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Comparing the 2012 Presidential Candidates' Technology and Innovation Policies

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While both candidates advance an array of important policies to stimulate U.S. science, technology, and innovation, the 2012 campaign has yet to see a serious conversation emerge around the policies sorely needed to restore U.S. innovation-based economic competitiveness.

Technological innovation has been responsible for at least 75 percent of the growth in the American economy since World War II and will be critically important to both economic recovery and improved U.S. competiveness going forward.[1] It is therefore encouraging that both President Barack Obama and Governor Mitt Romney acknowledge the central role that science, technology, and innovation play in driving economic growth and have developed specific policy positions on these issues. For instance, President Obama, "believe[s] that in order to be globally competitive in the 21st century and to create an American economy that is built to last, we must create an environment where invention, innovation, and industry can flourish."[2] Likewise, Governor Romney holds that, "The hallmark of the U.S. economy is its constant ability to innovate [and] to develop and deliver new products and services."[3]

Unfortunately, despite the obligatory acknowledgment of innovation's central role in U.S. economic growth, the 2012 campaign has not yet seen a serious conversation emerge regarding the policies sorely needed to revitalize U.S. innovation-based economic competitiveness. Moreover, rather than adopt an "all of the above" approach to innovation policy that includes corporate tax and regulatory reform as well as increased federal investment in research and development (R&D), digital infrastructure, and skills, the

candidates stress policies from "each column," with Governor Romney focusing more on the former and President Obama more on the latter. This is unfortunate. For, as we write in the book *Innovation Economics: The Race for Global Advantage*, U.S. policymakers need to recognize that the United States is engaged in a fierce race for innovation-based economic growth.[4] To win this race, the United States will need to adopt a new, bipartisan Washington Innovation Consensus that places science, technology, innovation, and entrepreneurship at the center of economic policy-making and recognizes that both parties bring good ideas to the table in this regard. If the United States is to emerge from the current anemic recovery and put its economy on a solid growth footing for the future, the next president will need to put spurring the innovation and productivity growth potential of the U.S. economy at the center of the agenda and pursue a wide range of policies to achieve this.

The Information Technology and Innovation Foundation (ITIF) releases this report putting the spotlight on the candidates' technology and innovation policies with the aim of amplifying the national dialogue around bolstering innovation-based economic growth. The report begins with an overview of each candidate's general philosophy on technology, innovation, and trade policy, and then compares the candidates' specific policy positions across 10 policy areas:

- Innovation and R&D
- Tax
- Trade
- Education and Skills
- Regulation
- Broadband and Telecommunications
- Internet/Digital Economy
- Manufacturing
- Energy Innovation
- Life Sciences and Biotechnology

The report is based on information gathered directly from the campaigns' websites and policy documents or from media reports of statements made by the candidates. In some cases where a candidate has not articulated a specific position, the candidate's record while in office or the position of the candidate's party (as reflected in the Democratic or Republican party platforms) is used as a proxy.

ITIF is a non-partisan research and educational institution—a think tank—focused on innovation, productivity, and digital economy issues, and does not endorse either candidate. Rather, this report seeks to provide a factual, impartial comparison of the candidates' technology and innovation policies.

GENERAL PHILOSOPHY TOWARDS TECHNOLOGY AND INNOVATION POLICY

President Obama's approach to technology and innovation policy engages the government as an active partner alongside industry in setting a national technology and innovation agenda. The Obama Administration has proven quite active in developing U.S. innovation policy over the past three and a half years. It is the only Administration to have devised an actual plan, publishing *A Strategy for American Innovation* in September 2009 and updating it extensively in February 2011.[5] In January 2012, the Administration issued a Congressionally mandated report providing recommendations for improving *The*

Competitiveness and Innovative Capacity of the United States.[6] Also in 2012, the Obama Administration released reports on developing *A National Strategic Plan for Advanced Manufacturing* and *Capturing Domestic Competitive Advantage in Advanced Manufacturing*.[7] These reports articulate steps the United States can take to revitalize its manufacturing competitiveness. Under the direction of the Obama Administration, the Federal Communications Commission (FCC) introduced a National Broadband Plan that detailed a role for government in improving the U.S. broadband ecosystem and in spurring the deployment of key digital platform technologies such as the smart grid, health IT, mobile payments, and intelligent transportation systems.[8] Further, the Administration worked with Congress to ensure that the American Reinvestment and Recovery Act allocated billions of dollars to spur investment in broadband, health IT, and the smart grid. The Obama Administration has also championed the use of open data (e.g., Data.gov), launched the National Strategy for Trusted Identities in Cyberspace, sought to increase funding for science, and promoted the use of challenges and prizes to spur innovation.

There is no more important issue in the United States right now than restoring the competitiveness, innovation, and productivity engine of the U.S. economy.

Despite this unprecedented emphasis on innovation, unemployment remains stubbornly above 8 percent and economic growth is anemic. The task for the Administration is to move beyond white papers and get specific policies implemented. In this regard, it's disappointing that the vast majority of the literature that the 2012 Obama-Biden campaign has made available on its science, technology, and innovation policies points to the Administration's past achievements and less so to the policies it would like to enact over a second term. One notable exception, however, is advanced manufacturing, where, through the two aforementioned reports, the Administration has articulated a set of proposals to revitalize American manufacturing—mostly, though not exclusively, by focusing on supporting advanced manufacturing technologies. In general, more specificity is needed regarding the Obama Administration's science, technology, and innovation goals should it win a second term. In addition, the Administration has also focused less on how tax and regulatory reform can enable private sector innovation and competitiveness.

Governor Romney likewise views innovation as vital to U.S. economic growth. His *Plan for Jobs and Economic Growth* touts a five-part growth agenda which begins with: "(1) an emphasis on productivity growth, with policies to support saving and investment, innovation and research, trade, education, and training."[9] Governor Romney's approach would focus foremost on creating more supportive framework (or "factor") conditions in the broader economy through which private sector innovation can thrive. In particular, Romney's *Plan for Jobs and Economic Growth* targets tax, regulatory, labor market, education, energy, and fiscal policy reforms that he argues would catalyze private sector innovation. But beyond getting the framework macro-economic conditions right, it appears a Romney Administration would be less active in engaging at the micro-economic level, such as by developing national strategies to support innovation or advanced manufacturing. For example, on the "Issues" feature of his campaign website, Governor Romney does not list science, technology, or innovation as one of his core issue areas.[10]

While Romney's *Plan for Jobs and Economic Growth* does acknowledge that "the United States has moved forward in astonishing ways thanks to national investment in basic research and advanced technology," the plan only addresses energy innovation and not the

broader role of federal R&D investment in stimulating innovation in other areas, including life sciences, nanotechnology, or advanced manufacturing.[11] R&D policy in a Romney Administration would most likely be focused on investments in basic research and less on closer-to-market applied or translational research. Moreover, federal investment in research and development under a Romney Administration would likely experience a 5 percent cut. As his *Plan for Jobs and Economic Growth* states, "Romney will move immediately to cut non-security discretionary spending by 5 percent."[12] Nevertheless, Romney holds that as President he would, "focus government resources on research programs that advance the development of knowledge, and on technologies with widespread application and potential to serve as the foundation for private sector innovation and commercialization."[13] Furthermore, a Romney Administration would view its anticipated improvements to the broader policy environment (e.g. tax reform, fiscal balance, etc.) as being highly stimulative in terms of unleashing private sector innovation.

