# COVID-19 AND COTTON DEMAND IN CHINA

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## Abstract

The COVID-19 outbreak has resulted in decreased global demand for products like clothing, directly affecting China's demand for cotton from exporting countries. In this study, we examined Chinese demand for imported cotton by product form (raw cotton and yarn) and by source (e.g., U.S., India), as well as the dynamic price relationships across countries. Using year-to-date trade, demand estimates, and price forecasts, we assessed the impact of COVID-19 on Chinese imports and the countries supplying this market.

## Introduction

The primary objective of this study is to examine how the COVID-19 outbreak is affecting cotton import demand in China and the exporting countries that supply this market. Following Muhammad and Valdes (2019), we estimate China's import demand disaggregated by source (e.g., U.S., Australia, Brazil, and India) and product form (raw cotton and industrial yarn), which allows for examining the competition across supplying countries in the Chinese market. We also estimate China's total import demand (aggregate expenditures on imported cotton and yarn), which is important when assessing the trade creation effect of price changes.

Essential to this analysis is how cotton prices behave across countries and the implication of price changes on China's import demand. Using a Vector Autoregressive (VAR) procedure, we estimate the dynamic relationships between China's import prices by source and product form.

The import demand and VAR estimates are used to project future import demand in China (July-December 2020). Using the VAR estimates, we first forecast prices for the latter half of 2020. Using the estimated import demand elasticities and forecasted price changes, we then project China's cotton and yarn imports for the remainder of the year. Using the standard errors of the import demand estimates, we also conduct Monte Carlo simulations to derive 95% confidence/projection intervals, which allows for assessing the statistical significance of each projection. We discuss the implications of COVID-19 on the Chinese market by comparing 2020 year-to-date imports, 2020 projections for July-December, and 2019 imports. Results of this analysis should provide insight as to how the pandemic is affecting China's cotton imports by source.

## Results and Discussion

Year-to-date (January-June) changes in China's import demand also provide evidence of the negative impacts of the COVID-19 pandemic on cotton. Imports were significantly down as of June 2020 when compared to the previous year. Cotton imports were down 32.0% from $2.3 billion in 2019 to $1.6 billion in 2020, and yarn imports were down 25.6% from $2.5 billion in 2019 to $1.9 billion in 2020. For both cotton and yarn, these declines were primarily due to a decrease in quantity, but were also due to average prices being 11% lower when compared to 2019 (Table 1).

Depending on the projections, the most severe impacts of COVID-19 are either behind us, or the latter half of 2020 could potentially be just as bad as the early part of 2020. The outcome depends on whether or not the impact of global manufactured product prices on import demand is considered. Given the insignificance of demand with respect to manufactured product prices, confidence intervals, even for the most negative projections, suggested the possibility of a minimal or positive outcome.

Interestingly, China's imports of U.S. cotton are expected to be higher in 2020 when compared to 2019. The projection for U.S. cotton was $746 million, which is a $15 million increase when compared to 2019. With the signing of the U.S.-China Phase One Trade Agreement in January 2020 and retaliatory tariff exemptions by the Chinese government in March 2020, 2020 expectations for U.S. cotton exports to China were significantly higher. Based on the committed purchases in the Phase One Trade Agreement, U.S. cotton exports to China were projected to exceed 2019 trade by

166% (Muhammad and Smith, 2020). Our results suggest that Chinese imports of U.S. cotton in 2020 will fall well short of this goal. We could only speculate if the Chinese would be closer to achieving this goal if the COVID-19 pandemic had not occurred.

Table 1. Chinese Cotton and Yarn Imports, Year-to-Date (January-June) Comparisons

| | Jan.-June 2019 | Jan.-June 2020 | % Change |
|---|---|---|---|
| | Cotton | | |
| Import Value ($ billion) | $2.31 | $1.57 | -32.0% |
| Import Quantity (million MT) | 1.18 | 0.90 | -23.6% |
| Unit Value ($ per MT) | $1,967.82 | $1,753.11 | -10.9% |
| | Yarn | | |
| Import Value ($ billion) | $2.54 | $1.89 | -25.6% |
| Import Quantity (million MT) | 0.98 | 0.82 | -16.0% |
| Unit Value ($ per MT) | $2,586.81 | $2,292.75 | -11.4% |

Note: Cotton: HS 5201 (cotton, not carded or combed); Yarn: HS 5205 (cotton yarn, other than sewing thread containing ≥ 85% cotton, not used for retail).
Source: Trade Data Monitor, Inc.

## Summary

The COVID-19 pandemic has resulted in decreased global demand for manufactured products like clothing and apparel, directly affecting China's demand for cotton. This is evidenced, in part, by the year-to-date declines in China's cotton imports. As the leading cotton market, in terms of both imports and manufactured product exports, China provided the ideal case for examining how the COVID-19 pandemic is affecting international cotton trade. In this study, we examined Chinese cotton demand by source and product form (raw and industrial yarn), and assessed the dynamic relationship between prices across countries. Using year-to-date trade, import demand estimates, and price forecasts, we assessed the impact of COVID-19 on Chinese cotton imports and the exporting countries that supply this market. See Muhammad, Smith, and Yu (2020) for more details.

## References

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