



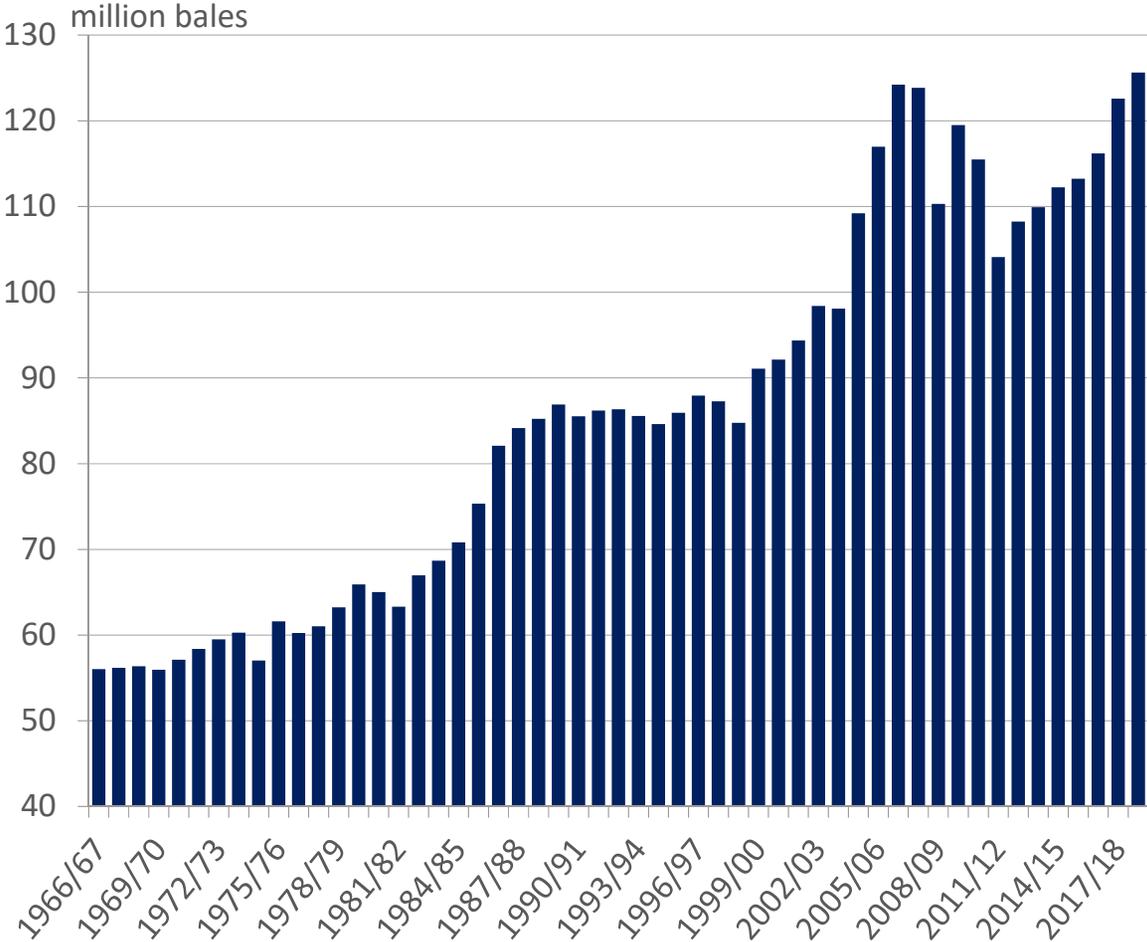
# Global Demand Outlook

Cotton Incorporated  
February 2019



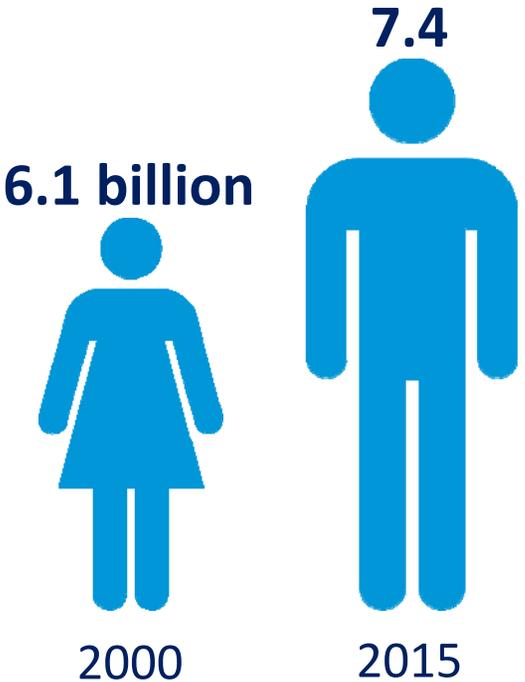
# Global Mill-Use

## Global Demand Accelerated



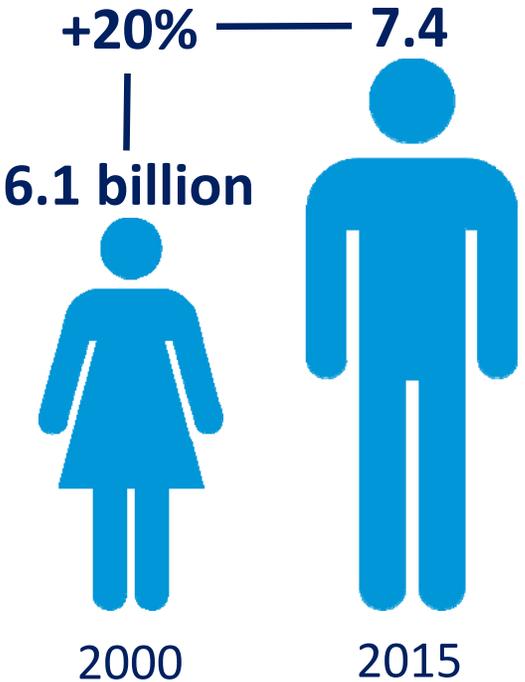
# Drivers of Global Demand

Population growth



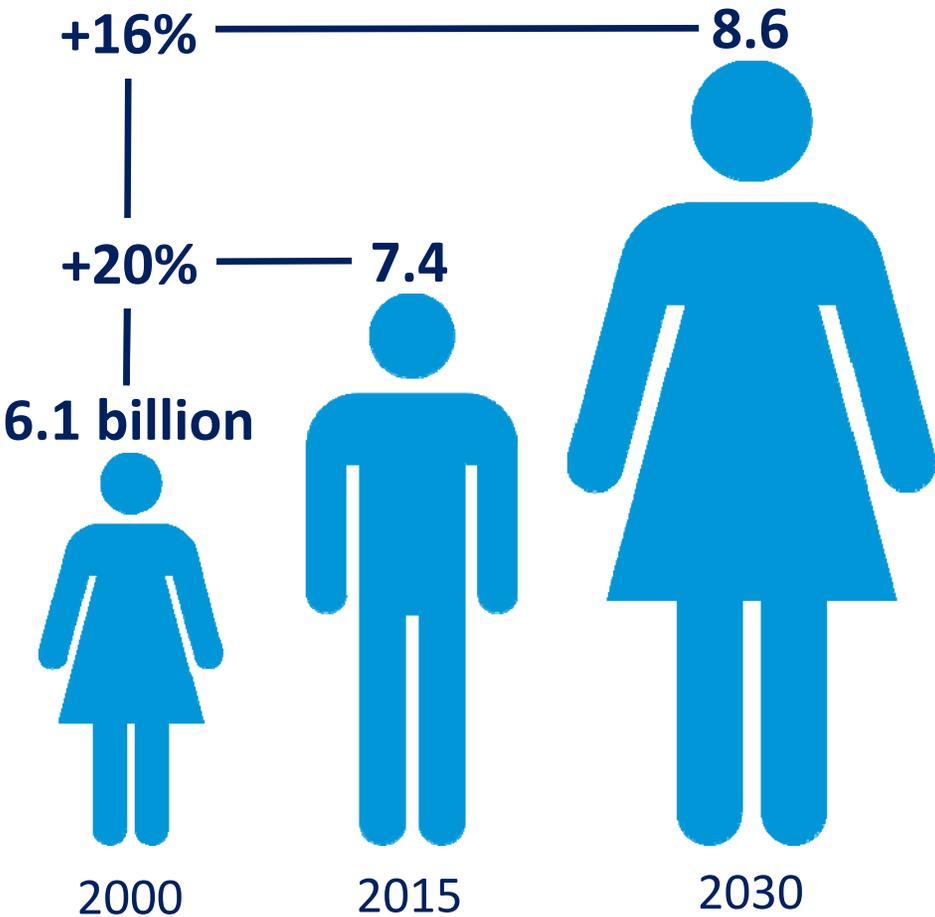
# Drivers of Global Demand

Population growth



# Drivers of Global Demand

Population growth



# Drivers of Global Demand

Population growth

Economic growth



2000

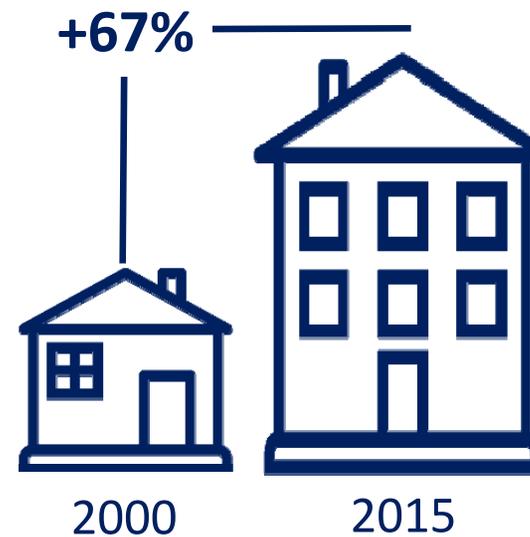


Sources: UN, OECD GDP growth in real terms

# Drivers of Global Demand

Population growth

Economic growth

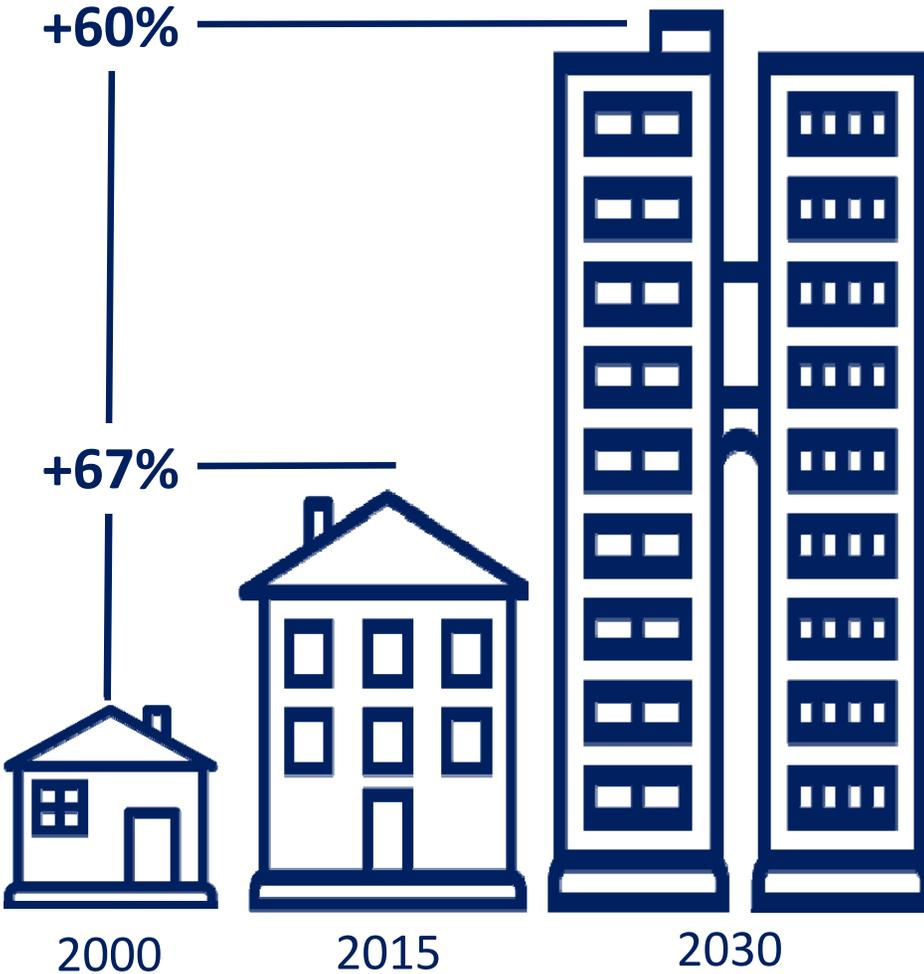


