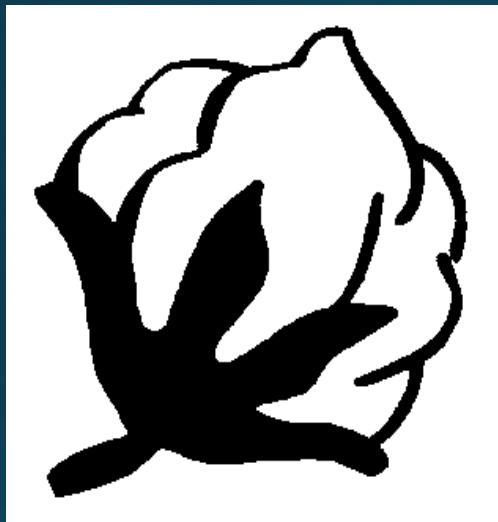


The World Cotton Market: Structure and Outlook



Rebecca Pandolph
Statistician



International Cotton Advisory Committee

ACSA Cotton Institute-University of Memphis
Memphis, TN
10 June 2016

Overview

- ICAC
- Current Market Situation
 - 2015/16 and Country Market Shares
 - Market Fundamentals
- Past Trends
 - Supply & demand
 - Prices
 - Government interventions
- Outlook
 - 2016/17
 - Long-term



International Cotton Advisory Committee

35 Governments

Formed in 1939

\$1.8 million

7 employees, 7 countries

Washington, DC



ICAC Mission

Assist governments in fostering a healthy world cotton economy, by

- Providing transparency**
- Clearinghouse for technical information on cotton production**
- Forum for discussion of cotton issues of international significance**

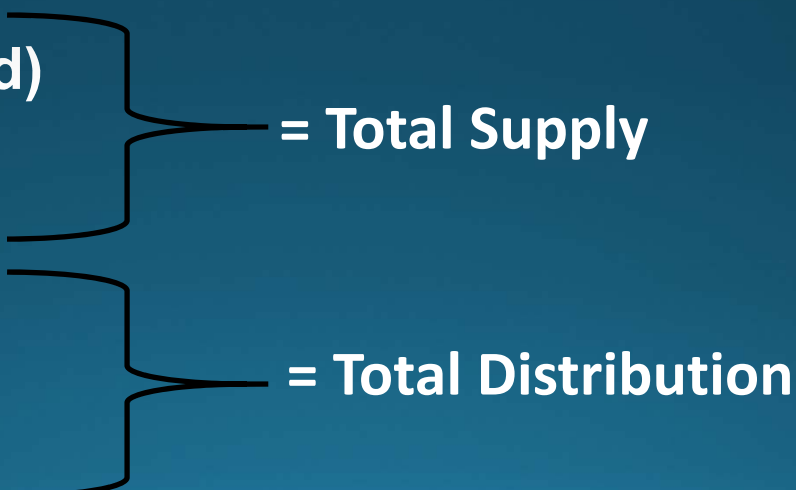


ICAC -Four Primary Functions

- **Statistics**
- **Technical Information**
- **Forum for Discussion and Cooperation**
- **Liaison with International Community**



ICAC's Statistics on Cotton Supply & Use

- Who uses ICAC data?
 - How many countries are involved in the cotton sector?
 - Data collected for each country:
 - Beginning stocks
 - Production (area, yield)
 - Imports
 - Consumption
 - Exports
 - Ending stocks
- A diagram consisting of two large curly braces on the right side of the list. The top brace groups 'Beginning stocks', 'Production (area, yield)', and 'Imports', with an arrow pointing to the text '= Total Supply'. The bottom brace groups 'Consumption', 'Exports', and 'Ending stocks', with an arrow pointing to the text '= Total Distribution'.
- = Total Supply
- = Total Distribution



ICAC SOURCES

- Coordinating Agencies
- National Organizations
- World Bank, FAO, UN
- Trade Publications
- Government Reports
- Business Contacts
- Researchers





**Statement of the 73rd
Plenary Meeting**
Thessaloniki, Greece
02-07 November, 2014



Measuring Sustainability
in **Cotton Farming
Systems**

[Access the full
report here](#)

Upcoming Events

[World Cotton Research Conference — 6](#)
20 Jun, 2016 Goiânia, Goiás, Brazil

[74th Plenary Meeting of the ICAC](#)
06 Dec, 2015 Mumbai, India

[Research Associates Program 2015](#)
15 Jun, 2015 Washington DC, USA

[534th Standing Committee Meeting](#)
04 Jun, 2015 Washington DC, USA

[All Meetings >](#)



[Bookstore](#)



[Standing
Committee](#)



[ICAC World
Cotton Database](#)



[World Cotton
Calendar](#)



[CSITC Round
Trials](#)



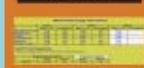
[Surveys](#)

COTTON STATISTICS

**COTTON
THIS
WEEK**



**COTTON
THIS
MONTH**



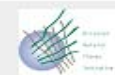
Press Releases

[World Cotton Trade to Recover in
2015/16](#)
01 Jun, 2015

[The ICAC Announces Winner of the
2015 Researcher of the Year Award](#)
08 May, 2015

[2015/16 Area and Production Down](#)
01 May, 2015

[All Press Releases >](#)



ICAC Online Database

<https://icac.generation10.net/>

Advisory Committee

in association with 

Log in

ICAC World Cotton Database

Log in

Email:

rebecca@icac.org

Password:

Log in

[Forgot my password](#)

[Register here](#)



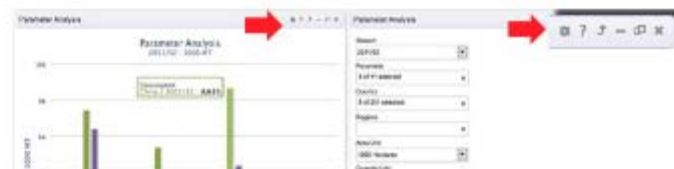
We are proud to present the ICAC World Cotton Database brought to you by the ICAC Secretariat in association with Generation 10. This interactive database provides complete access to statistics on seasonal cotton supply and use for each country and each region in the world, from 1920/21 to date. This project is part of ICAC's efforts to improve the transparency of world cotton statistics.

Please note that the accuracy and precision of statistics vary depending on the country and season. Details of the main sources of statistics can be found in the *May/June 2011 Issue of COTTON: Review of the World Situation*.

Your feedback is important to help us improve this database:

For more information or help please contact us at statistician@icac.org.

For more information on G10 and their products, please visit their website at www.generation10.net



Working with charts

- Build your chart - Choose from configurations options then hit "Save" button to display your chart.

[More information about this chart](#)



ICAC Publications


International Cotton Advisory Committee

[Contact](#)
[Login](#)
[English](#)
[Français](#)
[Español](#)

[About](#)
[Committees](#)
[Economics](#)
[Technical](#)
[Meetings](#)
[Programs](#)
[Topics](#)

Search Results

[Login](#)
[Search](#)
[View Free Publications](#)
[View All Publications](#)
[View Cart](#)

Name	Type	Language	Price	
2014 ICAC Publications Catalog			0	
 Actas	Download	Spanish	35	Add to Cart
 Agrochemicals Used on Cotton (oct 1995)	Mail	English	35	Add to Cart
 Algodón este mes	Email	Spanish	300	Add to Cart
 Algodón: revista de la situación mundial	Mail	Spanish	230	Add to Cart
 Algodón: revista de la situación mundial	Email	Spanish	190	Add to Cart
 Bale Survey (Nov. 2008)	Download	English	50	Add to Cart
 Bale Survey (Nov. 2008)	Mail	English	55	Add to Cart
 Bale Survey (Oct 1995)	Mail	English	32	Add to Cart
 Bale Survey (Oct 1995)	Download	English	0	
 CD-ROM	Mail	English	420	Add to Cart



ICAC Publications

- Quarterly:
 - The Recorder
- Annually:
 - Cotton: World Statistics
 - The Outlook for Cotton Supply
 - World Cotton Trade
 - World Textile Demand
 - Production and Trade Policies Affecting the Cotton Industry
 - Structure of World Cotton Trade



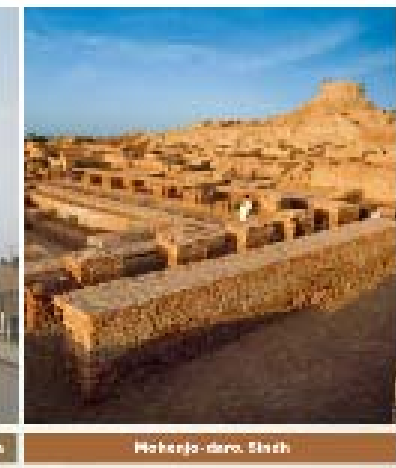
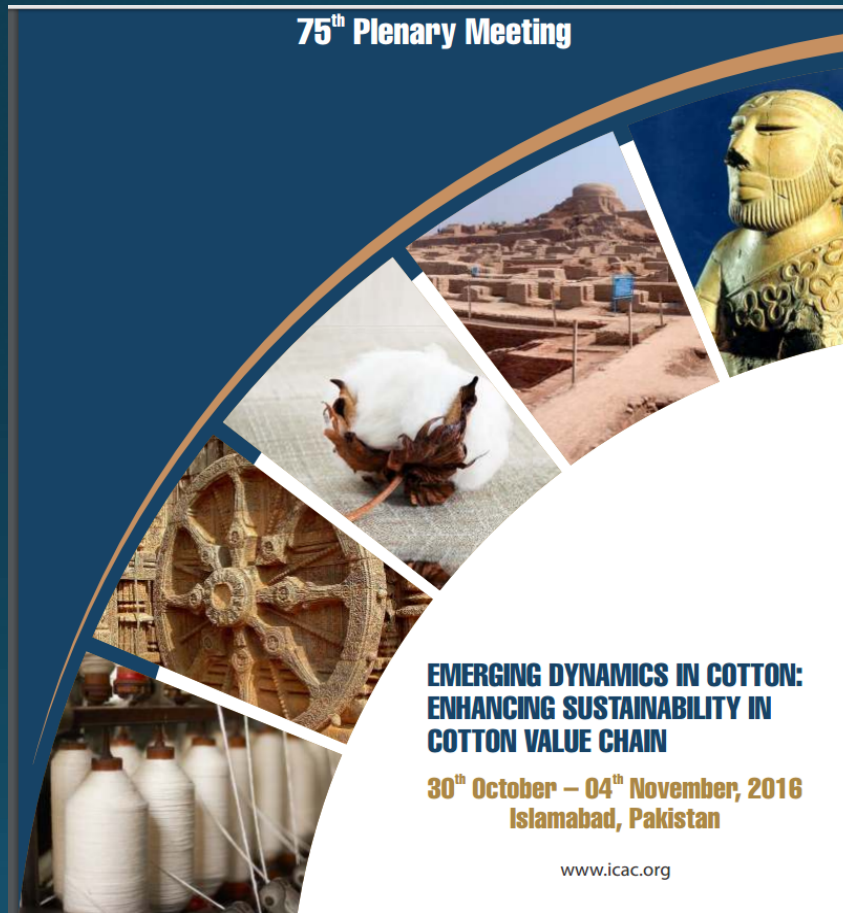
ICAC Publications

- Quarterly:
 - The Recorder
- Annually:
 - Cotton: World Statistics
 - The Outlook for Cotton Supply
 - World Cotton Trade
 - World Textile Demand
 - Production and Trade Policies Affecting the Cotton Industry
 - Structure of World Cotton Trade



