
2015 Year In Review

The year 2015 started with a bang for ITIF as the University of Pennsylvania named us one of the world's top science and technology think tanks. The rest of the year has been extremely busy and productive, too:

As in past years, ITIF was prolific, publishing more than 40 reports on topics ranging from high-skilled immigration to cross-border data flows to the need for an “innovation box” in the corporate tax code, while also conducting a rich program of speeches, panel discussions, and presentations—including events that we have hosted in our own conference space, on Capitol Hill, and in Brussels and New Delhi, among other locations. On the strength of these activities—and through official testimonies, public filings, and other direct engagement with governments around the world—we have continued to expand our footprint and influence in the U.S. and global media. We have appeared in nearly 570 news stories per month this year while placing a monthly average of 10 or more op-eds in leading publications such as the *Wall Street Journal*, *USA Today*, and the *Washington Post*, as well as targeted technology and policy outlets such as *TechCrunch*, *The Hill*, *Governing Magazine*, and *Euractiv*.

It was an especially busy year abroad for ITIF, as ITIF President Robert D. Atkinson and others on our senior team traveled extensively to engage in policymaking forums on four continents. Among the most noteworthy stops on our travels in 2015, Atkinson had a working lunch in Brussels with a small, high-level group of cabinet heads and members of the European Commission to discuss a number of issues surrounding Europe's digital single market, including how to spur investment in digital technologies and how to prevent data balkanization. Atkinson then spoke at a German Marshall Fund meeting of influential North American and European policymakers and industry to advocate for a framework for cross-border Internet policy. Atkinson addressed Eastern European officials this summer in Wroclaw, Poland and then, a few months later in Mexico City, he addressed the Economic Commission for Latin America and the Caribbean on why governments should focus on leveraging information technologies across their entire economies instead of trying to compete with Silicon Valley as producers of IT. Atkinson returned to Brussels in December for four presentations and multiple meetings with Commission officials.

ITIF Vice President Stephen Ezell, meanwhile, has been a Pied Piper of productivity. In January, he and Atkinson partnered with the Observer Research Foundation in New Delhi, India, to present ITIF's report on “The Indian Economy at a Crossroads,” arguing it is primed for economic renewal so long as it implements

the right kind of innovation- and productivity-oriented economic growth policies. In October, he was in Oslo to discuss innovation in the service-driven economy, the Internet of Things, and ITIF's book *Innovation Economics*. And in November, he was in Singapore presenting to Asian officials on ICT innovation policy and then in Rome presenting at the New Digital Government Summit on the role of information technology in driving Italian productivity, innovation, and economic growth. ITIF Vice President Daniel Castro also logged many thousands of air miles this year, including stops in Krakow, Poland, where he addressed the opening session of the European Cybersecurity Forum on digital trends and Internet governance; in Ankara, Turkey, where he gave a talk at the Technology Development Foundation of Turkey on big data innovation; in Singapore, where he spoke to policymakers about cybersecurity issues; and in Medellin, Colombia, where he participated in the Big Data 2015 conference.

Throughout all of this activity, we have continued to concentrate on advancing policy debates in five key issue areas: innovation and competitiveness; information technology and data; telecommunications; trade and globalization; and energy and life sciences. Brief summaries of our activities in each area follow.

Innovation and Competitiveness

Heading into the 2016 presidential campaign, we released a comprehensive policy program that serves as a roadmap for making the U.S. economy flourish again by invigorating enterprises through greater innovation, productivity, and competitiveness. Styled as a campaign memo with a draft of "the speech we would love to hear on tech and the economy," the report provides a detailed action plan with specific to-do items such as increasing federal funding for science and engineering research, expanding the R&D tax credit, expanding H-1B visas, lowering the corporate tax rate, and bolstering trade enforcement. We rolled out this agenda with a national press release and social media push, and have continued the conversation in a series of op-ed articles that Atkinson wrote in the *Christian Science Monitor*, and in other forums, such as testimony that Ezell delivered in July at a "Make It in America" hearing convened by the House Democratic Caucus. We will keep up this drum beat throughout the coming year, including at events that we plan to hold in Philadelphia and Cleveland during the two 2016 political conventions.

