

## Does Venture Capital Spur Innovation?

### Some research shows that money follows innovation, not the other way around

by [Vivek Wadhwa](#)

Policymakers often believe that [venture capital](#) is a prerequisite for regional growth and innovation. And entrepreneurs tend to think that VCs know it all. They spend huge amounts of time and energy preparing business plans for innovative startups, then pitch them to VCs who often don't seem to be interested. Yes, VCs are experts in knowing how to commercialize proven technologies and make lots of money from them. But VCs aren't the gurus of innovation. In fact, new research shows that venture capital may actually slow it down.

In August 2008, Masako Ueda, a professor at the School of Business of University of Wisconsin-Madison, and Masayuki Hirukawa, a professor in the economics department at Northern Illinois University released an updated version of [Venture Capital and Innovation: Which Is First?](#), a research paper that examines the correlation between venture capital investments and productivity growth. Ueda says it was inspired by research she had completed during the 1990s on unsuccessful attempts by European and Japanese policymakers to spur entrepreneurship by copying the U.S. model of investing in venture capital funds. She believed policymakers were naive to think that once venture capital was available, new firms would flourish.

To research the sequence of events in the innovation process, Ueda and Hirukawa analyzed total factor productivity (TFP) in U.S. manufacturing industries, including drugs, office and computing machines, communications, electronics, and professional and scientific instruments. (TFP is used by some economists to measure innovation).

#### A Drag on Innovation

What they found was surprising. VC investment lagged behind TFP growth by two years. And follow-on rounds of investment caused a decline in TFP in the first year. In other words, venture capital slowed down the innovation process. Additionally, they found that delayed TFP growth is correlated with first round VC investment. That essentially means that the money goes where the innovation is, not the other way around.

Bob Litan, vice-president for research at the Kauffman Foundation, says these findings are no surprise to him. "After all it's the innovators who come knocking on the VCs' doors asking for money, not the other way around", he says.

But Josh Lerner, professor of investment banking at Harvard Business School, believes that things may not be this clear-cut. He says his research in the late 1990s and new research by Luigi Zingales of the University of Chicago both show that venture investments cause significant increases in patent filings. Lerner's research showed that venture capital could be as much as 10 times as effective in stimulating patents as a dollar of corporate R&D. He found that while total venture capital investment averaged less than 3% of total corporate R&D dollars during the 1990s, they contributed to more than 15% of patent filings. Venture-backed firms were also aggressive in litigating to protect their patents.

In response to criticism that their research had not looked at the impact of patent filings, Ueda and Hirukawa released an updated version of their report in mid-September which includes an analysis of patent filings. Their analysis confirms that, at the industry level, VC investments did cause increases in patent filings. But there was no corresponding increase in TFP. So there were more patents, but this increase didn't translate into increased productivity growth or innovation.

## **Patents as Bait**

Ueda and Hirukawa's findings are consistent with my experience in launching two software companies along with countless conversations with my peers in the tech world and more recently in academia. In both of my companies, we perfected our innovative technology long before we raised venture capital. And then we put significant effort into patenting part of our technology. Yes, we wanted to protect our assets, but this wasn't the key motivator—it was to make the company more attractive to venture capitalists, who we knew put a premium on patents. After receiving venture capital, our only focus was on sales and marketing. Technology development became a second priority.

Duke professor Rebecca Zarutskie agrees that venture capital does not directly stimulate innovation. She believes, however that it is an indirect motivator. Her research showed that VC-backed firms in the U.S. have lower failure rates, faster growth rates, and higher IPO and acquisitions values than similar non-VC-backed firms.

What is the takeaway from all this?

Entrepreneurs shouldn't rely solely on feedback from VCs to judge the potential of their ideas. VCs provide valuable input, but could easily be wrong. Entrepreneurs need to understand what their market really needs and [take the risk by bootstrapping their venture themselves](#) (BusinessWeek.com, 2/13/06). This means [learning the basics of building a product, iterating through the development process until it is right, developing a business model that works, and assembling a solid management team](#) (BusinessWeek.com, 5/31/06). Once all this is in place, [venture capital might follow](#) (BusinessWeek.com, 7/17/06).

Policymakers in regions across the U.S., whose economic growth strategy centers on attracting venture capital to their areas, need to rethink this strategy. VCs don't consider it their job to spark innovation. They will readily go where they see a hot deal, but won't take unnecessary risk. Instead, policymakers need to work to provide fertile grounds for entrepreneurship. This means they need to provide cheap infrastructure, [health-care benefits for entrepreneurs](#)

(BusinessWeek.com, 4/30/08), seed-financing, and a [better system for commercializing the research available in our universities](#) (BusinessWeek.com, 6/15/07).

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