Regarding trade policy, both Governor Romney and President Obama affirm their beliefs that trade can be a powerful driver of growth. However, based on statements to date, it appears that Romney would be more aggressive on trade than President Obama with regard to opening new markets, to enforcing U.S. trade rights against rampant innovation mercantilism, and to insisting that the United States' trading partners meet the obligations they have signed onto in international trade agreements. The centerpiece of President Obama's trade agenda has been the Trans-Pacific Partnership (TPP), in which 11 Asia-Pacific region countries are seeking to craft a comprehensive, high-quality trade agreement.[14] The TPP holds the potential to be a gold-standard trade agreement that raises the bar for future U.S. trade negotiations and the Administration is to be commended for rightly tackling a range of difficult issues—such as the treatment of state-owned enterprises, protection of trade secrets, and open cross-border flows of information—that have never before been addressed in U.S. multilateral trade agreements. However, the TPP has really been the only major trade initiative advanced by the Obama Administration and it is quite possible that the TPP will be a "bronze standard," not a "gold standard" agreement when negotiations conclude. The Administration did finally sign into law trade agreements with Colombia, Korea, and Panama, but these agreements languished on the President's desk for three years (having initially been completed by the Bush Administration) as the Obama Administration reopened negotiation on their environmental and labor provisions.

For his part, Governor Romney also supports completion of a high-standard Trans-Pacific Partnership. However, Romney suggests he would go further by creating what he calls "Reagan Economic Zones"—a multilateral trade agreement(s) comprised of "like-minded nations" genuinely committed to the principles of open markets and strong intellectual property protections.[15] Romney's proposal is similar to ITIF's call for the United States to pursue a Trans-Atlantic Partnership (TAP) with European Union (EU)-15 countries to develop a world-leading, high-quality trade agreement among nations that respect intellectual property rights, the rule of law, the primacy of markets in setting currency prices, and the primacy of private investors in determining the location and nature of their investments.[16]

Both candidates recognize the need for the United States to devote more attention and resources to enforcing U.S. trade rights in order to protect the interests of U.S. consumers and enterprises engaged in global trade. For example, in February 2012, President Obama created the Interagency Trade Enforcement Center to better coordinate federal enforcement activities.[17] The Administration has requested $26 million in Fiscal Year (FY) 2013 funding for the Trade Enforcement Center. The Obama Administration has also launched seven trade enforcement cases, covering a range of products from wind power equipment to rare earth metals, against China before the World Trade Organization (WTO).[18] Romney likewise supports increasing resources and personnel devoted to trade enforcement efforts.[19] But Romney has also signaled he would take a more aggressive stance vis-à-vis China (and other innovation mercantilists) in trade matters. For example, Romney has indicated he would direct the Treasury Department to formally label China a currency manipulator—a move previous administrations have refused to do—and said he would suspend any U.S. government procurement from China until the country fulfills its stated commitment, as part of its accession to the WTO, to join the Government Procurement Agreement (GPA). For his part, in the 2008 campaign, candidate Obama did deem China "a currency manipulator," though at the time he stopped short of committing to officially name China a currency manipulator if elected President.[20]

In other policy areas covered in this report, such as broadband and telecommunications, online privacy, and education, there are also differences in the candidates' positions and sometimes less certainty about the specific policy initiatives they would pursue. President Obama has called for legislation to address both online privacy and cybersecurity through stronger regulatory controls. While Governor Romney has not explicitly supported or opposed proposed online privacy or cybersecurity legislation, he has generally argued for a more limited role for government and has criticized regulatory efforts by the Obama Administration.

The following provides a side-by-side comparison of the Obama and Romney campaigns across a range of science, technology, innovation, trade, telecommunications, Internet, digital economy, energy, manufacturing, and life sciences policy areas:

	OBAMA-BIDEN	ROMNEY-RYAN
General Philosophy Toward Technology and Innovation Policy	• Engage government as an active partner with private industry in setting and implementing a technology and innovation agenda. • Expand activities of federal agencies in support of innovation and create new organizational structures if necessary. • Intervene in shaping policies and regulations in the event of market failures, though the private sector remains the primary source of innovation. • Support stronger rules governing the Internet and telecommunications. • Foster the growth of the clean energy industry. • Stress the use of technology and innovation as an overarching theme of campaign strategy.	• Focus on improving broader framework conditions—especially regarding tax, regulatory, labor market, education, immigration, energy, and fiscal policy reforms—to stimulate private sector investment and innovation. • Place an "emphasis on productivity growth, with policies to support saving and investment, innovation and research, trade, education, and training."[21] • Reduce discretionary federal R&D investment (likely by at least 5 percent) in order to achieve budget goals. • Eschew any kind of industrial policy that "steer[s] investment toward particular politically favored approaches."[22] • Rely more on markets, consumer pressure, and industry's own recognizance to govern issues like privacy and telecommunications. • Pursue an all-of-the-above energy strategy with the goal of achieving North American energy independence.