Meanwhile, we have published a number of other reports and commentary on innovation, productivity, and competitiveness issues, ranging from tax and regulatory reform to the myth of America's manufacturing renaissance and the need to embrace rather than resist technology advances such as artificial intelligence, robotics, and automation. In March, Senators Harry Reid, Amy Klobuchar, and Chris Coons invited Atkinson to meet with the Senate Democratic Caucus to candidly discuss the state of American manufacturing. Atkinson pulled no punches, explaining that optimistic stories about a U.S. manufacturing

revival are misrepresenting the real trends and arguing we need a comprehensive set of policies on technology, taxes, trade, and talent to spark a real renaissance. In April, to advance the debate about how a STEM worker shortage hurts the U.S. economy, ITIF published a thorough rebuttal of the most prevalent arguments against high-skilled immigration reform. Also in April, we reported on the global trend in which an increasing number of countries are establishing dedicated foundations or agencies to advance national innovation strategies. This is a theme we will return to early in 2016 when we publish a comprehensive analysis that will rank 56 countries on the extent to which their policies help or hurt global innovation.

The issue of corporate tax reform figures prominently in any serious discussion of U.S. competitiveness, so ITIF has been energetic in pressing the case for enacting the right kind of reforms as soon as possible. Our senior fellow for economic policy, Joe Kennedy, has led the charge on this, penning op-eds in the *Wall Street Journal*, *USA Today* and *The Hill* on different aspects of the issue, including why “inversions” won’t stop until we lower the corporate rate, the relative merits of corporate versus small business tax reform, and the immediate need to pass tax extenders for R&D credit and bonus depreciation. We also released a report in November in which Atkinson argued Congress should add an “innovation box” provision to the U.S. tax code in order to keep pace with a number of other countries that have already done so to attract or retain innovative activities.

In June, we returned to a critical competitiveness issue that we first explored two years ago: how the fallout from revelations about U.S. surveillance policies continues to subvert U.S. competitiveness in key technology sectors such as cloud computing. Our initial estimate had been that even a modest drop in the expected foreign market share for cloud computing stemming from concerns about U.S. surveillance could cost the United States between \$21.5 billion and \$35 billion by 2016. But when we took another look this summer, we found the cost actually has been much greater, because the impact has cut across the whole technology sector, not just cloud computing. The report concluded that while the USA Freedom Act was a positive step, Congress should do more to increase transparency about U.S. surveillance activities, strengthen information security by opposing any government efforts to introduce backdoors in software or weaken encryption, strengthen U.S. mutual legal assistance treaties (MLATs), and work to establish international legal standards for government access to data, among other measures.

ITIF’s advocacy efforts on all of these issues have not fallen on deaf ears. For example, in an *Orlando Sentinel* op-ed, former New Mexico Governor Bill Richardson cited ITIF’s report debunking arguments against high-skilled immigration. In a floor speech, U.S. Senator Rand Paul cited ITIF’s report on the impact of surveillance policies on U.S. technology companies. And the Senate Finance Committee’s Business Income

Tax Working Group cited ITIF's report on the R&D tax credit, "We're #27: The United States Lags Far Behind in R&D Tax Incentive Generosity." Beyond mere recognition, ITIF also was a key contributor in shaping the idea for the Innovators Job Creation Act, which passed the Senate Finance Committee unanimously. And ITIF reports and advocacy efforts helped inspire the Energy Department's newly established Office of Technology Transition, formation of a federal technology commercialization fund, and a three-year extension of technology transfer agreements in federal energy labs.

Trade and Globalization

2015 also was a momentous one for trade policy, particularly as negotiations for the Trans-Pacific Partnership reached a conclusion, and ITIF has been deeply involved in advocating for measures to encourage innovation and remove mercantilist market barriers for cutting-edge technology products and services. For example, we published a report in March on the imperative of protecting life sciences innovation with 12 years of data protection for novel biologic drugs—though we were disappointed to see that TPP negotiators had settled for less.

Outside of the TPP, we also were vocal throughout the year in raising alarms about China's ongoing practice of innovation mercantilism. In January, Atkinson testified before the U.S.-China Economic and Security Review Commission that there has been a steady shift toward a "China Inc." development model that hinges on indigenous innovation policies to help Chinese firms at the expense of foreign competitors. In March, the Chinese embassy invited Atkinson to meet with its first secretary and economic counselor to air specific concerns with a draft "anti-terrorism" law that would compel Internet and information service providers to cooperate with the Chinese government in intercepting and preventing delivery of certain communications. In September, on the eve of Chinese President Xi Jinping's state visit to the United States, we published a comprehensive review of the yawning gap between the WTO commitments China made 15 years ago and its actual practices since. And in November, Atkinson wrote an op-ed in *Forbes* detailing the broader context of China's goal of becoming the "master of its own technologies" by serially manipulating the marketplace and wantonly stealing and coercing transfer of American knowhow. Throughout the year, we also hosted a number of Chinese government delegations.

