# Cotton: Technology Transfer / Logistics in Africa

**DG's Consultative Framework Mechanism on Cotton**

**Geneva**

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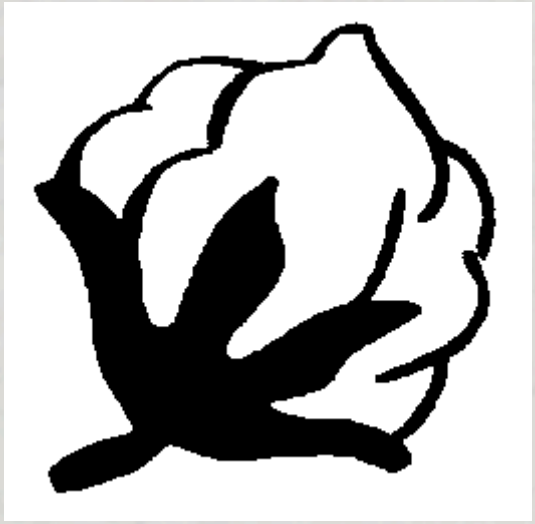
**ICAC**



# SUMMARY

1) Technology Transfer
2) Cotton Logistics in Africa
3) Market Trends

# TECHNOLOGY TRANSFER

# Technology Development

- Public sector
  - Knowledge development
  - Knowledge management
  - Agents:
    - National agricultural research systems
    - Universities
    - State and provincial networks
  - Public goods / no direct and visible remuneration
  - Weak implementation of intellectual property rights

# Technology Development

- Private sector
  - Use of fertilizers
  - Use of pesticides boosts private extension services
  - Introduction of biotech cotton / planting seed
  - Strong protection of intellectual property rights
  - Development of “technology packages”

# International Collaboration

- Cotton lagging behind other crops
  - Increase of yields in cotton has been slower than in food crops (e.g. rice & wheat)
- ICAC role
  - World Cotton Research Conference
  - Publications
  - Organization of regional research networks

# Technology Transfer

- Technology must be transferred to be useful
- Public sector: extension services
- Private sector: private consultants

# Technology Transfer

- Constraints:
  - Extension workers called upon to be experts in all crops
  - Insufficient number of extension workers relative to farmers
  - Extension workers lack resources
  - Adaptation to new forms of information transfer (Internet etc.)
  - Need for familiarity with local culture and traditions
  - Need for understanding of interactions among inputs

# Technology transfer

- Past:
  - Focus on timely planting and selection of varieties
  - Use of fertilizers has been optimized
  - Methods: conferences, demonstration plots, information brochures, mass media (radio programs, television)

# Technology Transfer

- Future:
  - Focus on optimal input use (interactions, timing and quantities)
  - Diminishing emphasis on insecticides
  - Methods:
    - Internet, social media, cellular phones
    - Crop clinics
    - Farmer Field Schools / Farmer Training of Facilitators / Farmer-to-farmer Field Schools