	OBAMA-BIDEN	ROMNEY-RYAN
Innovation and R&D Policy		
Among countries, a fierce race for global innovation leadership is underway. Leading countries increasingly recognize the importance of coordinated national innovation and R&D strategies in driving growth and spurring the competitiveness of their enterprises, which is why more than three dozen countries have created national innovation strategies and/or innovation foundations. These countries are also investing heavily in R&D. But while U.S. R&D intensity (R&D as a share of GDP) increased by a paltry 10.4 percent from 1995 to 2008, it increased substantially more in most other nations, including Germany (20.5 percent), Korea (42.2 percent), Finland (65 percent), Singapore (135.1 percent), and China (170.2 percent).[23] One major reason for this slow growth rate has been a slowdown in federal R&D investment, as it grew in constant dollars at just 0.3 percent per year from 1987 to 2008—much lower than its average annual growth of 4.9 percent from 1953 to 1987, and 10 times lower than the rate of GDP growth.[24] In fact, to restore federal support for research as a share of GDP to 1987 levels, the United States would have to increase federal support for R&D by almost $60 billion—per year. Yet federal R&D funding is crucially important to U.S. innovation, as ITIF documents in reports such as *Where Do Innovations Come From? Transformations in the U.S. National Innovation System, 1970-2006* and *University Research Funding: The United States is Behind and Falling.*[25] Even in a tight budgetary environment, the United States must not only maintain but also expand investment in R&D, for this is the path to generating future wealth for society.		
Federal R&D Funding	In 2008, Candidate Obama pledged to double federal funding for basic research over the next 10 years, focusing on physical and life sciences.[26] The agencies to experience this doubling included the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the Office of Science at the Department of Energy. President Obama's FY 2009 budget did place these three agencies on the doubling path, and his FY 2013 budget request of $2.1 billion for NIST actually exceeds doubling of the 2009 investment. (However, the actual NIST budget in 2011 and 2012 were below 2009 and 2010 levels). Moreover, the President's budgets for NSF and the DOE Office of Science from FY 2010 to FY 2012 (and now the request for FY 2013) represent only modest increases that fall far short of the doubling path. In fact, the NSF budget has only increased 5 percent between FY 2010 and the FY 2013 request, while funding for the DOE Office of Science is virtually unchanged.[27]	Governor Romney's *Plan for Jobs and Economic Growth* endorses an immediate 5 percent cut in non-security discretionary spending. This presumably would include federal investment in non-defense R&D. Likewise, were it to be fully adopted, Congressman Paul Ryan's *The Path to Prosperity: A Blueprint for American Renewal* would result in a 3 percent cut in total R&D from the FY 2012 baseline and a 5 percent cut in non-defense R&D from the FY 2012 level.[28]
Technology and Innovation Policy Advisors	Include individuals with technology backgrounds in economic policy making organizations and councils. Appoint scientific advisors based on their credentials and experience, not their politics or ideology.	Ensure that the best available scientific and technical information guides decision making in [his] Administration" and ensure that "sound science will inform sound policy decisions, and the costs and benefits of regulations will be properly weighed in that process."[29]

	OBAMA-BIDEN	ROMNEY-RYAN
Tax Policy		
Governments can spur innovation by creating a favorable climate for private sector investment that makes the overall U.S. corporate tax code more competitive with other nations and also leverages tax policy to incent private sector R&D and investment. As ITIF writes in *Effective Corporate Tax Reform in the Global Innovation Economy*, the U.S. corporate tax code should explicitly promote the international competitiveness of American businesses and encourage innovation by providing incentives for the drivers of productivity and innovation: investment in R&D; new capital equipment, especially information and communications technology (IT); and workforce education and training.[30] Unfortunately, America now has the highest combined federal-state statutory corporate tax rate among OECD countries at 39.2 percent.[31] It is the only OECD country in which the statutory corporate tax rate did not decline between 2000 and 2012.[32] Even when the overall effective corporate tax rate is considered, the United States has the 35th highest rate out of 37 countries assessed in ITIF's *Atlantic Century II* report.[33]		
Moreover, as an increasing number of countries use R&D tax incentives as a key component of their innovation-led economic development strategies, the United States has fallen from providing the most generous R&D tax incentive among OECD countries in the late 1980s, to ranking 17th in 2004, and 27th in 2012, as ITIF finds in *We're #27: The United States Lags Far Behind in R&D Tax Incentive Generosity*.[34] Brazil, China, and India each offer more generous R&D tax credits than the United States. The United States should also bring more innovation to its tax code by introducing more collaborative R&D tax credits and by taxing revenues from newly patented products at preferential rates, as ITIF finds in reports including *Creating a Collaborative R&D Tax Credit* and *Patent Boxes: Innovation in Tax Policy and Tax Policy*.[35]		
Corporate Tax Rates	Cut the corporate income tax rate to 28 percent.[36] Would seek to make the cut revenue neutral by eliminating "dozens" of business tax breaks.	Cut the corporate income tax rate to 25 percent.[37] Would seek to make a cut in the corporate income tax revenue neutral by eliminating business tax breaks.
R&D Tax Credit	Make the R&D tax credit permanent and increase the rate of the Alternative Simplified Credit (ASC) from 14 to 17 percent.[38]	Make the R&D tax credit permanent. Wants to "strengthen" the R&D tax credit but has not offered specifics.[39]
First Year Expensing of Equipment and Technology Investments	Endorsed and signed into law legislation allowing businesses to temporarily expense 100 percent of their investment in plants and equipment.[40] However, has indicated he would consider jettisoning this provision in order to cover the cost of overall corporate tax rate reduction (e.g., to keep it revenue neutral).	Hold that "a robust investment tax credit, extending the write-off for capital expenditures for an additional year, and a lower payroll tax could each have a positive effect if properly structured."[41]
Foreign Tax Accounting	The President has proposed the elimination of deferral of tax on foreign earnings, which would raise the effective tax rate of U.S.-based multinationals.[42] He would ensure that every multinational company pay a basic minimum tax.[43]	Switch from a worldwide to a territorial tax system to allow corporations to repatriate foreign-source income.[44] (Meaning companies would pay minimal or no U.S. taxes on income earned and taxed overseas even when repatriated.)
Individual Tax Rates	Maintain current marginal tax rates for individuals earning $200,000 or less ($250,000 or less if married). Repeal the 2001/2003 Bush tax cuts for households earning more than $250,000, raising the top rate to 39.6 percent.[45]	Reduce the current Bush-era tax rates by 20 percent across-the-board, meaning that the top tax rate would fall to 28 percent and the lowest tax rate would fall to 8 percent.[46]

	Implement a "Buffet Rule" requiring individuals earning more than $1 million to pay a minimum tax rate of 30 percent.	
Capital Gains (Dividend) Taxes	Raise the capital gains rate to 20 percent (from 15 percent currently) and tax dividends at ordinary tax rates for those making more than $200,000 ($250,000 if married).[47]	Maintain current tax rates on interest, dividends, and capital gains. However, introduce a Middle-Class Tax Savings Plan that eliminates taxation on capital gains, dividends, and interest for any taxpayer with an adjusted gross income of under $200,000.[48]
Carried Interest Tax Rate	Tax carried interest as ordinary income, as opposed to the current 15 percent tax rate.	Maintain current 15 percent carried interest tax rate.
Estate Taxes	Reinstate estate tax at 2009 levels, meaning estates valued at more than $3.5 million would incur a 45 percent tax rate.[49]	Eliminate the federal estate tax, but preserve the gift tax rate at 35 percent.[50]