Sources: UN, OECD GDP growth in real terms

# 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

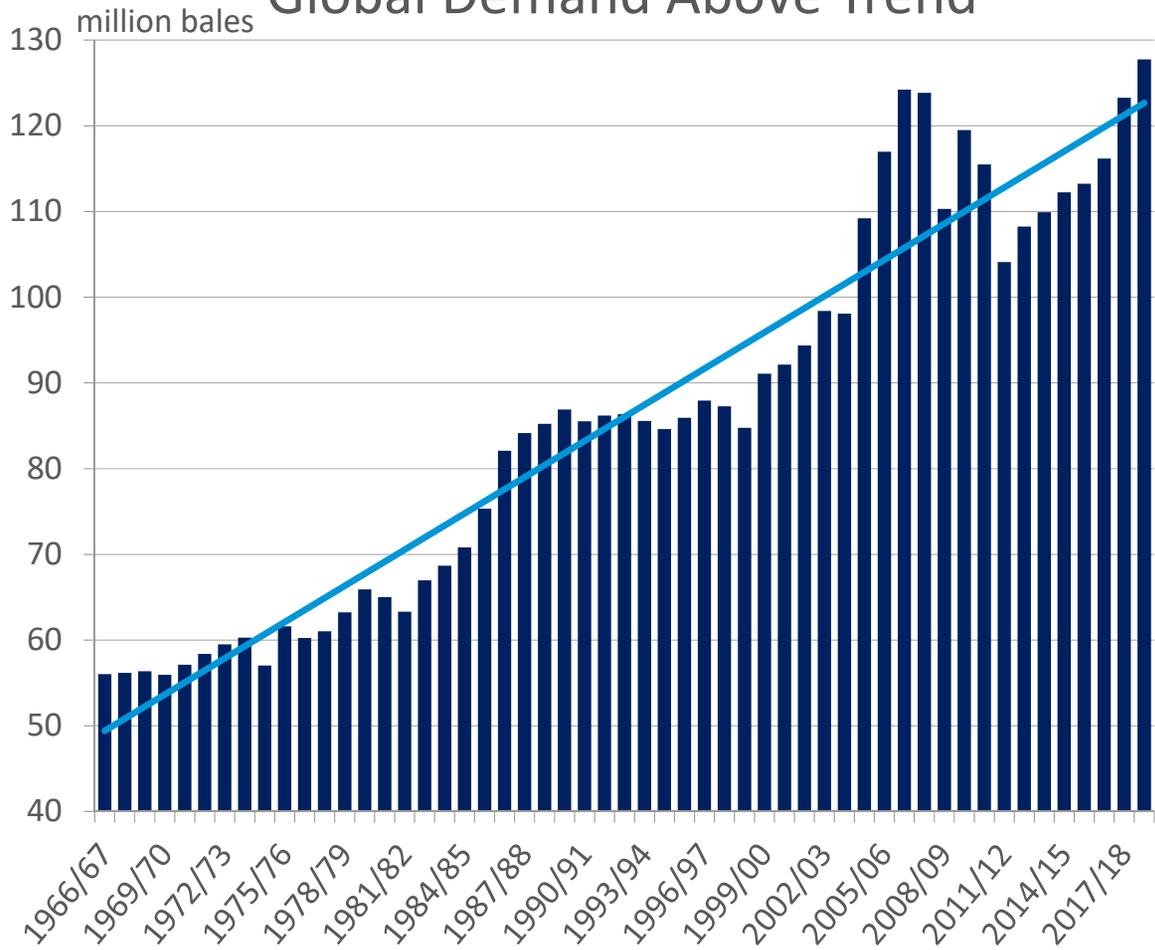
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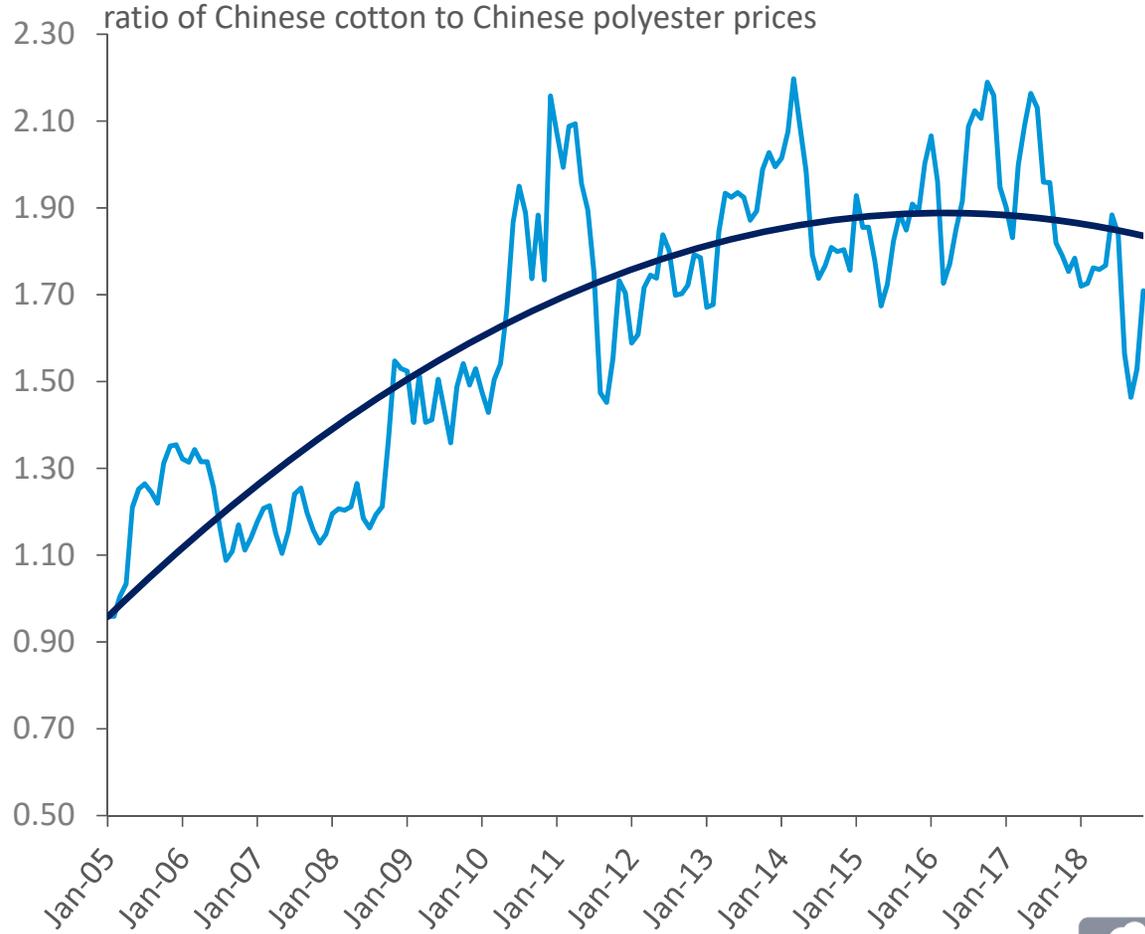
### Global Demand Above Trend



# 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



Source: Emerging Textiles



# Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating

### Cotton's Share of U.S. Apparel



Source: USDA, seasonally-adjusted



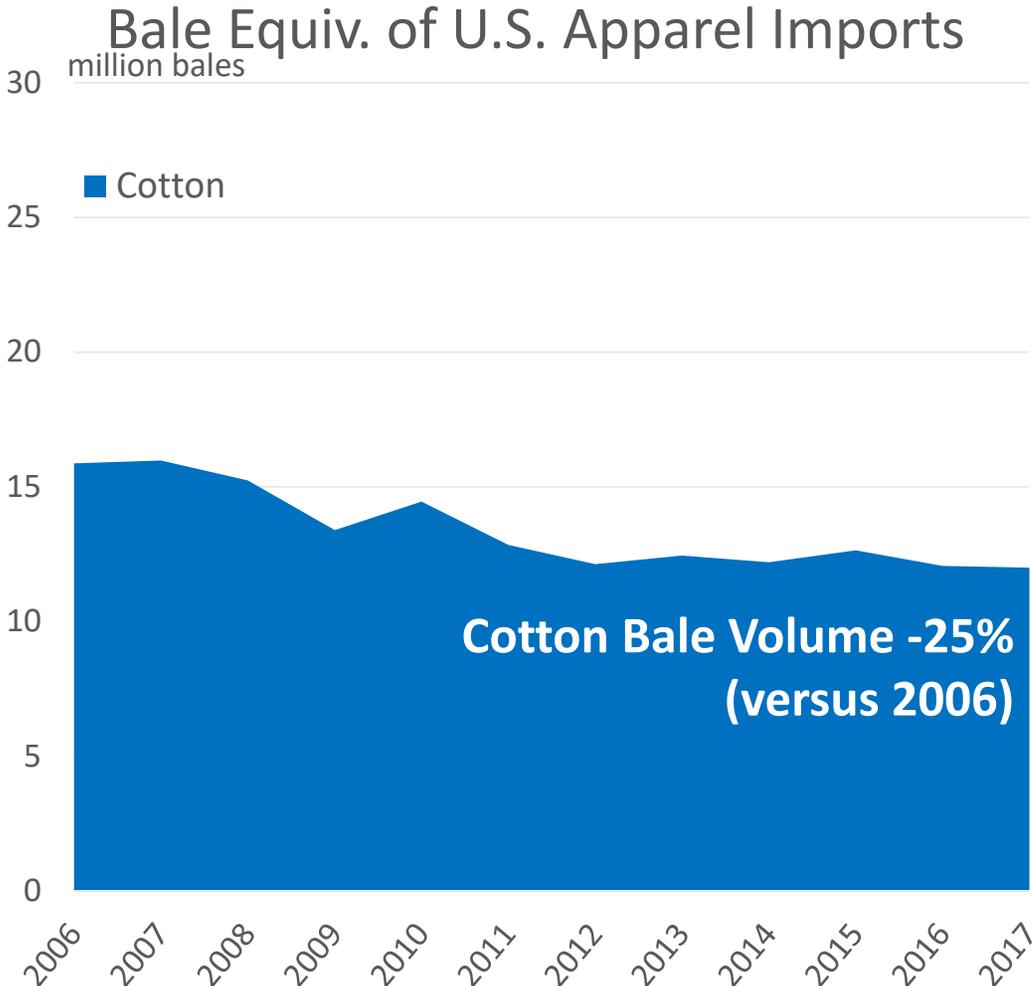
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Per capita income growth strong,  
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Headwind of share loss abating



