Lerner, professor of banking at Harvard Business School, tackled a broader, and more immediate, problem facing the industry. He asked, "What are the implications of the recent collapse in venture activity on innovation?" It may be a simple question, but it is well worth addressing, as it directs attention to an assumption that has been a critical factor in the development of the venture capital industry as a whole. That venture capital jump-starts innovation is, some would argue, the central reason that it has become so valued an asset class.

Among the factors that affect the supply and the demand for venture capital, Lerner argued, are time and information. Supply is determined by the willingness of investors to place capital in high-risk venture funds in the hope of capturing high returns. The more successful the fund, the higher the return. Demand, on the other hand, is determined by the number of entrepreneurial firms in search of capital at a valuation that provides enough incentive to pursue the enterprise. As venture firms seek higher rates of return, valuations go up. "Higher return expectations," Lerner explained, "lead to fewer financeable firms, because fewer entrepreneurial projects can meet the higher hurdle."

This constant tension between supply and demand accounts for the cyclical nature of the venture industry. However, the time it takes for the "market"—in this case, investors and entrepreneurs—to react is slow and the results uneven. In boom years, VCs tend to "overshoot," investing more money in more companies than they can optimally accommodate. Conversely, during "cold" periods, they tend to "undershoot," investing less money in fewer companies, thereby leaving their capital holdings underworked. According to Lerner, what this analysis does not take into account is the fact that "the actual value-creation process in venture investments is quite different" from the "hot" and "cold" periods: "In many cases, the value of a firm actually increases gradually over time, even as it is being held at cost. Thus, the low returns during cold periods understate the progress that is being made, just as the high returns during the peak periods overstate the success during those years."

The consequences for innovation created by the cyclical nature of the venture capital industry are similarly uneven. During peak funding, "funds appear to be deployed much less effectively," Lerner argued. One reason is the "herding" instinct among VCs. In the jargon of the industry, too much money ends up chasing too few deals, which leads, as Lerner put it, to "excessive duplication." The boom of 1998–2000 provides a telling illustration. According to Lerner, funding during this period centered around two areas, the Internet and telecommunications, which accounted for 39 and 17 percent, respectively, of all venture investments in 1999. For instance, in the Internet sector, considerable sums were devoted to enterprises similar in concept, such as the nine companies that vied to dominate pet retailing. In telecoms, the capital-intensive process of building a second cable network in residential areas "seemed fundamentally uneconomical and doomed to failure."

Meanwhile, Lerner noted, seemingly promising areas, such as advanced materials, energy technologies, and micro-manufacturing, failed to capture the interest of fund managers. Innovation in these sectors was taking place, but it wasn't backed by the VCs. It is important to note, however, that Lerner's analysis does not suggest that venture capital has no central role in innovation, only that its effect on innovation is uneven.

According to Lerner, the larger importance of these types of investigations is the extent to which they can guide policy decisions. Too frequently, Lerner argued, programs such as Small Business Innovation Research, a government-sponsored investment initiative, follow the scent of hot markets already crowded with venture capital investments rather than focusing on the gaps created by the structure of venture capital financing. Why not, he asked, focus on technologies that are not currently popular among venture investors, and provide follow-on capital to firms already funded by VCs during periods when venture inflows are falling?

Lerner concluded that "the greatest assistance to venture capital may be provided by government programs that seek to enhance the demand for these funds, rather than the supply of capital. Examples would include efforts to facilitate the commercialization of early-stage technology, such as the Bayh-Dole Act of 1980 and the Federal Technology Transfer Act of 1986, both of which eased entrepreneurs' ability to access early-stage research. Similarly, efforts to make entrepreneurship more attractive through tax policy (e.g., by lowering tax rates on capital gains relative to those on ordinary income) may have a substantial impact on the amount of venture capital provided and the returns that these investments may yield. These less direct measures may have the greatest success in insuring that the venture industry will survive the recent upheavals."

Can the American Experience Be Adapted Abroad?

Even with its problems, the venture capital industry that has emerged in the United States is enviable. During the past few years, scores of business executives, economic development agents, and government representatives have come to the United States to find out the recipe for providing start-up and early-stage firms with access to capital.