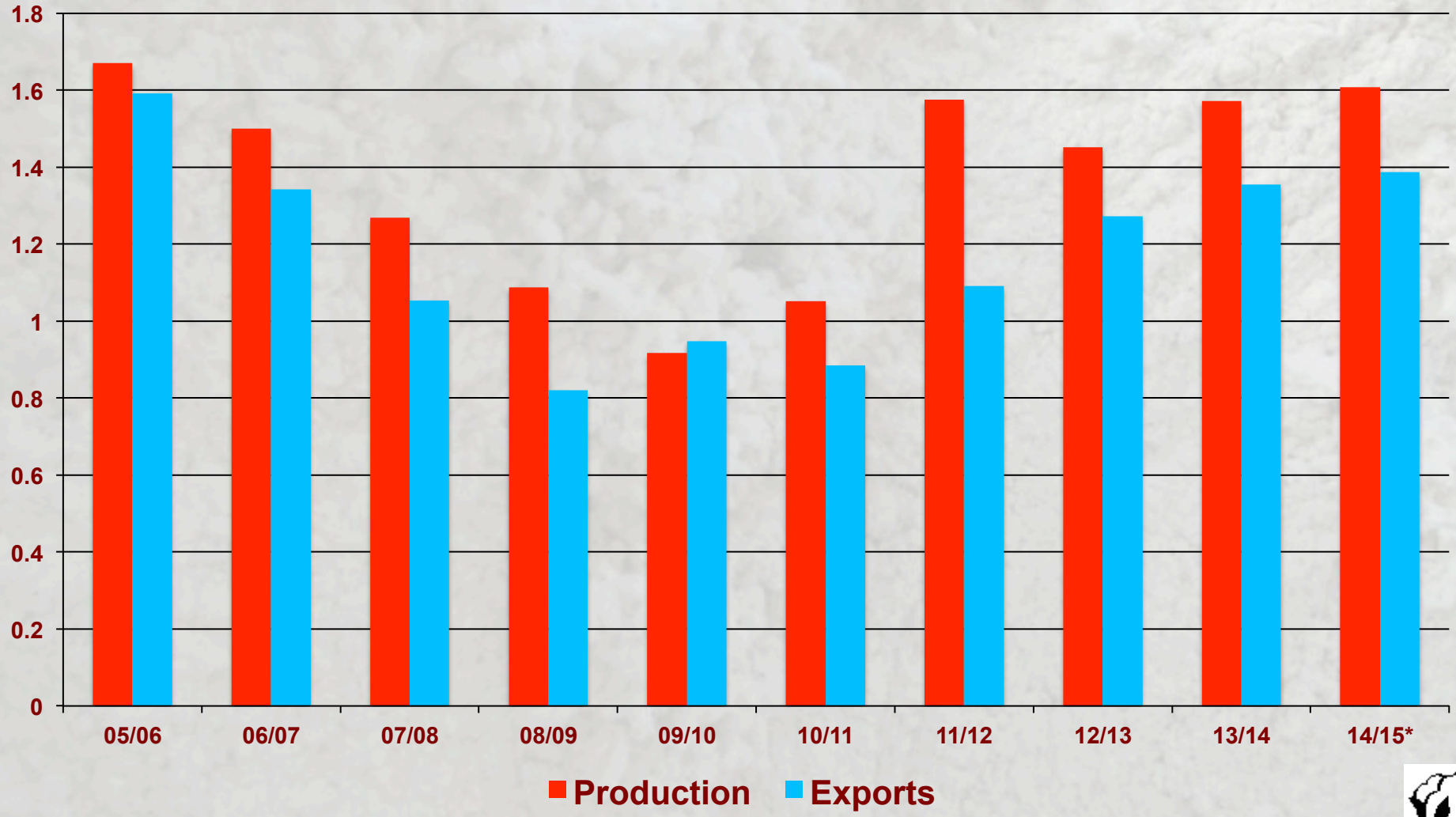
# Conclusions

- Transfer of technology has lagged behind developments in research
- Farmers receptive to learning new methods
- Training of trainers remains an issue
- Need to use new methods of mass communication more effectively
- Need for cost-effectiveness in view of decline in public funding
- Need for collaboration among disciplines and between public & private sectors
- Need for customized approaches
- **Need for new focus on interaction of inputs**