On a more hopeful note, ITIF gave testimony in May to the U.S. International Trade Commission on India's trade and investment policies in the first year of the Modi administration. We described how the incoming government has taken a number of concrete and laudable steps to liberalize India's trade and investment policies and embrace market-based growth. But we also noted that a number of concerning policies—many introduced by the previous Singh administration—have not yet been repealed or modified. Moreover, the

Modi administration has introduced several new policies that could distort trade and investment in information and communications technologies, life sciences, retail, and renewable energy.

Meanwhile, building on our 2014 report on the vital role that the Export-Import Bank plays in supporting U.S. competitiveness, we issued a series of press releases, blog posts, and op-eds throughout 2015 that argued Congress should reauthorize the bank and get U.S. businesses back on a predictable and level playing field with global competitors. So we are pleased to see that a reauthorization has now been included in the federal surface transportation bill. We also championed regional efforts to promote healthy ecosystems for innovation. For example, in June, the Inter-American Development Bank invited Atkinson to address a group of government officials from Pacific Alliance countries on public policy trends for innovation. This was part of a concerted effort on the bank's part to develop a regional innovation ecosystem.

Information Technology and Data

ITIF has significantly expanded its work on data policy this year, as our Center for Data Innovation launched a new European policy program in Brussels, naming Paul MacDonnell to head the effort. Priorities for the coming year on this front will include influencing the pillars of the European Commission's Digital Agenda, the proposed EU Regulation on Data Protection, the Commission's consultation on online platforms, the development of smart cities and the Internet of Things, the growth of the data economy generally, and innovation issues within the proposed Transatlantic Trade and Investment Partnership. Earlier in the year, among other activities, the Center released a report at a public event in Brussels assessing progress that the G8 has made in carrying out its open data charter and unveiled a legislative agenda for the U.S. Congress to accelerate data innovation.

ITIF also has been outspoken throughout the year in arguing for policies that facilitate rather than inhibit the global marketplace for IT-driven products and services. For example, as the European Commission undertook a consultation on the role and influence of Internet market platforms, we published a report explaining why they don't need special regulation, and we appreciated receiving public praise for it from FTC Commissioner Maureen Ohlhausen. Meanwhile, against the backdrop of TPP negotiations and the ongoing fallout of the Snowden revelations about NSA surveillance programs, we published a major report detailing how cross-border data flows enable growth in all industries, not just the high-tech sector, which officials from DG Trade have said was instrumental in changing the debate in Brussels. The report argued countries should avoid protectionist rules that limit data exchange across borders, such as data-residency requirements, and it recommended ways to roll back anti-competitive trade practices for data.

Another key theme in 2015 was how government can enable and capture maximum benefit from information and communications technologies, both in its own operations and in the broader economy. Among the reports we published during the course of the year was a high-level policymaker’s guide to spurring ICT adoption in both developed and developing nations, and more detailed analyses of how the federal government can bring surface transportation policy into the digital age by taking a “from concrete to chips” approach to the highway bill, and how state governments can generate \$11 billion in savings by spurring productivity with smarter and better-funded e-government initiatives.

We also continued our work pushing back against the growing movement of “tech populists” who demonize many technological innovations. This included an April report titled “How Tech Populism is Undermining Innovation” and a September report titled “The Privacy Panic Cycle: A Guide to Public Fears About New Technologies.” We released each of them at lively events that we hosted at ITIF, and we have continued driving the debate throughout the year in op-eds and on social media.

In addition to publishing numerous reports and commentary pieces on these IT and data issues, ITIF engaged directly with governments in the United States, Europe, and elsewhere. For example, we delivered testimony to the House Judiciary Committee on international data flows and to the Energy and Commerce Committee on the future of the Internet and again later on the Internet of Things. Daniel Castro was accepted to serve as co-chair of the Commerce Department’s Data Advisory Council. On a trip to Brussels in September, Atkinson met with a number of cabinet heads and other Commission officials on strategic considerations related to Europe’s digital single market. And on another occasion, Atkinson was asked to discuss digital taxation issues with the European Commission Director General in charge of customs and taxation.

