

COVER STORY

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# STRINGS ATTACHED

When U.S. startups accept funding from overseas investors, who really benefits?

BY TIM SPRINKLE



**F**our years ago, researchers at Massachusetts Institute of Technology released a major study, *Production in the Innovation Economy*, which analyzed how the United States might recapture its manufacturing mojo. Buried in the report was a disturbing assessment of a group of 150 manufacturing startups founded between 1997 and 2008. These firms were based on advanced MIT technology and were, arguably, among the most likely to succeed.

The authors, led by Elisabeth Reynolds, executive director of MIT's Industrial Performance Center, analyzed funding, customers, supply chains, buyers, and more. The goal was to understand how those 150 companies flourished or failed in international markets—and why they were increasingly looking overseas for support when building their businesses.

Their answer, in a word: scale.

The U.S. provides fertile ground for startups, the authors wrote. It has the rich infrastructure of specialized skills and equipment needed to build and reengineer prototypes rapidly, develop pilot production facilities, and even reach low-volume commercial production. Yet when these firms were ready to take a giant step up to large-scale processes, the search for additional capital as well as scalable production capabilities drove many firms to relocate their production abroad.

This migration, the authors argued, did more than move equipment and jobs overseas. It took with it the hard-gained tacit knowledge needed to make that equipment operate at peak performance. It led to the migration of key skills, technical capabilities, and the ability to fully understand and

improve the manufacturing process outside of the country.

It also ate into the returns the public expected from investments in innovative companies through research grants and tax abatements. Even more importantly, the move overseas was dragging down the country's future capacity to innovate by gifting other nations with tacit product and process knowledge that had taken years to attain.

Four years later, we are having the same conversation all over again, albeit this time, with political undertones. As the United States and other parts of the world appear to be pivoting to more protectionist policies and attitudes, the idea of “Us vs. Them” is very much in the public eye today.

It is happening at a time when the lives and fortunes of entrepreneurs in a wide range of different industries are more global than ever. Today, founders are accepting funding from overseas investors, setting up supply chains in different parts of the world, servicing customers internationally, and even selling their businesses to foreign government-backed funds. It is truly a global economy.

As more and more U.S. manufacturing startups are becoming involved in the international economy, we have to ask how all of this is changing the landscape for U.S. entrepreneurs. Is overseas funding altering the way companies in this country do business? Are international asset sales shipping the fruits of our labor and investment overseas to help U.S. competitors?

And are domestic investors and innovators losing out?

## A Changing World

There is some reason for concern here.

According to a report released in March by the European Union Chamber of Commerce in China, an organization that represents European overseas business interests, China will invest \$300 billion to become self-sufficient in 10 advanced industries—from aerospace and next-generation wireless to semiconductors and electric cars—by 2025. It plans to accomplish this by creating a host of new government-subsidized competitors, enacting policies to favor their products, and investing in technology firms overseas.

If China can pull it off, this new production would effectively close off

the world's fastest-growing market from overseas competitors like Apple, Ford, General Electric, Tesla, and others. According to the report, China Manufacturing 2025 aims to secure as much as 80 percent of the domestic market in each of the target industries

over the next eight years. The remaining 20 percent would be all that is left for the rest of the world.

This is just one example of an ongoing trend. According to the online startup investing firm FundersClub, U.S. venture capital investment quadrupled to \$83.2 billion in 2015 from

\$20.1 billion in 2005. In this same period, funding from overseas venture capitalists soared nearly 44 times, to \$57 billion from \$1.3 billion. According to the National Venture Capital Association, growing overseas funding diluted the U.S. share of global VC investment from 81 percent in 2006 to just 54 percent in 2016.

“I travel to about two dozen countries a year, and I see a lot of investment going into science education,” said Vitaly Golomb, a California-based venture capitalist and startup business advisor. “And not just software development, but physics, mechanical,



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chemistry, etc. China is quite strong in this.”

As of 2017, the U.S. still has the largest number of top 20 science universities, but that lead is shrinking quickly because of the work being done in Asia, Europe, the Middle East and elsewhere. This has helped spawn rapid growth of startup activity worldwide.

The numbers are staggering. According to the Chinese government, an average of 12,000 new companies, including both tech companies and others, were registered every day in China in 2015. That totals more than four million new companies in one year.

“Areas like Shenzhen came out of nowhere and in the last 20, 30 years have become major areas for manufacturing,” Golomb said. “A lot of the world’s mechanical work is happening there now, much more than is happening in the Bay Area [surrounding Silicon Valley].”

The trouble, he explains, is that the United States, and Silicon Valley in particular, effectively gave up its role as a manufacturing center decades ago, opening the door to new competition from China and elsewhere. Over the last 20 years, as the Bay Area became hyper-focused on software innovation, it lost its base of mechanical engineering and production talent.

This did not look like a big problem when apps were the primary growth engine fueling U.S. technology, but now that we are transitioning to more complex, more advanced platforms—including virtual reality, artificial



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CTO at Product  
Creation Studio



intelligence, and autonomous transportation—the shortfall has become noticeable. Meanwhile, as innovation has shifted away from what Silicon Valley does best, the rest of the world has not been sitting idly by, but is stepping in to address these opportunities.