# COTTON LOGISTICS IN AFRICA

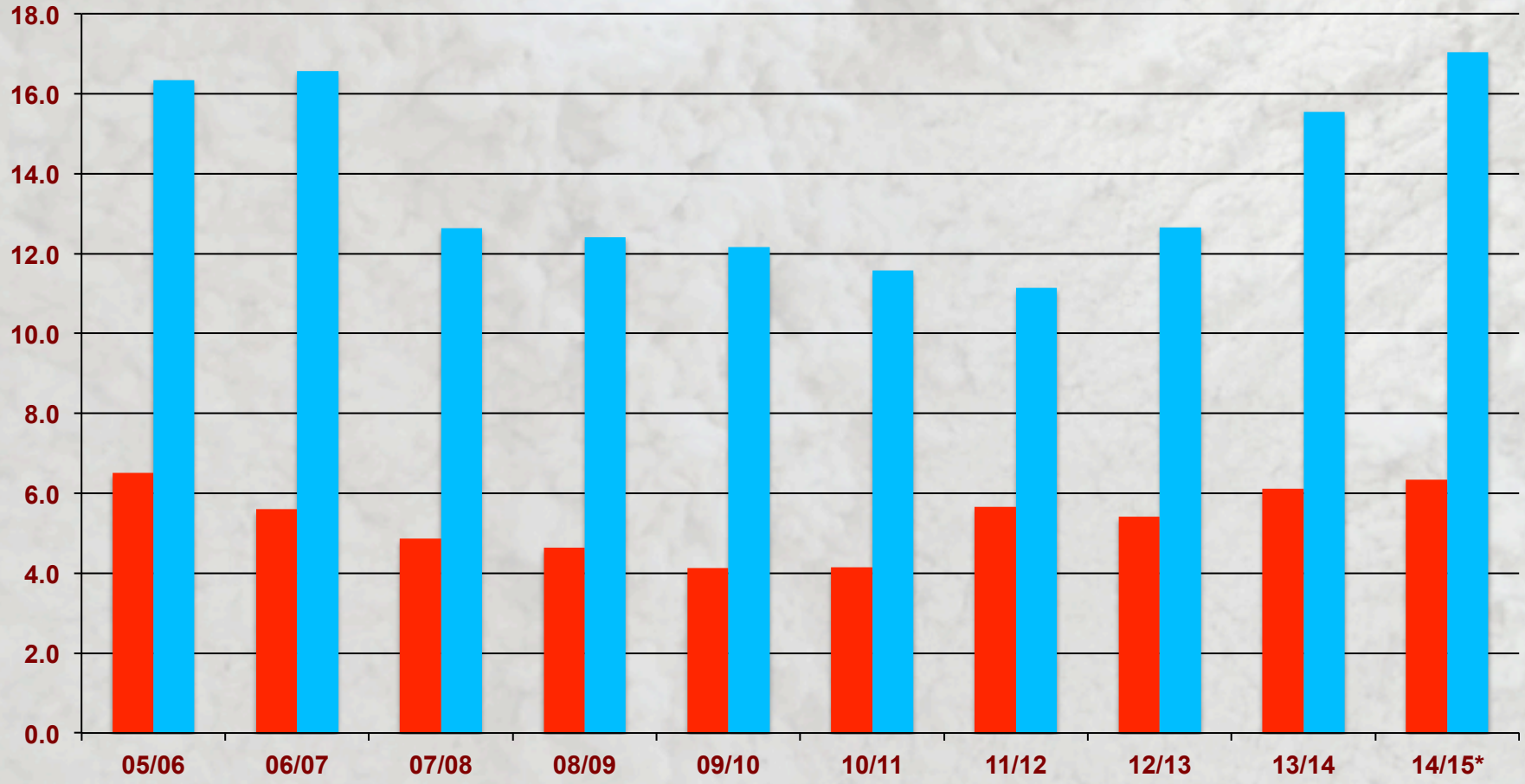
# Africa Production & Exports

(million tons)



