

**“Testimony before the U.S.-China Economic and Security Review Commission”**

**China’s Shifting Economic Realities and**

**Implications for the United States**

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Chairman Shea, Vice Chairman Bartholomew, and members of the U.S.-China Economic and Security Review Commission, thank you very much for inviting me to testify before you today. I appreciate the opportunity to discuss China’s economy and the issue of overcapacity. I’d like to focus my remarks on what this phenomenon looks like from the ground up, and how overcapacity poses a challenge to American firms, but also significant job-creating opportunities.

My view of China’s economy is from the perspective of factories and farms. I started my first sourcing company in China in 1998 with one of the lead Tiananmen Square dissidents, beginning with a door-to-door investigation of China’s supply chain, in which our team visited over 800 firms, inspecting plant and equipment and interviewing line employees and managers. Since then, we’ve gone on to make (or try to make) dozens of different light and heavy industrial goods in China for U.S. clients – from chum buckets to offshore drilling rigs – and today are exporting American agriculture to China, such as pork and cattle hides.

There is no doubt that overcapacity in many of China’s industries is a vexing challenge for China’s trading partners. When a pound of Chinese steel costs about as much as a pound of cabbage in local markets, it doesn’t take a huge leap of logic to understand why a Chinese mill would try to export that steel, especially when there are willing buyers and often a Value Added Tax rebate from the Chinese government to sweeten the deal.

It’s also true that for years, Beijing has made many commitments to curb capacity that have gone unfulfilled. So the latest pronouncements by China’s State Council to cut over 100 million tons of capacity in the next five years must be taken with a whole shaker of salt. True, the recent commitment to create a fund to offset the costs of Chinese unemployment due to plant closures is a positive development. But it still remains unclear whether China’s central government can enforce these promised cuts, as provincial and municipal governments are vested with the authority to protect local firms.

China’s overcapacity issue, therefore, is a multi-dimensional problem that will require difficult, far-reaching political choices by the Chinese leadership amidst a slowing economy, which is a primary reason why we won’t see a quick or easy resolution. And that is also why it is important to examine the nature of overcapacity in China’s industries, as there are some positive implications for the U.S. economy that are frequently overlooked.

## What Chinese Overcapacity Really Means

When comparing China and the United States, it is important to remember that capacity is not equivalent to capability. Americans tend to imagine that there is parity between American and Chinese industrial capability. That a pound of Chinese steel is equal in quality to a pound of American steel. Considered in that context, China's industrial overcapacity would follow the laws of supply and demand. The more supply there is, the less demand.

But viewed from the ground, the opposite is true. In China, it is possible to have an abundance of supply *and* an abundance of demand. The reason lies in the way that China makes things – the structure of its industries and the human resources that make up its companies. Consider, for a moment, the output of China's manufacturing and agricultural sectors. There have been thousands of safety breaches just in the past few years and tens of thousands in the past decade. August's giant explosion in Tianjin, for example, was just one of more than 300 major industrial accidents in the seven months that preceded it. Poisoned baby formula, lethal pharmaceuticals, cadmium-heavy rice, lead-coated toys, collapsing bridges, toppling buildings – in every corner of China's economy, severe safety lapses are a daily fixture of Chinese life. A popular Chinese news anchor, Qiu Qiming, put it best when he said on national television, “Can we drink a glass of milk that is safe? Can we stay in an apartment that will not fall apart? Can we travel roads in our cities that will not collapse?”<sup>1</sup>

It's not a matter of a few bad actors, as the authorities would have us believe. The whole system is to blame. China's manufacturing and agricultural sectors are hamstrung by structural risk. As products are transformed from raw materials to finished goods, they move through concentric circles of danger: from unsafe raw material inputs to firms with weak corporate governance aligned in long, opaque supply chains that are overseen by ineffective, often warring, government regulators. Each step of the production process adds risk that the finished products will be unsafe.

Systemic risk in China's value chain presents a significant threat to our health and safety, as U.S. inspectors screen only a tiny fraction of imports. We've already experienced firsthand the danger of "Made in China" products with lethal blood thinner, faulty auto ignitions, toxic drywall, deadly pet food, lead coated toys, and defective accelerator pedals, to mention just a few of a myriad examples.

But systemic risk also presents opportunities. Because as China struggles to make safe goods, its consumers and businesses clamor for American made products, which are considered safe and high quality. So even though some Chinese industries are glutted with overcapacity, since there is such a wide gap in capability, an abundance of demand co-exists with an abundance of supply.

