Harvard Business Review

INNOVATION

What the Two Most Innovation-Friendly States Have in Common

by Anne Marie Knott

DECEMBER 4, 2014

This article was updated on December 5, 2014, at 4:55pmET.

For years people have recognized that industries cluster geographically, and that the clustering can lead to superior firms. For example, the best watches come from Switzerland, cars from Germany, and pharmaceuticals from the U.S. Back in 1880, economist Alfred Marshall noted that industrial districts benefit from labor market pooling and spillovers.

The obvious takeaway for managers was that a firm should locate within its relevant industrial district to enjoy these benefits. At the same time, many municipalities have poured billions of dollars into trying to create industrial clusters in order to trigger the higher wages and faster growth they stimulate. Some go so far as to adopt the silicon moniker for their initiatives (despite having no semiconductor activity): Silicon Prairie in Illinois and Silicon Alley in Manhattan.

The trouble is that firms don't seem to benefit much from relocating to clusters and attempts by regions to create them somehow never pay off. So what's wrong with the theory?

The answer to that question was uncovered in a series of industry case studies by the late Steven Klepper, who demonstrated that what looks like spillover effects freely available to all firms is actually spawning.

What makes an industrial cluster vibrant are vibrant firms - like Schokley in semi-conductors and Hughes in lasers. These companies serve as entrepreneurial training grounds for employees who later leave to found new firms that cater to market niches ignored by their prior employer. A more recent study reinforces and augments Klepper's work. Alex Oettl and colleagues have found that regional economic gains are even more powerful once there is a set of small firms that surround the spawning firm.

Another common wisdom about clustering turns out to be equally questionable. There's a widespread belief that successful clusters need to be close to a strong research university – think Silicon Valley and Stanford.

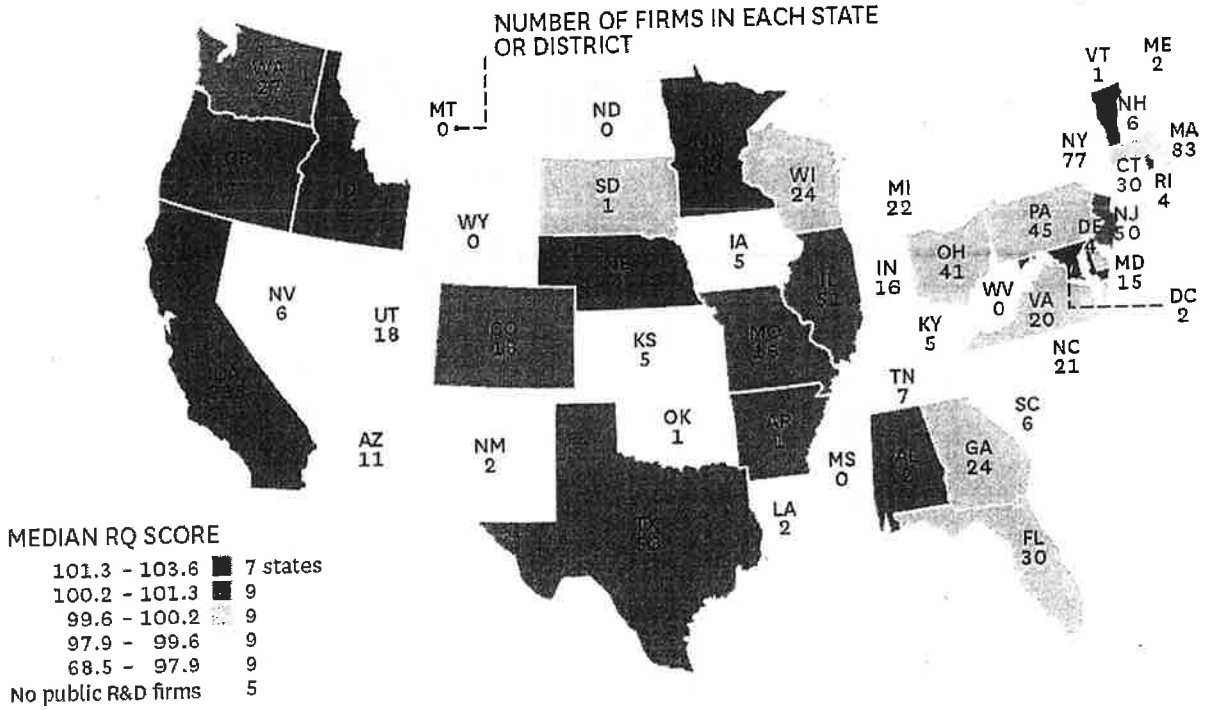
But the record on commercialization from university research is actually pretty dismal. A 1992 GAO study found that invention income was less than 1% of the research support provided to universities by the National Institutes of Health (NIH) and the National Science Foundation (NSF).

What's more, although most innovative clusters do contain prestigious research universities, there are several prestigious research universities that do not seem to generate industrial clusters. Washington University's medical school, for example, is historically ranked number one or two by the NIH, yet there are no significant pharmaceutical or medical device firms in the entire state.

