Cotton Pricing and World Textile Demand

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Overview

• Cotton Market fundamentals

• World Textile Demand

• Cotton Prices
ICAC’s Statistics on Cotton Supply & Use

**Users**
- Member governments
- Private sector
- Academia
- International Organizations
- General Public

Data collected for each country:
- Beginning stocks
- Imports
- Exports
- Production (area, yield)
- Consumption
- Ending stocks

It is important to reconcile stock and use estimates in a national cotton balance sheet, to help decision making in the public and private sectors.

**MARKET FUNDAMENTALS**

World Supply = Beginning Stocks + Production

World Demand = Mill Use + Ending Stocks

**World Supply = World Demand**
Example 1
World 2013/14 season
Mill Tons

Beginning Stocks = 18
Production = 26
Supply = ?

Mill Use = 24
Ending Stocks = 20

Demand = ?

Supply = Demand

higher/lower production = higher/lower Ending Stocks
Supply = Demand

higher/lower mill use = lower/higher Ending Stocks

World Cotton Fundamentals 2014/15

- Beginning Stocks 20
- Production 26.2
- Mill Use 24.4
- Ending Stocks 21.8

Supply = Demand

Million tons

Ending Stocks 21.8

Beginning Stocks 20

Production 26.2

Mill Use 24.4
Country Supply = Beginning Stocks + Production + Imports

Country Demand = Mill Use + Ending Stocks + Exports

Country Supply = Country Demand

Cotton Fundamentals 2014/15
China

Million tons

Supply

Demand

Imports 1.6
Beginning Stocks 12.1
Production 6.4

20.2

Exports <0.1
Ending Stocks 12.5
Mill Use 7.7
Important Concepts

• **World Ending Stocks** =  
  \[ \text{Beginning Stocks} + \text{Production} - \text{Mill Use} \]

• **World Stocks to Use Ratio** =  
  \[ \frac{\text{Ending Stocks}}{\text{Mill Use}} \]

**World Ending Stocks 2014/15 = 21.8**  
**World Stocks to Use Ratio 2014/15 = 21.8 / 24.4**  
\[ = 0.89 \]

Important Concepts

• **Country Ending Stocks** =  
  \[ \text{Beg. Stocks} + \text{Prod.} + \text{Imports} - \text{Exports} - \text{Mill Use} \]

• **Country Stocks to Mill Use Ratio** =  
  \[ \frac{\text{Ending Stocks}}{\text{Mill Use}} \]

• **Country Stocks to Use Ratio** =  
  \[ \frac{\text{Ending Stocks}}{(\text{Mill Use} + \text{Exports})} \]

**INDIA:**  
**Ending Stocks 2014/15 = 1.7**  
**Stocks to Mill Use Ratio 14/15 = 1.7 / 5.3 = 0.33**  
**Stocks to Use Ratio 14/15 = 1.7 / (5.3 + 2.0) = 0.23**
Last methodological issue: SMU

- If Stocks-to-mill use ratio = \( \frac{\text{Ending Stocks}}{\text{Mill Use}} \)
  
  ↑ SMU: ↑ Ending stocks  
  ↓ Mill Use  
  
  ↓ SMU: ↓ Ending stocks  
  ↑ Mill Use  

WORLD TEXTILE DEMAND

- WTD is a report of world end-use consumption of textile fibers, mill use, production and trade of cotton yarn and fabric and production of chemical yarn for over 100 countries.

- The report is divided in 4 Chapters
  1. World Economic Outlook
  2. Demand for end-use products
  3. Mill consumption of cotton
  4. Yarn and Fabric Market
World Consumption of Textile Fibers and Population

Million Tons

Billion People (line)
World Consumption of Textile Fibers

Million Tons

- Cellulosic
- Non-Cellulosic
- Wool
- Cotton


Synthetic Fibers: Market Share %

- Polyester (S+F)
- Nylon (S+F)
- Acrylic
- Polypropylene

Market share in 1990
- Polyester (S+F): 8,659 (53%)
- Nylon (S+F): 3,781 (23%)
- Acrylic: 1,678 (10%)
- Polypropylene: 2,346 (14%)

Market share in 2013
- Polyester (S+F): 44,725 (83%)
- Nylon (S+F): 3,504 (7%)
- Acrylic: 1,904 (4%)
- Polypropylene: 3,243 (6%)

Market Share of Cotton in World Textile Fibers Consumption

Drivers of Cotton Consumption:

1) Relative prices vs. other fibers
2) Population
3) Income per capita
Cotton Consumption

↑ population, ↑ cotton consumption

↑ income, cotton consumption per capita ↑↓
Cotton Consumption

Low income countries:
\[\uparrow\text{income}, \downarrow\text{market share of cotton}\]

High income countries:
\[\uparrow\text{income}, \text{market share of cotton stable at around 40\%}\]

Outlook:
\[\uparrow\text{cotton consumption}, \downarrow\text{market share of cotton}\]

ICAC Price Model
ICAC Price Model

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

- Average value of the cotlook A index
- Stock to use ratio for World Less China \( (X_t) \)
- Stock to use ratio for China \( (Y_{t-1}) \)
- China’s net imports \( (Z_t) \)

World 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

Change in Cotlook A Index in the CURRENT season explained by changes in:

• SMU ratio in the World-less-China in the CURRENT and PREVIOUS seasons
• SMU ratio in China (M) in the PREVIOUS season
ICAC Price Model

- Most important variable:
  - Stocks to mill use ratio in World-less-China
  - SMU World less China UP, Price DOWN
  - SMU World less China DOWN, Price UP

Cotlook A Index

Season-average (US cents/lb)
Price Volatility by Season: Cotlook A Index

Factors Affecting Volatility Not Captured by Statistics

- Limits on Exports
- Potential Purchases for State Reserves
- Defaults on Contracts