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The Role of Trade and Technology in 21st-Century Manufacturing

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Chairman Wyden, Ranking Member Hatch, and members of the Committee, I appreciate the opportunity to discuss the role of trade and technology in 21st-century manufacturing and commend your Committee for taking up this important topic. Today, I would like to provide an overview of the past, present, and future of America's manufacturing economy and then offer several policy recommendations designed to bolster American manufacturing competitiveness.

Manufacturing matters immensely to the U.S. economy. Manufacturing contributes over $2.08 trillion to America's economy annually while directly supporting over 12.1 million high-wage U.S. jobs.[1] When indirect jobs are counted, manufacturing supports an estimated 17.4 million jobs in the United States—or about one in six private-sector jobs.[2] Manufacturing jobs, on average, pay 9 percent more in wages and benefits than jobs in the overall economy. One of the reasons jobs in manufacturing pay more is because manufacturing produces more exports, and exports contribute an additional 18 percent to workers' earnings on average in the U.S. manufacturing sector. Manufacturing also generates greater employment and economic spillovers than other sectors of the economy. For example, research finds that for every job created in manufacturing, as many as 2.5 jobs are created in other sectors of the economy, while an estimated additional $1.40 in output from other sectors is generated for every $1.00 in final sales of manufactured products.[3]

Yet manufacturing is also America's principal source of exports (i.e. traded sector competitiveness), research and development (R&D), and innovation activity, not to mention a key contributor to national security.[4] Manufacturing accounts for 57 percent of America's exports. In fact, perhaps the most important reason why manufacturing matters is that it's simply impossible to have a vibrant national

economy without a globally competitive traded sector (those sectors that compete in international markets and whose output is sold, at least in part, to non-residents of the nation), and manufacturing is by far America's most important traded sector. Manufacturing is also a key driver of R&D and innovation in the U.S. economy. In fact, America's manufacturing sector accounts for 72 percent of all private sector R&D spending and employs 63 percent of domestic scientists and engineers. Moreover, U.S. manufacturing firms demonstrate almost three times the rate of innovation as U.S. services firms.[5]

Unfortunately, despite manufacturing's vital importance to the U.S. economy, the 2000s were a disaster for U.S. manufacturing, as America lost one-third of its manufacturing jobs—almost 6 million—a rate of job loss worse even than that experienced during the Great Depression.[6] While some have attributed these deep losses to increased manufacturing productivity, the reality is that U.S. manufacturing productivity grew at similar rates between 1990 and 1999 and between 2000 and 2009—56 percent and 61 percent, respectively—yet manufacturing employment declined just 3 percent in the former decade but 33 percent in the latter.[7] And while some argue that manufacturing is in decline across virtually all advanced economies, U.S. manufacturing job losses have been extreme compared to those experienced in peer countries. Of the ten countries tracked by the U.S. Bureau of Labor Statistics, no country (other than Great Britain) lost a greater share of its manufacturing jobs than the United States did between 1997 and 2009.[8] In fact, since 1997, the United States has lost 43 percent of its full-time equivalent (FTE) manufacturing workers when controlling for labor force growth, while Germany has lost just 8 percent.

Rather, the severe manufacturing job losses of the 2000s were the result of a loss of global competitiveness—in part exacerbated by other nations' unfair trade practices—which were manifested in real output declines. Official government figures suggest that U.S. manufacturing output grew by 15 percent during the 2000s, even as U.S. GDP grew by 17 percent. However, as ITIF explains in detail in *The Case for a National Manufacturing Strategy*, official government figures significantly overstate manufacturing output. A key reason why is that they overstate output from the computer and electronics sector (NAICS 334), thereby inflating estimates of overall manufacturing output growth.[9] (The government's inflated calculation of output from the computer and electronics sector pertains partly to its inability to accurately account for import substitution and partly to counting increases in computing speeds and power as increases in output). This over-estimation of the output growth from the computer and electronic products sector has masked declines across the majority of U.S. manufacturing sectors and inflated output growth from the manufacturing sector as a whole. In fact, when calculated accurately, during the 2000s, U.S. manufacturing output actually fell by 11 percent

during a period when GDP increased by 17 percent.[10] This falling U.S. manufacturing output was replaced with more imported products, as America's goods trade deficit exceeded $7 trillion in the 2000s.[11]