So if clusters are the product of innovative firms rather than the cause, and if universities aren't the key to determining where innovative firms are likely to locate, what, if anything, does create clusters of innovation?

To understand that, I compared the effectiveness of R&D investment of all public firms across the 50 states of the USA using a measure I call RQ or research quotient. I described this measure and demonstrated its accuracy as a predictor of value creation in my 2012 HBR article, "The Trillion-dollar R&D Fix".

WHICH STATES ARE THE MOST INNOVATION FRIENDLY?
Mapping the number of public firms conducting R&D and each state's median RQ score, which measures the effectiveness of R&D investment.



NOTE EXCLUDES AK AND HI, BOTH WITH NO PUBLIC R&D FIRMS.
SOURCE ANNE MARIE KNOTT AND SHEEWON PARK

HBR.ORG

The map confirms that California has the highest median RQ (103.6) and no fewer than 28 out of the top 50 firms in terms of RQ score. (Note that the RQ scale for firms is like the IQ scale for individuals – the average is 100, and 67% of firms fall between 85 and 115). What's nice about this is that California also has (by far) the highest number of publicly-traded firms doing R&D (235), so the total effect is large. The other state that stands out is Minnesota. Like California, it has an above-average RQ (101.5), and also a large number of firms doing R&D (38).

But what sets these two states apart from the other states? It's clearly not geography – it's hard to imagine two states being more different in climate (sun versus snow), location (coastal versus mid-western) or culture. Its not industry specific; the firms in both states span a wide set of industries and no single industry comprises more that 15% of firms in either state, so the explanation is unlikely to come from Porter's four-diamond framework of regional advantage.

But there is one important institutional feature shared by California and Minnesota that is consistent with the Klepper story: both states restrict the enforcement of non-compete agreements.*

Papers by Matt Marx and other researchers show that employees in states that restrict the enforcement of non-competes have more freedom to pursue new ventures in the same industry and location as their prior employer. In other words, California and Minnesota have created environments that are favorable to the spawning of entrepreneurial ventures around a successful large innovator. Meanwhile in other states, although companies that enforce non-compete rules may be able to keep some employees from leaving, the entrepreneurial ones will leave anyway, and when they do, they'll have to leave the state as well.

So although many firms may believe the institutional frameworks of California and Minnesota are unfriendly to and expensive for business, these states' friendliness to entrepreneurial employees make them better locations in the long tern.

**Editor's Note: The original text of this article stated that Minnesota restricted non-compete clauses through legislation. This is not the case, though Minnesota has historically restricted enforcement of such clauses in case law. The article has been updated to reflect the correct information.*

Anne Marie Knott is a professor of strategy at Washington University's Olin Business School in St. Louis and a director of the Berkeley Research Group in Los Angeles.

This article is about INNOVATION

⊕ **FOLLOW** THIS TOPIC

Comments

Leave a Comment

POST

8 COMMENTS

anne knott 4 months ago

It appears I sparked the ire of special interests, who are trying to shift the debate from "what makes states innovative" to" how to classify a weak non-compete regime". I'm not qualified to take up the latter debate, but can merely point out that the classification of states as "non-enforcing" ultimately comes from Marlsberger's "Covenants Not to Compete: A State by State Guide" (now in its 8th edition).

The arguments serve established firms at the expense of new ventures or firms seeking to relocate. The record on non-competes and innovation, while relatively recent, is fairly compelling. Studies indicate:
- managers in non-compete states are less likely to move and less likely to invest in skill development, and therefore have lower compensation (Garmaise 2011)
-accordingly, non-compete states attenuate the availability of skilled labor (Marx et all 2009) and lead to brain drain toward non-enforcing states—particularly among the most productive knowledge workers (Marx et al 2011)
-non-compete states have lower firm foundings following liquidation events (IPO and liquidation) (Sorensen and Stuart), and have lower returns to venture capital investment (Samilia and Sorenson 2011)
-non-compete states mute the diffusion of knowledge (Singh and Marx 2011, Beleznon and Schankerman 2011)

What's nice about these results is they resonate with what we've learned regarding market structure and innovation. The prescription from Michael Porter's (1980) five forces was for firms to maximize

profits by insulating themselves from competitive pressure. Such insulation was partially responsible for the downfall of the US auto and steel industries. In contrast, Porter's 1990 book advocates that firms who want to dominate the world stage immerse themselves in tough environments—the tougher environments keep them vibrant. It appears weak non-compete regimes stimulate similar effects through a more competitive labor market.

As one commenter noted however, a weak non-compete regime is NOT in and of itself a recipe for higher innovativeness, any more than is a major research university. There's still some secret sauce we're trying to discover, but at least we seem to be identifying some of the ingredients.

REPLY 0 0

JOIN THE CONVERSATION

POSTING GUIDELINES

We hope the conversations that take place on HBR.org will be energetic, constructive, and thought-provoking. To comment, readers must sign in or register. And to ensure the quality of the discussion, our moderating team will review all comments and may edit them for clarity, length, and relevance. Comments that are overly promotional, mean-spirited, or off-topic may be deleted per the moderators' judgment. All postings become the property of Harvard Business Publishing.