# Africa Production & Exports

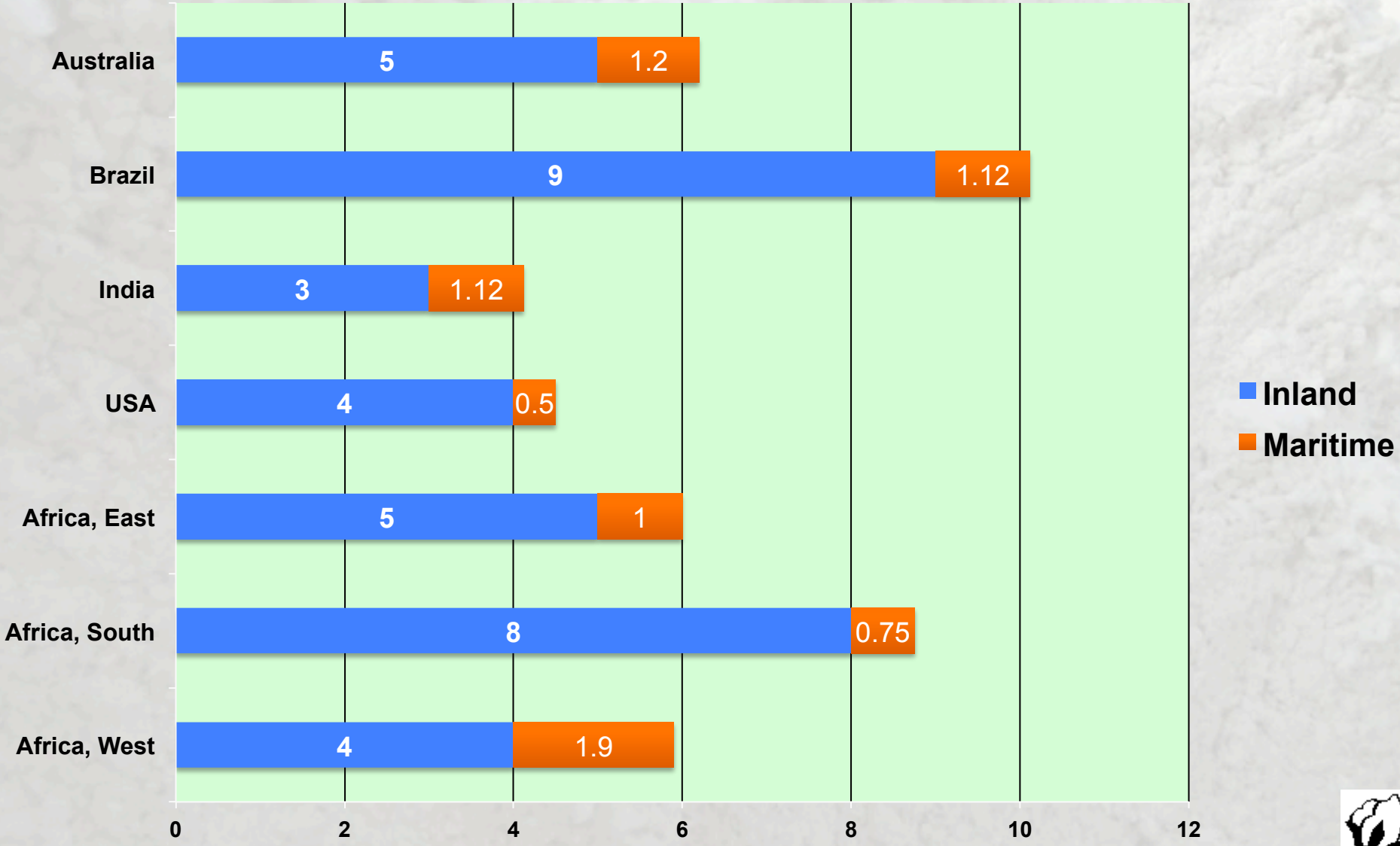
(% of World)