The 2010s have seen American manufacturing rebound, yet not significantly more than one would expect from a cyclical recovery and certainly not sufficiently to suggest that structural challenges have been sufficiently addressed or that an American manufacturing renaissance is inevitable.[12] On the positive side, as the Reshoring Institute's Harry Moser notes, we've stabilized the wave of offshoring experienced during the 2000s, with the United States reshoring roughly one manufacturing job for every one offshored today.[13](This is a significant improvement from a net loss of about 150,000 manufacturing jobs per year ten years ago.) And the United States has added 650,000 manufacturing jobs since the end of 2010.[14]

However, these job gains barely recover one-tenth of U.S. manufacturing job losses from the 2000s. Moreover, when one excludes the U.S. computer and electronics sector (again, because government data overstates this sector's output), U.S. manufacturing value added has still not recovered from the Great Recession, and in 2012 remained 7.4 percent below 2007 levels.[15] (In fact, excluding computer and electronics, from 2007 to 2012, real value added produced by durables manufacturing fell by 2.9 percent, while from 2007 to 2013 non-durables value added fell by 5.9 percent). There are still fewer U.S. factories today than there were two years ago, as 3,000 more manufacturing establishments closed then opened in 2012.[16] And our trade balance in goods is already negative $2.8 trillion for this decade.[17] In short, while U.S. manufacturing performance is better than in the 2000s, it's still not adequate. For it to be, we should be seeing manufacturing output and jobs increase at least 50 percent faster than GDP and the trade deficit in manufacturing dropping by at least 5 to 10 percent annually.

Those who believe that America's manufacturing recovery has already "turned the corner" largely believe that simply getting the "business climate" right and costs low enough are all that's needed for American manufacturing to thrive. For example, The Boston Consulting Group (BCG) recently released a report, *The U.S. as One of the Developed World's Lowest-Cost Manufacturers*, which argues that U.S. manufacturing could add at least 2.5 million and as many as 5 million new jobs by 2020, as the long-running trend of U.S. manufacturers outsourcing production to China will be reversed and replaced by a dramatic "reshoring" of manufacturing production back to the United States.[18] BCG's report contends that lower manufacturing costs will be the secret elixir restoring American manufacturing to health, citing slow increases in manufacturing wages and significantly lower energy costs.[19] Specifically, BCG

holds that, by 2015, U.S. manufacturing costs will be 8 to 18 percent lower than those of leading competitors in Germany, France, Japan, and the United Kingdom and argues that "as a result of this increasing competitiveness in manufacturing, America will capture $70 to $115 billion in annual exports from other nations by the end of the decade."[20]

To be sure, U.S. manufacturing production costs have become more globally competitive. The dollar has depreciated slightly (10 percent against China's renminbi), and U.S. energy costs, such as for natural gas, have fallen to one-third European levels, attracting additional foreign direct investment and making America more competitive in energy-intensive manufacturing.[21] Yet the reality is that U.S. manufacturing costs *are already very low*, in fact below those of Germany, France, Japan, and the United Kingdom and almost on par with those of South Korea. In fact, based on an analysis of data from MAPI and the Manufacturing Institute's *2011 Report on The Structural Cost of U.S. Manufacturing*, manufacturing costs per worker hour are $29.83 in the United States, compared to $24.71 in South Korea. And manufacturing costs per worker hour are already almost 40 percent greater in Japan and almost two-thirds greater in Germany.[22] Moreover, the gap between manufacturing wages in the United States and China remains much wider than many suspect. In fact, the latest Bureau of Labor Statistics figures suggest that Chinese wages are still only approximately 20 percent of U.S. wages. And the fastest areas of foreign direct investment growth in China are in the inland areas (rather than the coastal regions) where wage levels are even lower.[23] And while lower energy costs, particularly for natural gas, will boost U.S. manufacturing competitiveness, the reality is that less than 10 percent of U.S. manufacturing output is significantly energy-intensive to the extent that lower energy costs would have a more than minor impact on total costs. For example, lower energy costs will have only a marginal impact on factories making such technology- and knowledge-intensive products as semiconductors.