For the first time in its history, Silicon Valley and the U.S. tech industry are being forced to play catch-up to more developed international competitors.

### Business as Usual

Startup founders themselves do not see it that way however. For many, success in business is a zero-sum game: they either win or lose. When building up a new company, particularly in manufacturing, where barriers to market entry are steep and startup costs prolonged, there is little room for hand wringing over funding sources, U.S. economic growth, or international relations. Founders need what they need, and if they find a better deal outside U.S. borders, then so be it.

What’s more, accepting international investment often means access to markets that otherwise might be difficult for a small startup to crack, explains Scott Thielman, CTO with Product Creation Studio, an engineering and design consulting firm in Seattle that helps large brands partner with local startups.

“Today, the appeal of Chinese investment goes beyond just the cash,” Thielman said. “Access to an emerging market that is approaching the size of



the U.S. market is also part of the siren song.

“But many market segments are strategic to China, and the investment may be tied with building capabilities in-country,” he continued. “I have seen this in the medical device space where small companies can access Chinese capital if they are willing to locate the R&D at a tech center in China.” For the most part, entrepreneurs report that these arrangements, particularly when accepting investment capital from overseas sources, have little to no impact on day-to-day operations or their long-term strategy. On the contrary, access to Asian supply chains, scale-up and manufacturing talent, and other resources that simply are not available in the U.S. today, is often highly appealing to entrepreneurs as they enter the global market.

And these relationships work both ways. When overseas parties look at buying or investing in U.S. companies, it is often because they want or need access to Western design, technology, and talent. They want to partner with the startups that are driving consumer and tech trends, said Michel Marsco, director of the Farley Center for Entrepreneurship and Innovation at Northwestern University, who advises startups on overseas takeovers and investment deals.

International investors “are very much interested in understanding more about what the companies are doing,” he said. “They seem to be fairly interested in using these companies as



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a way of establishing operations in the United States, when they don’t already have some form of operations here.”

The cost of this activity to the U.S. GDP, if any, can be difficult to determine. Although the idea of losing American inventions and technologies to international investors and buyers is not generally good for public relations, the current landscape of global startup development has winners on both sides, and overseas involvement in U.S. companies does not necessarily mean a net loss domestically.

“That’s the thing with a global economy,” Thielman said. “You can’t define hard borders when materials, people, and manufacturing processes are required from around the world. We should be patriotic about growing companies and technologies from the U.S., but that doesn’t mean we can’t leverage foreign investment to accelerate that and let them share in the winnings.”

### Industry Involvement

For the past 20 years, American policy has failed to help manufacturers cope with overseas competitors whose governments provided financial incentives for exports. At the same time, many established firms have moved their own production overseas, chasing low wages and lax regulations rather than investing in productivity-boosting technologies at home.

The job losses and economic issues associated with this trend are well known, but the impact on R&D is less

discussed. In a 2010 essay published in *Bloomberg Businessweek*, long-time Intel CEO Andy Grove argued that the knowledge gained commercializing volume production was critical to improving new products.

“Without scaling, we don’t just lose jobs—we lose our hold on new technologies,” Grove wrote. “Losing the ability to scale will ultimately damage our capacity to innovate.”

Tom Kuczmarzski, a Chicago-based product development consultant who works with both startups and Fortune 500 companies, would agree. In an environment where national policy—and many corporations—undervalue manufacturing at home, why, he asks, wouldn’t entrepreneurs look overseas for funding and support?

Yet Kuczmarzski is not a pessimist. He sees the U.S. manufacturing sector embracing innovations in production, management, distribution, and more.

“I think as we’ve gotten a little smarter, it’s now about specialized manufacturing,” he said. “It’s more about creating an environment that is really aimed at entrepreneurs. Ultimately what it comes down to is that the growth of the economy comes from small companies and businesses—it doesn’t come from Fortune 500 companies. So, are they able to ultimately make pieces and parts and the like within the U.S.? The answer is that it’s still hard to do that, and I think that’s ultimately where the challenge still lies.”

The good news, Kuczmarzski ex-



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plains, is that more and more large corporations are figuring this out and are taking steps to actively engage with small, entrepreneurial companies and the innovators in their industries. Those who do this well will be the most successful in the global economy, whereas those who don’t are going to struggle to adapt to a world where innovation is the currency of growth.

We live in a global marketplace. Each manufacturer—from a startup to a multinational corporation—must come to terms with that fact, if it wants to grow. The U.S. government must find a way to move the U.S. economy forward, preventing predatory pricing and mercantilist practices by exporters while at the same time reaping the international flow of ideas and funds that power innovation.

Ignoring the rest of the world would not only limit the growth potential of U.S. startups, but over time would reduce America’s global leadership in innovation. If that were to happen, everyone loses, at home and abroad.

“Anybody that’s had Economics 101 understands that protectionism doesn’t work,” Golomb said. “And as much as it sucks that there has been a lull in manufacturing in the U.S., there’s no going back. It’s a global market, and there’s no reason for U.S. companies to sit there ignoring the rest of the world.” **ME**

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