Global Mill-Use

Global Demand Accelerated

million bales
Drivers of Global Demand

Population growth

6.1 billion (2000)

7.4 billion (2015)

Source: UN
Drivers of Global Demand

Population growth

Source: UN
Drivers of Global Demand

Population growth

Source: UN
Drivers of Global Demand

Population growth

Economic growth

Sources: UN, OECD GDP growth in real terms
Drivers of Global Demand

Population growth

Economic growth

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Drivers of Global Demand

Population growth

Economic growth

Sources: UN, OECD GDP growth in real terms
Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Sources: UN, OECD
Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Global Demand Above Trend

million bales

Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating

Cotton Prices Stabilized versus Polyester

ratio of Chinese cotton to Chinese polyester prices

Source: Emerging Textiles
Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating

Source: USDA, seasonally-adjusted
Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating

Source: USDA, seasonally-adjusted
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Per capita income growth strong, forecast to continue

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Source: USDA, seasonally-adjusted
Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating

Change in Average Product Weight 2006-07 to 2017

-10%

-5%

-14%

-9%

Source: USDA, seasonally-adjusted
Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating

Headwind of wt loss has abated

Source: Cotton Incorporated import database, seasonally-adjusted
Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating

Headwind of wt loss has abated
Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating

Headwind of wt loss has abated

Government support in China

Change in Mill-Use 14/15 to 18/19

- China: 7 million bales
- Vietnam: 3 million bales
- Bangladesh: 2 million bales
- India: 1 million bales
- Turkey: 0.5 million bales
- Pakistan: 0.5 million bales
Weaker Macroeconomic Environment

Dollar Climbs Sharply in Spring/Summer

Volatile exchange rates
Weaker Macroeconomic Environment

IMF Forecasts for Global GDP Growth in 2019

percent change, constant prices

<table>
<thead>
<tr>
<th>Month</th>
<th>Forecast</th>
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</thead>
<tbody>
<tr>
<td>Apr-18</td>
<td>3.9</td>
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<td>Oct-18</td>
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<td>Jan-19</td>
<td>3.5</td>
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</tbody>
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Volatile exchange rates

Falling forecasts for global GDP

Uncertain trade environment
U.S.-China Tariff Situation

- **July 6**: $34 billion of goods on both sides
  25 percentage point (ppt) tariff increases for both

- **Aug 23**: $16 billion of goods on both sides
  25ppt tariff increases for both

- **Sept 24**: $200 billion of goods for U.S., 10ppt increase
  $60 billion of goods for China, 5-10ppt increases

- U.S. cotton on China’s July 6 list
U.S.-China Tariff Situation

- July 6: $34 billion of goods on both sides, 25 percentage point (ppt) tariff increases for both.
- Aug 23: $16 billion of goods on both sides, 25ppt tariff increases for both.
- Sept 24: $200 billion of goods for U.S., 10ppt increase; $60 billion of goods for China, 5-10ppt increases.
- U.S. cotton on China’s July 6 list.

- Summary:
  - 36% China
  - 34% Other
  - 14% Turkey
  - 8% Vietnam
  - 8% Mexico

- $16 billion of goods on both sides 25ppt tariff increases for both.
- $200 billion of goods for U.S., 10ppt increase
- $60 billion of goods for China, 5-10ppt increases
- U.S. cotton on China’s July 6 list.
U.S.-China Tariff Situation

- **July 6**: $34 billion of goods on both sides and a 25 percentage point (ppt) tariff increase for both.
- **Aug 23**: $16 billion of goods on both sides and a 25 ppt tariff increase for both.
- **Sept 24**: $200 billion of goods for the U.S., a 10 ppt increase, and $60 billion of goods for China, 5-10 ppt increases.

- U.S. cotton on China’s July 6 list.