Source: USDA, seasonally-adjusted



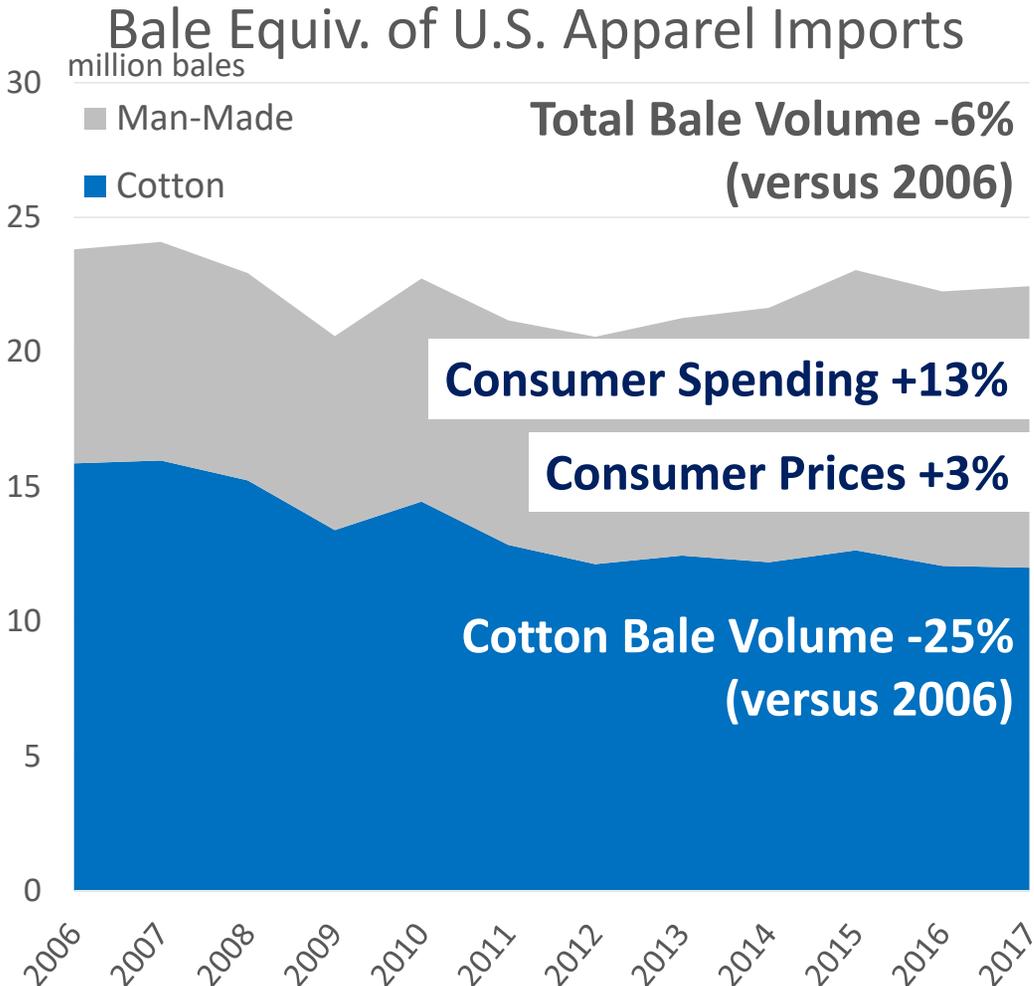
# Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong, forecast to continue

Headwind of share loss abating



Source: USDA, seasonally-adjusted



# Drivers of Global Demand

Population growth

Economic growth

Per capita income growth strong,  
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Headwind of share loss abating