Thus, while further production cost reductions will help U.S. manufacturers, they won't be sufficient to restore America's manufacturing competitiveness. So, while BCG and others who assert that an American manufacturing renaissance is right around the corner are correct that the United States can become an industrial powerhouse again, they are wrong that market forces acting alone will produce such a result. Lower costs alone won't restore the erosion of an industrial commons that has left America unable to manufacture a range of advanced high-technology products from fabless semiconductor chips to LCD screens and lithium polymer batteries.[24] Nor will lower manufacturing costs address the rampant innovation mercantilist practices of countries such as China and India that use tools

such as localization barriers to trade (LBTs) that force American establishments to manufacture locally if they desire access to foreign markets.

Rather, it will take a coordinated set of policies regarding the "4Ts" of Technology, Trade, Tax, and Talent to power sustained American industrial renewal, as the following section elaborates.[25]

Regarding technology, America must do better at turning scientific discoveries into new technologies that are commercialized and manufactured at scale in the United States. To support this, Congress should pass the bipartisan Revitalize American Manufacturing & Innovation (RAMI) Act, which would provide one-time funding to establish up to 15 Institutes for Manufacturing Innovation. These Institutes would focus on developing advanced manufacturing product and process technologies, facilitating commercialization, and providing important workforce skills.[26] Virtually every major American manufacturing competitor—including Germany, France, Japan, and the UK—operates similar public-private partnerships focused on industrially relevant R&D and production technologies, and the United States should do so as well.[27]

The United States also needs to increase incentives for businesses to invest in R&D and innovation. The U.S. R&D tax credit is only the world's 27th most generous, behind even Brazil, China, and India.[28] Moreover, the United States lacks an investment tax credit. To remedy this, Congress should implement an Innovation and Investment Tax Credit (IITC) which would provide a tax credit of 45 percent for business investments in R&D and skills training and 25 percent on expenditures for new equipment and software on all expenditures above 50 percent of base-period expenditures.[29]

Corporate tax reform is also needed. We hear much about how while the U.S. statutory corporate rate may be second highest in the world, the U.S. effective rate is more competitive. But out of 37 nations examined, ITIF's report *The Atlantic Century* found that the United States ranks 35th highest in terms of its overall effective corporate tax rate. Moreover, of ten nations with data going back to 1989, only the United States saw an *increase* in its effective corporate tax rate.[30] Likewise, a recent National Bureau of Economic Research working paper found that of 20 nations and regions, the United States had the second highest effective corporate tax rate (with Japan the highest).[31] America's higher corporate tax rates mean that American manufacturers pay an effective tax rate 37 percent higher than Asian manufacturers do.[32] Furthermore, while broader corporate tax reform is needed, it's important that incentives for investment are not just retained but expanded as part of that process.

Finally, one in three U.S. manufacturing jobs depends on exports. Congress plays a vital role in advancing policies supporting trade promotion, trade enforcement, and opening new markets.[33] First, regarding trade promotion, the U.S. Export-Import Bank plays a vital role in supporting U.S. exports and jobs, in part by leveling the playing field for U.S. exporters by matching the credit support that other nations provide.[34] The Bank's importance has only increased as competitors such as China and Germany invest four and five times as much, respectively, than the United States as a share of their GDP in export credit.[35] It's imperative in coming weeks that Congress renew the Ex-Im Bank's authorization while increasing its lending cap.