# Cotton Logistics in Africa

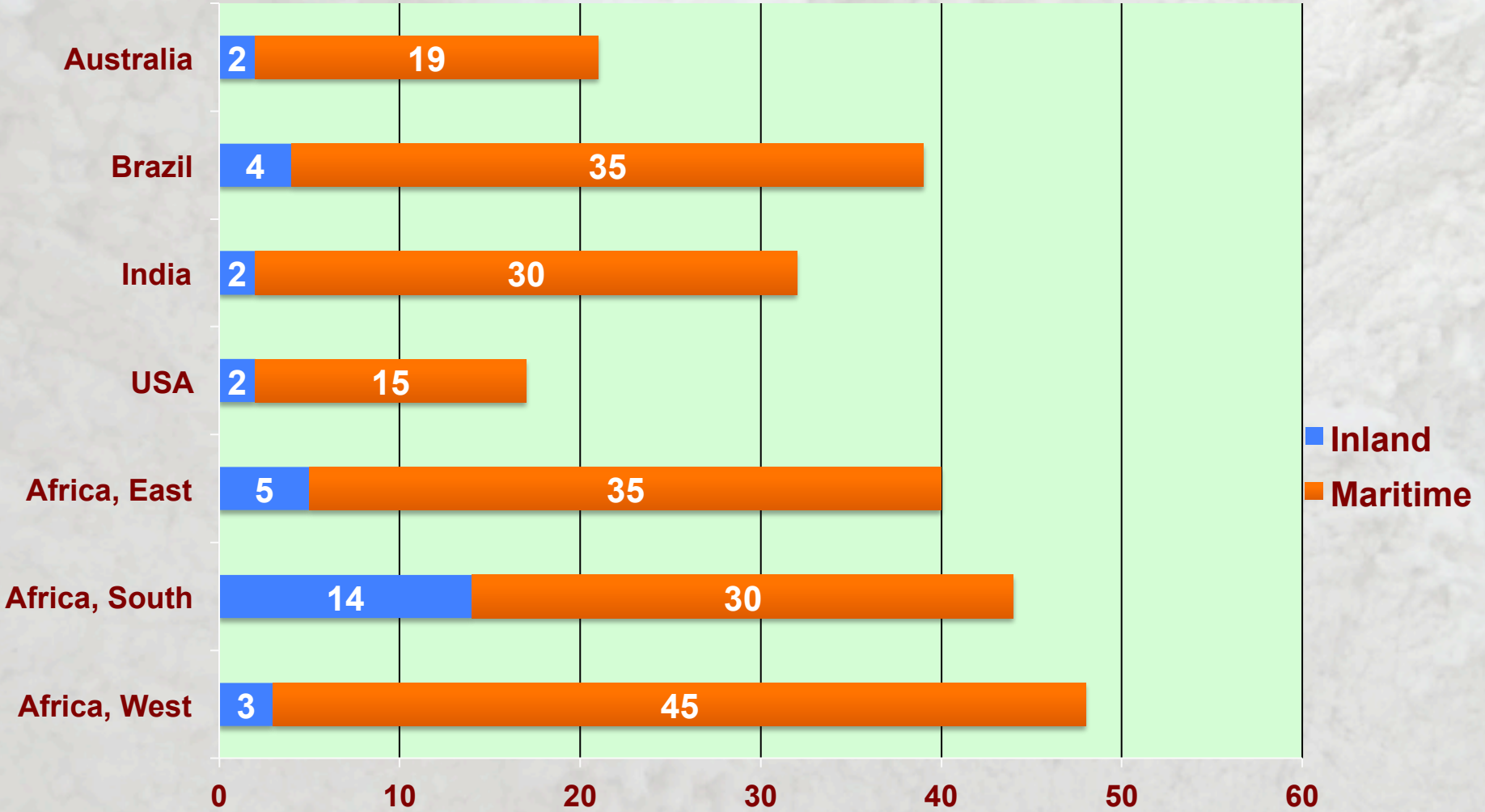
- Informal survey of leading international trading houses
- Use exports to China (largest importer) as parameter
- Two steps:
  - Inland: Interior (gin) → port of shipment
  - Maritime: Port of shipment → port of destination
- Two factors:
  - Cost
  - Transit time