Invitation to 75th Plenary Meeting

October 30th-November 4th 2016



<https://www.icac.org/mtgs/Plenary/75th-Plenary>

Current Market Situation

2015/16 Market and Country Market Shares

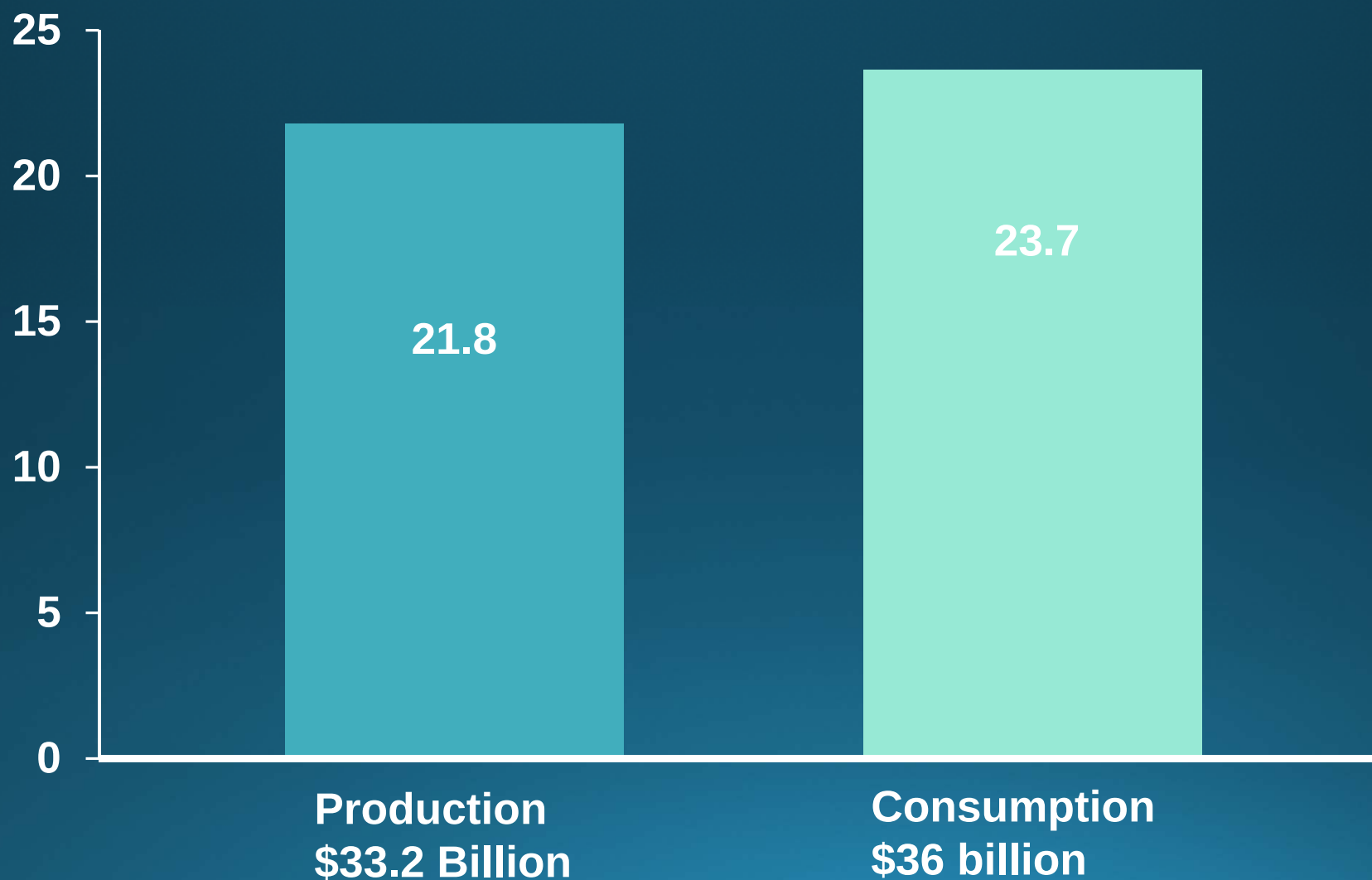
Cotlook A Index in 2015/16

U.S. cents/lb



World Cotton Fundamentals 2015/16

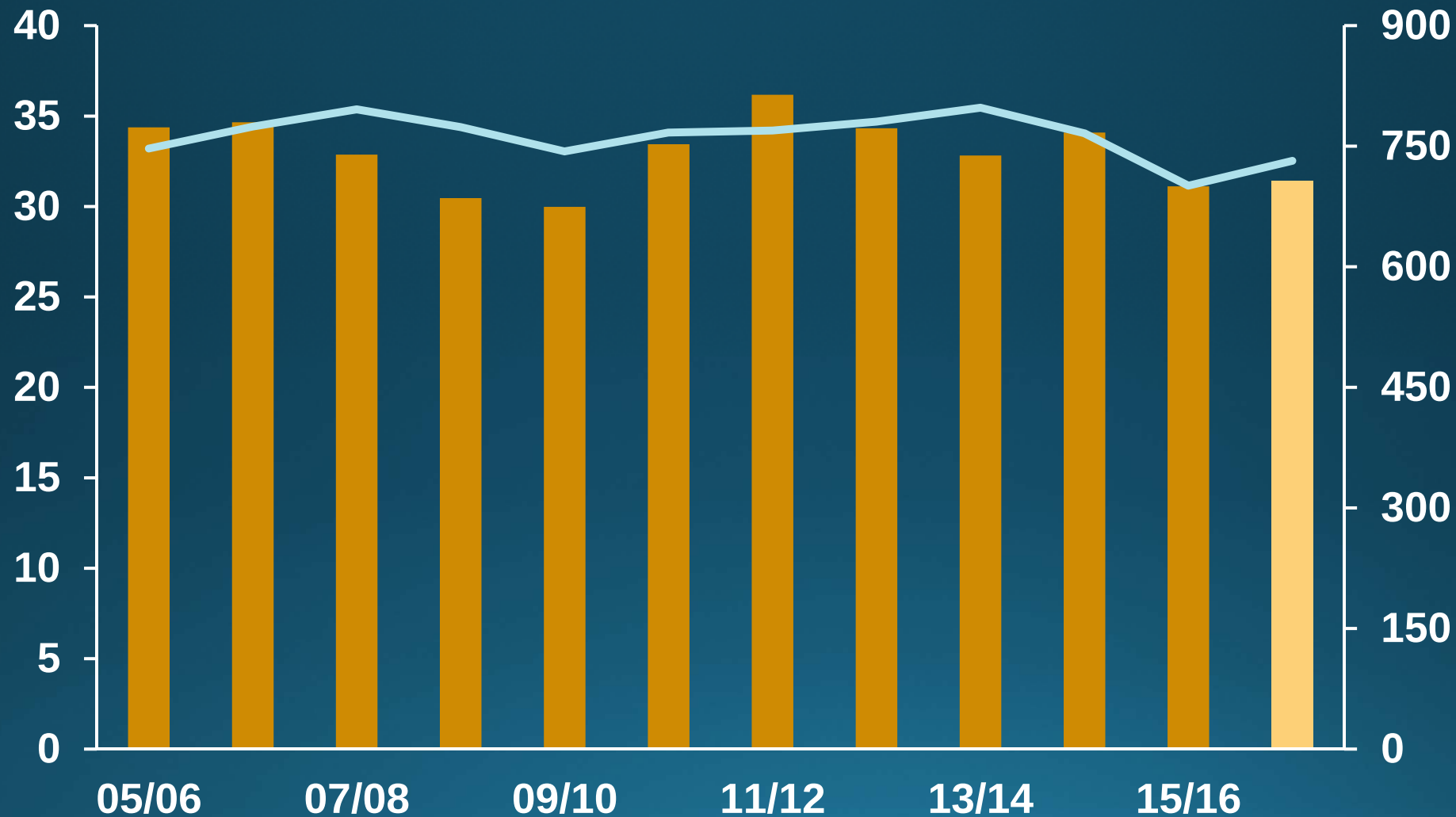
million tons



World Cotton Area and Yield

million hectares

kg/ha

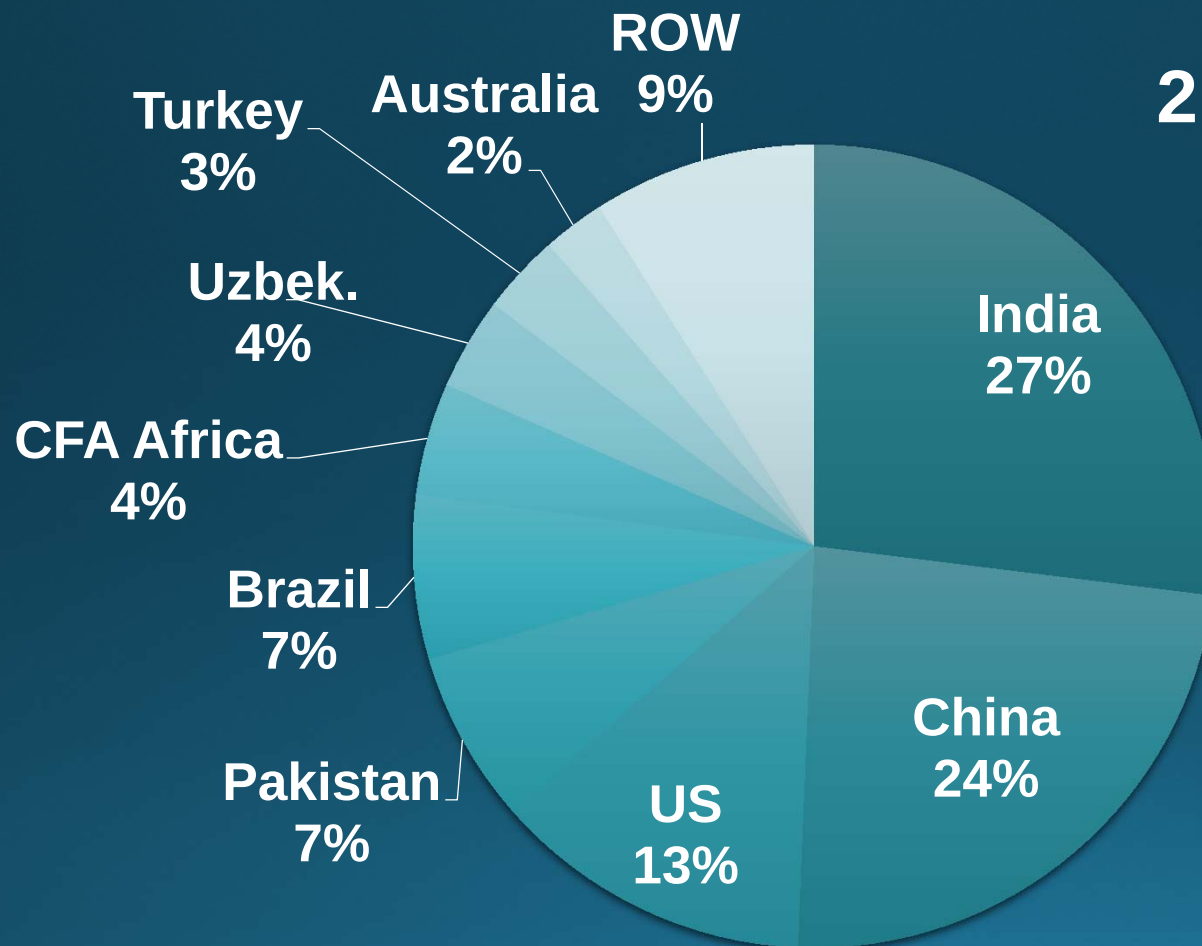


Area Yield

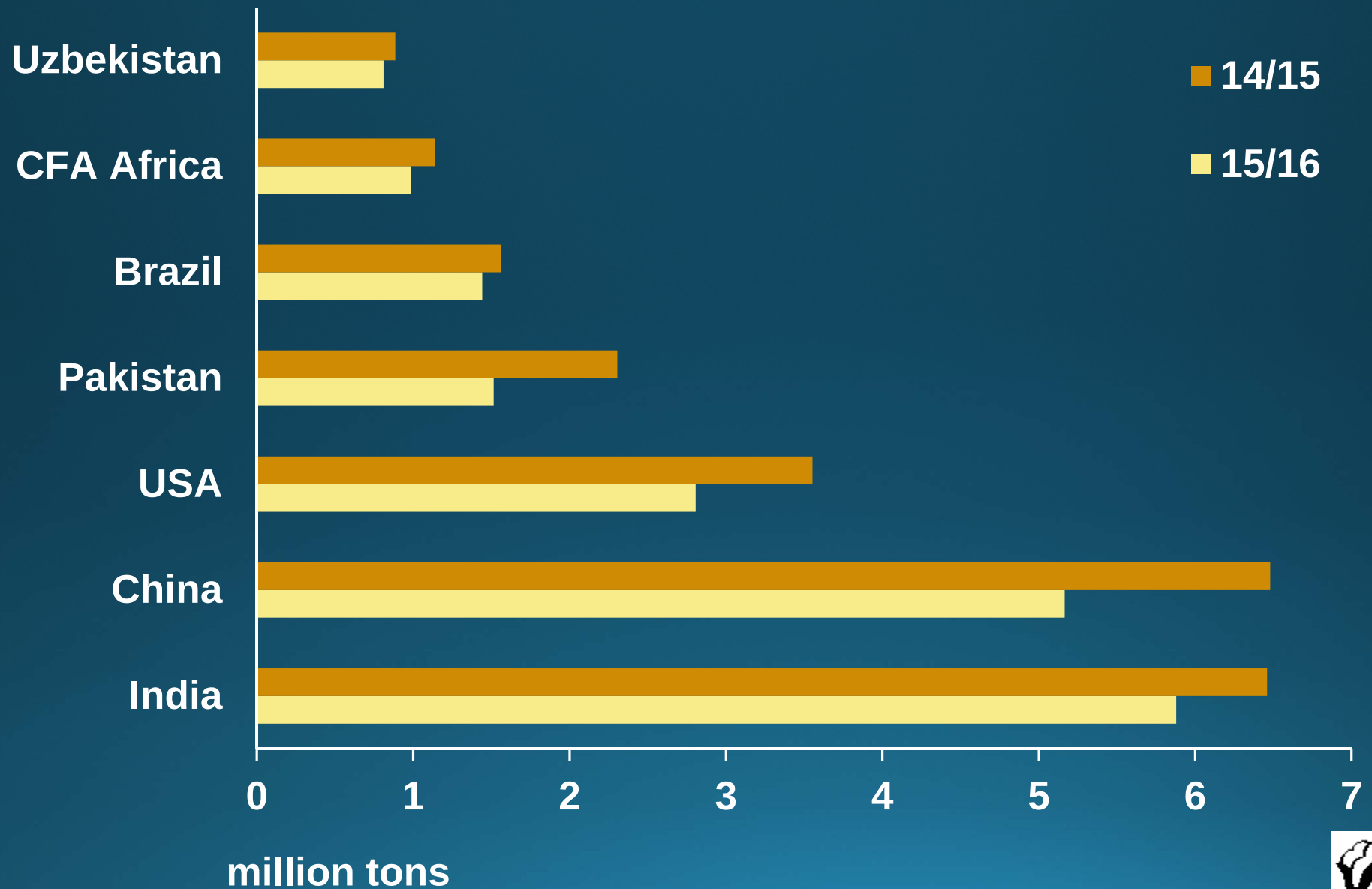


Cotton Production by Country

2015/16
21.8 Million tons



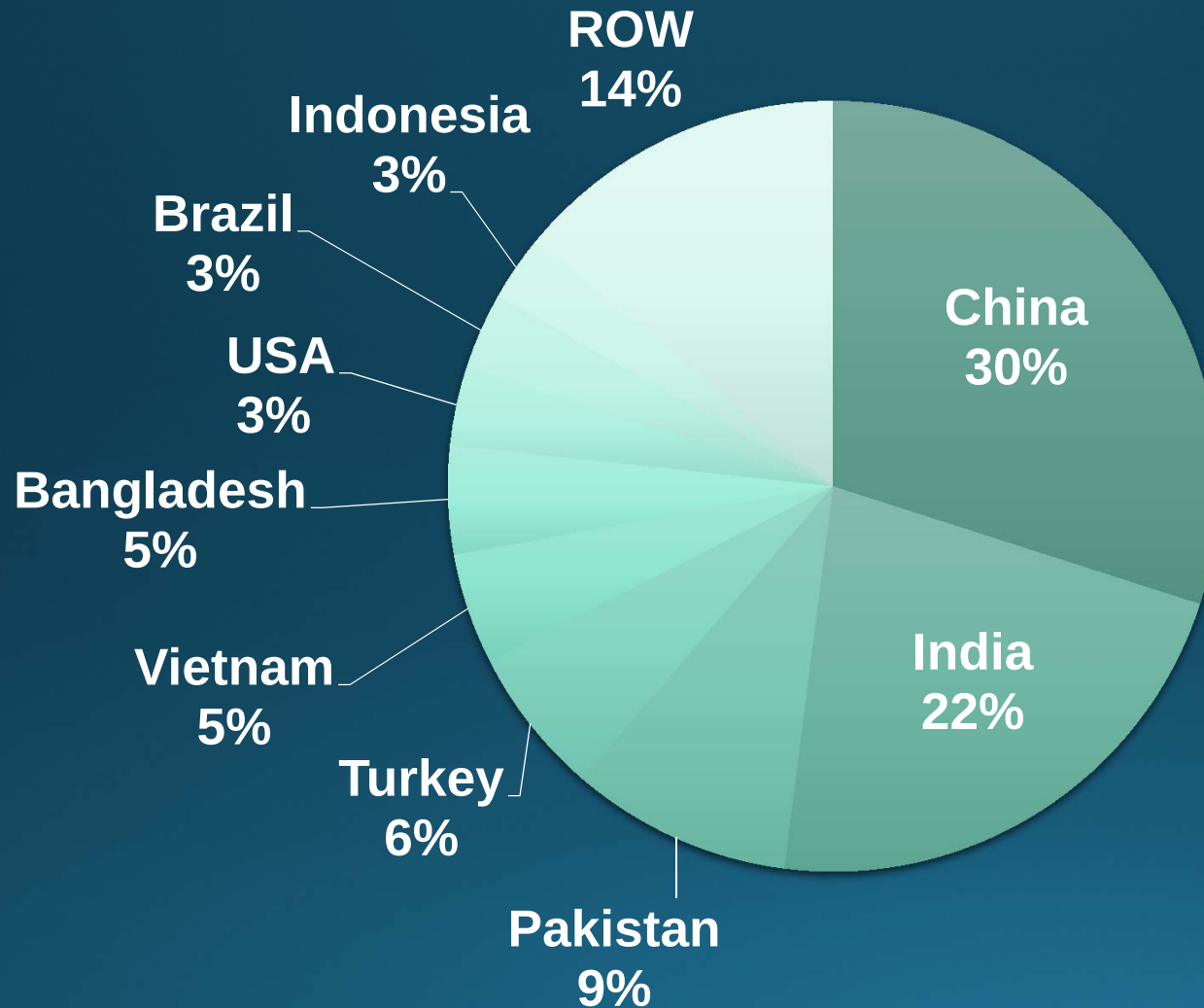
Cotton Production



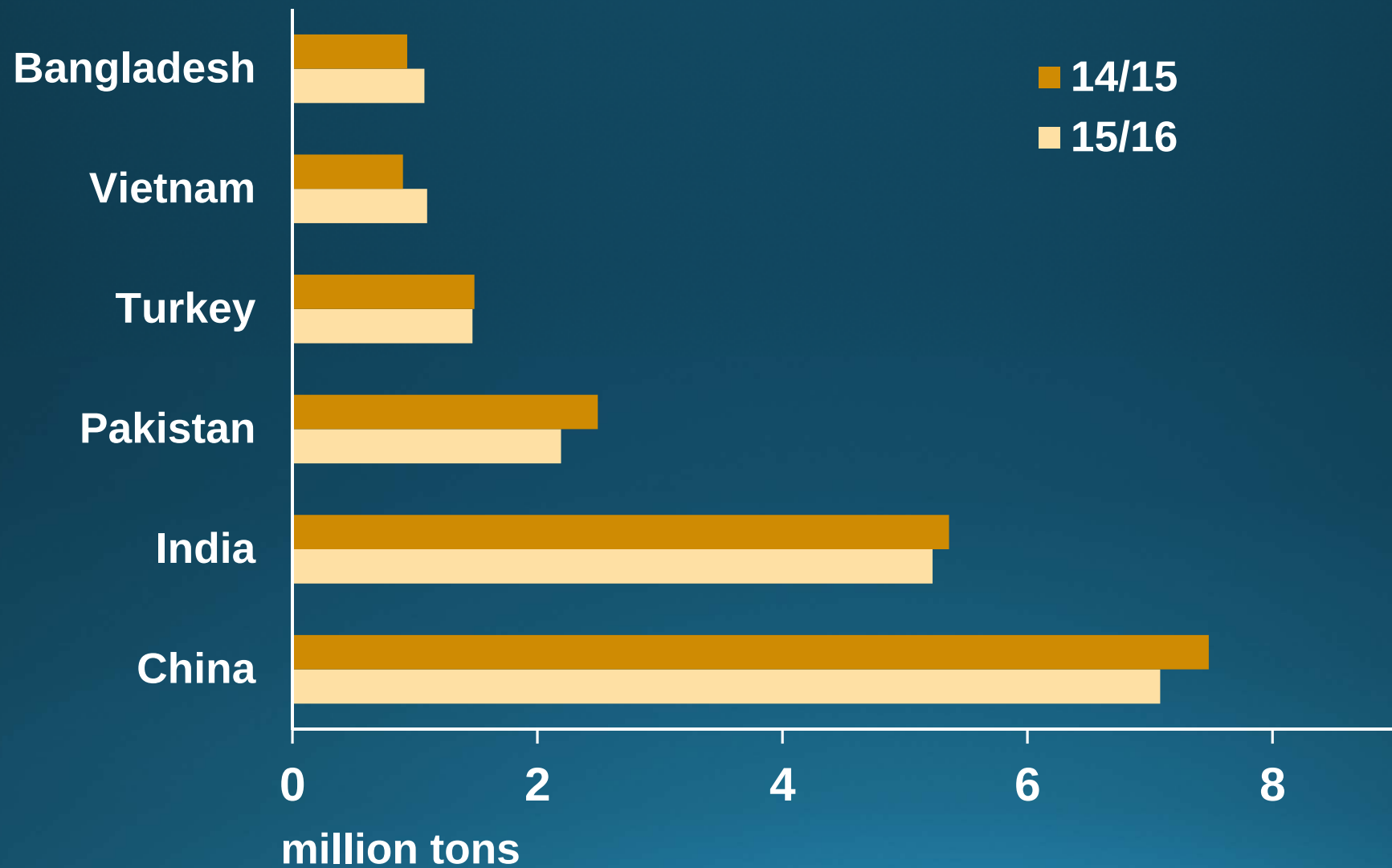
Cotton Mill Use by Country

2015/16

23.7 Million tons



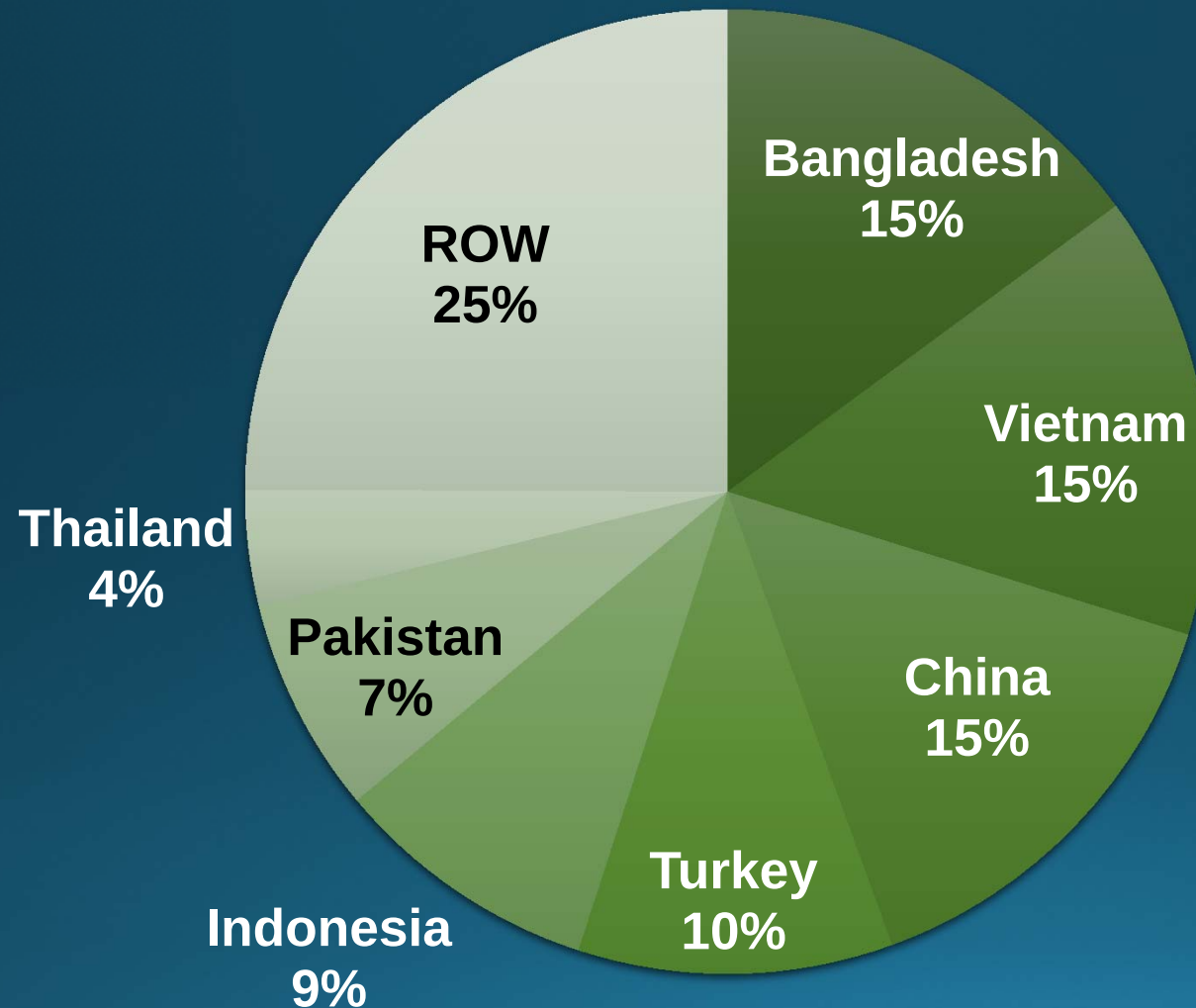
Cotton Consumption



Cotton Imports by Country

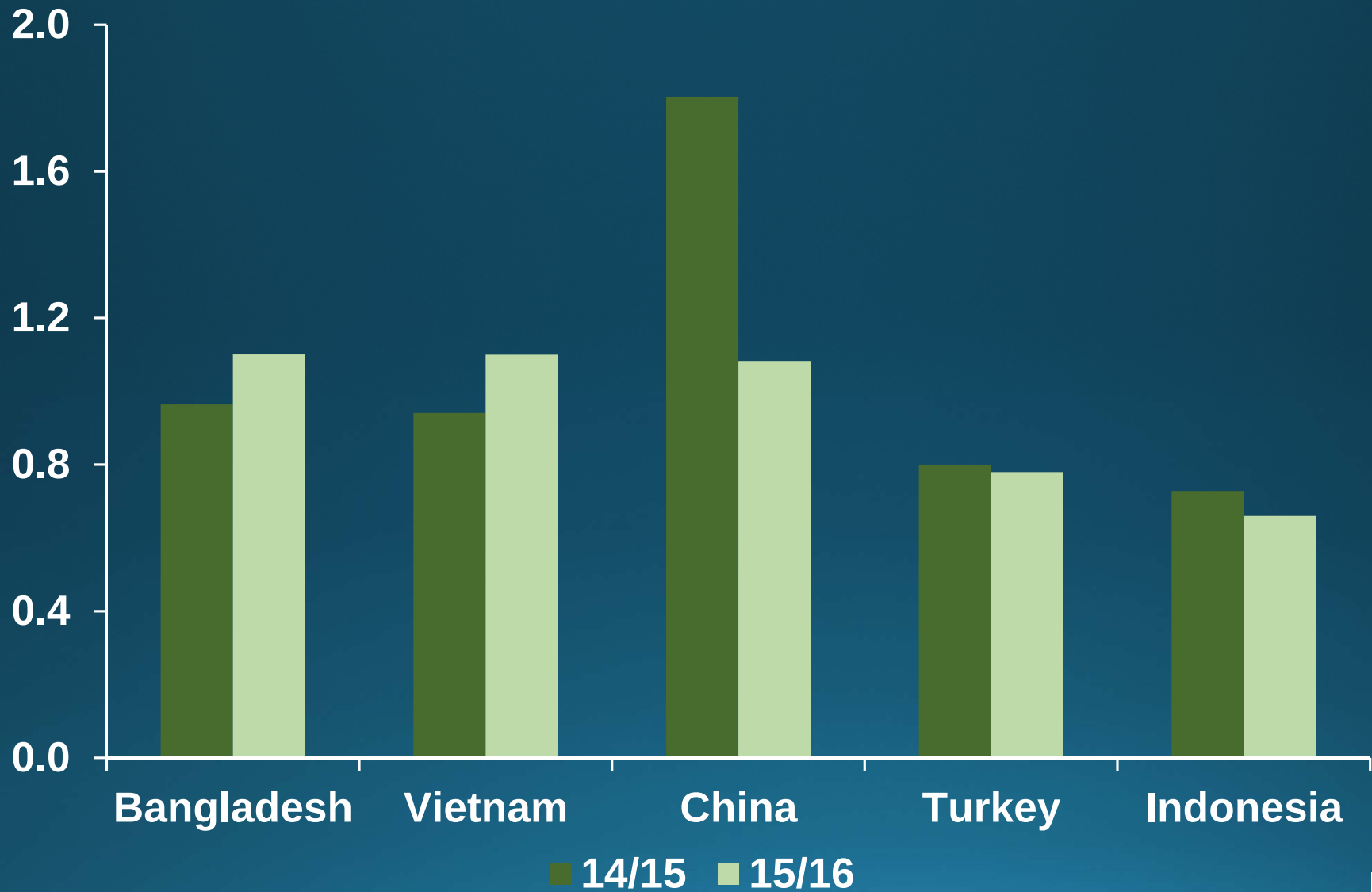
2015/16

7.4 Million tons



Cotton Imports

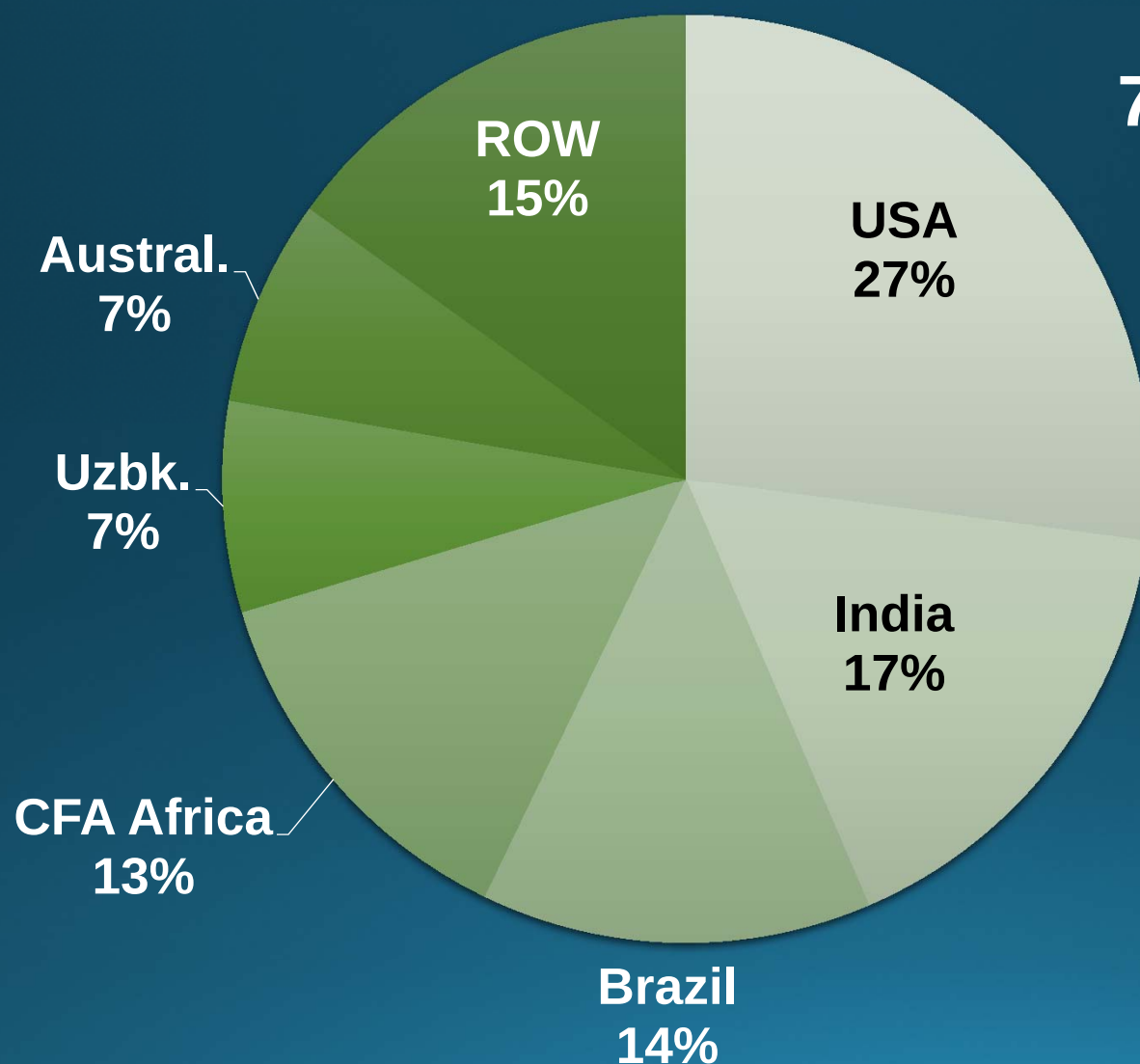
million tons



Cotton Exports by Country

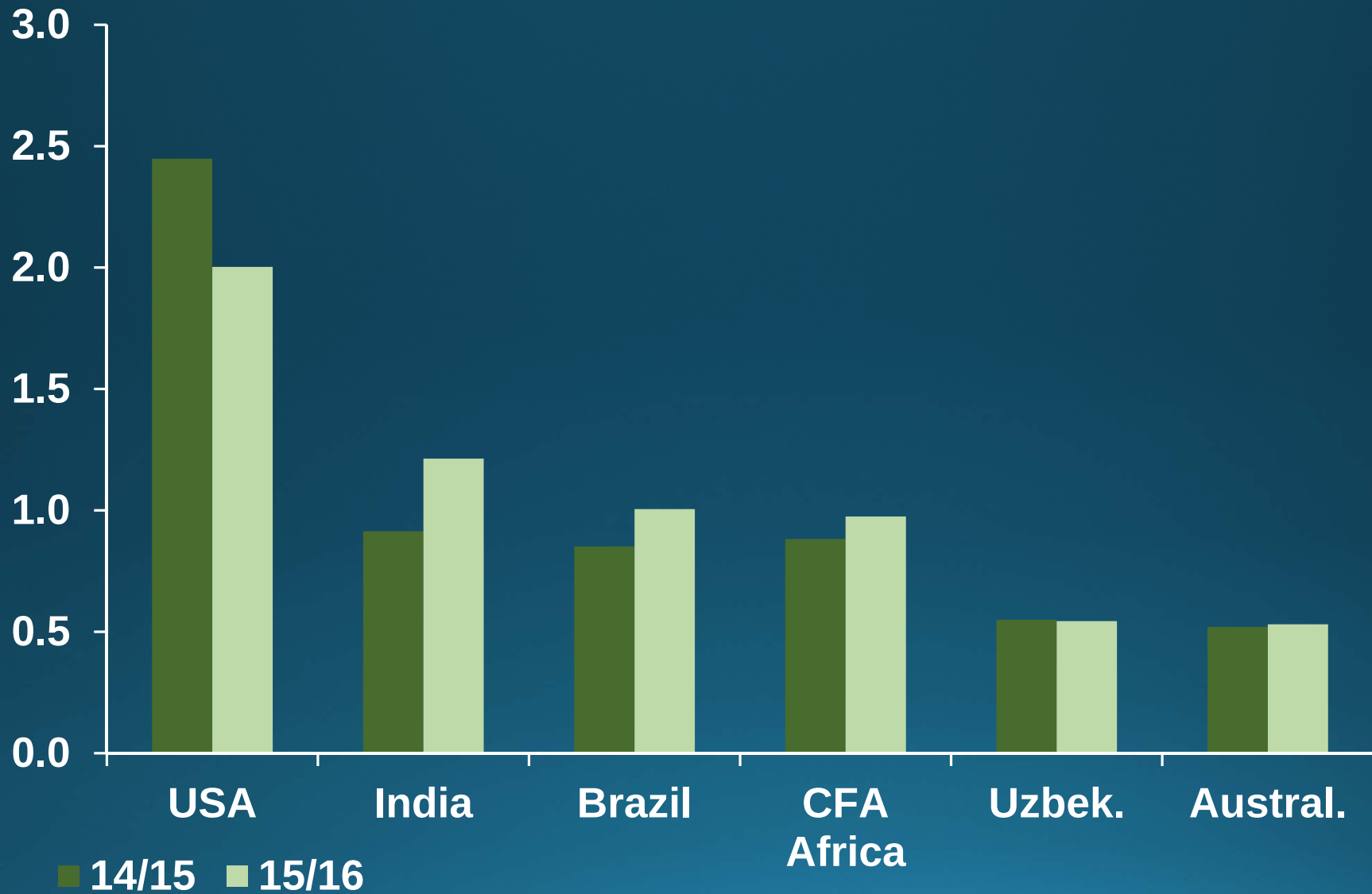
2015/16

7.4 Million tons



Cotton Exports

million tons



Current Market Situation

Market Fundamentals

Statistics and Price Forecasting

- ICAC
- Cotton Outlook Ltd.
- United Nation's Food and Agriculture Organization/Organization of Economic and Cooperative Development
- U.S. Department of Agriculture
- Food and Agricultural Policy Research Institute



ICAC Price Model

$$\ln(A_t/A_{t-1}) = a * \ln(X_t/X_{t-1}) + b * \ln(X_{t-1}/X_{t-2}) + m_t * c * \ln(Y_{t-1}/Y_{t-2}) + (1 - m_t) * d * \ln(Z_t/Z_{t-1}) + e * D07 + f * D09 + g * D10$$

- Stock to use ratio for World Less China (X_t)
- Stock to use ratio for China (Y_{t-1})
- China's net imports (Z_t)

<https://www.icac.org/cotton-economics-and-cotton-statistics/Price-Model>



**World Supply =
Beginning Stocks + Production**

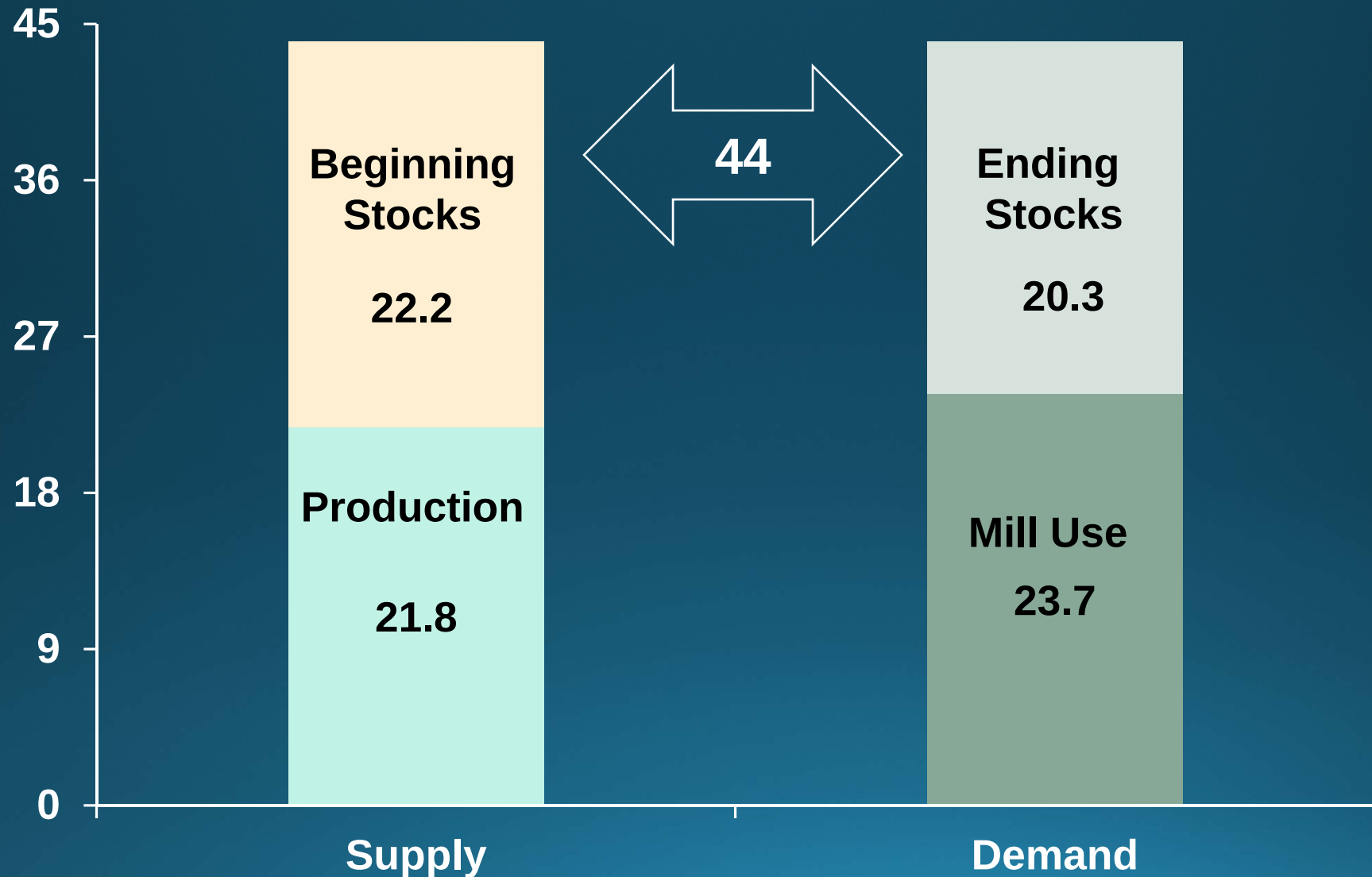
**World Demand =
Mill Use + Ending Stocks**

World Supply = World Demand



World Cotton Fundamentals 2015/16

million tons



World 2015/16 (million metric tons)

Beginning Stocks = 22.2

Production = 21.8

Supply = 44

Mill Use = 23.7

Ending Stocks = 20.3

Demand = 44

44 * US\$1.52 per kg = \$67 billion



Supply = Demand

higher/lower production =

higher/lower Ending Stocks



Supply = Demand

higher/lower mill use

=

lower/higher Ending Stocks



**Country Supply =
Beginning Stocks + Production + Imports**

**Country Demand =
Mill Use + Ending Stocks + Exports**

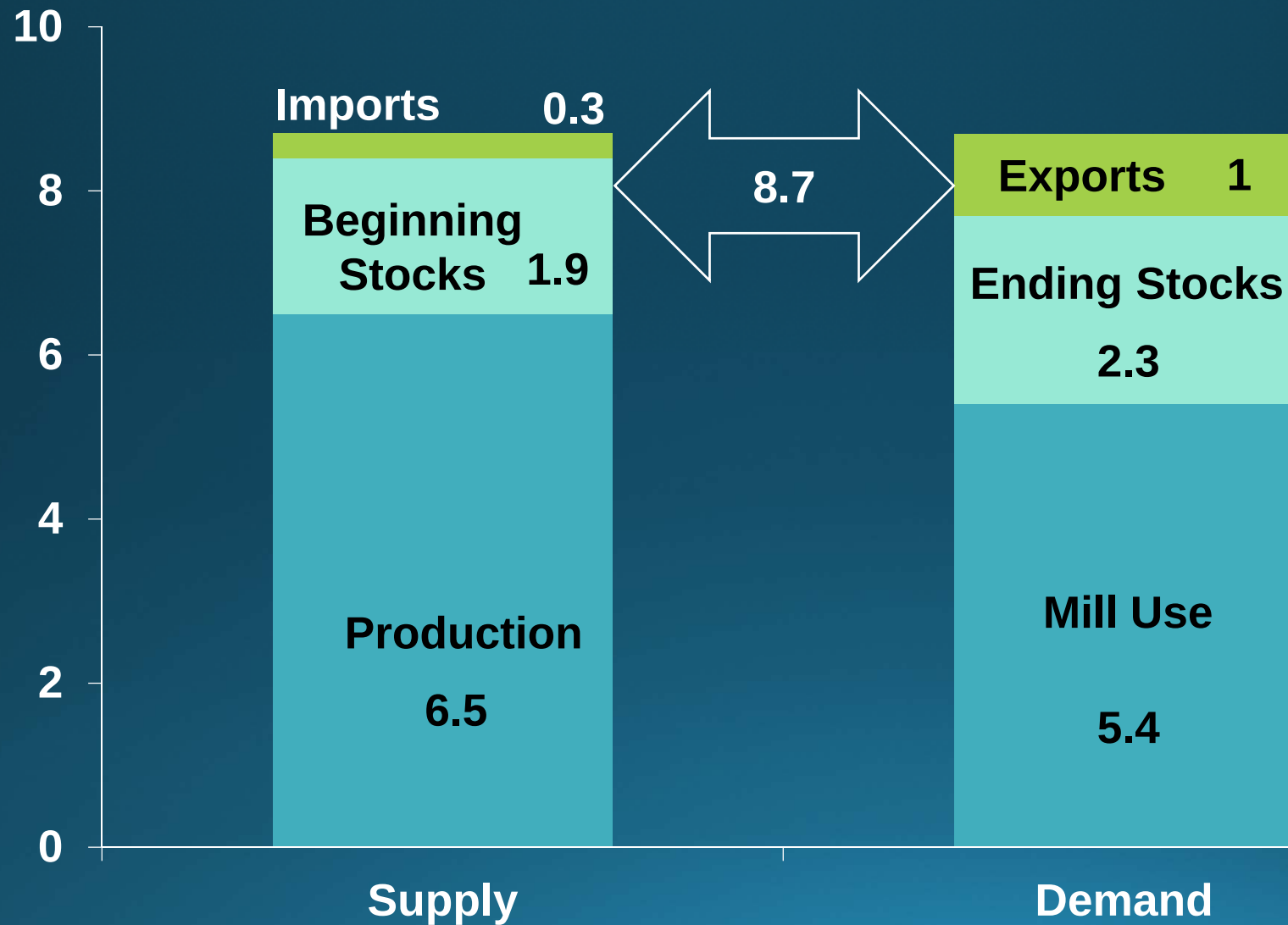
Country Supply = Country Demand



Cotton Fundamentals 2014/15

India

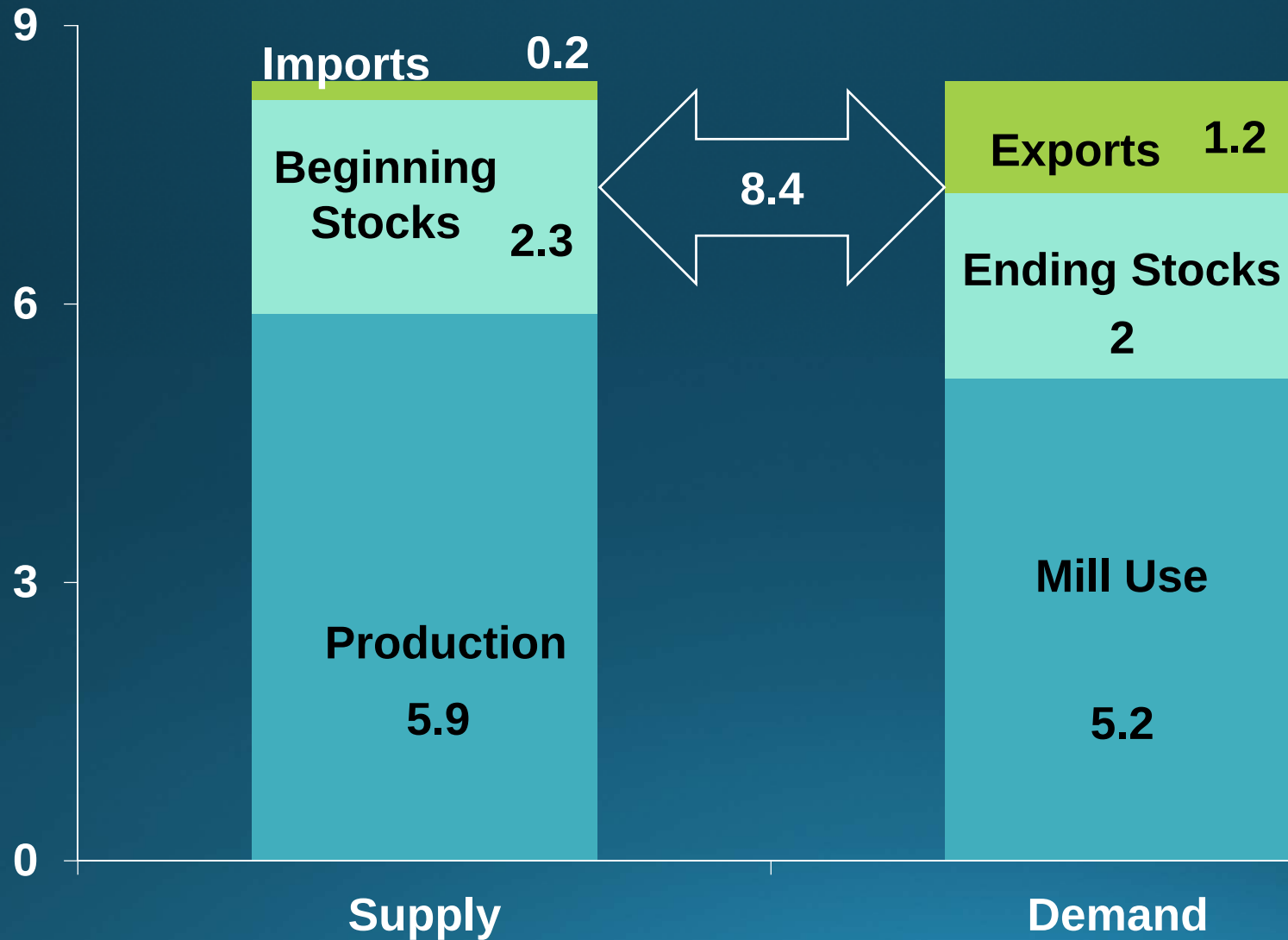
million tons



Cotton Fundamentals 2015/16

India

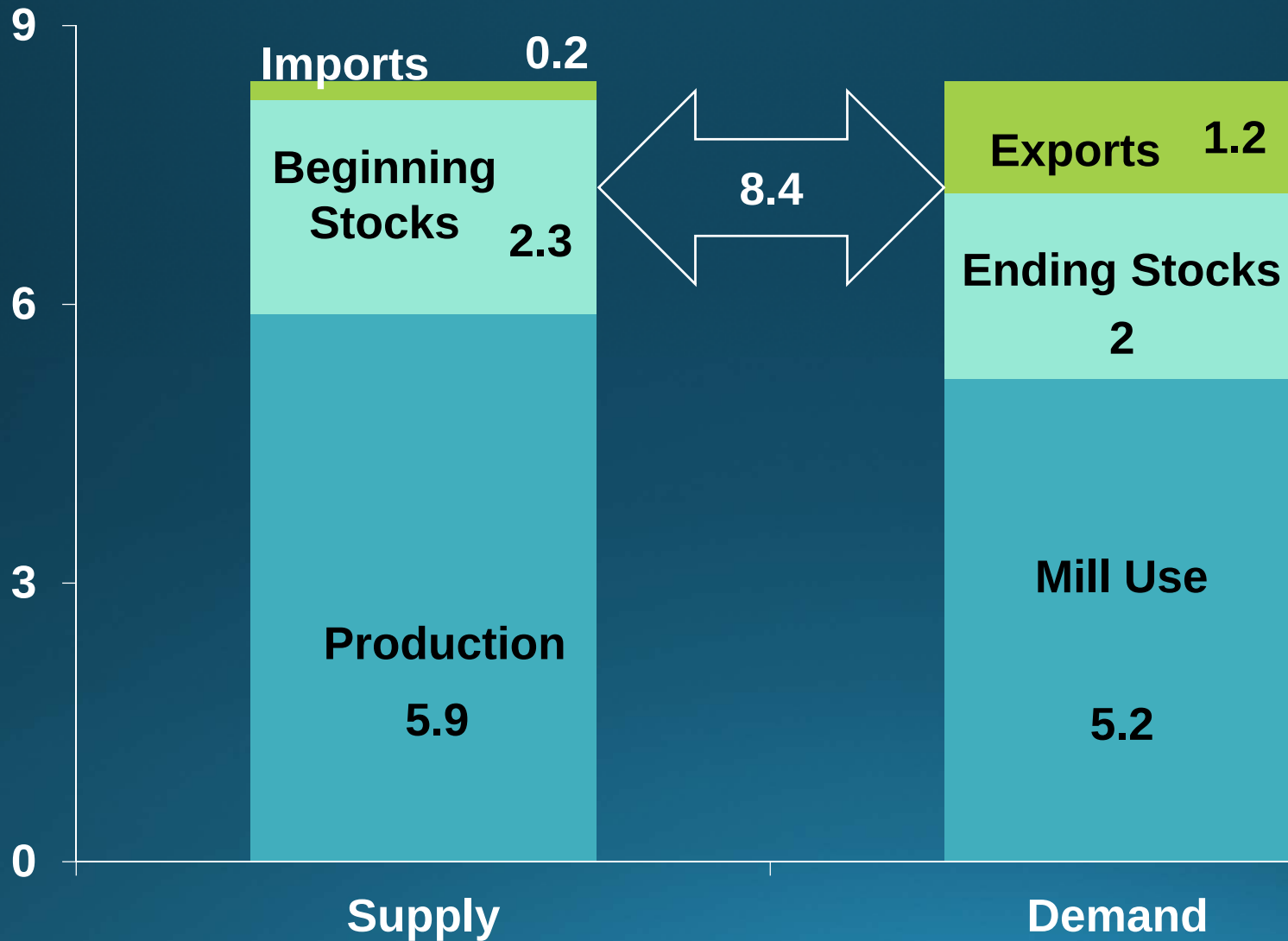
million tons



Cotton Fundamentals 2015/16

China

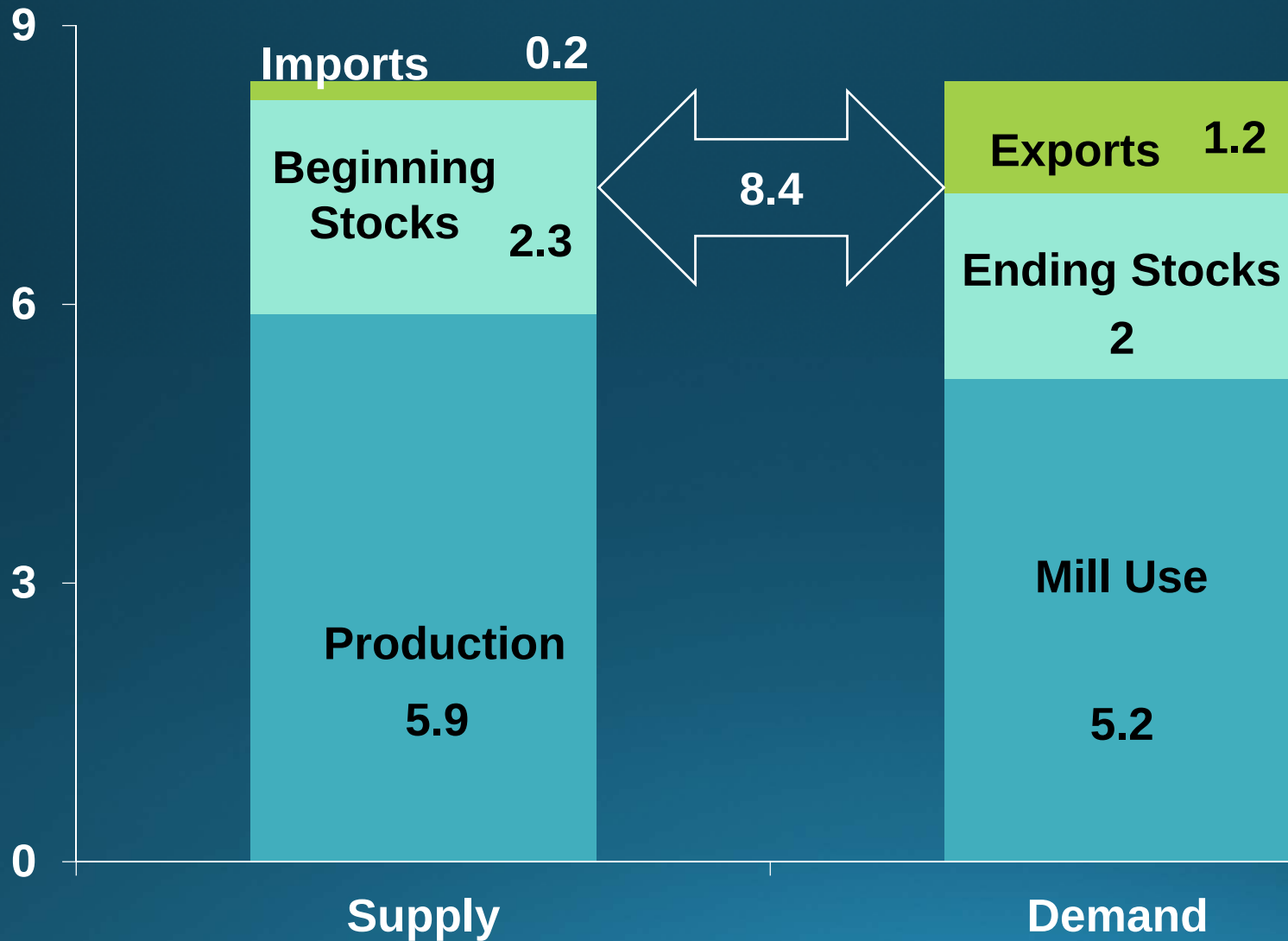
million tons



Cotton Fundamentals 2015/16

USA

million tons



Important Concepts

- **World Ending Stocks =**
Beginning Stocks + Production – Mill Use

- **World Stocks to Use Ratio =**
Ending Stocks / Mill Use

World Ending Stocks 2015/16 = 20.4

World Mill Use 2015/16 = 23.7

World Stocks to Use Ratio 2015/16 = 20.4 / 23.7
= 0.86

Important Concepts

- **Country Ending Stocks =**

Beg. Stocks + Prod. + Imports – Exports – Mill Use

- **Country Stocks to Mill Use Ratio =**

Ending Stocks / Mill Use

- **Country Stocks to Use Ratio =**

Ending Stocks / (Mill Use + Exports)

INDIA:

Ending Stocks 2015/16 = 2

Stocks to Mill Use Ratio 15/16 = 2 / 5.2 = 0.39

Stocks to Use Ratio 15/16 = 2 / (5.2 + 1.2) = 0.31

Cotton Consumption

↑ population, ↑ cotton consumption

↑ income, cotton consumption per capita ↑ ↓

Cotton Consumption

Low income countries:

 income,  market share of cotton

High income countries:

 income, market share of cotton stable at
around 40%

Outlook:

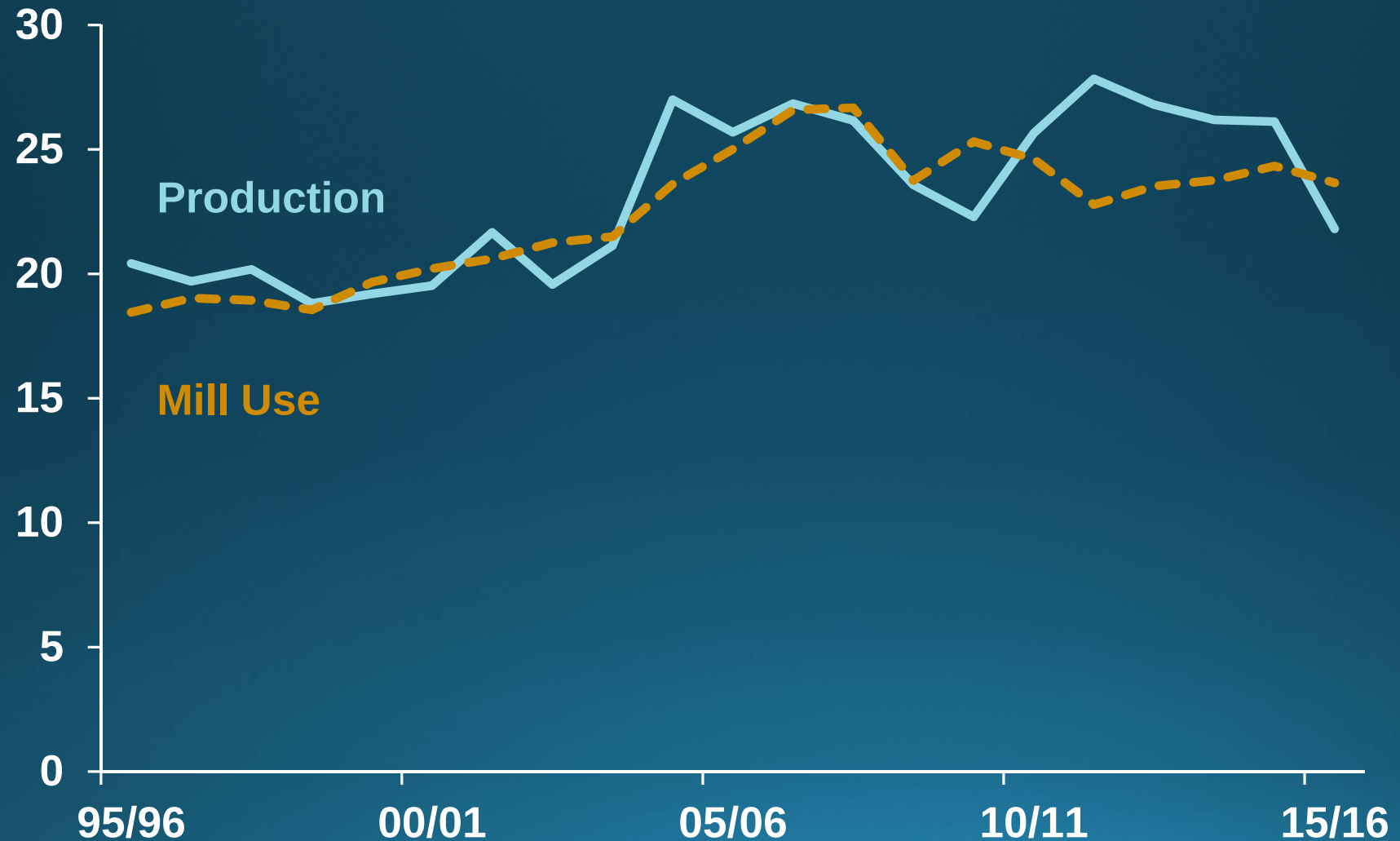
 cotton consumption
 market share of cotton