	OBAMA-BIDEN	ROMNEY-RYAN
Trade Policy		
With much of the U.S. economy based on innovation where firms have relatively high fixed costs and lower marginal costs, ensuring access to global markets through market-based trade policies is critical to spurring U.S. productivity, innovation, and jobs. But global trade is at a crossroads with the collapse of the Doha round of negotiations and the emergence in many countries of "innovation mercantilist" trade practices that erect unfair and protectionist policies which systematically disadvantage foreign competition. As ITIF concludes in reports such as *Enough is Enough: Confronting Chinese Innovation Mercantilism; The Good, The Bad, and The Ugly (and the Self-destructive) of Innovation Policy;* and *The Rise of the New Mercantilists: Unfair Trade Practices in the Innovation Economy,* the United States must play a leadership role in demanding rigorous enforcement of international and bilateral trade agreements and in showing that open, market-driven commerce is the best way to achieve sustainable global prosperity.[51]		
General Approach to Trade Policy	Make trade policy consistent with a commitment to demand improved labor and environmental practices worldwide. Enforce U.S. companies' rights in trade agreements by bringing more cases before the WTO. Complete the Trans-Pacific Partnership as a model, high-standard trade agreement.	Believe that free trade is essential to restoring robust economic growth and creating jobs. Seek new trade partnerships with nations "genuinely committed to the principles of open markets." Vigorously enforce U.S. companies' rights in trade agreements and take a tougher line against China, particularly regarding currency manipulation.
Trans-Pacific Partnership (TPP)	Complete a high-standard Trans-Pacific Partnership trade agreement.	Complete a high-standard Trans-Pacific Partnership trade agreement.
Trans-Atlantic Partnership (TAP)	Established a U.S.-EU High-Level Working Group on Jobs and Growth to assess ways to boost the United States' trade and investment relationship with the European Union.[52]	Create "Reagan Economic Zones": multilateral trade agreements comprised of "like-minded nations" genuinely committed to the principles of open markets and strong intellectual property protections.[53]
Fast-Track Trade Promotion Authority	Has not formally sought trade promotion authority. Officially, "the Obama Administration will explore issues regarding additional trade promotion authority necessary to approve the TPP and future trade agreements."[54]	Reinstate the President's trade promotion authority.[55]
Trade Enforcement	Created an Interagency Trade Enforcement Center in February 2012 charged with investigating the unfair trade practices of foreign countries and requested $26 million to fund the center in FY 2013.[56]	Increase Customs and Border Patrol resources to prevent the illegal entry of goods into U.S. markets. Increase the resources of the United States Trade Representative's Office to pursue and support litigation against unfair trade practices.[57]
Currency Manipulation	In the 2008 campaign, deemed China a "currency manipulator." But, in office, his Treasury Department has not identified China as manipulating its currency.[58]	Designate China a currency manipulator in the Treasury Department's biannual report of currency-manipulating countries and impose countervailing duties on Chinese imports if China does not move to float its currency.[59]

Government Procurement Agreement (GPA)	Continue to press China to meet its commitment (made when it acceded to the WTO over a decade ago) to join the GPA.	Discontinue U.S. government procurement from Chinese-based companies until China joins the World Trade Organization's Government Procurement Agreement.
Trade Relations with Russia	Democratic Party platform supports permanent normal trade relations with Russia.	Republican Party platform supports "Permanent Normal Trade Relations, but not without sanctions on Russian officials who have used the government to violate human rights."[60]
Trade Adjustment Assistance (TAA) for U.S. Workers	Supported reforms to the TAA program in early 2009 that improved the efficiency, accessibility, and effectiveness of the program and expanded the pool of eligible workers, especially those in the services sector.[61]	Eliminate trade adjustment assistance as it is redundant to other programs for laid-off workers.[62]
Environmental and Labor Provisions in Trade Agreements	Support making environmental and labor provisions key preconditions of U.S. bilateral and multilateral trade agreements going forward.	Has not raised this as a key precondition of future U.S. trade agreements.
Supporting Exports	President Obama's National Export Initiative set a goal of doubling exports by 2014 and implemented several supporting policies, such as streamlining government export assistance programs and educating small businesses on export opportunities.[63]	Governor Romney endorses boosting U.S. exports, but sees entering into new trade agreements to gain open access to foreign markets and enforcing U.S. rights in existing trade agreements as the principal path.

	OBAMA-BIDEN	ROMNEY-RYAN
Education and Skills		
If America is to succeed in the innovation-powered global economy, boosting math and science skills will be vital, as ITIF explains in *Refueling the U.S. Innovation Economy: Fresh Approaches to STEM Education.*[64] Yet the United States needs to bring a much-needed dose of innovation to STEM education policy, moving from the current "some STEM for all" to an "all STEM for some" approach. One key way to bolster STEM education is through the creation of more math and science high schools, as ITIF argues in *Addressing the STEM Challenge by Expanding Specialty Math and Science High Schools.*[65] One of the long-standing strengths of the U.S. national innovation system has been its ability to use scientific and technological talent effectively, regardless of its source, as ITIF finds in *Global Flows of Talent: Benchmarking the United States.*[66] The global talent imperative requires that the United States implement policies that will both produce a domestic workforce equipped with globally demanded skills, and be open to skilled foreign workers who wish to pursue their talents in the environment of economic opportunity the United States affords. This section focuses primarily on the candidates' high-skill immigration, K-12 education, and STEM education policies.		
Immigration of High-Skill Foreign Workers	While the President's immigration platform addresses the need for "fixing the immigration system for America's 21st century economy," both it and the official Democratic Party Platform are silent about policies to bolster high-skill immigration, either through expanded H-1B visas or by awarding green cards to foreign-born students who graduate from U.S. universities with STEM degrees.[67] Support the DREAM Act, which would allow young immigrants who came to America as children and were raised as Americans to earn a path to citizenship by going to college or serving in the military.	Raise the ceiling on the number of visas issued to holders of advanced math, science, and engineering degrees who have job offers in those fields from U.S. companies. Staple a green card to the diploma of every eligible student visa holder who graduates from a U.S. university with an advanced degree in math, science, or engineering.[68] The 2012 Republican Party platform describes this as a "strategic immigration" policy. While Romney indicated in the debates he opposes the DREAM Act, he does "believe that young illegal immigrants who were brought to the United States as children should have the chance to become permanent residents, and eventually citizens, by serving honorably in the United States military," which is one component of the Act.[69]
Support for Math and Science Education	Announced a plan to launch a new national STEM Master Teacher Corps to be established at 100 sites across the country with the goal of preparing 10,000 STEM teachers over the next decade.[70] Launched an "Educate to Innovate" campaign that brings together businesses, foundations, non-profits, and professional associations to improve STEM teaching and learning. Has endorsed the "100kin10" program, which seeks to "address the nation's shortage of STEM teachers and improve STEM learning by training 100,000 excellent science,	In Massachusetts, Governor Romney supported legislation that would have added 1,000 new math and science teachers and would have required Advanced Placement STEM classes.[72] While Romney's education plan, *A Chance for Every Child*, does acknowledge the importance of math and science education, it does not offer specific policies or programs beyond generally supporting school choice options, including to math and science high schools.

