



**The U.S. International Trade  
Commission's  
High-technology Trade  
Roundtable (2012)**

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**Discussion Summary**

***Abstract***

On June 13, 2012, the United States International Trade Commission (USITC) hosted a roundtable discussion on high-technology (high-tech) trade. Participants from industry, government, academia, and non-governmental organizations shared their perspectives on current and emerging high-tech trade issues.

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<sup>1</sup> At the time of writing, Patrick Schneider was an intern in the Office of Industries at the U.S. International Trade Commission. This article summarizes views expressed by roundtable participants. These views are strictly those of the participants and do not represent the opinions of the U.S. International Trade Commission or of any of its commissioners. Even though the summary often cites instances of general agreement among participants, it does not necessarily reflect consensus views of every participant. Correspondence may be addressed to Michael Anderson, Chief, Advanced Technology and Machinery Division ([Michael.Anderson@usitc.gov](mailto:Michael.Anderson@usitc.gov)).

## **Introduction**

The USITC held the roundtable to provide an informal forum for participants to discuss current and potential issues of interest in the high-tech trade area. The first part of the discussion was focused on emerging trade issues for U.S. high-tech industries and future technologies over the next five to ten years; the second, on measuring value creation in high-tech trade. The participants addressed a number of major issues including international regulatory diversity, cloud computing, liberalization of information technology trade, innovation and development in emerging markets, trade policy, statistical resources, and data collection challenges. A brief summary of the issues discussed is provided below.

### **Emerging High-tech Trade Issues for U.S. High-tech Industries**

#### **Rapid Growth of Global Data Flows**

Participants noted the profound impact that the immense volume and rapidly-growing exchange of data is having on the global economy, trade, and industry. Some emphasized that as the number of smartphones, tablets, and computers continues to grow, and people become more and more connected to the Internet through billions of electronic devices, the world economy will generate a flood of data that is substantially larger than what is generated today. As a corollary, several attendees commented that advances in such areas as smart grids, sensors, and nanotechnology are changing the way industry works, allowing industrial machines to be monitored remotely or even adjusted automatically so that advanced models will be able to make predictions and adjust variables—what one participant called “M to M” (machine to machine) communication. According to roundtable participants, this “industrial Internet revolution” may have a tremendous impact on trade, in particular on the capacity to provide services across borders. One participant provided the example of a power-generating turbine, where previously a repairman would be sent periodically to assess its functionality and make repairs. Increasingly, similar machines can be monitored and repaired remotely, possibly even without much human involvement.

Some participants expanded on the idea and described the emerging “cloud of things.” As the size of computer chips approaches zero, they are being built into devices used

by consumers, grocery stores, healthcare providers, and many other industries. These devices are exchanging a large and growing amount of data over the Internet, but there is little agreement on the appropriate rules governing these flows. Attendees remarked that these high-tech advances are raising many social, privacy, human rights, and regulatory concerns as the lines between business and social data become blurred. Participants also noted that there is little accurate measurement of the importance of the Internet to the economy.

### **International Regulatory Issues**

Countries regulate the Internet and flow of information in different ways, in what some participants characterized as a “regulatory Mardi Gras.” While governments may have different visions and motivations for the Internet in their respective societies, one participant noted that the United States can fulfill a much-needed leadership role by educating its trading partners and collaborating with like-minded players around the world.

Participants noted that the heterogeneity of global regulatory regimes may reflect divergent values related to the costs and benefits of increased connectivity. For example, some governments in the Middle East worry about the potential effects of freer information flows on political stability. In addition, one attendee reiterated that as the boundaries between firms and private individuals become blurred, the social consequences are uncertain. Additional regulatory issues mentioned include classification issues caused by the convergence of digital goods and services, data privacy, and local content requirements. One participant noted that in the ongoing Trans-Pacific Partnership negotiations, the Administration is attempting for the first time to create binding commitments on cross-border data flows.

### **Trade Policy**

Another key topic was how to craft effective trade agreements and institutions for a new era. Several participants remarked that current U.S. trade policy (like that of other nations) is inadequate to deal with the challenges that arise from developments in technology and cross-border service trade. One participant noted the positive steps being taken by the current Administration, the EU, the Organisation for Economic Co-operation and Development (OECD), and others to develop “declarations of principles” in regard to Internet governance and data flows. Some participants suggested that industry leaders share their roadmaps for the future with the U.S. government to explain where they are going and what is needed. Attendees also discussed the best practices for future U.S. trade policy, but debated what the focus

should be, particularly with regard to the issue of organizing policy around sectors and functions, or looking at crosscutting issues. One attendee suggested that a unified plan for development of America's high-tech sector could be useful for identifying policy priorities.

Participants engaged in a lively discussion about some of the challenges facing the United States in international trade. Some participants noted that trade in ideas, knowledge, and innovation is challenging the traditional models for analyzing costs and benefits of trade. Others raised the issue of how to deal with intellectual property rights problems and "indigenous innovation" policies in countries like China and Brazil. One participant remarked that a takeaway from this discussion is the need to try to influence the shape of public discourse on trade policy and innovation. Other participants commented that in the current economic environment, policymakers will want to know how high-tech trade and innovation policy will translate to jobs.