Supply and Demand

Past Trends

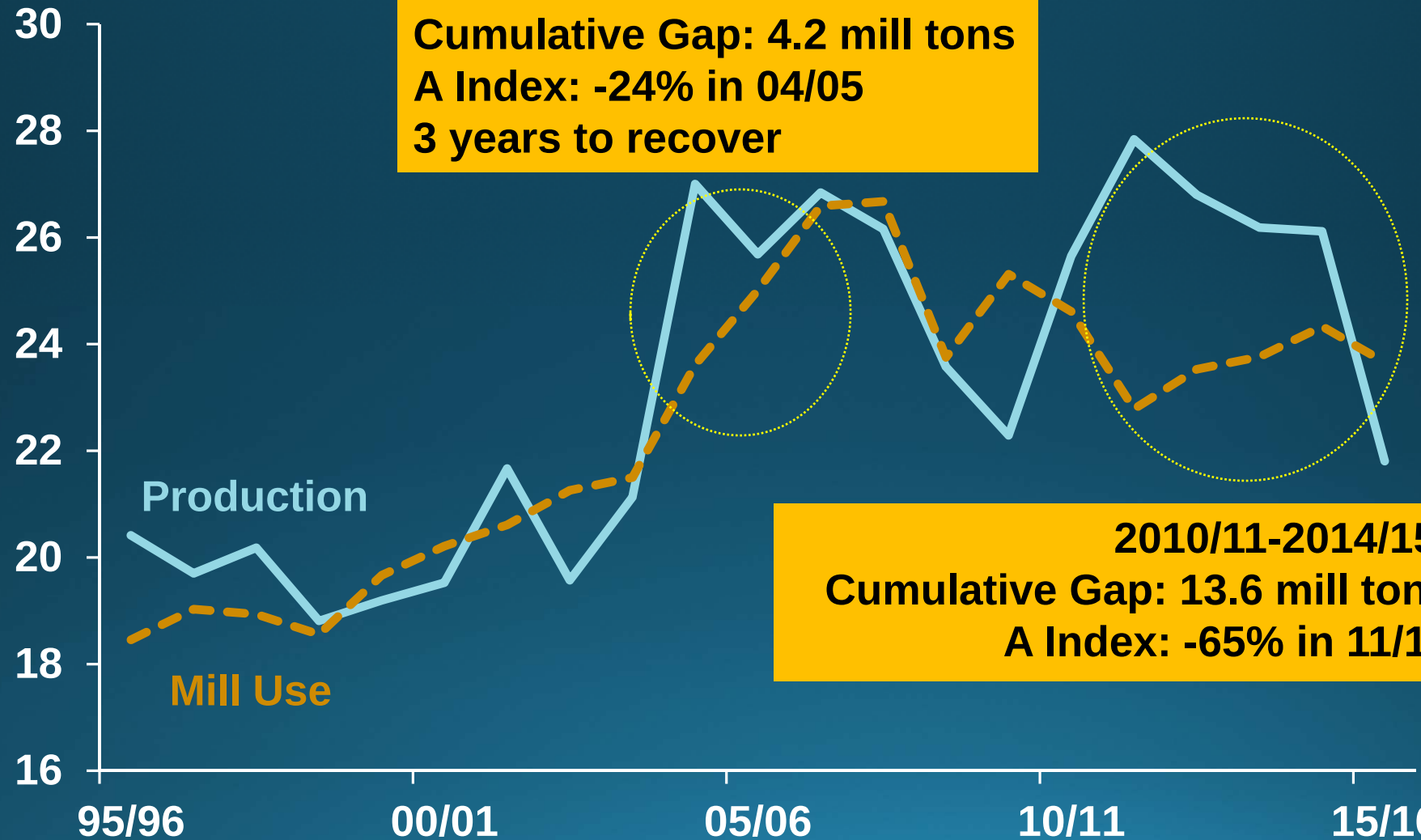
World Cotton Production & Mill Use

million tons

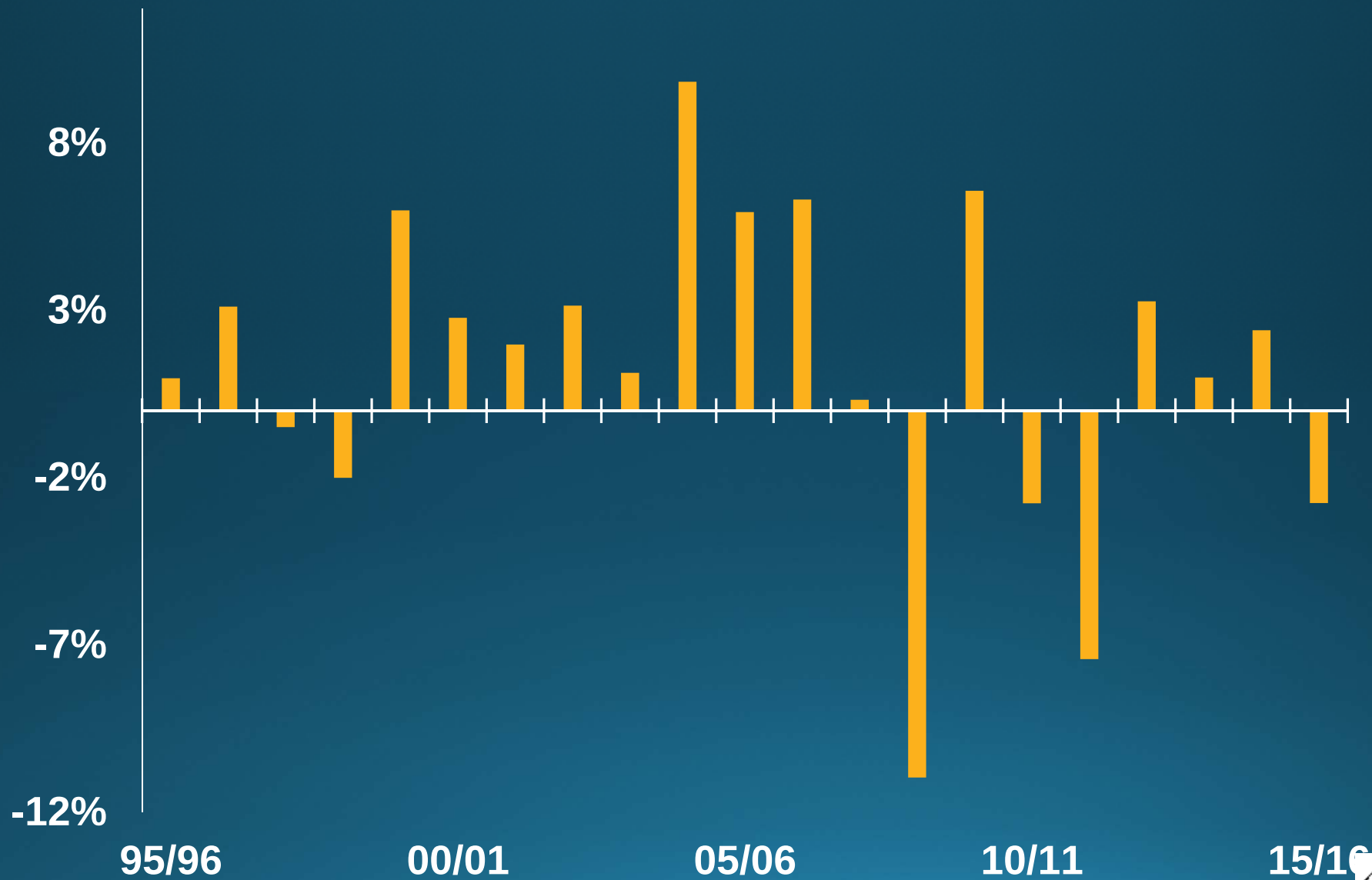


World Cotton Production & Mill Use

million tons

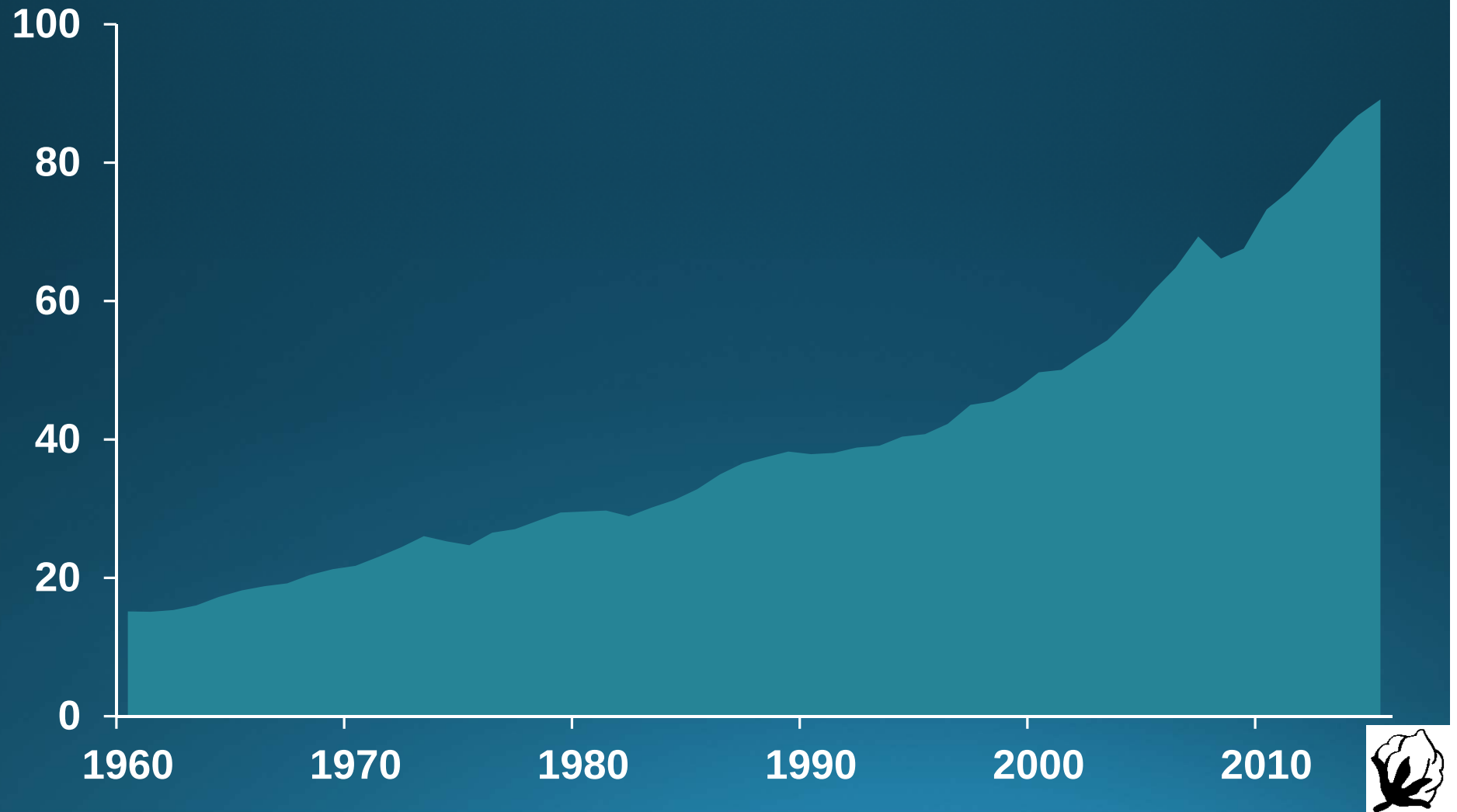


Growth in World Cotton Mill Use

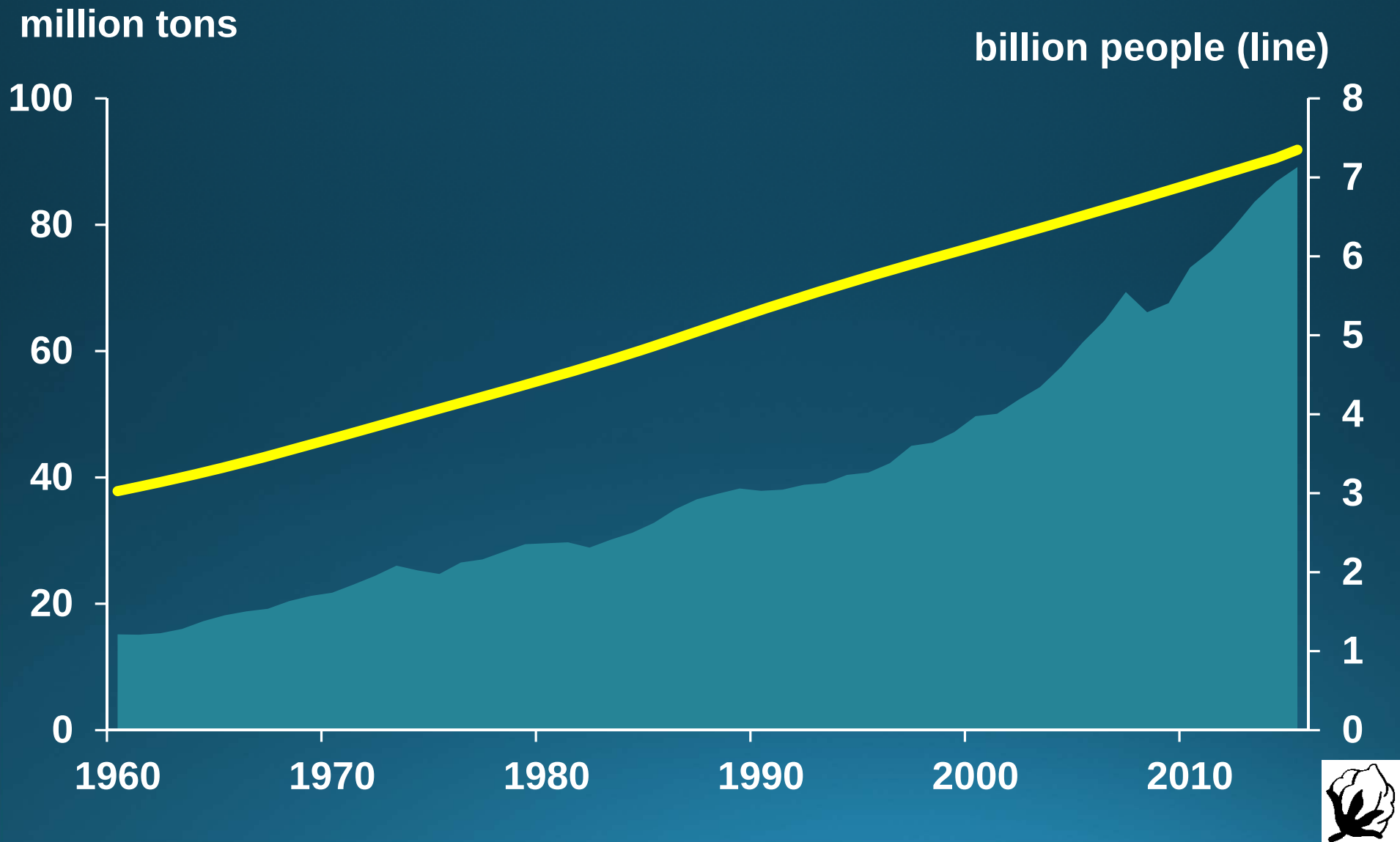


World Consumption of Textile Fibers and Population

million tons

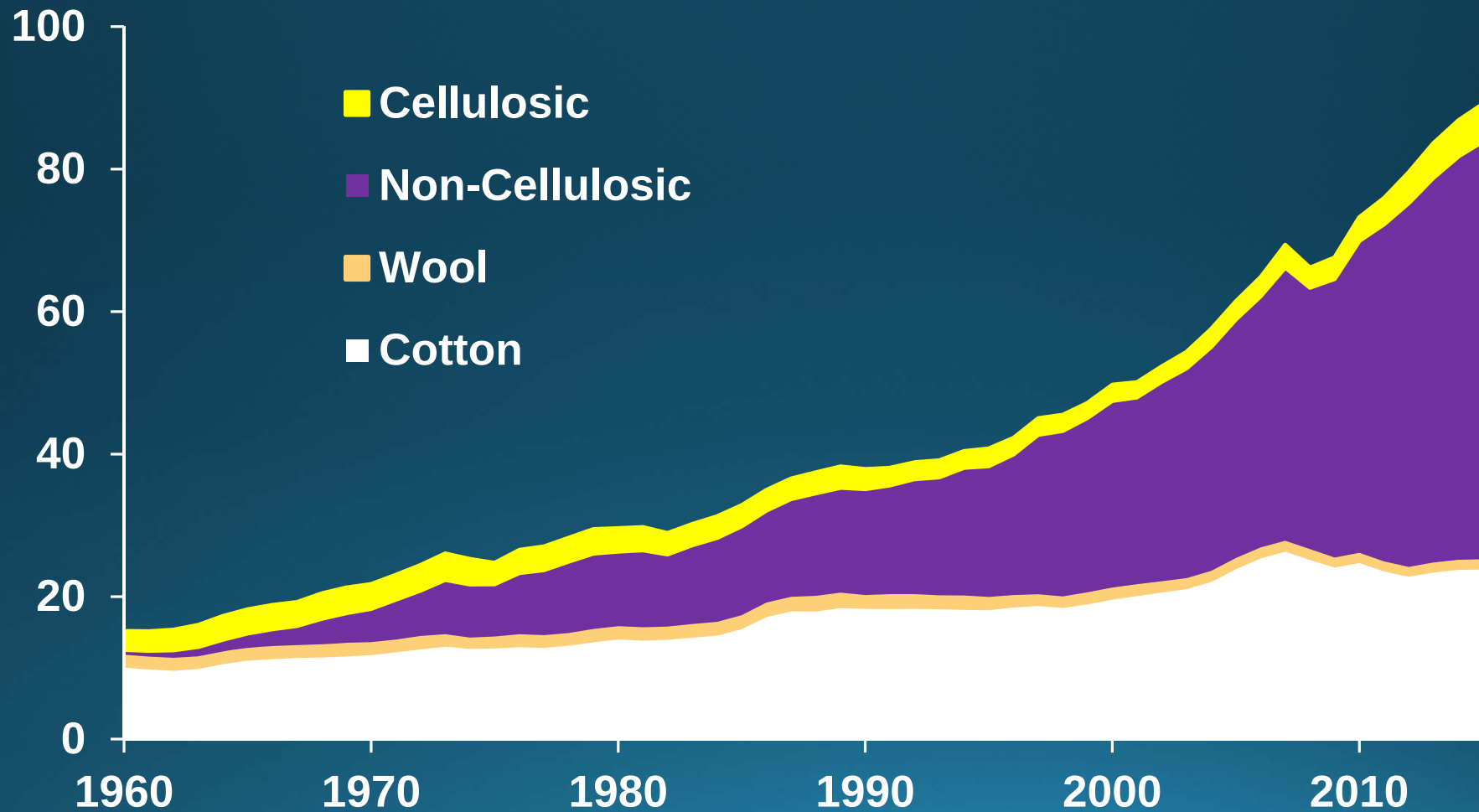


World Consumption of Textile Fibers and Population



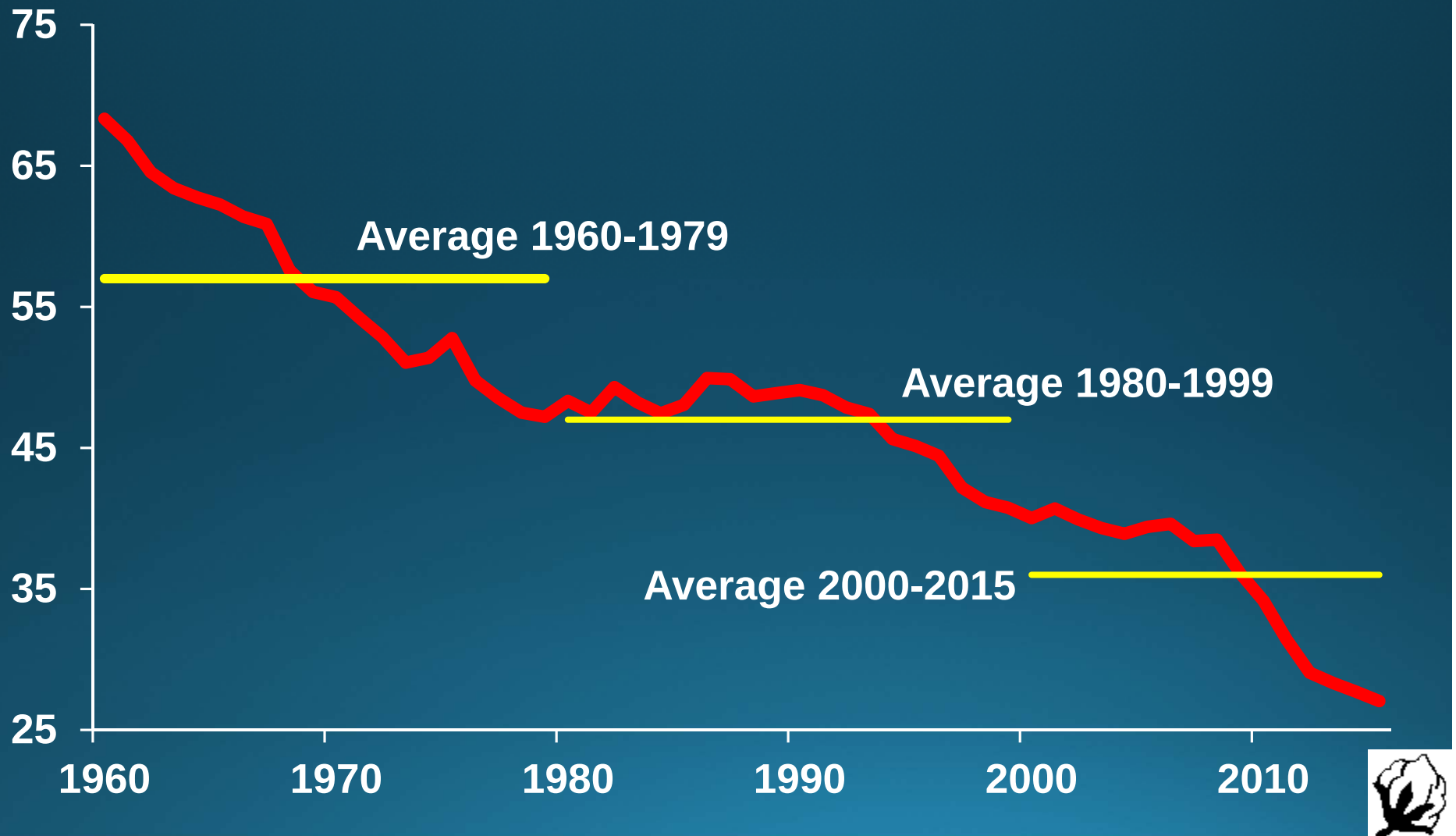
World Consumption of Textile Fibers

million tons



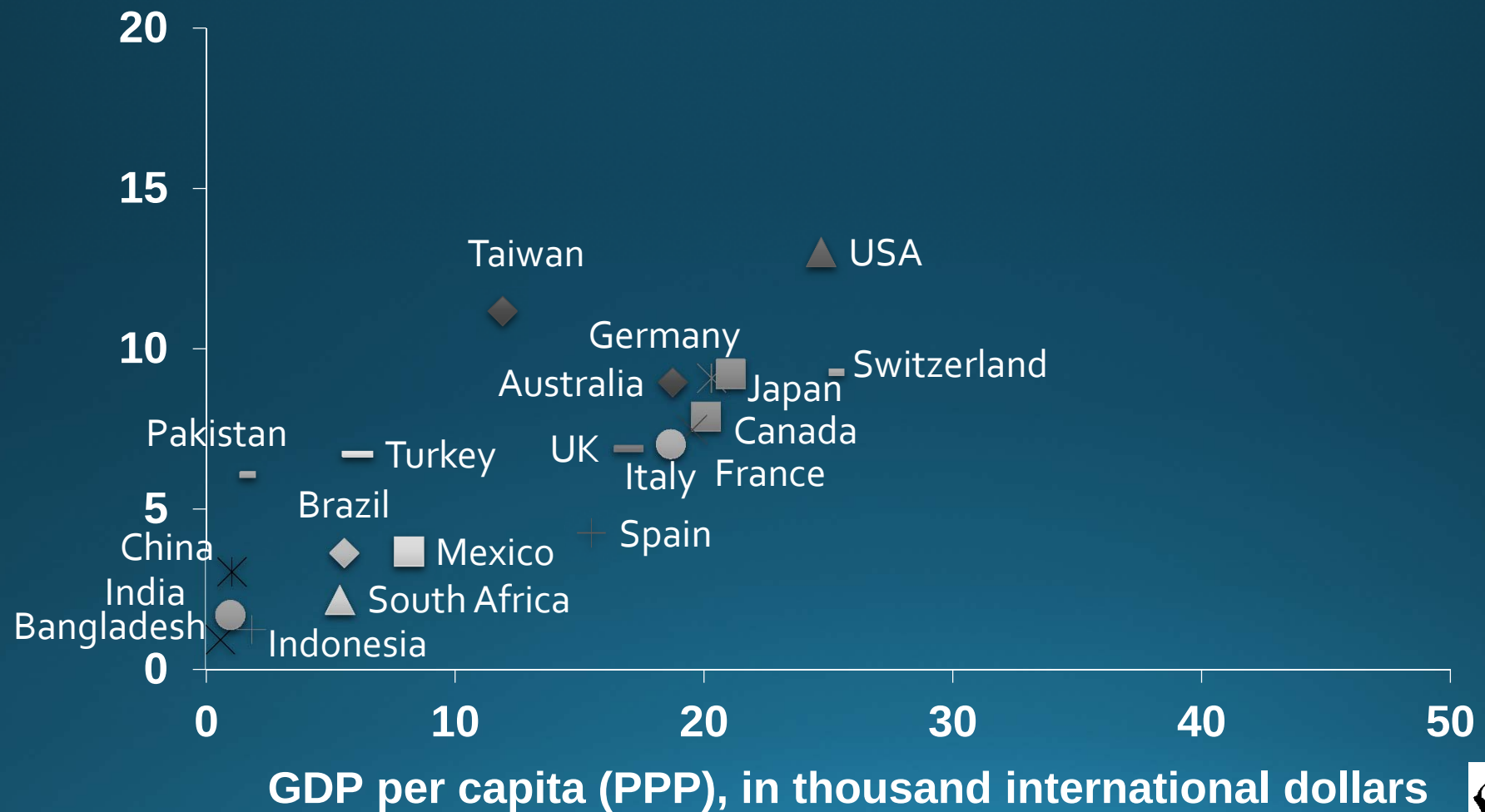
Market Share of Cotton in World Textile Fibers Consumption

Percentage



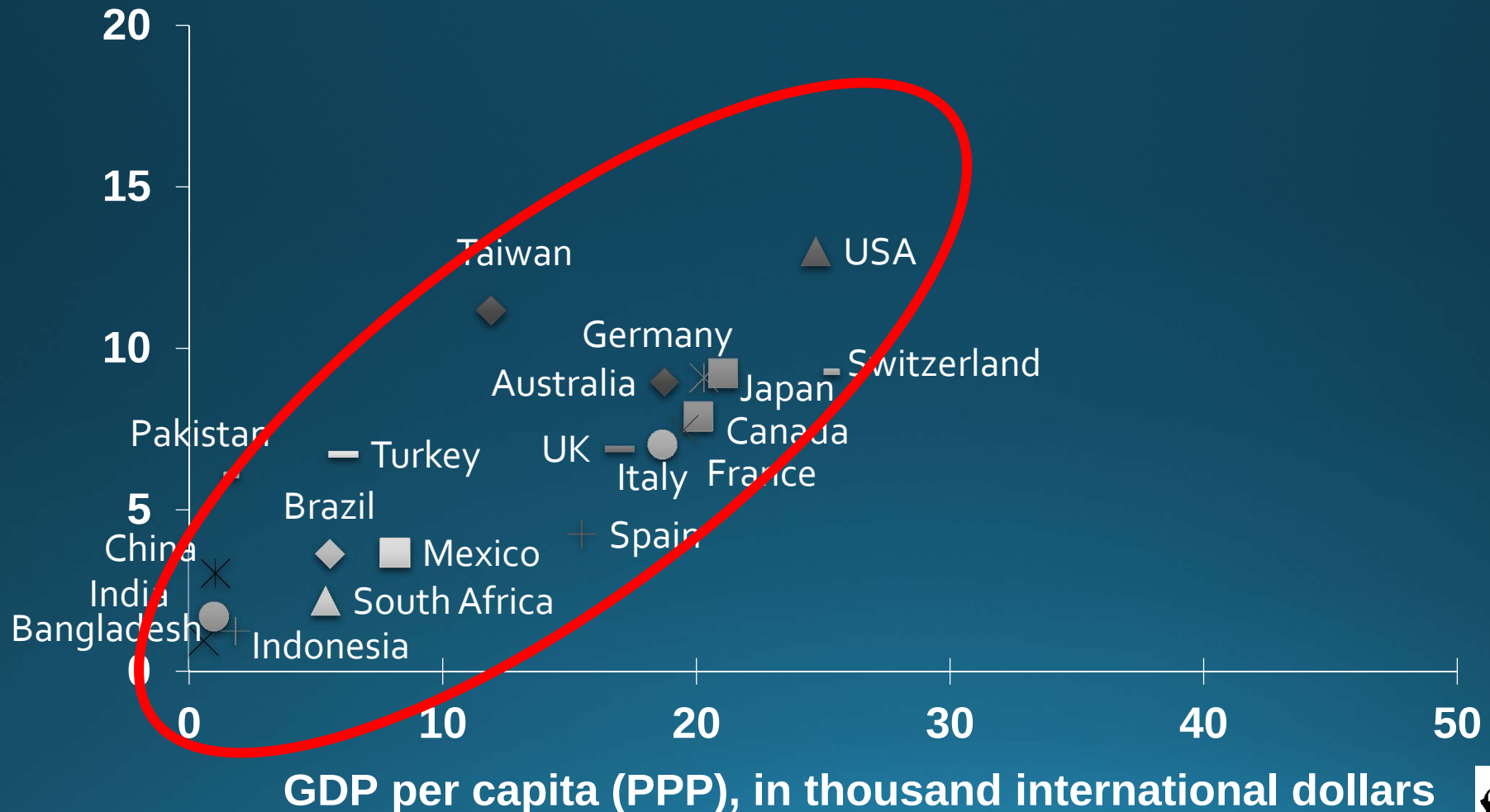
Cotton Consumption per Capita vs. GDP per Capita 1992

Cotton Consumption per Capita, in kgs



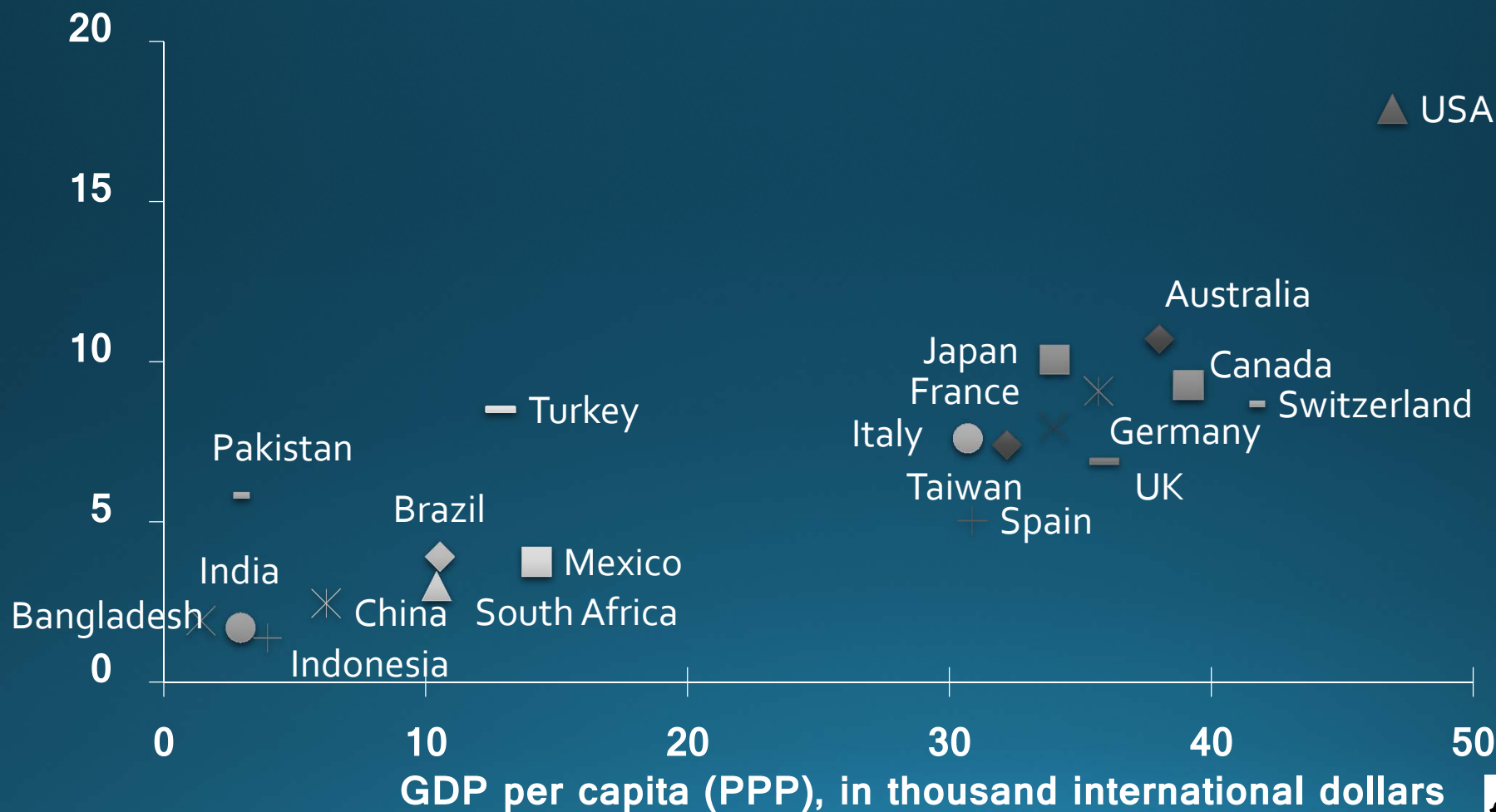
Cotton Consumption per Capita vs. GDP per Capita 1992

Cotton Consumption per Capita, in kgs



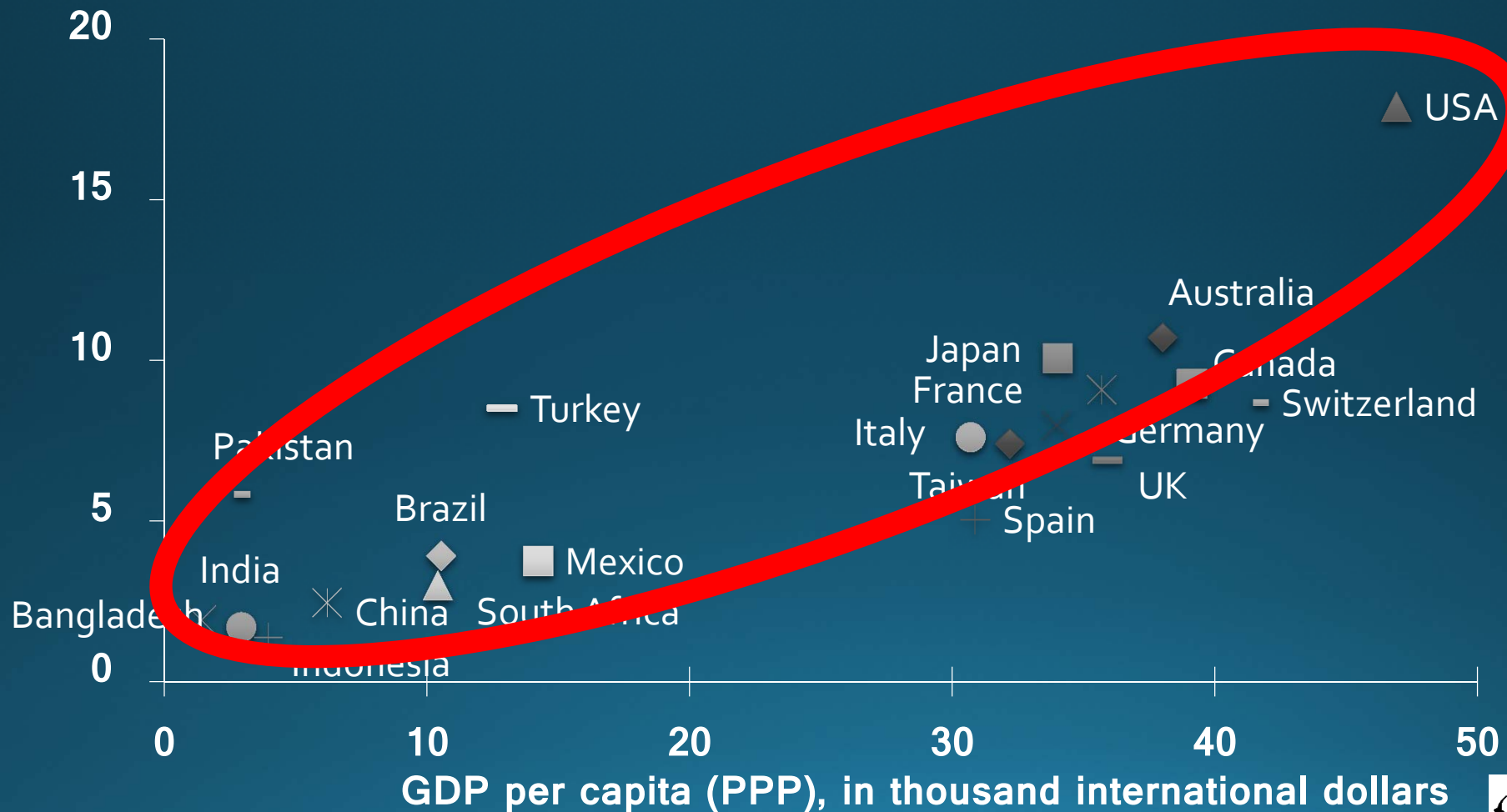
Cotton Consumption per Capita vs. GDP per Capita 2008

