



TOP POLICY RECOMMENDATIONS FOR THE OBAMA ADMINISTRATION TO HELP THE UNITED STATES WIN THE RACE FOR GLOBAL ADVANTAGE

Winning the Race 2012 is a series of ten policy briefs that lay out broad principles and actionable ideas for the next administration to embrace to help the United States win the race for global innovation advantage.

Since September 3rd, ITIF has issued weekly “Winning the Race” memos to help guide the next administration on ensuring that economic organizations in the United States (for-profit, non-profit and government) boost competitiveness, innovation, and productivity. This “Winning the Race” memo provides a summary of all 36 recommendations.

TRADED SECTOR COMPETITIVENESS

- 1. Develop a national innovation and competitiveness strategy:** Many nations, as well as most U.S. states, have detailed innovation and competitiveness strategies. But the United States does not, at least not a strategy based on a comprehensive analysis of traded-sector strengths and weaknesses, opportunities and threats, and the viability of a range of public policies. The Obama administration should make the development and implementation of such a strategy a top commitment.
- 2. Increase funding for the Manufacturing Extension Partnership (MEP):** The National Institute of Standards and Technology’s MEP plays a vital role in enhancing the productivity, competitiveness, and innovation potential of U.S. small and medium-sized enterprise manufacturers. The Obama administration should double MEP’s budget to approximately \$220 million annually.
- 3. Transform Fannie Mae into an industrial bank:** Former Intel CEO Andy Grove notably has called for a “scaling bank” to help scale innovations to production in the United States. To do this, the Obama administration should call for repurposing Fannie Mae into an industrial financing organization. The very existence of Fannie Mae reflects the fact that

America has put more emphasis on consumption (housing) than on production (manufacturing). The new Fannie Mae (perhaps called the Federal National Industrial Mortgage Association) would buy and resell loans made to traded sector firms from banks and other lenders.

- 4. Require the Small Business Administration to make at least two thirds of its loans to traded sector firms:** The SBA does not give any special priority or focus to traded sector firms, treating all industries alike in its funding priorities, even though traded sector firms are critical to U.S. job growth.

TAXES

- 5. Reduce the corporate tax rate to 20 percent:** This would move the United States from the highest corporate tax rate in the OECD to 21st and make investing in the United States more attractive while at the same time increasing the competitive position of U.S. establishments vis-à-vis their foreign competitors. This would also result in multinational companies deferring fewer taxes offshore since their profits in more nations would be taxed a higher rate than in the United States. On a static basis this reduction would cost the Treasury an estimated \$100 billion per year, but on a dynamic basis after adjusting for the additional growth, it would likely cost significantly less.
- 6. Institute an Innovation and Investment Tax Credit (IITC):** In the last decade, the United States has fallen behind other nations in investment in the key building blocks of innovation and competitiveness: R&D, equipment and software, and worker training. In part this is because relative to other nations, U.S. capital markets reward short-term investments, not long-term ones. But it is also because U.S. tax incentives have become relatively less generous. The U.S. R&D tax credit is now 27th most generous, behind even Brazil, China, and India. To correct for this and to restore a climate of productive investment we need an IITC which would provide a tax credit of 45 percent of business investments on R&D and skills training and 25 percent on expenditures on new equipment and software. Both credits would be on expenditures in excess 75 percent of base-period expenditures (the average of the last three years).
- 7. Pay for the tax reductions with other tax increases:** While cutting the corporate rate and instituting an IITC would spur some offsetting tax revenues, it would not be revenue neutral. As such, other taxes would need to be raised (with spending cuts used to reduce the budget deficit). The first place to start is to repeal the 2003 law that lowered the individual tax rate on dividends to 20 percent, which resulted in companies increasing dividend payments at the expense of investment. Taxing dividends as ordinary income would raise approximately \$20 billion a year. In addition raising the capital gains tax rate from 15 to at 25 percent would raise \$10 billion each year. To recover the remaining funds, the Obama administration should propose instituting a border-adjustable corporate activity tax (like a value-added tax), such that imports



would be taxed, not exports. More than 150 countries apply such a border-adjustable consumption tax on their imports, which imposes a tax burden on U.S. exports.

