



U.S. International Trade Commission's High-Technology Roundtable: Discussion Summary

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Abstract

On July 16, 2013, the U.S. International Trade Commission (USITC) hosted its third annual roundtable discussion on high-technology trade issues. Representatives from industry, government, and think-tanks shared their views on a number of high-technology (high-tech) trade issues.

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INTRODUCTION

The USITC's high-tech trade roundtable provides a forum for discussions with industry, government, and academic participants that enhances the USITC's understanding of current and potential issues in high-tech trade. Advanced manufacturing and U.S. competitiveness were covered during the first part of the roundtable; standards as non-tariff measures (NTMs) were addressed in the second part. Several major issues were discussed, including key factors driving U.S. competitiveness in advanced manufacturing, different national systems and approaches to support innovation in advanced manufacturing, challenges in operating under different national standards, and the use of standards as NTMs. A summary of this discussion follows.

ADVANCED MANUFACTURING AND U.S. COMPETITIVENESS

Key Factors of Competition

Four different key factors driving U.S. advanced manufacturing competitiveness were identified: funding and finance, infrastructure, education and labor force, and government initiatives and programs.

Funding and finance

Participants noted that the U.S. market has historically been an excellent place to acquire financing for new innovations. However some actors in U.S. manufacturing who are attempting to upgrade or develop new technologies have funding difficulties due to the temporary nature of government funding and support measures. Participants observed that the main industries which draw venture capital (VC) funding in the high-tech manufacturing sector right now are information technology, biomedical, and various advanced manufacturing technologies like additive manufacturing. One participant mentioned that cell phone applications are a major recipient of VC funding. Participants involved in the production of medical devices noted VC firms are less willing to invest in their industry because of the length and the uncertain outcome of the government's product approval process. Some participants stressed that a decline in the amount of government funding for universities and research institutes is a possible constraint for U.S. advanced manufacturing innovation.

Infrastructure

Participants emphasized that high-tech infrastructure, such as smart grids, will become more important as advanced manufacturing continues to progress. One participant noted that using current technologies such as smart meters, IT sensors, and intelligent process controls, many industries could save 15-30 percent of their energy costs.

Education and labor force

Roundtable participants noted that, while advanced manufacturing may eventually decrease overall labor demand, there is actually strong demand now. It was stressed that the skill gap between the type of worker needed and the type of worker available is a major impediment to U.S. competitiveness. Two broad groups of skilled workers are in demand: those educated at the university level in science, technology, engineering, and mathematics (STEM), as well as workers with education in mechanical and technical skills (such as welders). Several participants argued that the U.S. education system needs to encourage students to pursue STEM and other technical degrees, both at the secondary and tertiary levels, in order to meet demand for manufacturing labor in the future.

Government programs and initiatives

Attendees highlighted several positive areas of U.S. government support for the high-tech industry: openness in research and development (R&D), accessible regulatory development processes, and internet communications. They also mentioned that spillovers from U.S. defense spending on R&D are another driver of innovation. Participants discussed areas in which U.S. government support could be implemented or improved. Some participants mentioned the need for a permanent R&D tax credit as well as more R&D funding. Participants stressed the importance of the predictability of these policies, as uncertainty and temporary policies impede firms' ability to make long-term investment decisions. Relatively strict regulations and lengthy approval processes were also cited as barriers for U.S. advanced manufacturing, especially in the medical devices industry. In general, participants agreed that government programs and initiatives had major effects on U.S. innovation. However, a few participants argued that the main driver of innovation in the United States is the business environment. Key features of the U.S. business environment that are beneficial to innovation include productivity gains from a deep U.S. services industry, an ability to quickly change business structures to take advantage of new technologies, and a variety of physical and virtual research and design clusters.

Open-Market Model vs. Directed-Funding Approach

Participants engaged in a debate on the merits of different national models for driving innovation. This discussion centered around two major models: open-market, in which innovation funding is undirected and concentrated in the research phase, and directed-funding, in which innovation funding is targeted at specific industries chosen by the government and is concentrated in both the research and the application phases. Participants noted that while the directed-funding approach can lead to faster development of the industries receiving benefits, the open-market approach is preferable because: (1) specific targeting of certain industries generally causes no substantial benefit while dramatically increasing the cost of failures, (2) directed-funding often is accompanied by centralization and policies that favor targeted or local industries, and (3) the broad availability of funding and transparency in the open-market approach helps drive major innovations in areas where they may not be expected.

