CHINA'S INDIGENOUS INNOVATION TRADE AND INVESTMENT POLICIES: HOW GREAT A THREAT?

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BEFORE THE

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CHINA'S INDIGENOUS INNOVATION TRADE AND INVESTMENT POLICIES: HOW GREAT A THREAT?

WEDNESDAY, MARCH 9, 2011

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TERRORISM,
NONPROLIFERATION, AND TRADE,
COMMITTEE ON FOREIGN AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 2 o'clock p.m., in room 2172 Rayburn House Office Building, Hon. Edward R. Royce (chairman of the subcommittee) presiding.

Mr. ROYCE. This hearing of the Terrorism, Nonproliferation, and Trade Subcommittee will come to order.

Today's hearing is going to focus on China's indigenous innovation trade and investment policies, an issue that Brad Sherman and I have worked on in the past. China's economy has been rapidly growing and this has meant opportunities for American businesses, but it's also meant perils. Mr. Sherman and I have worked to bring attention to the fact that many U.S. business people are getting fleeced in China, their property stolen, and much worse.

We heard from Nancy Weinsten of Long Beach, California, previously in a hearing who went through a nightmare in Shanghai. And we've heard from many other business people about their similar experiences. The State Department even reports that Americans may be held hostage.

Today we consider China's "indigenous innovation" policies.

The Chinese Government has been turning up the pressure on U.S. and other foreign businesses to share sensitive technology with Chinese state-owned enterprises as the cost of selling in the Chinese market. This is done through an ever-changing web of government policies, official policies as it pertains to procurement, regulation policies, tax policies, and governmental policies that encourage U.S. companies to move research dollars and jobs to China.

China is looking to move its economy from "Made in China" to "Designed in China." And they're playing hardball to do it. A top administration official has described the threat:

> "China's indigenous innovation policies threaten global intellectual property protections, fair government procurement policies, market competition, and innovators' freedom to decide how and when they transfer technology."

This presents some U.S. companies with the dilemma of agreeing to these terms and making sales, though at the risk of their long-

term competitiveness, because Chinese companies potentially will then take their technology and become their competitors. These commercial concerns are intensified by rampant Chinese Government industrial spying in the U.S. There are obvious national security concerns, too. This issue goes to the heart of a company's competitiveness, and our country's economic well-being. I'm not convinced that these policies are an economic winner for China in the long term either, but I know they'll hurt U.S. businesses.

While traditionally preferring "quiet diplomacy," U.S. businesses are increasingly vocal. The U.S. Chamber of Commerce recently released a report, "China's Drive for Indigenous Innovation," sounding the alarm. We'll hear from the U.S. International Trade Commission today, which has produced a detailed report on this problem.

This comes against a backdrop of broader concerns over China's trade and investment policies, including very poor intellectual property protection, which harms U.S. firms. In January, Chinese President Hu Jintao and President Obama signed a joint statement pledging to "delink" indigenous innovation from China's very large government procurement market. On paper, this was a win for the United States. China also committed to join the WTO's Government Procurement Agreement this year, which would help curb its indigenous innovation policies. But China has a history of promises made, promises broken.

We should aggressively challenge these policies. They worsen our trade deficit with China. What we don't want to do is blow up the system in a way that sets back U.S. exports, which are critical to economic recovery. Currently, U.S. exports to China are rapidly growing.

China is emerging as a serious economic challenger. It's building "national champion" companies, as they call them in China, to compete globally. The Commercial Aircraft Corporation, for example, has Boeing in its sights. This challenge is coming, "indigenous innovation" or not. This means two things. One, pressing China, and two, better competitiveness. Our country needs to approach economic competitiveness with urgency. This means tax and regulatory and budget reform and a slew of other issues beyond this hearing's scope.

I will now turn to the ranking member, the gentleman from California, Mr. Brad Sherman for his statement.

Mr. SHERMAN. Mr. Chairman, I thank you for your statement and those who think that this city is divided by partisanship will find that that's not true when it comes to you and me and the issues that we face in this hearing today.

Mr. ROYCE. We flipped gavels again, but continue these hearings. Thank you.

Mr. SHERMAN. In the Year 2000, the United States made an enormous blunder in granting Permanent Most Favored Nation status to China in a bill that was H.R. 4444. Ironically, that number denotes extreme bad luck in the Chinese tradition. Of course, the bad luck has all been ours.

The United States-China trade deficit swelled from $83 billion, already outrageous in the Year 2000, to a record high of $273 billion in 2010. It grew every year except the recession year of 2009.

The Economic Policy Institute estimates that roughly 2.4 million American jobs were lost as a result of our intentional blindness to this trade deficit.

We hear from supporters of the current trade policies that the volume of exports to China has never been higher. This is true. We hear that the rate of growth in exports to China is not greater than the growth of imports from China. True, but misleading; misleading in part because what we're exporting to China is scrap iron and scrap paper so that they can ship us more exports. But what's more telling is that the trade deficit with China continues to grow as increases in imports from China outpace increases in exports year in, year out in absolute terms.

The industrial base and quality of U.S. employment continue to erode.

China conducts a number of unfair trade practices that keep American exports out and more importantly aims to set up export promotion policies that the American public should not tolerate. And American firms have been all too happy to oblige in order to take advantage of cheap labor, various incentives and whatever they can do to up their particular corporation's quarterly report.

As the chairman noted, if you do business in China, good luck. You'll have to enter into a joint venture, transfer your technology, and if you're lucky, you may be allowed to flee China rather than being held as hostage. At the urging of our current chairman, back when our roles were reversed, we held a hearing in July 2008 on the topic of U.S. business operating abroad. That hearing detailed the horrible experiences of Americans, especially American small businesses doing business in China.

I want to commend the chairman for today's focus on an aspect of the China trade policy that has shaken even the most slavishly pro-China corporate interests. And those interests are so outraged that they have demanded that we take what they count as tough action, namely a strongly-worded letter.

In 2006, the Chinese Government announced a strategy for promoting what it reportedly translates as indigenous innovation. China no longer wants to make iPads. They want to develop the next iPad. They no longer want to license technology from the West. They want to develop it there or at least steal it and claim ownership of it. Among the policies that have imploded since that time to implement this dream is a restrictive government procurement policy. Overall, China's effort is to increase its trade deficit with the United States, not to decrease it.

Promulgated in November 2009, this draft policy provided for the creation of a product catalog that would list goods in several categories approved for purchase by Chinese Government agencies. Such goods would have to be developed in China and the intellectual property held by Chinese firms. These draft regulations were softened somewhat in April 2010, but are still considered to be objectionable by the U.S. business community.

During his recent visit to Washington, President Hu committed to de-link procurement from indigenous innovation. Whatever that means, and it probably means almost nothing, what is important in the Chinese system is that the central government has, through its actions to date, already informed bureaucrats, provincial offi-

cials and managers of state-owned enterprises that they need to buy Chinese products and Chinese intellectual property whenever possible.

You can't unring the bell. The word has already gone out. And whatever the final regulations provided, if you are a bureaucrat or provincial official in China, and you buy products containing American intellectual property instead of Chinese intellectual property, you are subject to re-education, regardless of what the official regulations finally state.

Nominally, the policy is not already on the books, but the word is already out. We can't complain about anything because there's nothing official in their publishing final regulations. This is how China beats us at the so-called free trade process. We operate only by written standards. They get the message out orally or through unofficial documents. And then we deliberately ignore the fact that that gives them a way to restrict American exports that we do not have.

The procurement policies were complemented by anti-monopoly patent technical standards and other policies that discriminate against foreign products and/or forced technology transfers as a condition of doing business in China. If anything gets the attention of the business community it should be this: Another aspect of China's innovation policies is to develop 16 so-called megaprojects. Chinese managers seek to co-innovate technologies borrowed from the West to develop passenger aircraft and chip and circuit manufacturing equipment, etcetera. I think the chairman outlined this well.

What happens to American firms that are helping China develop these industries after China can make the products on their own? It was Lenin who said, "The capitalists will be happy to sell the rope."

I think my time has more than expired. I thank the chairman for his indulgence and I'll use some of my question time to go over some of these points. Thank you.

Mr. ROYCE. Thank you, Mr. Sherman. We're joined today by Jeff Duncan of South Carolina. We have with us Bill Johnson of Ohio who has an opening statement. Go ahead, please. We'll try to keep these opening statements to 1 minute each, if you can.

Mr. JOHNSON. Thank you, Mr. Chairman. I want to thank our panel for being here today to discuss an issue that has attracted growing concern in recent years, particularly for American businesses that have worked hard to become innovators in high-tech industries, whether it's through currency manipulation, massive government subsidies to Chinese industry or newer concerns surrounding indigenous innovation efforts, the threat China poses to American exports is of growing concern.

U.S. businesses have taken great risk to develop new technologies, innovate like never before. Because of American leadership and technology, protecting U.S. intellectual property is more important than ever, especially when it comes to our biggest trade rivals. We must have safeguards in place to ensure our continued position as a global leader in the high-tech sectors of the world economy. American businesses are faced with tough decisions these days. Our economy is showing some positive signs of recovery, but

many business owners are still struggling to discern what is best for their development.

China's aggressive indigenous innovation policies are the cause of one more tough decision; abide by China's terms and risk long-term competitiveness, as Chinese companies steal American technology, or lose access to the enormous fast-growing Chinese market and put American exports and jobs on the line.

The American people have always expressed a strong desire to achieve and move our nation forward, sometimes taking risks in order to do so. We must protect the investments that American businesses have made in innovation, as other nations attempt to imitate our ingenuity and surpass us and we can't allow our willingness to be open go the benefits of trade to defeat the gains that we have made.

As we move forward and evaluate China's trade policies, we must keep this cautious optimism at the forefront of our global trade strategy.

Thank you, Mr. Chairman. I yield back.

Mr. ROYCE. Thank you very much, Mr. Johnson. Ms. Schwartz, I think yours is the last opening statement.

Mr. CONNOLLY. Actually, Mr. Chairman——

Mr. ROYCE. Mr. Connolly, go ahead, please.

Mr. CONNOLLY. I thank the chairman.

Mr. ROYCE. Gerry Connolly of Virginia.

Mr. CONNOLLY. And just very briefly, Mr. Chairman, I have a full statement I would ask be entered into the record without objection.

Mr. ROYCE. Without objection.

Mr. CONNOLLY. Obviously, I represent a very high-tech district, but I think the whole battle of Chinese policy with respect to innovation, Chinese requirements with respect to the transfer of technology and knowledge, the lack of protection of intellectual property, are real issues for businesses—to say nothing of repatriation of profits and capital or even making a profit as Mr. Sherman indicated.

So I'm very interested in Ms. Laney's point of view about this and her insights into it. But I think that moving forward, part of the problem with doing business in China is it cannot be just one way. And the United States Government has an obligation at some point to protect the interests of U.S. companies doing business in such a broad and large market.

I thank the chair.

Mr. ROYCE. Thank you. Mr. Rohrabacher, I think you had a statement. Before I mentioned that Ann Marie Buerkle serves as vice chairman of this committee. We're delighted to be working with her and to welcome Renee Ellmers, as well, as a member of the committee.

Mr. Rohrabacher, go ahead with your opening statement.

Mr. ROHRABACHER. Mr. Chairman, thank you very much for holding this hearing and I appreciate Mr. Royce and Mr. Sherman and the great work that they've been doing on this for a number of years.

Let's just note that there's been a massive transfer of wealth from the American people to China. This has happened as a result

of policy decisions made not by the Chinese, but by the people who run the United States Government. This is working against the interests of the people of the United States. At first, it was thought to build up their economy would create a more democratic society.

Mr. Chairman, instead of a democratic society in China, we now see emerging a threat to the peace of the world, a dictatorship, the world's worst human rights abuser. It's time to take a look at those policies that have permitted this transfer of wealth and the transfer of technology and investment from the United States into China at the expense of the people of this country. Our people have been betrayed by a lack of action on the part of our own Government to watch out for them, rather than some globalist perspective. So I'm very pleased to be here today and I'm going to be listening to the witnesses and hopefully, we can alert the American people to the changes that need to be made to protect our country.

Mr. ROYCE. Thank you, Mr. Rohrabacher. Before I go to Allyson Schwartz, another new member from Pennsylvania of this committee for her statement, let me just take a moment and we have a distinguished visitor with us, Ben Gilman, who served as chairman of the International Relations Committee.

Ben, if you would just stand for a minute here and be recognized. Thank you for all of your service. Ben, it's good to see you.

Ms. Schwartz.

Ms. SCHWARTZ. Thank you, Mr. Chairman. I just wanted to say this is my first meeting in the subcommittee. I'm pleased to serve on the committee on this subcommittee and as we begin this hearing I just want to say I've heard from some of the large companies that do work, facilities here, of course, and some even have headquarters here, have been seeking to do business in China. They have often, to this point said, we're fine. It's a huge market. But are now calling us to do even more to make sure that their intellectual property is protected, that some of the not well articulated, but well understood requirements the Chinese put on them to put plants, to share their intellectual property which is then shared, is a nice word, I think. Really is doing us great harm for the future. So we've got to figure this out.

I look forward to the testimony and to this hearing to figure out how we can both have our companies take advantage of the huge marketplace that China is, but to do it in a way that protects their ability to grow not just there, but here and grow internationally and also to have some discussion about what effect it is having on employment and job growth here in the United States. Obviously, we've seen some progress. We do want to, I believe, operate in a global marketplace, but we need to do so in a way that is fair to our businesses and fair to our workers.

So I look forward to the comments and understanding that you'll share with us, our witnesses will share with us today so that we can take the kind of action again that will grow our economy, understanding what a huge market China is and how unfair some of their policies both to our businesses and to our own growth here. I yield back.

Mr. ROYCE. Thank you, Ms. Schwartz. We'll now go to Ms. Karen Laney who is the acting director of operations for the United States International Trade Commission. She previously served as the di-

rector of the Office of Technology Policy at the Commerce Department. She's also served as deputy director of U.S. steel trade policy at the U.S. Trade Representative's Office during WTO negotiations. And she holds an M.S. degree in resource economics from the Colorado School of Mines.

Now I should note that the ITC is an independent, U.S. Government agency that supports policy makers through fact-finding investigations and research. It does not make policy recommendations. The Senate Finance Committee directed the Commission to prepare two reports on intellectual property infringement and indigenous innovation policies in China. Director Laney will present information from the first completed report. She cannot address the second on-going report.

So Ms. Laney, thank you for presenting your reports' key findings to this subcommittee, and afterwards, if you'll keep this brief to within 5 minutes, maybe summarize it, we'll go right to questions.

STATEMENT OF MS. KAREN LANEY, ACTING DIRECTOR OF OPERATIONS, U.S. INTERNATIONAL TRADE COMMISSION

Ms. LANEY. Thank you, Chairman Royce and members of the subcommittee, for this opportunity to testify before you today. As the chairman noted, my remarks will be summarizing the more extensive written submission from the Commission's first report. Those written remarks are entered into the record.

The first report was delivered in November of last year, and our second report will be given to the Senate Committee on Finance May 2nd.

Today, I'll be describing what indigenous innovation policies are, how they are being employed in China, and why they are of concern to U.S. firms. First, let me say there is a wide understanding about what indigenous innovation policies actually are. In the Commission's first report, we broadly considered these policies as the collection of Chinese policies that are aimed at increasing domestic innovation and, where possible, replacing foreign intellectual property with domestic intellectual property in goods that are produced in China.

The policies are intended to advance China's innovation goals that were articulated in the 2006 National Plan called the Medium to Long Term Plan for the Development of Science and Technology. I'll be referring to that as the MLP.

The broad goals in the MLP are for China to become an innovation-oriented society, a global leader in science and technology. The policies that are reflected in the MLP are broadly focused on high-tech industries of national interest in which innovation plays a key competitive role. These sectors include agriculture, energy, environment, manufacturing, national defense, some frontier technologies such as biotechnology, advanced materials, lasers, ocean technology, and as Mr. Sherman indicated, certain large-scale mega-projects, such as core electronic components, large aircraft, water pollution control and treatment technologies.

In our report, the Commission identified several areas in which indigenous innovation policies are being drafted or applied, but today, I'm just going to touch briefly on two of those. The first is

technical standards. China's technical standards strategy recognizes the importance of technical standards as drivers of technology innovation and trade. The MLP has highlighted the importance of incorporating Chinese intellectual property into technical standards. And in China, there is a top-down approach to standards.

The central government ministries decide what standards will be developed and lead the process. This is in contrast to the United States, which has a much more decentralized process led by the private sector. Reportedly, the Chinese system for development of standards tends to be nontransparent and to exclude meaningful opportunities for foreign companies to provide input and comment.

According to U.S. firms, Chinese standard-setting bodies frequently take an existing standard and change the technology requirements slightly—just enough to add significant costs and make it much more difficult for foreign manufacturers to sell their products in China. This restriction of market access is one way that Chinese-developed technical standards reportedly affect U.S. companies. A second is that they reduce royalty payments to U.S. firms. More examples and more explanation of this are in my written comments today, so I will move on to talk just briefly about government procurement policies.

During the Commission's research, government procurement policies promoting indigenous innovation were one of the areas of greatest concern for U.S. firms. The annual market for Chinese Government procurement is estimated to be between $88 billion and $200 billion annually. I want to note, as the members here have already said, that the government procurement policies were a focus of discussion during the December meeting of the U.S.-China Joint Commission on Commerce and Trade (JCCT), which occurred after the release of the Commission's first report.

Our second report does include information and analysis about subsequent events since November 2010.

Of particular industry concern during our first investigation were the draft national government procurement policies that were issued in April 2010. These applied to six high-tech sectors and as indicated, they contain certain provisions that must be met in order for any product to be included in a national procurement catalog.

Another requirement was that approved products must be free from any type of intellectual property dispute which was not defined in the draft regulation. U.S. firms expressed concern that an unsubstantiated allegation raised by a third party, perhaps a competitor, could be used as a reason to exclude a foreign-made product from the government procurement catalog.

One important point which has been made, but let me stress this: Although no national procurement catalog has been released, there are a number of provincial procurement catalogs which are actively in use for government procurement decisions at the local level. Most of these catalogs include very few products that are made by foreign companies or by joint ventures. This situation underscores the fact that the Chinese Government ministries and agencies at all levels are working to implement the central ideas of the MLP for a wide variety of policies under separate jurisdic-

tions. This variation makes it extremely difficult to track the development and implementation of such policies.

Although relatively new and still evolving, indigenous innovation policies have the potential to pose significant problems for U.S. companies trading with or operating in China. It is clear from the MLP that China is intent on raising the level of scientific and technological innovation that originates within the country. Policies appear to be promoting indigenous innovation in sales of domestically made high-tech products at the expense of foreign firms. U.S. firms note that China's approach to innovation policy seems to vary significantly from global business practices. For example, requirements that R&D take place exclusively in China are broadly incompatible with the global innovation policies of many multinational companies.

In sum, some U.S. industry representatives believe that indigenous innovation policies pose a greater potential threat to their business in China than do either intellectual property infringement or currency-related issues. They described, as Mr. Sherman indicated, a web of interrelated policies that work together to help build "national champions," which are Chinese industries capable of competing with foreign companies, both inside China and in third-country markets.

This concludes my testimony this afternoon, summarizing some of the findings from the Commission's first report. I would say that the Commission's second report will provide more specific analysis of the scope and impact of China's indigenous innovation policies. It updates information about U.S. firms' concerns, provides several case studies, and presents the results that were obtained through mailing out 5,000 questionnaires to U.S. companies asking for their experiences and insights regarding indigenous innovation in China. After the public release of the report in May, we would be pleased to come back and brief the committee on those findings as well. Thank you.

[The prepared statement of Ms. Laney follows:]

Written Testimony of Karen Laney
Acting Director of Operations
U.S. International Trade Commission

Subcommittee on Terrorism, Nonproliferation, and Trade,
Committee on Foreign Affairs, U.S. House of Representatives

Hearing on China's Indigenous Innovation, Trade, and Investment Policies
Wednesday, March 9, 2011

China's Indigenous Innovation Policies[1]

China's indigenous innovation policies are an important competitive issue for U.S. firms. China has introduced a number of policies aimed at increasing the level of scientific and technological innovation that originates within the country, as well as increasing the domestic share of the value embodied in goods made by Chinese companies. In a nutshell, China would like to shift from "made in China" to "created in China."[2] Policy arenas through which China is implementing indigenous innovation-related policies include government procurement, technical standards, and the enforcement of China's Anti-Monopoly Law (AML). U.S. firms are concerned that the policies may preclude their full participation in business opportunities arising from the fast-growing Chinese economy.

The information and data in this study were gathered from a wide variety of sources. The Commission held a public hearing on June 15–16, 2010. Witnesses during the two-day hearing included representatives of companies and trade associations located in the United States and China, as well as individuals with significant U.S. government, nonprofit, and academic experience. A diverse group of trade associations, law firms, think tanks, and companies also provided written submissions. Through more than 60 in-person and telephone interviews conducted in the United States and in travel to China, the Commission obtained information from additional companies, associations, academics, standards bodies, and other experts in the field.

Commission staff also consulted with U.S. government officials to gain insight from their expertise in Chinese IPR and indigenous innovation issues, including representatives of the Department of Commerce's International Trade Administration, the U.S. Patent and

[1] Excerpted from USITC, *China: Intellectual Property Infringement, Indigenous Innovation Policies, and Frameworks for Measuring the Effects on the U.S. Economy*, November 2010.
[2] Industry officials, interviews by USITC staff, Shanghai, September 15, 2010.

Trademark Office (USPTO), U.S. Customs and Border Protection (CBP), the Office of the U.S. Trade Representative (USTR), the National Institute of Standards and Technology, the Federal Trade Commission, the U.S. Department of Justice, and the U.S. embassy and consulates in China. Commission staff also reviewed published information on China's IPR and indigenous innovation policies and practices, including submissions made as part of the USTR's Special 301 review of the global state of IPR protection and submissions to the Intellectual Property Enforcement Coordinator (IPEC).[3] The Commission's review of data and information was complicated by the speed with which China's indigenous innovation and IPR policies are evolving, with new interpretations and policies issued frequently. The report includes published data and information available through September 2010.

Introduction

In recent years, China has introduced a number of policies aimed at increasing the level of scientific and technological innovation originating within the country, as well as expanding the domestic added value in goods produced in China's factories. These indigenous innovation policies have generated significant interest and concern among governments and businesses in the United States and other countries. From China's perspective, its indigenous innovation policies are part of a legitimate and necessary effort to raise the level of domestic innovation to respond to pressing economic development challenges. However, China's focus on promoting market opportunities for innovations developed exclusively in China, by Chinese firms, has raised concerns that these policies are ultimately aimed at denying foreign firms access to business opportunities presented by the large and fast-growing Chinese economy. Arenas through which China is implementing policies related to indigenous innovation include government procurement, technical standards, competition policy under the anti-monopoly law (AML), taxation policy, and IPR protection and enforcement.[4] Moreover, foreign businesses have reportedly been pressured to transfer know-how and technology to Chinese firms in order to gain access to the Chinese market. Businesses are concerned that this IP ultimately will be used by Chinese companies competing against them in China and in third-country markets.

Foreign companies active in China have repeatedly stated that they support China's efforts to increase its innovation capabilities; however, they fear that China's introduction of policies favoring domestic companies and products that rely on Chinese-owned IP will erode opportunities for foreign investors in China.[5] In fact, several U.S. industry representatives have publicly stated that they see indigenous innovation policies as a greater threat to their business in China than other issues more often mentioned in the

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[3] The office of the IPEC was created by Congress in the Prioritizing Resources and Organization for Intellectual Property Act of 2008 and is located within the Executive Office of the President, Office of Management and Budget. OMB, "About the Office of the IPEC," n.d.

[4] McGregor, *China's Drive for "Indigenous Innovation,"* July 2010, 6–7; USITC, hearing transcript, Washington, DC, June 15, 2010, 181–83 (testimony of Christian Murck, AmCham-China); Stewart and Stewart, written submission to the USITC, July 8, 2010; industry official, telephone interview by USITC staff, July 9, 2010; industry officials, interviews by USITC staff, May 12, June 2, July 2, 7, and 15, 2010.