This engagement has led to a number of tangible policy outcomes, as when the U.S. House of Representatives amended the DOTCOM Act to include a recommendation from testimony that Daniel Castro delivered to the Judiciary Subcommittee on Courts, IP, and the Internet. Meanwhile, Senators Schatz, Fischer, Booker, and Ayotte drew on ITIF analysis when they wrote to the U.S. Comptroller General requesting a GAO assessment of the impact of the Internet of Things. The White House’s seed funding initiative on smart cities drew from engagement with ITIF on the issue. U.S. Security and Exchange Commission Investor Advocate Rick Fleming referenced a Center for Data Innovation article on financial data reporting in remarks on the role of new technologies in promoting investor knowledge. And, echoing ITIF’s call for a national strategy on the Internet of Things, the Senate passed a resolution that the U.S. government should commit itself to using IoT innovations to improve its efficiency and effectiveness.

Telecommunications

Net neutrality was a contentious issue leading up to the FCC’s decision in February to classify broadband Internet access as a utility under Title II of the Communications Act, and it has remained so afterward. ITIF has been deeply engaged at every stage of the debate, consistently arguing in reports, op-eds, blog posts, testimonies, and public filings that regulating broadband under Title II would be folly and that the better course would be for Congress to give the FCC clear, appropriately tailored jurisdiction to regulate net neutrality by statute. Atkinson stressed this point when the House Commerce Committee asked Atkinson to testify on why the FCC decision was faulty. In the end, we noted that the FCC ended up citing our public filing on this issue a dozen times in its Open Internet Order, even as it ultimately took a position we strongly opposed.

As the ongoing legal challenges to the FCC’s decision make clear, also note this issue is far from settled—and there still may be a political opening for a better solution. To point the way, we published a report in October calling for a “grand bargain” that grounds widely agreed upon net neutrality rules in new, more solid legal authority while also taking substantial strides to bridge the country’s digital divide. We released the report on Capitol Hill, and we were heartened when the House Energy and Commerce Committee called attention to our proposal in a blog post on its website.

ITIF also has been active on wireless spectrum issues in 2015, producing commentary and analysis for U.S. audiences on how best to manage federal spectrum auctions and publishing a major report this month on lessons from U.S. spectrum policy in the context of the EU’s push toward a digital single market.

Energy and Life Sciences

Earlier this month, when climate negotiators gathered in Paris for the UN’s COP21 conference, leaders of the world’s 20 biggest economies made a refreshingly encouraging announcement that they would be doubling their investments in clean energy research and development. This marks an important strategic shift that ITIF has been championing for years—including in an advocacy campaign focused specifically on the Paris talks—because we have long since come to the firm conclusion that the only way to mitigate the worst effects of climate change will be to rapidly accelerate innovation in clean energy technologies so they become less expensive than fossil fuels. The fact that world leaders now clearly understand this is deeply gratifying.

In life sciences, ITIF has been active throughout the year shedding light on the often overwrought debate about the merits of genetically modified organisms (a.k.a., “GMOs”) in increasing agricultural productivity. In February, we published a lengthy “Policymaker’s Guide to the GMO Controversies.” It examined several

key questions, including the economic benefits of GMOs, their rate of adoption, the rise of the GMO labeling movement, and the sustainability of GMO-based agriculture generally. In all cases, the report found overwhelming evidence for the economic, agricultural, environmental, and health benefits of GMOs.

We have built on that analysis in a subsequent series of testimonies, media interviews, and blog posts refuting common canards about GMOs. For example, ITIF Senior Fellow Val Giddings testified in June before the House Energy and Commerce Subcommittee on Health, where he pointed out the folly of state labeling initiatives. He has authored a series of blog posts on topics such as Chipotle's ill-considered "GMO-free" menu and the flawed and flimsy case against the weed killer 2,4-D. And he appeared this month as a guest on NPR's *Diane Rehm Show* to explain why the FDA got it right in approving GMO salmon.

Moving Forward

The coming year promises to be as active as this one has been. For example, already in the product pipeline for the first quarter of 2016 are major reports in each of our main issue areas: We will release a groundbreaking study examining "the demography of innovation" in the United States and another, as mentioned above, on how individual countries' policies impact global innovation. With the TPP agreement now in the hands of the countries that negotiated it, we are turning our attention to the Trade in Services Agreement, paying special attention to its provisions on cross-border data flows. We are working on one report that will rank the states on their data innovation policies and results, and another that will provide a data-innovation primer to policymakers in the EU. We plan an update our "Whole Picture" assessment of where U.S. broadband networks stand. And we are examining how GMO opposition affects farmers in developing nations.