



# Innovation Fact Sheet

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## AMERICA IS #6!



## DOES ANYONE CARE?

Everyone knows the huge problems the U.S. faces. We are deep in debt. The trade deficit is huge. Job growth is anemic. Infrastructure is failing. Meanwhile, our political culture is skewed for either stalemate or half measures.

What is less known is that we are also lagging in undertaking steps to ensure we will be in better shape 10 years or 20 years from now. The next time we suffer an economic setback, we will likely be even less able to weather the storm. U.S. companies are increasingly competing against foreign competitors backed by the innovation-promoting policies of their countries. As a result, U.S. innovation-based competitiveness is slipping.

Fortunately, heading off this looming crisis is easier than tackling some of today's crises. In conventional terms, we simply need to find the right mix of tax incentives and investments aimed at competing in key sectors. Less conventionally, we need courageously updated economic thinking, which has been largely unchanged since the 1940s. There is plenty for both political parties to like in crafting an innovation and competitiveness strategy. The challenge is to get more people thinking about this and to shake us from a complacency born of belief that we are too big to fail and that other countries simply can't match us when it comes to innovation and high tech. Consider some of the following facts about our place in the world:

## Falling in Global Innovation and Competitiveness

- ITIF's *The Atlantic Century* report finds that the United States ranked last among 40 nations at improving its innovation capacity and competitive position over the past decade.
- From leading all nations in innovation capacity in 2000, the U.S. fell to 6th in 2008, behind nations like Korea, Singapore, and Sweden.<sup>1</sup> Georgia Tech's *High-Tech Indicators* study finds China has surpassed U.S. in "technological capability."<sup>2</sup>

## Faltering Innovation Inputs

### R&D Investment

- As a share of GDP, U.S. R&D increased just 3% from 1987 to 2008, while China's grew 110% and Korea's 91%.<sup>3</sup>
- Investment in R&D by U.S. companies grew 2.6 times faster overseas than it did domestically from 1997 to 2007.<sup>4</sup>
- Growth in federal R&D investment from 1987-2008 was 0.3% per year, vs. 4.9% from 1953-1987, for a current annual shortfall of \$60 billion.<sup>5</sup>
- Capital investment abroad by U.S. manufacturing firms was 16% higher than investments in the United States from 2000-2009.<sup>6</sup>
- China bypassed the United States as the destination for the largest amount of FDI in the world in 2003.<sup>7</sup>

### Talent

- The United States is 20th in high school and 16th in college graduation rates.<sup>8</sup>
- Growth in college attainment and number of scientists/engineers has been stagnant.<sup>9</sup>
- Just 34, 38, and 40 percent of 24-year-old college graduates (from four-year U.S. colleges) are proficient in prose, document, and quantitative literacy.<sup>10</sup>

### Tax/Incentives

- The United States has the highest effective marginal corporate tax rate in the OECD.<sup>11</sup>
- U.S. R&D tax credit generosity is 17th in the OECD—and behind Brazil, China, and India's.<sup>12</sup>

### Patents

- Only four of the top ten companies receiving U.S. patents are U.S. companies.<sup>13</sup>
- China will pass the United States in 2011 as the world leader in patent filings.<sup>14</sup>

### Weakening of U.S. Manufacturing Capabilities

- The United States lost 6 million manufacturing jobs, while 42,000+ factories closed over the past decade.<sup>15</sup>

- The United States will cede its position as the world's leading manufacturer to China in 2011.<sup>16</sup>
- The U.S. tallied a negative \$5.5 trillion trade balance over the past decade.<sup>17</sup>
- The U.S. has run a trade deficit in advanced technology products since 2002.<sup>18</sup>
- China has replaced the U.S. as the world's leading high-technology exporter.<sup>19</sup>

## Bottom Line

We are spending too much time fretting about and casting blame on how we came to this perilous moment and too little time thinking about crafting a long-term policy for our economic vitality. The United States has the resources to revitalize its capacity to innovate and to come up with the transformational products and services the world needs. We need fresh ways of thinking and talking about how to succeed and a modest dose of political leadership and bipartisanship. The data above should be humbling but not defeating.