### **Innovation and Development**

In terms of innovation, participants identified lowered transaction costs, both as a result of and within high-tech industries, as a catalyst for diminishing vertical integration and the development of a transnational innovation ecosystem. Participants also noted the need to better explain the complex relationships between technology, productivity, economic growth, and employment. Additionally, some participants noted the importance of documenting productivity improvements from technology, the positive effects of digital technologies on manufacturing, and the need to think globally rather than nationally when considering innovation and the Internet.

With regard to global development, panelists stated that in order to induce major emerging markets to liberalize their information technology (IT) sectors, U.S. government and industry need to demonstrate the value of more open markets. For example, instead of saying why they should lower tariffs on U.S. imports of IT equipment in terms of trade promotion, U.S. interest groups should instead point out the negative effects of high tariffs on economic growth, technology diffusion, standards of living, education, and competitiveness. Panelists also noted that governments might find it more persuasive if young innovators in emerging markets countries were leading the charge, by lobbying their own governments about the need to open markets and make high-tech industries a more integral part of the economy.

## Measuring Value Creation in High-tech Trade

One of the moderators noted that there are at least two reasons for discussing and improving the manner in which value creation is measured in high-tech trade: first, to help economists analyze global technology advances and their effect on trade; and second, to help educate the general public and policymakers about how advances in technology create opportunities for trade and innovation.

### Problems with Current Methods of Measuring Trade

Participants noted that current trade data are inadequate to accurately reflect the changing global landscape of value creation. Some attendees commented that traditional trade data are designed to measure the old economy with vertical integration and clear geographic origins, despite the fact that today's global economy increasingly relies on complex global supply chains for goods and services. A panelist raised the issue of new and innovative products like smartphones and tablets, as well as social media, providing services and value that current trade agreements were not designed to address. Another panelist noted that the move away from a primarily goods-based economy makes it difficult to assess the impact of the international flow of goods, services, and information at the domestic level. Others commented that advanced technologies like semiconductors and nanotechnology create substantial value that isn't necessarily captured by current data collection methods. Some attendees identified the lack of quality data in services trade as a primary issue, and discussed the inadequacy of traditional statistical methods in this regard. USITC staff informed the panel that there was a services roundtable earlier in the year where this topic was highlighted.<sup>2</sup>

### Statistical Collection and Resources

Participants identified issues related to data collection, particularly the effects of decreased government funding for such efforts. Attendees discussed the need for additional federal resources, efficiency improvements—the possibility of a national statistical agency was mentioned—and better access to existing data, particularly at the firm level. Others raised the issue of more collaboration and discussion between private companies and government statisticians as a way to improve data collection and identify the gaps in current collection efforts. Participants noted the increasing importance and promise of “big data”: for example, Google has experimented with

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<sup>2</sup> A summary of this event is available in USITC, *Recent Trends in U.S. Services Trade: 2012 Annual Report*, July 2012 (<http://www.usitc.gov/publications/332/pub4338.pdf>).

using large volumes of data from Web sites to create real-time price indices, and the Anderson School at UCLA uses data from credit card transactions to analyze economic trends.

### **Final Comments**

Participants at the High-tech Roundtable highlighted the profound impact the Internet and data flows are having on the global economy and raised challenging policy questions related to trade, regulation, innovation, and development. Participants noted that the global exchange of data on a massive scale is changing traditional notions of value creation and measurement, requiring government and industry leaders to alter their thinking to be successful. Despite lively debate, attendees generally agreed that traditional economic and business models may no longer be appropriate and encouraged further dialogue to better grasp and take advantage of the implications of high-tech innovation.

**External participants at the Commission’s High-tech Trade  
Roundtable held on June 13, 2012**

| <u>Name</u>         | <u>Title/Affiliation</u>   |
|---------------------|--|
| Grant Aldonas       | Principal Managing Director<br>Split Rock International  |
| Robert Atkinson     | President, Information Technology and<br>Innovation Foundation   |
| Melika Carroll      | Senior Director, Global Government Affairs,<br>salesforce.com  |
| Sage Chandler       | Senior Director, International Trade,<br>Consumer Electronics Association (CEA)                                      |
| Jake Colvin         | Vice President, Global Trade Issues, National Foreign<br>Trade Council   |
| Dorothy Dwoskin     | Senior Director, Global Trade Policy and Strategy,<br>Microsoft Corporation  |
| Ed Gresser          | Director, ProgressiveEconomy<br>GlobalWorks Foundation   |
| Brian David Johnson | Futurist, Consumer Experience Architect,<br>Intel  |
| Bill Morin          | Director, Government Affairs,<br>Applied Materials   |
| Jennifer Mulveny    | Director, Global Trade Policy,<br>Hewlett-Packard (HP)   |
| Michael Nelson      | Adjunct Professor, Communication, Culture, and<br>Technology, Georgetown University                                  |
| John Neuffer        | Vice President for Global Policy <br>Information Technology Industry Council   |
| Michelle O’Neill    | Deputy Under Secretary for International Trade<br>U.S. Department of Commerce,<br>International Trade Administration |

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|-------------------|--|
| Tim Richards      | Managing Director, International Energy Policy,<br>General Electric (GE)   |
| Matthew Slaughter | Senior Fellow, Council on Foreign Relations,<br>Associate Dean, MBA Program,<br>Tuck School of Business, Dartmouth |
| Ian Steff         | Vice President, Global Policy and Technology<br>Partnerships Semiconductor Industry Association (SIA)              |
| Steve Stewart     | Director, Market Access and Trade,<br>IBM  |
| Frank Vargo       | Vice President, International Economic Affairs,<br>National Association of Manufacturers                           |