[5] USITC, hearing transcript, Washington, DC, June 15, 2010, 191–92 (testimony of Calman Cohen, Emergency Committee For American Trade); USITC, hearing transcript, Washington, DC, June 15, 2010, 131–32 (testimony of Shaun Donnelly, National Association of Manufacturers); North American and European Industry Groups, "Industry Comments on the Draft Notice Launching the National Indigenous Innovation Product Accreditation Work for 2010," May 10, 2010.

press, including IPR infringement and China's currency exchange rate.[6] The U.S. government has also stated that indigenous innovation and discriminatory industrial policies are important issues on the bilateral policy agenda.[7] On the other hand, China's leaders do not agree that the climate for foreign investment in China is deteriorating. In a July 2010 speech before foreign investors, for example, Premier Wen Jiabao noted that foreign direct investment (FDI) into China through June 2010 had surged compared to a year earlier, citing this trend as evidence that foreign investors did not seem overly concerned about policy changes.[8]

China's policies, however, are evolving extremely quickly. Many policies remain in draft form, many of the implementing regulations for major laws are still not in place, and enforcement of most indigenous innovation policies has not yet begun. Much of the concern thus reflects fear of future Chinese policies and of the way new laws may be implemented, and not simply objections to policy actions that the Chinese government has already taken. It remains unclear how the effects of the new policies will play out.

This written testimony describes China's policies promoting indigenous innovation, lists the industries that are primarily affected, and discusses some of the concerns that the policies have raised in the business community, including how such policies may work together to help build up Chinese "national champion" companies active in high-tech industries. The testimony then describes indigenous innovation policies in several specific domains, including China's government procurement process, setting of technical standards, and AML enforcement.

Chinese Efforts to Foster Indigenous Innovation

Although China's indigenous innovation policies are most closely associated with the January 2006 Medium- to Long-Term Plan for the Development of Science and Technology (MLP), discussed in more detail below, many observers note that promoting innovation and technological development has long been an important theme for the Chinese government. For example, the 863 Program (or State High-Tech Development Plan), established in 1986, is a government-funded research and development (R&D) program aimed at diversifying China's R&D efforts away from a purely military focus toward more civilian and dual-use technologies, such as satellites, computers, robotics, biotechnology, energy, and space exploration, while also moving China away from the obligation to pay royalties for foreign technologies used in products made in China.[9]

In 1995, China's National Conference on Science and Technology elevated the goal of scientific and technological development to a national policy priority. A major report to the central leadership in 1997, "The Coming of the Knowledge-Based Economy and the Construction of the National Innovation System," led to the incorporation of the concept of a "national innovation system" in China's evolving science and technology policies. Chinese innovation policy increasingly began to address areas beyond R&D funding,

[6] USITC, hearing transcript, Washington, DC, June 15, 2010, 170–71 (testimony of Jeremie Waterman, U.S. Chamber of Commerce); USITC, hearing transcript, Washington, DC, June 15, 2010, 196–97 (testimony of Robert Holleyman, Business Software Alliance); USTR, *Special 301 Report*, 2010, 21.

[7] See, for example Kirk, statement to the Senate Committee on Finance, June 23, 2010; Politi, "US to Press China on Business," May 20, 2010.

[8] *Xinhua News*, "Xinhua 'China Focus'," July 19, 2010.

[9] NFTC, *China's Promotion of the Renewable Electric Power Equipment Industry*, March 2010, 19–20.

including industrial research, IPR, and venture capital.[10] The MLP itself was the culmination of an extended policymaking process that formally began in 2003 (shortly after China's World Trade Organization (WTO) accession) and involved more than 2,000 scientists, engineers, and corporate executives from across China.[11]

Essential Elements and Themes of the MLP

Most observers attribute the official institution of China's indigenous innovation policies to the MLP. The goal of indigenous innovation, as articulated in the MLP, is to enable China to become an "innovation-oriented society" and a global leader in science and technology. Specifically, indigenous innovation policies encompass several of the Chinese government's long-term policy goals, including promoting domestic companies' contributions to the Chinese economy rather than relying on foreign know-how and technology, building domestic R&D capabilities to upgrade Chinese firms' innovative capacity, and generally increasing the share of added value that domestic Chinese companies contribute to China's economy.[12]

The MLP included several specific innovation targets for China to reach by 2020, including:

- Increasing R&D investment to 2.5 percent of gross domestic product (GDP) (a level comparable to that of the United States), up from 1.3 percent in 2005;
- Raising the contribution made by technological advances to economic growth to more than 60 percent;
- Limiting dependence on imported technology to no more than 30 percent (from an estimated 60 percent in 2006);
- Becoming one of the top five countries in terms of invention patents granted to its citizens; and
- Ensuring that Chinese-authored scientific papers are among the most cited in the world.[13]

Chinese government ministries and agencies at all levels are actively implementing the central ideas of the MLP through a wide variety of policies under their separate jurisdictions.[14]

As noted, an important theme of the MLP is the effort to reduce dependence on foreign technology and foreign companies. China views its dependence on foreign technology as problematic in a number of ways. First, realizing that foreign IP owners collect substantial royalties on the sale of Chinese manufactured goods, Chinese government leaders have concluded that market dominance depends on owning IP and being a

[10] Suttmeier, Cao, and Simon, "China's Innovation Challenge," Summer 2006, 81–82.

[11] Serger and Breidne, "China's Fifteen-Year Plan for Science and Technology," July 2007, 149–50.

[12] Zhang et al., *Promoting Enterprise-Led Innovation in China*, 2009, 2–3; Cao, Suttmeier, and Simon, "China's 15-year Science and Technology Plan," December 2006.

[13] Cao, Suttmeier, and Simon, "China's 15-year Science and Technology Plan," December 2006, 38; McGregor, *China's Drive for "Indigenous Innovation,"* July 2010, 14–15.

[14] The National Development and Reform Commission (NDRC) is responsible for the largest number of these supporting policies (29), followed by the Ministry of Finance (MOF) with 21 policies, the Ministry of Science and Technology (MOST) with 17 policies, and the Ministry of Education (MOE) with 9 policies. Serger and Breidne, "China's Fifteen-Year Plan for Science and Technology," July 2007, 151–56.

primary developer of international technical standards.[15] Second, Chinese policymakers would like to improve domestic technology to address serious societal needs such as energy, resource constraints, environmental protection, and public health. Third, China has national security concerns related to dependence on foreign technology. As an example, China has expressed objections to U.S. export control laws, particularly as applied to dual-use technologies, which China sees as limiting its companies' access to essential foreign technology.[16]

Another important focus of the MLP is policies that specifically favor products and technologies that use IP and brands developed by Chinese companies.[17] The goal of promoting Chinese IP was reinforced in China's 2008 National Intellectual Property Strategy (NIPS). The NIPS urges the government to "guide and support [Chinese] market entities to create and utilize intellectual property" through a variety of policies linked to indigenous innovation.[18] The NIPS sets various targets, including significantly increasing the level and quantity of China's indigenous IP, developing a group of internationally famous brands, increasing Chinese value in core copyright industries, and effectively protecting trade secrets.[19] Similarly, recent guidance from the Supreme People's Court on the implementation of indigenous innovation policies instructs the courts to (1) support and promote indigenous innovation by helping to promote the creation of indigenous famous brands and the development of a brand economy, and (2) increase the level of protection of indigenous IPR on key technologies.[20] Because the guidance is new, it is not yet clear how it will be implemented.[21]

Industries Affected by Indigenous Innovation Policies

The MLP references a broad set of focus areas for indigenous innovation efforts that are linked to national needs, including agriculture, energy, environment, manufacturing, and national defense. Separately, the MLP lists several frontier technologies of interest, including biotechnology, lasers, new materials, and ocean technology. In addition, the MLP identifies 17 specific, large-scale science and engineering "megaprojects" that are to receive special attention and funding, such as control and treatment of AIDS and other major diseases; core electronic components, including semiconductors; large aircraft; and

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[15] Suttmeier, Cao, and Simon, "China's Innovation Challenge," Summer 2006, 79. According to one study of China's exports, for example, "the domestic value-added component of the value of exported electronic and information technology products, while growing, remains quite low. Even in the most recent years for which data are available, more than 70 percent of the value of these exports is comprised of imported inputs." Branstetter and Foley, "Facts and Fallacies about U.S. FDI in China," October 2007, 20 and figure 5.

[16] U.S. export control laws regarding dual-use technologies apply to many products that are important to U.S. national security but may also have uses that are not related to national security. Cao, Suttmeier, and Simon, "China's 15-year Science and Technology Plan," December 2006, 39; industry official, interview by USITC staff, July 30, 2010.

[17] Serger and Breidne, "China's Fifteen-Year Plan for Science and Technology," July 2007, 137, 145; USCBC, "Issue Brief: New Developments in China's Domestic Innovation and Procurement Policies," January 2010.

[18] Government of China, "Outline of the National Intellectual Property Strategy," June 2008, Article III.2(11).

[19] Ibid., Article II.2(7).

[20] See "Opinions on the Provision of Judicial Support and Service," Supreme People's Court, http://www.chinacourt.org/flwk/show.php?file_id=144434 (link to text in Chinese), June 29, 2010.

[21] USITC, hearing transcript, Washington, DC, June 15, 2010, 343 (testimony of Chris Israel, PCT Government Relations).

water pollution control and treatment. However, under the MLP, no industry has been explicitly excluded from the goal of raising domestic innovation levels.[22]

Generally, indigenous innovation policies focus on emerging, high-tech industries for which innovation broadly, and R&D and patents more specifically, are seen as playing an important role. Several Chinese provinces have developed catalogues listing accredited indigenous innovation products, with a broad focus on these high-tech industries. According to non-Chinese observers, indigenous innovation policies appear to be particularly prominent for automobiles (including electric vehicles), renewable energy, nanotechnology, civil aviation, and health care (particularly medical devices).[23]

The central government is currently considering an accreditation policy for indigenous innovation products (explained in further detail below). Accredited products will be included in a catalogue, allowing them to receive preferences for government procurement.[24] Once the policy is finalized, the Chinese government is expected to offer indigenous innovation accreditation to products from six industries: computer and application equipment, telecommunications products, modern office equipment, software, new energy and equipment, and high-efficiency energy-saving products.

Concerns Regarding Indigenous Innovation

China appears to be promoting indigenous innovation and sales of high-tech products by domestic firms at the expense of foreign firms. Overarching concerns are that China's approach to spurring domestic innovation varies significantly from global norms, discriminates against foreign companies operating in China, and changes the rules for foreign involvement in the economy midstream, threatening the expected value of current foreign investment in the Chinese economy.[25] This is compounded by a concern that foreign companies will need to share sensitive and proprietary technology with Chinese firms or government agencies in order to reap the full benefits of their investments in China. As noted by one U.S. industry representative:

> China's indigenous innovation policy's chief aim is to give a leg up to domestic producers by adopting rules and regulations favoring products that use Chinese-developed ideas and technologies. Such policies more often than not do this at the expense of foreign players who have worked for decades in partnership with China to promote growth and prosperity and deliver innovative products to people of that country.[26]

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[22] The complete list of key areas, frontier technologies, and megaprojects is available in Cao, Suttmeier, and Simon, "China's 15-year Science and Technology Plan," December 2006, 43, box 2. McGregor, *China's Drive for "Indigenous Innovation,"* July 2010, app. 1, provides details on 13 of the megaprojects; the author notes that the details are not available on the remaining projects, which are believed to be classified military projects.

[23] USITC, hearing transcript, June 15, 2010, 269–70 (testimony of Christian Murck, American Chamber of Commerce in China); foreign government official, telephone interview by USITC staff, July 9, 2010; industry officials, interviews by USITC staff, July 15, 2010.

[24] USCBC, "Issues Brief: China's Domestic Innovation and Procurement Policies," May 2010.

[25] McGregor, *China's Drive for "Indigenous Innovation,"* July 2010, 23; foreign government official, telephone interview by USITC staff, July 9, 2010; USITC, hearing transcript, Washington, DC, June 15, 2010, 55–56 (testimony of Calman Cohen, Emergency Committee For American Trade).

[26] USITC, hearing transcript, Washington, DC, June 15, 2010, 217 (testimony of John Neuffer, Information Technology Industry Council).

Chinese requirements for R&D that takes place exclusively in China—for example, to qualify for certain government procurement purchases—are also broadly incompatible with the highly successful innovation policies of many global companies. U.S.-based multinational firms have noted that China's apparent desire to rely on homegrown innovation runs counter to the integrated, globalized R&D systems on which many multinational companies rely—systems in which activities in the United States, Europe, and China complement each other. Patent applications, for example, frequently list engineers based in China together with engineers based elsewhere. This collaborative system makes it quite difficult to tie the IP for a given product to a single country.[27]

The "Web of Indigenous Innovation Policies"

A number of observers have referred to a "web" of interrelated policies in various policy areas that work together to favor domestic Chinese companies—particularly "national champion" companies (generally large SOEs with highly recognizable Chinese brands)—over foreign companies in the Chinese market. This policy web can make it quite difficult for U.S. firms to compete in certain high-tech product areas in China, and it has the potential to be expanded to additional product areas.[28] Depending on how they are implemented, the final policies may work together, sometimes in subtle ways, both to increase the level of indigenous innovation by Chinese companies and to boost the competitive position of those same firms.[29] From this point of view, to understand the implications for the United States, it is imperative to see China's indigenous innovation policies as a collective whole, rather than as a series of discrete policies. As one industry representative testified:

> We've understood the problem with China in very discrete ways. There was an IP enforcement problem. There was a joint venture problem. There was a participation in standards problem. . . . What has changed certainly in the last two years is that there is now a recognition that the issue of industrial indigenous innovation . . . is now a structural issue in our U.S.-China relationship.... And the way these policies are . . . intricately woven together . . . directly affect[s] the ability of . . . U.S. companies to compete in China with the potential for job loss here and [adverse effects on] our global competitiveness.[30]

As some observers see it, China's principal goal is to actively build a relatively small number of SOEs into "national champions" that will be large enough, and technologically advanced enough, to compete globally with today's high-tech market leaders, most of which are based in the United States, the European Union, and Japan. China's indigenous

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[27] Intellectual Property Owners Association, written submission to the USITC, July 9, 2010; USITC, hearing transcript, Washington, DC, June 15, 2010, 53, 90–91 (testimony of Calman Cohen, Emergency Committee for American Trade); USITC, hearing transcript, Washington, DC, June 15, 2010, 75 (testimony of Lee Branstetter, Carnegie Mellon University).

[28] USITC, hearing transcript, Washington, DC, June 15, 2010, 168–69 (testimony of Jeremie Waterman, U.S. Chamber of Commerce); hearing transcript, Washington, DC, June 15, 2010, 213–14 (testimony of Mark Bohannon, Software & Information Industry Association); industry officials, interview by USITC staff, Washington, DC, July 15, 2010; industry officials, interviews by USITC staff, Beijing, September 8, 2010.

[29] See particularly McGregor, *China's Drive for "Indigenous Innovation,"* July 2010.

[30] USITC, hearing transcript, Washington, DC, June 15, 2010, 274–75 (testimony of Mark Bohannon, Software & Information Industry Association).

innovation policies in several areas—the government's procurement and technical standards, its willingness to provide funding to Chinese SOEs, and, potentially, its enforcement of the AML—are combining to create powerful Chinese companies that can become market leaders in high-tech industries. At the same time, these policies discriminate in a coordinated way against foreign competitors. As suggested by several industry representatives, the process of building a Chinese national champion firm works approximately as depicted in figure 1. The individual policy areas are described in greater detail below.

The Reported Link Between Indigenous Innovation Policies and IPR Infringement in China

Observers also see a close link between China's indigenous innovation policies and IPR infringement activity in China. In this view, China uses the web of indigenous innovation policies described above to create a legal environment "that enables it to intervene in the market for IP, help its own companies to reinnovate competing IP as a substitute to American and other foreign technologies, and potentially misappropriate IP from U.S. and other foreign companies as components of its industrial policies and internal market regulations."[31] The overarching themes in China's indigenous innovation policies are reportedly to "(1) undermine and displace foreign IP while promoting its own IP; (2) leverage China's large domestic market to develop national champions, principally state-owned and state-invested enterprises; and (3) build on China's domestic successes by displacing competitors in foreign markets with the foreign IP it has reinnovated."[32]

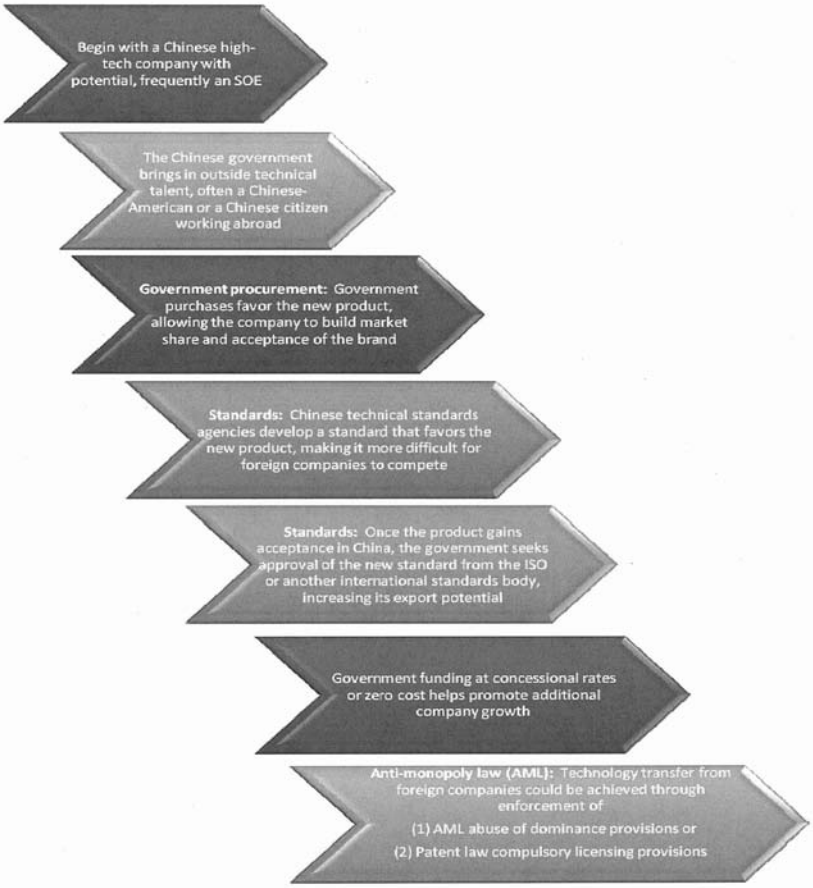
In contrast to the view that China's indigenous innovation policies are closely coordinated and implemented in an intentional, overlapping web of policies, other observers argue that each of China's government ministries charged with implementing the MLP acts in an uncoordinated way to fulfill its mandate in separate policy jurisdictions. In this view, this fairly incoherent system leads to a web of sometimes overlapping or contradictory policies at the central and provincial levels that foreign companies and governments encounter, rather than any coordinated effort by Chinese government agencies to access and appropriate foreign technology and IP.[33]

[31] USITC, hearing transcript, Washington, DC, June 15, 2010, 171–72 (testimony of Jeremie Waterman, U.S. Chamber of Commerce). In this context, reinnovation is similar to reverse engineering.

[32] USITC, hearing transcript, Washington, DC, June 15, 2010, 171–72 (testimony of Jeremie Waterman, U.S. Chamber of Commerce).

[33] Industry officials, interview by USITC staff, July 26, 2010; Simon, "Globalization, Indigenous Innovation, and China's Emerging Technological Trajectory," July 27, 2010.

FIGURE 1 One view of creating Chinese "national champion" companies through indigenous innovation policies



Source: Industry and academic representatives.

Government Procurement Policies and Indigenous Innovation

The clearest manifestation of China's indigenous innovation policies with regard to foreign companies is in the government procurement market. The MLP calls on government agencies to encourage and support innovative Chinese companies by purchasing their goods and services. A number of observers have agreed that the Chinese government is actively following this policy, using government procurement contracts to create a market for the products of Chinese companies and to set a benchmark level of acceptance within China for Chinese brands over foreign brands.[34]

China is not currently a signatory of the WTO Government Procurement Agreement (GPA) and so is not bound by the agreement's provisions that ensure nondiscrimination against foreign firms in awarding government procurement contracts.[35] China is currently in negotiations with WTO members to join the GPA; China stated at the time of its WTO accession that it would join the GPA as soon as possible, submitting its first offer in 2007 and a revised offer in 2010.[36] However, even though negotiations continue, U.S. and foreign industry groups have argued that current policies move China further away from that goal.[37]

National Accreditation for Indigenous Innovation Products

China's government procurement market for goods and services was valued at an estimated $88 billion per year in 2008, equal to 2 percent of China's GDP and making up almost 10 percent of Chinese government expenditures. This figure, moreover, does not include significant levels of public investment in infrastructure projects; the American Chamber of Commerce in China estimates that public works projects account for at least 50 percent of total Chinese government procurement funding,[38] so the total annual value of government procurement contracts may be closer to $200 billion.[39] The primary central government measures concerning government procurement in China are summarized in table 1.

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[34] Foreign government official, telephone interview by USITC staff, July 9, 2010; industry officials, interviews by USITC staff, May 12, July 7, and 15, 2010; USITC, hearing transcript, Washington, DC, June 15, 2010, 95–96, 181, and 224 (testimonies of Lee Branstetter, Carnegie Mellon University, and Christian Murck, American Chamber of Commerce in China).

[35] Membership in the GPA would require China to treat GPA parties' products no less favorably than it treats domestic parties' products. Furthermore, GPA parties may not treat domestic suppliers differently on the basis of degree of foreign ownership. Matechak and Gerson, "Can China's Government Procurement Market Be Cracked?" May–June 2010.

[36] USCBC, "PRC Government Procurement Policy," July 2009; English.Eastday.com, "Experts Hail China's Procurement Offer," July 17, 2010; AFP, "China Boosts Offer for WTO Pact on Government Contracts: US," July 15, 2010.

[37] North American and European Industry Groups, "Industry Comments on the Draft Notice," May 10, 2010.

[38] Ahrens, "Innovation and the Visible Hand," July 2010; AmCham-China, *2010 White Paper*, 2010, 86, 92; U.S. government officials, interviews by USITC staff, July 12, 2010.

[39] Chinese government procurement of goods is covered by the Government Procurement Law, while public works projects, such as infrastructure development projects, are covered by the Bidding and Tendering Law. AmCham-China, *2010 White Paper*, 2010, 86–92.

U.S. business groups view the environment for foreign firms in China's government procurement market as deteriorating. Several U.S. companies have reported "increasing difficulty in making sales to government-related entities in China," including government agencies, public institutions such as schools and hospitals, and SOEs, although it is unclear whether there is a direct link between this new environment and China's indigenous innovation policies.[40] Despite China's WTO commitment that SOE procurement decisions should rely exclusively on commercial considerations, the Chinese government appears to encourage SOEs to purchase goods made by Chinese companies.[41] Even when SOEs are not required to abide by China's government procurement regulations, it is reported that most SOEs implicitly honor regulations that establish preferences for Chinese-owned companies, driving down demand for U.S. products and services.[42] In the renewable energy industry, for example, state-owned wind farms (which dominate renewable power generation in China) are reportedly applying the "buy domestic" rule to their equipment purchases, particularly when government funds are used for the purchases.[43]

As illustrated in table 1, China's government procurement measures remain in draft form. The most recent draft rules, released in April 2010, appear to include a shift from the November 2009 draft, which required that products accredited as indigenous innovation include original Chinese ownership of IP, with R&D conducted in China. Under the April 2010 draft, applicants for indigenous innovation product status must have exclusive Chinese rights to a product's IP and trademark. Also, the IP developed by a foreign firm must be legally licensed from that firm, but is not required to be first registered in China.[44] Given the draft status of the policies, the extent to which firms that are partially or wholly foreign owned will be able to access China's government procurement market remains to be seen. More recently, both Chinese Premier Wen Jiabao and Vice President Xi Jinping, in separate, well-publicized speeches, assured foreign investors that government-funded procurement and construction projects will be open and transparent to both Chinese and foreign-invested enterprises (FIEs), and that foreign firms invested in China would be considered eligible for indigenous innovation accreditation.[45] Several foreign firms operating in China have reported that the April 2010 draft addressed a number of their concerns regarding China's indigenous innovation policies, and, compared to the November 2009 draft, significantly improved their assessment of China's government procurement market.[46]

However, even with the April 2010 modifications to the draft policies, some industry representatives remain concerned. Under the new draft, it appears that products must reflect indigenous innovation by complying with unspecified "national industrial and

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[40] USCBC, "Issue Brief: New Developments in China's Domestic Innovation and Procurement Policies," January 2010.

[41] AmCham-China, *2010 White Paper*, 2010, 220; North American and European Industry Groups, "Industry Comments on the Draft Notice," May 10, 2010.

[42] USITC, hearing transcript, Washington, DC, June 15, 2010, 53 (testimony of Calman Cohen, Emergency Committee for American Trade).

[43] NFTC, *China's Promotion of the Renewable Electric Power Equipment Industry*, March 2010, ii.

