

Why the Jobs Crisis Is Actually an Innovation Crisis

by Michael Mandel

Forget for the moment the \$15 billion jobs bill moving through Congress – even its supporters admit that it’s far too paltry to make even a tiny dent in the unemployment rolls. And ignore the economic commentators who tell you that the labor market is recovering just because job loss has slowed.

No, the U.S. is having a genuine long-term jobs crisis, one which stems from a deeper problem: The Great Innovation Machine of the American economy seems to have broken down. With a few notable exceptions (think Apple and Google), this has been a period when companies have found it remarkably hard to turn promising breakthrough innovations into commercial breakthrough products. The list of “big-idea” innovations that seem tantalizingly close to market, but not quite there, just keeps getting longer and longer. Some examples: After 20 years of research, no human gene therapy has yet been approved for sale by the Food and Drug Administration; electricity generated from solar cells is still far from price-competitive with electricity from coal or natural gas; and biotech has not yet fulfilled its promise of speeding the discovery of new drugs.

The jobs crisis, in my view, is the direct result of the innovation shortfall. Since the 1990s, both Democrats and Republicans have expected the “jobs of the future” to come from the innovative, technologically advanced industries. Computers, semiconductors, internet companies, pharma, biotech, communications: all seemed to have enormous potential to create new jobs. What’s more, innovation seemed to be the only way that the U.S. could compete against low-cost producers abroad.

Many regions designed their economic development strategies around attracting biotech and info-tech jobs to replace the “old-line” factory positions that had fled overseas (do a Google search for ‘biotech initiative’ and see how many hits you get). The desire to bring in pharma jobs is the reason why New London tore down homes and businesses to make room for a Pfizer research facility in 2001.

But the sad truth is that the innovative sector of the economy hasn’t generated many jobs recently. Let’s be very specific here. From the bottom of the job market in 2003 to the so-called peak in 2007, technologically advanced industries such as semiconductors, communications equipment manufacturing, and telecommunications lost thousands of jobs. Across the same period, the industry that the Bureau of Labor Statistics calls “Internet publishing and broadcasting and web search portals” – a catch-all category that includes Google, Yahoo! and all the high-profile Internet firms – added only 6,000 jobs.

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Life sciences didn't do much better. From 2003-2007, employment in pharma was stagnant, and biotech added only 16,000 jobs. Indeed, Pfizer recently pulled out of New London, leaving behind a lot of hard feelings. (For more on the jobs shortfall in the innovative sector, see my blog at www.southmountaineconomics.com.)

Turning Innovation into Jobs

So what has happened here? A big part of the jobs crisis stems from a simple fact: Commercializing innovation has taken a lot longer than people expected. Across multiple areas, from biotech to alternative energy to advanced materials to the private uses of space, both large and small companies have faced fundamental scientific and engineering problems. The best example is the sequencing of the human genome, which was announced to great fanfare in 2003. But turning that initial breakthrough into commercial products has turned out to be far more complicated and difficult than many thought. (For more on the innovation shortfall, see my June 2009 cover story, "[The Failed Promise of Innovation in the U.S.](#)," for *BusinessWeek*.)

In today's global economy, innovation makes up the main comparative advantage for the U.S. If we are not generating jobs in the innovative industries, it's no surprise that we have a jobs crisis.

Addressing the innovation shortfall has to be a cooperative project between business and government. How? Here are three low-cost ways to foster a better climate for innovation and jobs:

- **Elevate innovation to the top of the policy agenda.** President Obama needs to publicly give higher priority to innovation. In the latest [Economic Report of the President](#), innovation is relegated to the very end of the report, and does not even get a whole chapter to itself (the chapter is called "Fostering Productivity Growth through Innovation and Trade").

Why is a public emphasis on innovation important? Government is much better at stopping breakthrough products and services than creating them. New ideas, by definition, are threatening to the status quo. That's why the president has to give a clear signal to the entire government bureaucracy that innovation is important.

On the one hand, this shift in public priorities can be done right now, without any additional funding, so Obama wouldn't have to fight Congress. On the other hand, Obama might have a big struggle to get support from his own economic advisors, some of whom don't seem to place such high value on innovation.

- **Broaden out government funding for R&D beyond healthcare.** To maximize the chances for innovation-related job growth, we want a broad and diverse program of federal support. However, in recent years, federal funding for R&D has increasingly focused on healthcare. Obama's proposed FY 2011 budget continues that trend, with federal spending on health R&D projected to exceed spending on nonhealth civilian R&D by more than 30 percent. The result: Other areas of R&D are being starved for funds.

- **Improve measurement of the innovative sectors of the economy.** Innovation is not as tangible as, say, a new building or a new truck. We are great at counting construction and vehicle production, but horrible at keeping track of innovative activities.

And as management consultants say, you get what you measure. For example, we know virtually nothing on business spending on R&D in the U.S. during the downturn – a key piece of information for understanding where the economy is going. The good news is that the Bureau of Economic Analysis and the National Science Foundation have made some progress in this direction. However, a relatively small amount of money could accelerate the upgrading of the statistics, with a big impact on policy.

These proposals will not guarantee that the U.S. will suddenly experience a surge of innovation-related job growth. There's nothing that anyone can do to ensure that commercially viable innovation will arrive on a particular schedule. But to raise the odds of good jobs in the future, we need to make innovation a priority today.

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