The global trade system can produce prosperity for all, but only if nations play by the rules. Thus, while increasing exports is important, so is combatting foreign "innovation mercantilist" trade policies that seek to advantage their domestic producers at the expense of U.S. manufacturers.[36] These include, among others: currency manipulation; export subsidies; discriminatory tariffs and technology standards; intellectual property (IP) theft; localization barriers to trade; and forced IP or technology transfer as a condition of market access. Such policies inflict significant damage on both the U.S. and global economy (and over the long term even the countries that use them), but unfortunately their use reached an all-time high in 2012, with over 1,560 technical barriers to trade reported to the World Trade Organization (WTO).[37]

In fact, just one type of innovation mercantilist tool, local content requirements (LCRs), impacts 5 percent of global trade and costs the global economy over $100 billion annually.[38] Meanwhile, innovation mercantilist practices are increasingly impacting digital industries. For example, some two dozen countries have introduced localization barriers to digital trade, including local data storage laws or requirements, such as Vietnam's Decree 72, that mandate that Internet companies must use local IT facilities in the provision of digital services.[39] India has introduced a Preferential Market Access (PMA) policy that favors Indian-based information and communications technology (ICT) manufacturers in government procurement. Brazil's public procurement policies strongly encourage domestic production by establishing price preferences of up to 25 percent across a number of sectors, including for medical technologies and medications, automobile production, and electricity generation. And China has deployed a wide range of innovation mercantilist practices, excelling at mandating technology and intellectual property transfer as a condition of market access, forcing joint ventures, introducing technology standards that favor domestic industries, showering domestic technology companies with subsidies, using anti-trust policy as a club against foreign companies, using the legal system to support

use of foreign IP without due compensation, and pressuring state-owned enterprises to purchase Chinese-produced technology.

There are a number of steps Congress can take to help combat unfair foreign trade practices. First, as ITIF documents in a forthcoming report, *The Global Mercantilist Index,* Congress should require the United States Trade Representative's Office (USTR) to rank nations according to the extent of their use of mercantilist practices—and the extent to which they specifically impact high value-added, technology-intensive U.S. manufacturing industries. Congress should also provide USTR with significantly more resources for trade enforcement. In particular, Congress should authorize and appropriate $5 million to create an Office of Globalization Strategy within USTR, run by a Deputy for Globalization Strategy. The Office would be charged with *systems thinking* about the design of U.S. trade policy in the context of globalization and would have as a key assignment developing a framework for addressing state capitalism as part of a U.S. national trade strategy. Congress should also assist companies who bring trade cases before the WTO by providing companies a 25 percent tax credit for expenditures related to bringing WTO cases. Finally, for countries that continue to persist in using innovation mercantilist practices, Congress should consider precluding such countries from receiving Generalized System of Preferences (GSP) benefits.[40]

Lastly, market-access promoting free-trade agreements support U.S. exports—and jobs. Completing a comprehensive Transatlantic Trade and Investment Partnership (T-TIP) Agreement could support creation of up to 750,000 U.S. jobs over the coming decade.[41] Meanwhile, trade with Transpacific Partnership (TPP) countries supports 15 million U.S. jobs and a TPP agreement could support as many as 700,000 new U.S. jobs by 2025.[42]

While important, these agreements need to ensure very strong intellectual property protections for American intellectual property rights holders. In particular, trade secrets, or "know-how," are critical to the competitiveness of firms in innovation industries. For example, one estimate placed the value of trade secrets owned by U.S. companies at $5 trillion. Trade secrets are especially important to start-up companies and small business enterprises because, unlike patents, they can be protected without registration or formalities. But once disclosed, trade secrets lose all their value to their owners. So they must be carefully protected, especially as competitors are eager to get access to them and some foreign governments are becoming adept at forcing the disclosure of sensitive information to advance national policy goals. To address this, the T-TIP should require the adoption of a common definition for trade secrets: any information that has economic value (actual or potential), is not generally known to the

public, and for which the trade secret owner has taken reasonable measures to keep private. U.S. authorities should also work with others around the world to criminalize the willful theft of trade secrets.[43]