[44] Draft Notice Launching the National Indigenous Innovation Product Accreditation Work for 2010, issued jointly by MOST, NDRC, and MOF, April 2010; USCBC, "Issues Brief: China's Domestic Innovation and Procurement Policies," May 2010; USCBC, "Issues Brief: New Developments in China's Domestic Innovation and Procurement Policies," January 2010.

[45] *Xinhua News*, "China's Investment Environment Improving Amid 'Growing Pains,'" September 9, 2010; *Xinhua News*, "Full Text of Chinese Premier Wen Jiabao's Speech at Summer Davos 2010," September 13, 2010.

[46] Industry officials, interviews by USITC staff, Beijing, September 8, and Shanghai, September 15, 2010.

technology policies" and must be locally researched and developed, including licensing of IP usage rights in China, with the R&D led by a Chinese entity. This could exclude

TABLE 1 Selected Chinese central government measures regarding government procurement

Measure	Date released	Comments
Bidding and Tendering Law	January 2000	Outlines policies related to public works projects such as infrastructure development projects.
Government Procurement Law	2002	Primary law governing Chinese government procurement. Passed in 2002, but draft implementing regulations for the Government Procurement Law were only released in January 2010 and have not been finalized. Includes preferences for Chinese-made goods, when available.
Administrative Measures for Accreditation of National Indigenous Innovative Products for Trial Implementation	December 2006	State that accredited indigenous innovation products will receive preference in government procurement, and that applicants for such status should (1) own the IP or have the rights licensed for the products under consideration, and (2) have a trademark that is owned by a Chinese company and registered in China.
Evaluation Measures on Indigenous Innovative Products for Procurement	2007	Specify the advantages that certified indigenous innovation products enjoy in the government procurement process. Products classified as "indigenous innovation" are given a margin of 5–10 percent on their evaluative point system when price is the sole determining factor in a procurement decision. When factors beyond price are included in the decision process, indigenous innovation products may receive an additional 4–8 percent boost in their overall evaluations. The evaluation measures also specifically direct Chinese government agencies to use the procurement system to encourage the commercialization of products with indigenous innovation accreditation.
Circular 618, on Launching the 2009 National Indigenous Innovation Product Accreditation Work	November 2009	Lays out, in draft form, the criteria for accrediting specific products for listing in the central government's indigenous innovation product catalogue. The catalogue is expected to define the products available for procurement by Chinese central government agencies. According to the proposed regulation, to be included in the catalogue, a product must have been produced by an enterprise with full ownership of IP in China through its own R&D, or a Chinese enterprise that has legally obtained the Chinese IPR. In addition, the product trademark must be owned by a Chinese company registered in China, and any trademark associated with the product must be registered in China first and may not be restricted by foreign brands. The circular is particularly troubling because of its use of the nationality of IP as a market access condition.
Draft Notice Launching the National Indigenous Innovation Product Accreditation Work for 2010	April 2010	Revises the November 2009 draft rules above, and softens key requirements. Appears to authorize procurement of indigenous innovation products that use IP licensed from foreign firms, rather than requiring that products use IP originally developed in China. Applicants for indigenous innovation product status must have exclusive rights to the product's trademark or have the right to use the trademark in China, but the trademark no longer has to be first registered in China. Specifies that accredited products should focus on six high-technology sectors: computer equipment, telecommunication equipment, modern office equipment, software, new energy equipment, and energy-efficient products.

Sources: Brightbill and Fogarty, "New Indigenous Innovation Policies Foreclose Foreign Access," February 2010; USCBC, "Issue Brief: New Developments in China's Domestic Innovation and Procurement Policies," January 2010; USCBC, "Qualification Criteria for China's Circular 618," 2010.

foreign-owned firms, joint ventures in which the foreign partner has a majority interest, and even Chinese firms with R&D centers outside of China,[47] although some foreign firms may qualify. Since the accreditation process is not yet underway, it is difficult to know for sure how Chinese officials will interpret the accreditation process for products

[47] North American and European Industry Groups, "Industry Comments on the Draft Notice," May 10, 2010.

manufactured by foreign firms. Another requirement that has been seen as problematic is that products be free from "IPR disputes." "IPR disputes" is a term that has not been defined in the draft regulations, and it raises the possibility that an unsubstantiated allegation raised by a third party, perhaps a competitor, could be used as a reason to exclude a foreign-made product from government procurement.[48]

Further, the development of an indigenous innovation product catalogue may run counter to pledges by the Chinese government to avoid protectionism, and counter to China's own interest in developing a technology-based, 21st-century economy.[49] U.S. and foreign industry groups have argued that the release of a catalogue that gives preferences in government procurement to specific products is likely to remove incentives for Chinese firms to engage in indigenous innovation of new products, and is also apt to promote Chinese agencies' purchase of outdated products, because newly introduced products and innovative products manufactured by foreign firms are less likely to be included in the catalogue.[50] U.S. government officials have also raised concerns regarding the implementation of the indigenous innovation product accreditation system.[51] On May 10, 2010, the Chinese authorities delayed implementation of the system to review these comments. As of September 2010, it appears that the Chinese government has decided to wait to release the catalogue as it considers comments from interested parties.[52]

Provincial and Local Accreditation for Indigenous Innovation Products

Even though there is no central government catalogue of indigenous innovation products as of September 2010, a number of provincial indigenous innovation catalogues are in effect. Some observers view these as "trial balloons" for the central government's expected catalogue. Ten provincial and municipal governments have released 25 publicly available catalogues identifying indigenous innovation products since 2006. Eight additional provincial and municipal governments have formulated indigenous innovation catalogues that are not currently available publicly. The provincial catalogues list the preferred products for government agency and SOE procurement, although the precise regulations are not clear.[53]

There are almost no products made by foreign companies in these catalogues, a pattern that seemingly excludes foreign companies from provincial government procurement markets unless there is no Chinese-made alternative to a foreign product (box 5.1). For example, only two of the 523 products in Shanghai's catalogue were made by FIEs, both of which have majority Chinese ownership; Jiangxi's 475-product catalogue includes

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[48] Intellectual Property Owners Association, written submission to the Commission, July 9, 2010; North American and European Industry Groups, "Industry Comments on the Draft Notice," May 10, 2010; USCBC, "The US-China Business Council Comments," May 10, 2010.

[49] USITC, hearing transcript, Washington, DC, June 15, 2010, 54 (testimony of Calman Cohen, Emergency Committee for American Trade, and of Christian Murck, American Chamber of Commerce in China).

[50] North American and European Industry Groups, "Industry Comments on the Draft Notice," May 10, 2010; USCBC, "The US-China Business Council Comments," May 10, 2010.

[51] See Locke, Statement to the Senate Committee on Finance, June 23, 2010.

[52] North American and European Industry Groups, "Industry Comments on the Draft Notice," May 10, 2010; USITO, "Comments to the Ministry of Science and Technology (MOST), the National Development and Reform Commission (NDRC), and the Ministry of Finance (MOF) on the *Notice on Launching the Accreditation of National Indigenous Innovation Products in 2010,*" May 10, 2010; U.S. government official, interview by USITC staff, July 12, 2010.

[53] USCBC, "Issues Brief: China's Domestic Innovation and Procurement Policies," May 2010.

only one from an FIE; and Beijing's government procurement catalogues include only one foreign product out of 56 listed.[54]

BOX 5.1 Replacing a Foreign Product With a Chinese Product

According to U.S. industry representatives, "buy local" policies for Chinese hospitals have existed in some municipalities for several years, requiring hospitals to certify that there were no local suppliers of a desired product in order to buy foreign goods. Nonetheless, many Chinese hospitals have continued to buy highly regarded U.S. medical products, even though the procurement process has become more difficult.

In December 2009, however, the Tenth People's Hospital in Shanghai replaced an imported surgical navigation system with a locally developed one, the Excelim-04 system developed by Shanghai Fudan Digital Medical Technology Co. (a joint venture of Fudan University and Shanghai Business Investment Group). This may be one of the first products to reflect procurement specifically based on the local indigenous innovation product catalogue. (The imported product that was displaced by this procurement was not identified.)

Sources: Industry representatives, interviews by USITC staff, July 9 and 12, 2010; Chen Mining, "Shanghai to Sign the First Purchase of Independent Innovation Products," December 1, 2009; Shanghai Services Federation, "Excelim-04 Surgical Navigation Systems," February 2, 2007.

Technical Standards and Indigenous Innovation

As is the case with government procurement, Chinese-developed technical standards can be an important tool for the promotion of indigenous innovation. Two broad issues have drawn the attention of U.S. industries in this regard. First, U.S. industry sources assert that the Chinese approach aims to develop standards favoring domestic industries at the expense of internationally accepted foreign standards and technologies.[55] The fear is that Chinese development of country-specific standards will impede market access and force companies to adopt Chinese technology and standards in order to conduct business in the Chinese market.[56] A second issue is the role of IP in standards. According to U.S industry sources, Chinese development of national technical standards is often motivated by the desire to reduce the amount of royalties paid to foreign companies for IP contained in standards. Additionally, U.S. industries are concerned about draft regulations covering the role of IP in standards in China, particularly the proposed requirements for disclosing patents and the terms for licensing patents in Chinese national standards.

Compounding these problems is that, while China has made improvements in its standards-setting processes, procedures often tend to be nontransparent and exclude meaningful opportunities for foreign companies to provide input and comment.[57] In 2009, the Standardization Administration of China (SAC) issued new public procedures for standards-setting technical committees confirming that legally registered foreign representatives could participate as voting members, though participation would be at the discretion of the technical committee chairs.[58] These new, clarified rules were issued following a 2008 meeting of the U.S.-China Joint Commission on Commerce and Trade (JCCT). However, according to the Telecommunications Industry Association (TIA), China still has "uneven and unclear eligibility requirements" for participation of foreign

[54] Ibid.

[55] USTR, *2010 Report on Technical Barriers to Trade*, March 2010, 50.

[56] USITC, hearing transcript, June 15, 2010, 232 (testimony of Shaun Donnelly, National Association of Manufacturers).

[57] Owen, "Standards in China: Behind the Headlines," January–February 2010, 41; USTR, *2010 Report on Technical Barriers to Trade*, 50; TIA, written submission to the USITC, July 7, 2010, 2.

[58] Owen, "Standards in China: Behind the Headlines," January–February 2010, 43.

companies, and has a tendency to mandate standards that are developed outside of international standards-setting processes.[59]

The Chinese Approach to Standards

Chinese government policies view technical standards as playing an important role in economic development. In contrast to the U.S. approach to standards, which is more decentralized and is led by the private sector with government support, China has a top-down approach: central government administration and various government ministries have mandates to decide which standards will be developed and the processes for their development.[60] Chinese standards are either mandatory or voluntary. Mandatory standards are technical regulations that have the force of law; all other standards are voluntary, and include both national standards that are uniform across China and standards that are specific to particular industries and enterprises.[61] Chinese standards also include the China Compulsory Certificate (CCC) program, a mandatory safety certification program covering 22 product categories and affecting over 20 percent of U.S. exports to China.[62]

Chinese development plans have long recognized the importance of China's becoming a standard setter as part of an innovation-based policy to develop domestic industries. Following its WTO accession in 2001, Chinese government ministries, led by the SAC,[63] developed two strategic objectives for development of technical standards with specific timetables:

- By 2010, Chinese standards would catch up to international levels, and the share of Chinese standards based on independent innovation would have risen.
- By 2020, the share of Chinese technical standards that are based on its independent innovation would have increased further, and the share of international standards that are based on Chinese innovation would have also risen such that China would be a world leader in key fields.[64]

China's standards strategy recognized that turning national standards into international ones would improve the adaptability and competitiveness of Chinese standards and technology. The strategy also recognized the importance of standards as drivers of technology, innovation, and trade.[65] As noted earlier, the MLP advocated raising the contribution of technological advances to China's economic growth and limiting its

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[59] TIA, written submission to the USITC, July 7, 2010, 2.

[60] Owen, "Standards in China," 2010 1; USITC, hearing transcript, June 15, 2010, 235–36 (testimony of Mark Bohannon, Software & Information Industry Association).

[61] According to the American National Standards Institute (ANSI), 15 percent of Chinese national standards in 2006 were mandatory and the remainder were voluntary. ANSI, "PRC Standards System: Standards Used in China," 2010.

[62] Owen, "Standards in China," 2010, 2.

[63] The SAC is a standards policy ministry under the General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ), which administers the standards system in China.

[64] Ping, YiYi, and Hill, *Standardization Strategy of China*, January 2010, 5. These goals emerged from two research projects initiated by the MOST during China's 10th five-year plan (2001–05) and accepted by MOST in December 2005—"Study on the Strategy of China's Technical Standards Development" and "Study on the Construction of a National System of Technical Standards." According to Ping, YiYi, and Hill, the MOST research project was an important historical event in China.

[65] This standards strategy was also viewed as contributing to a "harmonious" society.

dependence on imported technology.[66] Additionally, the MLP highlighted support for development of Chinese-owned IP and the importance of incorporating this IP in national and international standards.[67]

China-Specific Standards and the ICT Sector

U.S. concerns with Chinese development of national standards in the context of indigenous innovation have particularly focused on the information and communication technology (ICT) sector, where China has been active in development and promotion of its national technical standards.[68] At the Commission's hearing, the Information Technology Industry Council (ITIC) noted China's propensity for mandating use of its own country-specific standards in instances where global ICT standards exist, and raised concerns about technology neutrality.[69] Some industry representatives have argued that Chinese standards-setting bodies frequently take an existing standard and change the technology only slightly, just enough to add costs and make it more difficult for foreign manufacturers trying to sell their products in China. To the extent that Chinese-developed standards include indigenous IP, they also reduce the royalties that Chinese firms must pay to foreign firms whose technology often forms a critical component of the global standard, while increasing royalties foreign firms must pay to Chinese IP holders.[70]

Promotion of Chinese Domestic Standards

Two important examples of Chinese development and promotion of national standards in the ICT sector are the Wired Authentication and Privacy Infrastructure (WAPI) standard and Time Division Synchronous Code Division Multiple Access (TD-SCDMA), a third-generation (3G) mobile telecommunications standard.[71] Table 2 presents a timeline and comparison of the development of these standards. Both were developed as national standards with Chinese government assistance despite the existence of international standards. Both standards reduce the royalties that would otherwise accrue to U.S. firms and shift some royalties to Chinese firms, although one study has calculated that, in the case of TD-SCDMA, only 7 percent of the patented technology is held by China, with the remainder held by Nokia, Ericsson, Siemens, and other international companies.[72]

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[66] Cao, Suttmeier, and Simon, "China's 15-year Science and Technology Plan," December 2006, 39.

[67] An, "Intellectual Property Rights in Information and Communications," 2009, 185.

[68] Winn, "ICT Standards and Indigenous Innovation in China," October 7, 2009, 1.

[69] USITC, hearing transcript, June 15, 2010, 208–10 (testimony of John Neuffer, Information Technology Industry Council). According to the International Telecommunications Union (ITU), a United Nations agency for information and communication technology issues, the concept of technology neutrality refers to regulating different technologies that offer essentially the same service in a similar manner. The purpose is to avoid providing an advantage to one technology over another in the market. See ITU, "The Concept of Technology Neutrality," n.d.

[70] Industry officials, interviews by USITC staff, July 7, 15, and 30, 2010.

[71] Both WAPI and TD-SCDMA were discussed by industry officials at the USITC hearing. USITC, hearing transcript, June 15, 2010, 232 (testimony of Christian Murck, American Chamber of Commerce in China), and John Neuffer, ITIC, written testimony to the USITC, June 15, 2010, 4–5. Similarly, both standards were discussed in the context of indigenous innovation by McGregor, China's Drive for "Indigenous Innovation," July 2010, 28–30.

[72] Yan, *The 3G Standard Setting Policy*, 2007, 2.

TABLE 2 Chinese approach to WAPI and TD-SCDMA standards

	WAPI	TD-SCDMA
Type of standard	Wireless local area network (WLAN) security standard	3G mobile standard
Competing global standard	IEEE 802.11i Wi-Fi wireless standard	• WCDMA (Europe) • CDMA 2000 (U.S.)
Motivation for Chinese standard	• Encryption security issues • Royalty costs	• Royalty costs • Improved competitiveness for Chinese companies in largest mobile market
Promoters	• IWNCOMM (Chinese software company) • WAPI Alliance	• Datang Telecomm (subsidiary of China Academy of Telecommunications Technology [CATT]) • Siemens • TD-SCDMA Industry Alliance
Status as international standard	• Rejected by ISO, 2006 • Resubmitted to ISO, 2009	• Accepted by ITU as international standard, 2000
U.S. industry concerns	• Inconsistent with WTO/TBT Agreement (mandated local standard when international standard exists)	• Technology neutrality (regulating technologies that offer the same service in a similar manner)
Promotion/mandate by China	• Initiated by Chinese government, 2001 • Mandated standard, 2003 • Mandatory status suspended in 2004 following JCCT meeting • Government procurement preference, 2005 • WAPI approved in mobile phones, April 2009 • WAPI/Wi-Fi stack approved in mobile phones, May 2009	• Initiated by Chinese government, 1998 • Approved as voluntary national standard, 2006 • Licenses allocated to China Mobile, 2009 • Export credits provided to ZTE for European export sales • Subsidies for R&D and users of TD-SCDMA terminals
Current status	• Both WAPI and Wi-Fi hot spots and equipment are expected to increase in China as major telecommunications companies expand networks due to increased mobile phone usage	• China Mobile currently expanding TD-SCDMA network infrastructure in China • Future plans to expand network in foreign countries

Sources: C114, "China Mobile to Subsidize TD-SCDMA Terminal Users," June 23, 2010; An, "Intellectual Property Rights in Information and Communications Technology Standardization," 2009; Zhan and Tan, "Standardisation and Innovation in China," 2010; Interfaxchina.com, "MIIT Gives Green Light to WAPI Handsets," April 2009; International Business Times, "China Braces for Wi-Fi Boom," July 13, 2010.

The WAPI standard, according to Chinese sources, was originally developed because of Chinese concerns about security in the Wi-Fi encryption protocol. However, WAPI's use of an undisclosed encryption algorithm has hampered its acceptance by the International Organization for Standardization (ISO) as an international standard. The United States raised the issue of WAPI in both the WTO Technical Barriers to Trade (TBT) Committee and the JCCT in 2004, with the result that China decided not to make WAPI mandatory, but rather a priority standard for government procurement. In April 2009, the Ministry of Industry and Information Technology (MIIT) approved WAPI's use in mobile phones, and shortly thereafter it approved phones enabled with both protocols (WAPI/Wi-Fi stack). Inclusion of WAPI technology adds costs for manufacturers, who must work with local companies to make the hardware as well as pay royalties for the Chinese technology.[73] However, industry sources indicate that business opportunities related to Wi-Fi compliant hotspots are expected to expand in China as telecommunications

[73] International Business Times, "China Braces for Wi-Fi Boom," July 13, 2010.

companies broaden their networks to accommodate increasing Wi-Fi use because of the recent MIIT approval of Wi-Fi compliant phones.[74]

Given that China has more mobile phone users than any other country in the world, its development of TD-SCDMA 3G technology was an important industry event. China's State Council agreed to award 3G licenses for TD-SCDMA technology in January 2009 to China Mobile, Ltd., the world's largest mobile network in terms of subscribers.[75] As China moves to allocate spectrum among the three competing 3G mobile standards, U.S. industry has raised concerns about technology neutrality.[76] Industry sources also indicate that China Mobile plans to further expand the use of TD-SCDMA technology by providing subsidies for users of TD-SCDMA terminals in 2010, developing an R&D fund, and linking cooperative agreements with nine mobile phone makers and three chip designers in China and abroad.[77]

ICT, Encryption, and CCC Standards

U.S. industry representatives also have raised concerns about Chinese CCC regulations, implemented in May 2010, that cover 13 categories of commercially available ICT products in the context of indigenous innovation. These regulations require testing and certification to Chinese standards for information security functions when the covered ICT products are sold to Chinese government agencies.[78] The rules will require sellers to provide China's Certification and Accreditation Administration (CNCA) and the General Administration of Quality Supervision, Inspection, and Quarantine (AQSIQ) with complete details of the inner workings of computer products in these 13 product categories. According to Chinese sources, the regulations were issued for national security reasons.[79] The CCC program for the 13 ICT products differs from the Common Criteria for Information Technology Security Evaluation (Common Criteria), an ISO/International Electrotechnical Commission (IEC) standard for computer security certification in which users specify their security requirements and testing laboratories evaluate vendor claims.[80]

Industry sources have noted that these rules will require companies to reveal encryption secrets to the Chinese government, with the result that global companies doing business with the Chinese government might lose business in third-country markets due to buyer concerns about the Chinese government having access to their encryption codes.[81]

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[74] International Business Times, "China Braces for Wi-Fi Boom," July 13, 2010. The approval of Wi-Fi in mobile phones was reportedly due to the large number of Wi-Fi compliant gray market phones and existing base stations already in China prior to May 2009.

[75] Cellular-News, "China Confirms 3G License Awards," January 7, 2009, 1.

[76] USITC, hearing transcript, June 15, 2010, 232 (testimony of Christian Murck, American Chamber of Commerce in China), 233.

[77] C114, "China Mobile to Subsidize TD-SCDMA Terminal Users," June 23, 2010. Companies involved with China Mobile in the TD-SCDMA network include Nokia, Motorola, ZTE, Huawei, and Samsung, among others.

[78] USTR, *2010 Report on Technical Barriers to Trade*, March 2010, 51; McGregor, China's Drive for "Indigenous Innovation," July 2010, 30. The products covered include smart cards, firewalls, routers, database systems, and other network and internet security systems.

[79] Defense Tech, "China Demands Computer Encryption Codes from Cyber Security Firms," May 3, 2010.

[80] See, for example, the comment by U.S. Trade Representative Ron Kirk that the CCC standards are inconsistent with international norms. USTR, "Statement from U.S. Trade Representative Ron Kirk and Japan Economy, Trade, and Industry Minister Toshihiro Nikai, May 2009.

[81] McGlaun, "China Forces Foreign Firms Selling to Government to Provide Encryption Codes," May 4, 2010, 1; McGregor, China's Drive for "Indigenous Innovation," July 2010, 30.

According to U.S. government sources, U.S. companies seeking to participate in the Chinese government procurement market may have to develop products specifically for the Chinese public sector, or lose out in the Chinese government market entirely.[82] U.S., Japanese, and European protests about these regulations resulted in the Chinese government limiting the requirements to government procurement and delaying the implementation date to May 2010.[83]

Future Competitiveness Issues Regarding Standards

U.S. industry representatives have also raised concerns regarding indigenous innovation and China's development of future standards in a number of sectors, including ICT and electricity generation. One issue is China's strategy of developing closed, national standards for trusted computing through Trusted Cryptography Modules (TCM), rather than through participation in the ISO and the Trusted Computing Group (TCG).[84] The Chinese TCM requires that cryptographic algorithms and protocols used to perform specific security tasks, such as verifying that only authorized codes run on a system, be based on Chinese technology.[85] U.S. industry representatives have raised concerns that Chinese development of TCM is motivated by the desire to reduce royalties for patents embedded in TCG technology standards and that it will negatively affect interoperability and globally integrated supply chains.[86]

A second area of concern in the ICT sector involves China's plans for developing Time Division Long Term Evolution (TD-LTE), a fourth-generation mobile telecommunications technology based on the TD-SCDMA standard.[87] Support for TD-LTE is being led by the Chinese government, China Mobile, and Chinese manufacturers. According to industry sources, China Mobile is also testing TD-LTE in foreign markets and has plans to cooperate with foreign operators to develop TD-LTE trial networks. Additionally, 31 nations and regions have already announced plans for commercial deployment of TD-LTE.[88]

A third area of concern in the ICT sector is China's recent enforcement of its Multi-level Protection Scheme (MLPS)—a set of rules for computer security certification that apply to government agencies, SOEs, and Chinese infrastructure companies, including financial and transportation institutions.[89] Although the MLPS has been in place for three years, it has been reported recently that Chinese inspectors are starting to strengthen their enforcement of these rules.[90] The MLPS could significantly affect U.S. sales of information security technology products, such as network firewalls and digital identity systems in China.[91] The MLPS classifies computer systems into five tiers of increasing sensitivity and requires that security technology for the top three tiers be supplied by a

[82] USTR, *2010 Report on Technical Barriers to Trade*, March 2010, 51.

[83] China filed 13 TBT notifications to the WTO covering the selected products in August 2007.

[84] The TCG is an international industry standards group. Wolff, Dempsey, and Oh, "Policy Issues Arising in China's Development of State-Sponsored Domestic Standards," September 2009, 1–2.

[85] Wolff, Dempsey, and Oh, "Policy Issues Arising in China's Development of State-Sponsored Domestic Standards," September 2009, 4.

