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International cotton trade and causes of price volatility in the United States

By Valeria Robledo

Cotton has been, and continues to be, one of America's major agricultural exports. The United States contributes the largest share of raw cotton internationally, providing over a third of the cotton that is traded within the global market.[1] Meanwhile, China imports the largest amount of cotton to support their domestic textile industries.[2]

This **Beyond the Numbers** article provides a brief overview of the raw cotton industry and the trade relationship between the United States and China. It uses Bureau of Labor Statistics data from the Producer Price Index (PPI) and reviews trade policies that highlight monthly price changes from 2012 through 2019. The article provides a better understanding of how the U.S.–China trade relationship affects domestic cotton production, the level of

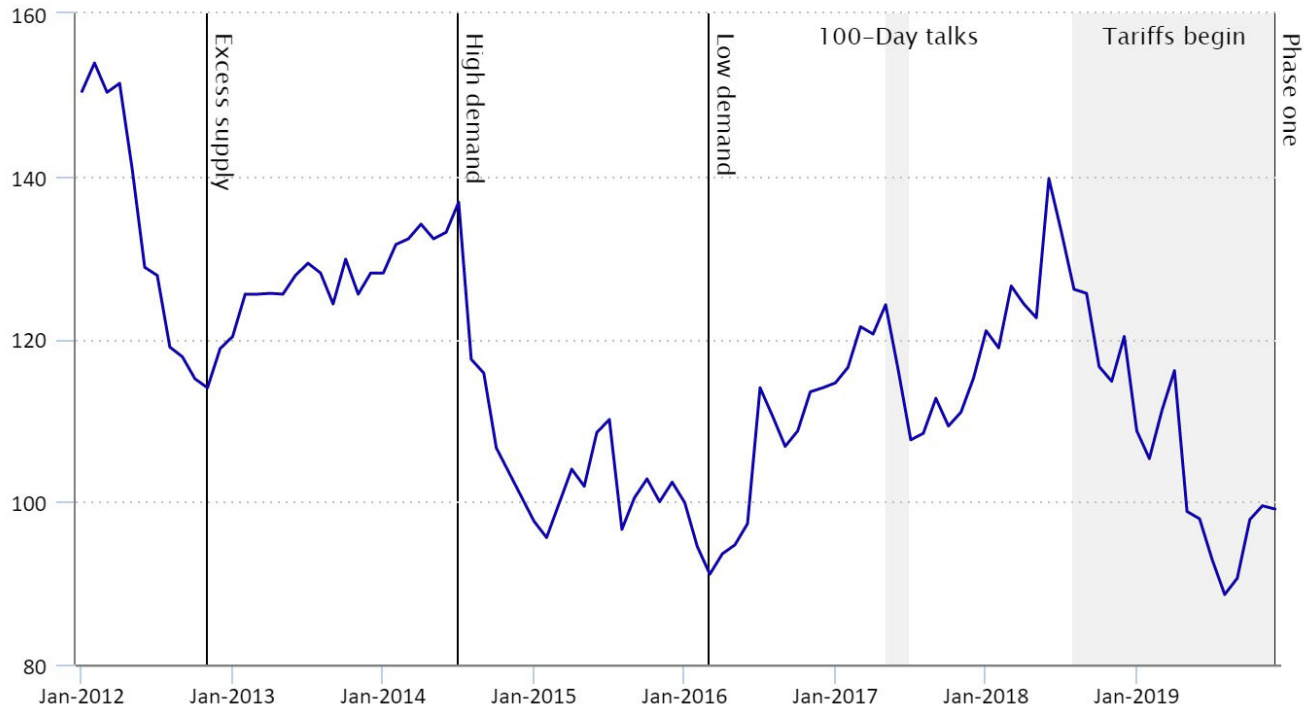
trade, and prices in the global cotton market. Historically, this relationship has been influenced primarily by supply and demand, but other causes of price volatility have emerged.

The United States and the global market

Although the majority of cotton is used for the production of textiles, cotton also is used to manufacture other products, such as cottonseed oil and animal feed. Since entering the World Trade Organization in 2001, China's share of worldwide textile exports increased from 10.4 percent to 37.0 percent in 2017.[3] China relies on a consistent supply of cotton from international markets as it cannot produce enough domestically to fulfill demand. In an effort to minimize dependence on the global market, the Chinese government began stockpiling large quantities of cotton in 2010, causing a brief surge in demand.[4] There also is significant speculation in raw cotton markets due to China's ability to shift global trade patterns, especially when they increase inventory at an accelerated pace.