The Information Technology Agreement (ITA)—a trade agreement which removes tariffs on trade in hundreds of information and communications technology products—has been one of the most successful trade agreements ever undertaken. Since its launch in 1996, total global trade in ICT products increased more than 10 percent annually, from $1.2 trillion to over $5.0 trillion, with this growth bolstered not just by the growth of the ICT industry but also by liberalization of trade in ICT products. The ITA has empowered the formation of efficient global ICT supply chains which have enabled a shift from a closed, linear innovation model to an open innovation model that relies on close collaboration among suppliers, network partners, and customers to bring breakthrough new ICT products to market.[44] Global trade policy negotiators are currently negotiating to expand the product coverage of the ITA, as the list of ICT products the agreement covers has not been updated since the agreement's launch in 1996. ITIF estimates that expanding the Information Technology Agreement could boost U.S. exports of information technology products by $2.8 billion annually, supporting the creation of 60,000 new jobs.[45] Congress should support the Administration's efforts to expeditiously complete these high-standard T-TIP, TPP, and ITA expansion trade agreements.

In conclusion, American manufacturing can once again become a key driver of robust economic and employment growth, but that won't happen in the absence of comprehensive public policies supporting America's manufacturing competitiveness.

Endnotes

[1] National Association of Manufacturers, "Facts About Manufacturing in the United States," http://www.nam.org/Statistics-And-Data/Facts-About-Manufacturing/Landing.aspx.
[2] Ibid.
[3] Ross DeVol et al., "Manufacturing 2.0: A More Prosperous California," The Milken Institute, June 2009, 3, http://www.milkeninstitute.org/pdf/CAManufacturing_ES.pdf; The Manufacturing Institute, *The Facts about Modern Manufacturing, 8th Edition*, 2009, http://www.nist.gov/mep/upload/FINAL_NAM_REPORT_PAGES.pdf.
[4] Stephen J. Ezell and Robert D. Atkinson, "The Case for a National Manufacturing Strategy," (Information Technology and Innovation Foundation [ITIF], 2011), http://www.itif.org/files/2011-national-manufacturing-strategy.pdf.
[5] Gregory Tassey, "Rationales and Mechanisms for Revitalizing US Manufacturing R&D Strategies," *Journal of Technology Transfer* 35, no. 3 (2010): 283-333, http://www.nist.gov/director/planning/upload/manufacturing_strategy_paper.pdf; Mark Boroush, "NSF Releases New Statistics on Business Innovation," National Science Foundation, October 2010, http://www.nsf.gov/statistics/infbrief/nsf11300/nsf11300.pdf.
[6] Robert D. Atkinson et al., "Worse Than the Great Depression: What Experts Are Missing About American Manufacturing Decline," (ITIF, March 2012), http://www2.itif.org/2012-american-manufacturing-decline.pdf.
[7] Stephen Ezell, "Revitalizing U.S. Manufacturing," *Issues in Science and Technology* Vol. 28, no. 2, (Winter 2012): 41-50, http://issues.org/28-2/ezell-3/.
[8] U.S. Bureau of Labor of Statistics, Division of International Labor Comparisons, *International Labor Comparisons of Annual Labor Fore Statistics* (Washington, D.C.: BLS, 2011), http://www.bls.gov/fls/flscomparelf/lfcompendium.pdf.