[86] Ibid., 13.

[87] Industry representative, interview by USITC staff, Washington, DC, July 30, 2010.

[88] C114, "China Mobile to Test TD-LTE Overseas," June 4, 2010.

[89] Neuffer, written testimony to the USITC, June 15, 2010, 5.

[90] McDonald, "China Braces for New Computer Security Battle," August 27, 2010, 1.

[91] Ibid., 2. Additionally, the MLPS could have adverse consequences for all China-based exporting firms to the extent the program raises prices in China. Ernst and Martin, *The Common Criteria for Information Security Technology*, January 2010, 8.

Chinese-owned company and that core technology and key components be based on Chinese IP.[92] Foreign suppliers of products classified in level three and above will be allowed if there is no Chinese alternative; however, industry representatives have noted that domestic replacements could be developed by Chinese companies in the next 5–10 years.[93] U.S. industry concerns regarding the MLPS include lack of transparency, its broad coverage, uncertainty as to how the program will be enforced, requirements to provide source codes, and the restrictions on foreign access.[94] The MLPS also differs from the ISO/IEC Common Criteria in its requirements for computer security certification.[95]

Outside of the ICT sector, industry sources report that China's State Grid, a state-owned company that controls electricity transmission in a majority of China's provinces and regions, is setting standards as it moves into developing smart grid technologies.[96] These sources expressed concern that the lack of public and transparent standards could pose a challenge to foreign companies interested in competing for the $60–$100 billion that China is expected to spend on smart grid upgrades in the future.[97]

Patented Technology and Standards

The SAC's release of the *Proposed Regulations for the Administration of the Formulation and Revision of the Patent-Involving National Standards* in 2009 raised concerns among U.S. industry representatives about Chinese indigenous innovation policies and rules for patented technology in standards. The SAC's draft rules established three general principles: (1) mandatory national standards should not incorporate patented technologies as a general principle; (2) if a mandatory standard does involve a patent, the relevant government agency will negotiate license terms, and, failing to do that, could require compulsory licensing of relevant patents; and (3) patented technology relevant to national standards should not be included unless the patent holder agrees to grant a royalty-free license, or one that provides royalties at a price significantly lower than the norm.[98] USTR views this practice as in conflict with those followed by standards-developing organizations in other countries, where reasonable and nondiscriminatory (RAND) licensing policies are incorporated into standards.[99] U.S. industry representatives have expressed concern that these draft rules followed instances in which the Supreme People's Court of China offered guidance to lower courts suggesting that IP incorporated into a national standard need not be compensated at the market value.[100]

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[92] United States Council for International Business, "Comments to NIST: Re: USCIB Comments on Cybersecurity, Innovation, and the Internet Economy," September 22, 2010, 5.

[93] Industry representatives, interviews by USITC staff, Beijing, September 8, 2010.

[94] Ibid.

[95] Ernst and Martin, *The Common Criteria for Information Security Technology*, January 2010, 4.

[96] Wall Street Journal China Real Time Report, "State Grid Guns for China's Smart Grid," June 30, 2010. Energy technology and China's standards approach, including the smart grid, were mentioned at the Commission's hearing as areas to watch. USITC, hearing transcript, June 15, 2010, 283 (testimony of Jeremie Waterman, U.S. Chamber of Commerce).

[97] Under the Energy Independence and Security Act of 2007, the National Institute of Standards and Technology (NIST) is currently coordinating development of standards and protocols for the U.S.-based smart-grid system.

[98] USTR, *2010 Report on Technical Barriers to Trade*, March 2010, 75; Freshfields Bruckhaus Deringer, "Patents and Standards-setting in China," January 2010, 1.

[99] USTR, *2010 Report on Technical Barriers to Trade*, March 2010, 75.

[100] USITC, hearing transcript, June 15, 2010, 238–39 (testimony of Jeremie Waterman, U.S. Chamber of Commerce).

In January 2010, the China National Institute of Standardization (CNIS) issued and requested comments from all stakeholders on its *Disposal Rules for Inclusion of Patents in National Standards* (Disposal Rules), a key component of the SAC regulations. Based on feedback from U.S. and other foreign stakeholders, the Disposal Rules did not include a number of provisions that had been in the 2009 SAC Proposed Regulations, particularly those related to compulsory licensing in mandatory standards and to requirements that royalties be licensed on a lower-than-fair basis.[101] The Disposal Rules do, however, require the disclosure of pending as well as existing patents during the formulation and revision of national standards, which may prove onerous for holders of patent applications that have not yet been published.[102] Standards observers have noted that, for the Disposal Rules to be better aligned with international standards and patent policies, they should further clarify rules for essential patents and claims in regard to patent disclosure and licensing, obligations regarding nonparticipants, and obligations regarding the patent license declaration form.[103] USTR has indicated that the United States will monitor these developments in the future.[104]

Competition Policy/Anti-Monopoly Law

Another area that is seen as falling under China's broad indigenous innovation policies is the enforcement of the recently enacted AML. U.S. businesses have raised three concerns in this area: (1) the conditions under which mergers and acquisitions (M&A) between foreign and Chinese firms will be approved by Chinese authorities; (2) the way Chinese authorities are likely to enforce the provisions of the law related to a company's alleged abuse of a dominant market position; and (3) the apparent exception for enforcement related to SOEs under Article 7 of the AML.[105] All of these concerns are forward-looking, i.e., they raise questions about actions that the Chinese government might take, rather than actions that have actually taken place as of September 2010. Moreover, the concerns largely focus on how Chinese government agencies and courts will implement and enforce the law, rather than on the AML's actual provisions.

Some observers have voiced concerns that foreign M&A of Chinese companies will be approved only under conditions that encourage or mandate technology transfer, or that M&A transactions involving foreign acquisitions of SOEs, famous Chinese brands, and state-controlled industries will not be approved.[106] However, policy objectives do not appear to have played a substantial role in the first several merger approvals for which the Chinese Ministry of Commerce (MOFCOM) required antitrust remedies under the AML (through August 2010).[107] Protection of famous Chinese brands may be another story. One prominent merger (Coca-Cola's proposed takeover of Huiyuan Juice) was blocked by MOFCOM, and because the reasoning was not transparent, there has been speculation that the merger was denied to protect the Chinese juice company and its well-

[101] Freshfields Bruckhaus Deringer LLP, "Patents and Standard-Setting in China," March 2010, 2.
[102] Ibid.
[103] Willingmyre, "China's Latest Draft Disposal Rules for Patents in Standards," April 1, 2010.
[104] USTR, *2010 Report on Technical Barriers to Trade*, March 2010, 75.
[105] USITC, hearing transcript, Washington, DC, June 15, 2010, 246–47 (testimony of Jeremie Waterman, U.S. Chamber of Commerce).
[106] AmCham-China, *2010 White Paper*, 2010, 56.
[107] Zhang, "An Anti-Monopoly Legal Regime in the Making," 2010, 1469–94. The article was published after only the third MOFCOM merger review. As of September 2010, MOFCOM has approved seven mergers for which antitrust remedies were required, all involving foreign companies, but there is no evidence that technology transfer objectives played a role in the later decisions either.

known brand from takeover by a foreign company, rather than to preserve market competition.[108]

The AML provisions related to abuse of a dominant market position remain an evolving area of Chinese law that raises concerns among foreign firms.[109] One concern is that the draft rules may establish a "refusal to deal" provision that presumes "illegality for routine transactions by dominant businesses."[110] Foreign firms that hold large market shares in several high-tech industries in China are concerned that the regulations may limit their ability to refuse to enter into unreasonable business transactions with competitors unless they first prove to Chinese regulators that such refusals would not have anticompetitive effects. Such regulatory interpretations might endow China's anticompetition enforcement agency (SAIC) with wide-ranging powers to manage competition in a way that would benefit Chinese competitors of foreign companies.[111] It may also be possible for the Chinese government to impose compulsory licensing requirements, which would allow access to a company's IP in the context of an abuse of dominance antitrust remedy, based on provisions of the Patent Law that to date have not been enforced.[112]

An additional area of concern is what appears to be a potential exception to the anticompetition rules for "industries that are controlled by the state-owned economy and that are critical to the well-being of the national economy and national security and of sectors involving state-sanctioned exclusive monopolies."[113] This provision of the AML appears to provide some scope for China to give preference to particular SOEs, in line with the national goal of promoting "national champion" companies or infant industries. In particular, mergers between companies controlled by the State Assets Supervision and Administration Commission (SASAC)[114] have received exemptions from premerger reviews for anticompetitive effects—treatment which appears to encourage mergers between Chinese companies that will lead to the creation of new companies with significant market power. The language of the law reportedly is ambiguous, and much of the practical effect of the apparent exception for SOEs will depend on China's implementation of the law in coming years.[115]

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[108] Zhang, "An Anti-Monopoly Legal Regime in the Making," 2010, 1469–94; Coca-Cola Company, "Acquisition of Huiyuan Juice Group in China Not to Proceed," March 18, 2009.

[109] The State Administration of Industry and Commerce (SAIC) released a second draft of the relevant regulations in May 2010; as of September 2010, final regulations have not been released and there has been no enforcement activity by Chinese agencies. SAIC, Regulations on the Prohibition of the Abuse of Dominant Market Positions by Industrial and Commercial Administration Authorities (Draft for Comments), released May 25, 2010. Unofficial translation.

[110] Singham, statement to the U.S. House Judiciary Subcommittee on Competition and the Courts, July 13, 2010; industry officials, interviews by USITC staff, July 15, 2010.

[111] For example, a foreign company could be forced to permit competitors to access prized assets such as supply chains. Singham, statement to the U.S. House Judiciary Subcommittee on Competition and the Courts, July 13, 2010; industry official, interview by USITC staff, July 7, 2010.

[112] Singham, statement to the U.S. House Judiciary Subcommittee on Competition and the Courts, July 13, 2010; industry officials, interviews by USITC staff, July 7 and 15, 2010.

[113] Bush, "The PRC Antimonopoly Law," October 2007, 5.

[114] SASAC performs investor's responsibilities, supervises and manages the state-owned assets of the enterprises under the supervision of the Central Government (excluding financial enterprises), and enhances the management of the state-owned assets. SASAC Web site, "Main Functions and Responsibilities of SASAC."

[115] Singham, statement to the U.S. House Judiciary Subcommittee on Competition and the Courts, July 13, 2010; USITC, hearing transcript, Washington, DC, June 15, 2010, 247–48 (testimony of Jeremie Waterman, U.S. Chamber of Commerce); industry officials, interviews by USITC staff, July 7 and 15, 2010.

Favorable Tax Rates for High-Technology Enterprises

Another Chinese government policy for promoting indigenous innovation is the substantial tax break accorded to high- and new-technology enterprises (HNTEs) under the Enterprise Income Tax Law, passed in January 2008. Under the law, Chinese enterprises designated as HNTEs pay income tax at a rate of 15 percent rather than the general corporate tax rate of 25 percent. Under Circular 172 (April 2008), an entity can qualify for the lower tax rate only if it "conducts continuous R&D activities" in China. Such enterprises need Chinese IP ownership to qualify; location and employment of Chinese staff is not sufficient.[116]

According to the *Guidebook on Managing Certification of High- and New-Technology Enterprises*, released jointly by MOST, MOF, and the State Administration of Taxation (SAT) in July 2009, companies qualify for this special tax rate by applying through their provincial science and technology committee, which evaluates enterprises according to four criteria:

- Core IP,[117]
- Technology commercialization ability,
- R&D organizational management level, and
- Enterprise growth rate.[118]

If an enterprise scores more than 70 points out of a possible total of 100, as determined by a panel of local technical and scientific experts, a public notice is posted. If no objections are raised, the enterprise is awarded HNTE status, which is filed with MOST in Beijing.[119] In practice, qualification criteria for the designation reportedly vary by province. According to anecdotal accounts, foreign companies have successfully applied for the special tax status in a number of provinces, but more precise information is not available.[120] There are also reports that not all Chinese companies that have achieved the HNTE designation actually meet the criteria, with one anonymous MOST official reportedly claiming that "at least 50 percent of the companies that have already received high-tech certification are not truly qualified. They were certified under falsified materials."[121] The implementation of the tax status has also spawned a cottage industry of firms that help existing companies to qualify.[122]

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[116] AmCham-China, *2010 White Paper*, 218; McGregor, *China's Drive for "Indigenous Innovation,"* July 2010, 19.

[117] Core IP is defined in SAT regulations as "inventions, utility models, designs for non-simple alterations to product patterns and shapes, software copyrights, exclusive rights to integrated circuit designs, and new plant varieties. . . . An exclusive license refers to a global technology licensee enjoying exclusive usage rights for at least five years for the agreed and determined IP . . . ; within this period the technology provider and any third party are prohibited from using that technology. Core IP designated by HNTEs must be registered in China, or must enjoy at least five years of global exclusive licensing rights."

[118] USCBC, "Qualification Criteria for China's High- and New-Technology Enterprise (HNTE) Status," 2010.

[119] Ibid.

[120] Industry officials, interview by USITC staff, Washington, DC, July 26, 2010.

[121] Zhou and Yang, "Caing Report," August 10, 2010.

[122] Ibid.

Other Indigenous Innovation Incentives for Chinese Firms

In December 2009, several Chinese ministries jointly issued a catalogue of industrial equipment products that domestic companies are urged to develop. The catalogue offers Chinese manufacturers tax and financing incentives to focus on those products, and gives manufacturers of listed equipment priority in accrediting their products as national indigenous innovation products. Domestic companies developing these products are also eligible for preferential financing for product commercialization and possible R&D subsidies. The reference to indigenous innovation products raises concerns as to whether foreign companies' products are eligible for these programs. The announcement is quite recent, so as with other policies related to indigenous innovation, foreign interests reportedly will continue watching to see whether the program is implemented in a way that excludes foreign products.[123]

Central and provincial government funding for R&D performed by Chinese firms, particularly SOEs in strategic areas identified by the MLP, reportedly also favors Chinese firms. According to AmCham-China, for example, Chinese telecommunications firms have essentially entered "zero bids" for major contracts, once government subsidies are accounted for, greatly reducing the competitiveness of foreign firms.[124]

Opting Out of China Is Not an Option for Many U.S. Firms

As discussed in this report, U.S. industry representatives have voiced serious concerns about the potential effects of China's indigenous innovation policies on their market prospects in China, their ability to safeguard their IP while doing business in China, and their future in China even after making significant investments there. Even so, these industry voices uniformly agree that their companies have no choice but to remain active in the Chinese market and work with the policies promulgated by the Chinese government, for several reasons. First, China is the world's largest and fastest-growing market, making it critical for global companies to remain active there. Second, U.S. industry representatives believe that even if they were to refrain from operating in China, their global competitors would fill the gap, leading to both large revenue losses and the likelihood that Chinese companies would be able to access similar IP elsewhere. Finally, in some industries, technology advances so quickly that by the time foreign companies in China are competing against technology stolen from them, they expect to be ready with a new generation of technology, so the stolen IP is no longer a critical competitive factor.[125] In any event, because U.S. and other foreign firms are certainly profiting from their ongoing participation in the Chinese market, their shorter-term interest in maximizing current profits may encourage them to set aside their longer-term concerns regarding IP infringement and market access. Thus, U.S. companies expect to continue operating in China for the foreseeable future, despite their serious concerns about the direction of Chinese government policies regarding intellectual property and indigenous innovation.

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[123] The catalogue of industrial equipment products targeted for domestic companies to develop was jointly issued by MOST, MOF, MIIT, and SASAC in December 2009. USCBC, "Issue Brief: New Developments in China's Domestic Innovation and Procurement Policies," January 2010, 4.

[124] AmCham-China, *2010 White Paper*, 218.

[125] USITC, hearing transcript, Washington, DC, June 15, 2010, 251–53 (testimony of Christian Murck, American Chamber of Commerce in China; Shaun Donnelly, National Association of Manufacturers; Jeremie Waterman, U.S. Chamber of Commerce); industry officials, interviews by USITC staff, May 12, June 2, July 2, 7, 15, and 22, 2010.

Mr. ROYCE. Ms. Laney, let me ask you a couple of quick questions. First of all, China has not signed the WTO's government procurement agreement, right? So that means that U.S. and other foreign firms that try to do business there can be discriminated against by China in government contracting.

What I'm wondering is if you have a sense of the scope of that? If you could give us some examples? And I think it's important because we have a number of us here that have called for Congress to act to preclude Chinese companies from bidding on U.S. Government contracts until China makes this decision to join and sign this agreement and keep to the agreement so that we've got a two-way street.

Ms. LANEY. During the JCCT in December, the Chinese did make a commitment to apply for admittance to the WTO government procurement agreement, of course, by the end of this year, 2011. I'd be happy to provide—get back to you with some examples.

Mr. ROYCE. I'll get the examples from you later.

Ms. LANEY. Yes.

Mr. ROYCE. But in the meantime, do you know the extent of current Chinese contracting at the state, local, and Federal level here in the United States with our U.S. Government?

Ms. LANEY. No. And I will look into that and get back to you on that.

Mr. ROYCE. I think that would be very important for us to know and for us to know as soon as possible.

Ms. LANEY. Okay.

Mr. ROYCE. Let me ask you another question. You testified that foreign businesses have reportedly been pressured to transfer know-how and technology to Chinese firms in order to gain access to the Chinese market, something that we hear about from businesses out in California all the time. But maybe you could give us some examples of specific U.S. businesses and how this plays out so that we can understand precisely, and so that the other members and the audience can understand precisely how this is done.

Ms. LANEY. Most of the information that we have had concerning specific impacts of tech transfer policies are going to be reported in our second report.

Mr. ROYCE. Do you have any examples right now that you'd like to share with us? Because I would imagine that someone in your position—I'm familiar with a half dozen, so I imagine you have access to some of this data.

Ms. LANEY. Certainly we have heard about situations and have heard from industry, such as the semiconductor industry which has talked often and publicly about their concerns with different technical standards, for example, the WAPI standard that the Chinese employ rather than the WiFi standard that we use here in the unescorted access, and pressure to adopt those technical standards in order to be able to do business or sell products in China. Of course, semiconductors are in many different types of products, so that has a ripple effect.

Also, the same industry has talked a lot about tax preferences, which are given to high-tech Chinese industries rather than foreign industries. So there are examples like this. In addition, the wind energy industry has talked to us about some of the discriminatory

regulations that are in place requiring experience, requiring proof of certain business practices in order to be able to access the Chinese market. So we do have some specific examples in various high-tech industries about these concerns.

Mr. ROYCE. And in fact, these violate current treaties with China, do they not?

Ms. LANEY. I don't know.

Mr. ROYCE. Well, I'm going to allow Mr. Sherman here to ask his questions. I thank you again for appearing as a witness.

Mr. SHERMAN. Thank you. Just to take a minute before I begin asking questions, I for one have lost patience with China and our trade policies toward China. We need balanced trade with China. The only way to achieve this is for Congress to revoke most favored nation status for China and to direct the administration to enter into emergency negotiations knowing that MFN will end by the end of the year to arrange a new system, one that results in balanced trade and one that perhaps follows Warren Buffet's approach which is a voucher system where you in order to import anything from China, need a voucher from someone who has exported to China.

I know all my colleagues are a bit frustrated with China. The question is are we actually going to do something or are we just going to send more strongly-worded letters.

Now let me ask the witness, the ITC back in the Year 2000 predicted that granting most favored nation status to China and letting them into the WTO would be associated with roughly a $1 billion per year increase in our trade deficit with China. It turned out that over the last 10 years you've been off by a little less than $2 trillion. Wouldn't that make you just a little bit shy about issuing any kind of projection for the effect of the proposed Korea free trade agreements?

Ms. LANEY. I would have to take a look at the basis upon which that prediction of $1 billion was made and compare that to what we're doing for our Korea analysis.

Mr. SHERMAN. Most organizations when they make a $2 trillion error, go back and look at that even without having to be prodded by a bald congressman from California, but I'm happy to play that role.

Now picking up on the comments about China made by the chairman, our national approach with China does something by issuing this directive, unofficial as it may be, to all of their government-owned enterprises and provincial officials, they've already taken action to keep American intellectual property out of their procurement market. Our natural thing is to send a letter and then do nothing because that's what the most moneyed interests in our country would suggest that we do.

What we could do instead is introduce and adopt legislation prohibiting state, local, and Federal Governments from procuring anything from China until such time as they sign the WTO agreement on procurement and are certified by our President to be in compliance. Would such legislation be in violation of WTO?

Ms. LANEY. I'm not prepared to comment on that.

Mr. SHERMAN. Will you respond for the record?

Ms. LANEY. I will take that question back to my agency.

Mr. SHERMAN. So you may just refuse to answer?

Ms. LANEY. No, sir. I just don't know the answer.

Mr. SHERMAN. I know, but you'll go back to your agency and then respond for the record or are you committing to get me an answer?

Ms. LANEY. Yes, sir. I am. I am.

Mr. SHERMAN. Okay. Looking at the Korea free trade agreement, you have made an estimate that it would reduce our trade deficit slightly. Now the agreement allows for products such as automobiles, automobile parts, ships, electronics, iron and steel to be 65 percent made in China and then only 35 percent made in South Korea. And then the work done in South Korea can be done by Chinese guest workers in barracks. Does your estimate as the effect that the Korea free trade agreement will have on U.S. balance of payments reflect those two factors? That is to say the 65 percent made in China, the 35 percent made in Korea access that this gives the Chinese and does it reflect the fact that South Korean firms can use grossly underpaid Chinese guest workers for products shipped to the United States? Are either of these in your estimate on the Korea free trade agreement?

Ms. LANEY. The employment, the guest workers calculation is not. The rules of origin related to the percentage of parts that are sourced from various places is captured in a larger factor in our model analysis that looks at non-tariff measures.

Mr. SHERMAN. I don't think you're off by a couple trillion dollars per decade, but you're off, because Korea free trade agreement gives open access to the U.S. market to goods produced by Chinese labor, 65 percent in China, 35 percent guest worker in South Korea. I hope you will revise your estimates and not only does it give Chinese labor free access to U.S. markets, it does so without China making a single concession to the United States and they get a free trade agreement, in effect, and the resulting trade imbalance will be attributed to the South Koreans rather than the Chinese. There is nothing more beautiful about a trade agreement for China—you couldn't have a more beautiful agreement for China than the U.S.-South Korea free trade agreement. I yield back.

Mr. ROYCE. Mr. Duncan from South Carolina, but before we go to you for questions, we've been joined by Mr. Poe from Texas. We appreciate his attendance.

Go ahead, Mr. Duncan, with your questioning.

Mr. DUNCAN. Thank you, Mr. Chairman, and Ms. Laney, thank you for being here today. I had the opportunity after reading the Friedman book, The World is Flat, back in 2005 to travel to China, so I've been to southern China and the Guangzhou area and then up to Beijing. Really thought it was a fascinating experience for me as a legislator in the state at the time and bring those experiences to Congress.

I wanted to bring up the issue this afternoon of production of rare earth minerals. We use rare earth minerals in many energy technologies and high security, high-tech national security applications. I'm concerned that while the U.S. was once self reliant in domestically-produced rare earth elements, over the past 15 years we have become 100 percent reliant on imports primarily from China which controls more than 95 percent of the world's rare earth supplies.

The Wall Street Journal published an article on March 6th stating that China has begun building its stockpile which further increases the Chinese Government's power to influence the minerals' prices. As we discussed the possible threats of China's indigenous innovation trade and investment policies, I would like your thoughts regarding China's monopoly of rare earth elements and how that would affect U.S. technology.

Ms. Laney, is the U.S. vulnerable to supply disruptions of rare earth elements? What effect would the disruption have on our military's ability to produce important defense applications like jet fighter engines, missile guidance systems, anti-missile defense, space-based satellites, communication systems, the technology things just go on and on. So if you will answer that?

Ms. LANEY. The United States is vulnerable at this time because we have no operating capacity in the United States. However, we do have access to some types of rare earth minerals. And so the effect of supply disruption would depend on how rapidly we could reopen and get up running, in part.

Mr. DUNCAN. We're seeing China continually try to buy these in places like sub-Saharan Africa and South America and other places. What should the U.S. do about that, if anything?

Ms. LANEY. I'm not prepared to offer a suggestion regarding policy, sorry.

Mr. DUNCAN. Okay. Mr. Chairman, I yield back.

Mr. ROYCE. We'll go to Mr. Cicilline from Rhode Island.

Mr. CICILLINE. Thank you, Mr. Chairman, and thank you for holding this important and very timely hearing and welcome, Ms. Laney.