## Change in Average Product Weight 2006-07 to 2017

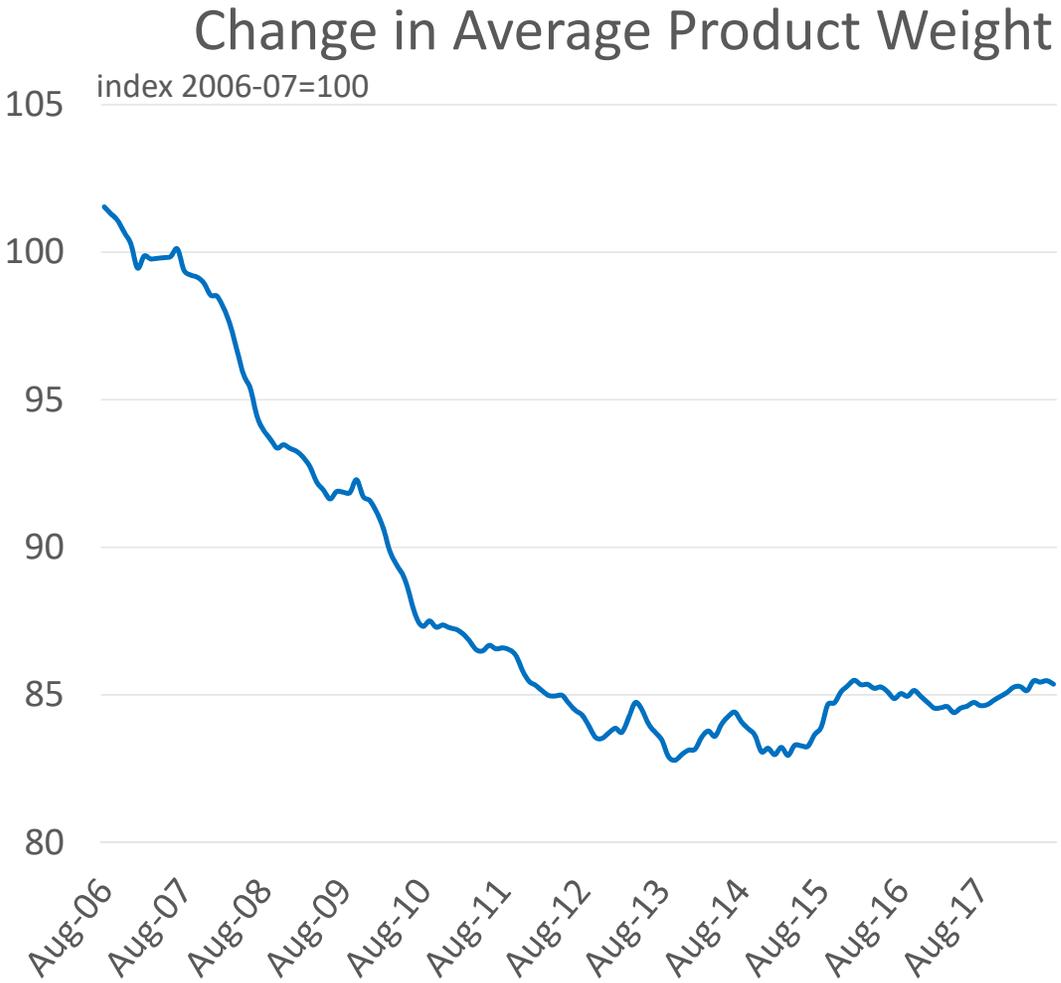


Source: USDA, seasonally-adjusted



# 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

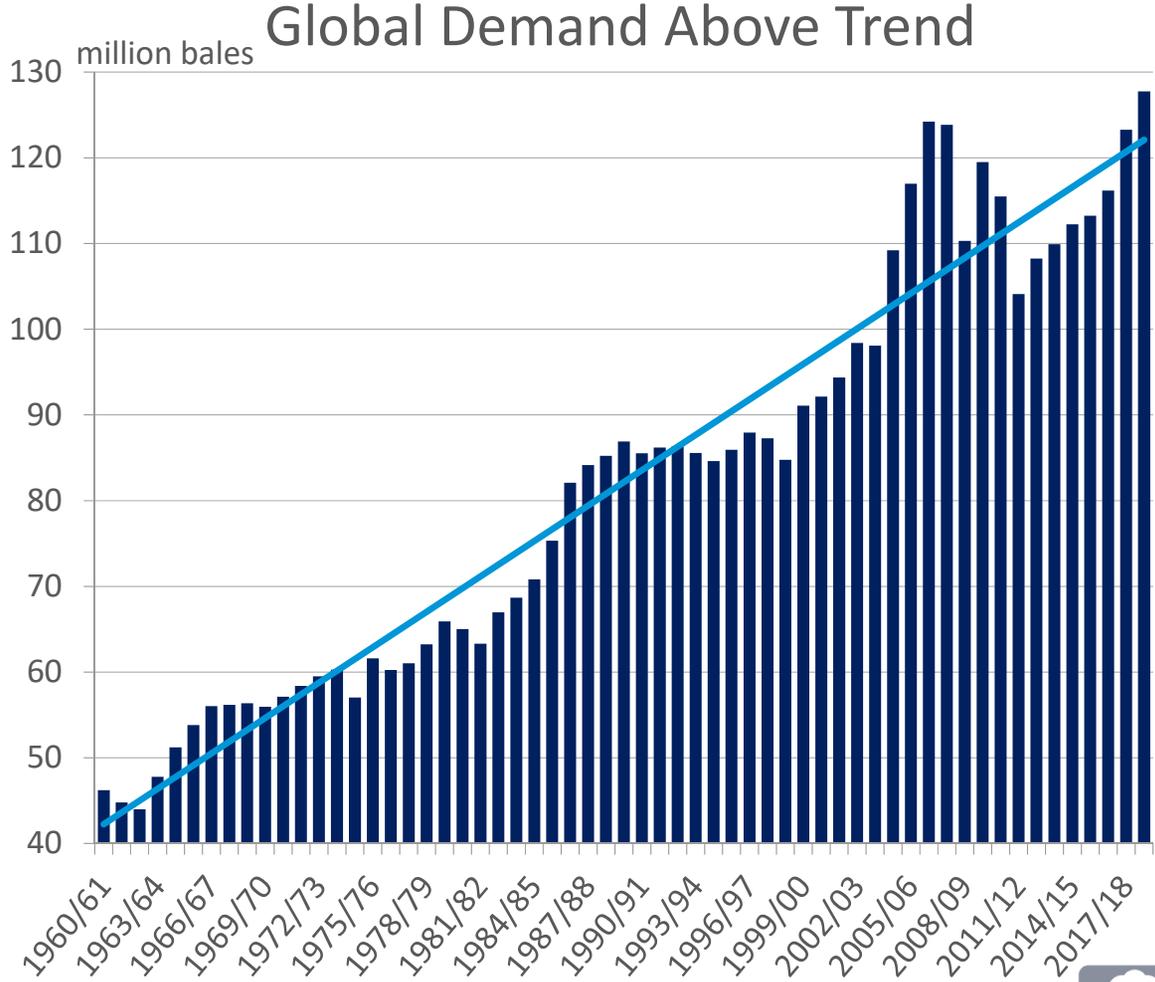


Source: Cotton Incorporated import database, seasonally-adjusted



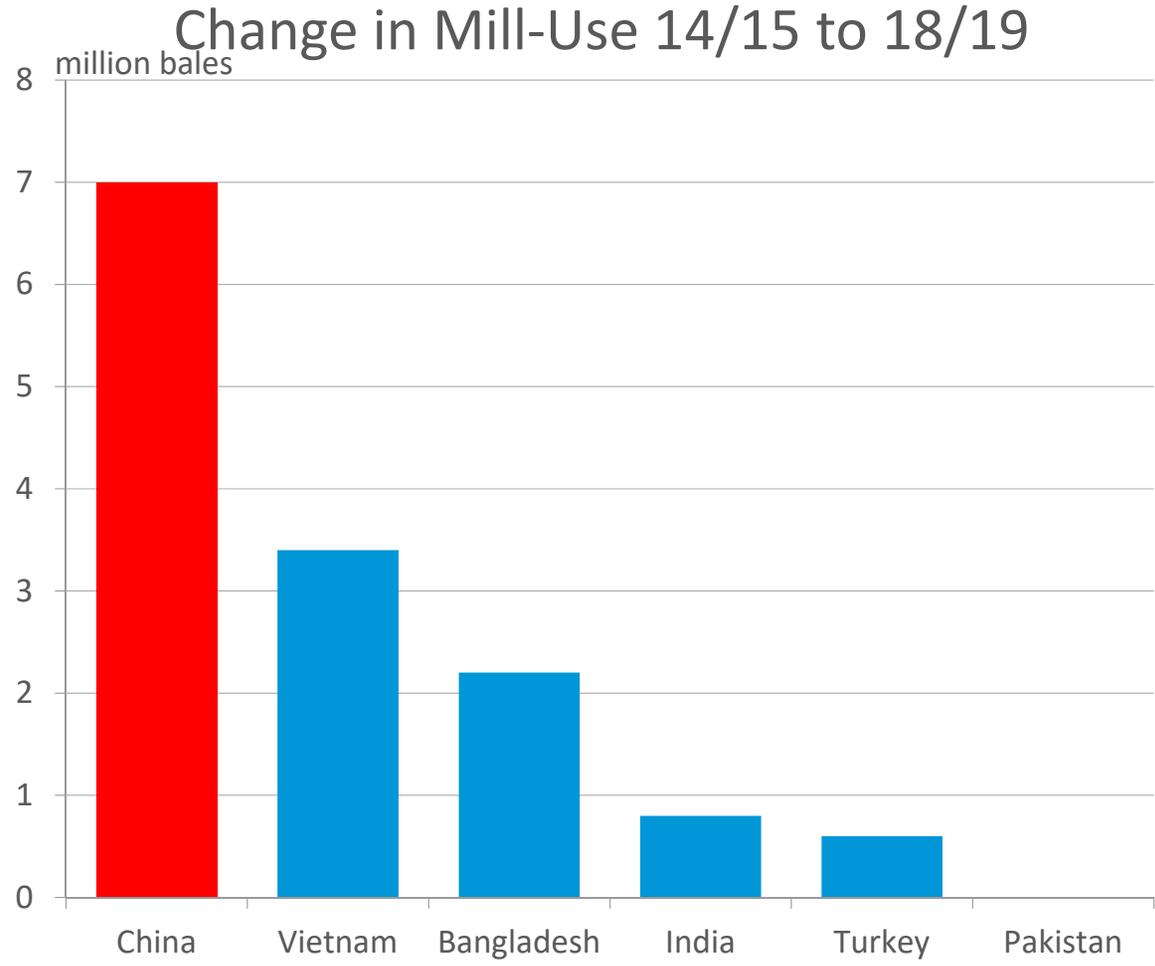
# Drivers of Global Demand

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# Drivers of Global Demand

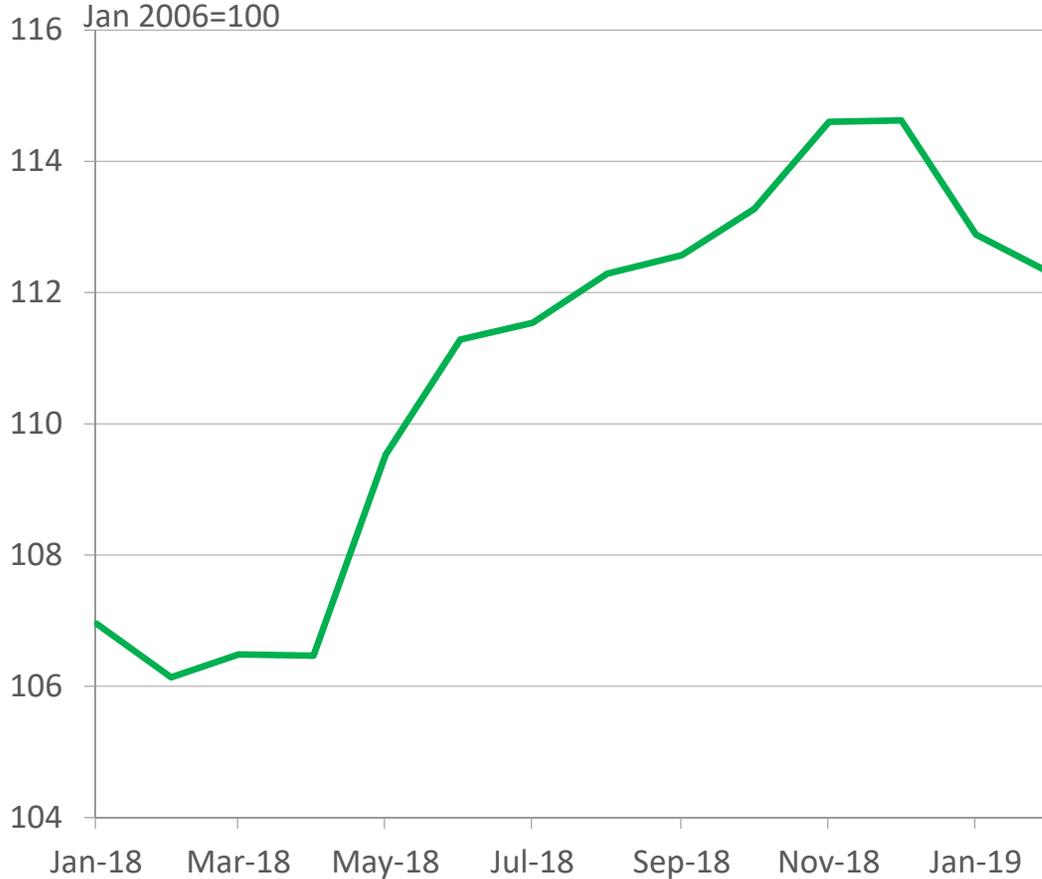
- Population growth
- Economic growth
- Per capita income growth strong, forecast to continue
- Headwind of share loss abating
- Headwind of wt loss has abated
- Government support in China



# Weaker Macroeconomic Environment

Dollar Climbs Sharply in Spring/Summer

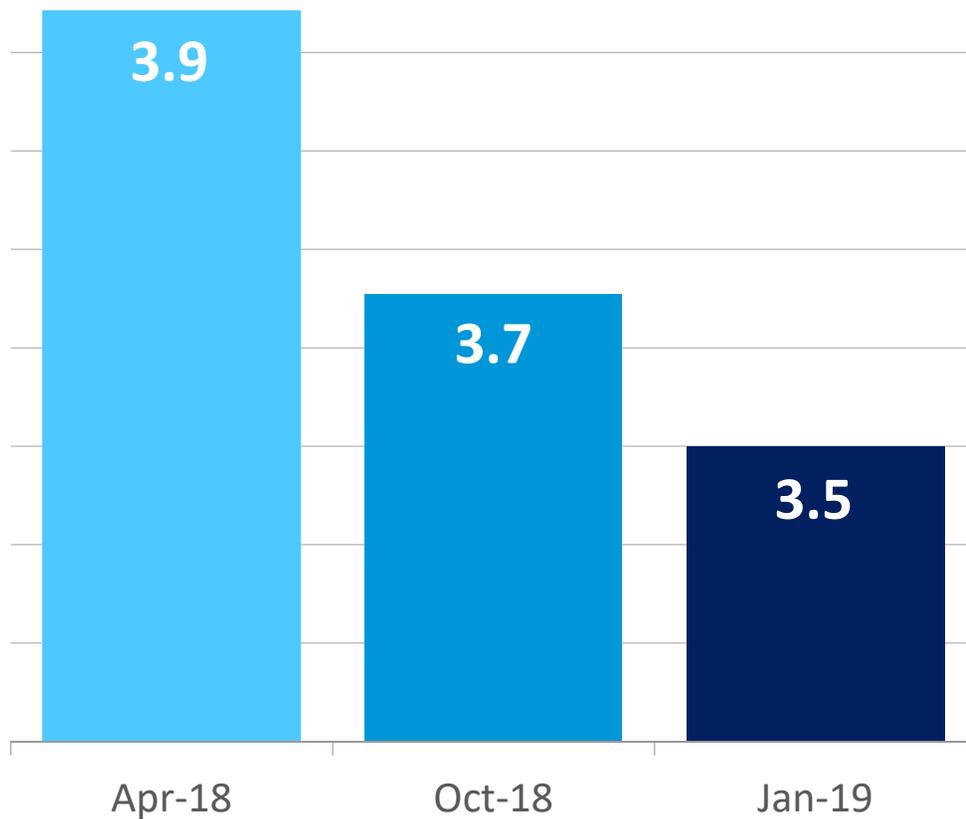
Volatile exchange rates



# Weaker Macroeconomic Environment

IMF Forecasts for Global GDP Growth in 2019

percent change, constant prices



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

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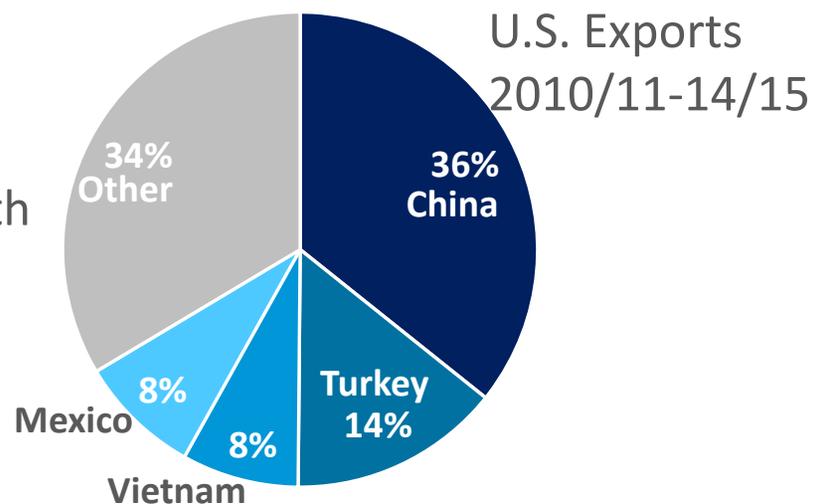
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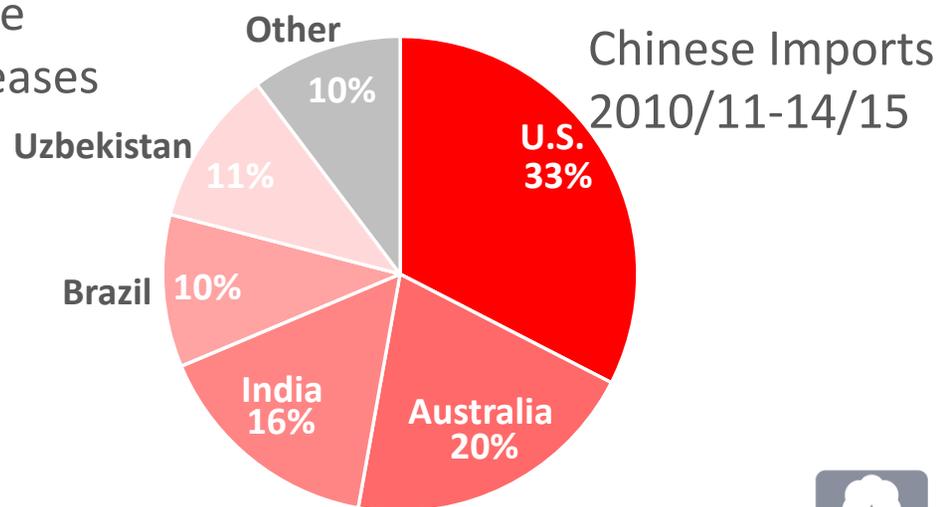
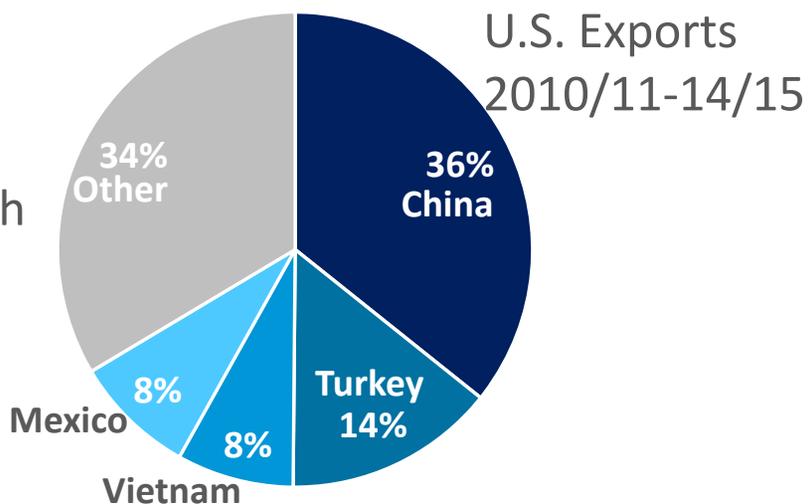
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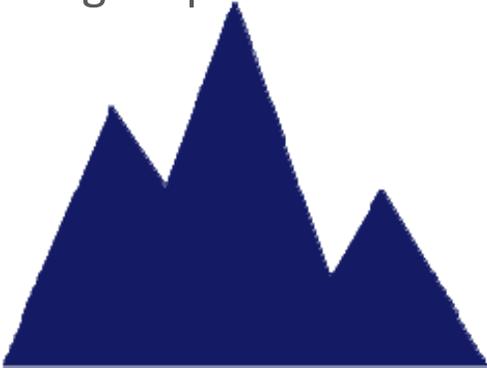
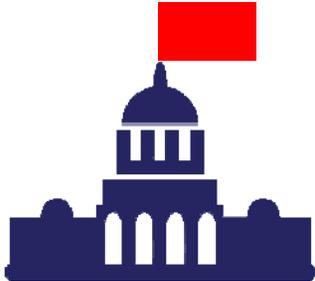
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U.S. cotton on China's July 6 list