The United States has benefitted greatly from cotton demand from China, India, and other countries. American cotton makes up about 38 percent of the world export market, which is more than the next five exporters combined.[5] However, some of the top exporters also are textiles manufacturers, consuming a sizable portion of domestic cotton production before exporting the rest. India and China are notable examples. Together, India and China account for half of the world's cotton production, but most of that cotton supplies their domestic textiles industries.[6] In contrast, the United States grows less cotton but exports the majority of its crop, with most of these exports going to meet the needs of Indian and Chinese textile manufacturers.[7] As a result, U.S. cotton producers rely on favorable trade conditions in order to thrive. As an agricultural crop, cotton also is at the mercy of weather patterns and growing conditions, which creates a volatile market where price spikes and drops are prevalent. Chart 1 shows the monthly PPI raw cotton commodity index from January 2012 to October 2019, highlighting 3 months (November 2012, July 2014, and March 2016) in which index volatility was due to market conditions.

Chart 1. Monthly Producer Price Index for raw cotton, 2012–19



Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics.

Starting in the summer of 2012, supplies of raw cotton exceeded demand, as record high cotton prices in February 2012 encouraged increased spring plantings, but those higher prices also reduced mill demand. As a result, global stocks of raw cotton reached a record of 74.7 million bales in August 2012.[8] In July 2014, the PPI for raw cotton reached its high for the year (136.8) as domestic cotton prices rose due to expectations for decreased crop yield in China and India.[9] This was coupled with expanding domestic mill capacity that pushed domestic mill use to its highest level in 4 years.[10] In contrast, the PPI cotton index reached a low of 91.1 in March 2016, reflecting falling prices due to a decline in Chinese demand for cotton, which depressed the market.[11] This came at a time when the United States was losing global market share to countries like India and Brazil that were capturing sales opportunities in Bangladesh, Vietnam, and Turkey.[12] This flow between supply and demand within the cotton market demonstrates that most of the volatility was due to market conditions between 2014 and 2016.

The downturn in Chinese-American trade

The United States is the leading exporter of cotton, and China is the largest importer, binding these two nations as partners in the global cotton market. Historically, this partnership was reinforced by a mutually beneficial trade relationship. In the 2017–18 marketing year, the United States provided 45 percent of China's total import volume. When the United States threatened to impose tariffs, price fluctuations in the global market shifted from supply and demand considerations to trade dealings between China and the United States, resulting in the U.S. share of China's cotton imports falling to 11.2 percent in the 2018–19 marketing year.