My home state is Rhode Island and we have been especially hard hit in this recession. In fact, it was the first New England state to go into the recession and currently we have the fifth highest unemployment in the country. Particularly, in manufacturing, where Rhode Island, we were the birthplace of the American Industrial Revolution, and home to a very important and robust manufacturing sector that's been very hard hit in this recession. The Alliance for American Manufacturing concluded that there were 71,000 manufacturing jobs in Rhode Island in 2008. That number has dropped to 47,900. And 15 percent of the manufacturing jobs lost in Rhode Island during that period were lost due to trade with China.

And so with regard to the indigenous innovation policies that we're talking about today, I'd like to first note that I know many of the indigenous innovation policies are in different stages of development and haven't all been adopted yet and of course this practice really relates only to one area where the Chinese are undertaking a really conscious effort, I believe, to discriminate against U.S. exports and illegally promote their own exports.

I have tremendous concerns in light of the history of what we see in Rhode Island and frankly, in states all across our country about what we are doing, what we can do about this. And so my question really is what kinds of retaliatory mechanisms do we have at our disposal to respond to this and other than filing dispute resolutions with the WTO, are there other things that we can do that can effectively respond to this? As Mr. Sherman said, this is a growing

and serious problem that I think many members of this committee over many years are becoming increasingly frustrated with.

Ms. LANEY. I would say that in our research, one of the things that we heard over and over again was companies asking that the government continue to talk to China. That may not sound like it's sufficiently bold, but as Ms. Schwartz pointed out, a number of companies have concerns about being able to continue to operate in China and expressed their interest in continuing to have a dialogue with China, as opposed to punitive measures. These were the kind of information and suggestions that came to us as we did our research.

Now with the questionnaire that we put out for our second study, we did ask for suggestions from companies. We asked them to give us information on what the economic impact has been to them, the employment impact, so there will be some concrete numbers and perhaps some more specific suggestions coming from the companies that we surveyed.

Mr. CICILLINE. I understand. I think suggesting that conversations would be ongoing makes sense, but at the same time I think people expect that there be some vigorous enforcement and we're arguing, I think, very hard for maintaining our investments in education, infrastructure, and innovation, because I think we all recognize that America is the home to ingenuity and innovation and we can compete in the world economy and succeed, but if at the end of that process, after we make that investment, we don't have a fighting chance because there's the kinds of violations that are present with respect to China, then we have no real opportunity to continue to grow our economy and succeed.

And so I understand that conversations and negotiations continue, but I think many of us are looking for, and I know the manufacturers that I speak to back in my district are looking for enforcement and looking for protection of their intellectual property and compliance with their requirements with China with respect to trade. So I hope we will do that as vigorously as we talk and send letters. Thank you. I yield back the balance of my time.

Mr. ROYCE. Thank you. We're going to go to Mr. Bill Johnson of Ohio. Before we do, let me just explain to the members that the International Trade Commission is a government agency, and as part of their charter, they don't make policy recommendations. That's Panel 2. So Ms. Laney would probably be in a little hot water back home if she tried to roll out policy recommendations for us here and so I just wanted to explain that. We'll be into all of that in the next panel.

Go ahead, Mr. Johnson, with your questions.

Mr. JOHNSON. Thank you, Mr. Chairman. Ms. Laney, you stated in your written testimony that the U.S. International Trade Commission performed two investigations on intellectual property infringement and indigenous innovation policies in China. In addition, you also mentioned the 21st U.S.-China Joint Commission on Commerce and Trade, the meeting this past December, which also focused on indigenous innovation. While I realize that the conclusions of the second investigation have not yet been released, let me ask you this, what similarities can be drawn between these recent inquiries into China's indigenous innovation policies, more specifi-

cally, how serious an effect do these policies have on American businesses that interact with China when compared to other trade practices such as currency manipulation and subsidies provided by the Chinese Government?

Ms. LANEY. The companies that we interviewed for our first investigation and those that attended the hearing, the 2-day hearing that the Commission held, by and large indicated that they were more concerned about the indigenous innovation policies going forward than they were about currency manipulation. They would say that subsidies are probably a part of that whole web of indigenous innovation policies. Because these policies are relatively new, most of what we heard was concern going forward. The government procurement draft that came out in November I think sounded a real alarm for a lot of companies, that China was moving more aggressively to favor their domestic industries, their high-tech industries.

So in terms of what is of greatest concern to U.S. companies, that varies somewhat between sectors, but they're looking forward toward this web of policies. Some of them describe it almost as Whac-A-Mole, you fix one policy, something else pops up. But in terms of currency manipulation versus indigenous innovation, what we were hearing is that high-tech companies are more concerned with the indigenous innovation web.

Mr. JOHNSON. Thank you very much. Mr. Chairman, I yield back.

Mr. ROYCE. We'll go now to Ann Marie Buerkle from New York, who is the vice chair of this committee.

Ms. BUERKLE. Thank you, Mr. Chairman, and thank you, Ms. Laney, for being here today.

My question has to do with the indigenous innovation policies, how you would characterize those? If we had to look at it and I would just like your opinion on this, is it more of an extortion toward American businesses or is it something where the American businesses just realize the risks and they realize the gamble that they have to take and they think it's worth it?

Ms. LANEY. I would say that in our experience during our investigation the answer to that question depends a little bit on the experience and even on the size of the company doing business in China. Companies who have been in the Chinese market for a while report a different experience and have a different characterization of the regulations than do smaller firms or firms that are brand new to the market. So for those companies that have been in the market for a while, by and large, I would probably not characterize it as extortion. It's a cost of doing business and one that they find discriminatory. But that is not a view that's necessarily held by brand-new small entrants to the market.

Ms. BUERKLE. I guess if you could clarify that for me, what—just because they've been in it longer, what is the reason why their view is so different than the newer?

Ms. LANEY. It would be speculation on my part to say why that is. I think when I'm talking about the size of a company, often large firms have more resources in order to understand what the legal system is, in order to deal with multiple government officials, those kinds of things. So there are resource issues that go to how a company interacts with and experiences the business environment in China.

Ms. BUERKLE. Thank you. I yield back.

Mr. ROYCE. Ms. Laney, if you could pull your microphone closer?

Ms. LANEY. Yes.

Mr. ROYCE. We'll go now to Ms. Ellmers from North Carolina.

Ms. ELLMERS. Thank you, Mr. Chairman, and thank you, Ms. Laney, for being here today with us.

I'd like to go back to the currency manipulation issue that you discussed a moment ago for Mr. Johnson's question. Basically, considering the undervalued Chinese currency, 40 percent undervalued, and I know that's estimation, it serves the government strategy for strong export market from China. And it affects us, of course, in our country, affecting our jobs and whatnot.

What strategy should the United States Government be taking with this? Because I hear this continuously back home. This is of great concern to North Carolinians and what input can you give us on that?

Ms. LANEY. I'm sorry to say that I'm unable to provide you with anything today, with any recommendations concerning currency manipulation. It's really outside the scope of the indigenous innovation report that I'm here to summarize for you. I'm sorry.

Mr. ROYCE. Ms. Laney, one idea I had was maybe you could just describe a couple of the options to us out there instead of making a set of recommendation. If you don't feel comfortable with that, that's okay, but it's an idea.

Ms. ELLMERS. If you could just give us an idea of some of the approaches that you have been taking, something that we can base some information, something that we can look forward to?

Ms. LANEY. The Commission is not involved in setting policy or negotiating, so what we're doing here is we're reporting the suggestions of companies that we've interviewed. As I indicated, most of them have been saying to us, "We would like for you to keep talking. We would like to have the the WTO handle this. We appreciate the fact that this is coming under scrutiny." In fact, several of the industry officials with whom we spoke pointed to the fact that increased scrutiny was one of the factors, in their opinion, that led to the concessions of the JCCT in December. And they advocate that government, the Executive Branch, Congress, continue to shine the light on this and that the Chinese are willing to change and again, whether it's Whac-A-Mole or substantive long-term change can be debated, but the Chinese are willing to move on this when a spotlight is shined on this. This is what we're hearing from businesses.

Ms. ELLMERS. Thank you very much. I yield back.

Mr. ROYCE. Thank you. Gerry, did you have any questions, Mr. Connolly? Go ahead, please.

Mr. CONNOLLY. Thank you, Mr. Chairman, and I'll try to be brief. I'll ask two. One is, Ms. Laney, regarding the American Chamber of Commerce in China, 31 percent of the 300 members cited discriminatory government policies and inconsistent legal treatment as being the largest single barrier to doing business in or with China.

What's being done to try to make sure that we have a consistent commercial legal code in China and that it is consistently enforced?

Ms. LANEY. I would defer to USTR on that one. I know that there are a number of cases that have been brought to the WTO concerning violations to our international agreements, our international trade agreements. There are also various government programs which work on the legal aspects of trade and of business in China, is my understanding. I can look into that more for you, if you would like.

Mr. CONNOLLY. It would be helpful. Thank you.

Ms. LANEY. Okay.

Mr. CONNOLLY. What about, in the same category, the laws and the enforcement regarding intellectual property, how consistent are those laws under WTO rubric, international standards and how consistent is the enforcement of those laws?

Ms. LANEY. The enforcement is very inconsistent of the laws. It varies between the national level and different provincial and local levels. It is not transparent in many cases. There is a slightly different patent system in China which does not afford the same strong protection as some of our intellectual property mechanisms. Much of this is detailed in the report that we provided to the Senate Finance Committee and I'd be happy to send you a summary of that.

Mr. CONNOLLY. That would be very helpful. Thank you. Mr. Chairman, I know you want to move, so I yield back the balance of my time.

Mr. ROYCE. Thank you, Mr. Connolly. We'll go now to Judge Poe from Texas.

Mr. POE. Thank you, Mr. Chairman. It seems to me that China operates under two systems, legalized theft and just old-fashioned theft. You can do business in my country of China if you show us how to make your product, and then on the sly, we'll copy it and we'll sell it ourselves. That's sort of their legalized theft system. And then the traditional, old-fashioned stealing, they pirate all kinds of things, movies is a prime example; software, whether it's the government or whether it's private industry or industry in China, and seems to be that is their trade policy.

I agree with the ranking member, Mr. Sherman, that we ought to look at the most favored nation status that we bequeathed on China and review that very closely, especially in light of the fact that we now import these CFLs from China that have mercury in them and pretty soon that will be the only place on earth where we get them. We don't make them in the United States. We've gotten lead paint from China during the Christmas season of 2009, lead paint in toys. They send us dog food that had poison in them. Dry wall has been constructed throughout the United States that now turns out to have smelly sulphur gases and the dry wall falls down during a hot summer Texas heat. And now the FDA has taken Chinese toothpaste off the market because it's got life-threatening chemicals in it. So I'm not so sure we get a good deal on what we get from them.

It concerns me, all of these matters, and my question to you, I believe in free trade, but I also believe in free and fair trade. If—I'm not asking policy—I asking you result, if we take away China's most favored nation status how would that affect United States companies?

Ms. LANEY. I'd like to think about that and get back to you on that one, if I may.

Mr. POE. I'll hold you to it, too.

Ms. LANEY. Okay.

Mr. POE. And the second question, how will that affect U.S. economy if we take away their most favored nation status?

Ms. LANEY. Okay.

Mr. POE. That's two questions. I expect an answer sent to the chairman and the ranking member. Do you have——

Mr. SHERMAN. If the gentleman would yield?

Mr. POE. Certainly.

Mr. SHERMAN. My bill is designed to create an immediate crisis. Six months to negotiate a whole new trade process with China, rather than just end all U.S.-Chinese trade.

Mr. POE. Reclaiming my time. How much money does the United States lose every year because China cheats? Do you know?

Ms. LANEY. No, sir.

Mr. POE. Can you find that out for me? Do you know what I mean by cheat?

Ms. LANEY. No, sir.

Mr. POE. It's their legalized theft and their sort of old-fashioned stealing. Can you quantify that for me?

Ms. LANEY. I'll tell you, in our second report, we do give some estimates based on the questionnaires that we have received, the questionnaire responses where companies have given us some estimates of what they believe their losses have been due to intellectual property infringement. And so certainly when that report is made public in May, I'll see that you get those figures that are based on U.S. company estimates and if there are further questions, we can follow up with you on those.

Mr. POE. Thank you, Mr. Chairman.

Mr. ROYCE. Ms. Laney, the Harvard Business Review, December 2010, has an article on this, "China Versus the World." They go through a lot of pages to say what Mr. Poe said very succinctly, but they lay out the argument on the cheating that he discussed, both in terms of what they do by way of espionage and copyright infringement, as well as what was previously referred to by one of our members here, as extortion. But it will be laid out in economic terms in that piece for you and we would like a report on that. And I think we now go to Mr. Rohrabacher of California.

Mr. ROHRABACHER. I thought I would, by the way, I would like a copy of that report in May as well, if you could send that in my direction?

Ms. LANEY. Certainly.

Mr. ROHRABACHER. That would be very interesting. Mr. Chairman, an Orange County company run by someone you know and who I know, ran a dry cleaner cart manufacturing company. They had 150 employees, about 15 years ago, and it had been in business for 75 years. And they made the carts that you do—go to a dry cleaner or laundromat and you'd have these carts there. Well, about 5 years ago it came to my attention that Chinese, a group of Chinese businessmen had come to Orange County and purchased two of these dry cleaner and laundry carts. And a year later, the container arrived at the Port of Long Beach filled with exact rep-

licas, exact replicas of the dry cleaner and laundry cart that this man's business had been and their family had been in business for 75 years and had about 150 employees.

And it was such a copy that on the outside of the box, the box had been copied and they had a check mark red, black, or white for the different colored carts although the Chinese manufacturer only made one color which was black. The Chinese then went to my friend and said by the way, we can just keep doing this and drive you out of business or why don't we become partners? Why don't you hire us to do your manufacturing? I think it's called extortion and he agreed to this. And do you know what happened then? After a few years, guess what happened? There's not the 150 workers any more and he's being edged out of the company. And now it's all a Chinese company. So you have for 75 years an American company setting up a group of people in China to now make the laundry and the dry cleaning carts that used to be made by Americans.

If we put up with this, shame on us, not shame on the Chinese. They're avaricious. They're out to make a buck. They're watching out for their own people. Who's watching out for the people of the United States of America?

Now my question to you is, who would that dry cleaner complain to? Who in the government can help him so that over a 5-year period he doesn't lose everything to an overseas group of people who are coming in and copying his product? Who in the government is it that he should go to? Who is not doing their job or at least who can we direct him to?

Ms. LANEY. I would say this is a legal issue which he needs to pursue.

Mr. ROHRABACHER. So who is that? You mean like hire a private lawyer and sue them? There's nobody in the United States Government that's responsible when entities from overseas, especially in China come in and basically commit extortion and pressure you into giving up what your family has built for 75 years? There's nothing in our Government that does this?

Ms. LANEY. I'm not aware of anything in the trade community.

Mr. ROHRABACHER. My theory is that there are entities in the Chinese Government that are there to help the thieves. But we don't have the entities here to help our people to protect themselves against organized foreign theft, especially that coming from China.

By the way, the Chinese are not just stealing things like this. We are the victims of cyber attacks and everybody knows this. This is not something that has gone on without the Chinese Government's knowledge. They are aware that there are business people who are coming from their country into our country and committing these types of acts of extortion. They are aware that there are hackers coming into our system, stealing all of our—all the information they can get their hands on.

Mr. Chairman, we've got to get tough or those people overseas who are tough, are going to run us over, and steamroll our people. And that's what's been going on and shame on us if we don't have the strength and courage to stand up to that kind of challenge. Thank you very much.

Mr. ROYCE. Reclaiming the rest of Mr. Rohrabacher's time, let me just make an observation. From political scientists to economists to philosophers, one of the great achievements of this Republic was in its Constitution. This is a conclusion of the history of the United States. One of the great achievements here was that we had in our very Constitution laid out a protection for intellectual property, copyright. And I guess what's baffling is the fact that this was so obvious to the Founders of this Republic, the importance of this principle of protecting intellectual property.

And I guess what is so obvious to us now is how cavalierly this has been treated both overseas and obviously by the United States, that we have turned a blind eye to a fundamental concept to protect human capital, to protect intellectual property, which is frankly the engine of our prosperity.

So if we don't have a ready answer to what to do about it, then I think we better return to first principles and we understand that your role is—you cannot give us policy recommendations, but I think it is our role as members, and we'll hear shortly from the second panel who will give us those recommendations. But I think this highlights how important this is. And as for legal action, having gone through this with many of my constituents who have taken cases to court in China, I know just how futile that is, just how ridiculous it is to expect that to ever bear fruit, to see our own Government hesitate in terms of getting involved in what they call the Chinese legal system when that legal system frankly, from what I've seen of it, is not based on legality. It's not based on a rule of law.

So we face a very real challenge here that must be addressed now and with that said, I think you had an unanimous consent request.

Mr. SHERMAN. I ask for unanimous consent to insert in the record the report commissioned by the AFL–CIO titled "Manufacturing and Security: America's Manufacturing Crisis and the Erosion of the Defense Industrial Base."

Mr. ROYCE. Very good. Again, I want to thank our witness. We have quite a few follow-up questions for the record. And we look forward to that information.

Ms. Laney, thank you.

Ms. LANEY. May I say one other thing?

Mr. ROYCE. Yes.

Ms. LANEY. To Mr. Rohrabacher's question about the dry cleaning cart. My colleague from the Commission reminded me that we do at the Commission have what we call 337 proceedings which are intellectual property. They're a legal way for U.S. companies to challenge the theft of their intellectual property when products are imported and a U.S. company thinks that their IP has been infringed. They can come to the Commission and file a legal proceeding there.

Mr. ROHRABACHER. 337?

Ms. LANEY. Yes, sir. Section 337 it's called.

Mr. ROHRABACHER. Very good.

Mr. ROYCE. All right, we will go now to our second panel. Thanks, Ms. Laney.

For our second panel, we're going to hear from Mr. Peter Brookes. He's a senior fellow for national security affairs at the Heritage Foundation. He also serves as a commissioner with the Congressional U.S.-China Economic and Security Review Commission. And prior to coming to the Heritage Foundation, he served as deputy assistant secretary of defense for Asian and Pacific affairs. He also served with the Central Intelligence Agency and was on active duty with the U.S. Navy.

Mr. Philip Levy is our second panelist. He's been a resident scholar in economics at the American Enterprise Institute since '06. He also is an adjunct professor at Columbia University School of International and Public Affairs. In '05, he joined the State Department as a member of the Secretary's Policy Planning Staff. He was responsible for international economic issues, which encompassed developing the responsible stakeholder policy toward China. So we'll hear how that's working out.

And then lastly, we have Ms. Thea Lee, deputy chief of staff at the AFL–CIO. Previously, she worked as an international trade economist at the Economic Policy Institute in Washington and as an editor at Dollars and Sense Magazine in Boston. Ms. Lee serves on several advisory committees including the State Department Advisory Committee on International Economic Policy and the Export-Import Bank Advisory Committee. She's also on the boards of directors of the Workers' Rights Consortium and the National Bureau of Economic Research.

I believe all of you have appeared before this subcommittee before. I ask you to summarize your testimony and keep it within 5 minutes, if you would. We start with Mr. Peter Brookes.

STATEMENT OF MR. PETER BROOKES, SENIOR FELLOW, NATIONAL SECURITY AFFAIRS AND CHUNG JU–YUNG FELLOW FOR POLICY STUDIES, THE HERITAGE FOUNDATION

Mr. BROOKES. Thank you, Mr. Chairman. I also served as a staff member on this committee, many years ago under Ben Gilman. It was great to see him today.

Mr. ROYCE. Welcome back.

Mr. BROOKES. Thank you. Mr. Chairman, members of the committee, good afternoon. It's a pleasure to be here to discuss China's policy of indigenous innovation and my role as a foreign affairs specialist and observer of and participant in U.S.-China relations for some 15 years now.

The views I express today in my testimony are my own and should not be construed as representing any official position of the Heritage Foundation or any other organization with which I'm associated. I will summarize my testimony that has been submitted for the record.

There's no question that China today poses a significant set of challenges for the United States and the international community. While its regional and global aspirations appear to be quite extensive, it has been reticent in publicly stating its grand ambitions.

Nevertheless, we can observe a number of behaviors on the part of the Chinese that indicate that Beijing expects to see itself at or near the top of the international pecking order at some point in the not too distant future. As a result, we are faced with a number of

current and potential problems posed by the Chinese that arise from their seeming ambitions to be a major power politically, militarily, and economically.

China's role in international economics and trade is a concern, especially issues resolving around its export-driven economy, trade imbalances, market access for foreign firms, state subsidies, its WTO obligations, and the convertibility and value of its currency. These issues are all well known to committee members.

Today, the question is on China's controversial policy of indigenous innovation. While there are differing definitions of this policy, generally, it might be considered the giving of preferential treatment to locally-developed technology and Chinese Government procurement which runs at about $105 billion annually. To be considered locally developed the Chinese Government must certify that technology involved in the product in question was developed or advanced in China. In return, foreign firms are allowed to do business in the potentially vast China market.

But as many would agree, the indigenous innovation policy is the Chinese effort to gain access to foreign intellectual property which will, in turn, improve China's commercial competitiveness at home and abroad. Via this policy and other means, China intends to propel China into the company of the world's most technologically-advanced countries, including the United States.

China's indigenous innovation policy is, in my view, an unfair practice that disadvantages the foreign firms that are subjected to it. It inhibits market access for foreign firms. It is also a threat to our economic competitiveness globally. And if it remains in force or is expanded, it may allow China to move from its place as a major global manufacturer to a high-technology innovator. That, of course, is China's goal.

Finally, while there are U.S. policies and measures in place, we must also be wary of how any technology transfer, foreign or domestic, might affect our national security in light of China's military modernization which is a growing concern. The bottom line, while indigenous innovation is one way for China to gain access to desirable foreign technology, the fact is that protecting high-technology, intellectual property in China has been, is, and will be a significant challenge for foreign firms.

Beijing is bent on China becoming an advanced technology economy as quickly as possible. As such, we should not expect the multi-vectored Chinese threat to American technology which is not limited to the indigenous innovation policy to abate any time soon. The question, of course, is what can be done.

First, and quickly, it is my belief that firms could choose not to do business in the China market. This is, of course, a private sector corporate decision that the government should not interfere with. U.S. firms should be aware of the threats of intellectual property while doing government in China.

Second, it should be a priority for the U.S. Government to get the Chinese Government or any other government to walk back policies to make technology transfer a condition for access to its market.

Third, when appropriate, an available remedy, the U.S. in concert with others, if possible, should bring Chinese trade practices and policies before the World Trade Organization for remediation.

Mr. Chairman, thank you for the opportunity to present my views on this vexing matter that faces foreign firms, especially those of the United States doing business in China.

I'm happy to take your questions.

[The prepared statement of Mr. Brookes follows:]

CONGRESSIONAL TESTIMONY

China's Indigenous Innovation Trade and Investment Policies: How Great a Threat?

Testimony before the
Committee on Foreign Affairs
Subcommittee on Terrorism, Nonproliferation and Trade
United States House of Representatives

March 9, 2011
2:00 PM

Peter Brookes
Senior Fellow
The Heritage Foundation

Mr. Chairman, Members of the Committee:

Good afternoon. My name is Peter Brookes. I am a Senior Fellow at The Heritage Foundation.

The views I express in this testimony are my own, and should not be construed as representing any official position of The Heritage Foundation or any other organization I am associated with.

It is a pleasure to appear before you today to discuss China's policy of Indigenous Innovation as a foreign affairs specialist and observer of, and participant in, U.S.-China relations for some 15 years now.

There is no question that China today poses a significant set of challenges for the United States and the international community. While its regional and global aspirations appear to be quite extensive, it has been reticent in publicly stating its grand ambitions.

Nevertheless, we can observe a number of behaviors on the part of the Chinese that indicate that Beijing expects to see itself at, or near, the top of the international pecking order at some point in the not too distant future.

As a result, we are faced with a number of current and potential problems posed by the Chinese that arise from their seeming ambitions to be a major power politically, economically, and militarily.

For instance, there is good reason to be concerned about China's military buildup, the political and social freedoms for its 1.3 billion people, and its role in environmental degradation, to name a few.

But China's role in international economics and trade are also a concern, especially issues revolving around its export-driven economy, trade imbalances, market access for foreign firms and the convertibility and value of its currency, the yuan.

These issues are all well known to the Members of the Committee.
Today, the question is specifically on China's controversial policy of Indigenous Innovation.

While there are differing definitions of the policy, generally it might be considered the giving of preferential treatment to locally developed technology in Chinese government procurement. (Chinese government procurement is estimated at some $105 billion annually—and may be significantly higher due to the influx of additional central government stimulus money.)

In order to be considered "locally developed," the Chinese government has to certify that the technology involved in the product was developed, re-innovated, or co-innovated in China, potentially blocking out the participation of foreign competitors.