**Chinese Imports 2010/11-14/15**
- U.S. 33%
- Australia 20%
- India 16%
- Brazil 10%
- Uzbekistan 11%
- Other 10%

**U.S. Exports 2010/11-14/15**
- 36% China
- Other 34%
- Turkey 14%
- Mexico 8%
- Vietnam 8%
- Other 8%

**Tariffs and Dates**
- $34 billion of goods on both sides: 25 ppt increase on July 6.
- $16 billion of goods on both sides: 25 ppt increase on Aug 23.
- $200 billion of goods for the U.S.: 10 ppt increase on Sept 24.
- $60 billion of goods for China: 5-10 ppt increases.
- U.S. cotton on China’s July 6 list.
Evolving Cotton Market

- Price Spike (2010/11)
- Competing crops
- Chinese Gov’t Reserve System
Evolving Cotton Market

- Price Spike (2010/11)
- Competing crops
- Chinese Gov’t Reserve System Purchases (2011/12-2013/14)
- Import Quotas
Evolving Cotton Market

- Price Spike (2010/11)
- Competing crops
- Chinese Gov’t Reserve System Sales (2014/15-Present)
- Import Quotas
- Sometime Soon
Chinese Cotton Situation

stocks drawn down since 2014 reforms
2017/18 stocks are about half the peak
still 30% higher than the average pre-spike

Chinese Stocks Retreat from Record Highs

Sources: USDA (total stocks) & Cotlook (reserve stocks)
Chinese Cotton Situation

stocks drawn down since 2014 reforms
2017/18 stocks are about half the peak
still 30% higher than the average pre-spike
government to maintain some reserves
announced target of 2.5 million tons
current volume estimated at 2.7 mil tons

Sources: USDA (total stocks) & Cotlook (reserve stocks)
Chinese Cotton Situation

stocks drawn down since 2014 reforms
2017/18 stocks are about half the peak
still 30% higher than the average pre-spike

government to maintain some reserves
announced target of 2.5 million tons
current volume estimated at 2.7 mil tons

what does this mean for Chinese imports?
government has diminished ability to fill
China’s production gap

Chinese imports will need to triple from 5
to 15 million bales when stocks stabilize

China’s Persistent Production/Use Gap

Source: USDA
Meeting China’s Coming Import Demand

If China does not get the ten million additional bales of imports from the U.S., where could it come from?

Machine-Picking Exporters

- Australia
  - 3.9 million bales of total exports in 2017/18

- Brazil
  - 4.2 million bales of total exports in 2017/18

Not enough to cover the increase alone, even if all went to China

Source: USDA
Meeting China’s Coming Import Demand

If China does not get the **ten million additional bales** of imports from the U.S., where could it come from?

**Machine-Picking Exporters**
- Australia: 3.9 million bales
- Brazil: 4.2 million bales

**Hand-Picking Exporters**
- India: 5.2 million bales total exports in 2017/18
- West Africa: 4.8 million bales total exports in 2017/18
- Central Asia (Uzbekistan + Turkmenistan): 1.3 million bales total exports in 2017/18

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Source: USDA

Enough to cover the increase,
Not enough to cover China’s production deficit,
Still have to supply the rest of the world
Meeting China’s Coming Import Demand

If China does not get the **ten million additional bales** of imports from the U.S., where could it come from?

**Machine-Picking Exporters**
- Australia: 3.6 million bales (18/19)
- Brazil: 6.2 million bales (18/19)
- U.S.: 15.0 million bales

**Hand-Picking Exporters**
- India: 4.5 million bales total exports in 2018/19
- West Africa: 5.2 million bales total exports in 2018/19
- Central Asia (Uzbekistan + Turkmenistan): 1.3 million bales total exports in 2018/19

Source: USDA
Meeting China’s Coming Import Demand

If China does not get the **ten million additional bales** of imports from the U.S., where could it come from?

Difficult to see how China can get to **~15 million bales** of imports without it somehow involving more U.S. exports

- U.S. can still ship direct to China
  - Certain categories of imports not subject to additional tariff
- U.S. may need to fill in gaps left by other exporters who ship more to China
- U.S. fiber-to-yarn, yarn-to-China trade flow should be supported

Source: USDA
U.S.-China Tariff Situation

U.S. Export Commitment to the World

Source: USDA
U.S.-China Tariff Situation

U.S. Export Commitment to the World

- **2018/19**
- **2017/18**
- **5-Year Avg**

U.S. Export Commitment to China

- **2018/19**
- **2017/18**
- **5-Year Avg**

U.S. export commitment to China -125k bales (-17%) Crop-year-to-date

Source: USDA
U.S.-China Tariff Situation

Chinese Cotton Imports Jul-Dec
change in million bales year-over-year (Jul-Dec)

- Australia +0.8 +80%
- Brazil +0.5 +200%
- India +0.4 +305%
- Other (mostly Africa) +0.4 +145%
- Uzbek -0.1 -70%
- U.S. -0.1 -20%