This, according to Ronald Gilson, professor at Columbia Law School and Stanford Law School, leads to the question of whether or not the U.S. experience can serve as a guide—if not an exact road map—for other nations. Noting that the market in the United States grew organically and without much direct government intervention, Gilson pointed out that such organic growth may be a luxury that other nations can't afford if they seek to be economically competitive. How, then, do you engineer a venture capital market?

"A venture capital market," Gilson argued, "requires the simultaneous availability of three factors, the provision of any one of which is contingent on the availability of the other two." These factors are entrepreneurs, investors with a taste for risk, and specialized financial intermediaries. Any two of these will attract the third to the party.

Too often, Gilson pointed out, governments provide both the capital *and* the financial intermediation. However, a government can't serve the best interests of both when it is acting, in effect, as both a limited partner and a VC. Rather, "government can act to induce the development of the necessary specialized financial intermediaries, and also act to provide, in effect, seed capital, which in the U.S. was an important measure provided by pension funds. That leaves the third factor necessary to solve the venture capital market simultaneity problem—entrepreneurs. Here the hypothesis is simply that the presence of a venture capital framework and funding will induce entrepreneurs to reveal themselves."

By way of example, Gilson pointed to the dismal performance of Germany's WFG program (the Deutsche Waginsfinanzierungsgesellschaft, roughly translated as "German Venture Financing Foundation"), which was established in 1975 with the express goal of developing a venture capital market. The program received an initial investment of DM 10 million from 29 German banks, including the largest banks and leading savings-and-loan institutions. This funding was eventually increased to DM 50 million. Over the lifetime of the program, the WFG experienced an internal rate of return of negative 25.07 percent. The problem, Gilson explained, was the way the program was structured. "Indeed," he said, "it would have been difficult for WFG to get the structure any more wrong."

First, the government guaranteed a generous 75 percent return of capital invested by participating banks. Coupled with a cap on its return in the form of a call option to purchase the WFG's position at cost plus a moderate interest rate, the program failed to provide incentives to either its investors or its entrepreneurs.

The fact that the WFG was set up to be a passive investor holding only a minority stake in its portfolio companies was also a problem. Nor did the WFG seek any controlling authority, even over important decisions. It provided no managerial or technological expertise to the companies in which it made investments. In stark contrast to the kind of controls VCs routinely exercise in the United States, the WFG never replaced a founder.

A recent example that Gilson finds more promising is the CORFU program (Corporaciún de Fomento de la Producciún, or "Corporation for the Incentive of Production") established in Chile in 2001. It borrows heavily from the U.S. model. The fund acts more as a limited partner, investing in privately managed venture-capital funds. Because these venture funds are new, an interesting challenge confronting the nascent industry is how to compensate for the role that an established track record would normally play.

For instance, the CORFU program seeks to ensure greater monitoring by investors of the fund manager's performance, rather than rely only on the structure of the fund manager's incentives and the fund's investment reputation. Each fund must have at least five unrelated investors, each holding at least 10 percent of the fund's equity, or at least one institutional investor holding at least 20 percent of the equity. The funds also require a substantial commitment on the part of the fund manager: whereas fund managers in the United States typically contribute 1 percent of the total capital, the Chilean program requires an investment of at least 15 percent of the fund manager's total assets.

As the examples indicate, creating a venture capital market involves an intricate array of issues. But, as Gilson pointed out in regard to the organic growth of the U.S. venture-capital market, other countries simply do not have the time to grow an entrepreneurial culture. Like venture capital markets, governments will have to devise ways of manufacturing an environment conducive to innovation.

The work that Gilson, Lerner, Hellmann and Puri, and Woodward are doing to analyze the workings and contributions of the venture capital industry represents only a small fraction of the complex issues currently under investigation. At stake is more than just an under-the-hood look at the machinery of an industry. As we debate issues such as the need for transparency and disclosure here in the United States, other governments are grappling with how to develop economies that are capable of absorbing high-tech advances and the pressures of creative destruction. If Joseph Schumpeter—who first formulated the economics of creative destruction—is correct, it is imperative that they understand which policies and practices are likely to help and which may make things worse. ■

The presentations referenced in this article can be found online at www.stern.nyu.edu.ei/bces/research/vcconf.html.