TRADE

- 8. Work to expand and create key sectoral trade agreements such as the Information Technology Agreement:** Expanding the product coverage scope of the Information Technology Agreement (ITA) could boost U.S. exports by \$2.8 billion and create some 60,000 jobs. In addition, the administration should lead a global clean technology agreement, modeled after the ITA.
- 9. Complete a gold-standard Trans-Pacific Partnership (TPP):** The United States is negotiating a trade pact that includes 11 Asia-Pacific region countries—Australia, Brunei, Canada, Chile, Malaysia, Mexico, New Zealand, Peru, Singapore, Vietnam, and the United States. While the TPP is the right approach, the effort will only be worthwhile if the United States concludes a gold-standard trade agreement that includes strong intellectual property protection, market access, and enforcement provisions and holds the countries that sign on to genuinely embrace free trade principles.
- 10. Build a new free trade coalition:** The Obama administration should detail Vice President Biden to lead an effort to build a coalition with the Europeans, Canadians, Australians, Japanese, and whoever else will come aboard to lay out a renewed vision for globalization grounded in the perspective that markets should drive global trade and investment, that countries should not seek sustained trade surpluses, that currency prices should be set by the market (or at least not manipulated for competitive advantage); and that fair international competition and “good” innovation policies that leave all countries better off. The United States could start this with efforts to establish a TAP, a Trans-Atlantic Partnership: a new trade agreement with Europe and perhaps the Commonwealth nations.
- 11. Put trade enforcement at the center of U.S. trade and foreign policy:** This means significantly increasing the resources of USTR, the International Trade Administration, and Customs and Border Protection. The Obama administration must redefine the success of trade policy away from just the number of agreements signed (although this remains important) to overall results achieved, especially in terms of seeing real, concrete reductions in mercantilist practices. To assess this progress, the Obama administration should charge USTR with the development of a “super 301” report that annually ranks foreign nations on the full extent of their mercantilist practices. The administration should then work to make sure those nations refusing to make progress get slapped with real penalties.
- 12. Fight local data center requirements and highlight instances of non-compliance by foreign governments:** Strong U.S. leadership is necessary to combat the unfair trade practices nations are using to block foreign competitors in the rapidly growing cloud



computing industry. For example, the United States Trade Representative should highlight this type of behavior in its annual 301 report.

Science and R&D

- 13. Increase overall federal funding for research by \$20 billion per year:** Doing so would move the United States to second place in the world, behind Austria, in government funding of research as a share of GDP.
- 14. Boost NIH Funding to 0.25 percent of GDP:** The U.S. must not squander its advantages in the vast frontier of life sciences. Despite the commitment by Congress to double the budget of the National Institutes of Health (NIH), funding for NIH peaked in 2003 at 0.24 percent of GDP and has fallen to 0.19 percent today. These trends contrast starkly with those in many other countries that have put expanding life science research at the top of their innovation agendas. The Obama Administration should push for an increase in NIH funding by approximately \$8 billion dollars per year over the next few years.
- 15. Create a nationwide network of manufacturing institutes performing applied R&D across a range of advanced technologies:** If the United States wishes to more consistently “bridge the gap” to transform scientific discoveries into useful products that can be manufactured at scale, it needs to provide a much stronger institutional platform from which universities and industry can enter into public-private partnerships to conduct “translational” R&D. To do that, the federal government and industry should co-fund institutes to support industrially relevant manufacturing technologies.
- 16. Pass a 21st Century Morrill Act:** In 1862, President Lincoln signed the Morrill Act, which created the nation’s system of land grant colleges. Today, we need a new Morrill Act with the federal government supporting the designation of a core of about twenty leading “manufacturing universities.” Universities would receive \$50 million a year, plus prioritization of their projects in the awarding of NSF grants.
- 17. Direct more federal funding to commercialization:** Federal labs and universities face only weak incentives to commercialize research. Congress should direct approximately half the increase in federal funding for research to be allocated to universities and federal labs on the basis of their success in bringing research to market. Tying increased funding to commercialization performance would reward the universities and labs that do a good job and encourage others to improve.
- 18. Establish a National Innovation Foundation:** Other countries exceed the United States in direct funding of innovation-promotion efforts. Most of our competitors have established free-standing national innovation foundations, akin to their science agencies, but focused on innovation. At the end of the day, the National Science Foundation is a university science agency, not an innovation or technology agency. Therefore, the federal

government should establish a National Innovation Foundation—a nimble, lean, and collaborative entity devoted to supporting firms and other organizations in their innovative activities.