	technology, engineering, and math teachers over the next decade."[71]	
Vouchers & Charters	President Obama "support[s] expansion" of charter schools to compete with underperforming public schools.[73] However, his 2013 budget initially cut a Washington, D.C. school voucher program, the D.C. Opportunity Scholarship Program, before agreeing to restore funding after encountering heavy Congressional pressure.[74] Democrat Party platform asserts that Democrats would "work to expand public school options for low-income youth, including magnet schools, charter schools, teacher-led schools, and career academies."[75]	In general, support school choice programs so students can attend private or out-of-district schools.[76] Tie federal funding for education directly to reforms that expand parental choice.[77] Provide incentives for states to increase choices for parents, in part by requiring states to adopt open-enrollment policies for students receiving Title I and IDEA funds and in part by eliminating caps on charter and digital schools. Further, amend the federal Charter School Program so that successful school management organizations can receive funding to replicate their efforts, serve more students, and take their programs to scale.[78]
Performance-Based Pay for Teachers	Support a "Master Teacher" concept in which teachers have a say in how their performance is measured, graduate to a higher professional level, and conduct apprenticeships to assist younger teachers. Allocate federal funding to pay "Master Teachers" more.	Attract and reward great teachers through increased flexibility and block grants, in part by consolidating the numerous and overlapping federal teacher quality programs, and in part by offering states flexible block grants if they adopt policies to advance and reward teacher quality, such as eliminating or reforming teacher tenure and establishing evaluation systems that focus on effectiveness in advancing student achievement. Eliminate unnecessary certification requirements that discourage new teachers.
Accountability for Public Schools	Obama Administration launched the "Race to the Top" initiative, which tied over $4 billion in federal education to states' performance in reforming their education systems. States unwilling to leverage data and accountability systems to improve measurable performance outcomes, that have legislation preventing the development or expansion of innovative school approaches, or that cannot demonstrate effective alliances with local teachers' unions on performance accountability are not eligible to apply for Race to the Top funds.[79] Race to the Top also gives states credit for adopting new educator-evaluator systems that take student achievement into account. Since 2010, the Obama Administration has awarded Race to the Top grants to 21 states.[80]	Governor Romney "has strongly supported many of Race to the Top's goals, including the adoption of high quality standards and assessments; recruiting, retaining and rewarding effective teachers; and turning around low-performing schools." However, Romney has criticized Race to the Top for not going far enough, noting that Race to the Top "represented less than five percent of the total stimulus spending on education, the rest of which went to states without concern for reforms."[82] In principle, against waivers of Race to the Top requirements for states, arguing that "Race to the Top was poorly designed [because] it awarded states money in return for promises, without regard for results.[83]

	However, recently, the Department of Education has started to extend waivers or permit amendments to states' Race to the Top commitments (including those associated with meeting No Child Left Behind Act provisions) and implementation plans, delaying the promised education reforms. This includes at least six of the ten states that received Race to the Top Phase 2 funding.[81]	
Supporting Innovation in Education	Obama Administration in 2009 introduced the "Investing in Innovation" (I3) fund, which provides competitive grants that expand the implementation of, and investment in, innovative and evidence-based practices, programs and strategies that significantly improve K-12 achievement and close achievement gaps; decrease dropout rates; increase high school graduation rates; and improve teacher and school leader effectiveness.[84] $650 million in I3 grants were awarded through the American Recovery and Reinvestment Act.	Romney's education plan asserts that he will "invest in innovation" and spur innovation in education through "encourage[ing] market entry by innovative new education models."[85]
Accommodating Needs of Minority and Low-Income Students	Democratic Party platform would seek to expand public school options for low-income youth, including magnet schools, charter schools, teacher-led schools, and career academies.[86]	Allow low income and special needs students to choose which school to attend. Make Title I and Individuals with Disabilities Education Act (IDEA) funds portable so that eligible students can choose which school to attend and bring funding with them. The plan would allow the student to choose from any district or public charter school, or a private school where permitted by state law, or to use funds toward a tutoring provider or digital course.[87]
Educational and/or Training Savings Accounts	Have supported the use of Perkins dollars for continuing training and education (CTE) programs.	Create "Personal Reemployment Accounts" for unemployed individuals that would give them control over funds for retraining.
Community Colleges	Request $8 billion in FY 2013 budget to fund a "Community College to Career Fund" for community colleges to partner with businesses to train two million workers in a range of high-growth areas such as advanced manufacturing, while earning industry-recognized credentials.[88]	Republican Party Platform notes that "new systems of learning are needed to compete with traditional four-year colleges: expanded community colleges and technical institutions, private training schools, online universities, life-long learning, and work-based learning in the private sector."[89]

	OBAMA-BIDEN	ROMNEY-RYAN
Regulatory Policy		
Designed properly, regulations can sometimes spur innovation and productivity. Even when they can't do this, regulations should be designed in ways that limit cost and burdens on innovation. As such, the United States needs smarter regulations for its traded and non-traded firms alike. In this regard, ITIF has offered several recommendations, including forming an Office of Innovation Policy Review within the Office of Management and Budget (akin to an Office of Information and Regulatory Affairs for innovation), as called for in ITIF's report *Structuring U.S. Innovation Policy: Creating a White House Office of Innovation Policy* by Stuart Benjamin and Arti Rae.[90] Moreover, OIRA should introduce an "international competitiveness screen" into its review of federal regulations.		
REINS Act	The Obama Administration opposes the REINS Act.[91]	Implement the REINS Act, which would require all "major" rules (i.e., those with an economic impact greater than $100 million) to be approved by both houses of Congress before taking effect.
Regulatory Caps	*Campaign has not articulated a similar position.*	Cap the rate at which agencies could impose new regulations at zero, meaning that if an agency wishes or is required by law to issue a new regulation, it must go through a budget-like process and identify offsetting cost reductions from the existing regulatory burden.

	OBAMA-BIDEN	ROMNEY-RYAN
Broadband Telecommunication Policy		
We live in an information-rich world in which citizens increasingly depend on advanced digital networks to connect our smart phones and computers with vital databases and information processing systems in the cloud. As ITIF writes in reports such as *Digital Prosperity* and *Digital Quality of Life,* the opportunities for information technology to deliver improvements in the economy and quality of life are multiplied by fast, reliable, and pervasive digital networks.[92] Innovation is particularly fast in the mobile world, but next-generation wireline networks form the essential foundation of all digital networking. Broadband and telecommunication policy debates focus on a variety of issues, including the means of managing spectrum rights, the nature of net neutrality regulations, the proper amount of competition, and the transformation of Universal Service from a telephone network system to an Internet-oriented program, as well as the nature of global regulations for the Internet as a whole.		
Wireless Spectrum	Support making 500 MHz of new spectrum available for commercial networks by 2020. Has not commented on the PCAST recommendation for federal spectrum sharing. Support net neutrality conditions on some spectrum auctions and substantial new allocations for "White Spaces" and other unlicensed uses.	Support auctioning under-used broadcast and federal spectrum for exclusive use by commercial networks. The Republican Party platform calls for an inventory of federal spectrum to identify surplus spectrum to auction for exclusive use by licensed users. Would not place net neutrality conditions on spectrum auctions and would allocate much less spectrum to "White Spaces" and other unlicensed uses.
Net Neutrality	Pledged strong support for net neutrality in 2008 campaign and endorsed FCC's Open Internet Rules. The FCC has kept the Title II Docket open in order to induce compliance with Open Internet rules. Support exemption of wireless networks from most net neutrality rules.	Prefer to rely on market forces and disclosure to discipline carrier behavior and increase investment. Republican Party platform calls FCC's net neutrality rule an attempt to "micromanage telecom as if it were a railroad network."[93] Republican FCC appointees have indicated that they would desire to close the Title II Docket and to exclude both wired and wireless networks from net neutrality rules.
1996 Telecom Act	The Obama Administration has supported Congressional efforts to amend the Telecom Act with net neutrality principles.	Republican Party platform declares the Act is "woefully out of date" and calls for "a more modern relationship" between industry and the federal government.
Telecommunications Pricing and Subsidies	Support FCC's efforts to replace telephone network universal service with a new program to bring broadband to unserved rural and poor areas with appropriate subsidies. Support use of "reverse auctions" to invest subsidy dollars most efficiently. FCC has suspended "special access" Internet backhaul de-regulation and opened a docket on potential price	Support FCC's efforts to replace telephone network universal service with a new program to bring broadband to unserved rural and poor areas with appropriate subsidies. Republican Platform calls for "public-private partnerships to provide predictable support for connecting rural areas."[94] Favor continued de-regulation of "special access" Internet backhaul and private investment in fiber.

