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The U.S. is overly paranoid about China's tech rise

By Fred Hu

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BEIJING — After decades of deriding China as a lousy copycat, the United States now fears China's rapid rise as a technology powerhouse and sees it as a major — even existential — threat to U.S. dominance. The Trump administration has waged an escalating trade war against China under the pretext of punishing Chinese transgressions such as forced technology transfers, predatory licensing practices, cyber theft of intellectual property and the state-sponsored acquisition of American tech companies.

“Made in China 2025,” a policy blueprint unveiled by Premier Li Keqiang in 2015 to develop Chinese technological capabilities in growth industries such as artificial intelligence and robotics, has especially raised the ire of Washington hawks. Indeed, it's become the central target in the ongoing trade war.

But much of the fear over China's technological rise is unfounded. Fundamentally, China is like most emerging economies around the world: still trying hard to close the enormous technological gap with advanced economies led by America.

China has undoubtedly made more progress than many of its developing peers in that race. Its tech industries have grown at a faster pace and achieved a global scale beyond those of most developing countries. In a broad range of manufacturing sectors — notably consumer electronics, steel, ship building, high-speed rail systems and solar panels — China has established itself as the world's leading producer. In areas such as consumer Internet and financial technology, it has arguably overtaken even the United States and now leads the rest of the world.

Yet China hawks such as Robert Lighthizer and Peter Navarro charge that whatever progress China has made on the tech front is due to the country's blatant theft of U.S. technology. Considering the enormous investments China has made in science and technology over recent decades, such claims do not hold water.

China has devoted vast resources to research and development — \$409 billion in 2015 (21 percent of the global total), according to the U.S. National Science Foundation. China's investment in research and development grew over 20 percent annually between 2000 and 2010 and almost 14 percent from 2010-2015. U.S. research and development hovered around 4 percent over the same period. For a country with an average per capita income a mere one-sixth of America's, China's research and development investments reflect a real and sustained national commitment.

At the same time, China has vastly expanded and improved STEM education and has one of the largest pools of STEM graduates in the world. The devotion of significant resources to research and development and human capital has in turn enabled China to reap some of the early fruits of innovation. China now tops the world in new patent filings. As the first country to receive more than 1 million patent applications in a single year — a record the World Intellectual Property Organization said reflected “extraordinary” levels of innovation — China accounts for almost 40 percent of the global total and more than that of the United States, Japan and South Korea combined.

China has also significantly boosted venture capital investment, which supports the commercialization of emerging technologies. While the United States attracts the most investment worldwide (nearly \$70 billion), venture capital investment in China rose from approximately \$3 billion in 2013 to \$34 billion in 2016, climbing from 5 percent to 27 percent of the global share — the fastest increase of any economy. China’s start-up ecosystem is both vast and vibrant; it has successfully incubated more tech unicorns than any other country except the United States.

Too often, U.S. critics claim that Chinese industrial policies like Made in China 2025 are behind the country’s ascendancy in tech. In fact, virtually none of China’s leading tech firms, such as Alibaba, Baidu and Tencent, are state-owned or meaningful beneficiaries of state support. They are all founded and led by smart and risk-taking private entrepreneurs, just like their Silicon Valley brethren. Tellingly, many Chinese tech start-ups have received U.S. venture financing. And Chinese technology companies and venture firms have made significant investments in U.S. start-ups. Sadly, the virtuous two-way venture capital flows are now in jeopardy because of Washington’s growing paranoia about China.

As impressive as China’s innovation and progress may be, however, it is premature to declare that China has caught up with the U.S. tech industry. Interventionist government bureaucracy, stodgy state-owned enterprises, a rigid school system and — above all — harsh restrictions on individual freedoms continue to stifle independent thinking and creativity and constrain China from realizing its full innovation potential.

While China is well positioned to succeed in “strategic” industries such as semiconductors, pharmaceuticals and commercial aircraft due to its vast pool of engineering talent and the size of its domestic market, so far it has remained a laggard. China has failed to develop an indigenous chip industry despite a state-led drive to do so, with tens of billions spent over the past four decades.

Despite its status as the “world’s factory,” making everything from cell phones and laptops to numerous other devices, China continues to import 90 percent of its microchips from foreign countries, predominantly from the United States. That is why the U.S. threat to cut off critical chip supply to ZTE, a Chinese telecom equipment firm, has been dubbed the “Sputnik moment” in China: a sober reminder of China’s continued weaknesses in critical technologies.

While China has made spectacular progress on the tech front, the United States remains the undisputed global leader in science and technology. The United States holds most of the world’s leading research universities; it deploys the highest amounts of both public and private funding in research and development; attracts the most venture capital; awards the most advanced degrees; provides the most advanced business, financial and information services and is the largest producer in knowledge-intensive, high-tech sectors, from pharmaceuticals to semiconductors.

The fear that China will displace the United States as the global tech superpower is grossly exaggerated. Unfortunately, such paranoia dominates the minds of protectionist U.S. politicians and China hawks and has already amplified a destructive trade war between the world’s two largest economies.

For China’s part, its soul-searching is overdue. Beijing should resist the prevalent yet ill-justified self-complacency and triumphalism that contributed to the fear in Washington in the first place, and it should make serious efforts to reform and open its domestic economy. Unless Beijing amends its heavy-handed statist approach to economic development, China’s potential as a leading nation in science and technology could be seriously curtailed.