Cotton Consumption per Capita, in kgs

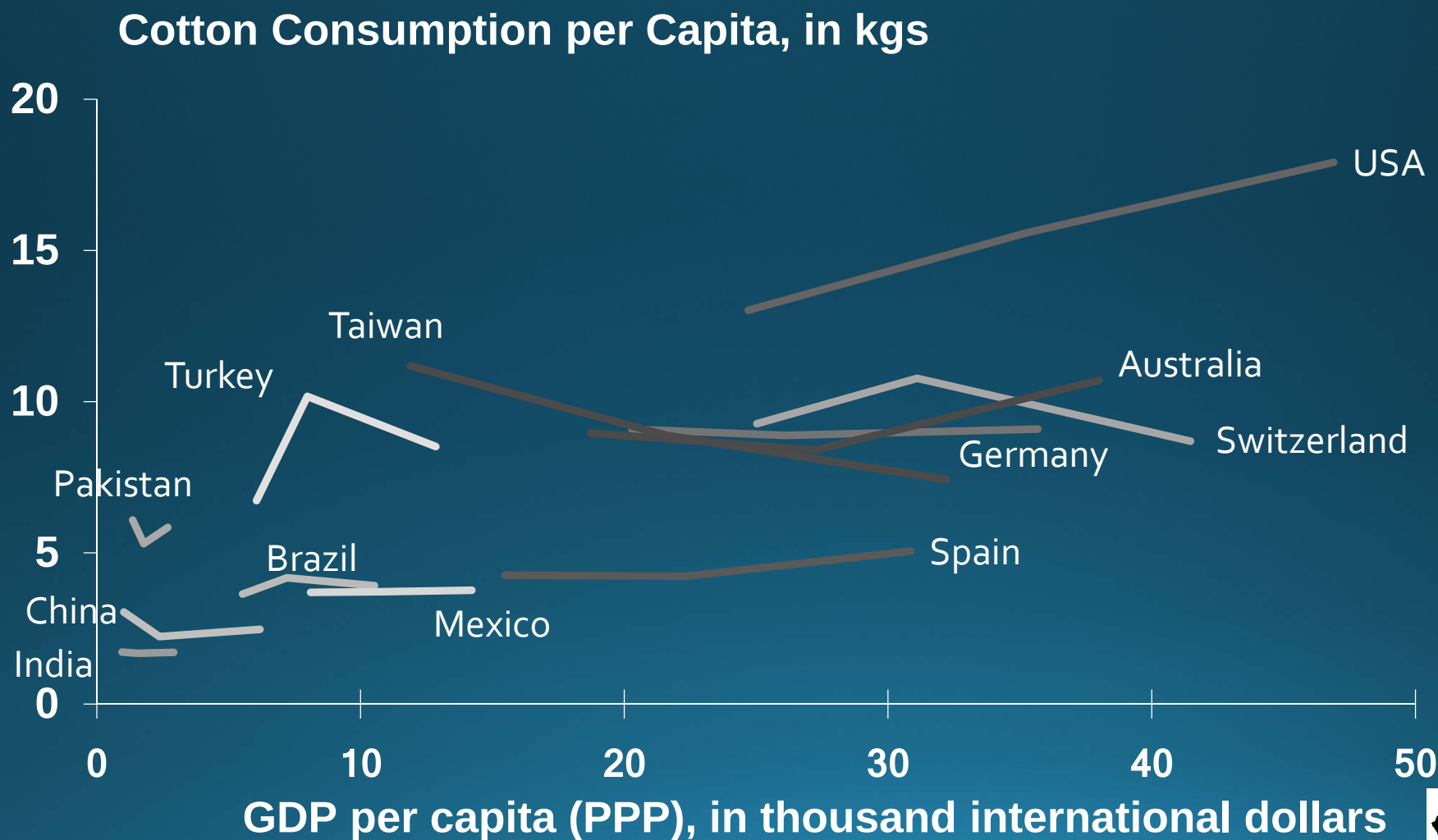


Cotton Consumption per Capita vs. GDP per Capita 2008

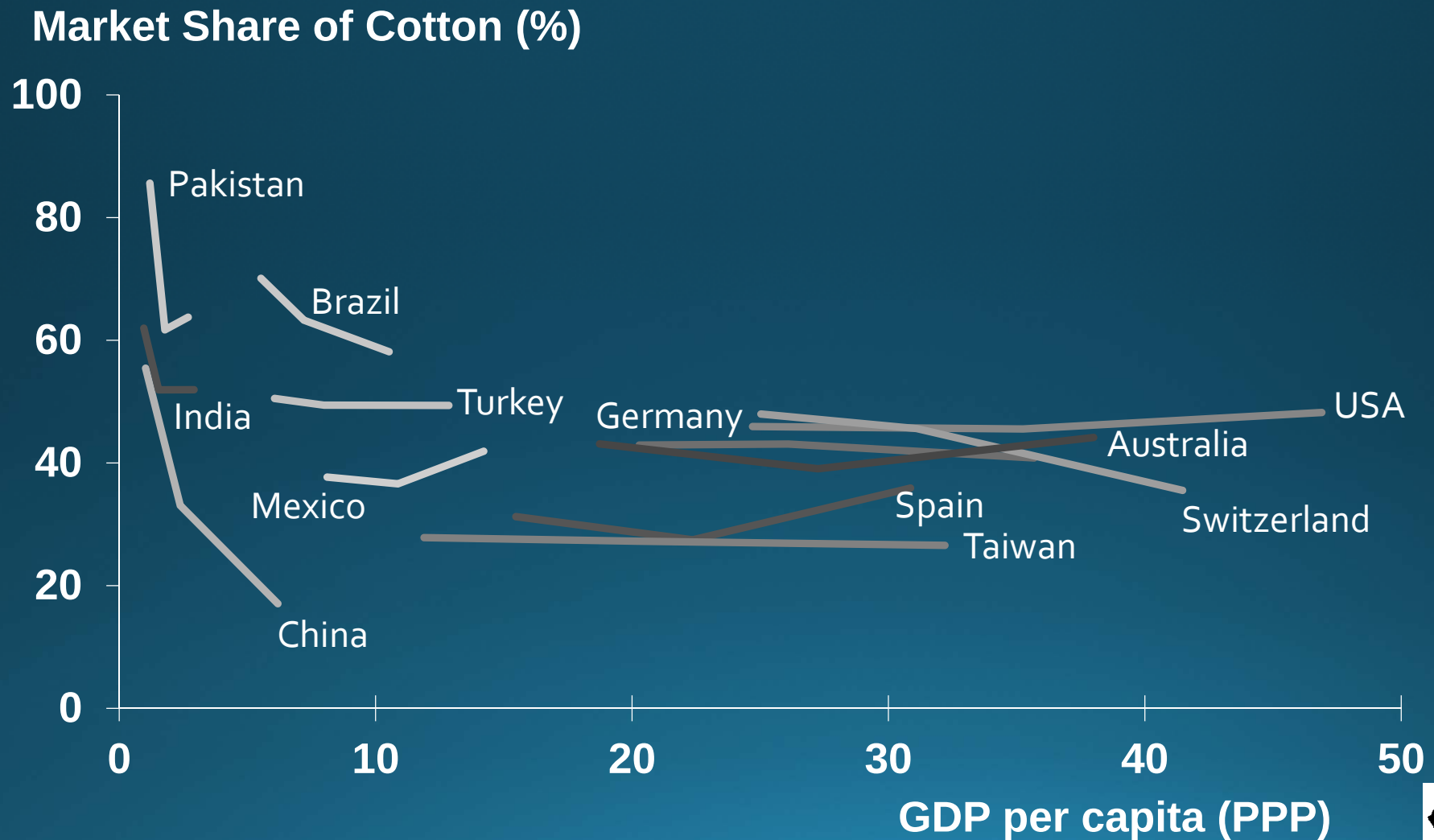
Cotton Consumption per Capita, in kgs



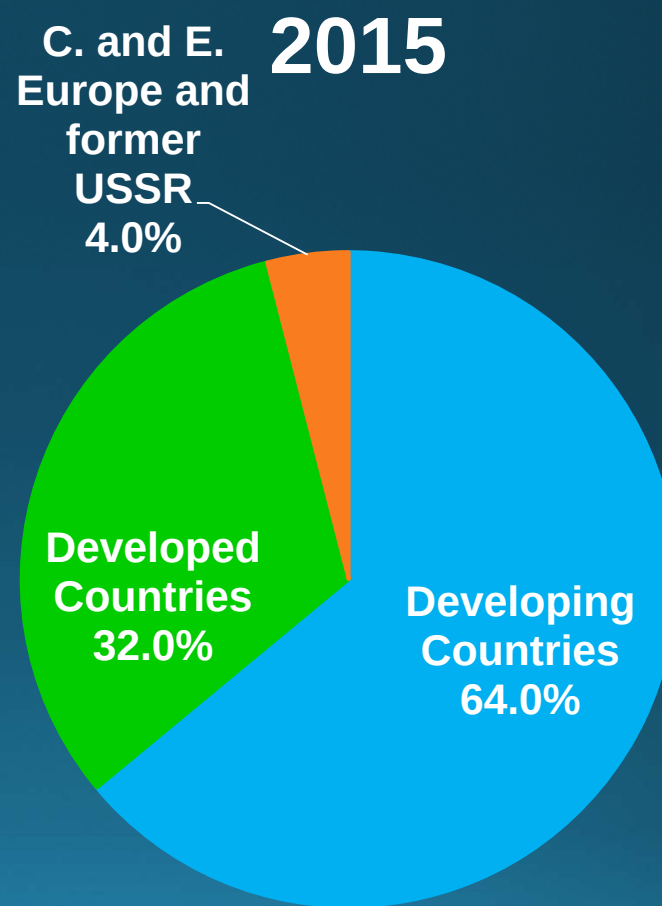
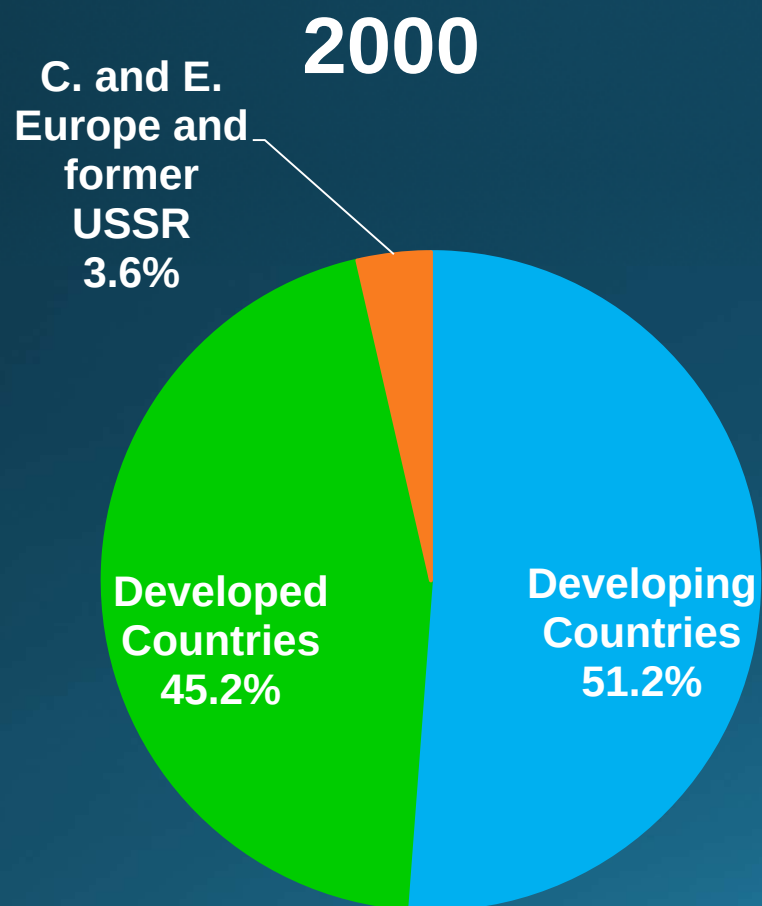
Cotton Consumption per Capita vs. GDP per Capita 1992, 2000, 2008



Market Share of Cotton vs. GDP per Capita 1992, 2000, 2008

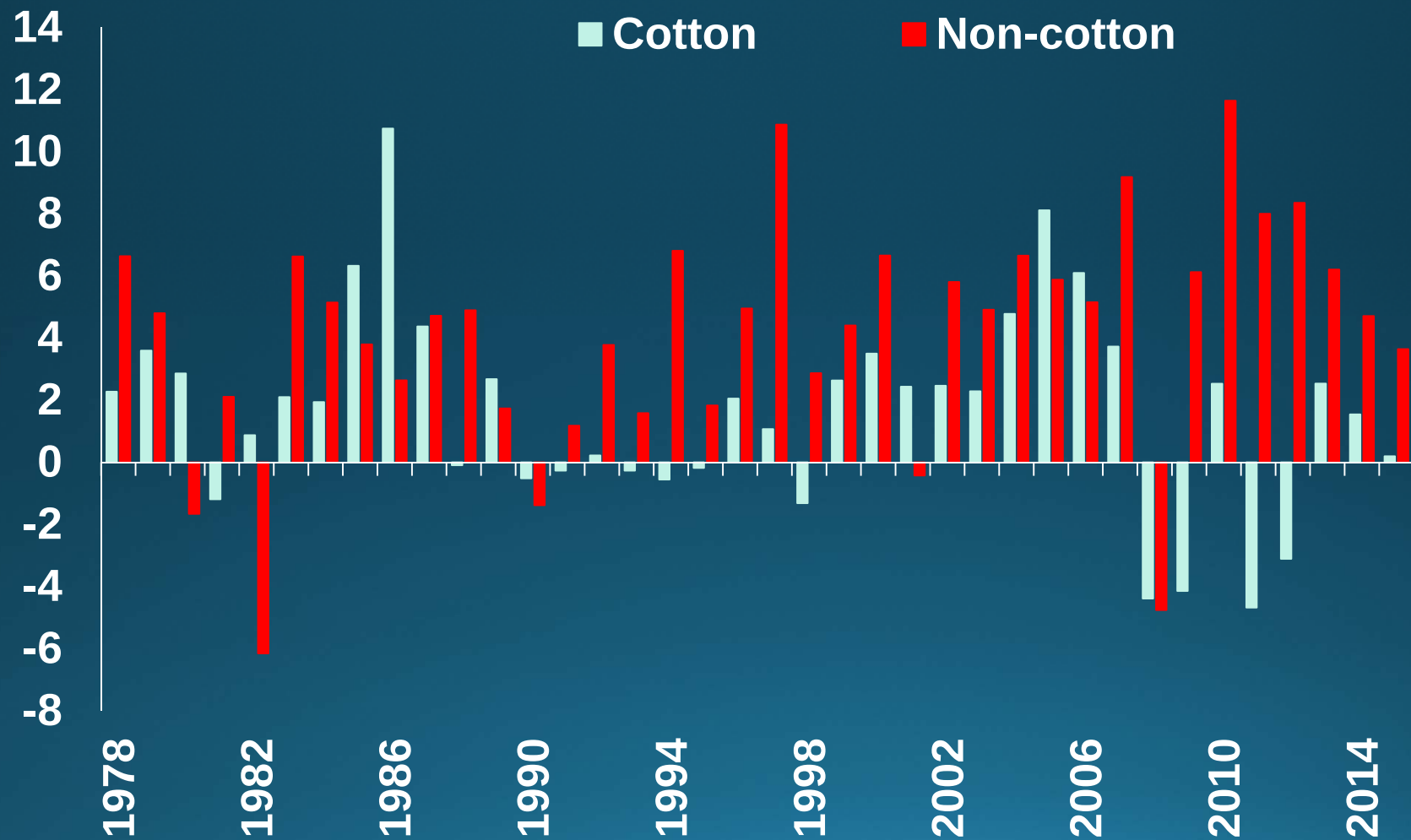


SHARES OF DEVELOPED, DEVELOPING AND CEEU COUNTRIES IN WORLD TEXTILE FIBRE CONSUMPTION



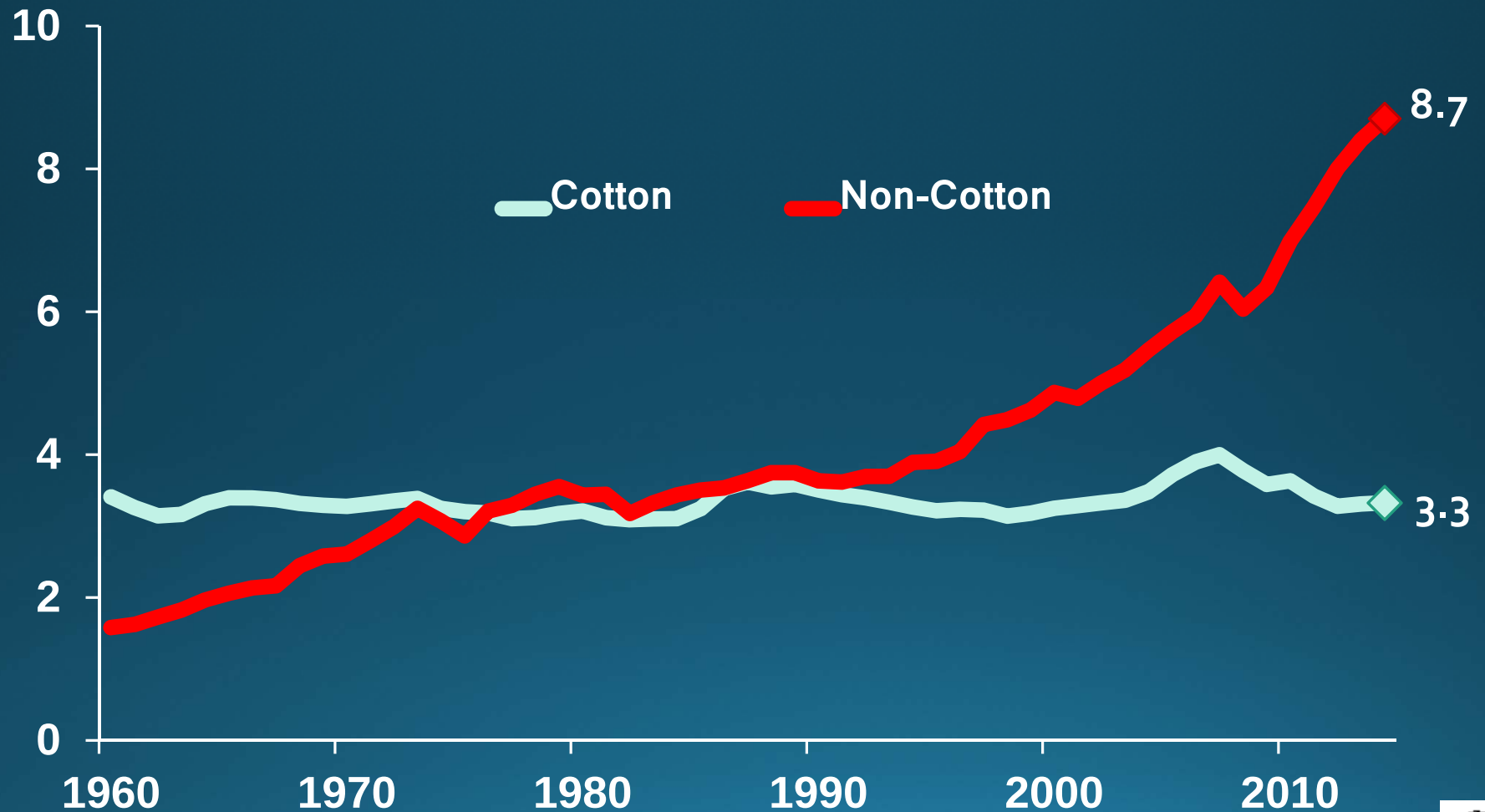
GROWTH OF COTTON AND NON-COTTON FIBER CONSUMPTION: WORLD