	controls.	
International Internet Governance	State Department has taken a strong position against the desire of the International Telecommunications Union (ITU) to exercise control over the pricing of Internet interconnections and technical standards. Support continuation of current decentralized, multi-stakeholder model. Democratic Party platform includes "Internet Freedom" language.	Strongly oppose an ITU takeover of interconnect pricing or technical standards. Support continuation of current decentralized, multi-stakeholder model. Republican Party platform includes "Internet Freedom" language.
Broadband Tax	Obama's Federal Communications Commission announced in August 2012 that it was evaluating a proposal to tax broadband Internet service, with the funds backfilling the Universal Service Fund as it is transformed from a telephone-oriented subsidy program to a broadband-centric one.[95] However, in September 2012, the FCC backpedalled from this position.[96]	*Campaign has not articulated a similar position.* However, Republican appointees to the FCC support transforming Universal Service from telephony to broadband and are opposed to taxing broadband Internet access.[97]
Network Research	Administration has supported an expansive research program supporting both basic and applied research.	Republican Party platform language acknowledges the unique role of university research in the development of network technology.
National Wireless Initiative	Introduce a national wireless initiative that will make high-speed wireless services available to at least 98 percent of Americans in conjunction with Universal Service Fund (USF) modernization.[98]	*Campaign has not articulated a similar position.* However, Republican appointees to the FCC support USF modernization.

	OBAMA-BIDEN	ROMNEY-RYAN
Internet/Digital Economy Policy		
The digital economy is unlocking vast opportunities to increase productivity and improve quality of life. As ITIF has written extensively, the federal government should pursue policies that foster the use of information technology (IT). In general, policymakers should use a light touch to regulate legitimate use of technology, and take a hard line on regulating illegitimate digital activity, such as cyber crime and online piracy. In addition, because many technologies, including health IT, smart grid, electronic IDs, and intelligent transportation systems are not pure private goods and exhibit what economists call network externalities, policymakers should partner with the private sector in enabling the robust development and use of such technologies. The next Administration will need to bring smart policies to the table to address important issues such as online privacy, cybersecurity, online piracy, Internet taxation, and the expansion of key digital platforms such as electronic health records. With regard to privacy, ITIF has argued that the government should rely on flexible industry codes of conduct, best practices, and other less onerous methods rather than using more burdensome government regulations. For example, the federal government can develop an R&D roadmap for privacy.[99] With regard to cybersecurity, ITIF has called for more robust information sharing requirements than were proposed in previous legislation and for the federal government to work with the private sector to help develop better metrics for risk management.[100]		
Online Privacy	Support federal legislation to adopt the principles of the proposed "Consumer Privacy Bill of Rights" that outlines rights consumers would have regarding the use of personal data and obligations companies would have to follow to protect personal data. Encourage industry adoption of a Do Not Track mechanism for online privacy. Work with the private sector and public interest groups to create industry-specific enforceable codes of conduct for online privacy.[101]	The Republican Party platform says that "we will ensure that personal data receives full constitutional protection from government overreach and that individuals retain the right to control the use of their data by third parties."[102]
Cybersecurity	The Democratic Party platform identifies cybersecurity as "one of the most serious potential national security, public safety, and economic challenges we face."[103] Support federal legislation, such as the Cybersecurity Act of 2012, to protect critical infrastructure through the use of baseline security standards. Support improving information sharing between the government and the private sector. Work in partnership with the private sector to develop mandatory cybersecurity standards for critical infrastructure.[104] Support investing in research and development, promoting cybersecurity awareness and digital literacy, and strengthening international partnerships.[105]	Order an interagency review within the first 100 days to develop a new cybersecurity strategy that more heavily involves the Department of Defense and intelligence agencies.[106]

Online Piracy	Opposed the Stop Online Piracy Act (SOPA), but endorses both a legislative approach that provides new legal tools to combat foreign online piracy and voluntary actions by privacy parties to combat online piracy by foreign websites.[107] Has increased enforcement actions to protect digital IP and encouraged voluntary efforts to curb online piracy.[108]	Oppose legislation like SOPA and advocate for using existing laws to target online piracy, particularly those overseas.[109]
Online Gambling	The Obama Administration's U.S. Department of Justice issued an opinion that the Wire Act does not make it illegal for states to sell lottery tickets online.[110]	Republican Party platform calls for prohibition of online gambling and reversal of the Justice Department ruling on the Wire Act.[111]
Child Safety Online	Endorsed voluntary efforts by Facebook to combat online bullying.[112]	Republican Party platform supports voluntary efforts by service providers to protect children from online predators, encourages prosecution of child pornography, and supports vigorous enforcement of laws on all forms of pornography and obscenity.[113]
Investing in Digital Infrastructure	The Democratic Party platform calls for ensuring a robust digital infrastructure, including "robust wired and wireless broadband capability, a smarter electrical grid, and upgraded information technology infrastructure in key sectors such as health care and education."[114]	*Campaign has not articulated a similar position.*
E-Government	Has promoted openness, efficiency, and accountability in government, such as by making the list of visitors to the White House available online.[115] Continue efforts such as the Open Government Initiative, the Presidential Innovation Fellows, and the Green Button Initiative, which promote the innovative use of information technology and data within government.	Romney has called for modernizing the Department of Veterans Affairs by implementing an improved electronic claims processing system.[116]