In exchange for participating in sharing or co-developing their technology, often with State-Owned Enterprises, foreign firms are given access to current and future business opportunities in China's market.

For all practical purposes, the Indigenous Innovation policy is an effort on the part of Beijing to gain access to foreign intellectual property to improve China's commercial competitiveness at home and abroad.

Some would suggest that the Indigenous Innovation policy is a blatant Chinese attempt to quickly catch up with, and surpass, countries with more advanced technology. I do not think there is any doubt about this.

Indeed, while some date the formal policy to 2006, in fact, Chinese efforts to gain access to advanced technology from foreign firms goes back quite some time, whether the transfer of the targeted technology was "voluntary," coerced, copied, reverse-engineered, bought, or simply stolen.

China's Indigenous Innovation policy, in its many variations and guises, is in my view an unfair practice that disadvantages the foreign firms that are subjected to it. It inhibits market access of foreign firms and it is also a threat to our economic competitiveness.

Even if companies decline to send their best technology to China for fear of losing it through any number of means, technology that falls into Chinese hands may lead to competition in low-cost, mid-level technology markets that exist in many parts of the world.

And while there are competing views on the matter, it is unclear whether the transfer of low and mid-levels of technology from foreign firms will allow China to ultimately move from its place as a dominant manufacturer to a high-technology innovator.

That, of course, is China's goal.

Finally, while there are U.S. policies and measures in place, we must also be wary of how any technology transfer—domestic or foreign—might affect our national security in light of China's military modernization.

The bottom line: While Indigenous Innovation is one way for China to gain access to desirable foreign technology, the fact is that protecting high-technology intellectual property in China has been, is, and will be a significant challenge for foreign firms.

Beijing is bent on China becoming an advanced technology economy as quickly as possible, and is putting a significant amount of resources into the effort, from spending on research and development to industrial espionage, using human assets or cyber operations.

As such, we should *not* expect the Chinese threat to American technology—including sensitive defense sector technology—to abate anytime soon.

The question, of course, is what can be done?

First, it is my belief that firms could choose not to do business in the Chinese market—this, of course, is a private-sector, corporate decision that government should not interfere with.

It is clear that business engenders a certain bit of risk wherever it is conducted and firms should be aware of the threat to their intellectual property while doing business in China.

Second, it should be a priority for the U.S. government to get the Chinese government—or any other government—to walk back policies that make technology transfer a condition for access to its market.

But even if we were to see some backtracking on China's Indigenous Innovation policy, we would certainly continue to see the Chinese develop new ways, in addition to other means currently in use, to get access to foreign technology.

Third, when appropriate and an available remedy, the United States, in concert with others, should bring Chinese trade policies and practices before the World Trade Organization (WTO) for remediation.

In the case of Indigenous Innovation, there are questions as to whether China could be rightfully brought before the WTO due to its ongoing failure to negotiate an agreement regarding government procurement.

Mr. Chairman, thank you for the opportunity to present my views on this vexing matter that faces foreign firms, especially those of the United States, doing business in China. I am happy to answer your questions.

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Ms. BUERKLE [presiding]. Thank you, Mr. Brookes.

We'll now go to Dr. Levy.

STATEMENT OF MR. PHILIP I. LEVY, RESIDENT SCHOLAR, THE AMERICAN ENTERPRISE INSTITUTE FOR PUBLIC POLICY RESEARCH

Mr. LEVY. Thank you, Madam Vice Chairman, Ranking Member Sherman, members of the committee. I appreciate the opportunity to testify today on the challenges posed by China's indigenous innovation policies. With your permission, I'd like to offer a brief summary of my testimony and submit the extended version for the record.

China's approach to intellectual property and government procurement is and should be a real source of concern for the United States. It may well prove costly to American firms, but there are limits to how costly these policies can be.

Indigenous innovation policies are unlikely to achieve their objective of vaulting China to the forefront of global innovation, a spot that the United States has traditionally enjoyed. The costs, instead, will be extracted from the gains that American firms would otherwise enjoy in the Chinese market.

Contesting this policy should be a principal focus of U.S. commercial diplomacy with China.

China's indigenous innovation policies are part of a deep-seated effort by the Chinese leadership to advance the country from its status as a prolific low-end producer of manufactured goods to a position of technological leadership. China is pursuing these policies out of a sense of economic weakness, not strength. This may seem somewhat baffling to an American audience. China often appears to be a paragon of economic accomplishment, yet the country faces enormous challenges. It remains a relatively poor country with a per capita income in 2009 under $4,000, less than one tenth that of the United States.

China's recent dominance of the global manufacturing scene is neither as secure, nor as lucrative, as it may seem. Prices and wages are rising in China and the supply of young workers has begun to dry up. There are new comers such as Vietnam and Bangladesh eager to take China's place. Further, China's impressive exports statistics and participation in production of advanced products often conceal a much smaller role when carefully assessed. One recent study of Apple iPods highlighted this and found an iPod with $194 of captured value, $80 went to Apple, and $4 went to the manufacturers in China.

The indigenous innovation policies themselves are an attempt to spur Chinese innovation by giving Chinese companies privileged access to the substantial Chinese Government procurement market. A central and troubling feature of the policies is that they seem intent on extracting foreign technology as the price of access to the Chinese market.

There are two broad points I think worth particularly noting about the indigenous innovation policies. One, they're malleable and in a state of flux. And two, the specific measures describing government purchase and preferences are just one aspect of the

broader push to stimulate Chinese innovation, largely at foreign expense.

The malleability of the policies suggest that this is an area in which diplomatic pressure could have an effect. China, as we've discussed, as others have discussed today, has been steadily revising its policies since these were first laid out in 2009. And in January of this year, as Chairman Royce described, China made commitments delinking government procurement and intellectual property protection. If those commitments were to be taken at face value, they would sound enormously promising. Their true value, of course, is going to depend on the way that they're implemented.

One implication of the rapid pace at which the policies are evolving is that the economic impact is particularly difficult to analyze. A central important point to establish, however, is the Chinese approach to indigenous innovation is unlikely to succeed. There is little history to indicate that cutting edge technology can emerge from a stultifying, government-dominated approach. Appropriation of other countries' technological advances can facilitate catch up, but it is distinctly different from crafting a set of policies that will turn a country into a world leader. This means, in turn, that the economic impact on U.S. firms investing in China can be realized in a more conventional way. For such firms, China's as yet ill-defined policies can be thought of as a means of extracting a higher price for participating in the Chinese market.

The inadvisability of China's approach to the promotion of innovation provides an opening for diplomatic dialogue. An alternative approach that shunned intellectual property theft, protected innovators of all nationalities, and supported basic research would be beneficial for both China and the West.

China's recent concessions may reflect the fruits of a reorientation of U.S. diplomacy away from a fixation on China's undervalued exchange rate toward a set of policies that are arguably both more amenable to negotiation and more important to U.S. economic interests. At summit meetings, countries can only have a single top priority. There is an opportunity cost to pursuing one policy rather than another.

To conclude, China is approaching the issue of technological leadership from a position of weakness, not strength. It faces a broad range of concerns about its economic future and is concerned about the economic effects of being relegated to a position of eternal, cheap, low-end manufacturing. The United States and China share an interest in seeing China emerge as a prosperous technological innovator, but this emergence should not come about through the expropriation of foreign technology or through skewed market access.

China's indigenous innovation policies represent a serious misstep along this path. The policies do not threaten U.S. technological leadership in the long run, but they do threaten to impose substantial costs on U.S. businesses. The willingness of China's leaders to rethink some aspects of this policy is welcome, but a full reorientation is likely to require a sustained and focused prioritization of the issue in U.S. commercial diplomacy.

Thank you.

[The prepared statement of Mr. Levy follows:]

China's Indigenous Innovation Policy and U.S. Interests

Written Testimony of
Dr. Philip I. Levy
Resident Scholar
American Enterprise Institute
Washington, DC

Before the
House Committee on Foreign Affairs
Subcommittee on Terrorism, Nonproliferation, and Trade

9 March 2011

Chairman Royce, Ranking Member Sherman, and members of the committee, thank you for the opportunity to testify today on the "indigenous innovation" policies of the People's Republic of China.

I will argue that these policies ought to be a real source of concern for the United States. They may well prove costly to American firms, but there are limits to how costly they can be. Indigenous innovation policies are unlikely to achieve their objective of vaulting China to the forefront of global innovation, a spot that the United States has traditionally enjoyed. The costs, instead, will be extracted from the gains that American firms would otherwise enjoy in the Chinese market. Contesting this policy should be a principal focus of U.S. commercial diplomacy with China.

China's motivation

China's indigenous innovation policies are part of a deep-seated effort by the Chinese leadership to advance the country from its status as a prolific, but low-end, producer of manufactures to a position of technological leadership.[1] In 2006, China released "The National Medium- and Long-Term Plan for the Development of Science and Technology (2006-2020)" which included the call for scientific advancement because "despite the size of our economy, our country is not an economic power, primarily because of weak innovative capacity."[2]

This may seem baffling to an American audience. After decades of double-digit economic growth, a relatively smooth ride through the recent global financial crisis, and sitting astride a growing mountain of foreign exchange reserves, China often appears to be a paragon of economic accomplishment. Yet China faces enormous challenges. For all its advances, it remains a relatively poor country. According to the World Bank, China's per capita income in 2009 was under $4,000, less than 1/10 that of the United States.[3] One common description of the problem facing China is that it is racing to get rich before it gets old. The race is a daunting one because China is aging at an extraordinary rate.[4] It

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[1] There are two excellent and comprehensive recent analyses of China's indigenous innovation policies: McGregor, James "China's Drive for Indigenous Innovation: A Web of Industrial Policies," July 2010, http://www.apcoworldwide.com/content/PDFs/Chinas_Drive_for_Indigenous_Innovation.pdf; and United States International Trade Commission, "China: Intellectual Property Infringement, Indigenous Innovation Policies, and Frameworks for Measuring the Effects on the U.S. Economy," Publication 4199, November 2010, http://www.usitc.gov/publications/332/pub4199.pdf

[2] McGregor 2010, p. 4.

[3] World Bank, GNI Per Capita, Atlas Method (Current US$), http://data.worldbank.org/indicator/NY.GNP.PCAP.CD. China's 2009 figure – the latest data available – was $3,650; the comparable United States figure was $46,360.

[4] See Nicholas Eberstadt, "The Demographic Future," *Foreign Affairs*, November/December 2010. http://www.foreignaffairs.com/articles/66805/nicholas-eberstadt/the-demographic-future

is careening toward a future in which a shrinking population of workers will have to support a growing population of dependents.

China's recent dominance of the global manufacturing scene is neither as secure nor as lucrative as it may seem. Prices and wages are rising in China and the supply of young, pliable workers who streamed from the interior of the country to work in the coastal factories has begun to dry up. There are newcomers such as Vietnam and Bangladesh eager to take China's place. Further, China's impressive export statistics and participation in production of advanced products often concealed a much smaller role when carefully assessed.

One such recent, striking illustration of the source of China's concern came in a U.S. study of Apple iPods. The researchers attempted to disentangle the value chain used to produce a 30GB Video iPod, with inspiration from Apple Computer in the United States, parts from suppliers around the world, and assembly in China. They found that for an iPod with $194 in "captured value" $80 went to Apple and $4 went to the manufacturers in China.[5]

Adam Segal of the Council on Foreign Relations provides a complementary example: "(F)or every Chinese-made DVD player sold, the Chinese manufacturer must pay a large royalty fee to the European or Japanese companies that patented various components of the unit, such as its optical reader. These foreign firms reap substantial profits, but the Chinese take is extremely small – and is shrinking further as energy, labor, and commodity prices rise."[6]

These examples provide a telling illustration of the disconnect in perceptions between the United States and China. Each side points to a different facet of the economic relationship. U.S. political discourse can focus heavily on the bilateral trade imbalance with China, which is dominated by the gross figures that make up China's high and growing level of exports to the United States. The Chinese, in contrast, focus on the much less impressive net figures, after one subtracts out the costs of imported inputs and payments for the use of other nations' intellectual property.

The purpose of exploring the motivations behind China's indigenous innovation policies is not to evoke sympathy for China's plight but to understand the forces behind the drive to improve China's status as an innovator. A policy such as this, based on fundamental Chinese concerns about the plight of their nation, will not be easily redirected. A diplomatic strategy to tackle these problematic policies will need to simultaneously address these Chinese concerns.

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[5] Dedrick, Jason, Kenneth L. Kraemer, and Greg Linden, 2008, "Who Profits from Innovation in Global Value Chains? A Study of the iPod and notebook PCs," Alfred P. Sloan Foundation Industry Studies, http://web.mit.edu/is08/pdf/Dedrick_Kraemer_Linden.pdf. Table 4, p. 21.

[6] Segal, Adam, "China's Innovation Wall: Beijing's Push for Homegrown Technology," *Foreign Affairs* online, September 28, 2010. http://www.foreignaffairs.com/articles/66753/adam-segal/chinas-innovation-wall

The evolution of indigenous innovation policies

The indigenous innovation policies themselves are an attempt to spur Chinese innovation by giving it privileged access to the Chinese government procurement market. Estimates of the size of that market vary from roughly $90 billion to substantially higher.[7] The uncertainty over the size comes from questions about whether and how to include sub-federal procurement and purchases by China's vast number of state-owned enterprises. To leverage this market and spur Chinese innovation, in November 2009, the relevant Chinese ministries announced that there would be a national catalogue of products that met the criteria of "indigenous innovation." The criteria dealt with the source and status of the intellectual property contained in the product, such as whether it was registered and owned in China. The effect was to favor home-grown firms over foreign ones. The Shanghai version of the catalogue listed 258 products, for example, of which only two were from manufacturers with foreign investment.[8]

A central and troubling feature of the policies is that they seem intent on extracting foreign technology as the price of access to the Chinese market. By prompting firms to reveal their technological secrets through either official disclosure or joint venture arrangements, foreign investors may lose valuable intellectual property advantages. Arguing for the centrality of this approach to the broader policy, McGregor cites the aforementioned Chinese Medium- and Long-Term Plan from 2006: "One should be clearly aware that the importation of technologies without emphasizing the assimilation, absorption and re-innovation is bound to weaken the nation's indigenous research and development capacity."[9] The USITC notes the "concern that foreign companies will need to share sensitive and proprietary technology with Chinese firms or government agencies in order to reap the full benefits of their investments in China."[10]

There are two broader points worth noting about the indigenous innovation policies: 1. The policies are malleable and in a state of flux. 2. The catalogues and circulars describing government purchasing preferences are just one aspect of the broader push to stimulate Chinese innovation, largely at foreign expense.

The malleability of the policies suggests that this is an area in which diplomatic pressure could have an effect. The Chinese Ministry of Science and Technology requested comments on its initial and subsequent indigenous innovation regulations. In April 2010, the rules of 2009 were revised, partially responding to criticisms that had been lodged against the initial policy.[11] Chinese leaders promised further revisions at the

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[7] Matechak, Jason and Brett Gerson, "Can China's Government Procurement Market be Cracked?" *China Business Review Online*, 2010.
http://www.chinabusinessreview.com/public/1005/matechak.html
[8] McGregor, 2010, p. 19.
[9] McGregor, 2010, p. 4.
[10] USITC, 2020, p. 5-5.
[11] U.S.-China Business Council, "China Proposes Partial Solution to Indigenous innovation Issues," April 12, 2010.
http://www.uschina.org/public/documents/2010/04/indigenous-innovation-memo.html

December 2010 meeting of the U.S.-China Joint Commission on Commerce and Trade (JCCT).[12] In January 2011, as an outcome of the summit meeting between Presidents Obama and Hu:

> " The United States and China committed that 1) government procurement decisions will not be made based on where the goods' or services' intellectual property is developed or maintained, 2) that there will be no discrimination against innovative products made by foreign suppliers operating in China, and 3) China will delink its innovation policies from its government procurement preferences.
>
> China agreed to eliminate discriminatory "indigenous innovation" criteria used to select industrial equipment for an important government catalogue prepared by the Ministry of Industry and Information Technology, to ensure that it will not be used for import substitution, the provision of export subsidies, or to discriminate against American equipment manufacturers in Chinese government programs targeting these products."[13]

If they were to be taken at face value, these commitments would sound enormously promising. But their true value will depend heavily on the way they are implemented. This highlights the importance of the second point – the interconnected set of Chinese policies that are directed at the broader goal of advancing Chinese innovation and disadvantaging foreign firms with leading-edge technology. Other related policies include weak enforcement of intellectual property rights protections for firms operating in China, biased standard-setting, support for Chinese state-owned enterprises to serve as "national champions," and the potential interplay between China's anti-monopoly law and the intellectual property regime.[14] Thus, the implementation question concerns not only revisions to indigenous innovation catalogues but a much broader set of governance tools that can be used to achieve similar ends.

The impact on the United States

One implication of the rapid pace at which the policies are evolving is that the economic impact is particularly difficult to analyze.

> "Many policies remain in draft form, many of the implementing regulations for major laws are still not in place, and enforcement of most indigenous innovation policies has not yet begun. Much of the concern thus reflects fear of future Chinese policies and of the way new laws may be

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[12] U.S. Department of Commerce, "21st U.S.-China Joint Commission on Commerce and Trade Fact Sheet," December 2010. http://www.commerce.gov/node/12467

[13] White House Office of the Press Secretary, "Fact Sheet: U.S.-China Economic Issues," January 19, 2011. http://www.whitehouse.gov/the-press-office/2011/01/19/fact-sheet-us-china-economic-issues

[14] USITC, 2010, pp. xx and 5-6 and McGregor, 2010, p. 23.

> implemented, and not simply objections to policy actions that the Chinese government has already taken. It remains unclear how the effects of the new policies will play out."[15]

A first, important point to establish, however, is that the Chinese approach to indigenous innovation is unlikely to succeed. The vibrant and innovative U.S. technology industry has benefited from federal support for basic research, from independent and successful research universities, from a community of scholars and researchers drawn from around the world, from strong intellectual property protections, and from a competitive market environment that allows entrepreneurs to emerge and thrive. This is the antithesis of an approach that stifles the competitive environment, names national champions, and at least tacitly condones intellectual property theft. The environment that China is creating is unlikely to attract top research talent from around the world, for example, since such innovators generally value their intellectual freedom and independence. The weak protections for intellectual property will offer few incentives even for Chinese firms to invest heavily in risky new ventures.

One recent report described the fascination in China with Apple Computer and its new iPad. "Some members of China's top legislative bodies have expressed worries as to whether China will be able to match companies like Apple, as the country – like the rest of the world – has been enthralled by the succession of innovative products from the California-based company."[16] It is worth noting that a decade ago, on the eve of the introduction of the iPod, Apple hardly looked like a likely candidate to be a market leader. It was struggling. It produced a computer with an elegant operating system but a declining share of the personal computer market. Having apparently lost the desktop battle to Microsoft Windows, Apple was more often cited as a case study for how not to approach a technology market. And yet, through the introduction of the iPod, iPhone, and iPad, Apple revived its fortunes and prospered. Had one been looking for a technology champion to support in 2001, one would have looked elsewhere. In corresponding fashion, some of the technology giants of decades past have faded into obsolescence. There is a fundamental unpredictability about which firms are going to come up with new and market-leading technologies. This puts a centrally-planned approach at a distinct disadvantage.

There is little history to indicate that cutting-edge technology can emerge from a stultifying government-dominated approach. This would be true if China were already a market leader, trying to protect its advantage. It is even more true when China is a technological laggard trying to catch up. Appropriation of other countries' technological advances can facilitate catch-up, but it is distinctly different from crafting a set of policies that will turn a country into a world leader.

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[15] USITC, 2010, p. 5-2.

[16] Su, Andre, "Where is China's Apple?" *Want China Times*," March 5, 2011. http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1101&MainCatID=11&id=20110305000083

The inadvisability of China's approach to the promotion of innovation provides an opening for diplomatic dialogue. An alternative approach that shunned intellectual property theft, protected innovators of all nationalities, and supported basic research would be beneficial for both China and the West. It also means that the economic impact on U.S. firms investing in China can be analyzed in a more conventional way. For such firms, China's as-yet-ill-defined policies can be thought of as a means of extracting a higher price for participating in the Chinese market.

Imagine a firm that estimated the net present value of future profits in the Chinese market at $2 billion. Suppose China's indigenous innovation policies effectively compelled that firm to turn over intellectual property worth $1 billion. This would leave the firm distinctly worse off than without the policies, but still distinctly better off than if it were to abandon the Chinese market. If the price of participation were a technology worth $3 billion, however, the firm would be better off leaving the Chinese market. This suggests that the present value of expected profits of U.S. high technology firms in the Chinese market provides an upper bound to the economic cost of Chinese policies. This could be very substantial, but it is much more modest than the costs of a world in which the United States hands over technological leadership to China.

There are a number of objections to this reasoning that can be grouped into 'reasons that firms cannot walk away from China.' They are described by the USITC report:

> "First, China is the world's largest and fastest-growing market, making it critical for global companies to remain active there. Second, U.S. industry representatives believe that even if they were to refrain from operating in China, their global competitors would fill the gap, leading to both large revenue losses and the likelihood that Chinese companies would be able to access similar IP elsewhere. Finally, in some industries, technology advances so quickly that by the time foreign companies in China are competing against technology stolen from them, they expect to be ready with a new generation of technology, so the stolen IP is no longer a critical competitive factor. In any event, because U.S. and other foreign firms are certainly profiting from their ongoing participation in the Chinese market, their shorter-term interest in maximizing current profits may encourage them to set aside their longer-term concerns regarding IP infringement and market access."[17]

Taking each of these points in turn: First, the argument that China is a large market recalls the old joke about a businessman who acknowledged that he would lose money on each sale, but planned to make it up on the volume. It is profitability that matters. It is entirely possible to have a large, growing, competitive market that delivers little profit to participants.

[17] USITC, 2010, p. 5-23.

Second, if an industry has close competitors whose technology serves as a close substitute, then it matters little whether that technology is in the hands of China or the original competitors; the U.S. firm would not seem to have much of an edge.

Third, the argument that technology rapidly becomes obsolete simply implies that there are limits to the costs China can impose by compelling technology transfer. This argument, in fact, explains why firms would not need to walk away from China.

The final argument is an intriguing one. It suggests that technology firms will be myopic and overemphasize short-term gains relative to long-term costs. This is odd on at least two counts. Technology firms are generally in the business of balancing the short and the long term, since they must make large up-front investments (e.g. billions of dollars in developing a new semiconductor chip technology and fabrication plant) that will only pay off over time. If the firms are bad at such calculations, they have much deeper problems than China's intellectual property environment. Further, what matters is the relative myopia of the private sector relative to governments. One way to interpret China's pursuit of indigenous innovation is as a myopic mistake, an impatient effort to jump to the head of the world technology standings rather than developing an environment that is truly conducive to innovation and scientific development.

Implications for U.S. policy

The magnitude of the potential losses of U.S. firms operating in China, the pervasiveness of the policy challenge within China, and the potential flexibility of the Chinese government on the nature of indigenous innovation policies all argue for it to be a leading target of U.S. commercial diplomacy with China.

In attempting to reorient China toward a more constructive approach, the United States can and should take advantage of the similar plight faced by foreign investing firms in China from all technologically advanced countries. Multilateral pressure on China, e.g., through the World Trade Organization, has proven to be relatively effective and it avoids the problematic undertones of superpower competition that can plague bilateral efforts.

While WTO strictures governing Chinese intellectual property practices might be the ideal solution, there are some serious obstacles. While the Uruguay Round agreement creating the WTO include rules on intellectual property rights, there are limits to the extent to which they compel extraordinary enforcement efforts on the part of developing nations. Further, China's indigenous innovation policies seek to leverage the economic power of China's vast government procurement market. The WTO regulates such approaches not through its conventional restrictions on tariffs and quotas but through a separate Agreement on Government Procurement (GPA).[18] Unlike much of the WTO, members faced a choice whether to join the GPA; China has yet to do so. It said it would as part of its 2001 WTO accession and tabled an offer in 2007 which was deemed

[18] World Trade Organization, "The plurilateral Agreement on Government Procurement (GPA)", http://www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm.

unsatisfactory. One sticking point is the treatment of Chinese provincial and local governments. The January U.S.-China presidential summit yielded promises of progress on this front: "The United States welcomed China's agreement to submit a robust, second revised offer to the WTO Government Procurement Committee before the Committee's final meeting in 2011, which will include sub-central entities."[19] If China were to table a substantial offer for joining the WTO GPA, this would mark a significant step toward multilateral governance over objectionable procurement policies. It would not necessarily be a panacea, given the breadth of relevant policies and the depth of Chinese commitment to reducing dependence on foreign technology, but it would be a major achievement.