% change



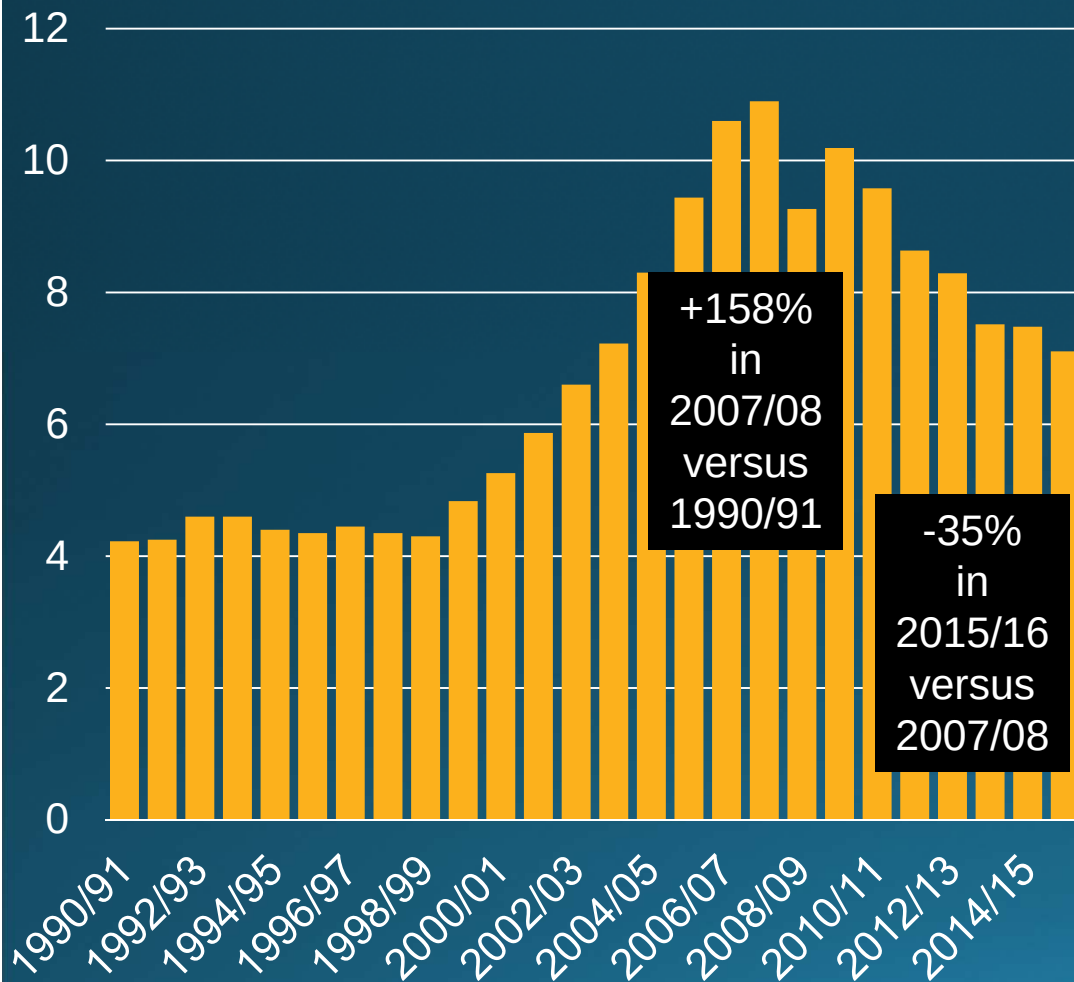
WORLD COTTON AND NON-COTTON TEXTILE FIBER CONSUMPTION PER CAPITA

kg/capita

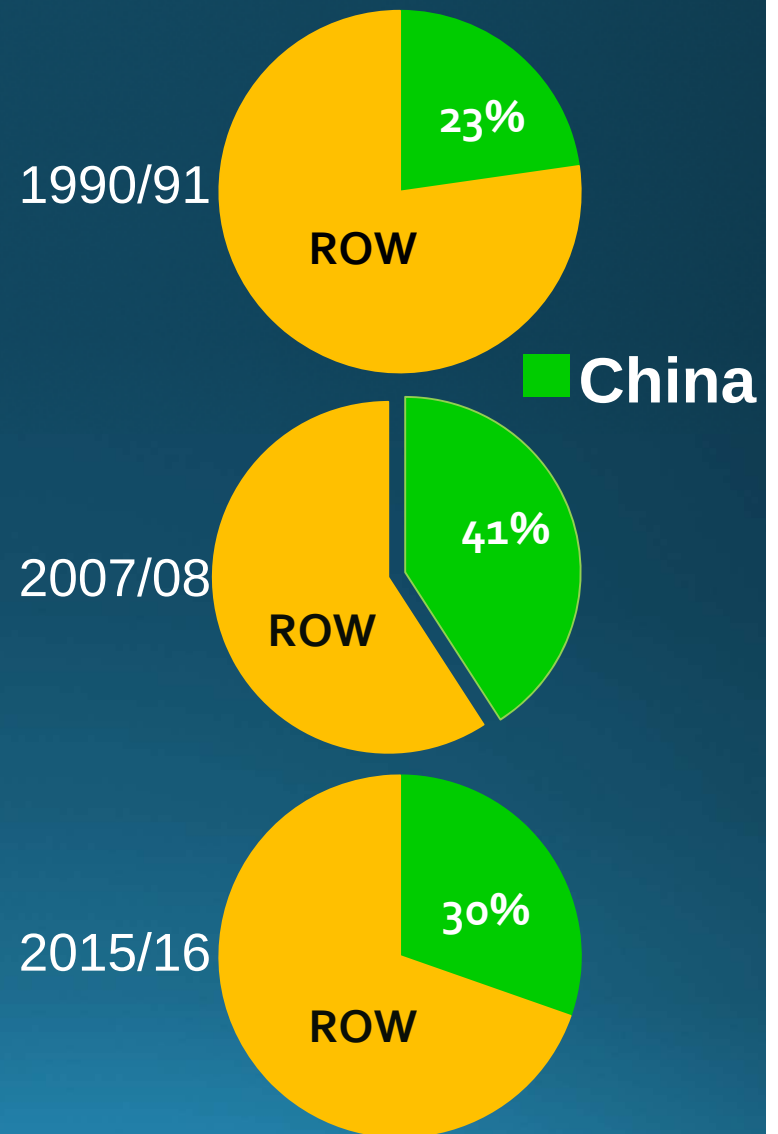


Chinese Cotton Mill-Use

Growth in Chinese Cotton Mill-Use 1991-2015

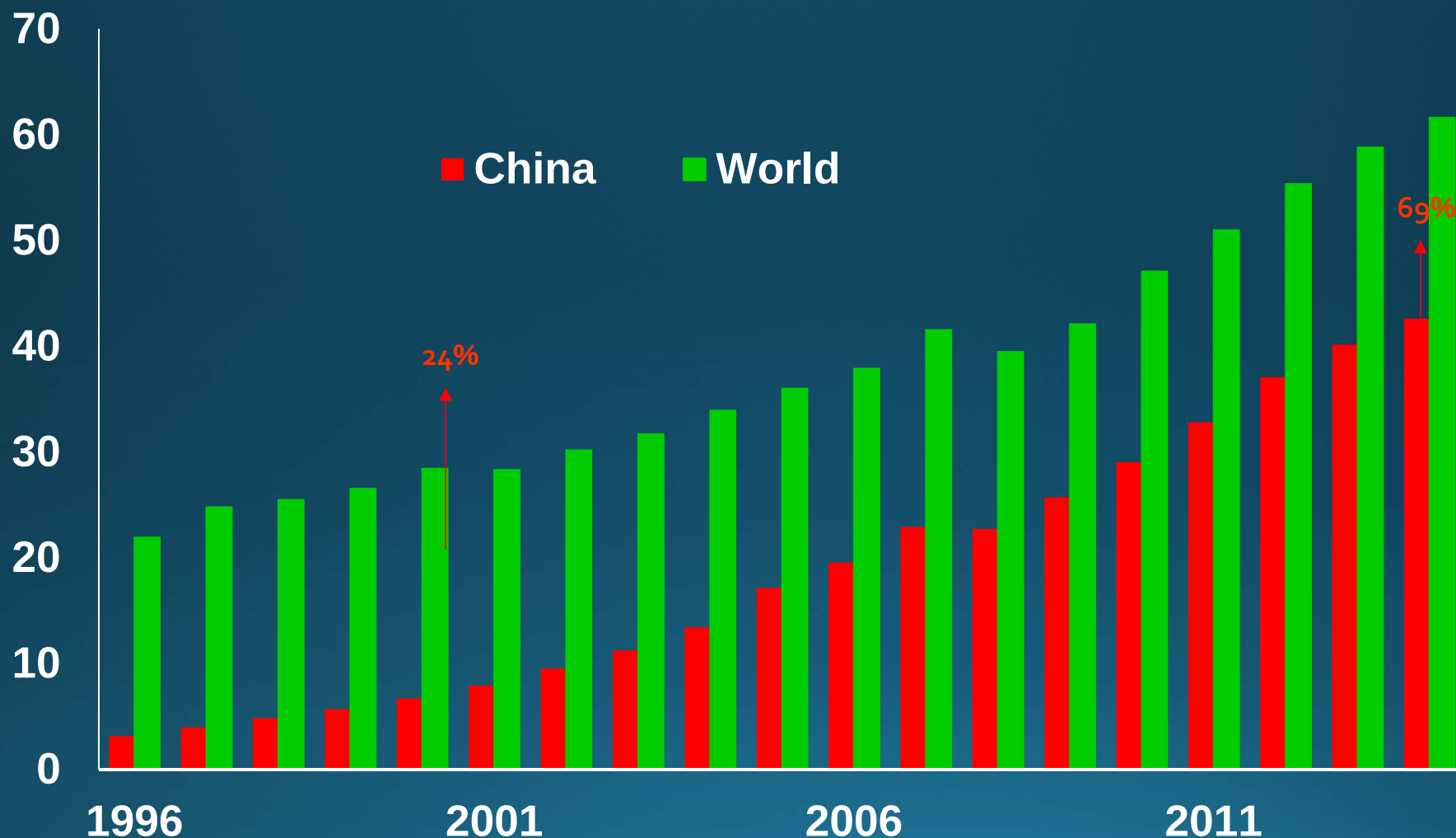


China's Share of Global Cotton Consumption



Chemical Fiber Yarn Production

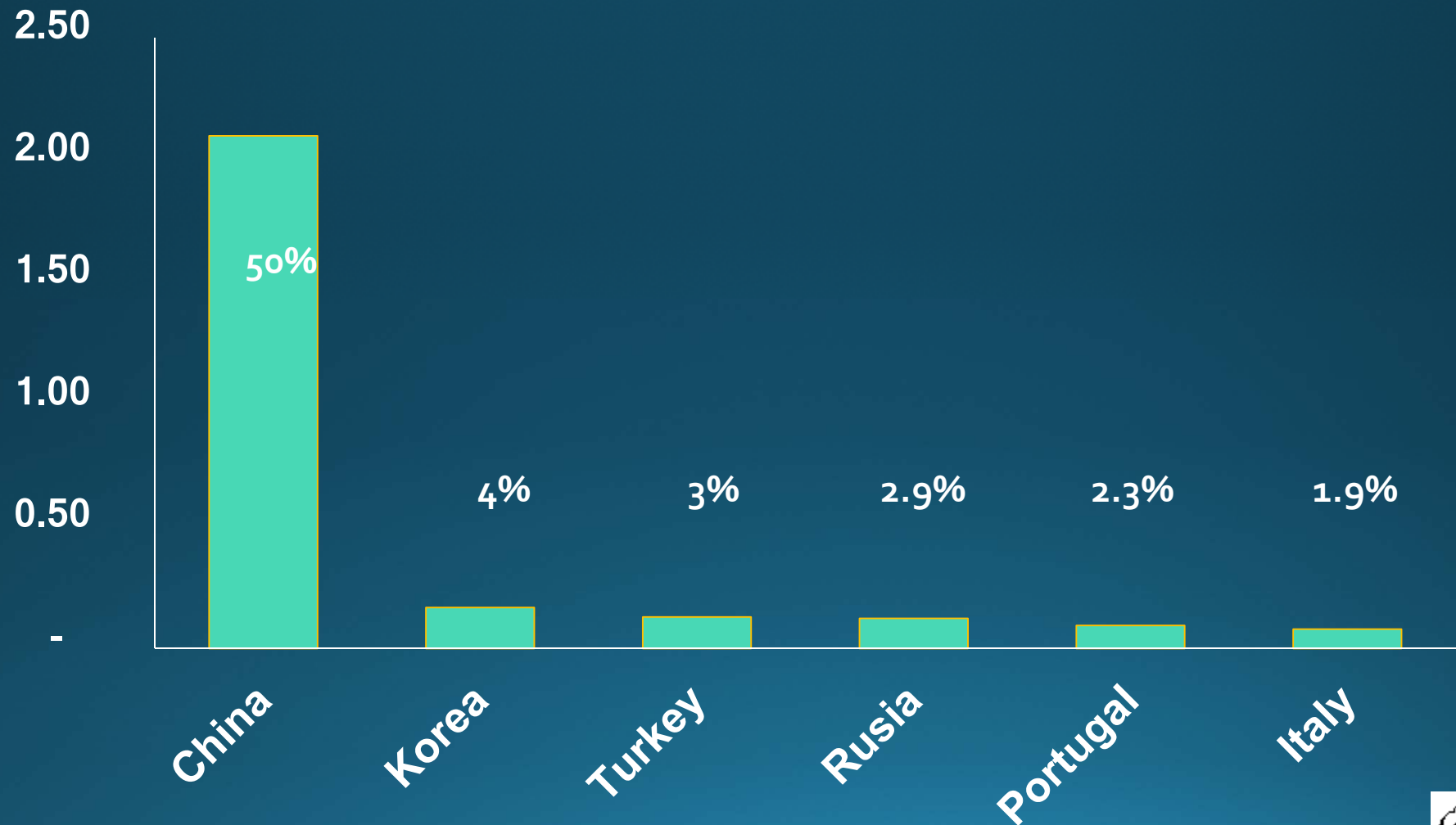
million tons



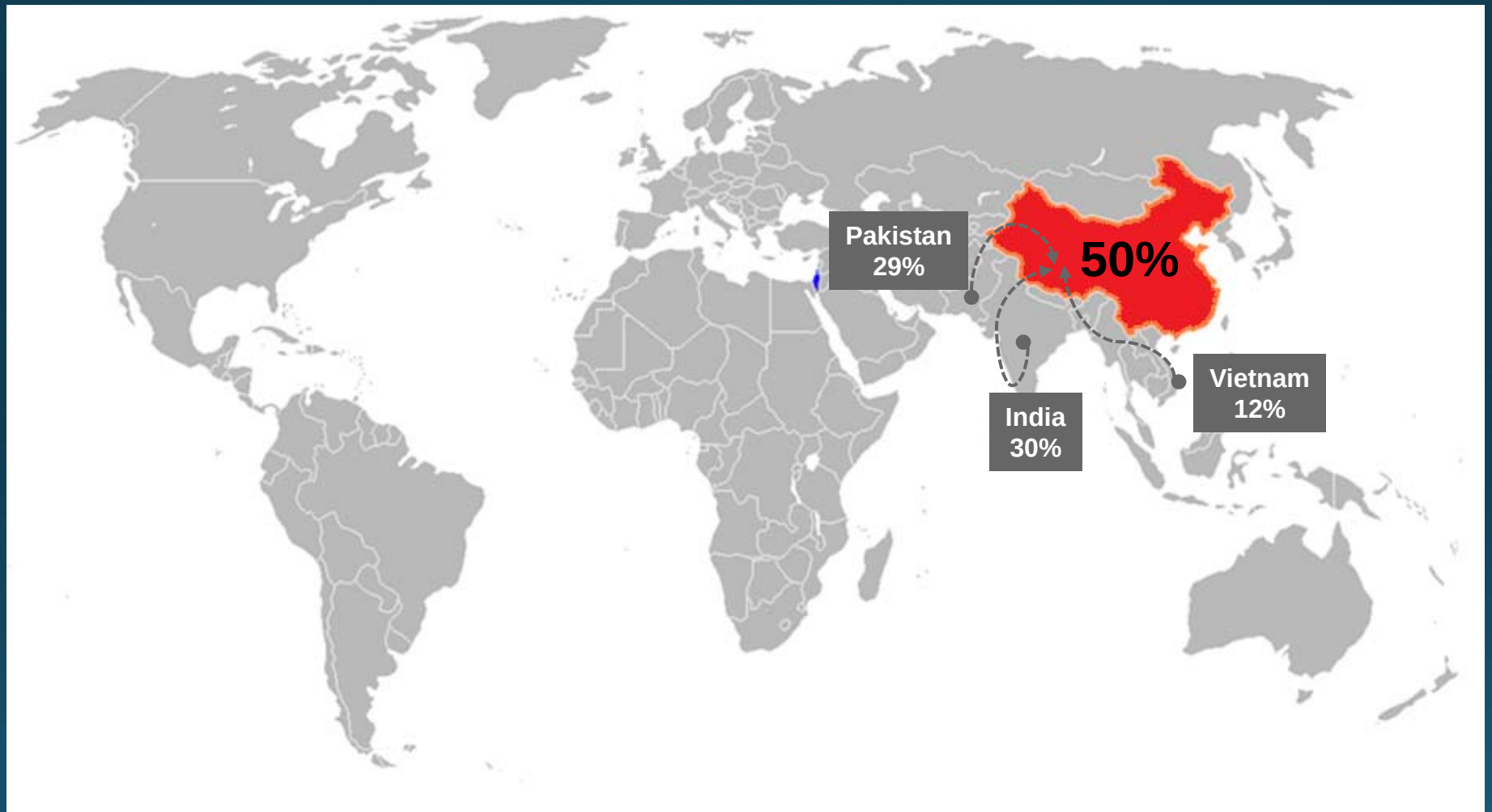
Cotton Yarn Imports in 2013

Leading Countries

million tons

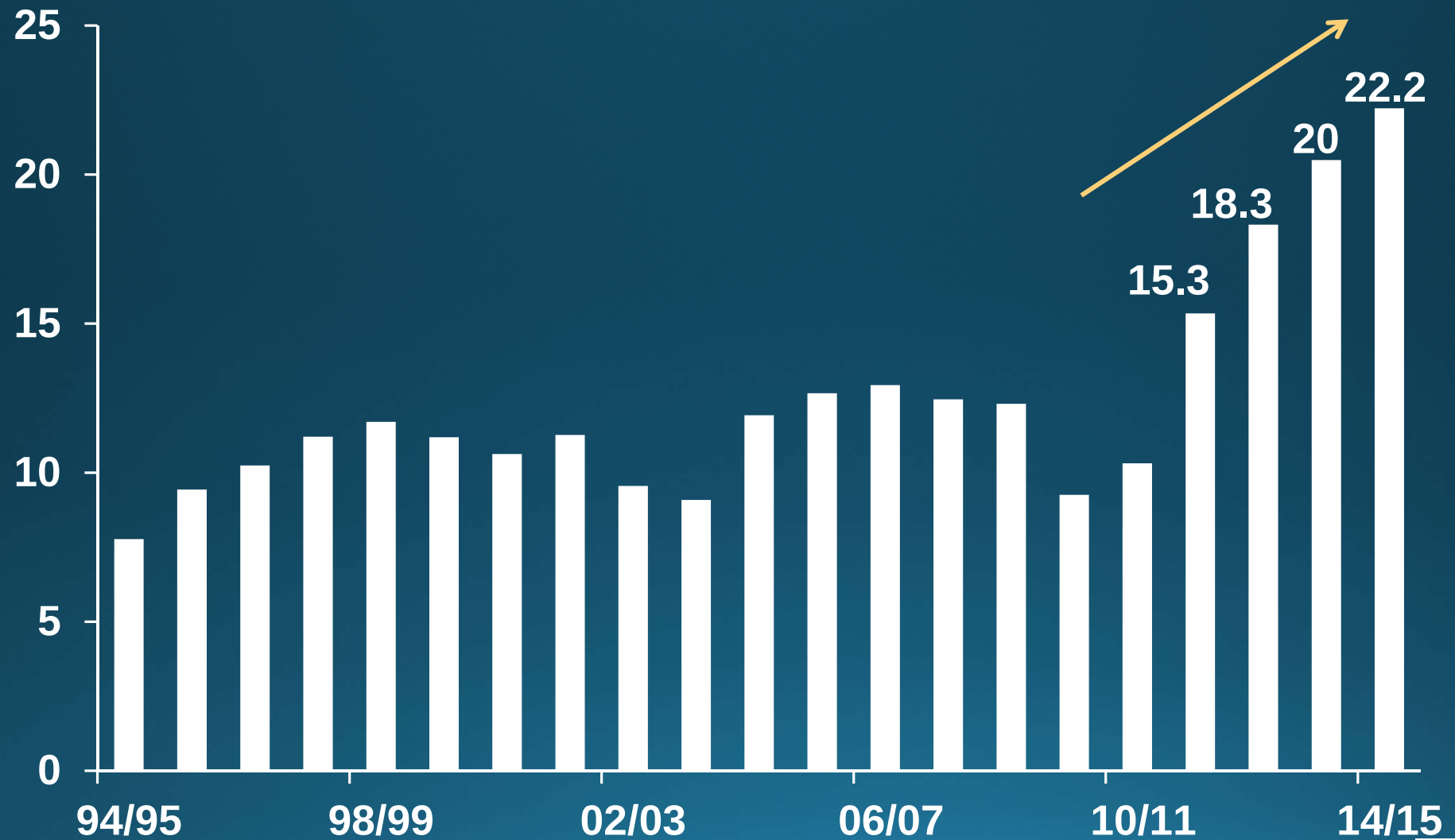


World Cotton Yarn Imports in 2013



World Ending Stocks

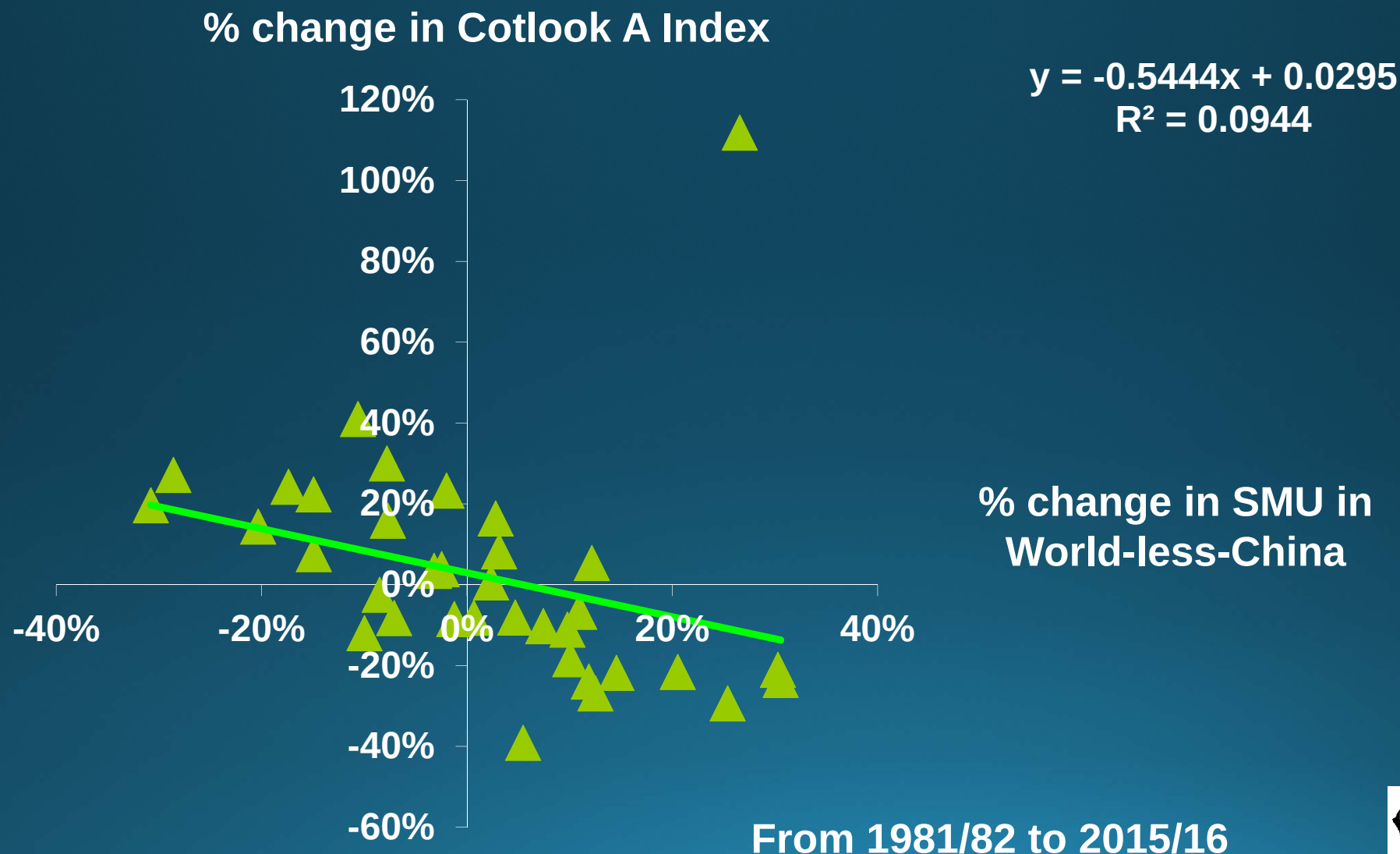
million tons



Prices

Past Trends

A Index and Stock-to-Mill Use Ratio in World Less-China



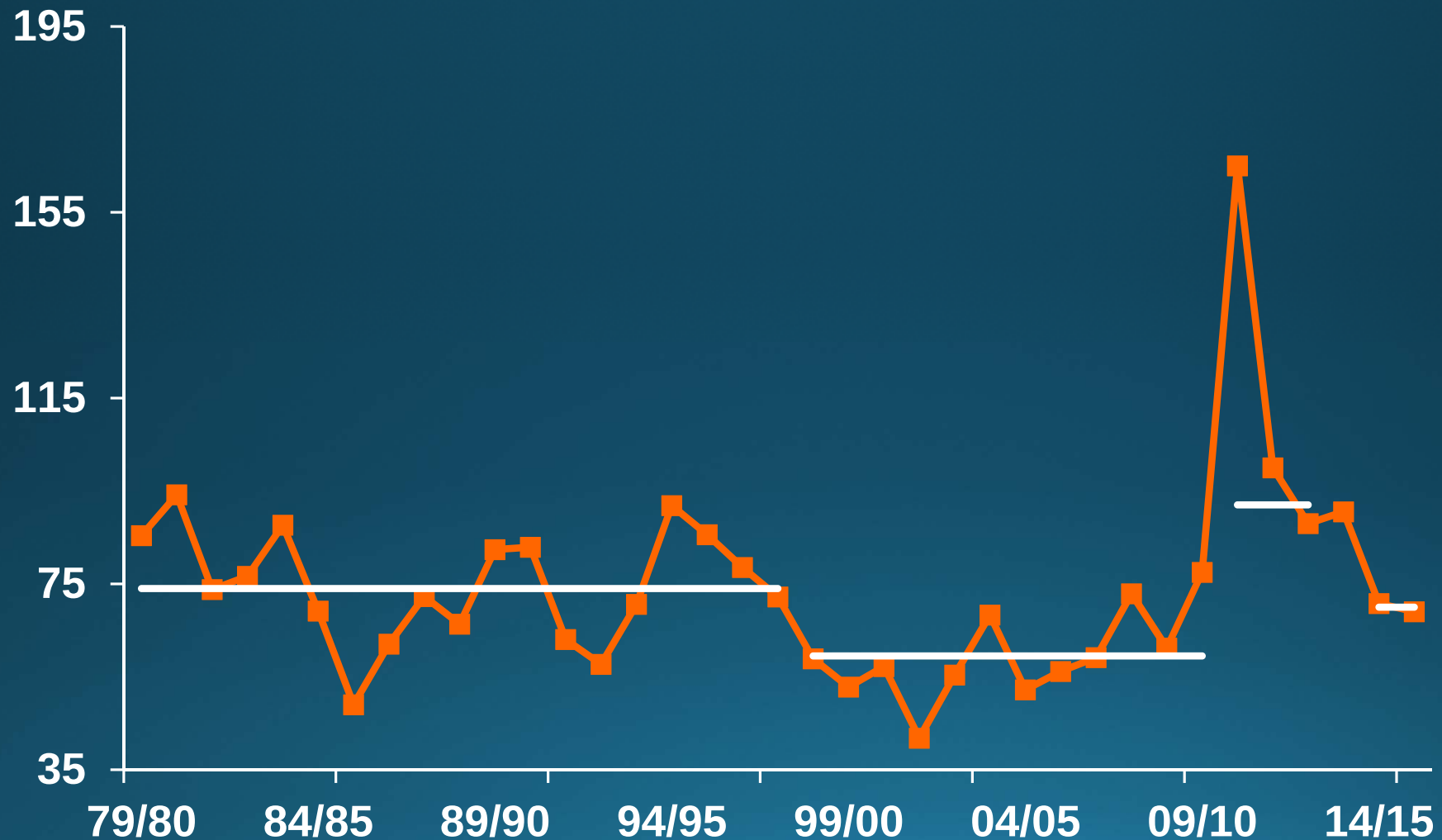
A Index and Nearby NY Futures Prices

US cents/lb



Season-Average A Index

US cents/lb



(source: Cotton Outlook Ltd.)



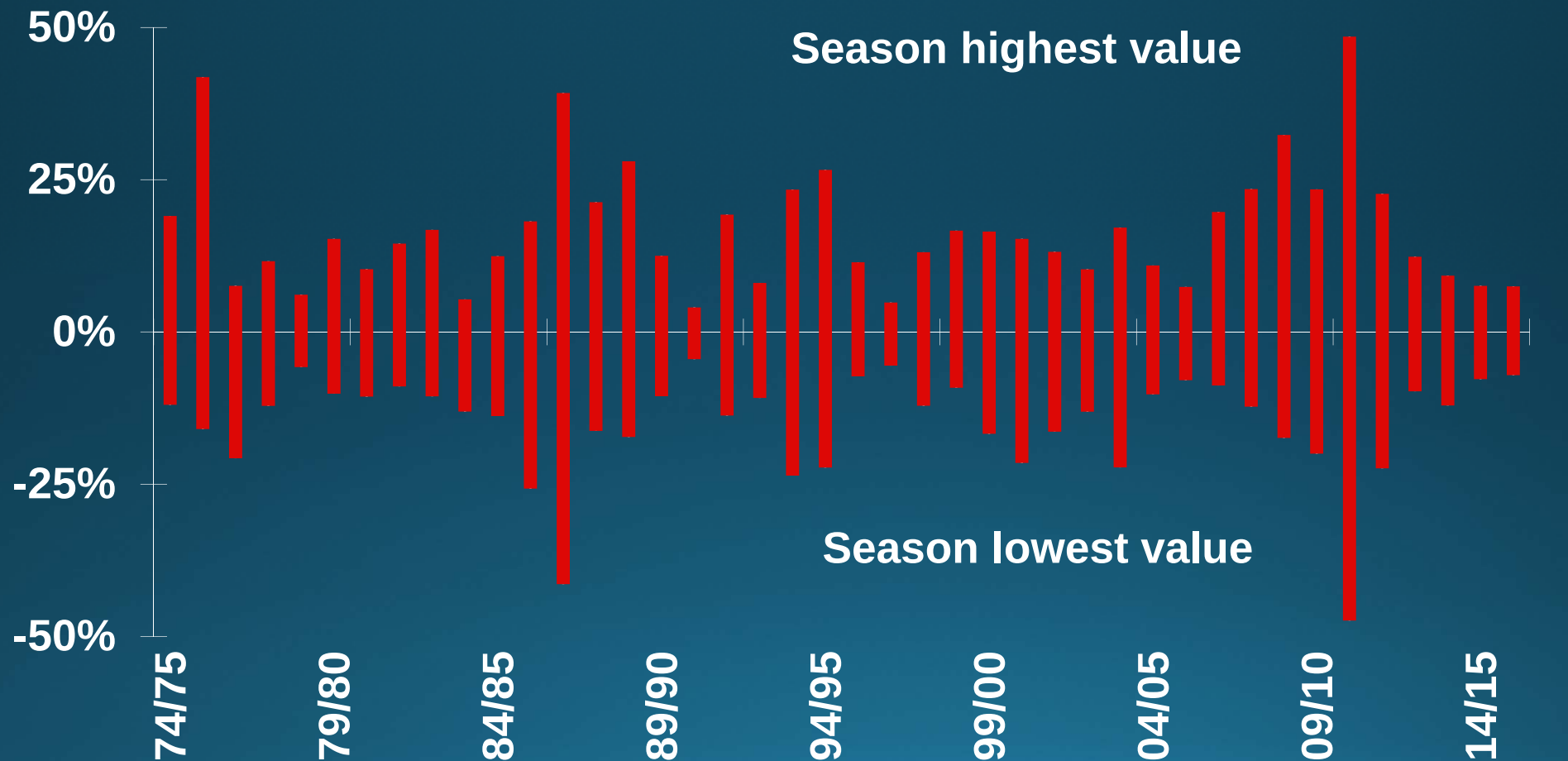
Factors Affecting Cotton Prices in 2010/11

A Index, US cents/lb



Price Volatility by Season: Daily Cotlook A Index

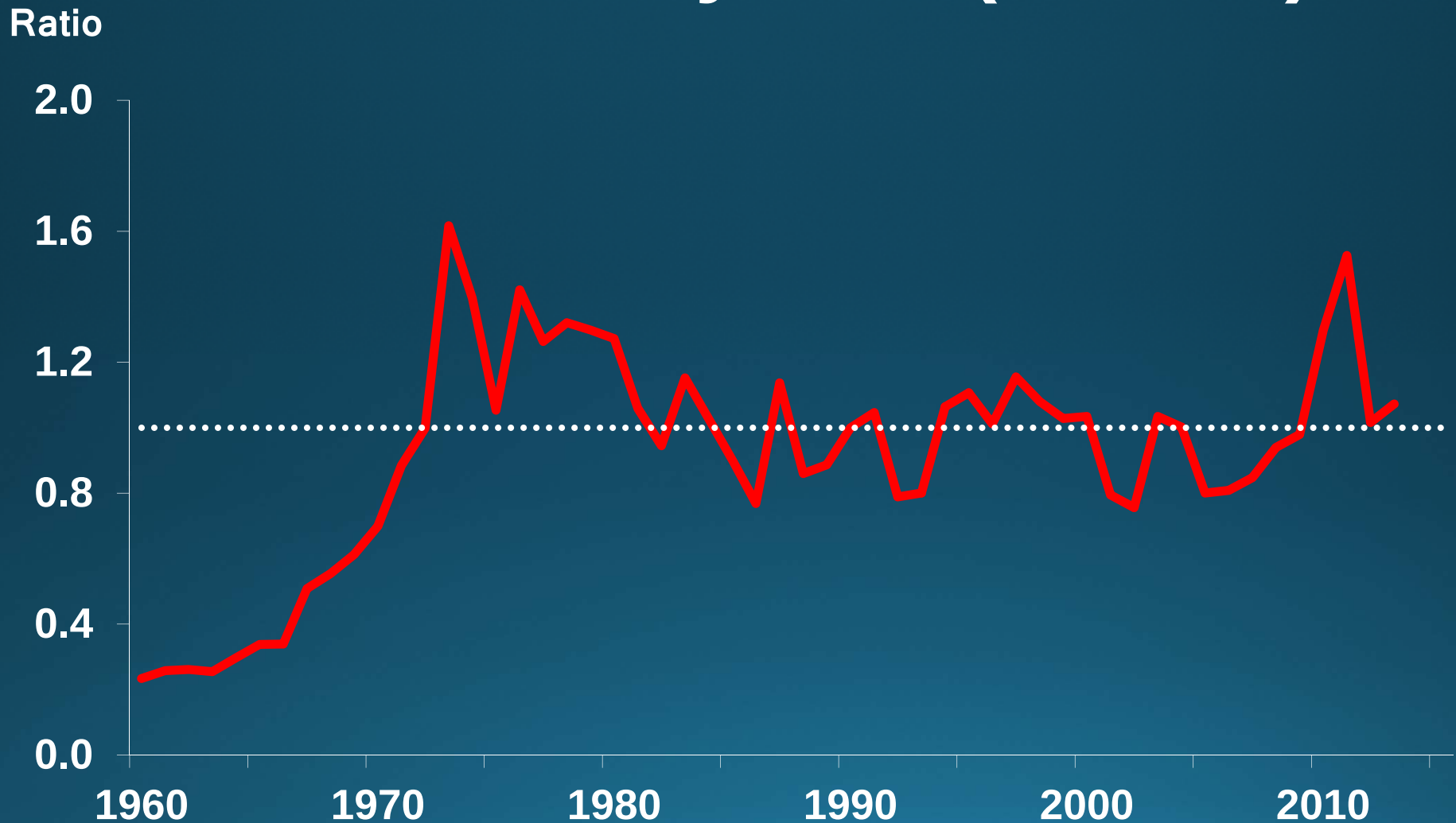
Difference with respect to season average



2015/16: August-May 2016

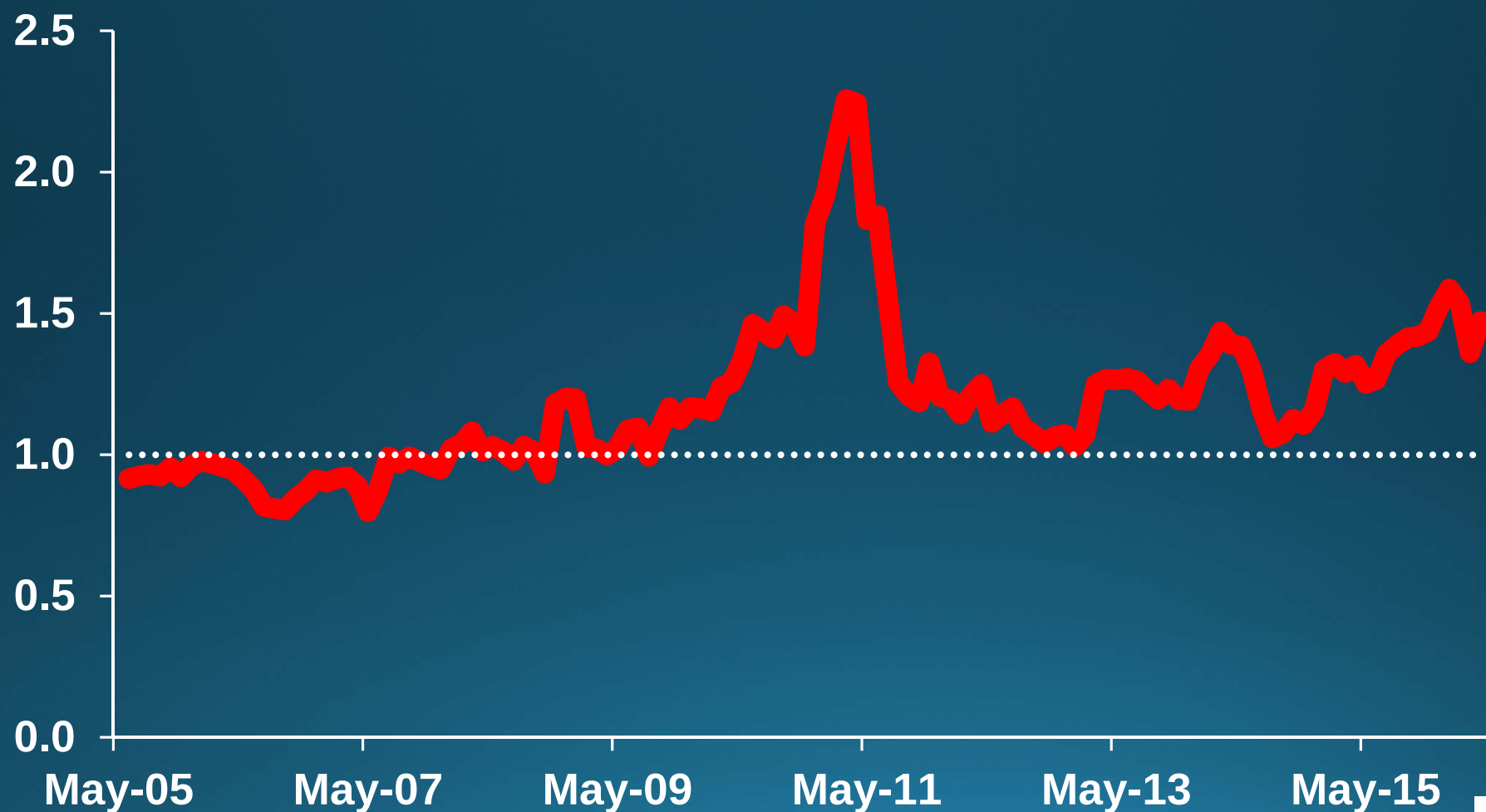


Relative Price of Cotton to American Polyester (Annual)



Relative Price of Cotton to Chinese Polyester (Monthly)

ratio



Source: Cotlook



Cotton Lint and Cotton Yarn Indexes*

weekly index*



* Average 2005 = 100 ; Source: Cotton Outlook



Government Interventions

Past Trends

Cotlook A Index

U.S. cents/lb



Why not lower?



China National Cotton Reserve Corporation (CNCRC)

Government Interventions that Sustained Cotton Prices

- **Chinese National Reserve Corporation:**
11 million tons in 2011/12 to 2013/14
- **India: export ban March – May 2012. Exports August - March 2012: 1.6 million tons.**



Purchases of Cotton by the Chinese National Reserve

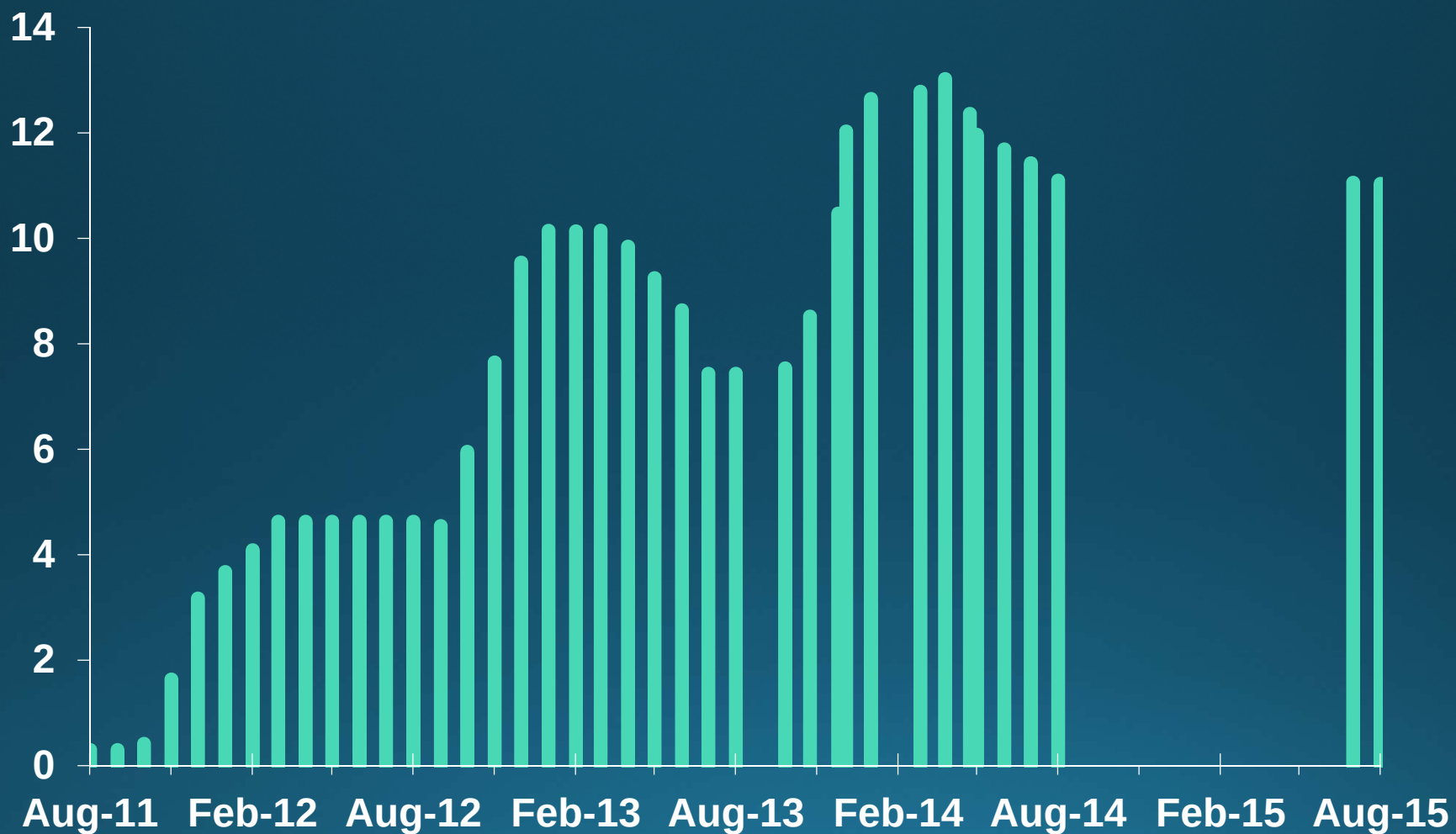
thousand tons

million tons



Estimated Size of China National Reserve

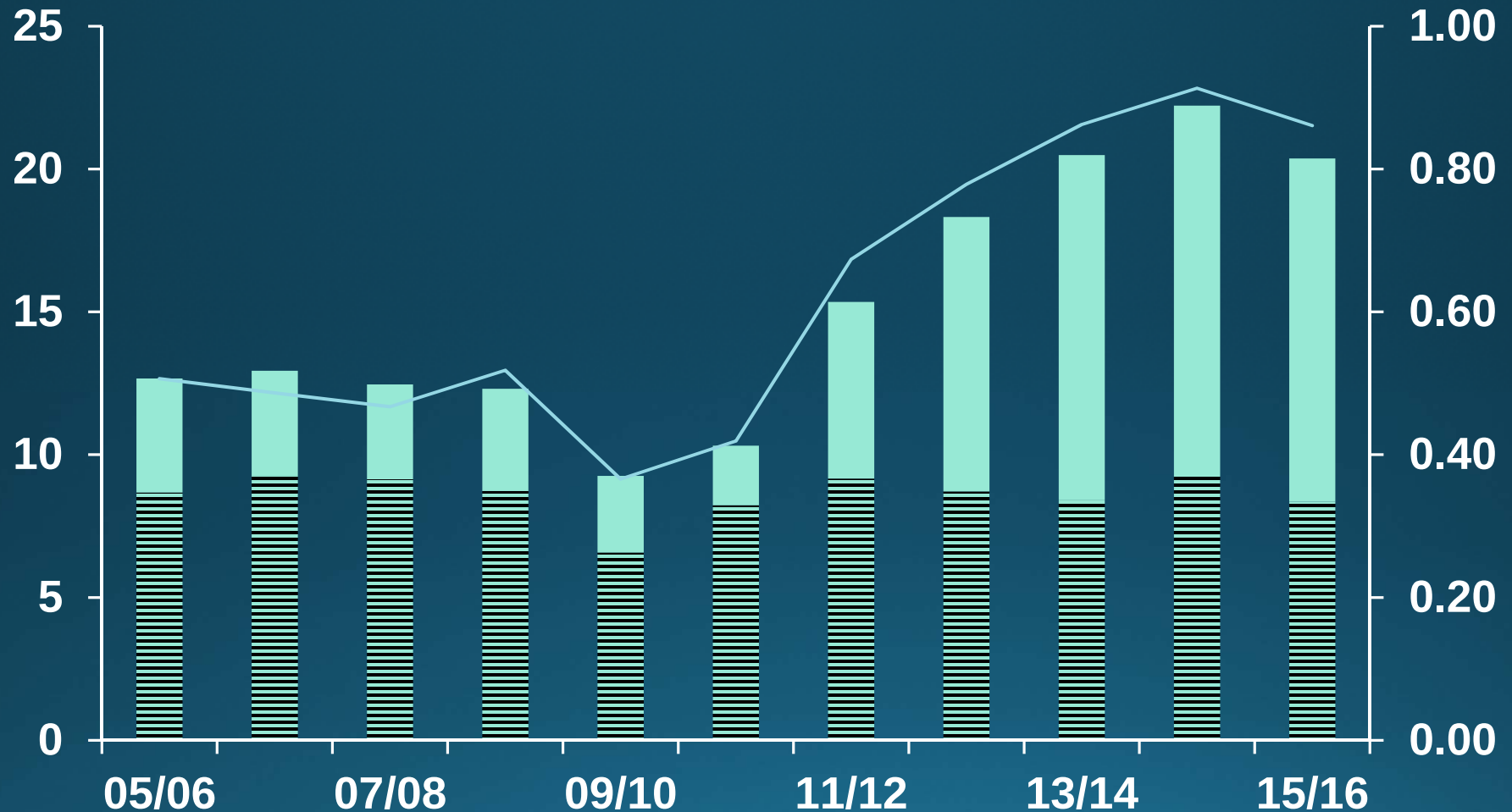
million tons



World Ending Stocks

million tons

stock to use ratio



World-less China China S/U



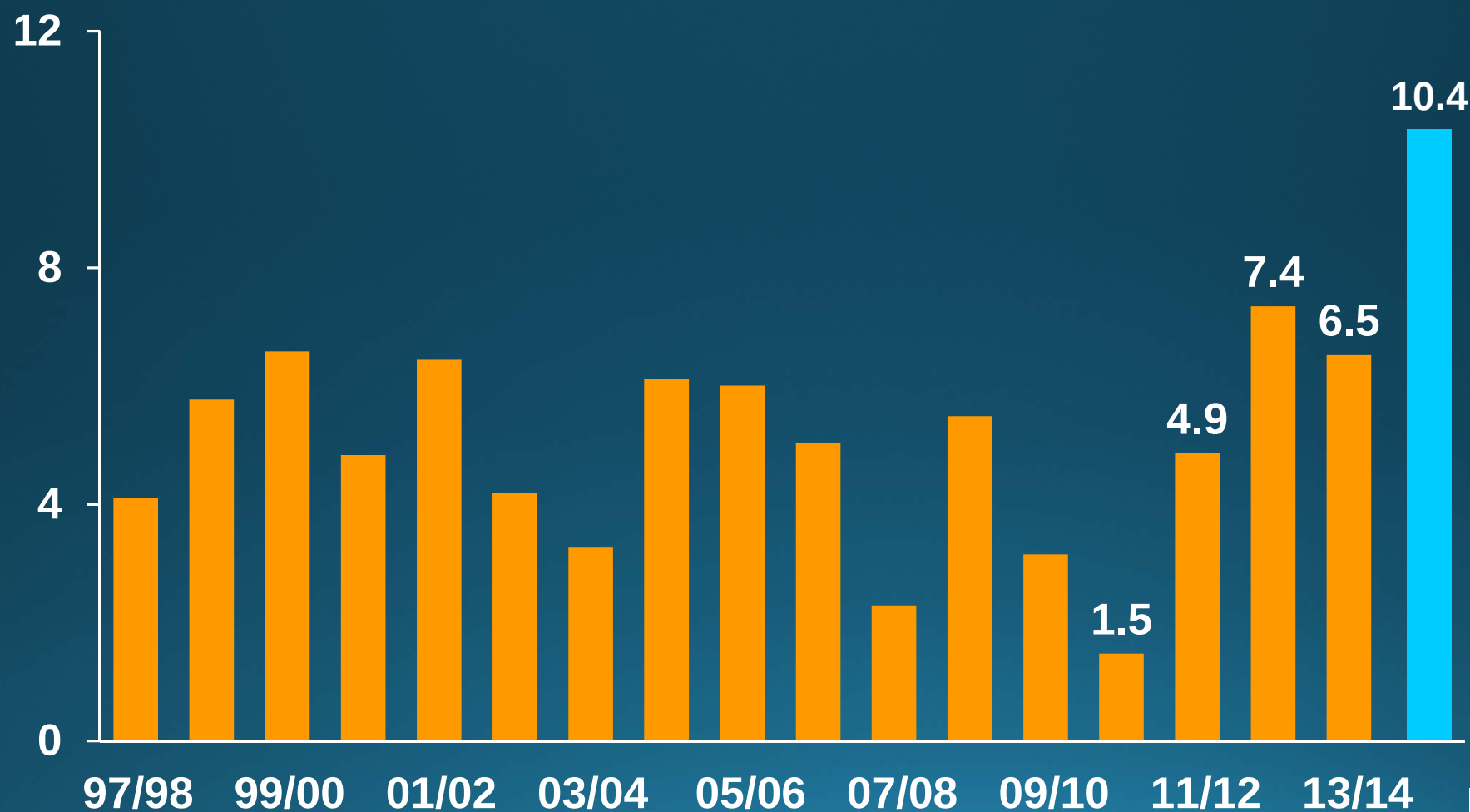
Direct Assistance to Cotton Production

- Direct support to production
- Border protection
- Crop insurance subsidies
- Minimum support price mechanisms
- Input subsidies
- Transportation subsidies



DIRECT ASSISTANCE TO COTTON

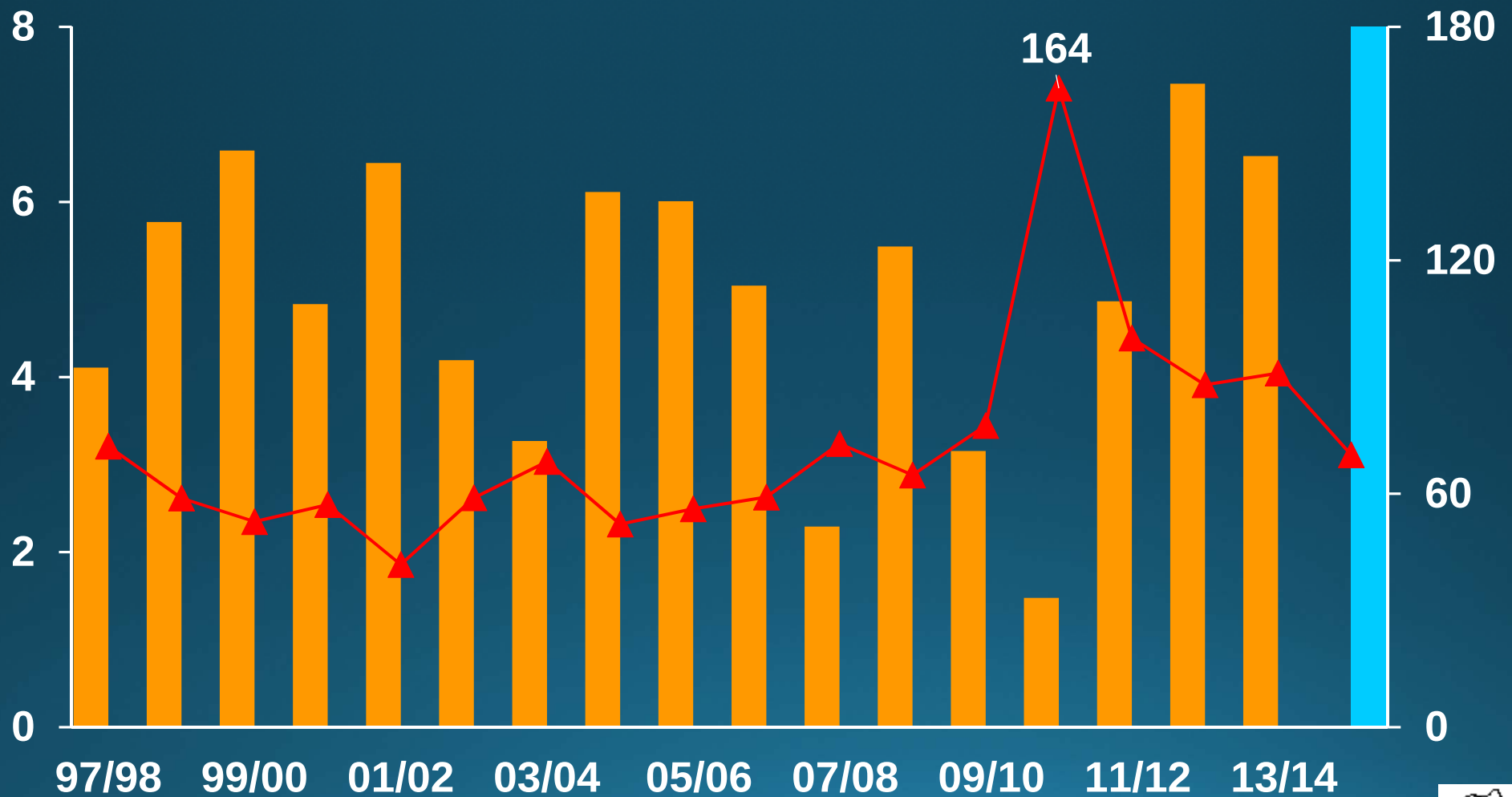
billion US\$



DIRECT ASSISTANCE TO COTTON AND PRICES

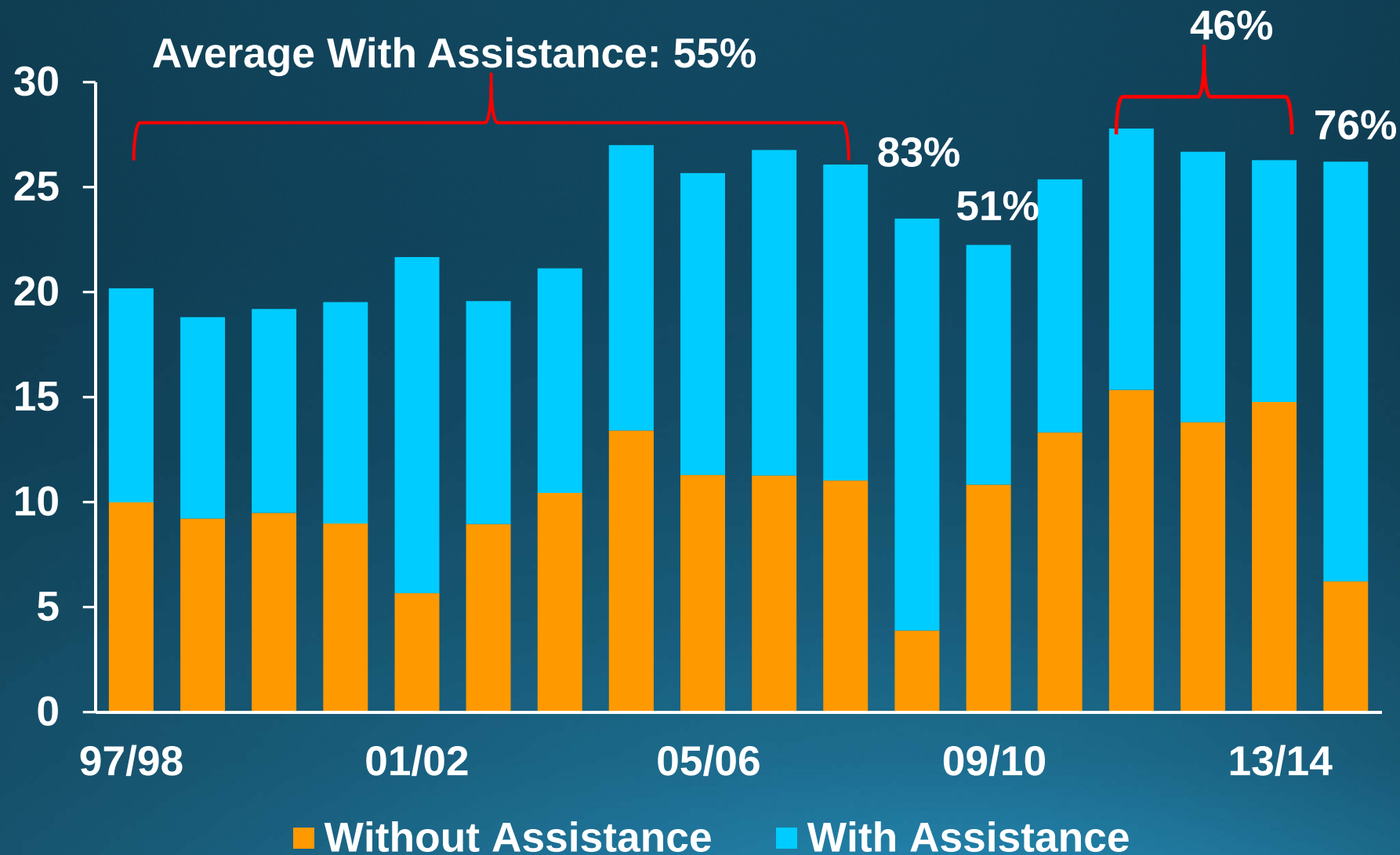
billion US\$

A Index (US\$/lb)



