



China's Strengths and Weaknesses 101

U.S. Competitiveness Hinges on Knowing Our Competitors

President Barack Obama's State of the Union address centered on improving U.S. innovation and competitiveness. And as he noted, China's rapid economic growth and heavy investments in science, technology, and innovation pose a serious challenge to our nation's status as the world's leading economy.

A recent report by the Center for American Progress, ["Rising to the Challenge: A Progressive Approach to China's Innovation and Competitiveness Policies,"](#) provides a number of reasons why the United States needs to adopt new strategies to capitalize on our nation's historical, institutional, and structural advantages as the world's economic powerhouse. But policymakers also need to be aware of China's many assets and liabilities. Here are five of them, alongside the action the United States should take.

China is making more competitive products but lacks true innovation

China's strength

The technological products behind China's tremendous growth are largely developed incrementally, often as refinements of imported pre-existing technologies. This "import/assimilate/re-innovate" model has proven to be a successful strategy, as China courts foreign companies to move their manufacturing facilities, then coerces those companies to share their technology with the state.

China's weakness

While historically conducive to growth, the "import/assimilate/re-innovate model" does not foster a climate of original innovation. For China to truly become the dominant world economy, it will have to display true technological leadership. High levels of R&D investment may be effective to that end.

U.S. action

This is why the United States needs to maintain its science and technology leadership through expanded R&D investments of its own.

China is investing in science and technology but lacks high standards and integrity

China's strength

China understands the need to invest in its innovation engine. In 2008, China spent \$66 billion in R&D, the highest amount of any developing nation and the fourth-highest in the world. Consequently, despite the economic downturn which has taken a toll on the R&D budgets of most American companies, patent applications in China jumped by 18.2 percent in 2008 and another 8.5 percent in 2009, the last years for which complete data are available.

China's weakness

Many of the Chinese institutions of higher education receiving governmental R&D grant money experience alarmingly high rates of academic dishonesty. And even when instances of scientific misconduct are exposed, the government agencies responsible for dispersing grant money are given little incentive to pursue or punish such allegations. A lack of adherence to principles of academic integrity prevents many Chinese research institutions from building credible programs and leads to government waste, fraud, and abuse in its R&D spending.

U.S. action

Our nation's strong universities are nexuses for innovation and the exchange of ideas, with the high standards of scientific integrity essential to the creation of new, cutting-edge products and services. This is why new U.S. investments in the commercialization of these new things are so important.

China boasts a cheap workforce but not for long

China's strength

Cheap labor rates are the keystone to the Chinese economic boom. An incredibly large population of relatively well-educated workers has kept the labor supply abundant and wages low. The resulting reduction in variable costs is a huge incentive for manufacturers to shift their production facilities to China, where overhead is significantly less than their country of origin. Companies are so enticed by the savings potential that they set up shop in China despite the government's requirement that they share technology—a policy that, while controversial, has helped fuel China's economic boom as a part of the “import/assimilate/re-innovate” model.

China's weakness

China's supply of cheap labor is going to run out sooner than most people think. As China and its citizens become wealthier, and as fewer and fewer workers remain in the countryside as a new source of cheap labor, workers are already becoming more vocal in

their demand for higher wages and better benefits. Add to this the coming demographic reality of an aging population of workers—many of them the product of the nation’s “one-child” family policies—and China’s days as the cheap-labor factory floor of the world will draw to a close.

U.S. action

This is why the United States needs to invest in our growing population of primary and secondary students, and reform our workforce development policies working with community colleges and businesses so our future workforce is ready for the skilled-labor jobs of the 21st century.

China can require top-down, government-led investment but lacks the government institutions to ensure success

China’s strength

Long-term plans set by the Chinese government have included aggressive targets for economic growth, innovation, and sustainability. By investing heavily in its own innovation engine, China estimates it can reduce its reliance on foreign technology to less than 30 percent in 2020. By that same year, the government expects 15 percent of its energy to come from renewable sources—far outpacing the United States. Progress toward these goals demonstrates China’s ability to aim high then follow through with the necessary funds to make the achievement of such goals tenable.

China’s weakness

Not all of China’s investment decisions have been successful. Indeed, their investment policies are plagued by “malinvestment,” or poorly planned investment decisions that oftentimes yield little, if any, return. Highly speculative real estate developments result in the creation of “ghost cities,” new metropolises eerily absent of inhabitants. Business Insider estimates that China, growing at a rate of 20 cities per year, has enough excess housing for 64 million people. And as China’s population growth begins to taper off, demand for those properties may be hard to come by. The losses from these bad investments have had the effect of offsetting gains made by smarter investments elsewhere and these inefficiencies will make it difficult for China to maximize its potential as it moves forward.

U.S. action

This is why the United States needs to revamp its own competitiveness policies to ensure we are getting the most bang for the buck from our own investments, working closely with state and local governments to ensure innovation and competitiveness policies are aligned.

China has a strong central government but it can't deliver on all its goals

China's strength

Strong directives from China's central government have resulted in a number of highly impressive technological achievements. China is now home to the world's largest hydroelectric dam and the world's fastest supercomputer. Its infrastructure has undergone massive improvements in the form of extensive high-speed rail networks and rapidly expanding Internet access. Furthermore, efforts to meet heightened renewable energy standards have been greatly bolstered by these directives: China now produces more than two gigawatts of solar power each year, more than a quarter of the world's total.

China's weakness

Despite its strong centralization of political power, China often delegates substantial authority to its provincial and local governments over meeting national economic and environmental standards without being able to maintain the necessary oversight and management to ensure that such goals are being met. With locales not being held sufficiently accountable to meet national standards, progress tends to occur “in fits and starts” and is not experienced uniformly throughout the country. Oftentimes, this means central government funds and directed lending through state-owned banks is put to use by local and provincial authorities in ways inimical to innovation-led economic growth, such as overinvestment in property development. And because of its authoritarian government, oversight by opposition political parties and a robust free press is sorely lacking.

U.S. action

Our nation's democracy, free press, and federal system of government enable Washington and statehouses around the country to keep a close eye on government investments—a major national strength—but we need to invest more in coordinating innovation and competitiveness programs to be as effective as possible in a highly competitive global economy.

Conclusion

Understanding the strengths and weaknesses of China will be essential to the retooling of our own innovation-led economic competitiveness. Chinese economic dominance should not be seen as inevitable. What the United States needs is to set the right policies in motion—if this much can be done, it will hold its status as the best place in the world to create, cultivate, and innovate in this century as it was in the last century.