[9] Ezell and Atkinson, "The Case for a National Manufacturing Strategy," 18-21.
[10] Atkinson et al., "Worse Than the Great Depression," 3.
[11] U.S. Census Bureau, Foreign Trade (U.S. trade in goods and services—balance of payments basis; accessed December 1, 2010), http://www.census.gov/foreign-trade/statistics/historical/gands.txt.
[12] Stephen J. Ezell, "America's Manufacturing Renaissance: Fact and Fiction," (presentation, Hanover, Germany, September 17, 2013), http://www.itif.org/publications/americas-manufacturing-renaissance-fact-and-fiction.
[13] See: "Reshoring Initiative: Bringing American Jobs Back Home," http://www.reshorenow.org/.
[14] U.S. Bureau of Labor Statistics, "Employment, Hours, and Earnings from the Current Employment Statistics survey (National): Manufacturing," (accessed July 14, 2014), http://data.bls.gov/timeseries/CES3000000001.
[15] U.S. Bureau of Economic Analysis, Industry Data (GDP-by-Industry, Real Value Added by Industry, Annual; accessed July 14, 2014), http://www.bea.gov/industry/index.htm#annual.
[16] Robert D. Atkinson, "What Manufacturing Renaissance?," *The Innovation Files* (blog), April 3, 2014, http://www.innovationfiles.org/what-manufacturing-renaissance; U.S. Bureau of Labor Statistics, "2013 Business Employment Dynamics Surveys," http://www.bls.gov/schedule/archives/cewbd_nr.htm#2013.
[17] U.S. Bureau of Economic Analysis, International Data (Table 2.1, U.S. International Trade in Goods; accessed July 15, 2014), http://www.bea.gov/international/bp_web/tb_download_type_modern.cfm?list=1&RowID=45.
[18] Harold L. Sirkin, Michael Zinser, and Justin Rose, "The U.S. as One of the Developed World's Lowest-Cost Manufacturers," (The Boston Consulting Group, August 20, 2013), https://www.bcgperspectives.com/content/articles/lean_manufacturing_sourcing_procurement_behind_american_export_surge/.
[19] The Information Technology and Innovation Foundation, "ITIF Challenges the Boston Consulting Group to a Wager on the Number of American Manufacturing Jobs Added by 2020," news release, August 27, 2013, http://www.itif.org/pressrelease/itif-challenges-boston-consulting-group-wager-number-american-manufacturing-jobs-added-.
[20] Sirkin, Zisner, and Rose, ""The U.S. as One of the Developed World's Lowest-Cost Manufacturers."
[21] Robert D. Atkinson, ""The Atlantic" Story of American Manufacturing Renaissance? Think Again," *The Innovation Files* (blog), December 3, 2012, http://www.innovationfiles.org/the-atlantics-story-of-american-manufacturing-rennassaince-think-again/#sthash.1vsLQTAD.dpuf.
[22] Numbers based on analysis of data from: MAPI Manufacturers Alliance and The Manufacturing Institute, "2011 Report on The Structural Cost Of U.S. Manufacturing," (MAPI and The Manufacturing Institute, October, 2011), http://www.themanufacturinginstitute.org/Research/Structural-Cost-of-Manufacturing/2011-Structural-Cost-Report/~/media/48CE1E3848B446ADAFEBF9E945D26FC8.ashx.
[23] Economist Intelligence Unit (EIU), "China's second- and third-tier cities: Opportunities for Australia," (EIU, 2011), www.austrade.gov.au/ArticleDocuments/2045/EIU_Report_Chinas_second_and_third_tier_cities.pdf.aspx.
[24] Gary P. Pisano and Willy C. Shih, "Restoring American Competitiveness," *Harvard Business Review*, July-August 2009, http://dailyreporter.com/files/2012/11/restoring-american-competitiveness1.pdf.