Although it is too soon to judge the value of the concessions on intellectual property that China made in the December 2010 JCCT meeting and at January's presidential summit, they may reflect the fruits of a reorientation of U.S. diplomacy away from a fixation on China's undervalued exchange rate toward a set of policies that are arguably both more amenable to negotiation and more important to U.S. economic interests. At such meetings, countries can only have a single "top" priority. There is an opportunity cost to pursuing one policy rather than another.

There are some commonalities between China's currency policy and its indigenous innovation policy: each touches on core Chinese aspirations and each is a misguided attempt to achieve those aspirations. But from a diplomatic standpoint the difference is stark: China has made clear that it is unwilling to make its exchange rate the subject of negotiation with the United States while it has signaled openness to discussing and modifying its approach to intellectual property policy.

Through the existing array of policy dialogues and trade reviews, the Executive Branch has the tools it needs to maintain sustained pressure on the Chinese to remedy the objectionable aspects of indigenous innovation and the broad range of policies aimed at disadvantaging U.S. investors. What is needed is a sustained commitment to prioritize this issue above other less propitious ones.

Conclusion

China is approaching the issue of technological leadership from a position of weakness, not strength. It faces a broad range of concerns about its economic future and is concerned about the economic effects of being relegated to a position of eternal, cheap, low-end manufacture.

The United States and China share an interest in seeing China emerge as a prosperous technological innovator. This emergence should come about through creation of an environment that supports basic research and international collaboration, provides for intellectual freedom, and facilitates entrepreneurial competition. It should not come about through the expropriation of foreign technology. China's indigenous innovation

[19] White House Office of the Press Secretary, "U.S.-China Joint Statement," January 19, 2011, point 27. http://www.whitehouse.gov/the-press-office/2011/01/19/us-china-joint-statement

policies represent a serious misstep along this path. The policies do not threaten U.S. technological leadership in the long run, but they do threaten to impose substantial costs on U.S. businesses.

The willingness of China's leaders to rethink some aspects of this policy is welcome, but it remains to be seen whether it represents a sufficiently thorough reorientation. Such a reorientation is likely to require a sustained and focused prioritization of the issue in U.S. commercial diplomacy.

Ms. BUERKLE. Thank you, Dr. Levy.
Ms. Lee?

STATEMENT OF MS. THEA M. LEE, CHIEF OF STAFF, AFL–CIO

Ms. LEE. Thank you very much, Chair Buerkle, Ranking Member Sherman, members of the subcommittee. I appreciate the opportunity to testify this afternoon on behalf of the 12.5 million members of the AFL–CIO on this important topic of China's indigenous innovation policies.

In our view, these policies do pose a threat to the United States of America. Even as the U.S. Government has successfully challenged some of these policies, many of the damage and elements of indigenous innovation predated the official launch of the policy, just as some elements will survive the government's decision to step back somewhat in response to the challenge. I think Ms. Laney said before that this is like a game of Whac-A-Mole, that there are many different ways of achieving some of the goals that have been laid out.

And one of the points I wanted to make in general is that the AFL–CIO has been raising the issues about job loss with respect to our unfair and imbalanced trade relationship with China for many years and what we said many, many years ago was that the manufacturing jobs move first, but the engineering and the know-how would surely follow. And I believe we are certainly at that place where we need to pay attention to this, as Ms. Laney said, for the future of American industry and the cutting edge technology that the United States has always enjoyed an advantage in.

Our trade relationship with China remains enormously imbalanced and problematic. The Chinese Government has violated its international obligations with respect to workers' rights, human rights, currency manipulation, export subsidies and intellectual property rights. Last year's implementation of indigenous innovation policy simply extended and deepened this pattern of violation. Each one of these trade violations contribute to the erosion of our industrial base, costing us both our economic and national security.

I want to make three big points today. First, indigenous innovation is a serious problem, but it does not exist in isolation. I think this is consistent with my fellow panelists. It is part of a much broader strategic pattern of behavior by the Chinese Government in violation of both U.S. and international trade law. And I would agree with the point that Mr. Rohrabacher made earlier, that it is the responsibility of the U.S. Government to enforce our laws more effectively and more aggressively than we have done in the past.

The actions by the Chinese Government have led to the erosion of the U.S. industrial base, and this poses a direct threat to the nation's economic and national security. And third, the U.S. Government needs to take action on trade law violation at the same time as we establish appropriate domestic policies, priorities, and strategies to restore America's industrial leadership.

The Chinese Government's economic growth strategy relies heavily on export growth, primarily to the U.S. market. The elements in the strategy include maintaining the undervalued currency, the industrial policy of targeting favored sectors in technologies through the low market rate loans and subsidies, and protecting

domestic markets through overt and covert trade barriers such as indigenous innovation.

The indigenous innovation procurement policy sets a specific goal of reducing the degree of dependence on technology from other countries from 50 percent to 30 percent or less by 2020. The timing coincided with massive public investments at the height of the economic crisis. This action made transparent what other government practices on technology transfer that been achieved by other means and some of the businesses that had been formerly reticent and I think we've heard about some of those today, have publicly declared they're gradually being squeezed out of the Chinese market by government policies that first demand technology transfer in exchange for market access and then favor domestic companies.

I think Congressman Sherman mentioned before the enormously imbalanced trade relationship that the United States has with China with our trade deficit hitting $273 billion in 2010, up 20 percent from the previous year. I think it's worth noting that fully one third of our trade imbalance with China is an advanced technology product, so $94 billion—we had a $94 billion trade deficit with China in advanced technology products that exceeds our ATP deficit with the world, with the rest of the world taking outshine that we had a $12 billion surplus in advanced technology products but with China, we had a $94 billion deficit.

I think it is worth focusing in on that one number because what it tells us is is that this is not a future problem for us that one day China may overtake us in advanced technology products. That day is here and we need to have policy that recognize the urgency of the immediate situation today.

Let me conclude by reiterating the point that we have two responsibilities here. One is for the U.S. Government to aggressively address the Chinese Government's trade violations and the second, for us to establish our own strategic priorities and policies. In particular, a recommitment to investing in our infrastructure which we have seriously under-invested in, changing our tax policies to eliminate incentives to outsource production, to invest in renewable energy and clean energy so that we can be a leader in that important and growing field, to make sure that we are investing in innovation and in education and workforce policies so that our workers have the skills that they need to compete in the global economy.

I thank you for your time and I look forward to your questions.

[The prepared statement of Ms. Lee follows:]

Testimony of Thea Mei Lee
Deputy Chief of Staff
American Federation of Labor and Congress of Industrial Organizations
Before the House Committee on Foreign Affairs
Subcommittee on Terrorism, Nonproliferation, and Trade
China's Indigenous Innovation Trade and Investment Policies:
How Great a Threat?

March 9, 2011

Chairman Royce and Ranking Member Sherman, Members of the Subcommittee, thank you for inviting me to testify today on behalf of the twelve and a half million working men and women of the AFL-CIO on China's indigenous innovation policies.

I want to start by commending the Subcommittee for taking up today's timely subject. Much is at stake in improving our economic relationship with China, particularly with respect to technology and innovation. In today's hearing, you ask whether China's indigenous innovation trade and investment policies present a threat to the United States.

The straightforward answer is, yes, indigenous innovation is a threat. But it is also true that indigenous innovation must be seen in the broader context of overall Chinese government policies, which have created significant competitive disadvantages for American workers and producers.

The U.S. trade relationship with China remains enormously imbalanced and problematic. The Chinese government has violated its international obligations with respect to workers' rights, human rights, currency manipulation, export subsidies, and intellectual property rights. Last year's implementation of indigenous innovation policies simply extended and deepened this pattern of violations.

Each of these trade violations contribute to the erosion of America's industrial base. Our technical and innovative capacities – today and in the future -- are essential to our economic and national security. Dr. Joel Yudken prepared a report in 2010 for the AFL-CIO Industrial Union Council, entitled *Manufacturing Insecurity: America's Manufacturing Crisis and the Erosion of the U.S. Defense Industrial Base.* This report has been submitted in support of this testimony, and it documents these concerns in detail

My testimony today makes three essential points:

- Indigenous innovation is a serious problem, but it does not exist in isolation. It is part of a much broader strategic pattern of behavior by the Chinese government in violation of U.S. and international trade law.

- The actions by the Chinese government have led to the erosion of the U.S. industrial base, and this poses a direct threat to the nation's economic and national security.

- The U.S. government needs to take action on trade law violations and at the same time establish appropriate domestic policies, priorities and strategies to restore America's industrial leadership.

China's Export Platforms Target Technology and U.S. Industrial Sectors

The Chinese government has charted out an economic growth strategy that relies heavily on export-led growth, primarily to the U.S. market. The elements of the strategy include maintaining an undervalued currency through massive intervention in the foreign exchange market; an industrial policy of targeting favored sectors and technologies through below-market-rate loans and subsidies; and protection of domestic markets through overt and covert trade barriers, such as indigenous innovation. This is well-documented in the bipartisan U.S. China Economic and Security Review Commission (USCC) annual reports, as well as elsewhere.

The Chinese government has broad industrial and technology strategies aimed at building up its capacity in cutting-edge technology areas across the manufacturing sector. Many of the Chinese government policies include strong incentives designed to attract foreign investment in R&D and production in advanced technology areas, which encourages transfers of U.S. technology and production capacity offshore, including some of the design for civilian technologies with defense applications.[i] For example, years ago the Chinese government made development of the semiconductor sector a national priority, and has fostered its development with government support for research and development, preferential tax treatment, and the use of the technology standard-setting process to favor its domestic firms.[ii] They have taken the same approach to the clean energy sector

The application of an indigenous innovation procurement policy, with a specific goal of reducing the degree of dependence on technology from other countries from 50 percent to 30 percent or less by 2020, took it a step further. The timing coincided with massive public investments at the height of the economic crisis. Their action made transparent what other government practices on technology transfer had been doing by other means. The result is apparent to some formerly reticent businesses that "have publicly declared that they gradually are being squeezed out of the Chinese market by government policies that first demand technology transfer in exchange for market access and then favor domestic companies."[iii]

China is no longer just playing catch-up with the United States and the other developed nations regarding basic manufacturing production and technologies. The USCC warned in its 2005 report to Congress that China is developing and producing technology that "is increasing in sophistication at an unexpectedly fast pace. China has been able to leap frog in its technology development using technology and know-how obtained from foreign enterprises in ways other developing nations have not been able to replicate."[iv] That 2005 admonition has become a 2011 reality.

Since it has become central to the global supply for technology goods of increasing sophistication, China has gained increased leverage in global systems of production.[v] The AFL-CIO shares the

USCC's concern that this central role raises "the prospect of future U.S. dependency on China for certain items critical to the U.S. defense industry as well as vital to continued economic leadership."[vi] The spiraling U.S. trade deficit with China paints a troubling picture of debt and loss of technical and productive capacity.

Trading Away Jobs and Innovation

Our trade deficit, especially with China, is symptomatic of the challenges we face in maintaining our industrial base. Although the overall trade deficit is down by a quarter from the record levels of 2008, the 2010 U.S. goods trade deficit with China broke all previous records. Through the decade our goods trade deficit with China soared, tripling since WTO accession -- from $84 billion in 2001 to a record $273 billion in 2010. China's share of the U.S. trade deficit in manufactured goods rose continually from 28.5 percent in 2002 to 75.2 percent in 2009. In 2010, we ran a trade deficit with China in advanced technology products of $94 billion, while with the rest of the world, we ran an ATP surplus of $10 billion. The enormous and growing U.S. trade imbalance with China in ATP should be a clear warning signal that our overall trade relationship is severely imbalanced in ways that are detrimental to our economic potential and future.

U.S. foreign direct investment (FDI) in China has jumped, especially in manufacturing. FDI in China is all about new production and job creation, unlike in the United States where new FDI tends to signal a change of ownership, not new production. The Economic Policy Institute has estimated that the growth in the U.S. trade deficit with China between 2001-2008 has displaced about 2.4 million American jobs.

Perhaps even more disturbing than the aggregate growth in the U.S. trade imbalance with China is the composition of our imports and exports. Our top fifteen exports to China (by 4-digit HTS code) include five categories of waste products (ferrous scrap, paper scrap, copper scrap, aluminum scrap, and offal); two categories of raw materials (soy and polymers), and at least three categories of parts. In contrast, all of China's top fifteen exports to the United States are manufactured products or parts.

This is clearly not the trade profile that the U.S. government predicted as the likely outcome of China's WTO accession. But it is the result of concerted strategic interventions, starting with currency intervention, by the Chinese government over many years – and inaction by our own. With an explicit export strategy targeting key industries, sectors, and technologies, China has captured a growing share of U.S. and world markets. It has used a wide array of unfair trade practices, including currency manipulation, export subsidies, widespread suppression of worker rights and wages, and tariff and non-tariff barriers to exports, to support this strategy.

The financial crisis has proved to be another opportunity for the Chinese government. By controlling access to its market in crucial sectors with indigenous innovation, the Chinese government buys time to build dominant industries and technology powerhouses that will have a clear competitive advantage over their lagging counterparts in other countries. This is already underway in the clean energy sector, where these export polices work in concert to ensure market control. The 301 clean energy trade case filed by the United Steelworkers union and the currency legislation passed by the House last fall are aimed at stemming these practices.

China's Green Technology Practices Violate WTO Rules

The Chinese government employs a number of policies to stimulate and protect its domestic producers of green technology, ranging from wind and solar energy products to advanced batteries and energy-efficient vehicles. These policies have permitted China to become a dominant supplier of a number of green technologies, draining manufacturing and R&D investment from the U.S. to China, costing American workers the high-skilled green jobs of the future, and increasing the U.S. trade deficit.

A number of these practices are direct violations of the obligations China undertook when it joined the World Trade Organization (WTO). Other policies are subject to challenge at the WTO if they cause serious prejudice to U.S. industries and workers.

The United Steelworkers union – which represents workers in a number of the sectors being harmed by the Chinese government's policies – filed a petition under Section 301 of U.S. trade law to give the Administration the ammunition it needs to bring a successful WTO case against these unfair trade practices. The petition covers five areas.

1) Restrictions on Access to Critical Materials. Dozens of vital green technologies – solar panels, wind turbines, advanced batteries, energy efficient lighting, and more – depend on critical raw materials derived from rare earth elements and other minerals. China produces more than 90 percent of the world's supply of these minerals, and it uses a variety of means to restrict exports of these minerals to users in the U.S. and other countries. These restrictions raise prices for manufacturers outside of China, lower prices for those within the country, and create a powerful incentive to shift production to China in order to secure necessary supplies. These export restrictions are a clear violation of China's WTO commitments.

2) Performance Requirements for Investors. When China joined the WTO, it committed not to require that foreign companies use domestic suppliers or transfer technology as a condition of investment approvals. China's laws state that transfer of advanced technology should be included in foreign joint venture agreements, and gives the government the right to approve or reject such agreements. In practice, it appears that foreign investors face hurdles setting up wholly-owned ventures in China. Once they partner with a state-owned joint venture partner or a state financier, their investment contracts invariably contain technology transfer requirements. For example, in 2009, Evergreen Solar had difficulty raising funds to open a plant in China, and so it entered into a joint venture agreement (backed by provincial authorities) that required Evergreen to license solar wafer technology to the new venture. As a result, Evergreen is now shifting panel production from its Massachusetts facility to China.

3) Discrimination Against Foreign Firms and Goods – Indigenous Innovation The Chinese government bids out the construction of wind farms and solar power plants to competing firms, and grants the winners concessions and the right to guaranteed power purchases by government-owned utilities. In the wind sector, no foreign firms have ever won a major wind farm concession, despite highly competitive offers. In addition, the Chinese government prohibits foreign firms from getting international emissions credits for such projects (which are often key to their financial viability), unless the foreign company allows a Chinese partner to own a majority of the

venture. In the solar sector, those foreign firms that have been granted the right to build solar power plants have been subject to conditions that they produce the needed solar panels domestically and license valuable technology. This discrimination violates China's WTO obligations, including specific commitments made in its protocol of accession.

4) Prohibited Subsidies for Advanced Technologies. WTO rules prohibit China from granting subsidies that are contingent on export performance or on the use of domestic over imported goods. The petition points to subsidies for wind turbine manufacturing and the development of other advanced green technology products that violate these rules. In addition, the petition demonstrates that China's export credits and export credit insurance programs for green technology are prohibited export subsidies. China's exporters benefit from concessional loans and guarantees that dwarf those provided by other countries – in fact, in 2008 China's Export-Import Bank granted more loans than the export credit agencies of all G7 countries combined. Because the Chinese government refuses to play by the rules that prevent other countries from engaging in a race to the bottom in the export credit arena, it can freely undercut and outbid U.S. exporters of green technology products around the world.

5) Trade-Distorting Domestic Subsidies. The Chinese government offers a broad range of subsidies to producers of green technologies, including in the solar, wind, biomass, geothermal, hydropower, nuclear, advanced battery, alternative vehicle, and energy-efficient consumer products sectors. China's subsidies in these areas are so enormous that they are distorting trade and harming producers in other countries. In its economic stimulus package, for example, the Chinese government gave more than $216 billion to subsidize green technologies – more than twice as much as the U.S. spent in the sector and nearly half of the total "green" stimulus spent worldwide. These massive government subsidies are helping Chinese producers ramp up production, seize market share, drive down prices, and put global competitors out of business. WTO rules give the U.S. the right to challenge such subsidies to mitigate the severe competitive harm they are causing.

The Green Technology 301 trade case shows how a combination of policies are being used by the Chinese government to propel its nation to the forefront of the global green economy, while U.S. firms and workers still struggle to develop a robust green technology supply chain here at home. These policies have helped China acquire foreign investment, technology, and expertise, while restricting foreign access to its raw materials and its market. Nor do these exist in isolation. The export platform strategy relies upon foundational subsidies, including the prolonged undervaluation of the renminbi that has distorted trade, investment flows, and currency markets across the globe.

Undervalued Currency Subsidizes Exports and Investment

Through systematic and one-sided intervention in currency markets, the Chinese government has kept the renminbi approximately 40 percent undervalued with respect to the U.S. dollar for many years in support of its export strategy. The undervalued Chinese currency serves the government's strategy of building powerful export markets rather than boosting its own domestic consumer market. Undervaluation takes market share and jobs from the United States by penalizing our

exports. It subsidizes imports into this country while encouraging outward investments into the Chinese economy.

This is not free trade, nor is it the way the major economies of the world have agreed to behave. And the Chinese government's actions influence the monetary policies of other countries compounding our trade problems. The U.S. Treasury bi-annual currency reports acknowledge the fact that other nations mirror the Chinese government's behavior.

While addressing the Chinese government's currency manipulation is one of the highest priorities for workers and employers in the manufacturing sector, it is time to recognize the broader impact of China's practices. Lost manufacturing jobs lead to lost tax revenue and higher budget deficits that limit our ability to invest in our future. This puts substantial pressure on federal, state and local budgets, resulting in layoffs of teachers, police and other emergency responders. And it has undermined our future by undercutting the array of career choices and educational opportunities, especially in science, engineering and the technical occupations needed for a vibrant innovative manufacturing economy.

Taking action to end currency manipulation will generate jobs and investment in the U.S. economy. Nobel laureate Paul Krugman estimates an end to the manipulation would produce a net export gain to the United States, Europe and Japan amounting to about 1.5 percent of GDP, increasing growth in the U.S. economy by about $220 billion. The Peterson Institute and the Economic Policy Institute agree that a 25 percent to 40 percent revaluation in the renminbi would reduce the U.S. trade deficit between $100 billion and $150 billion per year, adding between 750,000 and 1 million jobs to American payrolls.

It is time for Congress and the Administration to act decisively to end currency manipulation and other illegal trade practices.

Taking Action: A Strategy for the Future

The juxtaposition of the world's two largest manufacturing economies could not be clearer. Our manufacturing economy has been in a decade long crisis, with the loss of more than 5.5 million jobs and the closure of more than 50,000 manufacturing facilities, a stunning loss of technical and industrial capacity. At the same time, China's manufacturing economy, fueled by massively subsidized domestic production and exports and policies discriminating against imports and foreign companies, experienced explosive growth.

While the economic crisis that began in 2007 has done massive damage to our country, the truth is that many of our economic problems have long-term roots in a generation of mistaken economic strategies. The Chinese government has a manufacturing strategy, and we do not. This is our problem, as well as that of the Chinese government. When the Chinese government engages in illegal actions in support of its manufacturing strategy and vision, we have done too little to challenge those actions. The Chinese government's indigenous innovation policy is a real concern, but it does not exist in a vacuum.

The AFL-CIO calls on our government to aggressively address the Chinese government's trade violations, as well as to establish our own strategic priorities and policies. We believe a healthy and robust manufacturing sector is central to a sustained economic recovery and to our national security.

In addition to the trade reform elements outlined above, the following elements are essential to a comprehensive program to restore domestic manufacturing:

- **A re-commitment to investment in infrastructure:** America's infrastructure needs—energy, roads, transit, bridges, rail, water, etc.—are huge. We have a $2.2 trillion infrastructure deficit, according to the American Society of Civil Engineers. Not only will spending here employ people right away, it will lay the foundation for economic growth in the future. And there is no conflict between more spending now and efforts to address fiscal imbalances down the road. Indeed, an improved America is the legacy we should leave to our children and grandchildren.

- **Tax policy:** Eliminate tax incentives and loopholes that encourage financial speculation rather than investment, outsourcing and off shoring production, and enact tax incentives for companies that produce domestically.

- **Energy:** Enact measures to encourage the deployment of renewable energy, advanced automotive technology and other clean energy technologies. This can be accomplished by expanding funding for 48(c), industrial efficiency projects, other policies to encourage development of renewable sources of electricity and by providing higher loan authority and additional funding for section 136, the Advanced Technology Vehicles Manufacturing Incentive Program. These efforts must be coupled with expanded utilization of domestic supply chains. We cannot simply trade dependence on foreign oil for a dependence on foreign sources of clean energy production equipment. Clean and green jobs must become a reality: America must not cede leadership of this industry to other nations. We must invest in these 21st century infrastructure technologies on a similar scale to our investment in replacing the failing infrastructure of the last century.

- **Innovation:** The United States continues to be the world's engine of innovation, but that lead is declining. More and more U.S. companies are moving their research and development laboratories overseas—especially to China. There is a direct correlation between R&D and production and we must protect our nation's innovative leadership. Doing so requires that we maintain strong intellectual property protections to ensure that companies have the incentive to make investments in plant and equipment here at home. We must also increase efforts to fight the intellectual property right violations of competitors that seek to profit from the creativity of our people. Increased support for research and development in the United States, coupled with support for testing and deployment of those new technologies in our factories, will ensure that our manufacturing capabilities expand. More than 3/5ths percent of all U.S. patents are generated by our manufacturing sector and we must recognize that innovation and manufacturing capacity go hand in hand.

- **Workforce development policies:** America continues to have the best and most innovative workers To stay ahead of the competition, however, we must constantly upgrade our skills and training Revitalizing our manufacturing sector requires that we make investments in our people to ensure they are equipped to meet the needs of industry We cannot afford to have a skills deficit, which would only fuel a trade deficit Now is the time to renew and expand investments in our people Congress must increase access to training funds for people who are out of work as well as those seeking to enhance their skills Ultimately, a high-skills workforce must be one whose rights on the job and ability to speak up are protected and thus made real through strong labor laws and strong unions.

Economic security and national security are inextricably intertwined, and a strong manufacturing base is key to both. This Congress and the Administration have the opportunity to take steps to restore our nation's manufacturing capabilities.

The AFL-CIO, like the rest of the global labor movement, would like to see China become more prosperous, stable, and fair – but that can't happen if it continues on its current path of repression, dictatorship, and unfair trade practices. We need our own government to get its priorities straight with respect to China and our own economy, and we look forward to working with this Congress and the Administration to develop and implement appropriate policies.

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[i] USCC (2005), op.cit., p.97.
[ii] USCC (2005), op.cit., p.32.
[iii] USCC (2010), p.20
[iv] USCC (2005). op.cit., p.86.
[v] USCC (2005), ibid.
[vi] USCC (2005), ibid., p.85, 88.

Ms. BUERKLE. Thank you, Ms. Lee, and thank you to all of our panelists today. I yield myself 5 minutes.

I know that you all differ with respect to the impact of China's implementation of its medium to long-term plan for the development of science and technology. And I also understand the disagreement regarding what the solutions to the issues raised by China's determination to transition from an economy on manufacturing to an economy determined to expand its technological development.

My question to all three of you, what would a transition from this quiet diplomacy to a more intensified, active, commercial diplomacy entail? And do you anticipate that the Chinese Government would be more receptive to robust diplomatic overtures?

I'll start with Dr. Levy.