# Evolving Cotton Market



Price Spike  
(2010/11)

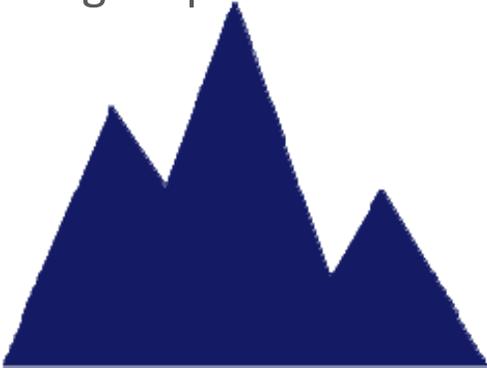


Chinese Gov't  
Reserve System

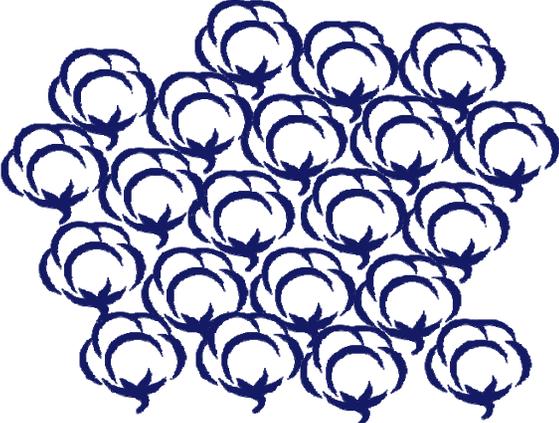
# Evolving Cotton Market



Competing crops



Price Spike  
(2010/11)



Chinese Gov't  
Reserve System  
Purchases  
(2011/12-2013/14)



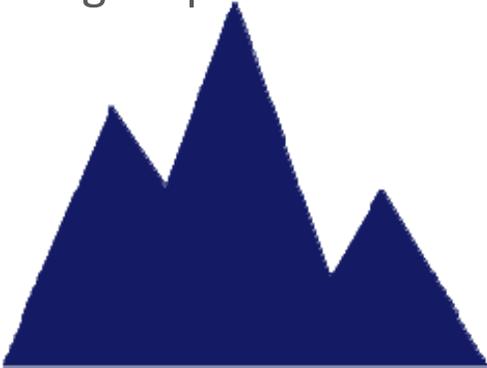
Import  
Quotas



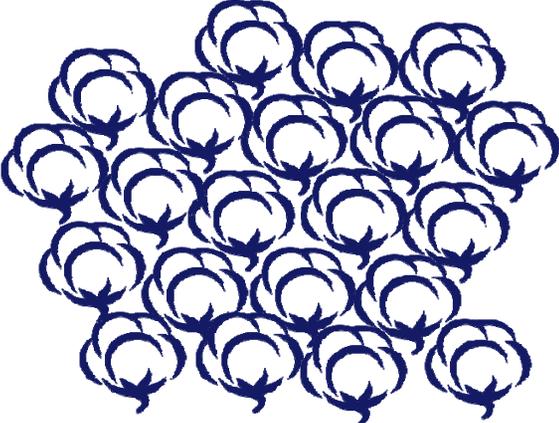
# Evolving Cotton Market



Competing crops



Price Spike  
(2010/11)



Chinese Gov't  
Reserve System  
Sales  
(2014/15-Present)

Import  
Quotas



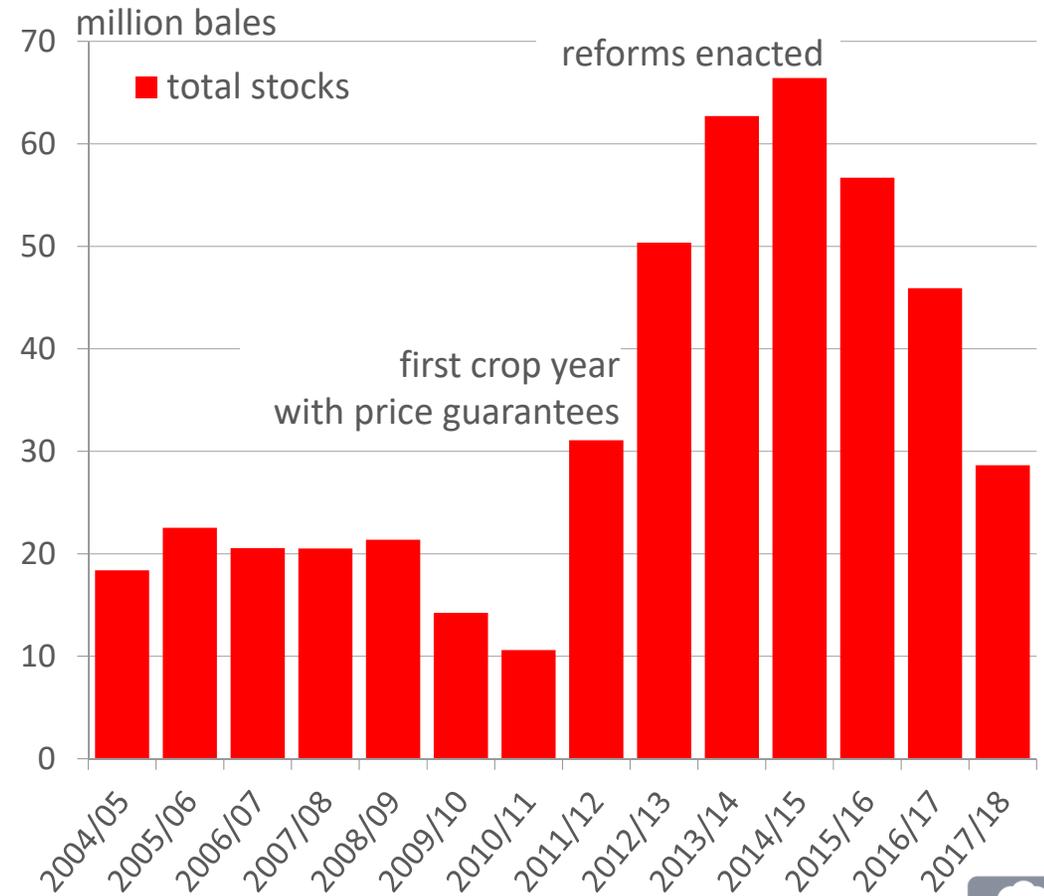
Sometime  
Soon

# 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



# Chinese Cotton Situation

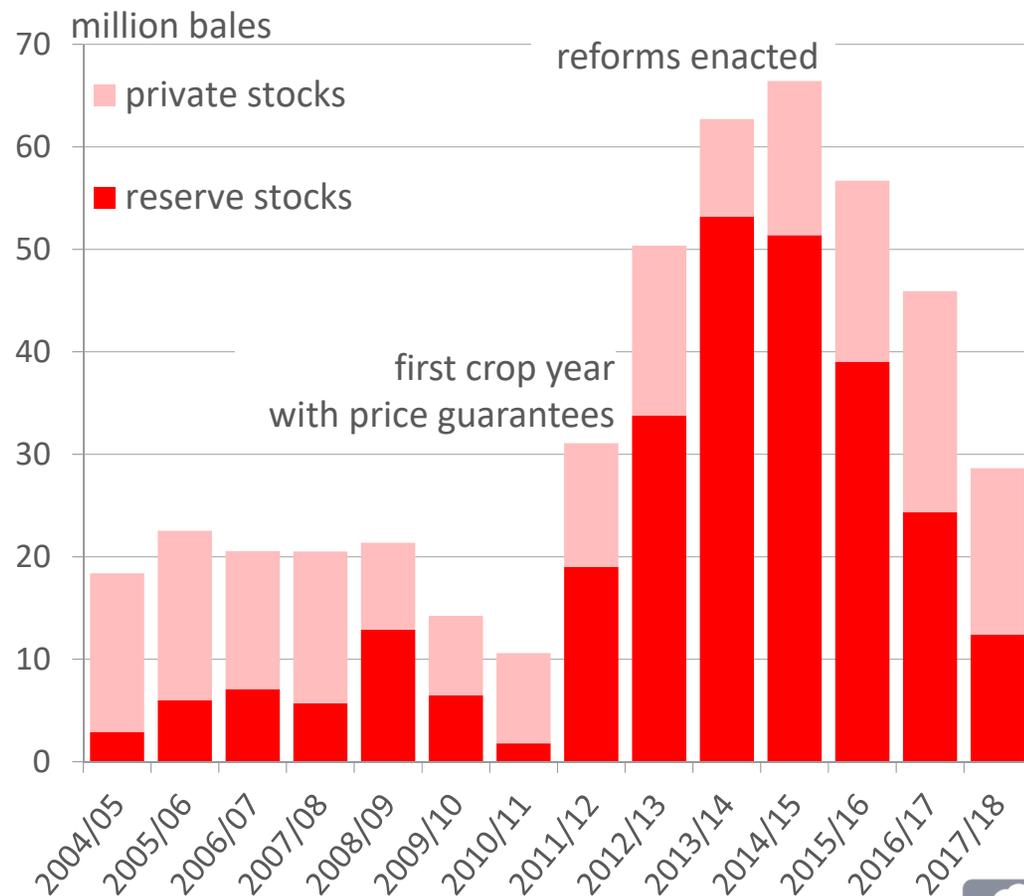


stocks drawn down since 2014 reforms  
2017/18 stocks are about half the peak  
still 30% higher than the average pre-spike