	OBAMA-BIDEN	ROMNEY-RYAN
Manufacturing Policy		
The prior decade was a traumatic one for U.S. manufacturing, with the sector losing one-third of its jobs (a rate of loss worse even than during the Great Recession) and with manufacturing output declining 11 percent at a time when the overall economy grew 11 percent (when both are measured properly), as ITIF documents in *Worse Than the Great Depression: What Experts Are Missing About American Manufacturing Decline.*[117] However, this does not mean that manufacturing is no longer important to the U.S. economy. Rather, as ITIF argues in *The Case for a National Manufacturing Strategy*, it means that the United States needs to put in place better technology, tax, trade, and talent policies to help U.S. manufacturing and other traded sectors thrive and remain globally competitive. ITIF's *A Charter for Revitalizing Manufacturing* and *Fifty Ways to Leave Your Competitiveness Woes Behind: A National Traded Sector Competitiveness Strategy* provides a comprehensive list of such technology, tax, trade, and talent policies that the federal government and states alike can implement.[118] Both candidates should be articulating specific policy positions designed to revitalize U.S. manufacturing.		
Domestic Production Deduction	Support the current Section 199 deduction and would also implement an 18 percent tax deduction for domestic advanced manufacturing technologies, which would double the current 9 percent deduction.[119]	*Campaign has not articulated a similar position.*
Tax Credit for Companies Moving Operations Back to the United States	Current law makes costs incurred to outsource operations from the United States tax deductible. Obama would eliminate this deductibility and provide a 20 percent tax credit to companies for expenses related to moving operations back to the United States.[120]	*Campaign has not articulated a similar position.*
National Network for Manufacturing Innovation	The Obama Administration in March 2012 proposed investing $1 billion to create a National Network for Manufacturing Innovation (NNMI) comprised of 15 Institutes for Manufacturing Innovation that would serve as hubs of manufacturing excellence focused around specific technologies.[121] A $45 million pilot institute focused on additive manufacturing is being established.	*Campaign has not yet articulated a similar position.*
Investing in Advanced Manufacturing R&D	The Obama Administration's FY 2013 budget proposes investing $2.2 billion in advanced manufacturing R&D (a 50 percent increase over FY 2011 levels) in programs such as the Materials Genome Initiative and National Robotics Initiative.[122]	As with R&D in other sectors, a Romney Administration budget would likely call for cuts of at least 5 percent in advanced manufacturing R&D.
Manufacturing Extension Partnership	In his 2008 campaign, candidate Obama pledged to double funding for the Manufacturing Extension Partnership.[123] While the President has slightly increased MEP's funding from the $110 million it received in the last budget penned by the Bush Administration, the President's FY 2013 request of $128 million for	As candidate, Romney has not expressed a position regarding the Manufacturing Extension Partnership. As Governor of Massachusetts, Romney's budget cut funding for the Massachusetts Manufacturing Partnership from $1.38 million ($1.42 million, adjusted for inflation) in FY

	MEP actually represents a slight decrease from the FY 2012 enacted appropriations and falls far short of the promised doubling.[124]	2009 to $325,000 in both FY 2010 and FY 2011, representing an effective $1.1 million cut in state funding.[125]
Manufacturing Skills Credentialing & Retraining Programs	The Obama Administration has endorsed the broader use of manufacturing skills certifications, but has not allocated additional funding for it. The Obama Administration has launched a military credentialing and licensing task force to connect veterans with high-skilled advanced manufacturing jobs.	Romney would concentrate federal retraining programs "into a single program at a single agency," with other specialized programs surviving only if there are uniquely situated groups whose needs must be addressed at the federal level. Once the main body of federal retraining funds has been channeled into a single program, Romney would push for the program to operate by issuing block grants to states (and providing them with greater flexibility) and evaluating results.[126]

	OBAMA-BIDEN	ROMNEY-RYAN
Energy Innovation Policy		
The production and consumption of energy touches every facet of the global economy. Cheap and viable access to fossil fuels has been a vital enabler of economic growth and it will continue to provide the cost and performance baseline against which all new sources of energy will be measured. Nonetheless, America faces daunting national energy challenges: the need for domestic energy security and the need to drastically cut fossil fuel consumption as quickly as possible to limit the impacts of climate change. Addressing these challenges in tandem requires cheap, new, high-performance clean energy technologies that can be deployed globally without government subsidies. And as ITIF concludes in *Ten Principles for Creating a New U.S. Clean Energy Policy*, the best way to do so is through a national clean energy innovation strategy that spurs increased investment in the research, development, and demonstration of breakthrough low-carbon energy technologies, and that helps move emerging technologies to market through smart reforms of government deployment and technology transfer policies.[127]		
General Approach to Energy Policy	Promote a national energy strategy that significantly supports the transition from fossil fuels to clean energy sources. Support some "safe and responsible" domestic exploration, extraction, and production of oil and natural gas, but has limited potential offshore leases to Alaska, the Gulf of Mexico, and parts of the Atlantic coast. View government as having a role to play in energy innovation by investing across all stages of the clean energy innovation lifecycle, from basic science through deployment, although more focus is placed on deployment. Set a goal of having one million electric vehicles on the road by 2015.[128]	Develop a national energy strategy that increases domestic energy production and achieves "North American" energy independence by 2020, primarily through significantly expanded fossil fuel extraction and production in areas including those supported by President Obama as well as the Arctic National Wildlife Refuge and the Pacific coast.[129] View government as having a role to play in energy innovation by investing in basic research, development, and initial demonstration projects of "new energy technologies."[130]
Addressing Climate Change	Support policies that directly cut greenhouse gas emissions like carbon pricing and emission caps, as well as "no regrets" climate policies (e.g., those that both reduce greenhouse gas emissions, but also positively impact or neutrally impact the economy).	Oppose a carbon tax or cap-and-trade climate policies that would negatively impact industrial competitiveness and economic growth. Instead, support "no regrets" climate policies that will lead to lower emissions and support the American economy, such as federal investments in clean energy research and development.[131]
Energy-Related Regulations	Implement a Clean Energy Standard (CES) that would require 80 percent of electricity to come from clean energy sources, including nuclear, natural gas, and coal, with carbon capture technology by 2035.[132] Complete implementation of increasing the Corporate Average Fuel Economy (CAFE) Standard for light-duty vehicles to 54.5 miles per gallon by 2025; implement first-ever fuel economy standard for commercial vehicles by 2018. Support issuing permits for 10	Streamline or limit regulations related to coal, oil, and natural gas permitting, exploration, and extraction; empower states to oversee development of all energy sources on federal lands within their borders. Streamline the capabilities of the Nuclear Regulatory Commission to allow for accelerated construction of new reactors on existing sites within two years, as well as to approve new reactor designs. Support the federal Renewable Fuel Standard.

