



Atlanta Fed Economists Probe Mysteries of Chinese Economy

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rolled up dollar and rolled up yuan on paper graph

Editor's note: This article is also available in [Spanish](#) and [Portuguese](#).

When China's currency tumbled in value early this year, policymakers, researchers, and investors the world over scrambled to untangle exactly what the yuan's fall signaled about China's macroeconomy.

The yuan—or renminbi, as it's also known—declined 4.5 percent in 2015, its steepest drop since 1994, a fall that sparked gyrations in global financial markets. Federal Reserve officials, including Atlanta Fed President Dennis Lockhart, have noted that conditions in China have been a factor in the Federal Open Market Committee's gradual approach to raising the federal funds rate.

Fathoming the workings of China's economy is complicated, in part because the country has recently emerged as a global economic power and also because Chinese economic statistics are not always assembled the same way such numbers might be compiled in other large countries.

But a team of Atlanta Fed researchers is working with Chinese officials to make the country's data a bit easier for western economists to understand. The group—research economists Tao Zha, Patrick Higgins, and Daniel Waggoner—is decomposing numbers from Chinese government agencies. For example, unlike many the practice in other nations, Chinese statistical agencies do not always seasonally adjust their data, or calculate the data consistently across sectors or time periods.

New GDP, inflation forecasting tool

One of the Atlanta Fed team's most recent efforts is perhaps its most notable. Zha's group in July released [a model that forecasts](#) China's gross domestic product (GDP) growth and inflation more accurately than other tools. Calling that work "one of the great papers I've read recently," Kansas City Fed economist and China researcher Jun Nie says the Atlanta Fed team is contributing significantly to filling the gaps that plague researchers trying to understand the world's second-largest economy.

The Atlanta Fed research "therefore opens the door for global researchers" who study China's economy, Nie says.

China is important and becoming more so

China is plainly important to the global economy and, therefore, the Federal Reserve. But the nation of 1.4 billion people is a relative newcomer as a global economic power. For decades, China's GDP climbed steadily before ramping up sharply starting in the 1990s. From 1960 to 1990, Chinese GDP measured in renminbi grew sixfold in real, or inflation-adjusted, terms. During the next 25 years, however, China's GDP multiplied by a factor of 11, growing at a rate roughly double that of the previous 30 years (see the infographic).

China has Emerged as a Global Economic Power

China today ranks behind only the United States as the world's second-largest economy. Yet even after its spectacular growth,

China's GDP per capita is still only about \$8,000, compared with \$56,000 in the United States, according to the World Bank. So coming off such a low base, and with a population roughly four times the size of America's, China appears positioned to eventually surpass the United States as the world's largest economy.

As China's economy continues to grow, it accordingly plays a larger role in shaping global currents that affect all economies, including that of the United States. "For the Fed, understanding China is increasingly important because our monetary policy depends more and more on China," says Zha, who is also director of the Atlanta Fed's [Center for Quantitative Economic Research](#).

Long term, he adds, one important aim of the Atlanta Fed research team is to help China's government continue to improve the quality of its economic information. Zha insists that ultimately it will be more beneficial to rely on solid data from official Chinese sources—just as economists use official data from Western governments—rather than attempt to construct wholly separate series of statistics. After all, a central tenet of research is for everyone to work with an agreed-upon set of numbers.

Challenges with data agencies

Zha maintains extensive contacts in the Chinese statistical agencies and academia. Those and other Chinese officials are happy about the work he and his Atlanta Fed colleagues are doing, he says.

Complementing Zha's relationships in China, Higgins and Waggoner—along with Zha himself—are experts in constructing econometric models, refining data, and providing advanced mathematics. (One example of their work is [their examination](#) of time series data about the Chinese macroeconomy.) So the work benefits from this blend of personal relationships and expertise. For instance, one of the little-understood aspects of the Chinese economy involves heavy-industry enterprises, many of which are owned by the state. It is not completely clear exactly what constitutes a state-owned enterprise in China, and how much of the country's total investment those enterprises account for. China as yet does not produce comprehensive data on the heavy-industry enterprises' share of investment. Zha, Higgins, and Waggoner look to round out the investment information by examining the available data on heavy industries strategically favored by the Chinese government, such as steel, coal, petroleum, real estate, and banking.

Understanding the breakdown of sources of investment is especially important. China's economy is fueled disproportionately by investment, whereas most developed economies—such as America's—are more balanced between investment and consumption. And to really understand the Chinese economy, calculating the volume of investment in state-owned enterprises is critical, because the nation's economy is still mostly centrally planned by the government as opposed to being capitalist.

Extrapolating such nuanced answers about China's macroeconomy involves more "brute force" than does working with more polished U.S. statistics, says Higgins, who developed the Atlanta Fed's highly regarded domestic forecasting instrument, [GDPNow](#). Brute force entails work such as decoding severe year-to-year swings in numbers. Sometimes the reasons behind dramatic movements in a short time can be found in research papers or other materials, but sometimes they can't, Higgins says.

Much still to learn

Indeed, researchers still have much to learn about China's economy. For that reason, Zha and Higgins avoid sweeping statements about where China is headed economically, or whether the country is at a profound crossroads. "I don't think you can really know," Higgins says.

Along with counterparts at Emory University in Atlanta, where Zha has taught and cultivated relationships, the economists hope to extend their efforts to better understand Asia's preeminent economic power. For example, Higgins says they will likely continue to refine their China forecasting tool.

"It's an important topic," Zha says. "Given that we have those talents here already and we have those resources devoted to it, we should do more. I think we should play to our strengths."



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