## **Risk in China's Steel Industry**

As an example of this phenomenon, I'd like to focus on China's steel industry, which suffers from severe overcapacity. Chinese steel is infamous for its relatively low quality. Part of the problem begins upstream with inferior inputs. In steel production, iron ore is mined from the ground and then processed to make different grades of steel for different industrial purposes. Higher quality steel requires higher iron content. However, the iron content in China's mined ore tends to be quite low. That's the reason why China imports over half of the iron ore it uses to make steel.

However, it's very difficult to detect when low quality iron ore is used as an input to steelmaking because China's steel industry, just like all of China's industries, consists of long, fragmented supply chains inhabited mostly by weakly governed firms – susceptible to fraud and/or slipshod quality control. It is estimated that there are over 1,200 steel producers in China – more than ten times as many than in the United States – and just 70 are thought to be large or medium sized.<sup>ii</sup> Trying to trace the quality of inputs through this thicket is nearly impossible. Charles Bradford, president of Bradford Research, a metals consultancy, put it this way: “Most of China's...steelmakers are small fabricators who have no idea what quality is about, so there is a risk that guy with a welding torch buys some hot-rolled coil steel and just welds it together.”<sup>iii</sup>

In 2007, American and Canadian institutes of steel construction warned member companies to be especially cautious with Chinese “high-strength” steel inputs. When tons of the Chinese steel were tested, “the welds failed horribly,” said Dan Malone, construction manager for Garneau Manufacturing.<sup>iv</sup> Malone added that had the steel been processed into a finished product, “it would have killed somebody.”

The world got a glimpse of Chinese-made steel in action during the 2008 earthquake in Sichuan. Compared to buildings and bridges in California, many of which were built several decades ago but have been able to withstand earthquakes of much stronger magnitude, thousands of Chinese-made buildings collapsed like houses of cards – especially school buildings. Inferior raw materials could have been a cause, but the fact that schools, even ones that were recently built, toppled while older buildings remained intact, revealed the potential for fraud, and there was a public outcry that the Ministry of Education had cut corners in construction.

Cutting corners to save money is a common technique in China's construction boom, as low cost building puts pressure on developers' margins. Since the Sichuan earthquake, the widespread practice of “steel thinning” in China has come to light, in which regulation thickness reinforcing bars are stretched to a thinner specification and sold for cheaper prices. Thinning steel is one way builders can claw back profit while appearing to abide by architectural specifications.<sup>v</sup> Residents of China's cities are familiar with the effects of slipshod building techniques, having to evade the frequent “glass bombs,” in which windows from modern skyscrapers come loose and plummet to the sidewalk.

It would be convenient to blame fraudulent or negligent quality control in Chinese

construction on its thousands of small to midsized steel fabricators. But several recent case studies show how large state-owned enterprises that deploy advanced technologies also produce low quality, dangerous outputs.

Consider the San Francisco Bay Bridge, where the renovation of the eastern and western spans has been plagued with unsafe Chinese steel fabrication. At a projected cost of \$6.4 billion, the California Transportation Authority (“Caltrans”) presumed that they would save about \$400 million on the job by sourcing steel from China.<sup>vi</sup> Of course, they weren’t factoring in cost overruns from quality lapses, which caused the project to go billions of dollars over budget and was ten years late.

China’s Zhenhua Port Machinery Company (“ZPMC”), a world leader in making cranes, was hired to fabricate 900 panels to be assembled into football field long deck plates. Caltrans justified their choice of ZPMC because of its giant 1.2 square mile fabrication facility created specifically for the project that featured modern technology and legions of engineers and linemen, who were tasked to work day and night.

As soon as ZPMC started production, however, the on-site U.S. inspection team discovered that 65% of the panels had defective welds.<sup>vii</sup> The inspectors noted that ZPMC “failed to provide most of the quality control documentation required under its contract...and had failed to produce a single test weld that conformed to the contract specifications.”<sup>viii</sup> Shortly thereafter, the inspectors warned of “random weld quality” on more than 100 panels and urged the production process stop until ZPMC improved its welding. Production didn’t stop, the inspection firm was replaced, and the welding tolerances loosened.