WORLD PRODUCTION UNDER DIRECT ASSISTANCE

million tons

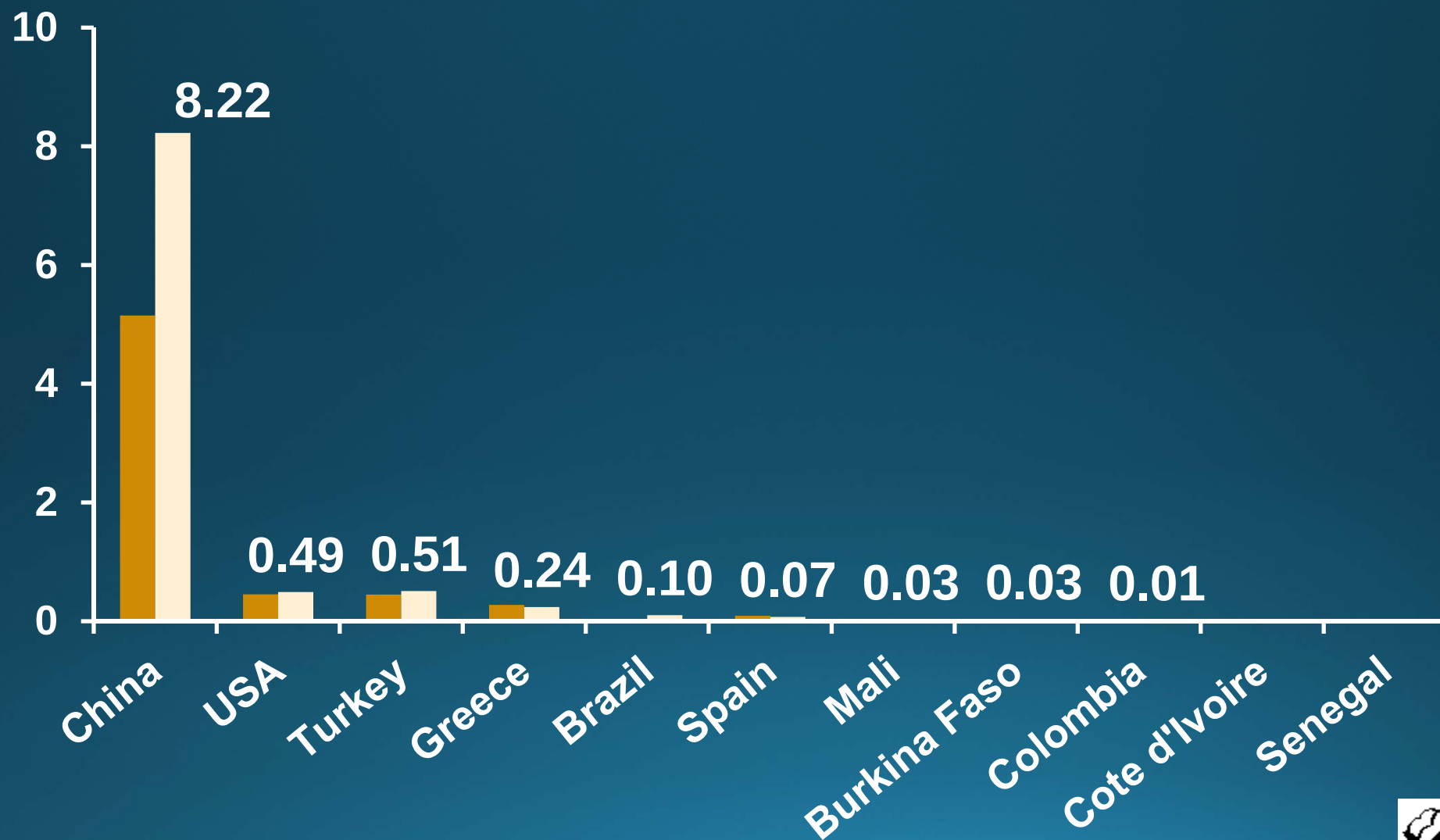


Direct Assistance To Cotton

billion US\$

■ 2013/14

■ 2014/15

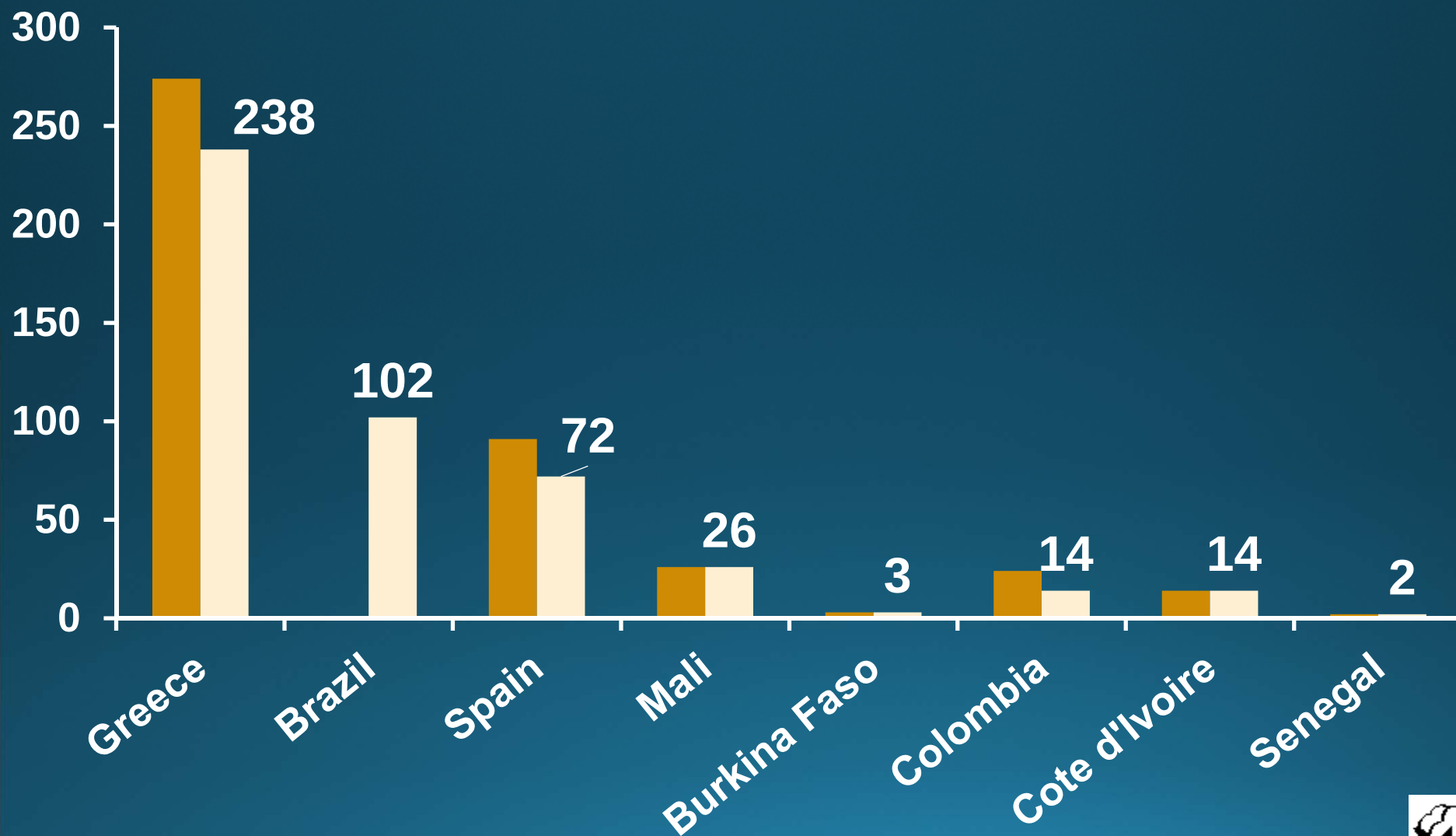


Direct Assistance To Cotton

million US\$

■ 2013/14

■ 2014/15



2016/17 Outlook

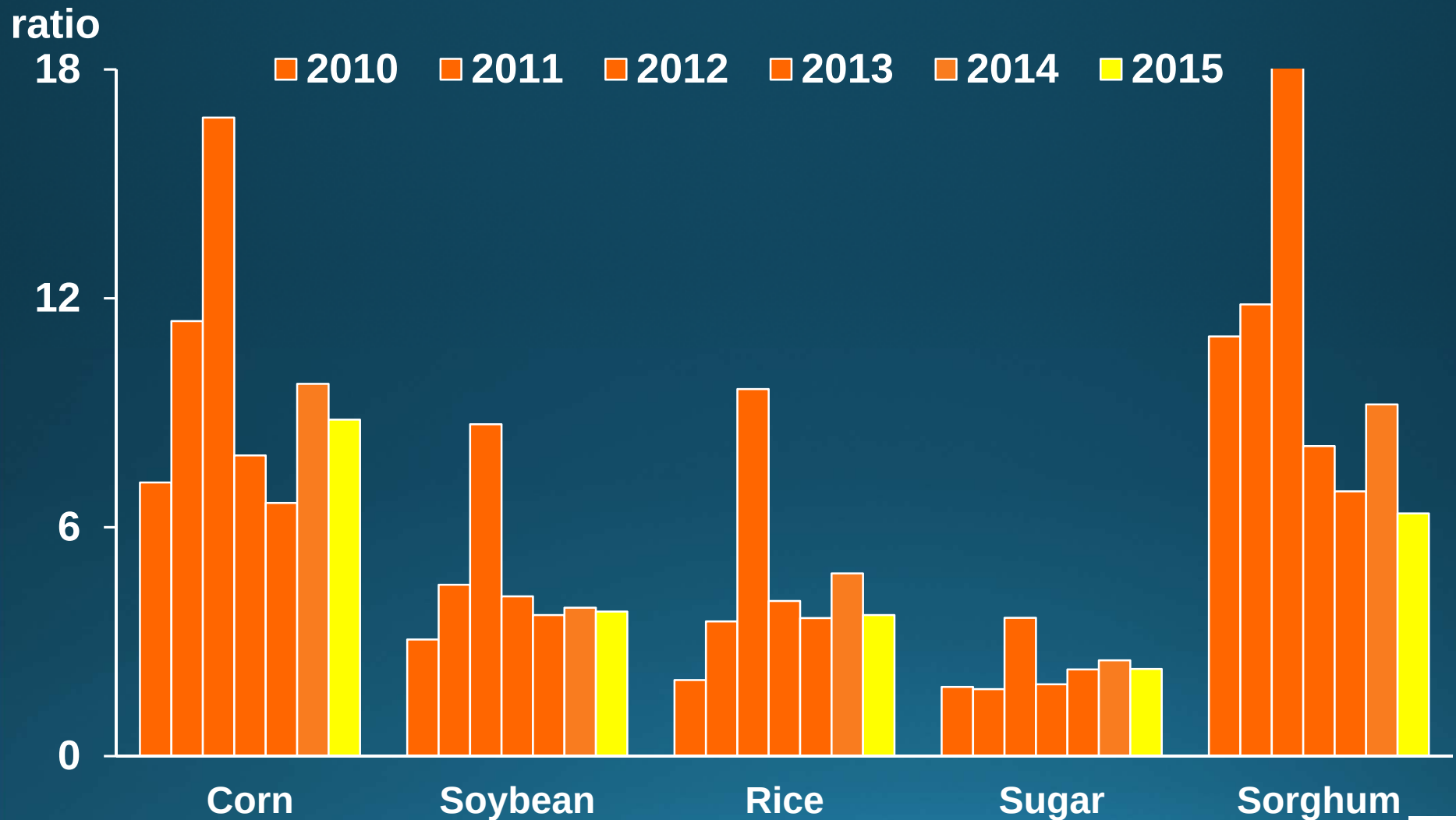
World Cotton Area and Prices

US cents/lb

million hectares



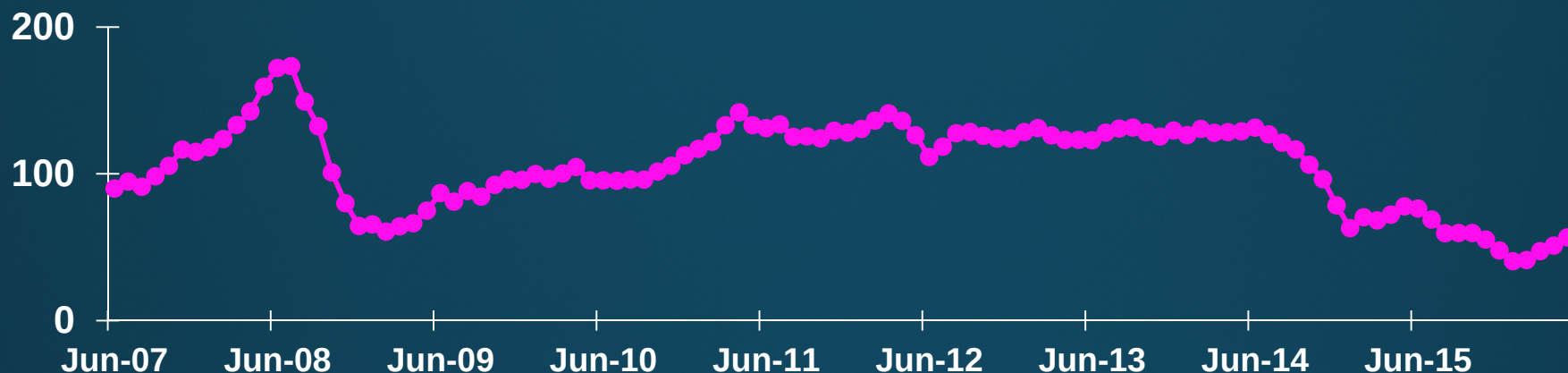
Price of cotton vs. competing crops at planting time in N. Hemisphere



Crude Oil Prices

(World Bank Pink Sheet Monthly Prices)

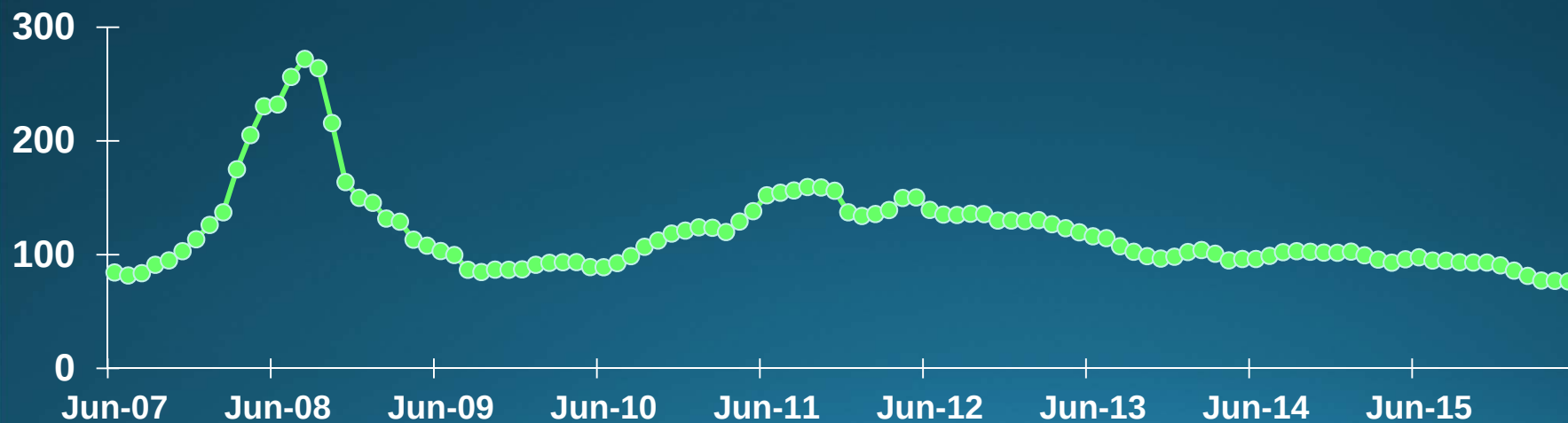
2010 = 100



Fertilizer Prices

(World Bank Fertilizer Index)

2010 = 100



World Average Lint Yield (rainfed + irrigated)

kg/ha

900

600

300

0

99/00

01/02

03/04

05/06

07/08

09/10

11/12

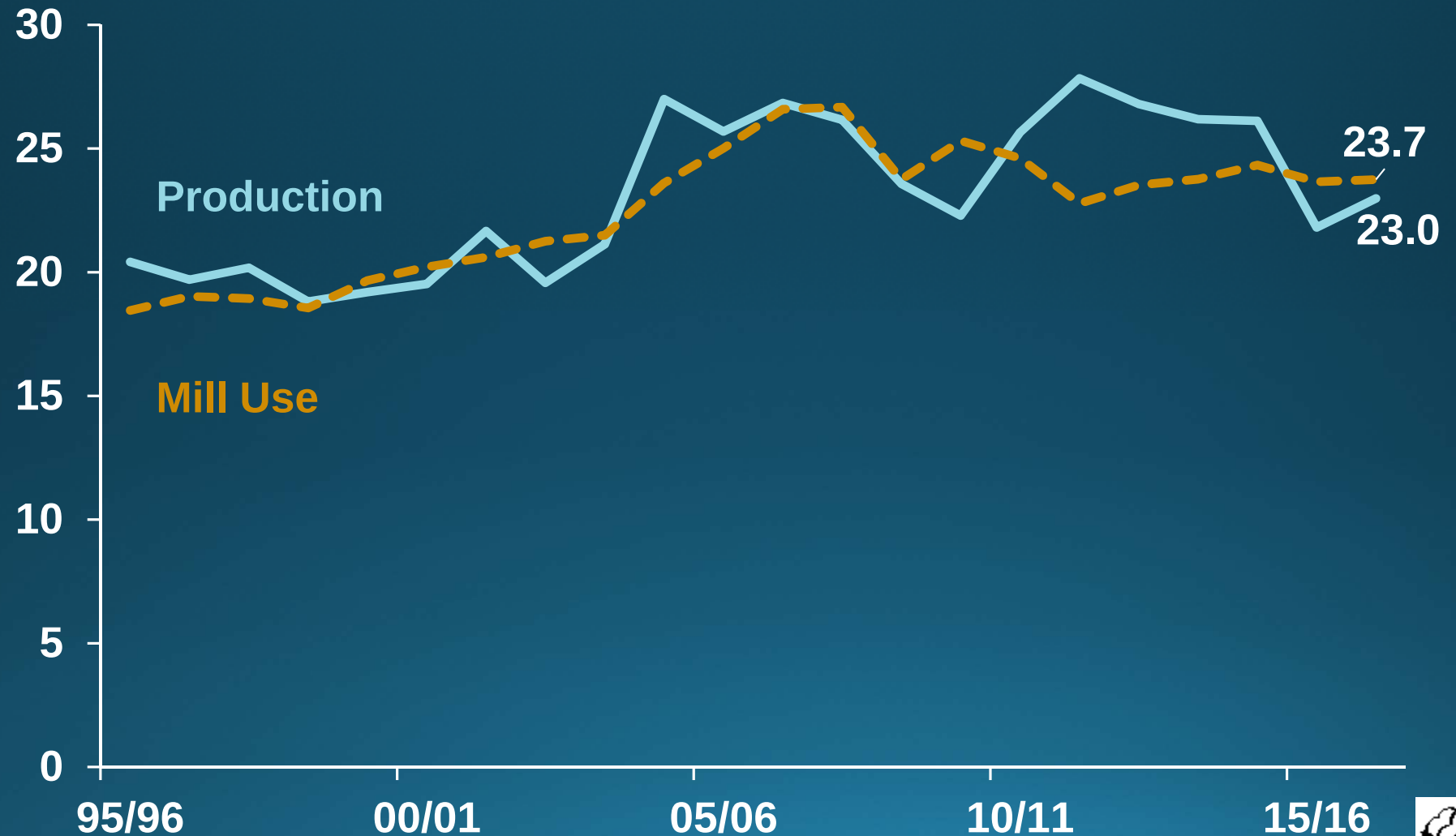
13/14

15/16



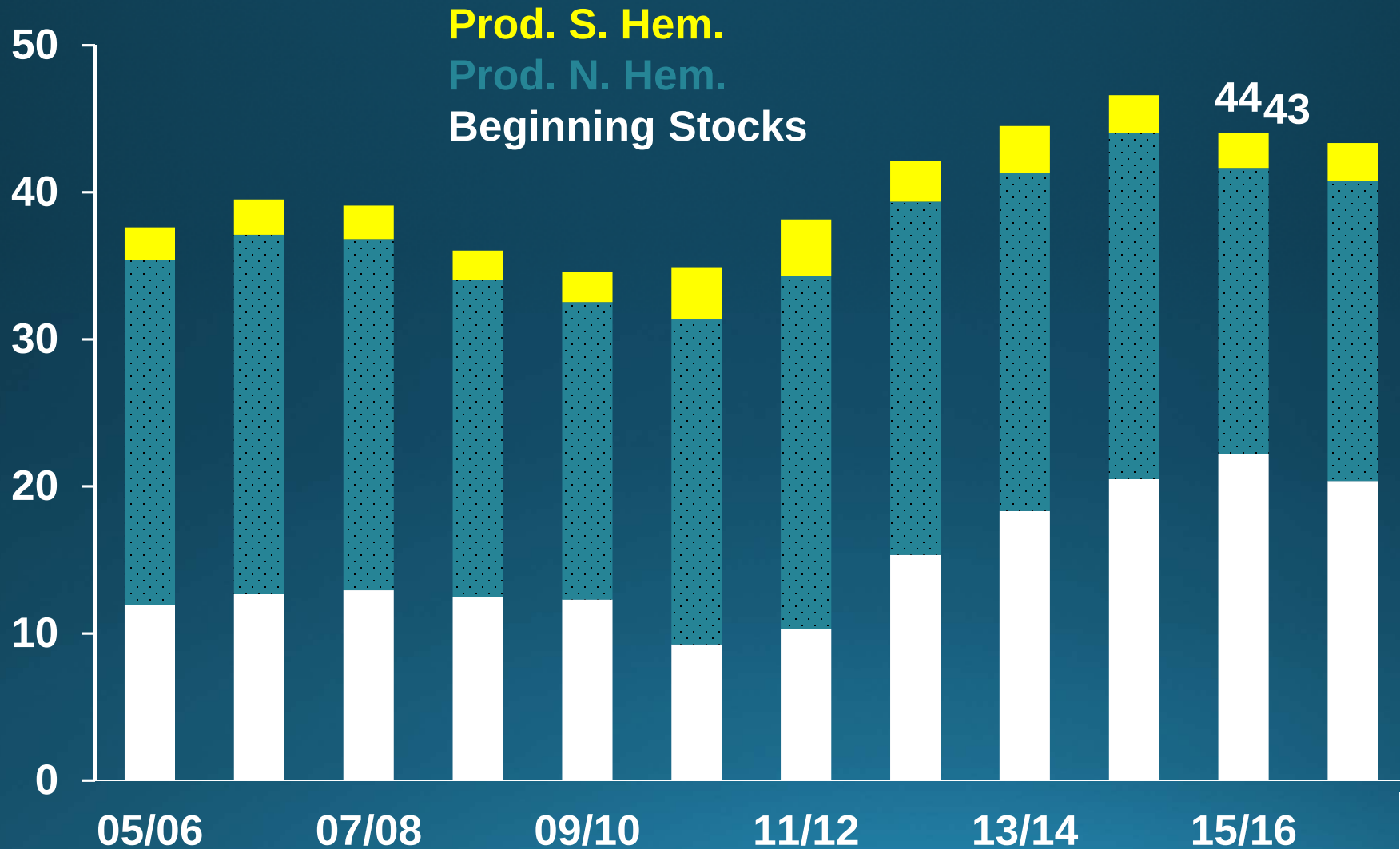
World Cotton Production & Mill Use

million tons



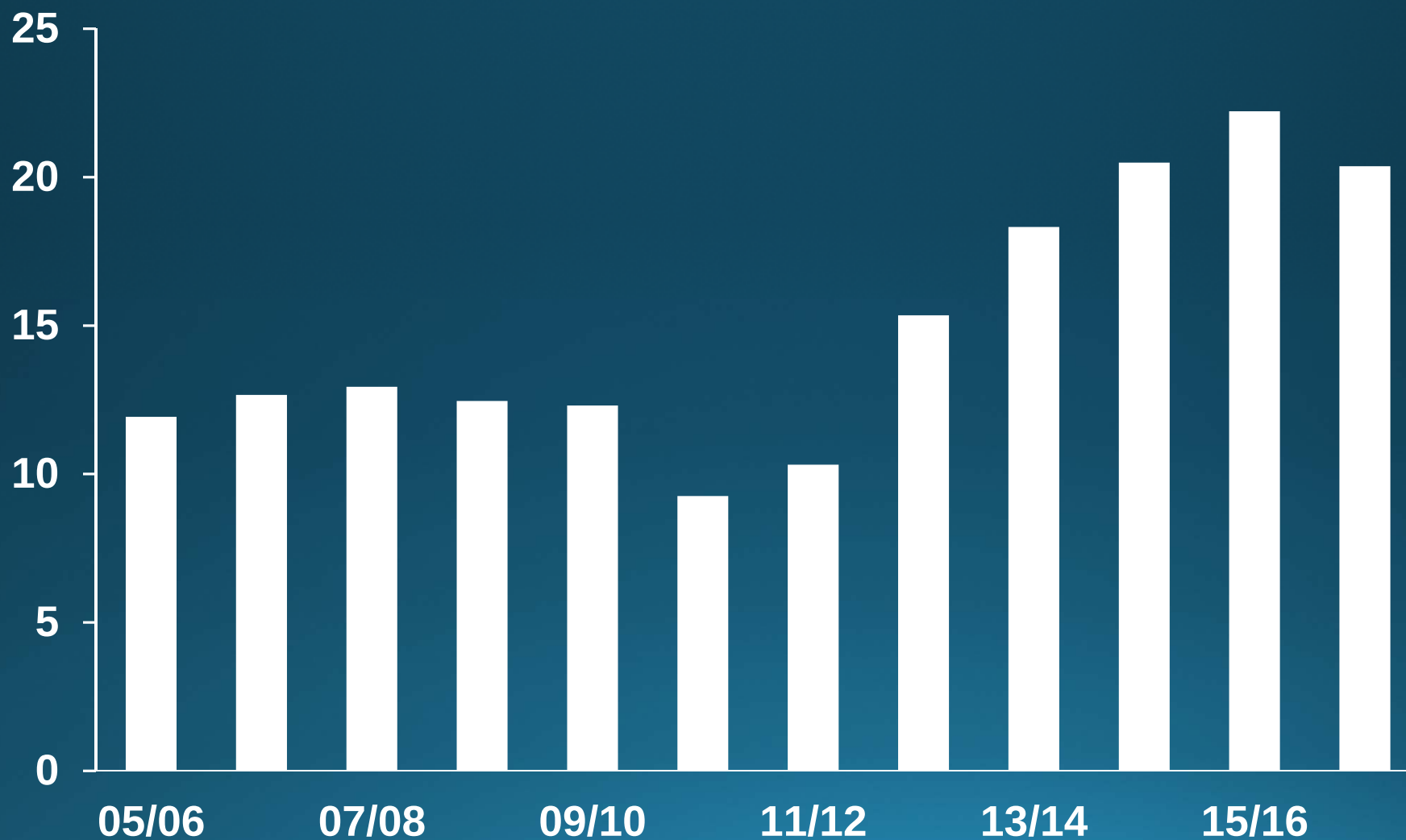
World Supply = Beg. Stocks + Production

million tons



World Beginning Stocks

million tons

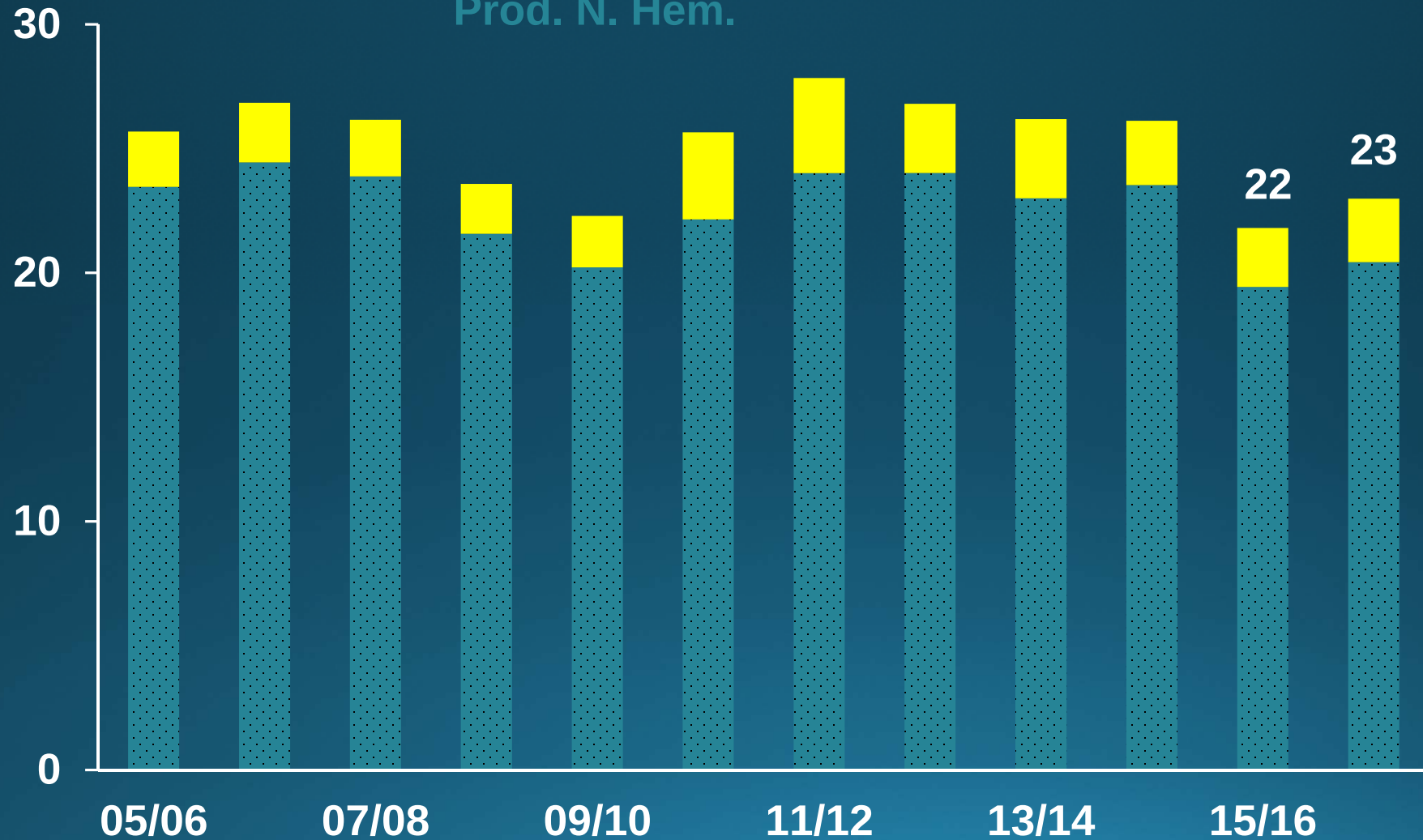


World Production

million tons

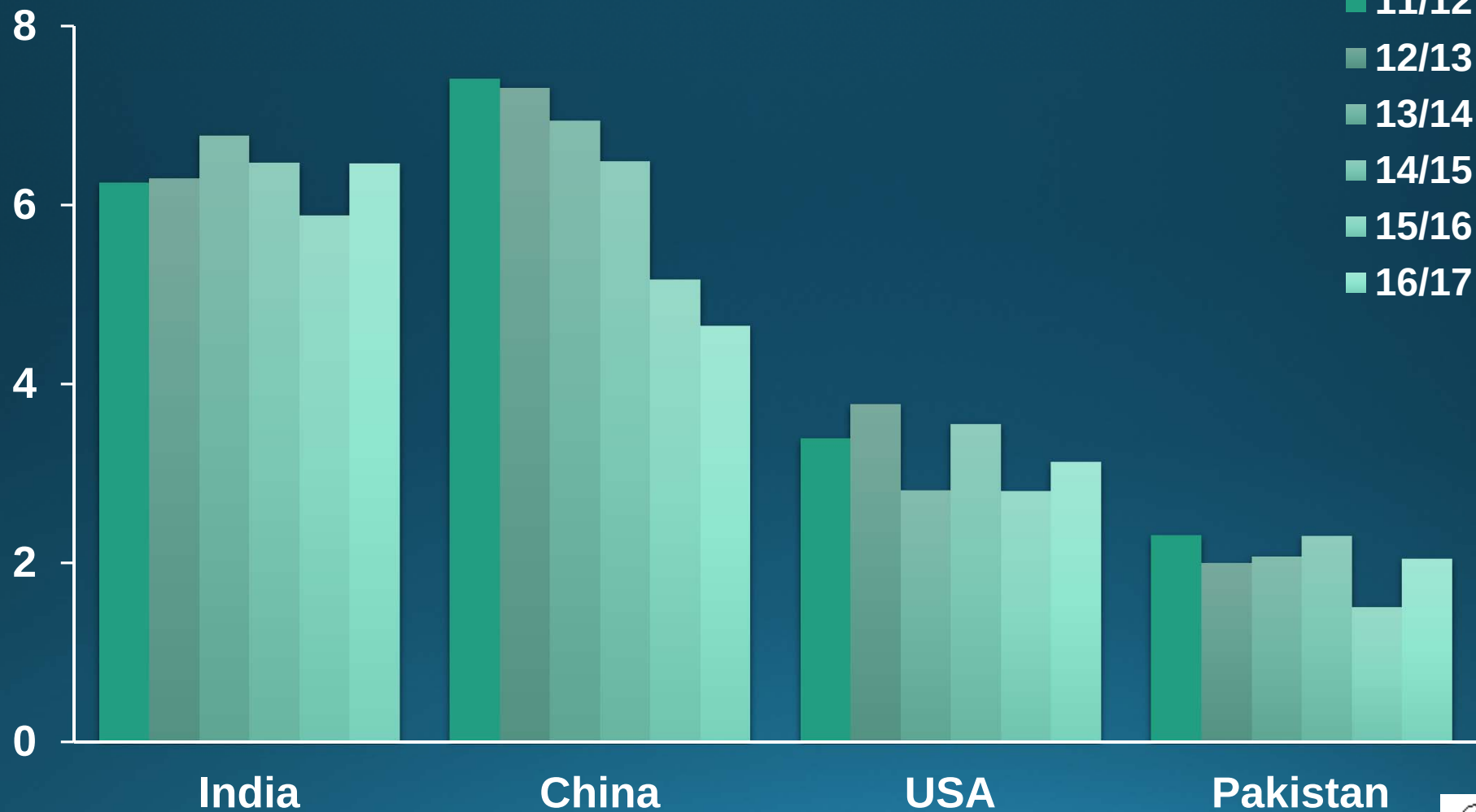
Prod. S. Hem.

Prod. N. Hem.