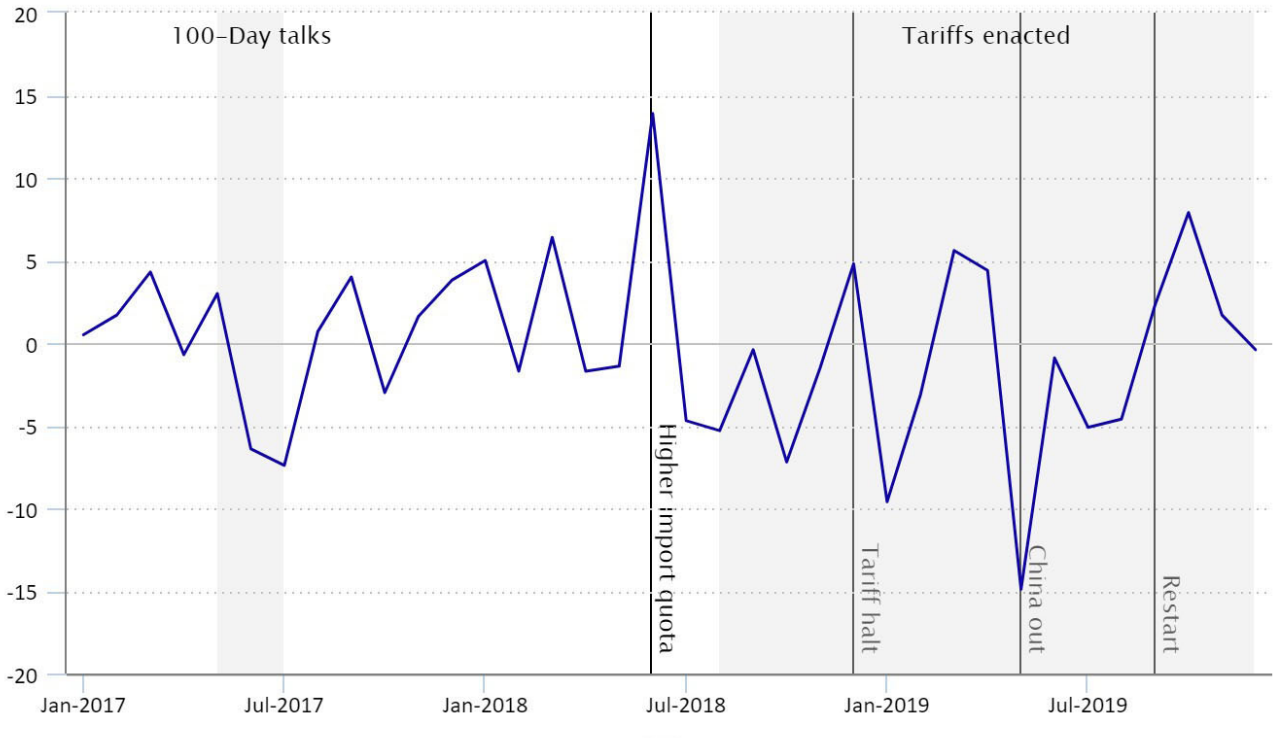
The introduction of tariffs

In April 2017, prior to the official implementation of tariffs, China and the United States agreed to trade negotiations, known as the 100-day plan, to settle their trade disputes. These talks ended in July 2017 without the successful negotiation of a trade deal. The continued U.S.–China trade tensions caused significant volatility in a market that was already highly affected by supply and demand flows. Chart 1 shows that once tariffs were implemented in spring 2018, it was impossible for domestic cotton producers to maintain pre-tariff price levels—cotton prices fell 36.6 percent from June 2018 to August 2019. By December 2019, cotton prices still had not rebounded, even after the two countries agreed to the phase one trade deal (a partial agreement in which China agreed to buy $200 billion worth of goods over 2 years, and the United States agreed to ease tariffs on Chinese goods). This agreement was signed on January 15, 2020.[13]

Since 2018, there has been a shift in the trade relationship between the United States and China. The United States imposed tariffs on Chinese goods beginning in July 2018 due to concerns over Chinese theft of U.S. technology and intellectual property rights. In return, China imposed tariffs targeting a variety of U.S. products and threatened tariffs as high as 65 percent on cotton.[14] The trade tensions between the two nations fluctuated between periods of negotiation and disagreement, which ultimately yielded tariff increases. Following the enactment of higher cotton tariffs, the value of U.S. cotton exports to China in the 2018–19 marketing season fell by $341 million, to under $2.7 billion, compared with over $3.0 billion for the tariff-free 2017–18 marketing season.[15] Total quantities shipped from the United States to China fell 15.6 percent during this period, from 1.74 million metric tons to 1.47 million metric tons.

With the imposition of tariffs in the summer of 2018, except during brief periods of optimism during trade negotiations, cotton prices mostly trended lower. Chart 2 shows the PPI month-to-month percentage changes for cotton prices from January 2017 to December 2019. The first shaded band highlights the 100-day talks, and the second shaded area highlights the period that the U.S. imposed tariffs on Chinese goods starting July 6, 2018.

Chart 2. Producer Price Index monthly percent change for raw cotton, 2017–19



Hover over chart to view data.
Source: U.S. Bureau of Labor Statistics.

Chart 2 also includes four reference lines that highlight important periods in the trade talks. These points reflect periods when trade negotiations influenced price volatility. In June 2018, as China and the United States continued their trade negotiations, the China Cotton Association announced an increase in their import quota for cotton to meet the demands of the largest cotton exporter—the United States.[16] In December 2018, the two nations agreed on a 90-day halt to any new tariffs, also leading to an increase in cotton prices in anticipation of higher demand. However, in May 2019, China backed out of trade negotiations, and tariffs escalated again, reflected by a 14.9-percent decrease in the PPI cotton index.[17] Lastly, cotton prices moved higher again in September 2019, when China and the United States agreed to hold another round of high-level trade talks in early October.

Conclusion

Cotton remains among the most important exports for the United States and imports for China, closely linking American cotton farmers and Chinese textile manufacturers. The cotton market is typically volatile, but from 2017 through 2019 the cause of this volatility shifted from market flows—supply and demand changes—to trade negotiation proceedings. Since 2018, other countries, such as Brazil and India, also have become formidable cotton trade partners with China, filling the gap for the cotton previously supplied by the United States and further changing the global dynamics of cotton.[18] Although China and the United States continue to trade in significant quantities, altered trading arrangements have added complexity to this volatile market and could have a lasting effect on the future of both cotton prices and cotton textile production.

This **Beyond the Numbers** article was prepared by Valeria Robledo, economist in the Office of Prices and Living Conditions, U.S. Bureau of Labor Statistics. Email: robledo.valeria@bls.gov. Telephone: 202-691-7430.

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NOTES

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[15] Andrew Muhammad; Aaron Smith; and Stephen MacDonald, University of Tennessee Institute of Agriculture: "Impacts of the Trade War on the U.S. Cotton Sector," August 7, 2019, https://extension.tennessee.edu/publications/Documents/W835.pdf, figure 5, page 7.

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