It is because of chronic quality control problems on Chinese steel in infrastructure projects around the world that some firms like Halliburton prohibit Chinese steel in many bid proposals, such as a job to build a refinery tank farm for Conoco Phillips and Saudi Aramco. Shell Oil is another global firm that is wary of Chinese steel applications. Since the establishment of Shell’s China sourcing office in 2005, procurement of China content focused solely on lower value castings and fittings. But after years of requests by the China office to source higher value content, Shell offered the opportunity to build major parts of an offshore drilling rig to Shanghai Waigaoqiao Shipyard (“SWS”), the jewel of the mammoth, state-owned China State Shipbuilding Company.

Though it is considered the most technologically advanced shipbuilding enterprise in China, SWS flunked Shell’s audit across every evaluation category. It lacked the ability to monitor the quality of its suppliers and their outputs, to identify and manage hazardous and defective materials, and to conduct proper engineering and design. Perhaps most importantly, Shell found that SWS lacked basic lines of reporting and clearly defined job responsibilities, generally undermining accountability and magnifying risk. Despite having the latest technology, SWS’s weak corporate governance and sloppy quality control systems led Shell to determine that China’s most advanced shipyard posed a significant project risk and was disqualified from the project.

## Chinese Demand for U.S. Goods and Services in the Steel Industry

The tens of thousands of safety breaches emerging from China's manufacturing and agricultural sectors over the past decade is a key driver of demand for U.S. goods and services. As China struggles to make safe goods, it must import them from advanced economies like the United States. Contrary to the popular opinion that uncompetitive America doesn't export anything, the United States is actually an exporting goliath. In 2013, the U.S. exported a record \$2.3 trillion of goods and services to the world.<sup>ix</sup> And exports made up more than 46% of the growth in America's economy from 2010 and 2011 alone – led by U.S. manufacturing.<sup>x</sup>

Given that China is our third largest export market, as well as our fastest growing market for many products and services, U.S. export growth, in large part, can be attributed to Chinese demand. In fact, U.S. export sales to China have tripled in one decade, rocketing China up to our third largest export market behind Mexico and Canada. This export growth is shared across the breadth of our economy – from agriculture to manufacturing to services – and across every state in the union. 42 states at least doubled their exports to China since 2005, 5 states increased their exports by more than 500%, Ohio more than tripled its exports and Michigan more than quintupled them. And, over the same period of time, exports to China from 92% of all congressional districts have at least doubled.<sup>xi</sup>

What bears noting in our discussion today is that most of our top non-agricultural goods exports to China are downstream steel industries: aircraft and aircraft parts, machinery, passenger vehicles, and electronics. It should also be noted that our exports in these categories have continued to grow over the past decade, despite overcapacity in China's steel industry and the trend of dumping steel in the United States.

The nuclear power industry is a good example of this dynamic. China's inability to overcome risk in building and maintaining reactors has resulted in an export bonanza for the United States in N-Class steel products and services, supporting thousands of American jobs. Westinghouse and General Electric are designing the next generation of nuclear reactors being deployed in China, and American firms are manufacturing and exporting critical components for these nuclear facilities. Just four Chinese reactors under construction have created 5,000 U.S. jobs at Westinghouse and other suppliers.<sup>xii</sup> And with more than twenty new Chinese reactors in the pipeline, companies like America's Curtiss-Wright Flow Control Company are building pumps for them that are unique in the world, as they run maintenance free for sixty years.<sup>xiii</sup> Other firms like Tyco International are also creating U.S. jobs in supplying high precision valves for Chinese nuclear reactors, each of which sells for \$10-30 million, as well as the testing of those valves. Tyco recently opened a \$25 million testing lab in Mansfield, Massachusetts.

China is also providing a platform for the commercialization of next generation American nuclear technology, too – especially small, modular reactors that can be deployed more nimbly than large reactors. One company in this space is TerraPower, backed by Bill Gates, which is developing the traveling wave reactor that consumes a low-grade form of

uranium. This would allow countries to use nuclear power without the enrichment phase, a necessary step toward weaponization. Another American firm, Babcock and Wilcox, is pioneering the manufacture of modular reactors, which are built entirely in a U.S.-run factory, mitigating on-site construction risk.

Even as China's economy slows, the Chinese government and households have high rates of savings. And they will continue to spend money on goods and services that are considered essential, safe, and of high-value – especially those which China struggles to produce itself.