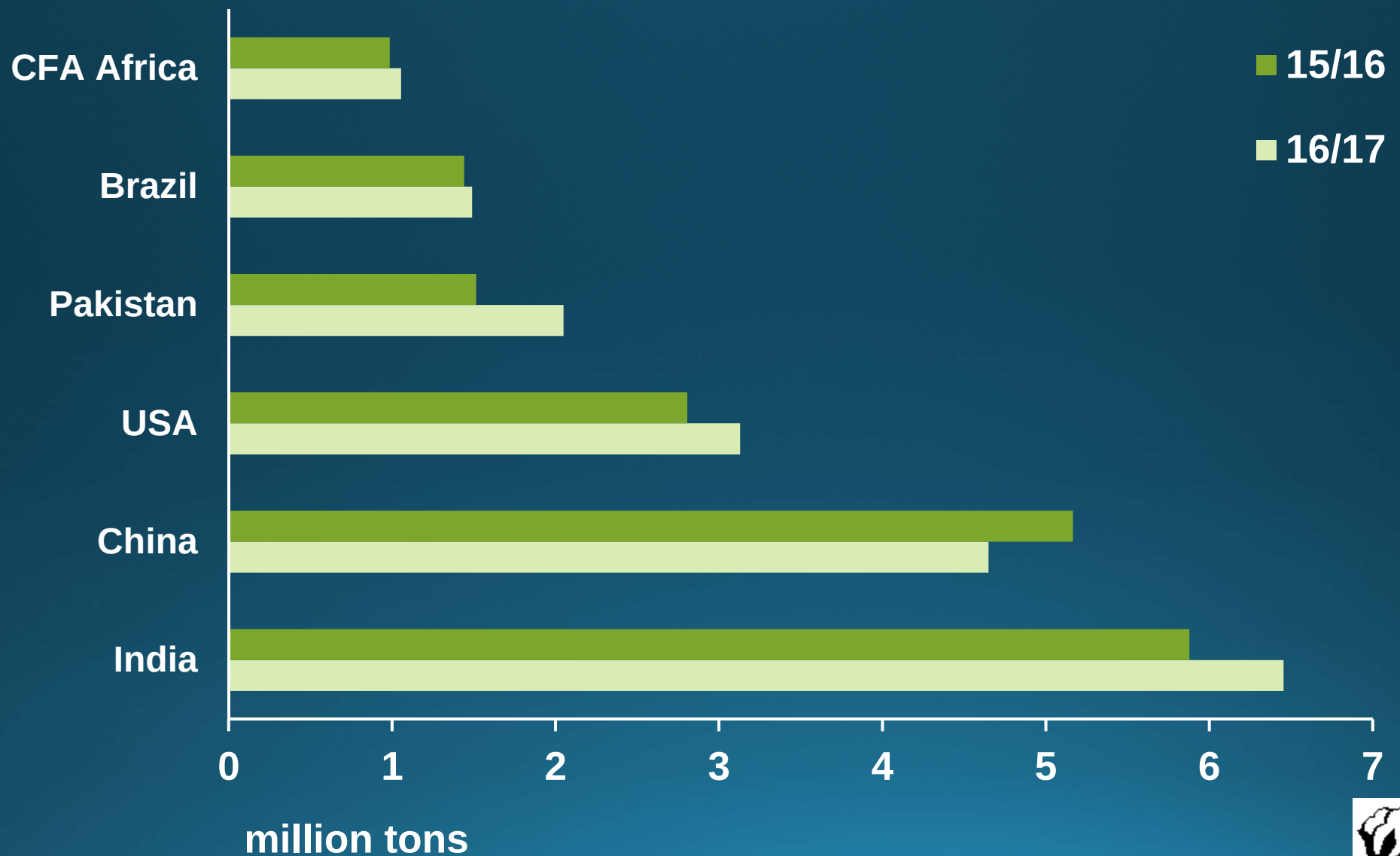


Major Cotton Producing Countries

million tons

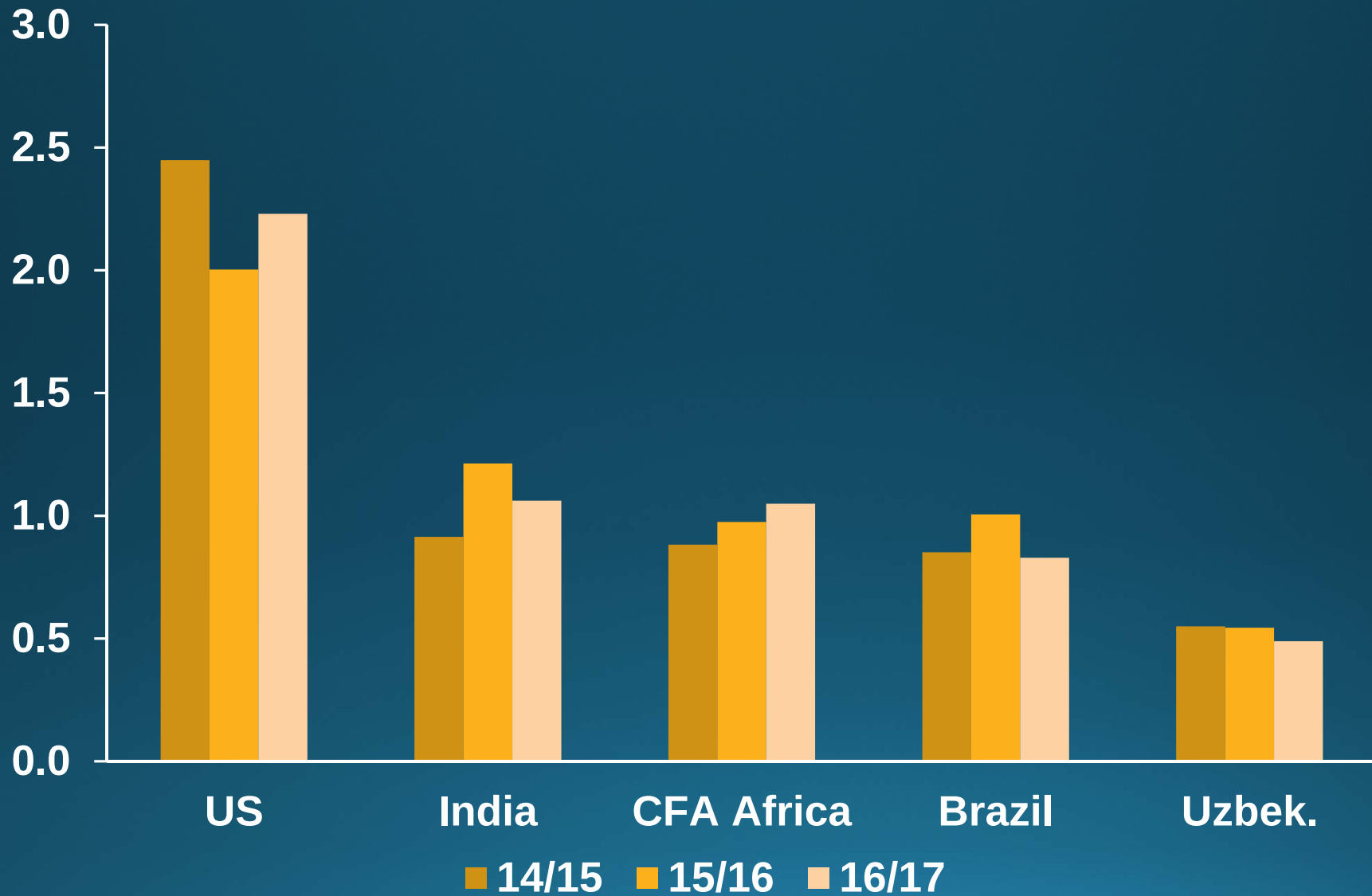


Cotton Production



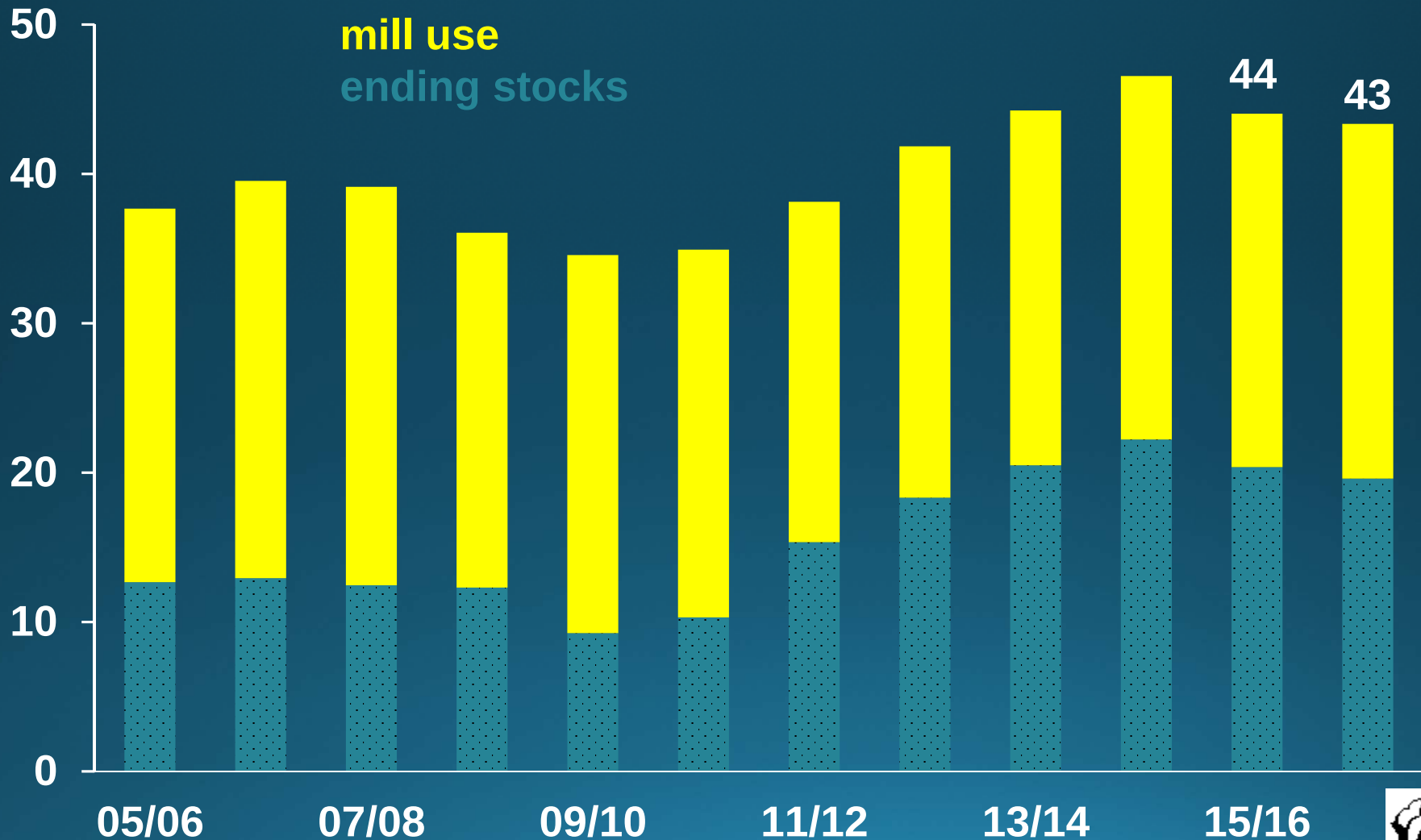
Cotton Exports

million tons

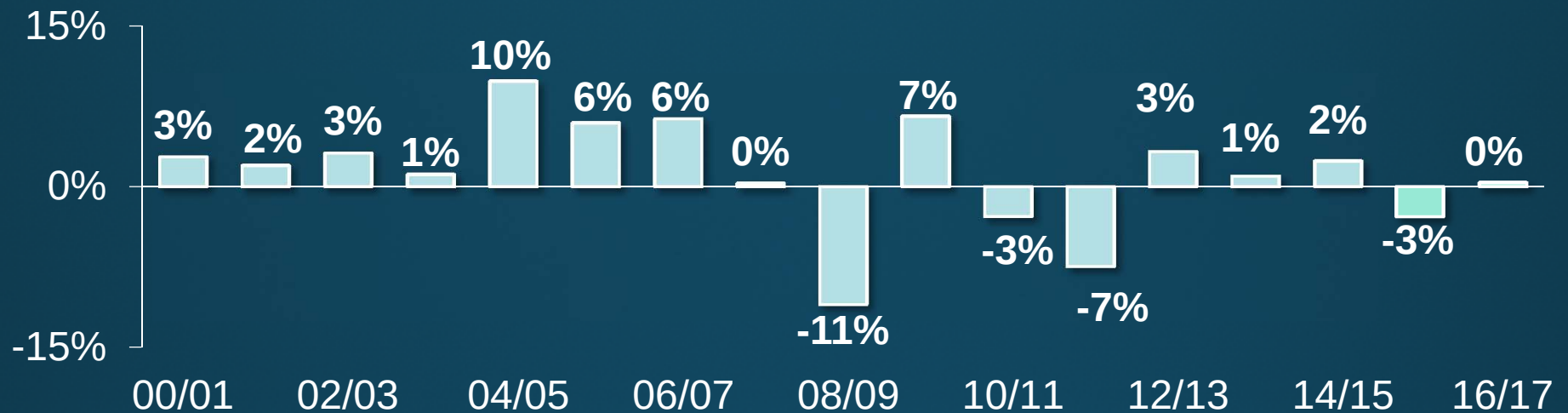


World Demand = Ending Stocks + Mill Use

million tons



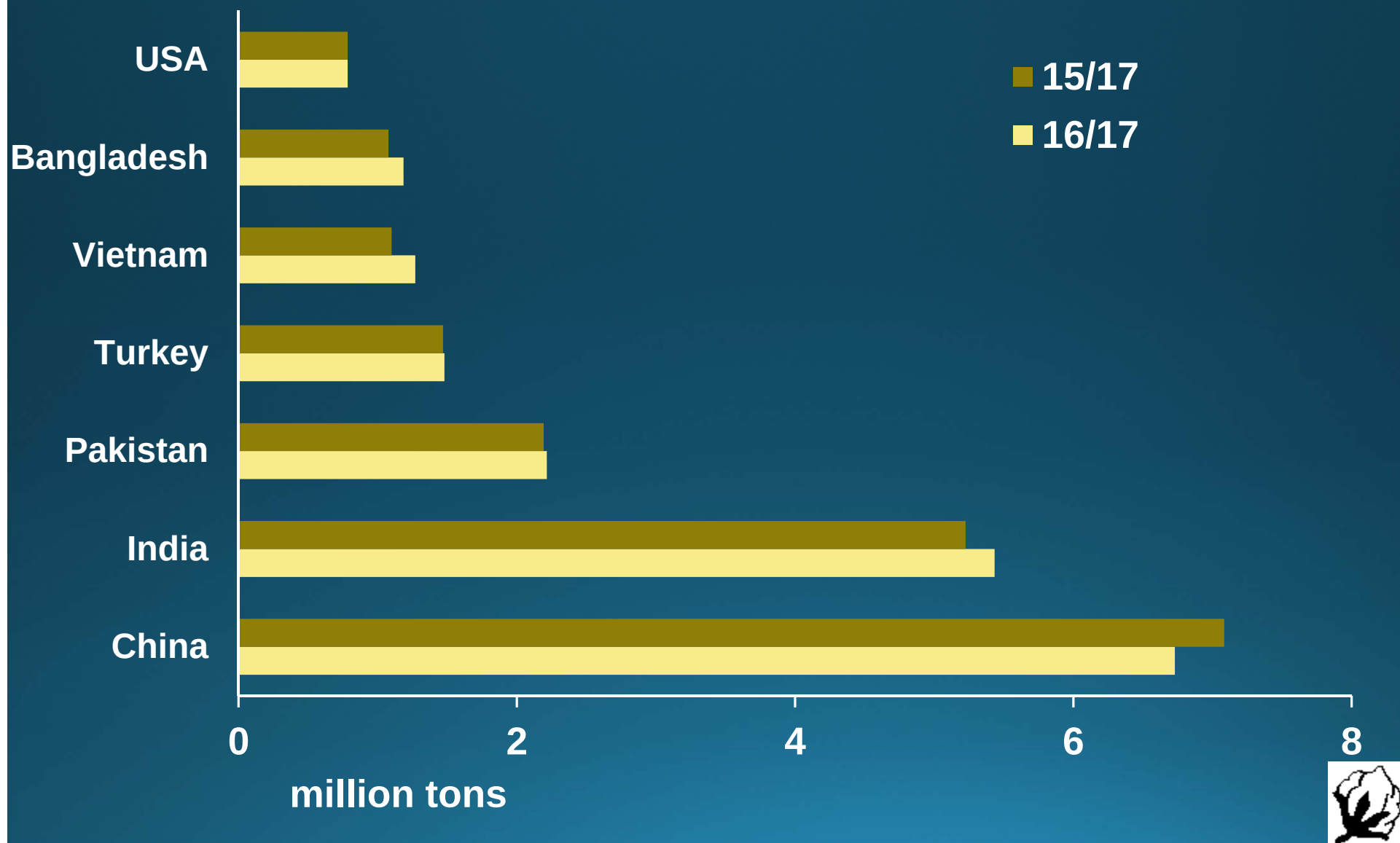
Growth in World Cotton Mill Use



Growth in World GDP

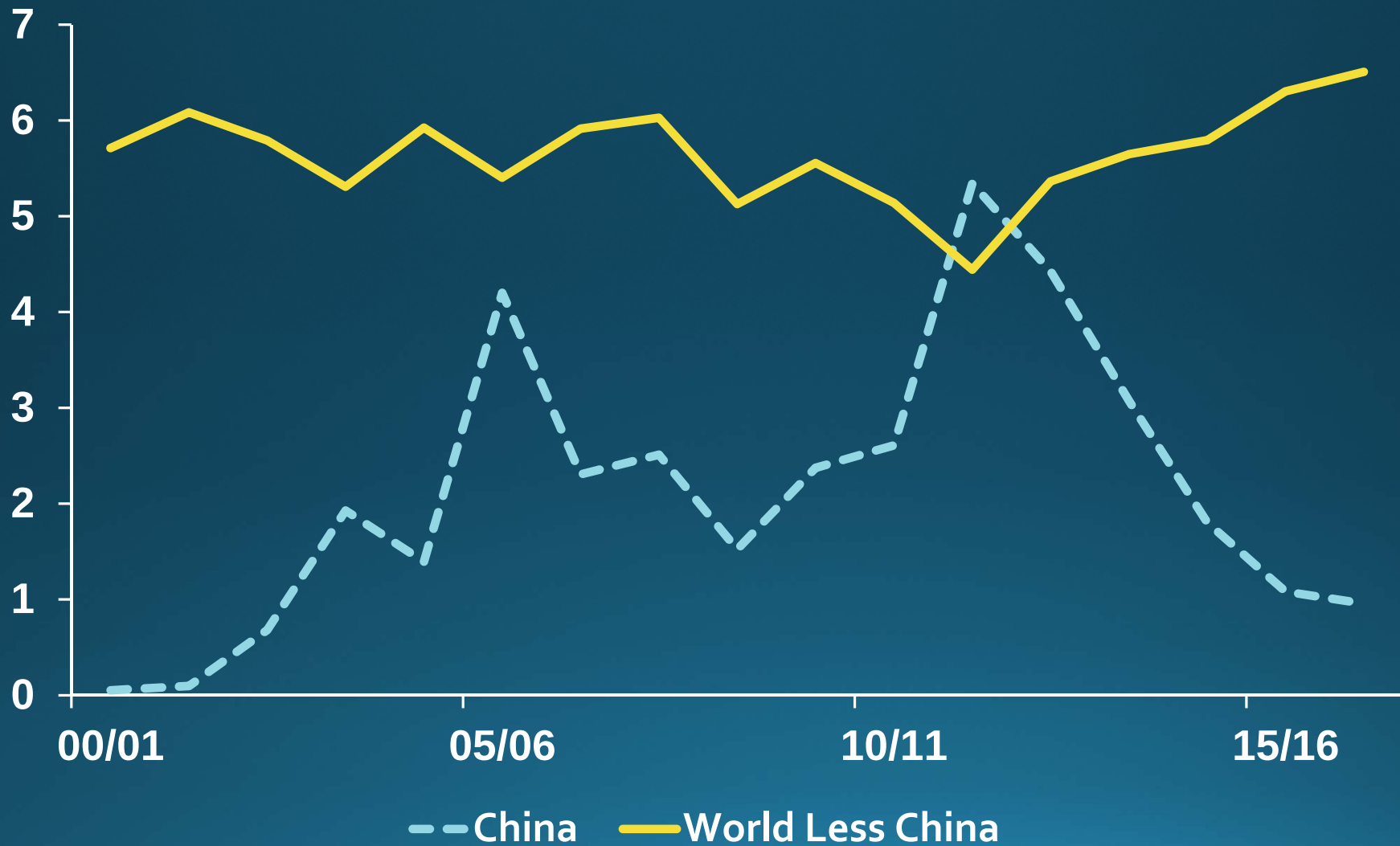


Cotton Consumption



Cotton Imports

million tons

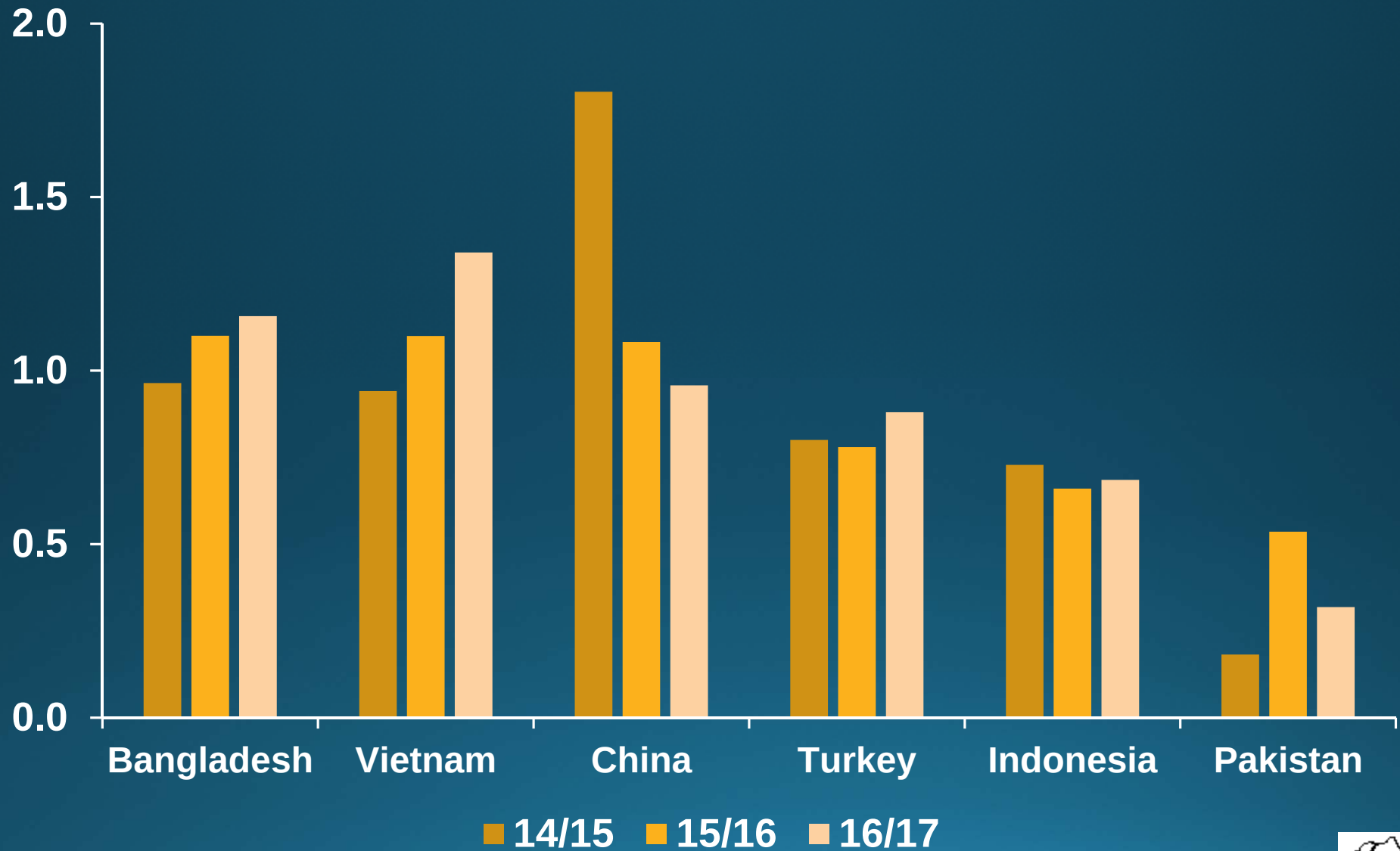


— China — World Less China



Cotton Imports

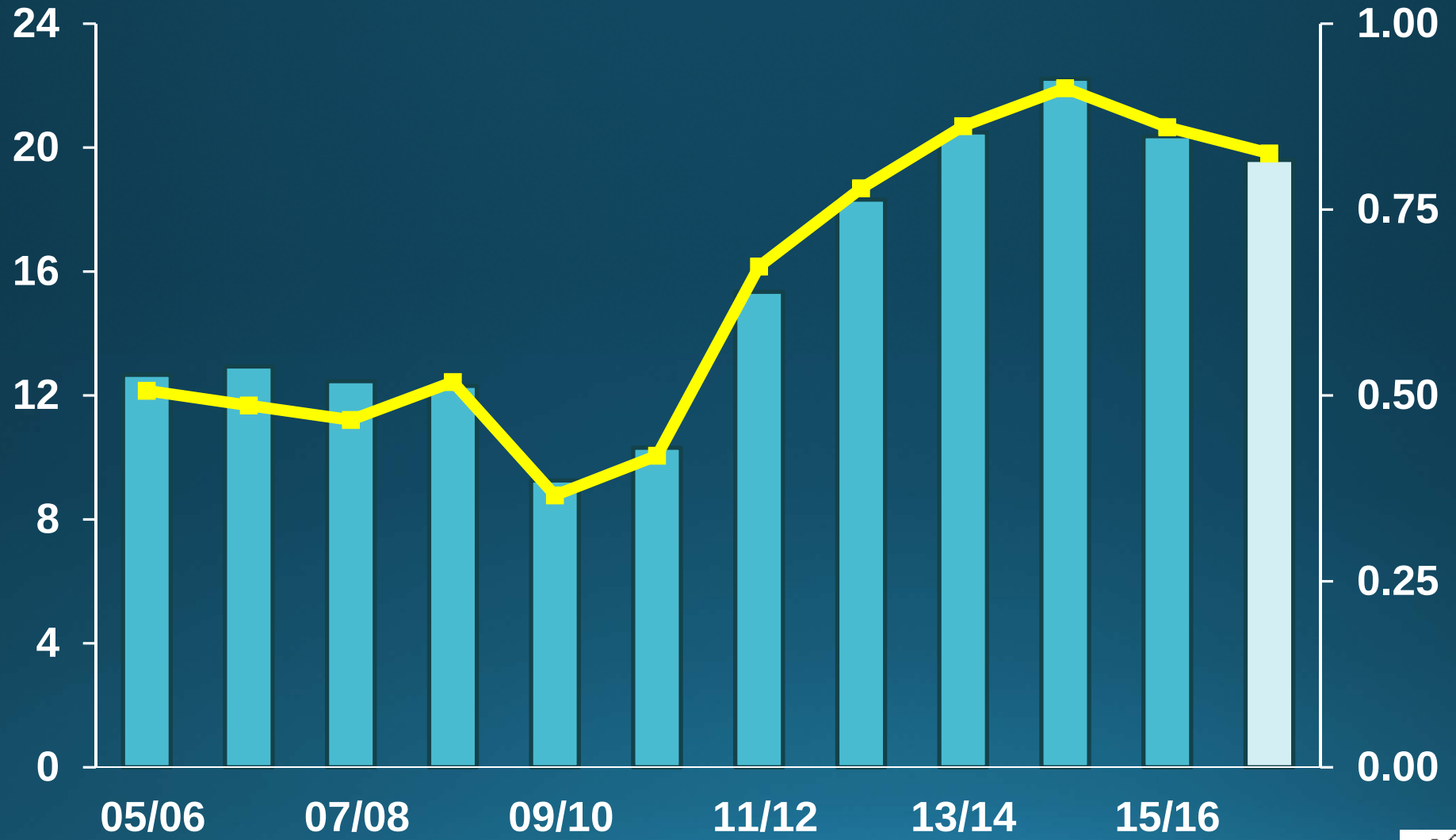
million tons



World Ending Stocks

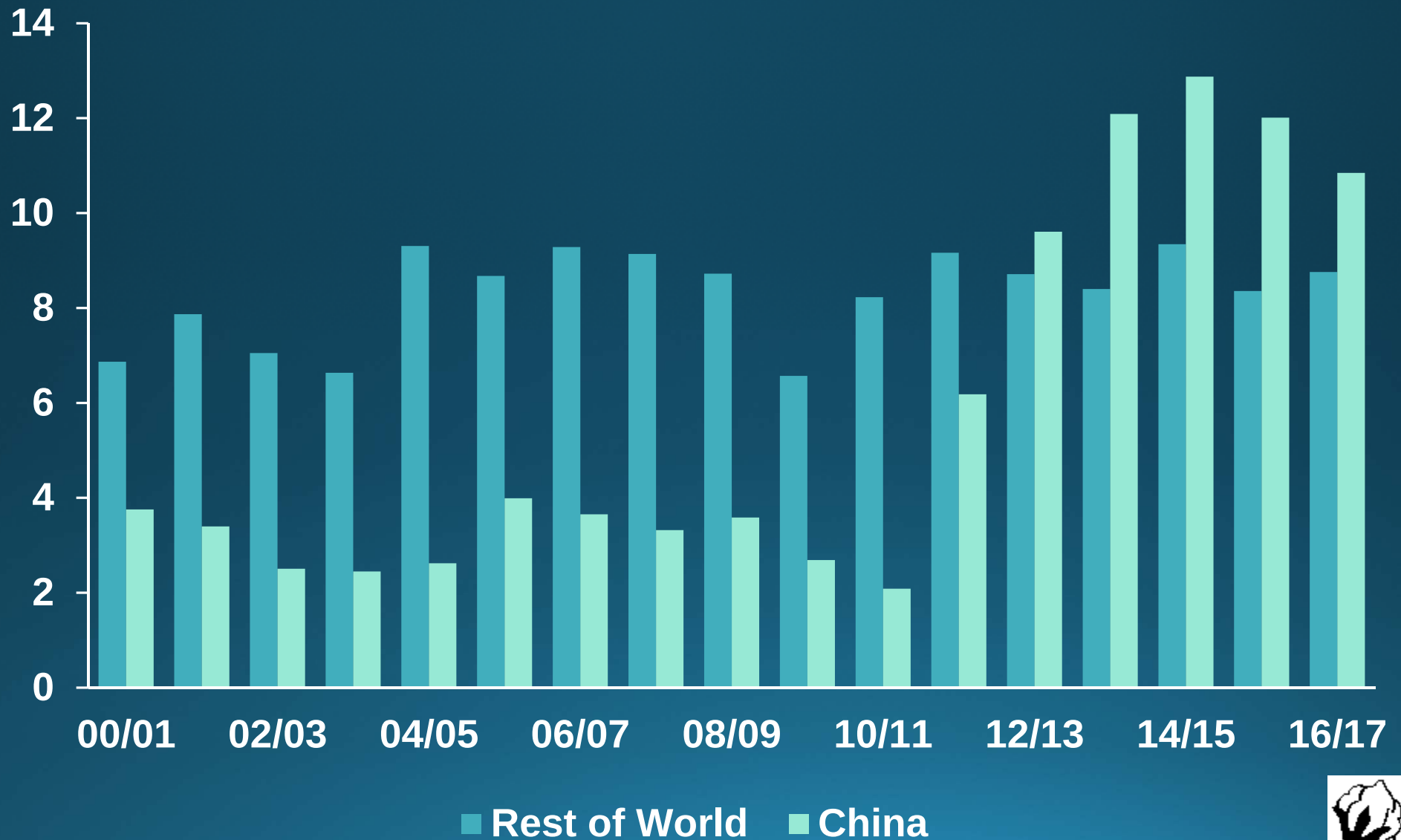
million tons

stocks-to-use ratio



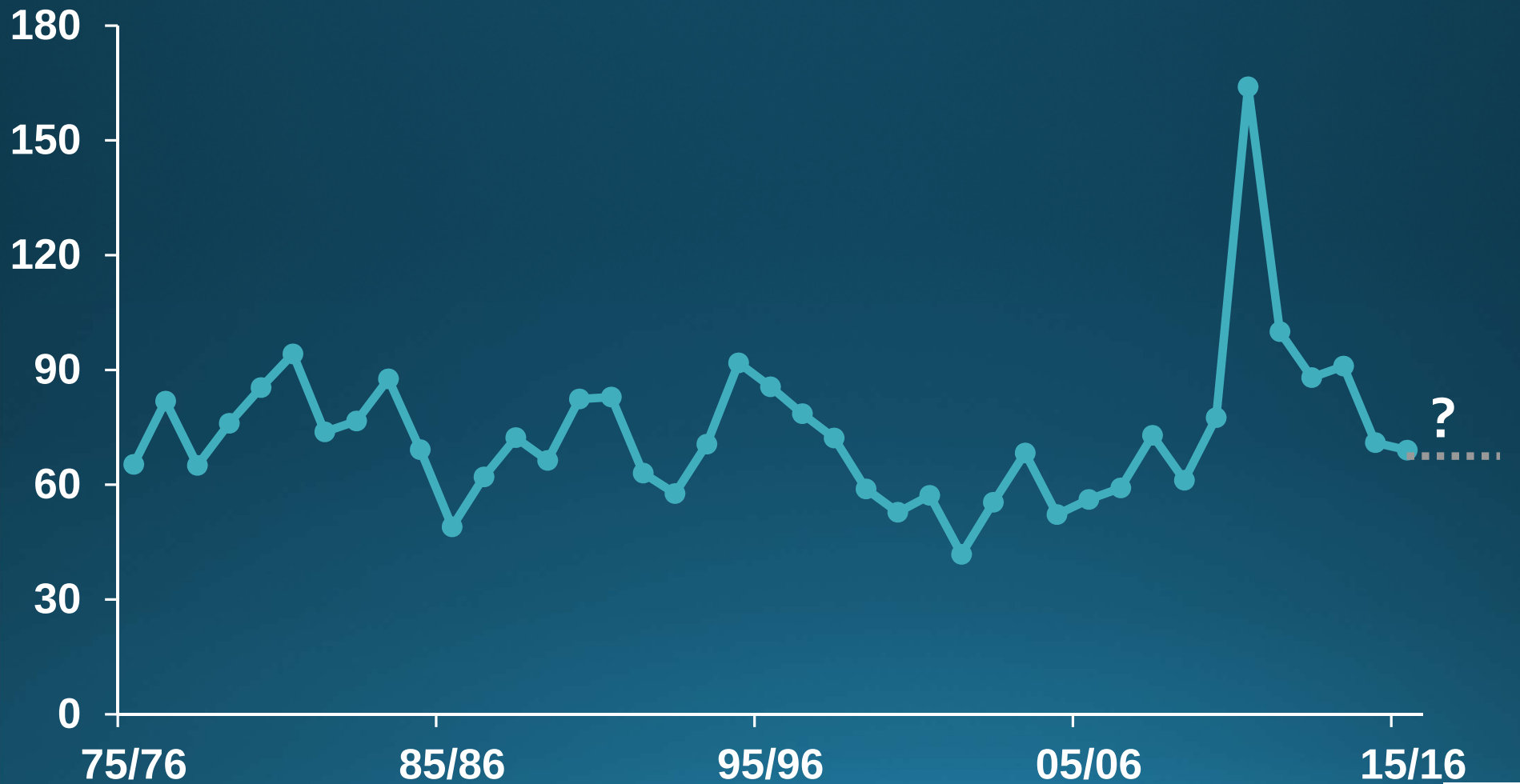
Ending Stocks

million tons



Cotlook A Index

season-average (US cents/lb)

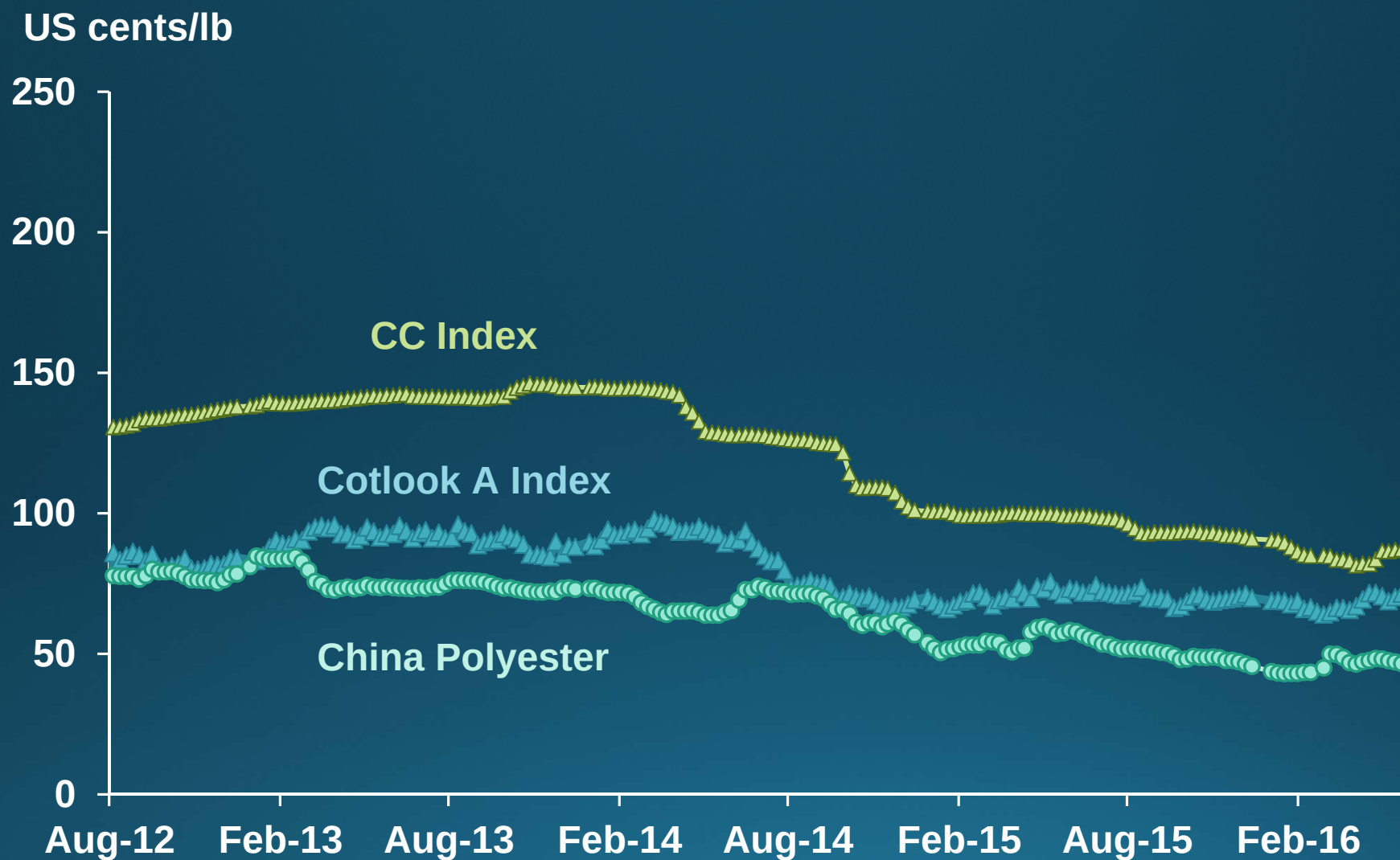


Prices in 2016/17

- **Dependent on effects of Chinese policy**
- **Production vs. Consumption**
- **Prices for polyester and competing fibers**
- **Recovery of World Economy**



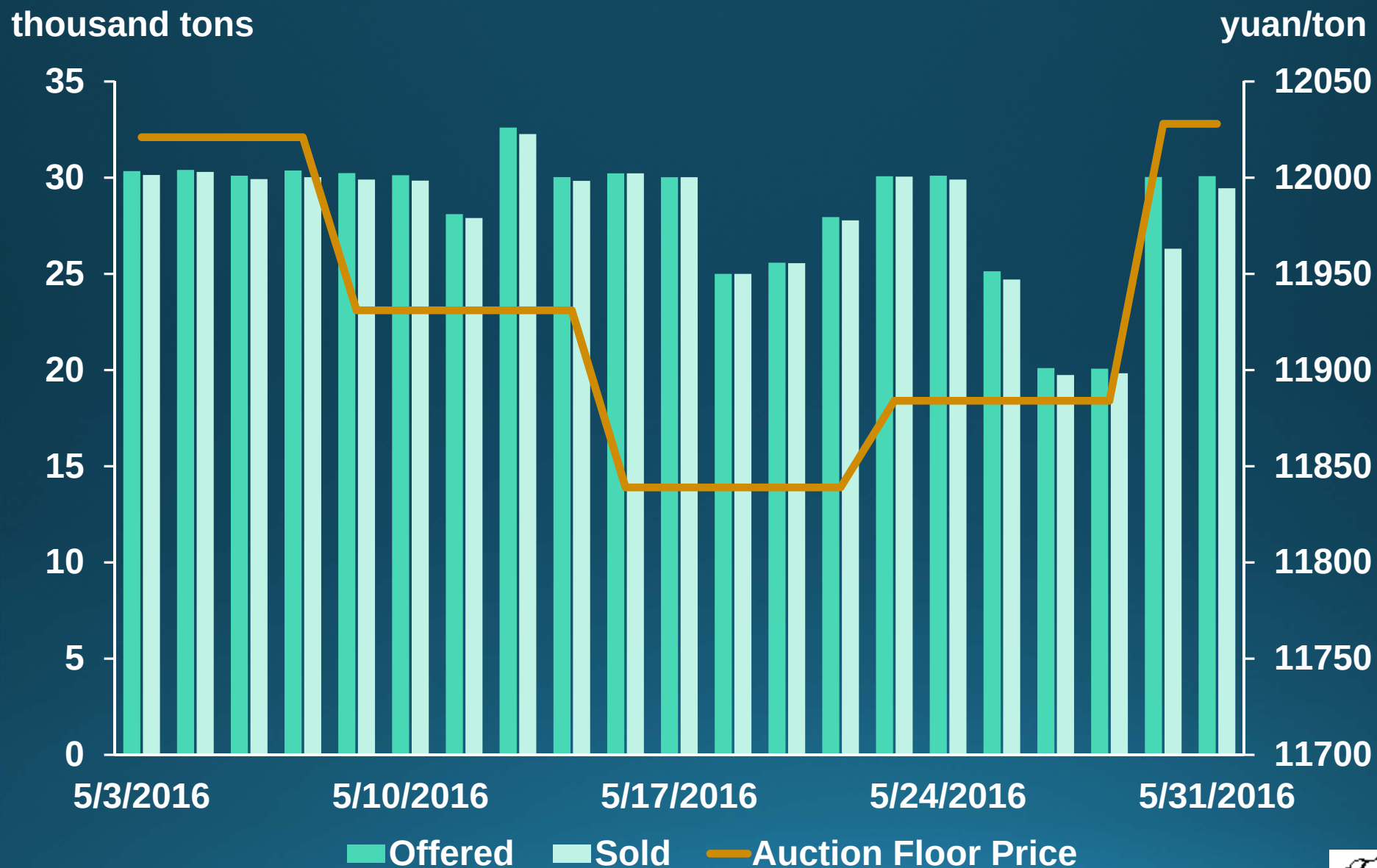
Cotton and Chinese Polyester Prices



*Weekly quotes (Source: Cotton Outlook Ltd.)

