Taxpayers Helped Apple, but Apple Won't Help Them
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Over the years. U.S. taxpayers have been very good to Apple.

Many of the revolutionary technologies that make the iPhone and other products and services "smart" were funded by the U.S. government. Take, for instance, the Internet, GPS, touchscreen display, as well as the latest voice-activated personal assistant, Siri. And Apple did not just benefit from government-funded research activities. It also received its early stage finance from the U.S. government's Small Business Investment Company program. Venture capitalists entered only after government funding had gotten the company to the critical proof of concept.

Other Silicon Valley companies, like Google, have profited in a similarly immense fashion: Google's algorithm was funded by the National Science Foundation. Many of the "new economy" companies that like to portray themselves as the heart of U.S. "entrepreneurship" have very successfully surfed the wave of U.S. government-funded investments. Hence, one secret to Silicon Valley's success has been its active and visible hand, in stark contrast to the Ayn Rand/Adam Smith folklore often bandied about.

This also stands in stark contrast to the steps that Apple, Google, and other technology companies take to avoid paying taxes. Apple set up a subsidiary in Reno, Nevada, a state without a corporate income or capital gains tax, and channeled a portion of its U.S. sales there, reportedly saving $2.5 billion in taxes. And Apple and Google have both made use of a convoluted tax structure known as the Double Irish With a Dutch Sandwich to avoid paying taxes on overseas earnings. Google chairman Eric Schmidt is reportedly "very proud" of this. "It's called capitalism," he said last year.

Yet it's a capitalism impossible to conceive of without the U.S. government, which through DARPA and other initiatives stands out worldwide for its astoundingly positive track record in funding true innovation. This includes the government's most recent claim to fame, its steadfast financial support of (controversial) shale gas and fracking technologies, begun over three decades ago during the otherwise much-maligned Carter Administration.

Indeed, as the clean-tech sector demonstrates, the venture capital industry is proving itself more risk-averse than U.S. government agencies. The latter are the ones funding the capital-intensive and highest-risk projects. Even development banks in emerging economies, like China and Brazil, are doing more than Silicon Valley-type "entrepreneurs."

In a business context, the U.S. government is often portrayed as providing a safeguard against market failure. But that traditional understanding must be widened to include the active and often catalytic role which the U.S. government's risky investments have had for technology-based corporations. Elsewhere, I have called this role, which entails creating and shaping markets more than "fixing" them, "the entrepreneurial state."

These technology activities do require a vision, a mission and a plan — and lots of money spent from upstream research to downstream commercialization. It is not by accident that the National Institutes of Health spends $31 billion a year on supporting innovation in biotechnology and pharmacology. Academic predilections and conventions notwithstanding, such an investment can hardly be considered as just "nudging" a sector.

A crucial question to be answered is not just whether the present system is geared toward the government showing a lot of the entrepreneurial courage, but why it is systematically badmouthed, despite its many successes.

An even bigger question for the American taxpayer is whether such support leads to a "parasitic" innovation eco-system. Consider Apple. Despite benefitting directly from taxpayer-funded technologies, it has strategically "underfunded" the tax purse on which it has in the past directly depended.

What to do to make the field of technology funding less parasitic? Closing tax loopholes would help, but part of the solution must entail the government getting a reward for the high-risk areas it funds directly. Wherever technological breakthroughs have occurred as a result of targeted public sector interventions, there is potential for the government, over time, to reap some of the financial windfall. This can occur through retaining a "golden share" of the royalties from patents, retaining a portion of equity, or also administering so-called income-contingent loans, similar to those now offered to students.

Clearly, the role of government is not to run commercial enterprises, but to spark innovation in strategic areas. But given ever-tighter public budgets, unless an innovation fund can be regularly replenished with some returns from the successes, innovation itself is under threat.

Government should never have an exclusive license or hold a large enough portion of the value of an innovation so that its commercial use would be deterred in any form or fashion. But at the same time, it is self-defeating even for private-sector innovation if private firms are the only ones to gain all the reward. Indeed, the same criticism made about banks — socialization of risk, privatization of reward — holds for the innovation economy.

If the United States wants to continue on the successful arc as a leading technology nation providing a good quality of life to all its citizens, then it must urgently redress the current grave imbalance in the risk-reward ratio governing the technology sector.

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