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

## 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

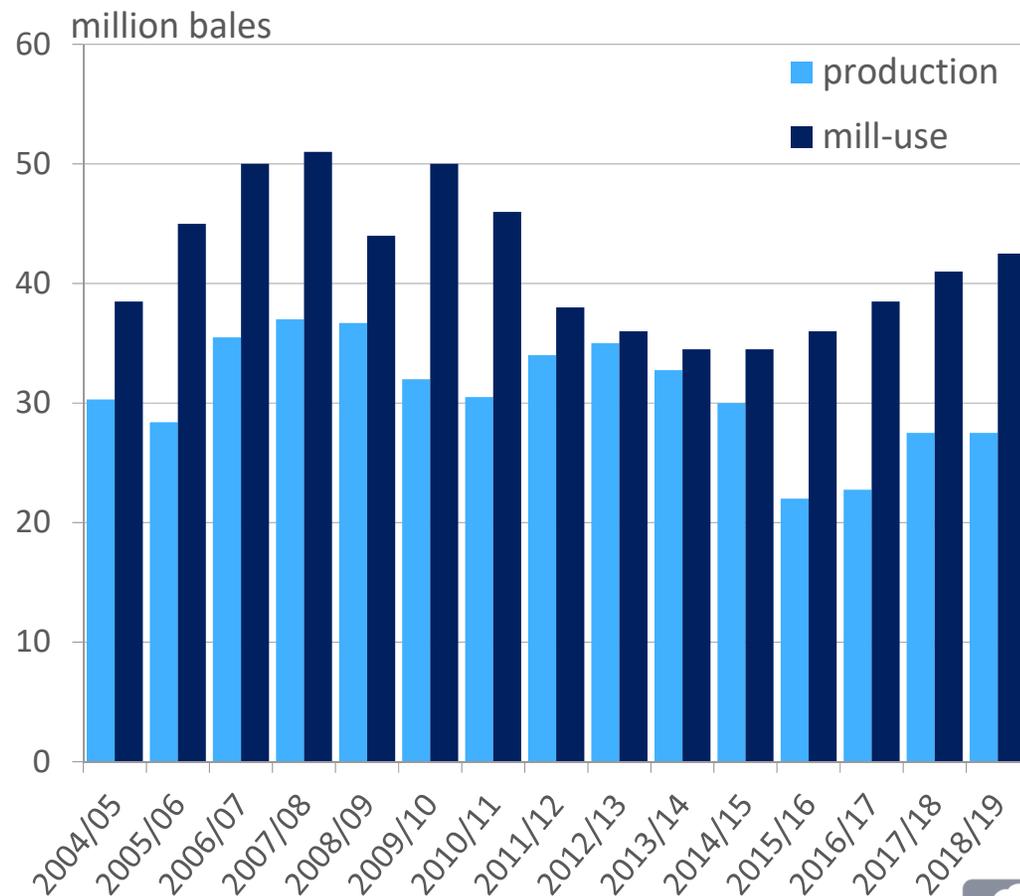


government to maintain some reserves  
announced target of 2.5 million tons  
current volume estimated at 2.7 mil tons



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



# 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

# 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

---

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

# 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

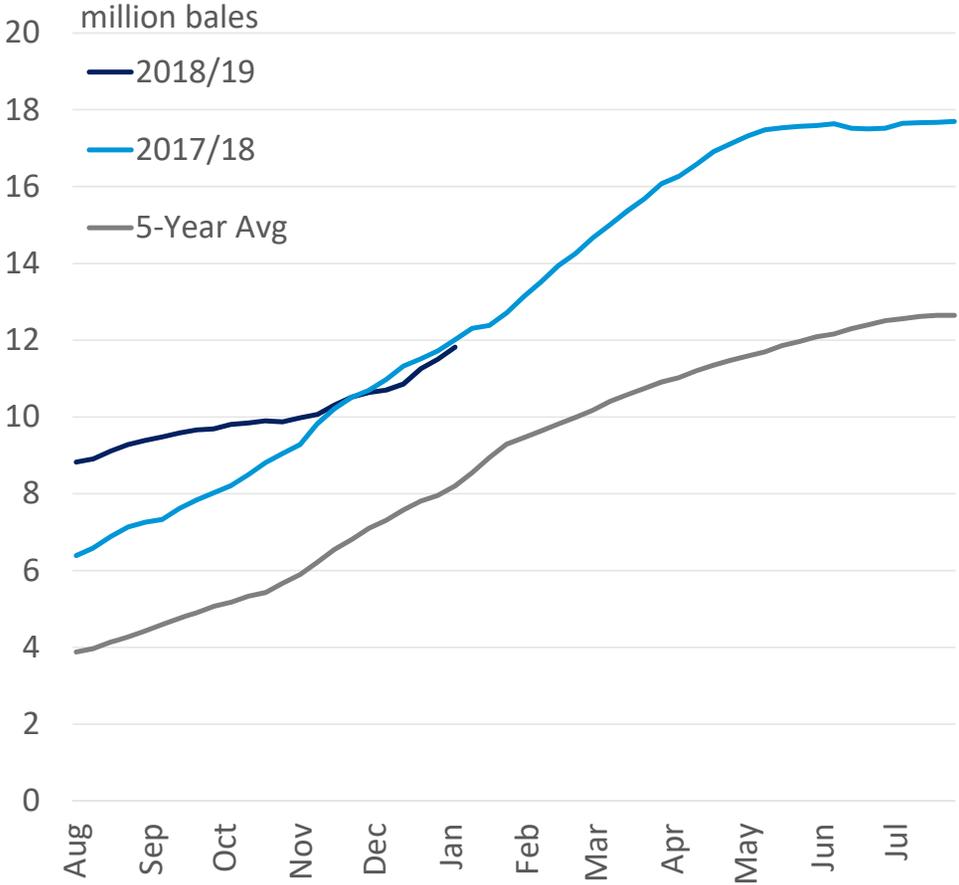
  - Certain categories of imports not subject to additional tariff

- 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

# U.S.-China Tariff Situation

## U.S. Export Commitment to the World

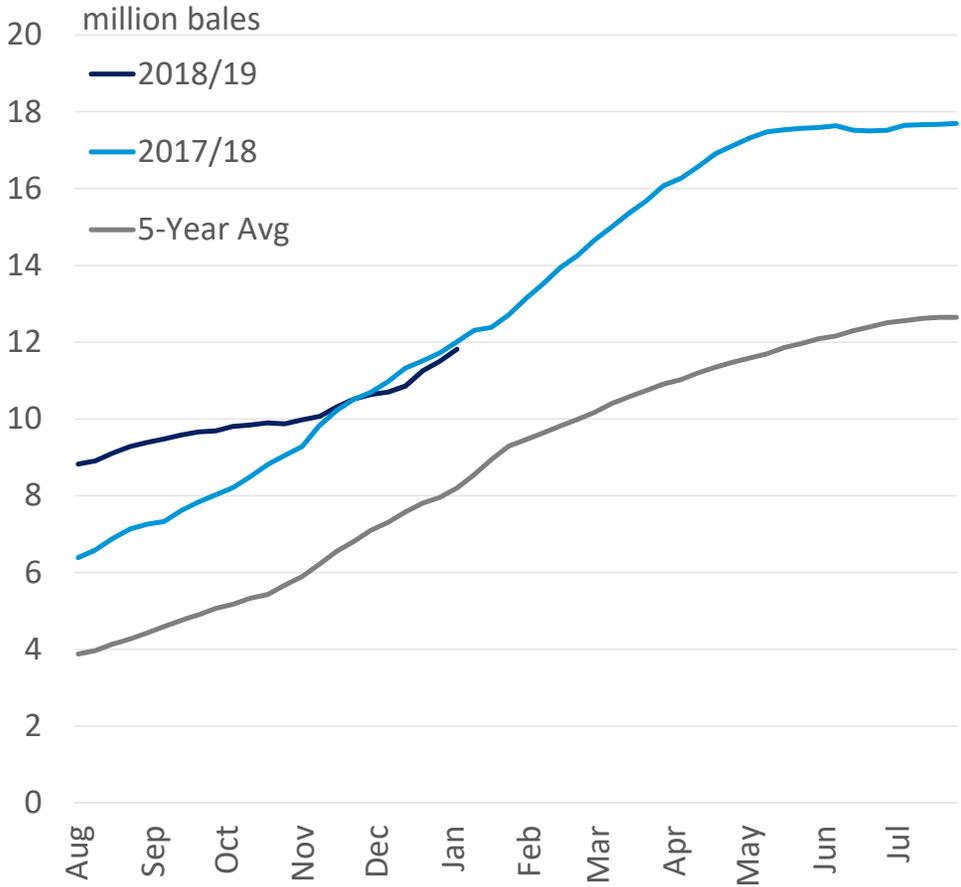


Source: USDA

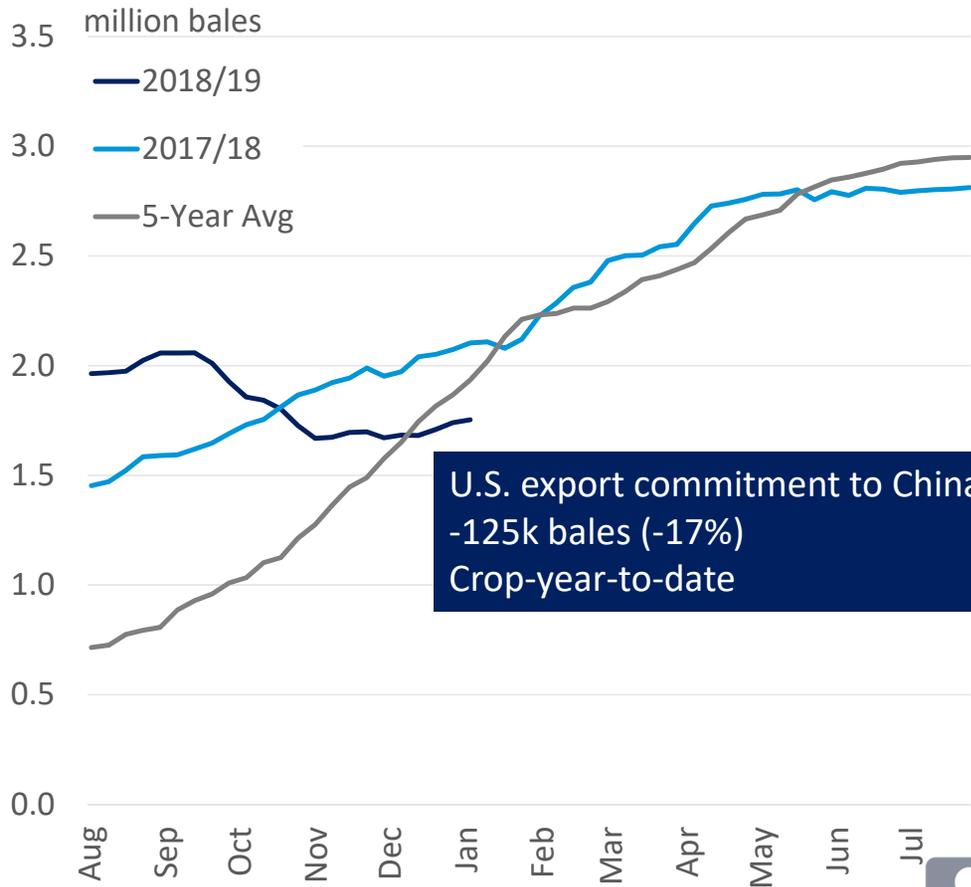


# U.S.-China Tariff Situation

## U.S. Export Commitment to the World



## U.S. Export Commitment to China



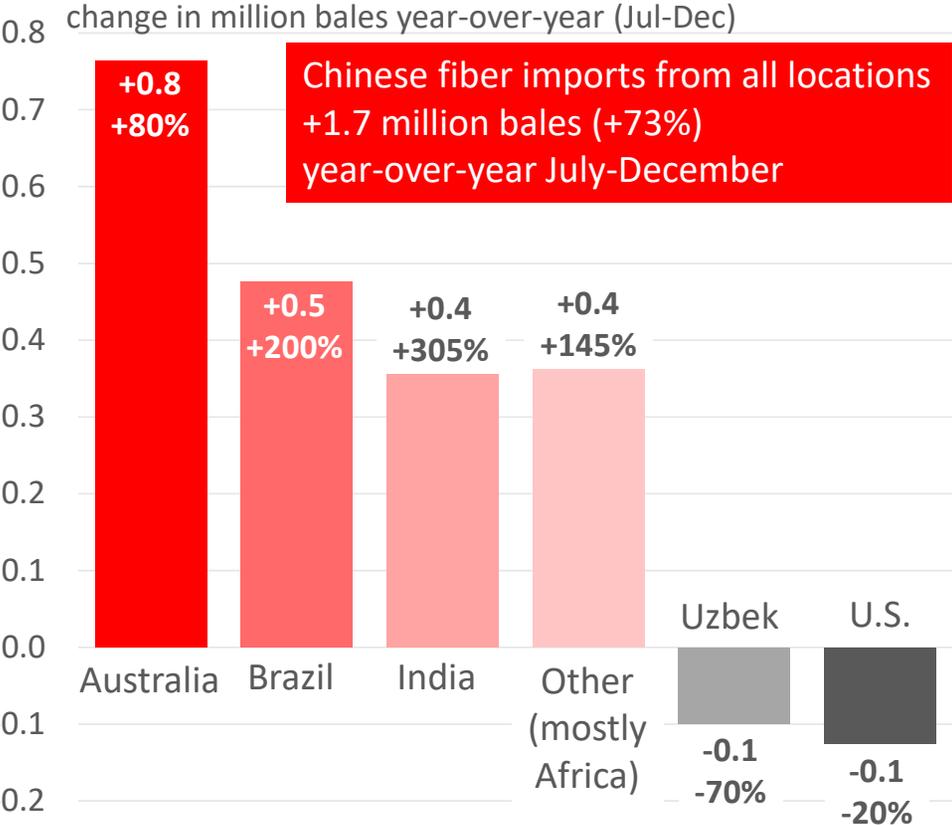
U.S. export commitment to China  
 -125k bales (-17%)  
 Crop-year-to-date