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- <sup>1</sup> Robert D. Atkinson and Scott Andes, *The Atlantic Century: Benchmarking EU & U.S. Competitiveness* (Washington, DC: Information Technology and Innovation Foundation, 2009), <http://www.itif.org/files/2009-atlantic-century.pdf>.
  - <sup>2</sup> Alan L. Porter et al., *High Tech Indicators: Technology-based Competitiveness of 33 Nations* (Atlanta: Technology Policy and Assessment Center, 2008), [http://www.tpac.gatech.edu/sites/default/files/doc/HTI\\_2007\\_final\\_report.pdf](http://www.tpac.gatech.edu/sites/default/files/doc/HTI_2007_final_report.pdf).
  - <sup>3</sup> Organization for Economic Co-operation and Development, Main Science and Technology Indicators (GERD as a percentage of GDP; accessed January 11, 2011), <http://www.oecd-ilibrary.org/content/data/data-00182-en/>.
  - <sup>4</sup> National Science Board, *Science and Engineering Indicators 2010* (Arlington, VA: National Science Foundation, 2010), <http://www.nsf.gov/statistics/seind10/pdf/seind10.pdf>; Bureau of Economic Analysis, Research and Development Satellite Account (1998-2007 research and development data; accessed December 6, 2010), <http://www.bea.gov/national/newinnovation.htm>.
  - <sup>5</sup> National Science Board, *Science and Engineering Indicators 2010*.
  - <sup>6</sup> Bureau of Economic Analysis, Fixed Assets Accounts Tables (U.S. direct investment abroad, U.S. parent companies, capital expenditures; U.S. direct investment abroad, majority owned foreign affiliates, capital expenditures; accessed February 11, 2011), <http://www.bea.gov/international/index.htm>.
  - <sup>7</sup> U.S.-China Economic and Security Review Commission (USCC), 2009 Report to Congress (Washington, DC: USCC, November 2009), 58, [http://www.uscc.gov/annual\\_report/2009/annual\\_report\\_full\\_09.pdf](http://www.uscc.gov/annual_report/2009/annual_report_full_09.pdf).
  - <sup>8</sup> OECD, *OECD Education at a Glance 2009* (Paris: OECD, 2009), [http://www.oecd.org/document/24/0,3343,en\\_2649\\_39263238\\_43586328\\_1\\_1\\_1\\_37455,00.html](http://www.oecd.org/document/24/0,3343,en_2649_39263238_43586328_1_1_1_37455,00.html). Rankings include OECD members and partners. College graduation ranking is based on Tertiary-A institutions, see tables A2.1 and A3.1.
  - <sup>9</sup> Robert D. Atkinson and Scott Andes, *The Atlantic Century: Benchmarking EU and U.S. Innovation and Competitiveness*.
  - <sup>10</sup> Justin Baer, Andrea Cook, and Stéphane Baldi, *The Literacy of America's College Students* (Washington, DC: American Institutes for Research, 2006), [http://www.air.org/files/The20Literacy20of20Americas20College20Students\\_final20report.pdf](http://www.air.org/files/The20Literacy20of20Americas20College20Students_final20report.pdf).

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- <sup>11</sup> OECD, Tax Database (basic [non-targeted] corporate income tax rates, table II.1; accessed April 1, 2011), [http://www.oecd.org/document/60/0,3746,en\\_2649\\_34533\\_1942460\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/60/0,3746,en_2649_34533_1942460_1_1_1_1,00.html).
  - <sup>12</sup> Stephen Ezell and Scott Andes, "ICT R&D Policies: An International Perspective," *IEEE Computing* 14, no. 4 (2010), <http://www.itif.org/files/ICTRandD.pdf>.
  - <sup>13</sup> Members of the 2005 Rising Above the Gathering Storm Committee, *Rising Above the Gathering Storm, Revisited: Rapidly Approaching Category 5*, 23 (Washington, DC: National Academies Press, 2010).
  - <sup>14</sup> Rob Preston, "Innovation Mandate: Is China Poised For Global Lead," *InformationWeek*, October 6, 2010, <http://www.informationweek.com/news/global-cio/trends/showArticle.jhtml?articleID=227700255>.
  - <sup>15</sup> Richard McCormack, "The Plight of American Manufacturing," *American Prospect*, December 21, 2009, [http://prospect.org/cs/articles?article=the\\_plight\\_of\\_american\\_manufacturing](http://prospect.org/cs/articles?article=the_plight_of_american_manufacturing).
  - <sup>16</sup> Peter Marsh, "US Manufacturing Crown Slips," *Financial Times*, June 20, 2010, <http://www.ft.com/cms/s/0/af2219cc-7c86-11df-8b74-00144feabdc0.html>.
  - <sup>17</sup> Census Bureau, Foreign Trade Statistics (U.S. trade in goods and services—balance of payments basis; accessed December 1, 2010), <http://www.census.gov/foreign-trade/statistics/historical/gands.txt>.
  - <sup>18</sup> Census Bureau, Foreign Trade Statistics (trade in goods [imports, exports and trade balance] with advanced technology products; accessed February 20, 2011), <http://www.census.gov/foreign-trade/balance/c0007.html>.
  - <sup>19</sup> Members of the 2005 Rising Above the Gathering Storm Committee, *Rising Above the Gathering Storm, Revisited: Rapidly Approaching Category 5* (Washington, DC: National Academies Press, 2010), 24, citing T. Meri, Eurostat: Statistics in Focus, 2009, [http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-SF-09-025/EN/KS-SF-09-025-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-09-025/EN/KS-SF-09-025-EN.PDF).