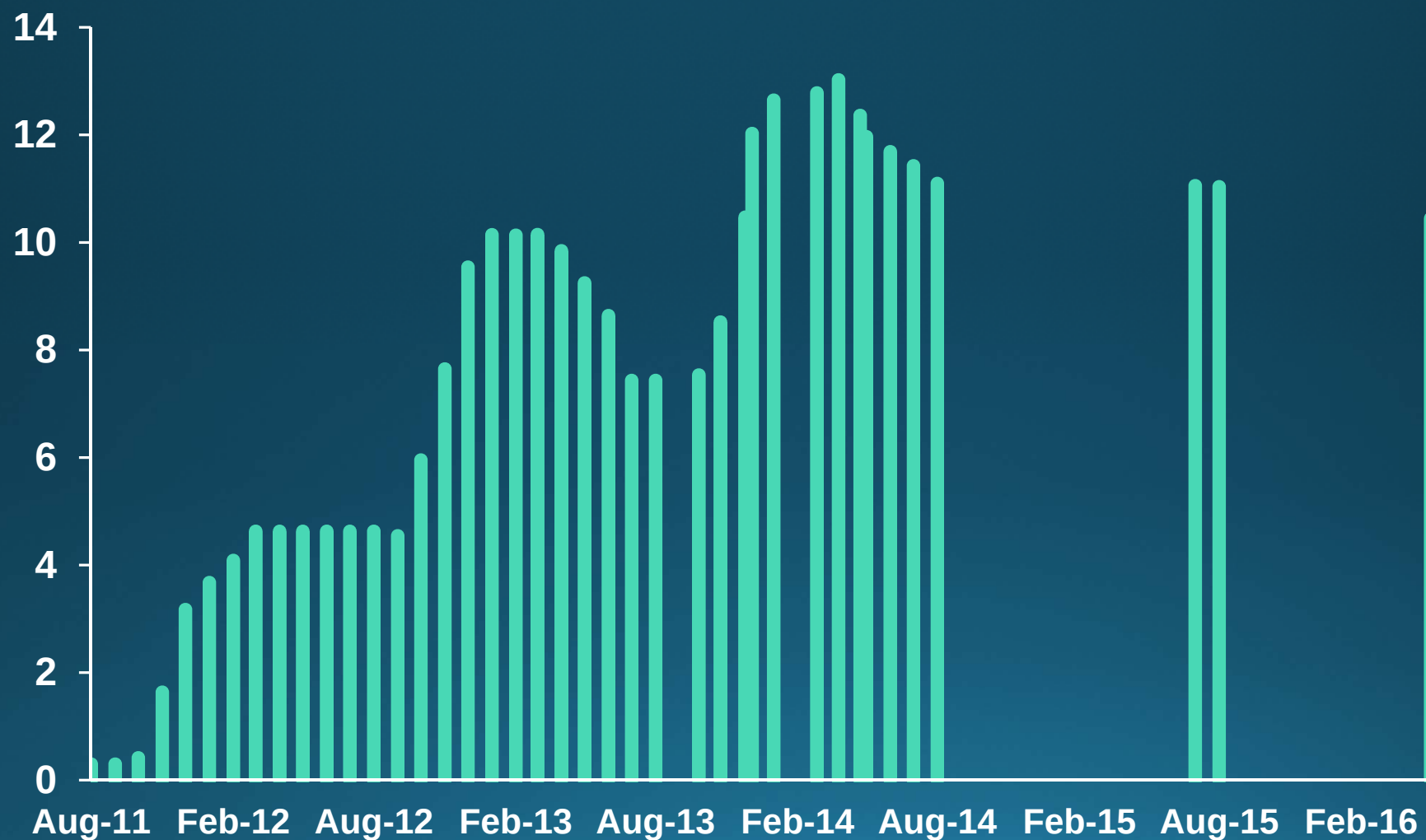


2016 Chinese Reserve Sales



Estimated Size of China National Reserve

million tons

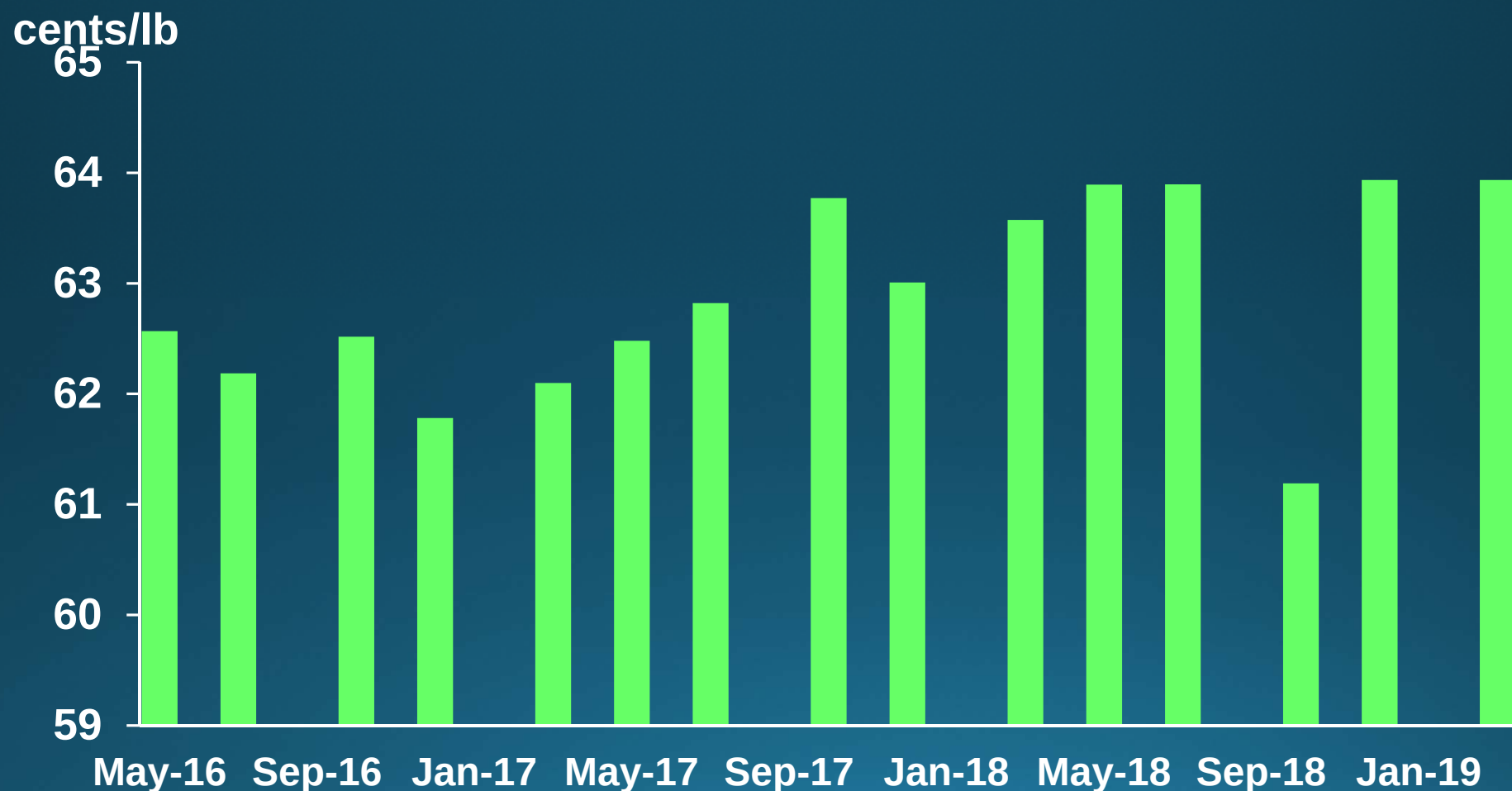


Futures Prices (Dec-14 & Jul-15 contracts)

US cents/lb



Settlement Prices for Cotton Futures Contracts as of May 31



Cotlook A Index

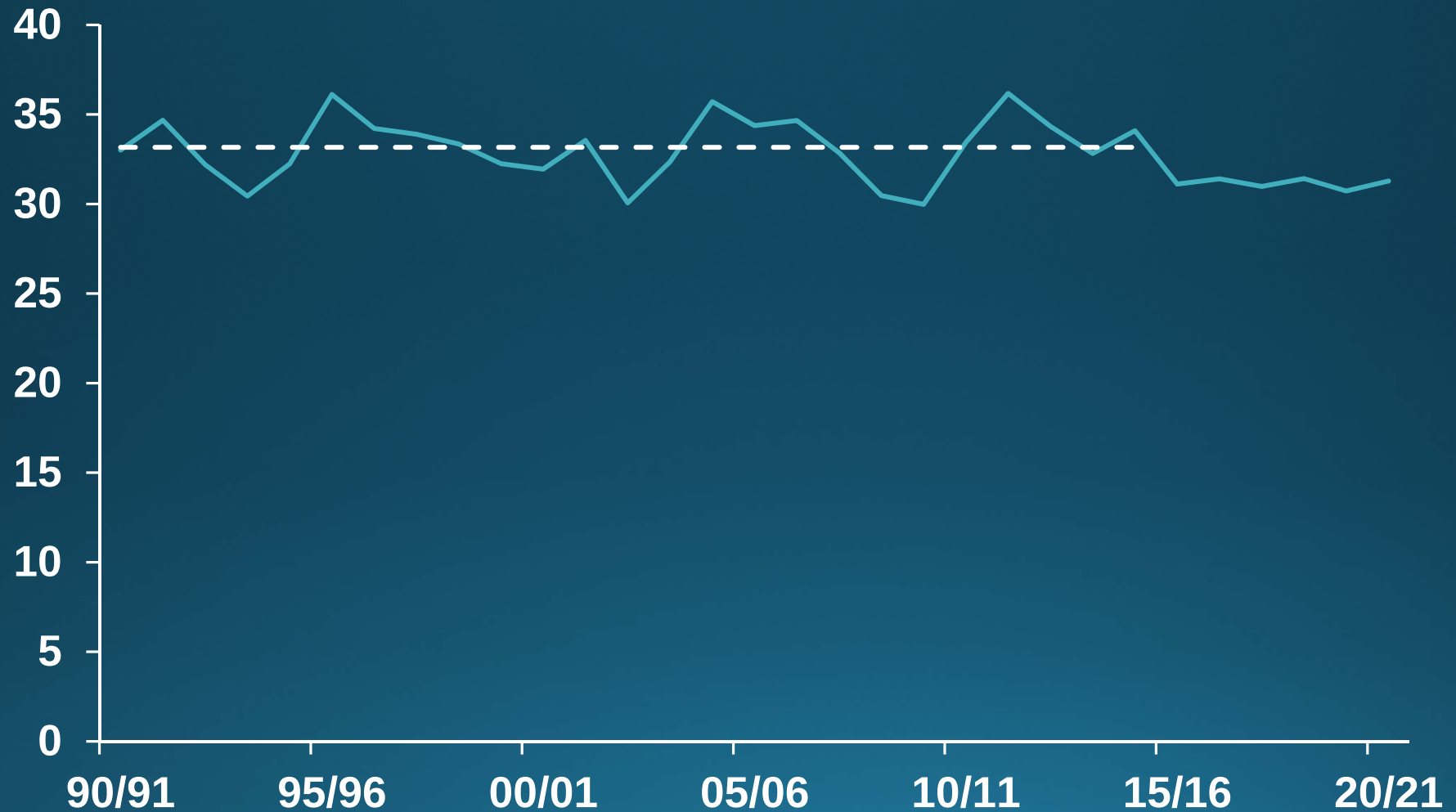
season-average (US cents/lb)



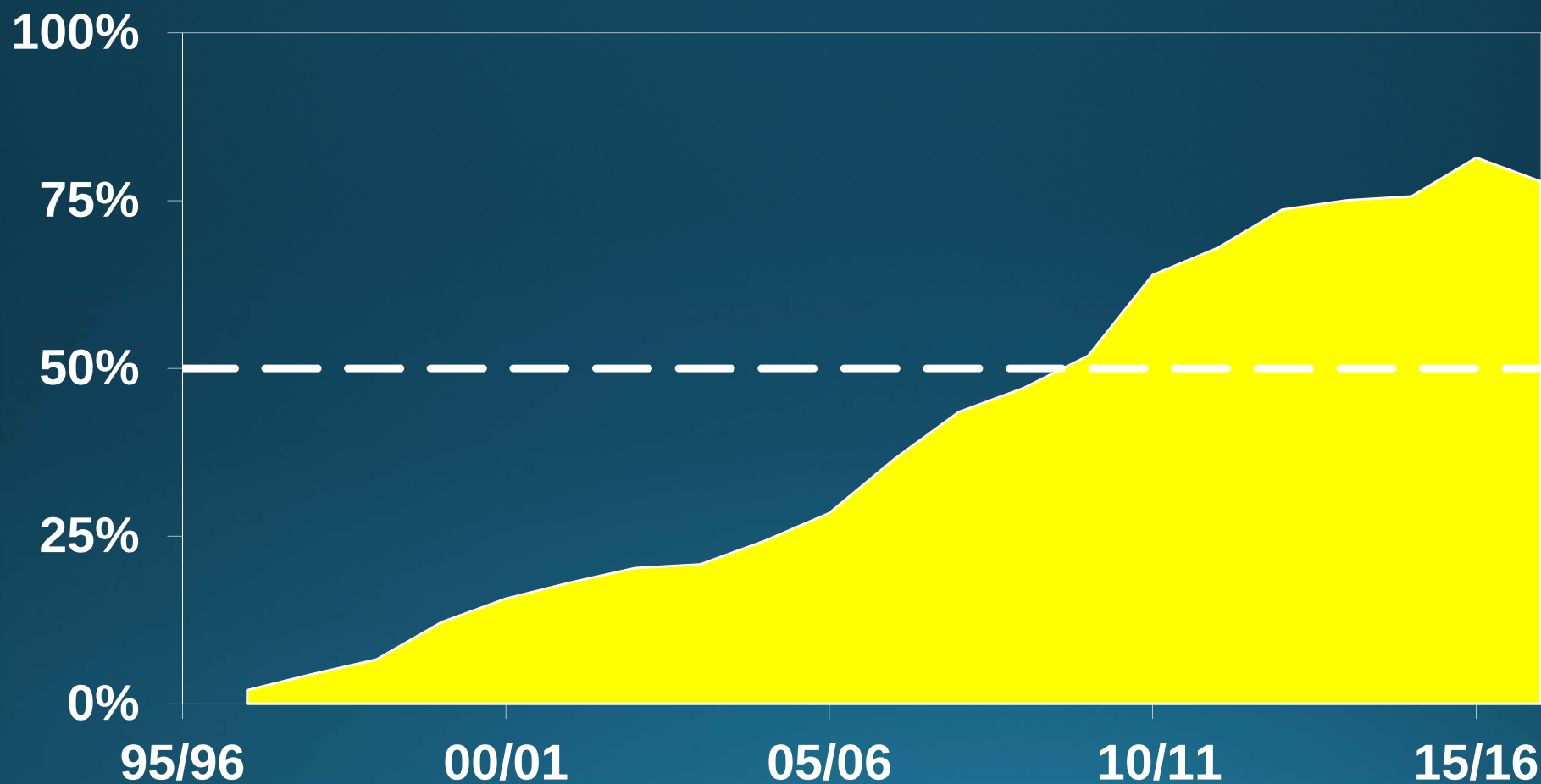
Long Term Outlook

World Cotton Area

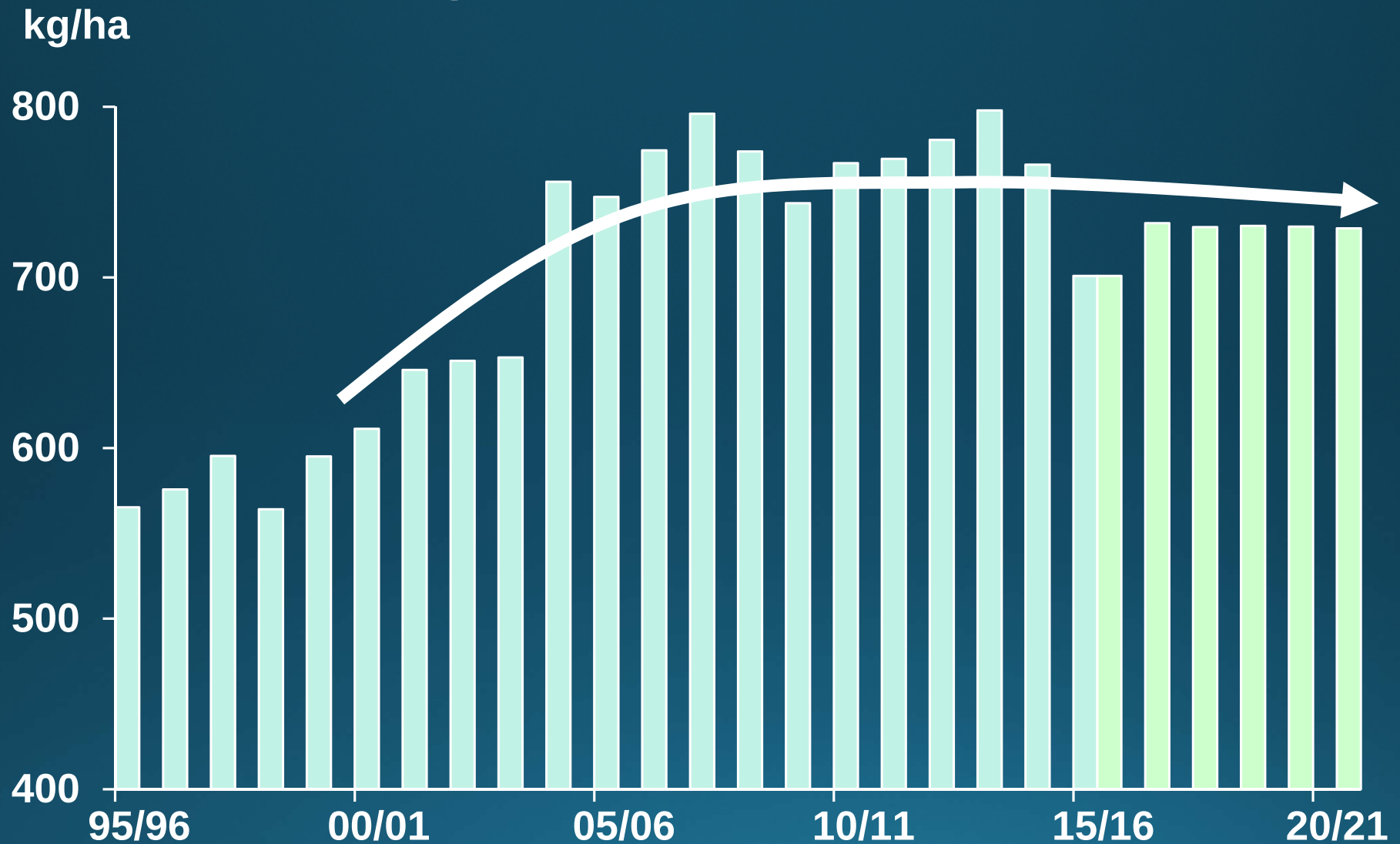
million hectares



Biotech cotton area (percentage of world total)



Average World Lint Yield



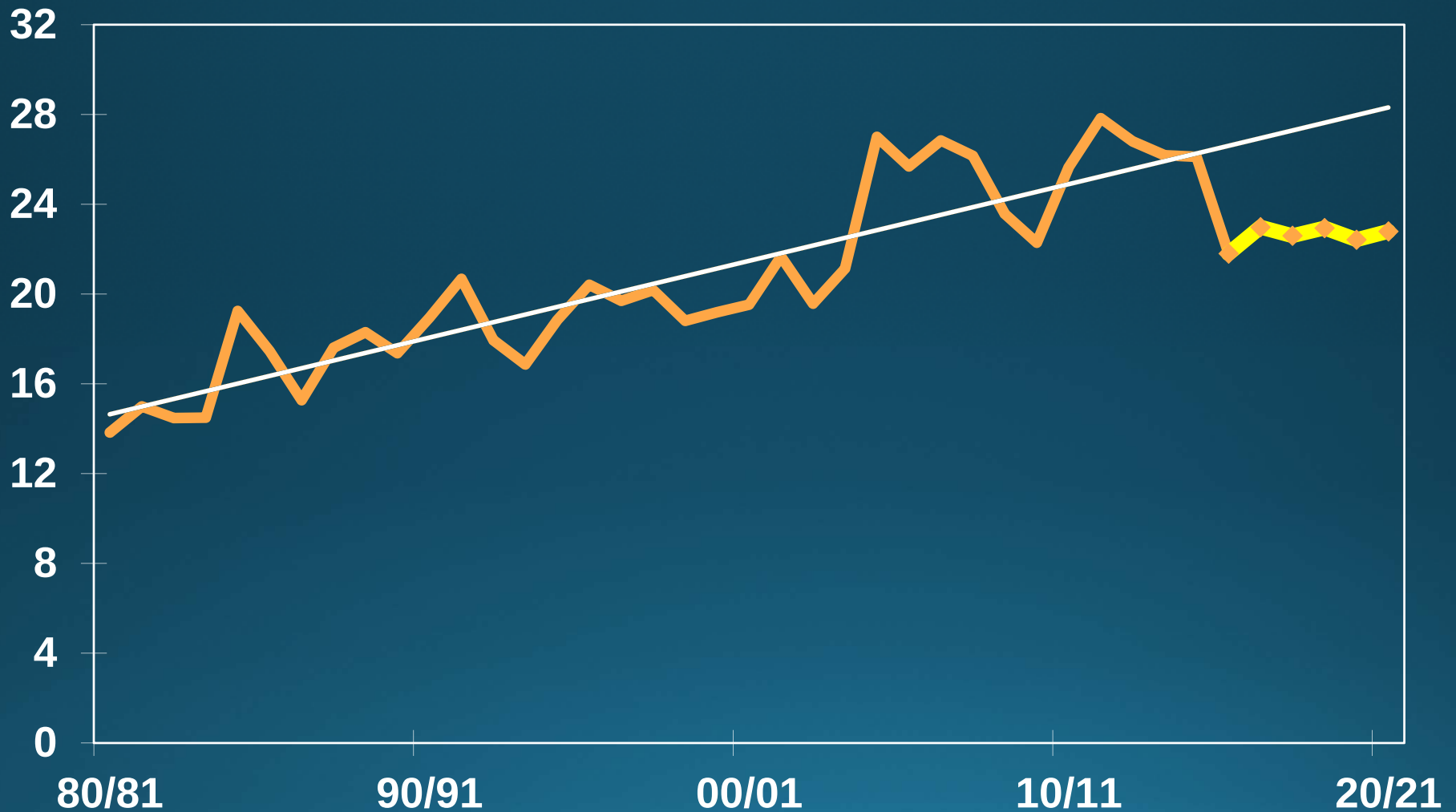
Technological Changes in Agriculture

- Mechanization
- Synthetic fertilizers
- Insecticides
- Herbicides
- Biotechnology
- ?



World Cotton Production

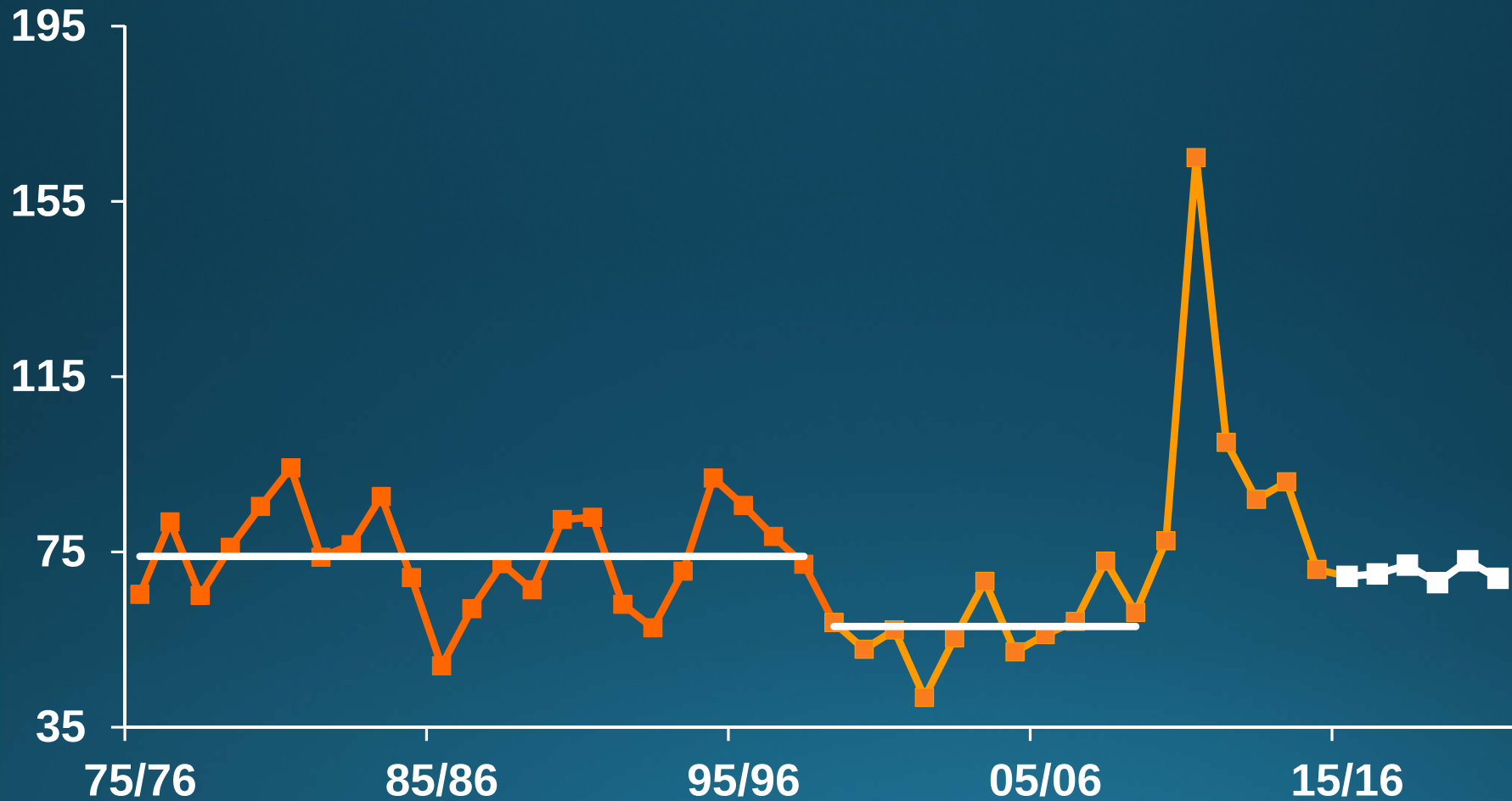
million tons



Season-Average Cotlook A Index

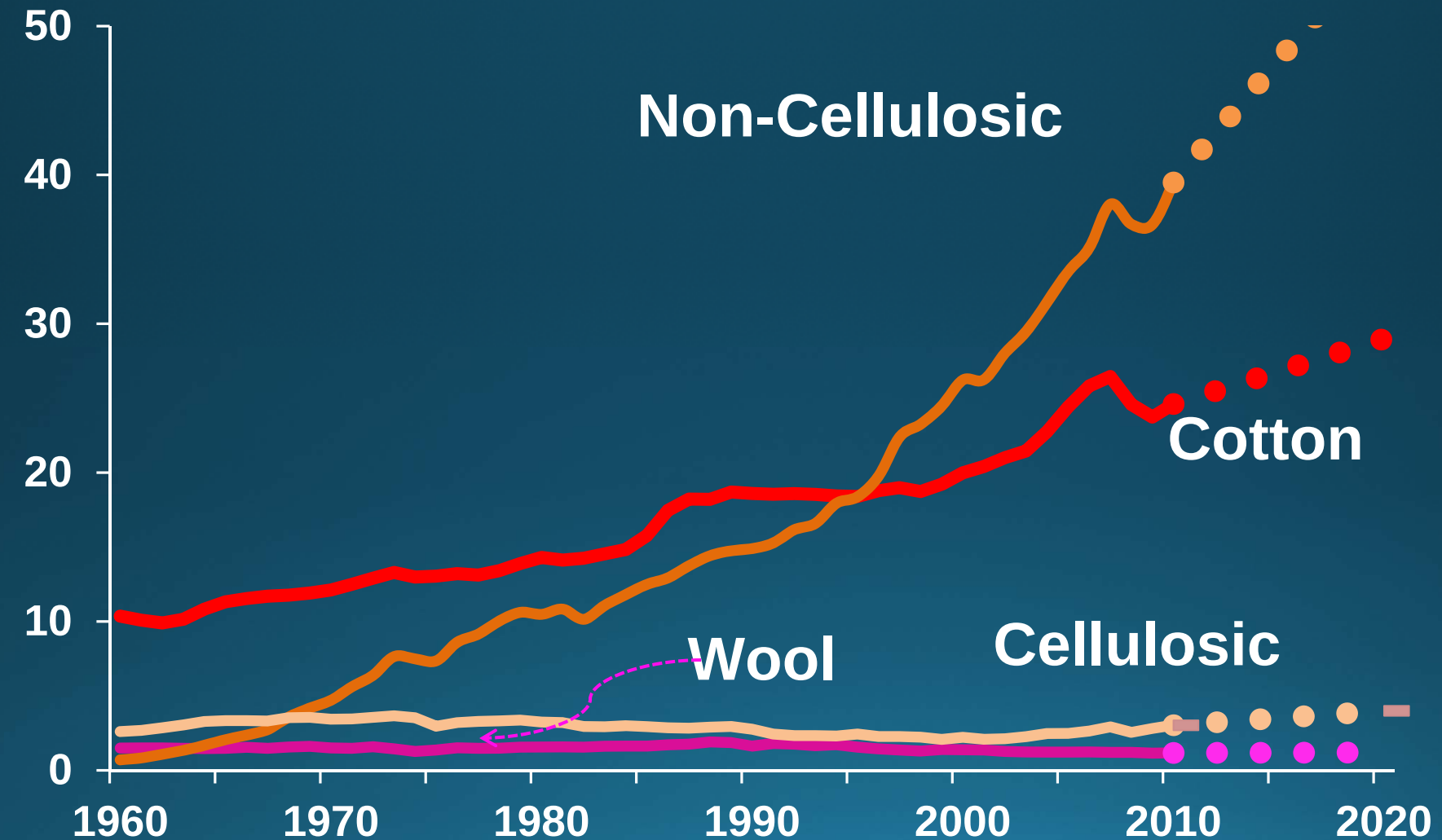
ICAC forecast

cents/lb

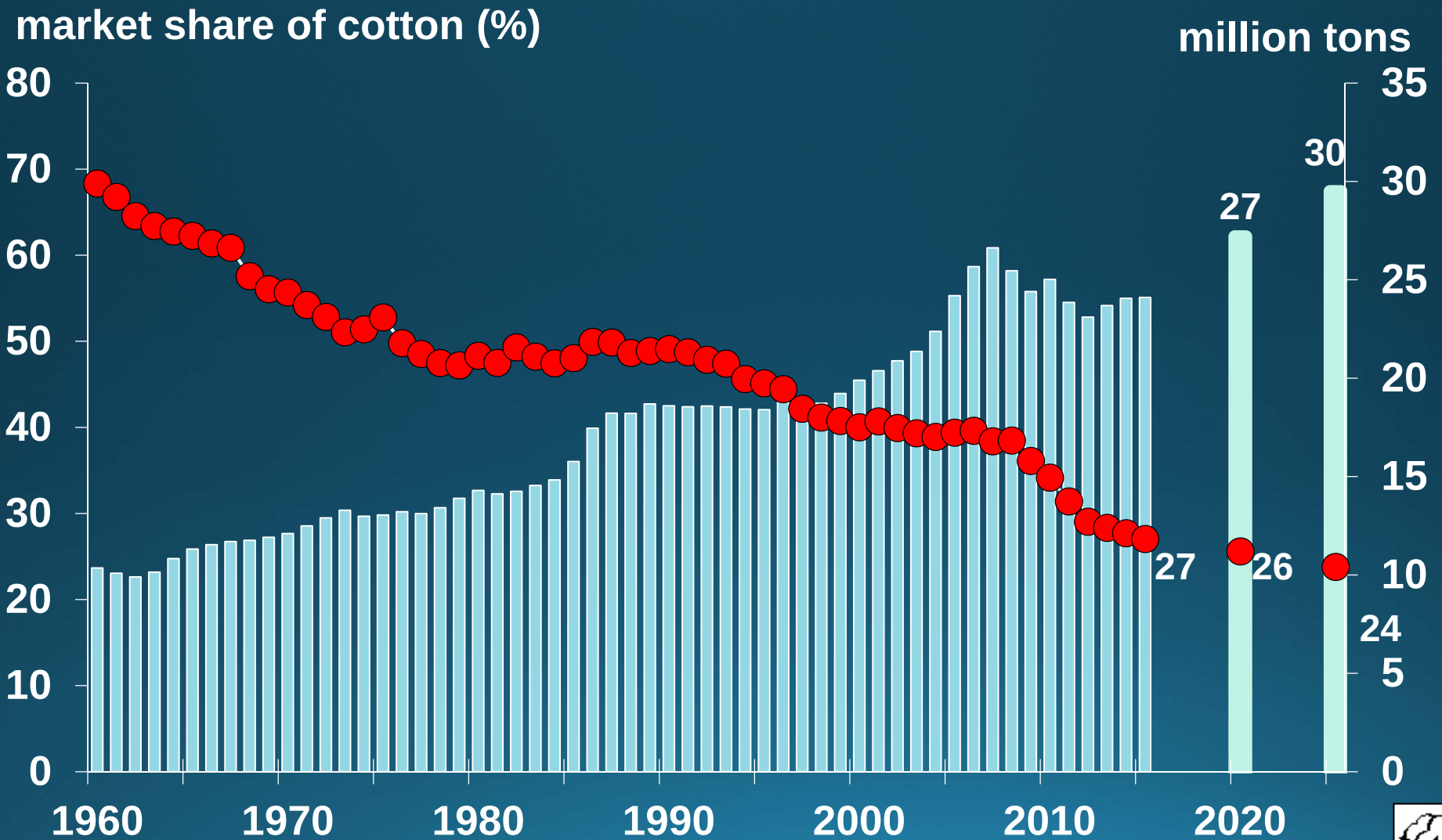


World Consumption of Textile Fibers

million tons



WORLD COTTON CONSUMPTION AND MARKET SHARE OF COTTON



Outlook for Merchants

- Fewer and bigger (↑ concentration)
- More multi-commodity merchants
- Fewer cotton-only merchants



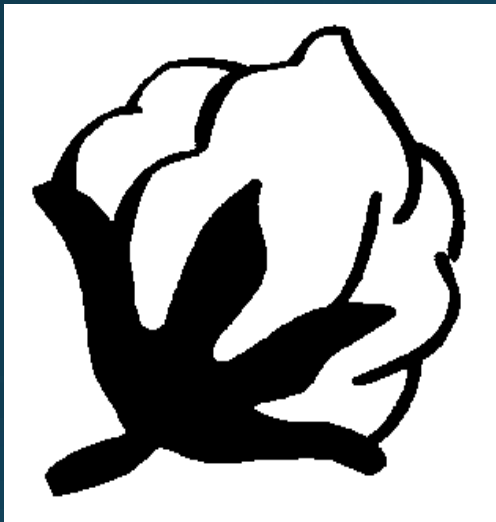
Increasing Capital Requirements

2007: \$6 loan per \$1 equity

2010 & 2012: \$3 loan per \$1 equity



The World Cotton Market: Structure and Outlook



Rebecca Pandolph
Statistician



International Cotton Advisory Committee

ACSA Cotton Institute-University of Memphis
Memphis, TN
10 June 2016