- 19. Increase public investment in clean energy RD&D:** According to ITIF's Energy Innovation Tracker, the federal government invests roughly \$6 billion per year in clean energy innovation programs. Yet in comparison to other leading innovation challenges, clean energy is significantly underfunded: the United States annually invests \$9.5 billion for space exploration, \$30 billion in healthcare research, and \$70 billion to develop new weapons. The administration should ramp-up clean energy innovation investment to at least \$15 billion per year. This would include fully-funding key RD&D programs like the Advanced Research Projects Agency – Energy (ARPA-E), which invests in high-risk, high-reward technology ideas, any one of which would transform the energy industry. It would also include investing in the U.S. national laboratory system especially in programs like user facilities that link laboratory researchers with industry. And it would also boost funding for key university research programs, especially those which form partnerships such as those in the Energy Innovation Hubs and Energy Research Frontier Centers.

- 20. Reform public research institutions to support clean energy commercialization:** The Obama administration should lead the charge to reform government energy innovation institutions. One way of doing this is to reform the mission of the National Laboratory system so that barriers to the labs partnering with industry are removed and that labs are rewarded in part on the basis on the outcomes of their research. Additional steps should be taken to officially link key DOE innovation programs with DOD's operational energy strategy so that DOD's procurement system can leverage DOE's RD&D investments, providing both benefits to the military as well as support the scale-up of new energy technologies. The administration should also accelerate efforts to implement the widely successful ARPA-E program management model to other DOE programs, where relevant.

- 21. Expand oil and gas drilling and dedicate royalties to pay for increased clean energy RD&D:** The notion that the world won't ultimately burn the same amount of oil if we limit U.S. oil drilling, as many environmental groups advocate, is wrong. Rather than limit drilling, we should expand it. But similar to how the federal government supported breakthrough shale natural gas technologies through a surcharge on gas prices, the administration should increase royalties on oil and gas drilling and use the additional revenue to support clean energy innovation. Just a 5 percent increase in royalties on existing offshore oil and gas leases would raise at least \$2 billion. The Obama administration should increase royalties to between 10 to 20 percent for leases as well as expand the number of leases in proven environmentally safe areas. The revenue should be put in a clean energy trust that, similar to the Highway Trust Fund, would provide dedicated funding to increase key clean energy innovation program budgets.

- 22. Pay for R&D funding increases by repealing the mortgage interest deduction:** Eliminating the deduction would reduce tax expenditures by approximately \$90 billion per year while



increasing the incentives for Americans to save by paying off their mortgages ahead of schedule (thus boosting national savings). If one quarter of the savings was used to fund a first-time homebuyer tax credit, and one half used for deficit reduction, the remaining one-quarter could be used to fund increases in federal support for research.

STEM SKILLS

- 23. Create 400 new STEM-focused high schools:** To expand STEM graduates, high school is a key place to start and the best way to improve STEM high school education is to foster the creation of more STEM-focused high schools. The Obama administration should urge Congress to allocate \$200 million a year for ten years to the Department of Education, to be supplemented by states and school districts and industry, with the goal of quintupling the number of STEM high schools to 500.
- 24. Provide prizes to colleges and universities that do best at retaining STEM students:** STEM BS degrees could be increased significantly if more freshmen who intended to major in STEM graduated with a STEM degree. To give universities an incentive to worry about whether students switch from engineering to English, the Obama administration should urge Congress to appropriate \$100 million a year to the National Science Foundation, to be awarded as prizes for colleges and universities that dramatically increase the rate at which freshmen STEM students graduate with STEM degrees.
- 25. Fully fund a nationwide skills standards initiative:** The National Skill Standards Act of 1994 created a National Skill Standards Board responsible for partnerships to establish industry-defined national standards leading to industry-recognized, nationally portable certifications. Without full federal funding, this initiative will not reach its promise.
- 26. Expand high skill immigration by supporting passage of the Startup America Act 2.0:** The legislation would create a “STEM Visa” with permanent resident status for up to 50,000 foreign students who graduate from an American university with an advanced STEM degree, provided they remain active in one of those fields.

DIGITAL ECONOMY

- 27. Promote digital platforms:** The Obama administration should support the development of digital platforms including intelligent transportation systems, mobile payment systems, health IT, and the smart grid. This means not only developing IT platform transformation plans but also by shifting federal funding from analogue and physical infrastructures to digital platforms.
- 28. Use IT to make government more efficient and effective:** Many organizations use IT to boost productivity, and the federal government is no different. However, more should be



done to modernize the federal government by implementing new IT systems to reduce costs and deliver better services. For example, the Obama administration should create a task force to identify opportunities where federal agencies can use IT to automate work, including switching to self-service technologies, and require federal agencies to meet demonstrable IT transformation goals.