## **Remedies**

The fact that China is importing so much from America, of course, does not negate the fact that China's overcapacity continues to lead to dumping. But the unintentional side effect of defending ourselves from dumping through raising import duties is that we may protect some jobs at the expense of others. That's because most of the products we import from China include U.S. value-add at multiple points in the supply chain. Most often, in the beginning: with invention, design, engineering, branding, and the manufacture of inputs and components. And at the end: with transportation, warehousing, wholesaling, retailing, and service. China usually occupies the middle phases, which sometimes may involve engineering and manufacturing, but usually consists of assembly.

So in trying to save American jobs through raising import duties at one node of the supply chain, *other* American jobs are adversely impacted. The solar industry is a good example of this phenomenon, where U.S. value is added at the beginning and end of the value chain. Our top solar export to China is the expensive, high-tech capital equipment used to make solar panels. Our second top export is the PV polysilicon, the raw material that goes into the crystalline silicon photovoltaics, the active element in solar panels that converts sunlight into energy. China imports these items to fabricate and assemble the panels, relatively lower value functions in the chain, and then exports the panels back to us, at which point they must be transported and warehoused, the site must be prepared, permits must be filed for, and the system must be installed and maintained. If you look at the whole value chain, therefore, the majority of the financial value in an installed photovoltaic system flows to America. In 2010, installations of U.S. solar energy systems were valued at \$6.0 billion – and 75% of that was captured by U.S. firms. <sup>xiv</sup>

However, when we raised duties on imported Chinese solar panels, China retaliated by imposing a 57% duty on imported American polysilicon. As a result, REC Silicon, a major global producer of polysilicon, announced on February 8, 2016 that it was suspending operations at the only location where it produces polysilicon for the solar industry, its 550-acre facility in Moses Lake, Washington, because of sluggish exports to China. <sup>xv</sup>

Though defending U.S. jobs is well intentioned, the unintended consequence of harming U.S. jobs occurs when import duties are raised on one node of a global supply chain. We

ought to consider other remedies that do not have the effect of picking winners and losers in the U.S. economy.

First, we could wield our leverage as China's largest importer to enact stricter safeguards to protect ourselves from unsafe Chinese imports, not just cheap Chinese imports. It's not simply a matter of increasing our inspectors in the field, although that would be a good start, as our inspectors on the ground are woefully understaffed. Rather, we need to adopt a more comprehensive inspection and certification system. Currently, U.S. inspectors are barred from many of the Chinese firms that supply products to our markets, whether food, pharmaceuticals, or manufactured goods. And it's relatively easy for a Chinese firm to qualify for sales to the United States. Even chemical companies that are not regulated by the Chinese FDA can sell active pharmaceutical ingredients into the supply chain that makes up our drug supply. That needs to change.

Japan enacted an aggressive quality control inspection system coupled with a strict supplier certification process in 2002, after detecting high concentrations of pesticides in frozen spinach. Japan operates two giant inspection clearinghouses where they randomly test batches from 10% of all the food imported from China. And Japan made it much more difficult for Chinese suppliers to qualify for export into the Japanese market.<sup>xvi</sup> Similar measures would not only help protect our health and safety, they'd also add the financial cost of strict quality control into the total delivered price of Chinese imports. Both the JCCT and S&ED are venues in which these issues could be raised and given top priority.

Second, we could fight China's illegal subsidies more aggressively in the WTO. One of the reasons why Chinese industries that suffer from overcapacity continue to go about business as usual is because they're propped up by a number of government subsidies, such as free land, energy, and raw materials; debt to equity swaps; loan forgiveness; and value-added tax rebates. China's steel industry is a prime recipient of this special treatment. By systematically and comprehensively pursuing resolutions to these subsidies through the World Trade Organization, the job-killing tit-for-tat of raising import duties can be avoided.

And third, let's remember that China will chair the G20 this year. Already topping the agenda for the discussion among finance ministers is the issue of Chinese overcapacity. China's contribution as chair should be to aggressively target curbs on overcapacity in state-owned enterprises. The United States should use that forum to work closely with our Chinese counterparts to insure that their commitments are being fulfilled.

Finally, a good defense against Chinese dumping is a good offense. Or put another way, as goes the old saying, the best revenge on a lousy customer is to sell him more goods. Although U.S. exports to China are growing (and, indeed, we are running trade surpluses in agriculture and service exports), our export intensity remains rather low. There's a lot more we could be selling to China in just about every industry.