Source: USDA

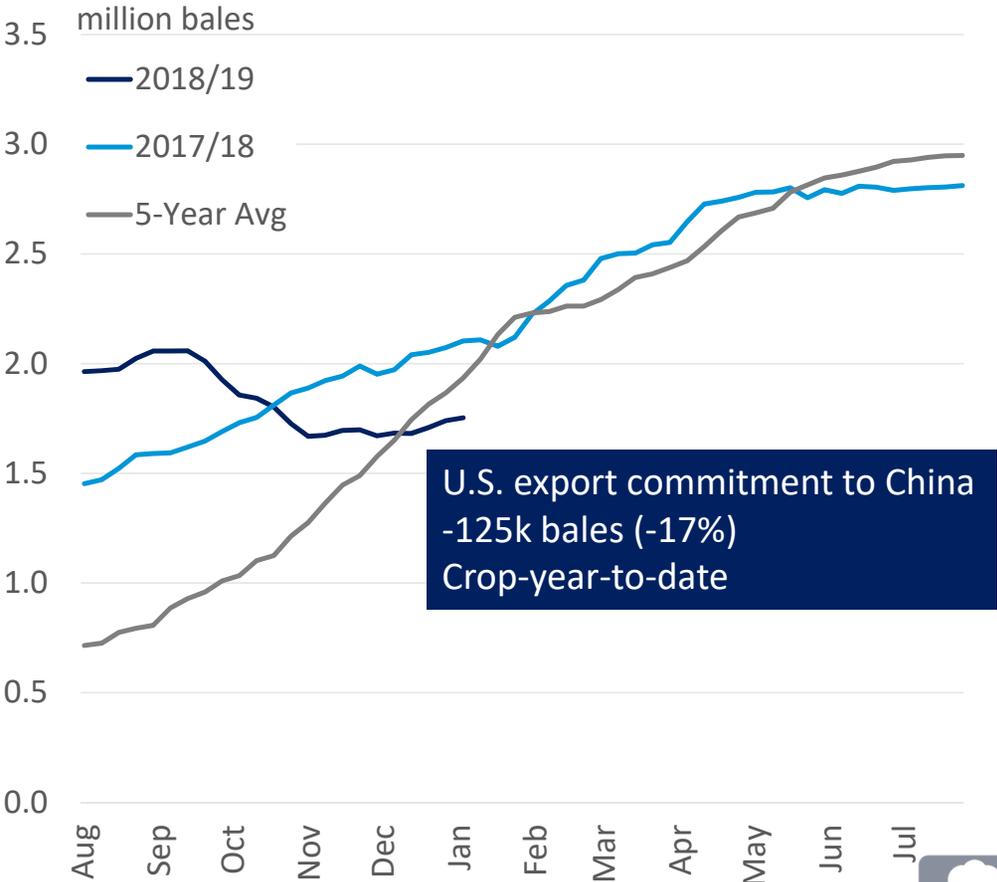


# U.S.-China Tariff Situation

## Chinese Cotton Imports Jul-Dec



## U.S. Export Commitment to China

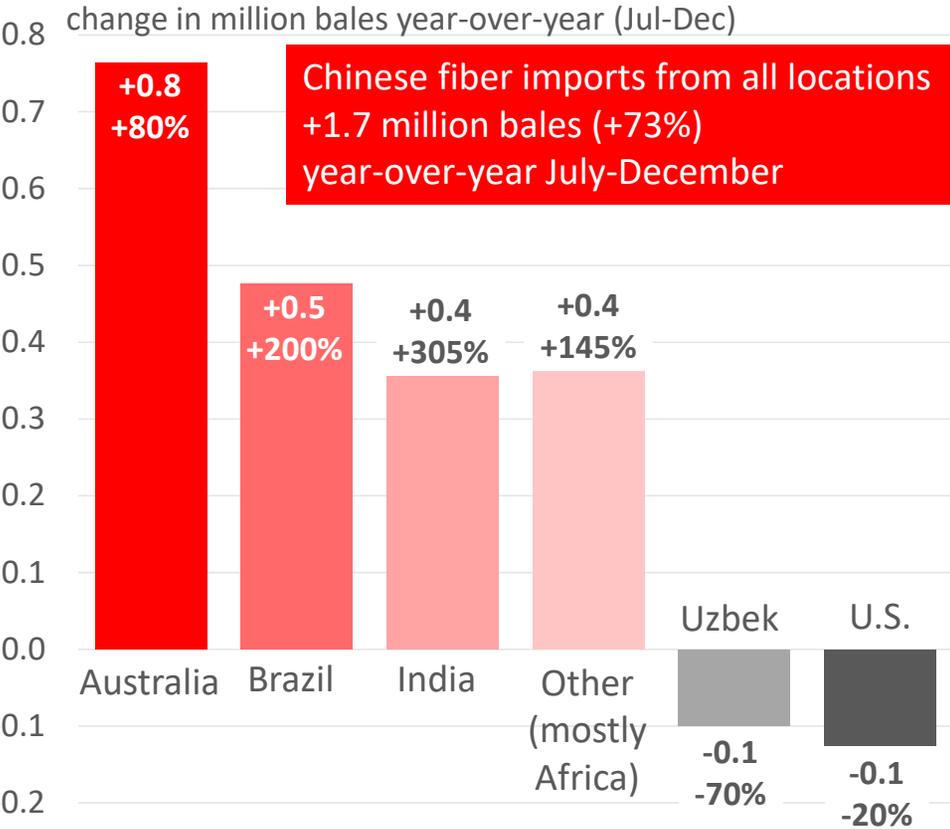


Source: USDA & CN Customs

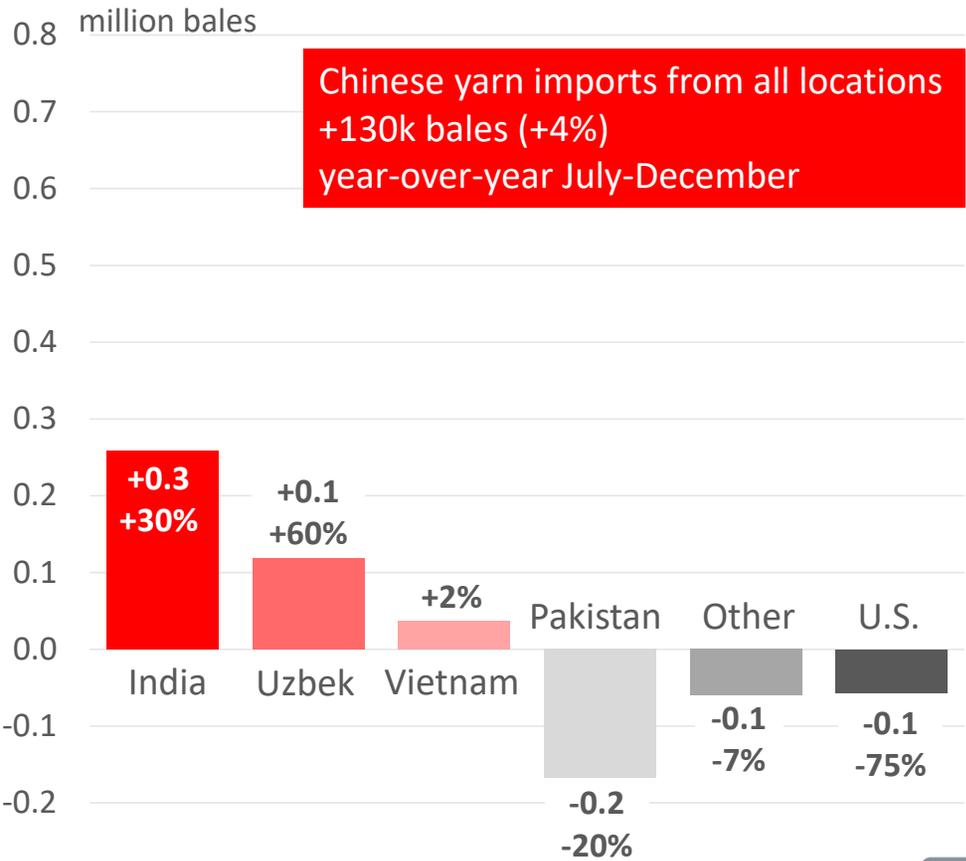


# U.S.-China Tariff Situation

## Chinese Cotton Imports Jul-Dec



## Chinese Cotton Yarn Imports

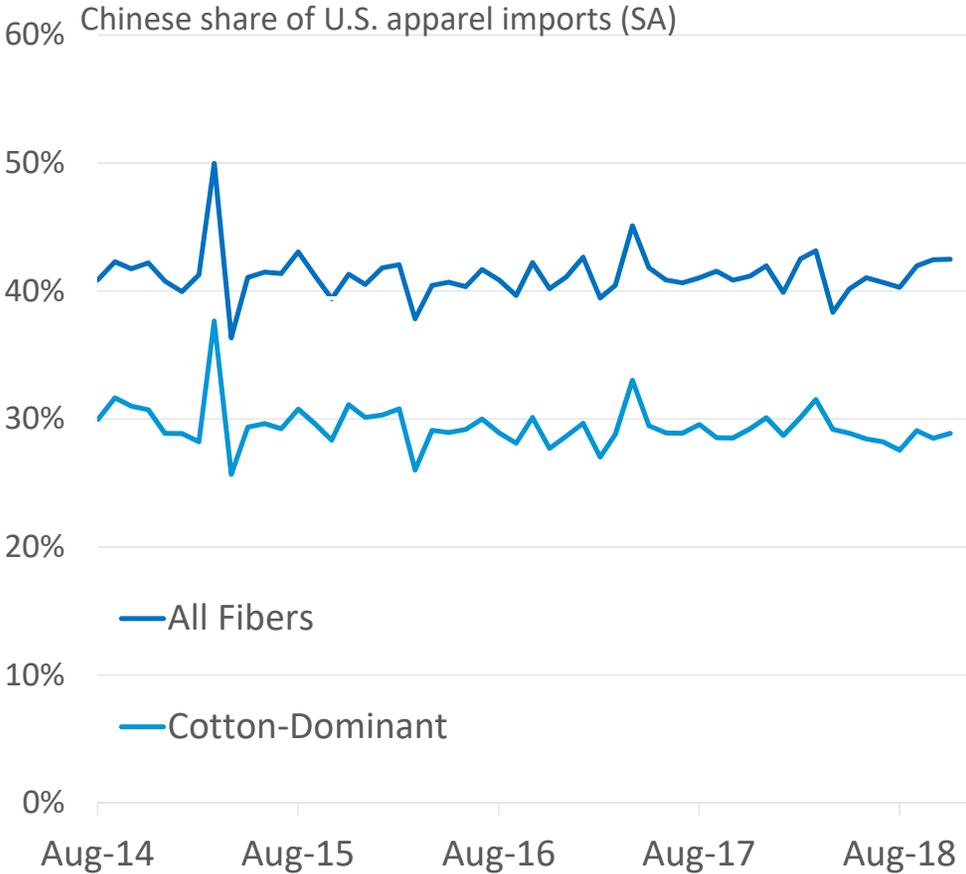


Source: CN Customs

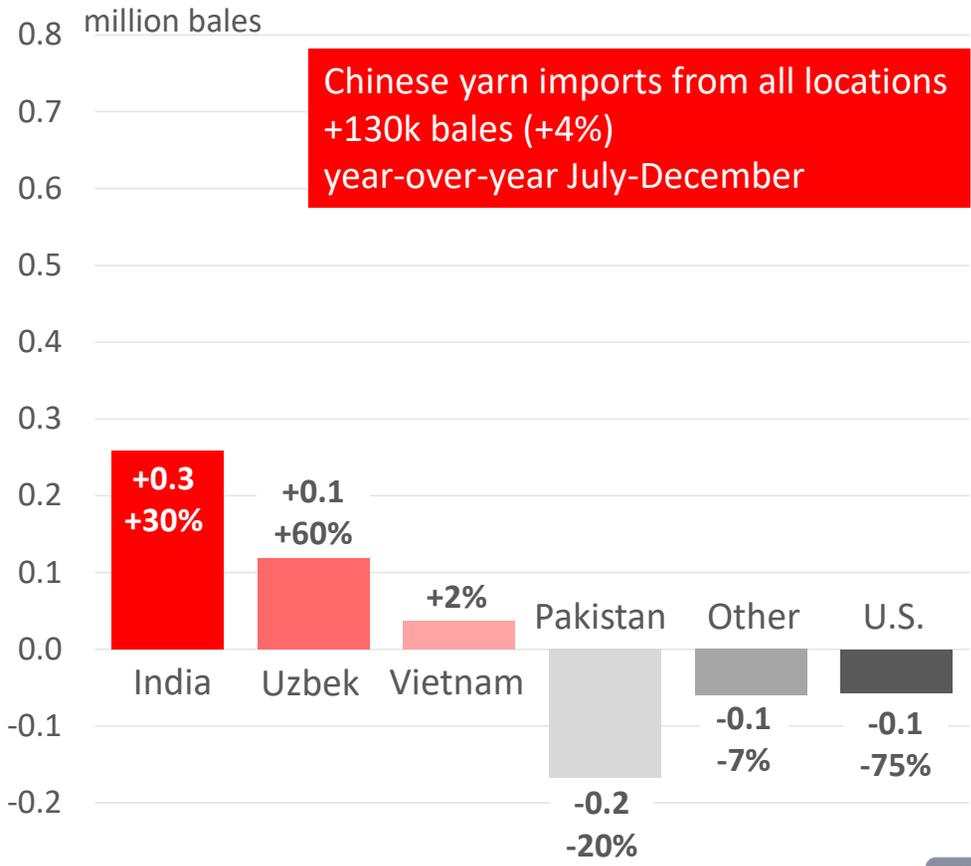


# U.S.-China Tariff Situation

## U.S. Apparel Imports from China



## Chinese Cotton Yarn Imports



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?



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

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- 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

# Time of Transition



Trade ecosystem



Macroeconomy



Cotton supply & demand

Demand back above trend

Strong sustainability story





## Sustainability Influences

*Many consumers have grown more concerned about sustainability.*

*Consumers who say "Sustainability influences my clothing purchase decisions":*

82%

INDIA

69%

MEXICO

64%

CHINA

63%

ITALY

62%

GERMANY

47%

U.S.

42%

U.K.

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:*



**91%**

Polyester

**48%**

Nylon

**50%**

Rayon

**42%**

Source: CCI & Cotton Incorporated's Global Environment Research



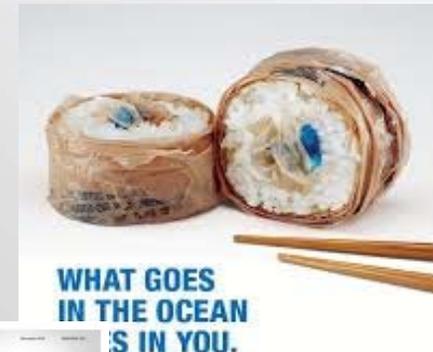
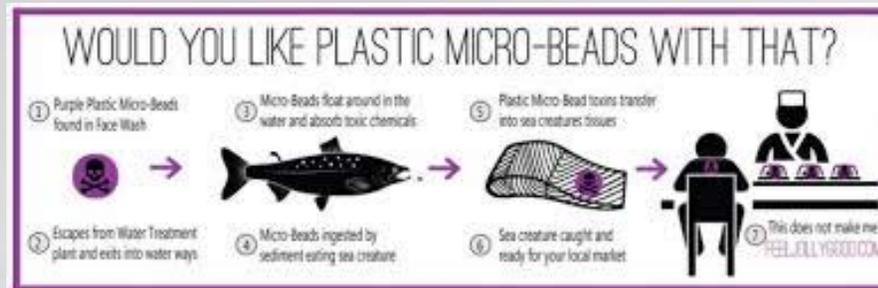


# Microplastic Problem

*Microplastic pollution widespread*



Source: Adventurers and Scientists for Conservation Microplastic Study



Environmental Pollution