[25] Stephen Ezell and Robert D. Atkinson, "Fifty Ways to Leave Your Competitiveness Woes Behind: A National Traded Sector Competitiveness Strategy," (ITIF, September 2012), http://www2.itif.org/2012-fifty-ways-competitiveness-woes-behind.pdf.
[26] Robert D. Atkinson, "Manufacturing Institutes: A Key to Revitalizing U.S. Manufacturing," *Ideas Lab*, January 30, 2014, http://www.ideaslaboratory.com/2014/01/30/manufacturing-institutes-a-key-to-revitalizing-u-s-manufacturing/.
[27] David M. Hart, Stephen J. Ezell, and Robert D. Atkinson, "A National Network for Manufacturing Innovation: Why America Needs It and How It Should Work," (ITIF, December 2012), http://www2.itif.org/2012-national-network-manufacturing-innovation.pdf.
[28] Luke A. Stewart, Jacek Warda, and Robert D. Atkinson "We're #27: The United States Lags Far Behind in R&D Tax Incentive Generosity" (ITIF, July 2012), http://www2.itif.org/2012-were-27-b-index-tax.pdf.
[29] The Information Technology and Innovation Foundation, "Top Policy Recommendations For the Obama Administration to Help the United States Win the Race for Global Advantage," (ITIF, November 2012), 2, http://www2.itif.org/2012-top-recommendations-obama-administration.pdf.
[30] *Hearing on Tax Reform Options: Incentives for Capital Investment and Manufacturing, Before the Senate Finance Committee United States Senate* (2012) (written testimony of Robert D. Atkinson, ITIF), 7, http://www2.itif.org/2012-senate-finance-manufacturing.pdf.
(2014) (written testimony of Arvind Subramanian, Center for Global Development), 6, http://www.usitc.gov/press_room/documents/testimony/332_543_001.pdf.
[31] Kevin S. Markle and Douglas A. Shackelford, "Cross-Country Comparisons of Corporate Income Taxes," *National Tax Journal* 65 (3), (September 2012): 493–528.
[32] Ibid.
[33] The White House, "Remarks by the President Announcing the President's Export Council," news release, July 7, 2010, http://www.whitehouse.gov/the-press-office/remarks-president-announcing-presidents-export-council.
[34] Robert D. Atkinson, "A Vote Against the Ex-Im Bank is a Vote Against U.S. Manufacturers," *Industry Week*, July 1, 2014, http://www.industryweek.com/public-policy/vote-against-ex-im-bank-vote-against-us-manufacturers-0.
[35] Stephen Ezell, "Foreign Export Credit Competition Continues to Intensify as U.S. Competitiveness Wanes," *The Innovation Files* (blog), July 1, 2014, http://www.innovationfiles.org/foreign-export-credit-competition-continues-to-intensify-as-u-s-competitiveness-wanes/.
[36] Stephen Ezell and Robert D. Atkinson, *The Good, The Bad, and the Ugly (and the Self-destructive) of Innovation Policy: A Policymaker's Guide to Crafting Effective Innovation Policy* (Washington, DC: ITIF, October 2010), http://www.itif.org/files/2010-good-bad-ugly.pdf.
[37] Stephen J. Ezell, Robert D. Atkinson, and Michelle A. Wein, "Localization Barriers to Trade: Threat to the Global Innovation Economy," (ITIF, September 2013), 5, http://www2.itif.org/2013-localization-barriers-to-trade.pdf.
[38] Gary Clyde Hufbauer et al., *Local Content Requirements: A Global Problem* (Washington, DC: The Peterson Institute for International Economics, September 2013), xxi.
[39] Ezell, Atkinson, and Wein, "Localization Barriers to Trade: Threat to the Global Innovation Economy."
[40] Ezell and Atkinson, "Fifty Ways to Leave Your Competitiveness Woes Behind."
[41] The Atlantic Council, Bertelsmann Foundation, and British Embassy in Washington, "TTIP and the Fifty States: Jobs and Growth from Coast to Coast," (The Atlantic Council, 2013), 3, http://www.atlanticcouncil.org/images/publications/TTIP_and_the_50_States_WEB.pdf.
[42] The U.S. Chamber of Commerce, "TPP Could Create 700,000 New U.S. Jobs,"
[43] Michelle A. Wein and Stephen J. Ezell, "How to Craft an Innovation Maximizing T-TIP Agreement," (ITIF, October 2013), http://www.itif.org/publications/how-craft-innovation-maximizing-t-tip-agreement.
[44] Osamu Onodera, "Trade and Innovation Project: A Synthesis Paper" (working paper, OECD, Paris, August 7, 2008), 4, http://www.oecd.org/dataoecd/60/22/41105505.pdf.
[45] Stephen J. Ezell, "Boosting Exports, Jobs, and Economic Growth by Expanding the ITA," (ITIF, March 2012), http://www2.itif.org/2012-boosting-exports-jobs-expanding-ita.pdf.