

BEHIND THE NUMBERS

When the payoff for academics drops, commercialization suffers

By Jeffrey Mervis

For decades, innovation experts have urged other nations to adopt the U.S. approach to nurturing innovation on campus. One essential element of that model is the practice of giving universities a majority share, typically two-thirds, of the value of a patent or spinoff company that results from the discovery. But a new study from Norway suggests that such a formula may actually make it less likely that researchers try to commercialize their work.

In 2002, Norway passed a law that ended its long-running practice of giving academics 100% ownership of their intellectual property (IP). The policy, known as “professor’s privilege,” was replaced with a U.S.-style system that gives academics just a one-third share.

Economist Hans Hvide of the University of Bergen in Norway realized the law created a natural experiment to test how the allocation of IP rights affected university commercialization. He knew that Germany, Austria, Denmark, and Finland had passed similar laws around the same time. But only Norway maintains a comprehensive database of business activity that includes details on the formation and performance of all companies. To help with the analysis, and in hopes of attracting a U.S. audience for his research, Hvide teamed up with economist Benjamin Jones of Northwestern University, Evanston, in Illinois.

Their results, in a paper posted last month by the National Bureau of Economic Research, may shock those enamored with the standard U.S. approach to divvying up IP rights. Commercialization cratered in the 5 years after Norway’s change: The per-capita number of patents dropped by 53%, while the per-capita formation of university-backed startup companies plunged by 67%, the researchers report. They also found evidence that the quality of the commercial activity declined, as measured by how well the companies did and the number of citations garnered by patents relating to each discovery. (The

database is small, Hvide and Jones admit: Professors in Norway started 128 companies between 2000 and 2007, and received 750 patents between 1995 and 2010.)

“Our results go against conventional policies, but not necessarily against conventional wisdom,” Jones says. “It’s not obvious how best to split the IP rights among the parties. But clearly, giving one party more decreases the incentives for the other parties.”

Some experts in the field say they are surprised by the findings, and somewhat skeptical. “In most countries, switching to

The results don’t surprise one Norwegian researcher and serial entrepreneur. “Creative people like to be in control of what they do, and if you take that away, then maybe they will lose interest and creativity will drop,” says Bjørn Angelsen, a professor of biomedical engineering at the Norwegian University of Science and Technology in Trondheim. He has started companies involved in ultrasound imaging that were later purchased by the likes of General Electric.

The allocation of IP is only one of many factors that determine whether academic discoveries are commercialized. U.S. researchers, for instance, can tap into a rich innovation ecosystem, with angel investors, venture capitalists, incubators, mentors, and the like. Angelsen says those resources exist in Norway but are typically found off-campus. “The people I have worked with have a successful track record” in nurturing startups, Angelsen says. “Otherwise they wouldn’t be in business. Most tech transfer offices don’t have that level of expertise.”

It will take time for Nordic universities to acquire that expertise, agrees Ursula Hass, who leads a Swedish association of tech transfer managers that is based in Stockholm. The authors, however, found no evidence for an uptick in activity even 5 years after the change

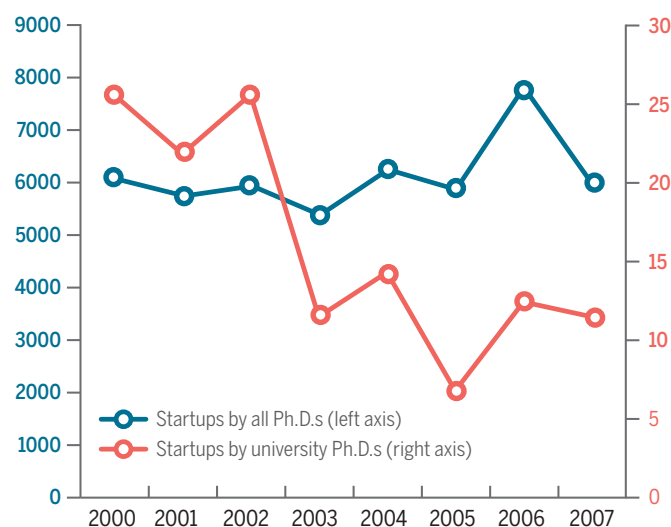
went into effect in Norway.

Angelsen says Norway’s law hasn’t diminished his interest in finding commercial applications for his work and that it’s still possible for academics to negotiate their own IP terms. For instance, he persuaded his university to take just a 10% stake in his latest company. “There is the law, and then there’s what actually happens,” he says. “But I think my situation is quite special. I brought my own money to the table.”

To Hvide, the biggest takeaway message from the study is that countries trying to boost innovation need to pay attention to the fact that “rights matter.” Ignoring that reality, he adds, could result in “much of the world ... producing much less university-based innovation than it could, and than many policymakers desire.” ■

Law stifles innovation

Academic researchers in Norway (red line) formed far fewer startups after 2002, when universities were given a financial stake in the companies.



university ownership has generally led to significantly higher rates of patenting and startups,” says Lita Nelsen, the longtime head of the Technology Licensing Office at the Massachusetts Institute of Technology in Cambridge. “The university takes the risks on patent filings, and the technology licensing offices are able to develop professional approaches” to commercializing the invention, she adds. “I would guess that something else is in play besides the fraction of royalties that inventors receive.”

Hvide and Jones say they have looked in vain for alternative explanations for the decline, which was far larger than they had anticipated. “We were also surprised by the drop in quality,” Hvide adds. He expected universities to focus on the most promising opportunities. “But that didn’t happen,” he says.



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