Different Government Support Approaches

Attendees observed that developed countries are more likely to follow the open-market approach, while developing countries often use the directed-funding model. Participants noted it is more challenging to operate in developing markets because of a less open business environment and heavy policy preferences for domestically produced goods. Several participants suggested that the U.S. government and firms could encourage a more competitive and open environment in developing countries through deeper engagement with local firms and policy officials, listening to local perspectives, and sharing their best practices and expertise with local firms.

STANDARDS

Current Trade Agreement Negotiations

The discussion started with a short briefing on the progress of the Transatlantic Trade and Investment Partnership (TTIP) and Trans-Pacific Partnership (TPP) negotiations in regards to harmonization of standards. Participants emphasized the importance of including language ensuring an open and transparent standards development process. Most participants also noted that harmonization of standards is in the best interests of all parties involved in the negotiations. They suggested that working with businesses to harmonize standards could help the negotiation process, as many businesses operate in multiple markets and would greatly benefit from harmonized standards. As a specific example, one participant noted that the adoption of harmonized standards in electronic products would significantly expand EU-U.S. trade. Contrary to this, a few participants commented that large firms can deal with up to two systems of standards without facing major challenges, as long as they are well developed and enforced.

Development of International Standards

Some participants stated that the adoption of international standards provides significant benefits to global and regional trade by lowering costs. Trade agreements such as TTIP and TPP will help to accelerate the development of harmonized international standards. Most expressed the need for more business involvement in developing new standards, by adopting a framework in which standards originate from industry best practices. The pharmaceutical, insurance, and chemical industries were all mentioned as cases in which business rather than government actors are driving the development of international standards. Other participants reported upcoming workshops to help give the private sector more input in standards development in the TTIP negotiations.

Standards as NTMs

Participants mentioned a variety of ways in which standards are used as NTMs. Two major barriers mentioned were local sourcing and compulsory licensing requirements. Industry participants pointed to these as major concerns in countries where intellectual property rights are less strongly protected. Other standards-related barriers mentioned included limited transparency in standards development, few opportunities to provide input on international standards compared to domestic standards, and countries taking a long time to adopt international standards. Many participants pointed toward the Brazilian, Russian, Chinese, and Indian markets as examples of where these barriers are an issue. Some participants noted efforts are being made by firms and organizations operating in China to open up the standards development process. Attendees also discussed how small and medium enterprises (SMEs) are negatively affected by standards and other NTMs to a greater extent than larger firms. SMEs generally do not have a strong voice in the development of international standards because they are often too immersed in day-to-day operations and lack the time and resources to assert their perspectives. While greater access to information and communications technology as well as more flexible and open standards can mitigate these effects to a certain extent, a concentrated effort by organizations and governments is needed to insure that SMEs are included in the development of international standards.

FINAL COMMENTS

Participants at the high-tech roundtable discussed ways in which the competitiveness of U.S. advanced manufacturing could be improved, debated the merits of different government approaches to supporting innovation, and described the importance of business involvement in standards development as well as the use and effects of standards on trade. They advocated for more collaboration between industry and government, sharing of best practices across industries and geographies, improved infrastructure and educational systems, and increased transparency in government initiatives and international standards setting. Other issues mentioned but not covered in detail included the possible effect of new financial regulations on the private sector's funding of innovation, effects of the U.S. export control system for defense-related and dual-use goods and technologies limiting spillover from defense R&D spending, and how the lack of a U.S. territorial tax system impacts exports.

LIST OF EXTERNAL PARTICIPANTS AT THE USITC'S HIGH-TECHNOLOGY TRADE ROUNDTABLE HELD ON JULY 16th, 2013

Thomas Campbell	Associate Director Institute for Critical Technology and Applied Science Research Associate Professor Virginia Tech
Linda Dempsey	Vice President of International Economic Affairs National Association of Manufacturers
Ed Gresser	Director at ProgressiveEconomy GlobalWorks Foundation
Kathryn Hauser	Principal Somerset Partners LLP
Ralph Ives	Executive Vice President of Global Strategy and Analysis AdvaMed
Justin Koester	Senior International Relations Specialist Medtronic
Welby Leaman	Trade Counsel House Ways and Means Committee
Bill Morin	Director of Government Affairs Applied Materials
Ken Salaets	Director of Global Policy Information Technology Industry Council
Fran Schrotter	Senior Vice President and Chief Operating Officer American National Standards Institute
Neena Shenai	Trade Counsel House Ways and Means Committee
Jennifer Stradtman	Director of Technical Barriers to Trade Office of the United States Trade Representative
Craig Updyke	Manager of Trade and Commercial Affairs National Electrical Manufacturers Association
Jeff Weiss	Senior Advisor for Standards and Global Regulatory Policy Office of the Secretary Department of Commerce
John Wilson	Lead Economist at the Development Economics Research Group The World Bank