- 29. Create a Data Policy Office within the Department of Commerce to focus on data policies that foster innovation:** It's not enough for the Obama administration to work to protect people from inappropriate use of data; they should proactively encourage the appropriate use of data, including pushing for policies that increase data sharing and reduce barriers to global information flows. A newly created Data Policy Office should also lead the development of an R&D framework for privacy to ensure that federal research dollars are directed at the most pressing privacy challenges.
- 30. Reform the Electronic Communications Privacy Act (ECPA) to ensure that citizens have a right to privacy for their electronic data whether it is stored at home on a device or remotely in the cloud:** ECPA was enacted in 1986 and has not kept pace with the advancement of technology. For example, there are different levels of protection afforded to the privacy of an individual's data based on where the data is stored and how long the data has been stored. Where possible, the privacy of an individual's communication should be the same regardless of the type of technology that is used to facilitate this communication.
- 31. Strengthen the Computer Fraud and Abuse Act (CFAA):** The CFAA should be changed to make it easier to prosecute criminals who hack into cloud computing services and establish penalties more in line with the impact of an attack. For example, CFAA should be changed to make penalties correspond to the number of accounts illegally accessed on an online service rather than limit them to the penalties for hacking into a single PC.
- 32. Upgrade government systems that use spectrum:** Commercial systems that use spectrum are routinely improved. Cellular technology has undergone three new generations of improvement, increasing data rates from 64 Kbps to 20 Mbps and beyond. Incorporating an ethic of "continual upgrade" into government planning will not only improve system reliability and effectiveness, it will make additional spectrum available to commercial systems with direct and immediate economic benefit.
- 33. Examine "network neutrality" complaints carefully:** No formal complaints of the FCC's 2010 Open Internet ("network neutrality") rules have been lodged, although a number of firms complain about unfair conduct. In the event that an actual Open Internet complaint is made to the FCC, it should be carefully examined by an expert panel such as the Broadband Internet Technical Advisory Group before the FCC takes action.
- 34. Review spectrum transactions according to consumer benefits and competitive impact only:** Spectrum transaction reviews should not convey Christmas presents to special

interests. The public interest is best served by allowing those carriers who are doing the best jobs of investing in their networks and attracting and retaining customers to acquire sufficient spectrum resources to serve their customers well. Every division of spectrum introduces inefficiency; hence the wireless marketplace will never support a large number of nationwide competitors. Spectrum transactions bring out requests from special interests for extraneous conditions that have more to do with long-standing wishes on the part of advocates than the immediate consequences of the deals. Policy makers should view these transactions according to competition screens and consumer welfare conditions.

35. Employ “reverse auctions” to bring subsidized broadband to remote areas: The Universal Service program has succeeded in bringing telephone service to remote areas, but it is now obsolete. The Obama administration should encourage the FCC to push forward with its plan for replacing telephone-based Universal Service with a program that brings wireless and wireline broadband to high-cost areas. Broadband subsidies need to be well targeted and cost-controlled; in most cases, “reverse auctions” that allow potential suppliers to compete for subsidies on a cost/benefit basis are the right tool. To the extent that the FCC requires legislative support for this historic transition, the Obama administration should urge Congress to supply it.

36. Set a goal of having 90 percent of American households subscribing to broadband within five years: This program would increase the number of households with computers, teach digital literacy and on-line safety, and subsidize broadband subscriptions for low-income households. Studies support the common-sense conclusion that the vast majority of unconnected households lack the means to utilize the Internet, so eliminating this barrier is essential. The practicality of this approach has been proved in every country where computer ownership programs have been conducted. Achieving this goal can decrease the cost of government operation, increase the public’s ability to communicate, and enhance educational opportunities.

Related ITIF Resources

Innovation Economics: The Race for Global Advantage (Yale University Press, 2012)

Winning the Race 2012 Memo Series

Comparing the 2012 Presidential Candidates’ Technology and Innovation Policies





The United States is losing the race for global innovation advantage and the jobs and income that come with that. Many other nations are putting in place better tax, talent, technology and trade policies and reaping the rewards of higher growth, more robust job creation, and faster income growth. It's not too late for the United States to regain its lead but the federal government will need to act boldly and with resolve to design and implement strategies that include cutting business taxes and boosting public investment. *Winning the Race 2012* is a series of ten policy briefs that lay out broad principles and actionable ideas for the administration to embrace to help the United States win the race for global innovation advantage. For more actionable policy ideas, visit ITIF's *Policymakers Toolbox* at www.itif.org/policymakers-toolbox.

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