# 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 <sup>a</sup>, Danielle Garneau <sup>b</sup>, Rebecca Sutton <sup>c</sup>, Yvonne Chu <sup>b</sup>, Karyn Ehmann <sup>b</sup>, Jason Barnes <sup>b</sup>, Parker Fink <sup>a</sup>, Daniel Papazissimos <sup>a</sup>, Darrin L. Rogers <sup>d</sup>

...oundings. Microplastics cause physical harm, and toxic exposure...  
 ...in a pilot study, microplastic pollution appeared to be greater in San Francisco Bay than in the Great Lakes and Chesapeake Bay. Microbeads from beauty products and tiny fibers from synthetic clothing were found in all nine Bay water samples.  
 ...Microplastics passed through Bay Area wastewater treatment plants, even those using the most advanced technologies. Bay Area wastewater typically had more of these particles than wastewater in other parts of the US, but data are extremely limited. Mark made up most of the plastic.

VIRTUAL ISSUE

Microplastics in the aquatic environment

ENVIRONMENTAL Science & Technology  
 ENVIRONMENTAL Letters

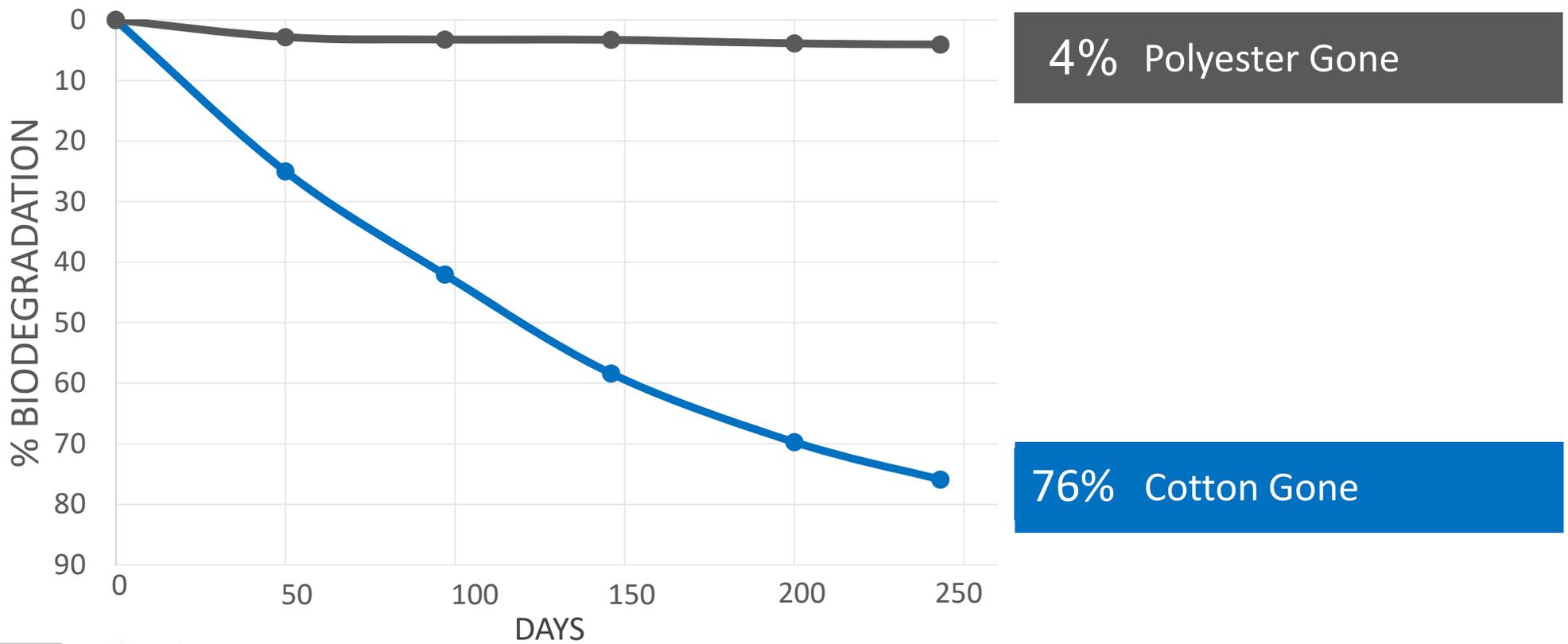


# Cotton is Natural



# Cotton is Natural

## Aquatic Biodegradation – Results



4% Polyester Gone

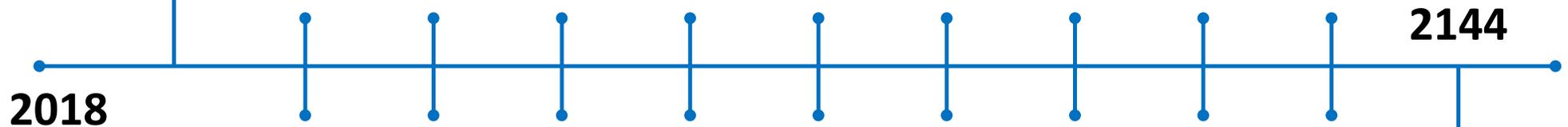
76% Cotton Gone

# Microplastic Research

**COTTON** 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



**POLYESTER**



Source: Extrapolation from NCSU fiber degradation study

# Viscose – Chemicals & Deforestation

70 MILLION

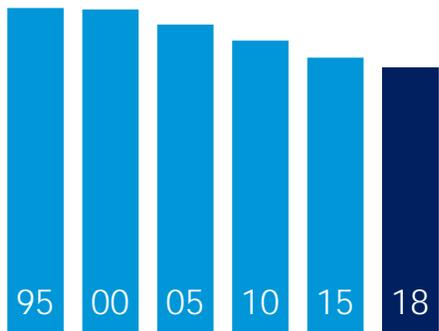
TREES

are cut down each year to  
make our clothes

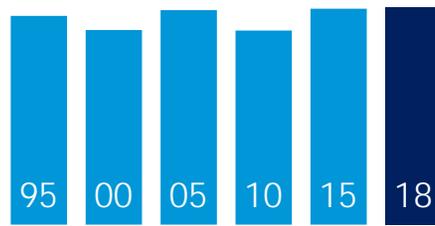


# FIBER LABEL CHECKING INCREASES IN THE U.S.

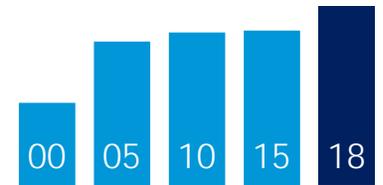
## *PERCENT ALWAYS/USUALLY CHECK FIBER CONTENT LABELS*



**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