Certainly market access is an issue, but nothing is monolithic in China, and that includes

access. I have encountered varying degrees of openness and levels of import duties depending on what buyer I am selling to. American grown cherries consigned to a Chinese wholesale buyer, for example, are subject to a different tariff and import protocol than if they are sold to the commissary of a group of nuclear power facilities. Access often depends on who's buying.

And although Chinese indigenous innovation and procurement laws are making it relatively harder for some U.S. firms to operate in China, that does not dispel the basic economic dynamic of China's need for what America makes. For example, even though top tier Chinese hospitals are now required to buy Chinese made medical equipment, industry insiders will tell you that Chinese hospitals dutifully buy the domestic made content, then promptly mothball this equipment in favor of American made products, which are seen as more advanced and reliable.

American companies large and small need to better understand the structural weaknesses of China's economy – how systemic risk afflicts its manufacturing and agricultural sectors – and the implications on American competitiveness. It is no accident that American exports to China over the past decade have grown faster than to any part of the world – no matter what China's currency exchange rate might be or its varying levels of capacity. China's needs are driven by demand, scarcity, and risk. That plays perfectly to America's abiding competitive strengths.

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<sup>i</sup> Evan Osnos 2012, *Boss Rail: The Disaster That Exposed The Underside of The Boom*, The New Yorker, <http://www.newyorker.com/magazine/2012/10/22/boss-rail>

<sup>ii</sup> Rachel Tang 2010, *China's Steel Industry and Its Impact on the United States: Issues for Congress*, Congressional Research Service, <https://www.fas.org/sgp/crs/row/R41421.pdf>

<sup>iii</sup> Ibid.

<sup>iv</sup> Jim Ostroff 2007, *New Threat From China: Shoddy Steel Imports*, Kiplinger, <http://marcchamot.blogspot.com/2008/05/china-earthquake-reveals-new-threat.html>

<sup>v</sup> Leo Lewis 2011, *China Troubled By Steel-Thinning Scam In Building Foundations*, The Times, <http://www.theaustralian.com.au/archive/business/china-troubled-by-steel-thinning-scam-in-building-foundations/story-e6frg90o-1226136555319?nk=4621bbab429baf4d90d069b2ec77850a>

<sup>vi</sup> David Barboza 2011, *Bridges Comes To San Francisco With A Made-In-China Label*, The New York Times,

<http://www.nytimes.com/2011/06/26/business/global/26bridge.html?pagewanted=all>

<sup>vii</sup> Ibid.

<sup>viii</sup> Ibid.

<sup>ix</sup> Office of Public Affairs 2014, United States Department of Commerce, *U.S. Exports Reach \$2.3 Trillion in 2013, Set New Record for Fourth Straight Year in a Row*,

<https://www.commerce.gov/news/press-releases/2014/02/us-exports-reach-23-trillion-2013-set-new-record-fourth-straight-year>

<sup>x</sup> Economic and Statistics Administration, United States Department of Commerce 2014, *The Role of Exports in the United States Economy*, <http://trade.gov/neinext/role-of-exports-in-us-economy.pdf>

<sup>xi</sup> The US-China Business Council 2015, *US State Exports to China (2005-2014)*,

<https://www.uschina.org/reports/us-exports/national>

<sup>xii</sup> Matthew L. Wald 2011, *Nuclear Industry Thrives In The U.S., But For Export*, The New York Times, [http://www.nytimes.com/2011/03/31/business/energy-environment/31NUKE.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2011/03/31/business/energy-environment/31NUKE.html?pagewanted=all&_r=0)



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<sup>xiii</sup> Matthew L. Wald 2011, *Nuclear Industry Thrives In The U.S., But For Export*, The New York Times, [http://www.nytimes.com/2011/03/31/business/energy-environment/31NUKE.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2011/03/31/business/energy-environment/31NUKE.html?pagewanted=all&_r=0)

<sup>xiv</sup> Ibid.

<sup>xv</sup> Rob Hotakainen 2016, *Washington State Feeling Pain from U.S. Trade Rift with China*, McClatchy DC, <http://www.mcclatchydc.com/news/nation-world/world/article59385357.html>

<sup>xvi</sup> Martin Fackler 2007, *Safe Food For Japan*, The New York Times, <http://www.nytimes.com/2007/10/11/business/worldbusiness/11safety.html?gwh=66DF73F918A3FE882DB47A13D07ADF1D&gwt=pay>