	gigawatts of renewable power from public lands and offshore waters by the end of 2012. Support the federal Renewable Fuel Standard, which mandates an increasing volume of renewable fuels like ethanol to be blended in gasoline.	
Federal R&D Funding for Energy Technologies	Support continuing and gradually increasing federal investments in Department of Energy (DOE) R&D programs; proposed increasing DOE R&D program budgets by 7 percent in FY2013.[133] Support nearly tripling the budget for ARPA-E and originally supported the creation of the Energy Innovation Hubs and the Energy Frontier Research Center.	Redirect some existing federal funding for clean energy from deployment incentives to basic energy research. Support government investment in basic research through the "ARPA" model of long-term, non-political funding for all energy technologies; support ARPA-E. However, as in other areas, funding for energy R&D would be subject to the across-the-board 5 percent cut in discretionary spending that Romney proposes.
Federal Support for Clean Energy Commercialization and Deployment	Support the renewal or continuation of energy deployment programs, such as the renewal of the Production Tax Credit (PTC) for wind power, the 1603 Treasury Department grant program, the Investment Tax Credit for renewable energy, tax credits for electric vehicles, and the loan guarantee program for clean energy and nuclear power. Support renewal of the 48(c) Advanced Energy Manufacturing Tax Credit. Eliminate fossil fuel subsidies for oil, coal, and natural gas deployment and production.	Does not support the renewal of the Production Tax Credit (PTC) for wind power.[134] Scale-down or eliminate subsidies, grants, and tax incentives for clean energy commercialization and deployment.
Energy-Related Procurement and Technology Transfer	Continue supporting a Memorandum-of-Understanding between the Department of Energy and the Department of Defense to support collaborations that accelerate the development and transfer of clean energy technologies from the lab to warfighters. Signed an Executive Order directing federal agencies to meet zero net energy guidelines by 2030.[135] Set goal to cut the federal government's greenhouse gas emissions by 28 percent by 2020.[136]	*Campaign has not articulated a similar position.*
Smart Energy Grid	Continue federal investments in smart grid R&D and continue funding the newly created Innovation Hub for Smart Grid research.	Eliminate regulatory barriers related to the electrical grid.

	OBAMA-BIDEN	ROMNEY-RYAN
Life Sciences and Biotechnology		
Advances in the 21st century are expected to dwarf the unprecedented advances in understanding in the life sciences seen over the last 100 years, bringing even more prodigious benefits. Informed observers expect dramatic transformations in the way we diagnose, treat, and prevent diseases; produce food, feed, and fibre for myriad uses; support our energy economy; and more. But these advances, derived from new understanding, depend on a number of essential pre-requisites. These include strong intellectual property protection that stimulates and rewards innovation; robust policies to encourage and enable research and development; a deep and wide foundation of fundamental research involving academic, government, and private sector research enterprises; and cost effective regulations to ensure safety for humans and the environment. But, as ITIF explains in *Leadership in Decline: Assessing U.S. International Competitiveness in Biomedical Research*, U.S. life sciences leadership depends on a strong commitment to invest in life sciences research and to implement policies, such as streamlined FDA drug approval pathways, that promote innovation.[137] Unfortunately, many competitors are increasingly out investing the United States in life sciences R&D. For example, over the next five years, China will invest twice as much as the United States in life sciences R&D in current dollars, and four times more as a share of GDP. Going forward, U.S. policy should be to grow life sciences funding at a rate that accounts for inflation, embraces emerging avenues of research that can propel U.S. innovative leadership, and reflects the catalytic effect biomedical research has on our nation's economy.[138]		
Support for Translational Research and Small Businesses/Startups	The Obama Administration's "National Bioeconomy Blueprint," released on April 26, 2012, advocates strengthening the research enterprise, including translational research, partnerships between the federal government and other players, reducing regulatory barriers, and improving workforce education.[139]	The Republican Party platform supports "federal investment in basic and applied biomedical research, especially the neuroscience research that may hold great potential for dealing with diseases and disorders such as Autism, Alzheimer's, and Parkinson's."[140]
Regulatory Policy	The National Bioeconomy Blueprint avows to, "Develop and reform regulations to reduce barriers, increase the speed and predictability of regulatory processes, and reduce costs while protecting human and environmental health."[141]	Republican Party platform "pledges to reform the FDA" in order to address its "lack of predictability, consistency, transparency and efficiency."[142]
Taxes on Medical Devices	The Affordable Care Act included taxes on medical devices to fund the Act.	Would eliminate the excise tax on medical devices included in the Affordable Care Act.

CONCLUSION

Both President Obama and Governor Romney offer important proposals across a range of science and technology, tax, talent, and digital economy issues designed to stimulate innovation and bolster the competitiveness of the U.S. economy. However, as ITIF argues in *One from Column A, B, and C: Finding a New Bipartisan Consensus on U.S. Competitiveness and Innovation Policy*, neither candidate nor political party gets it entirely right, and if the United States is to maximize its innovation and competitiveness potential, it's going to have to adopt the best ideas from both parties.[143]

Unfortunately, Republicans are all too often focused on limiting or denying government's contributions to bolstering U.S. economic competitiveness, while Democrats often seem more interested in shackling rather than harnessing the power of American enterprise. Each side thinks that if they just pursue the menu items in their "column," then U.S. competitiveness will be restored and all will be well. But there are two major problems with this perspective. First, because neither side wants the other side to get their menu items, few of the menu items ever get done. Second, even if one side would acquiesce to the other so that we get one side of the menu in place, it's not enough. We need all the menu items to get put on the table. Both sides will have to rise to the challenge, as the country simply can no longer afford a politics that looks at issues of U.S. competitiveness as true believers, with each side committed to getting its (correct) menu items and keeping the other side from getting its (incorrect) menu items. Each side has to bend if we are to restore U.S. economic greatness.

In general, the Left needs to accept the fact that successful companies that innovate and compete globally are not the enemy, and that public policy should help companies succeed in creating new products, services and jobs here at home. For its part, the Right needs to abandon its opposition to government's role in promoting competitiveness. All the tax cuts and regulatory relief in the world will not enable the United States and its enterprises to win in global competition if the country lacks a robust national innovation policy that includes partnerships with the private sector.

There is no more important issue in the United States right now than restoring the competitiveness, innovation, and productivity engine of the U.S. economy, thereby putting the economy on a sound competitive footing now and for future generations. It's important President Obama and Governor Romney recognize that while the United States retains many strengths when it comes to innovation, U.S. innovation leadership cannot be taken for granted and will not be sustained unless the country continues to implement smart policies designed to bolster our innovation competitiveness. The candidates' proposals on science and technology, innovation, broadband and telecommunications, energy, etc. documented in this report represent an important first step, but it's time for these issues to receive far greater attention in the presidential contest and beyond. Moreover, even in this intense election season, it's time for all policymakers to work harder to develop a bipartisan consensus around the need to advance a serious and comprehensive competitiveness and innovation strategy for the United States.

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ABOUT ITIF

The Information Technology and Innovation Foundation (ITIF) is a Washington, D.C.-based think tank at the cutting edge of designing innovation strategies and technology policies to create economic opportunities and improve quality of life in the United States and around the world. Founded in 2006, ITIF is a 501(c)(3) nonprofit, non-partisan organization that documents the beneficial role technology plays in our lives and provides pragmatic ideas for improving technology-driven productivity, boosting competitiveness, and meeting today's global challenges through innovation.

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