Mr. LEVY. Thank you, Madam Chairman. I think we have been making a bit of this transition. I think it's a question of emphasis, when we are having summit meetings, we have a whole range of dialogues. There's the JCCT, the Strategic and Economic Dialogue, and we just had a Presidential Summit, the question is what to put forward as a top priority and what we've seen is when we make this issue a top priority, we at least see some movement. It is sufficient movement? Do we declare that we've achieved success and it's done? No. It hasn't gone that far. But we did see some movement.

So I guess the early indications are that at that level, there seems to be some progress. And I think it's not entirely clear—people have different things in mind for more vigorous policy if it were something like withdrawing MFN status, I think that would have an entirely counterproductive effect.

Ms. BUERKLE. Mr. Brookes?

Mr. BROOKES. I think there's some value in turning up the heat on China. I think over the years, my experience with China that strong public messages can have an effect, whether you're talking about human rights or other issues.

The challenge is that everything is important, then nothing is important in a certain sort of way. So I agree with Mr. Levy that you do have to choose what you find to be most important. And there are many, many issues on the table with regards to China. But I don't see any problem at all with raising the visibility of this issue in public discourse by the U.S. Government which has all the authority and instruments and responsibility for dealing with this, whether you're talking about indigenous innovation or any of the other things.

So I think a more vigorous public sentiment expressed by the U.S. Government might be helpful, even though private diplomacy certain does have its place.

Ms. BUERKLE. Thank you, Mr. Brookes. Ms. Lee?

Ms. LEE. I'd like to be a little more blunt. And I would say that our current diplomacy with respect to China is muddled, excruciating slow, and ineffective by design. And part of that is because it's not just that we have many priorities and none of them get achieved. I think part of it is that there is a serious disconnect between—within the business community in the United States of America. That you have two different groups, two very distinct groups. One is multinational corporations that may be operating

both in the United States and in China. Some of those companies, let's be honest, are actually profiting from the Chinese Government's policies whether it's subsidies or violations of workers' rights and human rights, lack of democracy, not so much by indigenous innovation. And that's why for the first time we actually have the business community rising up in outrage that there are unfair trade practices going on with the country of China. They just noticed it and they're just getting active.

But I think what's really important for the U.S. Government is to make sure that we are standing up for domestic producers, those companies, whether they're small and medium-size companies or large companies that are actually producing in the United States on American soil, certainly that's where my members live. My members can't outsource themselves. They need to find a good job here in the United States of America and they need their own Government to stand up for them in a much more consistent and coherent way than we've seen from our own Government so far with respect to currency, subsidies, intellectual property, and workers' rights.

Ms. BUERKLE. Thank you, Ms. Lee.

Mr. Brookes, you mentioned and just in the short period of time we have left, turning up the heat, what would that entail?

Mr. BROOKES. Well, certainly, the President of the United States has a bully pulpit to talk about these issues, whether he's traveling in the region and he's in Washington or even in China. So there are opportunities because people do listen to the President and I think that's one of the ways to do it. Also with the Cabinet Secretaries. If they're going to go over there, they have an opportunity for blunt talk and they can talk about these issues here as well and will be certainly picked up in the region and also try to get others to speak out. We're not the only ones having this problem in trying to work in coalition with them to get them to make it clear to the Chinese that these policies aren't acceptable.

Ms. BUERKLE. Thank you all very much. I now yield 5 minutes to the gentleman from Rhode Island, Mr. Cicilline.

Mr. CICILLINE. Thank you, Madam Chair. It strikes me from the testimony from all of the witnesses today that it appears as if the principal way that you are recommending we deal with this challenge of indigenous innovation is diplomacy and then commercial diplomacy which from my perspective seems to have not been very effective. And so I'd like each of the panelists to tell me are there other strategies that we can engage in that are likely to produce better results than simply raising the public discourse? I think we can do that, but it strikes me we are doing that to some degree and is it, in fact, are we in fact, limited simply to engaging in conversation and commercial diplomacy? And coupled with that question is do we have the ability under the current system and the resources devoted to it to actually know the scope of the problem and to have the information we need to be aggressive in this commercial diplomacy? I ask each of the panelists to respond to that.

Mr. LEVY. Thank you, Congressman. I think there are a number of avenues through which we can pursue this. Diplomacy and sort of conversation about this—I think that's what we're putting—is one of them. There are other things that we can do and that we

are doing. I think when there are clear-cut violations of the rules under the world trading system, the WTO and the GATT, we can and should and do pursue those.

Sometimes those rules are not as comprehensive as we would like. We've already discussed how China is not a signatory to the agreement of government procurement. They are bound by some of the intellectual property restrictions, but we've already had fights with the WTO about just how extensive those obligations are. So I would put forward that one neat thing is to strengthen that global trading system because as Mr. Brookes said, we do have other nations which are facing similar problems and we strengthen our stance if we're commonly pursuing this. But a stronger WTO system and a successful conclusion to the Doha talks would address this. That would be one element. And we also have aspects of U.S. law such as Section 337 for intellectual property violations that were raised earlier.

So there's a range of these, I think, but trying to influence China's behavior domestically, it is going to be diplomacy which is our major tool.

Mr. BROOKES. Beyond what Mr. Levy said and others on the panel talking about diplomacy and the WTO issue here, I think that one of the important things is to get our own economic house in order. I think that's critically important. Our economic competitiveness which China is undermining through these policies is critically important. While we're not economically competitive, economically powerful, it affects us in many ways besides the well being of the American people which is obviously a primary concern and it undermines our international influence. It also affects our military, our hard power, our ability to express, to do that as well.

But I also think we also need to look forward to expanding free trade beyond China. I'm not necessarily calling it free trade with China, but free trade, in general. There are free trade agreements before the Congress that should be looked at. I think that's critically important providing opportunities for American business to do commerce elsewhere.

I also think that we need, and I'm not an expert in this field, but just as a generalist, is that we need to continue to provide robust opportunities for research and development in this country. What has made America great in an economic power that it is, is our ability to innovate and that's why China wants to do exactly that because they saw what the United States did as opposed to what the Soviet Union did in becoming a world superpower, besides military power.

So I think it's critically important and I don't know how you get to that, but that's something outside of my lane, something beyond my expertise, but the ability for us to be a great innovator to create the great new products I think is critically important, so those are a couple of other things beyond commerce and WTO.

Mr. CICILLINE. Thank you. Ms. Lee.

Ms. LEE. Thank you. The first thing I would say is that we are talking ourselves into our own economic grave and time is not on our side in this discourse that there has been too much talk, there has been too much slowing—what we need is more remedies. We need concrete remedies. We need to take our cases to the WTO. We

need to take them to a conclusion where we end up actually imposing trade sanctions where we win, and we win most of the cases because China is egregiously in flagrant violation of its WTO obligations on subsidies, on currency, on a whole number of things. I would, for one thing, certainly urge the Congress to go ahead, to move forward with the currency legislation, the Ryan-Hunter bill that has been put forward. I think that is a really important step. It's one big chunk of the economic disadvantage that the United States producers have in the Chinese trade.

But I would respectfully disagree with Mr. Brookes about the need to do more free trade agreements. I think that's part of the mindset around the free trade agreements is part of what got us into this problem. And I also don't agree that we need to just innovate more. We innovate plenty. We have the technology. We have the education. We have the skills. We're just losing the economic advantage that goes along with that innovation. It's not a question of the United States not being smart enough or technologically advanced enough. Thank you.

Mr. CICILLINE. Thank you.

Ms. BUERKLE. Thank you. I yield 5 minutes to the gentleman from California, Mr. Rohrabacher.

Mr. ROHRABACHER. Thank you very much. Let me just ask a question of the panel very quickly. We have to go into discussion. There are two items, legislative items that might touch on what we're talking about today. Brad Sherman, who is a member of this subcommittee, has suggested that we pull most favored nation status from China if it continues in its unfair trade practices with the United States.

Would you favor that, Mr. Levy?

Mr. LEVY. No, I would not.

Mr. ROHRABACHER. Mr. Brookes?

Mr. BROOKES. I've not seen the proposal.

Mr. ROHRABACHER. Ms. Lee?

Ms. LEE. I think it's certainly something we should look into.

Mr. ROHRABACHER. There is a patent bill. For 20 years, there's been a group of us fighting what's been called patent reform. And in reality, it's a dramatic, how do you say, depletion of our patent protection for the American people. We've had these multinational corporations about 12 of them. We call them the dirty dozen, who are basically interested in manufacturing overseas and manufacturing in China in particular, but they have been trying to weaken the patent system in our country, saying that we need to harmonize it with the rest of the world, while the rest of the world, of course, has very weak patent protection. The United States has very strong patent protection.

There is a new bill working its way through Congress. Those of us who are very strong for intellectual property protection are against this bill. Mr. Levy, is your organization for—have they taken a stand? Are you for or against this patent, so called reform?

Mr. LEVY. AEI doesn't take stands as an institution and I'm afraid I don't know enough about that particular bill to give an intelligent comment.

Mr. ROHRABACHER. Mr. Brookes?

Mr. BROOKES. I'm in the same situation.

Mr. ROHRABACHER. Okay, I would suggest that the two of you have your organizations look at this legislation. It is put out by the same people who have been trying to destroy the patent system for 20 years and we could use your opinion on it.

Ms. Lee, what about the AFL–CIO?

Ms. LEE. I haven't been following that bill closely. I can get you an answer.

Mr. ROHRABACHER. Let me suggest that you do so. It's very important. We have spent a lot of money. We spend lots of money in innovation. We spend lots of money on research, and a lot of it ends up in the hands of our competitor. It's a travesty. It's a travesty. We give a lot of these companies who end up going over to China to do manufacturing, a lot of them have been the recipient of major R&D grants by the United States Government. This is ridiculous. This is us paying to work against the well being of our own working people. I would suggest that we've got some really major issues at hand here.

Let me ask about the market. You mentioned, Mr. Brookes, free trade. Now I believe I'm a free trader, just to let you know, and Ms. Lee, I tell you that. I'm a free trader, but I don't see how you can have free trade unless the people who are trading are both free. I say I'm for free trade between free people.

How can you have free trade, Mr. Brookes, if the other side of the equation is controlled trade? So it's only one free trade system and then it leaves it up to being manipulated by the gangsters and the thugs who run these other countries. It's not really free trade, is it, if you don't have freedom on both sides of the equation.

Mr. BROOKES. I don't dispute that.

Mr. ROHRABACHER. Well, that's what's been happening to our relationship with Communist China for the last 40 years. They have used market access and subsidies and intellectual property theft and currency manipulation in order to control what's going on over there, while we have given them access to our markets, tried to make sure that we're even handed in terms of our currencies and our subsidies, and our own regulation of our own businesses here. So that type of—let me just note, this type of sincerity, I'm sure is deeply appreciated by the goons who control the power in Beijing. Those people look at us like we're fools. And our people are paying a big price and there's a lot of CEOs in this country who are going along with it because they can make a quick profit, a quick profit in China and put a big bonus in their pocket and then leave the scene by the time the real economic repercussions are felt from transferring all over the R&D and transferring over the investment and the machinery and the technology that we've developed in the United States.

This is an issue that really needs a close look. I understand where Ms. Lee is coming from. I would hope that my friends on the conservative side of the spectrum start looking and realizing that we have to represent the interests of the people of the United States of America and just starting off, free trade, when you're allowing it to be manipulated on the other side by gangsters is a great disservice to our country. So with that, thank you very much, Madam Chair.

Ms. BUERKLE. Thank you, Mr. Rohrabacher. I now yield 5 minutes to the gentleman from California, the ranking member, Mr. Sherman.

Mr. SHERMAN. Thank you, Madam Chair. I do want to mention a word or two about the bill I'll be re-introducing.

Mr. ROHRABACHER. Which I mentioned before you came in and I support, Mr. Sherman.

Mr. SHERMAN. Thank you, because, Madam Chair, I've been here for a while. This is not the first gripe session I've been to about China. I've been to these for 15 years and one option you'll have and the other new Members of Congress will have is to join for another 15 years of gripe sessions. You'll also have the joy of the sign-on letters, where you send letters to the Chinese Embassy and sign your name and if you think that accomplishes something, more power to you.

But the other approach is for us to force a crisis in this relationship because I think we already have a crisis for the United States. For 6 months end MFN for China and tell the Chinese that if they want to export $400 billion worth of goods to the United States, they're going to have to import $400 billion of goods from the United States. A balanced trade agreement with China will hopefully be the result, but we're certainly not going to get such an agreement from them, as long as they have free access to the U.S. market under the conditions partially described by today's hearings.

Now it's unfortunate that our witness from the ITC has left. Not seeing any senior staff from ITC here, unless they identify themselves for the record, so I will make sure that our first witness gets the transcript of the second half of the hearing and I would hope that the Executive Branch would view congressional hearings not as a burden, but as an opportunity for learning.

One of the things we learned from the ITC was that they do surveys of employers to see if we have any problems.

Ms. Lee, did they ever survey organizations that represent workers?

Ms. LEE. Not that I know of.

Mr. SHERMAN. Wouldn't you be among the organizations that represent workers that they would typically—can you think of a larger organization than the one you represent that represents workers?

Ms. LEE. No.

Mr. SHERMAN. And as we've seen, there are at least some businesses who think that they can enjoy a profit by offshoring maybe just a short-term profit, so we ought to have an ITC that is worker-oriented, not just company-oriented.

Ms. Lee, what would you think of the ITC no longer being an independent organization, but instead being part of the Department of Labor?

Ms. LEE. I think it would certainly be a huge improvement if the ITC did take its job seriously as looking at the impact on workers, not just on businesses and the profitability of businesses, but they took seriously how working people might be impacted by different changes in trade policy. And course, you mentioned earlier that their economic modeling with respect to the job impact of trade

agreements has been notoriously inaccurate over many years and yet it is still used as though those numbers are gospel.

Mr. SHERMAN. They weren't within a couple trillion dollars over the last decade. And you criticize them. Are you always that tough?

Let me move on to another question, Ms. Lee. One does not regularly associate organized labor with intellectual property concerns, perhaps because the creators of intellectual property are for the most part not unionized.

Can you explain why IP protection, especially combating theft and compelled transfer of American IP by the Chinese is a significant concern for the AFL–CIO?

Ms. LEE. I'd be delighted to. And first of all, we do represent a lot of both performers and writers and other people who make a living from intellectual property rights, musicians, and actors and so on, and we often hear from those unions that they are very much in favor of strengthening the intellectual property rights protections that we have overseas. They lose billions and billions of dollars worth of revenue, some of that is revenue to the performers themselves through the violations of intellectual property rights.

In the music industry, for example, the Chinese music market is worth around $100 million, but it should be more than $1 billion. So that's $900 million worth of revenues that is lost to both American musicians and also companies because of Internet theft and because of other physical theft of intellectual property rights. So there certainly are a lot of jobs and there is income associated with the violation of intellectual property rights. That's also true, I think. Mr. Rohrabacher used the example of the carts, you know when the design of the carts is stolen and moved to China. Those hundred workers lost their jobs immediately. His friend, at least, was able to keep the ownership and do a joint venture for several years before he was edged out of the company, but those 150 workers or so lost their jobs immediately.

Mr. SHERMAN. I'm going to ask unanimous consent to be able to ask one more question?

Ms. BUERKLE. Without objection.

Mr. SHERMAN. This Korea free trade agreement, it allows goods to be 65 percent made in China. For certain classes of goods that percentage is different, but 65 percent is what applies to auto, ships, electronics, boilers, aluminum, iron, steel. And then those goods can go to South Korea where Chinese guest workers living in barracks can do the other 35 percent of the work.

Do you think that American workers will be at a disadvantage if they have to compete against goods that are made exclusively with Chinese labor and instead of most favored nation status, we have free trade agreement treatment of those goods? And do you think it's fair that goods that 100 percent Chinese labor can come into the United States with a free trade agreement totally duty free while China will have duties on all our goods, in other words, we'd have a one-way free trade agreement with China?

Ms. LEE. We are always in favor of stronger rules of origin because we think that if we're going to negotiate a trade agreement with a country, the benefits should go to the country that makes the concessions, whether it's on intellectual property rights or market access or workers' rights or environmental protections. And so

we were very concerned about the Korea FTA and the relatively weak rule of origin there that allows quite a large quantity of the final product to be assembled outside of South Korea, could be in China, could be in North Korea, it could be other places. And that is very troubling to us.

It's also not good for Korean workers. It's not good for U.S. workers. We have been in contact with our Korean counterparts and they were also very concerned that the benefits of the agreement will not necessarily go to the two countries that have signed.

Mr. SHERMAN. Thank you for mentioning the tremendous benefits that North Korea will get under this agreement, which I haven't mentioned up until now because those are the subject in part of our hearing tomorrow.

Ms. BUERKLE. Thank you, Mr. Sherman. Let me begin by saying thank you to our panelists and for taking time out of your busy schedules to come here today and testify. We appreciate that very much.

Without objection, your full testimonies will be entered into and made part of the record. And members will have 5 days to add any questions or opening statements to the record.

This subcommittee hearing is adjourned.

[Whereupon, at 4:37 p.m., the hearing was concluded.]

APPENDIX

Material Submitted for the Hearing Record

SUBCOMMITTEE HEARING NOTICE
COMMITTEE ON FOREIGN AFAIRS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.

Subcommittee on Terrorism, Nonproliferation and Trade
Edward R. Royce (R-CA), Chairman

March 9, 2011

You are respectfully requested to attend an OPEN hearing of the Subcommittee on Terrorism, Nonproliferation, and Trade, to be held in Room 2172 of the Rayburn House Office Building:

DATE: Wednesday, March 9, 2011

TIME: 2:00 p.m.

SUBJECT: China's Indigenous Innovation Trade and Investment Policies: How Great a Threat?

WITNESSES: **Panel I**

Ms. Karen Laney
Acting Director of Operations
U.S. International Trade Commission

Panel II

Mr. Philip I. Levy
Resident Scholar
The American Enterprise Institute for Public Policy Research

Mr. Peter Brookes
Senior Fellow, National Security Affairs and Chung Ju-Yung Fellow for Policy Studies
The Heritage Foundation

Ms. Thea M. Lee
Chief of Staff
AFL-CIO

By Direction of the Chairman

The Committee on Foreign Affairs seeks to make its facilities accessible to persons with disabilities. If you are in need of special accommodations, please call 202/225-5021 at least four business days in advance of the event, whenever practicable. Questions with regard to special accommodations in general (including availability of Committee materials in alternative formats and assistive listening devices) may be directed to the Committee.

COMMITTEE ON FOREIGN AFFAIRS

MINUTES OF SUBCOMMITTEE ON Terrorism, Nonproliferation, and Trade HEARING

Day Wednesday **Date** 3/9/11 **Room** 2172

Starting Time 2:45 pm **Ending Time** 4:15 pm

Recesses [ ] (____to ____) (____to ____) (____to ____) (____to ____) (____to ____) (____to ____)

Presiding Member(s)

Rep. Ed Royce

Check all of the following that apply:

Open Session [✓]
Executive (closed) Session [ ]
Televised [✓]

Electronically Recorded (taped) [ ]
Stenographic Record [✓]

TITLE OF HEARING:

China's Indigenous Innovation Trade and Investment Policies: How Great a Threat?

SUBCOMMITTEE MEMBERS PRESENT:

Rep. Johnson, Rep. Duncan, Rep. Sherman, Rep. Royce, Rep. Connolly, Rep. Schwartz
~~Rep. Rohrabacher~~ Rep. Poe, Rep. Cicilline, Rep Griffin

NON-SUBCOMMITTEE MEMBERS PRESENT: *(Mark with an * if they are not members of full committee.)*

Rep. Rohrabacher, Rep. Jean Schmidt

HEARING WITNESSES: Same as meeting notice attached? Yes [✓] **No** [ ]
(If "no", please list below and include title, agency, department, or organization.)

STATEMENTS FOR THE RECORD: *(List any statements submitted for the record.)*

Rep. Gerry Connolly

TIME SCHEDULED TO RECONVENE _____
or
TIME ADJOURNED _____

Subcommittee Staff Director

Terrorism, Nonproliferation and Trade Subcommittee

Member Attendance

Republicans

- ☑ Rep. Edward Royce (Chair)
- ☑ Rep. Ted Poe
- ☑ Rep. Jeff Duncan
- ☑ Rep. Bill Johnson
- ☑ Rep. Tim Griffin
- ☑ Rep. Ann Marie Buerkle
- ☑ Rep. Renee Ellmers

Democrats

- ☑ Rep. Brad Sherman (Ranking Member)
- ☑ Rep. David Cicilline
- ☑ Rep. Gerry Connolly
- ☐ Rep. Brian Higgins
- ☑ Rep. Allyson Schwartz

The Honorable Gerald E. Connolly (VA-11)

TNT Subcommittee Hearing
China's Indigenous Innovation Trade and Investment Policies: How Great a Threat?
Wednesday, March 9th, 2pm

The Chinese economic juggernaut is steered by official government policies that are carefully crafted by the ruling party's leaders. Countless articles have been devoted to China's rising "tiger economy," and the media attention reached a veritable crescendo when China recently surpassed Japan to become the world's second largest economy. Though China has been praised for its economic growth, critics contend that China is growing and expanding at the expense of other nations, stifling innovation, and picking winners and losers in a marketplace that has no borders. China policy experts have said, "China's government consistently favors policies, such as currency undervaluation and favoritism toward indigenous innovation and production, that promote its exporting industries to the detriment of its trading partners."[1]

In 2006 China began instituting its Medium and Long-Term Science and Technology Development Plan, which aims to invest 2.5 percent of China's Gross Domestic Product toward research and development expenditures in the country.[2] According to the Chinese Government, by the end of the implementation of this 15 year program, "The progress of science and technology will contribute 60 percent or above to the country's development;" another key goal of the program is to significantly decrease "the country's reliance on foreign technology."[3] These and related policies have garnered negative attention throughout the international business community.

After an outcry from international business leaders, China decided to redraft its 2009 Indigenous Innovation Product Accreditation Program, which had originally "stipulated that approved products must have 'locally owned' intellectual property and a brand-name that first appeared in China."[4] The policy was widely panned by dozens of business and technology leaders who said that the program would "restrict China's capacity for innovation, impose onerous and discriminatory requirements on companies seeking to sell into the Chinese government procurement market, and contravene multiple commitments of China's leadership to resist trade and investment protectionism."[5] These business leaders represented groups such as the Semiconductor Industry Association, TechAmerica, the Consumer Electronics Association, the Business Software Alliance, the National Association of Manufacturers, and the Telecommunications Industry Association, among others.[6] China decided to publish a new discussion draft of the policy, but it is unclear how any final policy will be implemented.

American companies have continued to express dissatisfaction with China's indigenous innovation policies. According to a the American Chamber of Commerce in China's (AmCham China) 2010 annual survey, 31 percent of more than 300 member companies polled said "their ability to participate and compete in China's market was impeded by discriminatory government policies and inconsistent legal

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[1] US China Commission 2010 Annual Report, p. 18.
[2] China Government website: http://www.gov.cn/english/2006-02/09/content_184426.htm.
[3] China Government website: http://www.gov.cn/english/2006-02/09/content_184426.htm.
[4] John C. Chiang, "Innovation With Chinese Characteristics" *AmCham China*, January 31, 2011, http://www.amchamchina.org/article/7532.
[5] Letter from business leaders to The Honorable Wan Gang, The Honorable Xie Xuren, & The Honorable Zhang Ping, December 10, 2009.
[6] Some non American signatories to the letter include: the Federation of Korean Industries, the Japan Electrical Manufacturers' Association, the European-American Business Council.

The Honorable Gerald E. Connolly (VA-11)

treatment."[7] In their 15 year Medium and Long Term Plan, Chinese officials indicated that one goal was stronger intellectual property rights (IPR) enforcement. Given China's history of lax enforcement with regard to IPR, only concrete action will change that country's infamous and well documented reputation. According to the U.S. Trade Representative's Special 301 Report for 2010, "China's IPR enforcement regime remains largely ineffective and non-deterrent." The same report states, "The share of IPR-infringing product seizures at the U.S. border that were of Chinese origin was 79 percent in 2009, a small decrease from 81 percent in 2008."[8]

Given China's procurement policy, it seems that China is on the wrong track. In a letter to several cabinet level U.S. officials, U.S. business leaders said that China's policy "represents an unprecedented use of domestic intellectual property as a market-access condition and makes it nearly impossible for [American products] to qualify unless they are prepared to establish Chinese brands and transfer their research and development to China." This is not innovation—it is theft.

If China truly wants to be a legitimate global player, it ought to be innovative on a level playing field. I look forward to today's hearing and discussing these issues in more depth.

[7] Cited in the US China Commission 2010 Annual report, p. 20.
[8] Both quotes can be found on p. 19 of the report.