Chinese fiber imports from all locations +1.7 million bales (+73%) year-over-year July-December

U.S. Export Commitment to China

- U.S. export commitment to China -125k bales (-17%)
  Crop-year-to-date

Source: USDA & CN Customs
**U.S.-China Tariff Situation**

### Chinese Cotton Imports Jul-Dec

- **Australia**: +0.8 million bales (+80%)
- **Brazil**: +0.5 million bales (+200%)
- **India**: +0.4 million bales (+305%)
- **Other (mostly Africa)**: +0.4 million bales (+145%)
- **Uzbek**: -0.1 million bales (-70%)
- **U.S.**: -0.1 million bales (-20%)

- **Chinese fiber imports from all locations**: +1.7 million bales (+73%) year-over-year July-December

Source: CN Customs

### Chinese Cotton Yarn Imports

- **India**: +0.3 million bales (+30%)
- **Uzbek**: +0.1 million bales (+60%)
- **Vietnam**: +2%
- **Pakistan**: +2%
- **Other**: -0.2 million bales (-20%)
- **U.S.**: -0.1 million bales (-7%) -0.1 million bales (-75%)

- **Chinese yarn imports from all locations**: +130k bales (+4%) year-over-year July-December

Source: CN Customs
U.S.-China Tariff Situation

U.S. Apparel Imports from China

Chinese share of U.S. apparel imports (SA)

- All Fibers
- Cotton-Dominant

Aug-14 Aug-15 Aug-16 Aug-17 Aug-18

Source: CN Customs and OTEXA

Chinese Cotton Yarn Imports

Chinese yarn imports from all locations
+130k bales (+4%)
year-over-year July-December

India Uzbek Vietnam Pakistan Other U.S.
+0.3 +0.1 +0.2 +2% -0.1 -0.2
+30% +60% +20% -7% -20% -75%

Source: CN Customs and OTEXA
Meeting China’s Coming Import Demand

If China does not get the ten million additional bales of imports from the U.S., where could it come from?

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Source: USDA
Time of Transition

- Trade ecosystem
- Macroeconomy
- Cotton supply & demand

Demand back above trend

Strong sustainability story
Many consumers have grown more concerned about sustainability.

Consumers who say “Sustainability influences my clothing purchase decisions”:

- **India**: 82%
- **Mexico**: 69%
- **China**: 64%
- **Italy**: 63%
- **Germany**: 62%
- **U.S.**: 47%
- **U.K.**: 42%

*Source: CCI & Cotton Incorporated’s Global Environment Survey*
Consumers Look to Cotton

Cotton is often how consumers identify a clothing product as sustainable

93%
I look to fiber to determine the sustainability of clothing items.

Percent saying the following factors are safe for the environment:

- Polyester: 48%
- Nylon: 50%
- Rayon: 42%
- Cotton: 91%

Source: CCI & Cotton Incorporated's Global Environment Research
Microplastic Problem

*Microplastic pollution widespread*

Source: Adventurers and Scientists for Conservation Microplastic Study
New study finds microplastics in 12 types of American beer

A study in the US has been eye-opening

wastewater treatment plant effluent

Sherri A. Mason, Danielle Garneau, Rebecca Sutton, Yvonne Chu, Karyn Ehmann, Jason Barnes, Parker Fink, Daniel Papazissimos, Darrin L. Rogers
Cotton is Natural
Cotton is Natural

Aquatic Biodegradation – Results

76% Cotton Gone
4% Polyester Gone

North Carolina State University research on microfiber degradation
Extrapolation indicates it takes 126 years for polyester microfibers to fully degrade. That is roughly four generations. Implies today’s polyester microfibers will be around until today’s babies’ great-great grandchildren are born.

Source: Extrapolation from NCSU fiber degradation study
Viscose - Chemicals & Deforestation

70 MILLION TREES are cut down each year to make our clothes.
FIBER LABEL CHECKING INCREASES IN THE U.S.

PERCENT ALWAYS/ USUALLY CHECK FIBER CONTENT LABELS

- **56%** of Boomers check fiber labels
- **46%** of Gen Xers check fiber labels
- **38%** of Millennials check fiber labels

*Partial year data, through June 2018

Source: Cotton Incorporated’s Lifestyle Monitor™ Survey
Global Demand Outlook
Cotton Incorporated
February 2019