# Cost
## (US cts/lb)



# Transit time

## (days)



# Observations

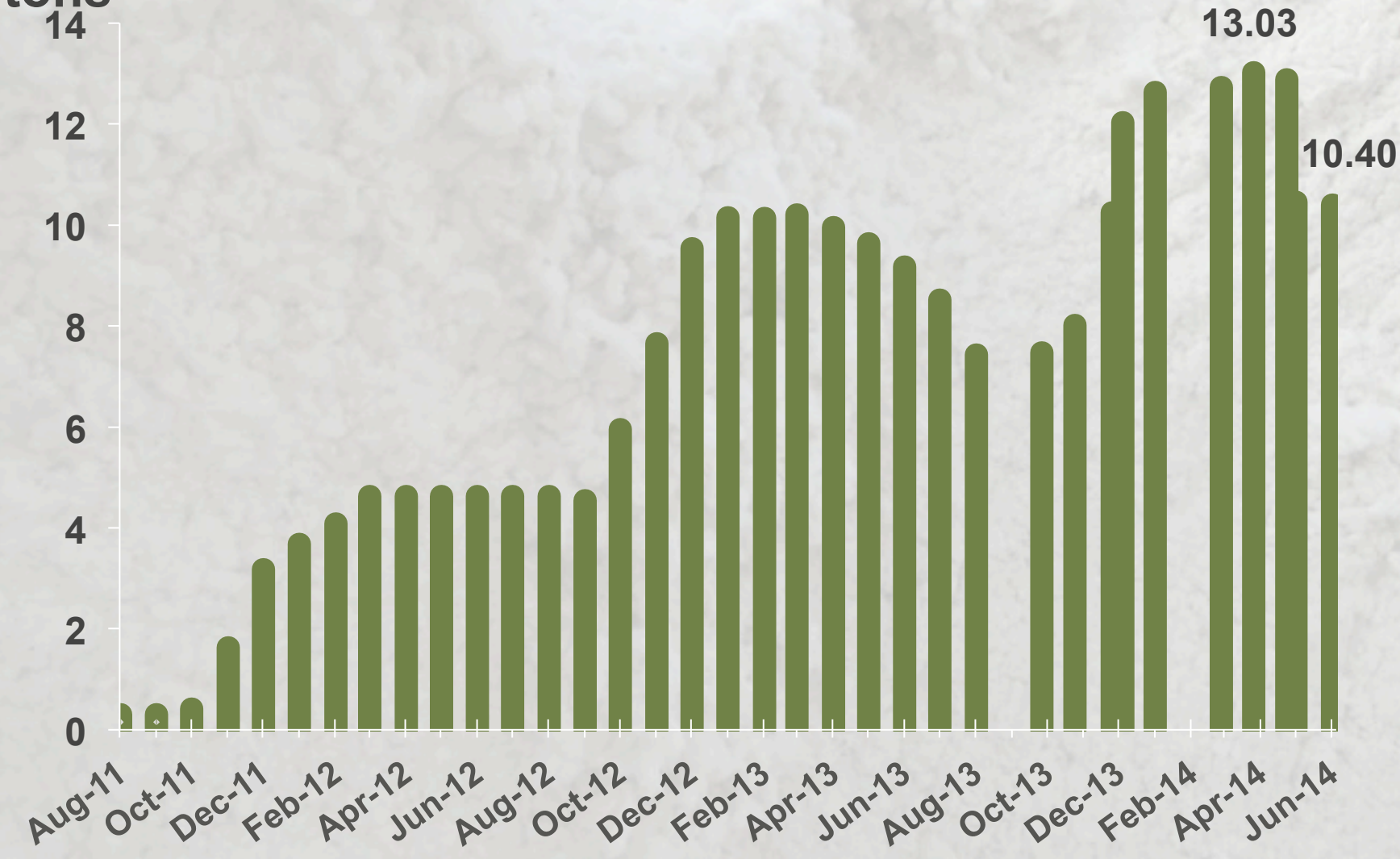
- Non-scientific, informal survey
- Cotton is a high volume/low weight product. Share of logistics in final cost is greater than in most commodities. African transportation costs = 5.5% to 9.7% of C&F China price
- Interest of shipping companies in Africa has increased substantially since 2010. More ships/routes being added
- Bottlenecks: data don't take into account **congestion** in ports. Can add significant time (3 to 4 weeks)
- Long transit time/congestion requires shippers to buy/ transport goods before opening of L/C, thereby increasing risk

# Conclusions

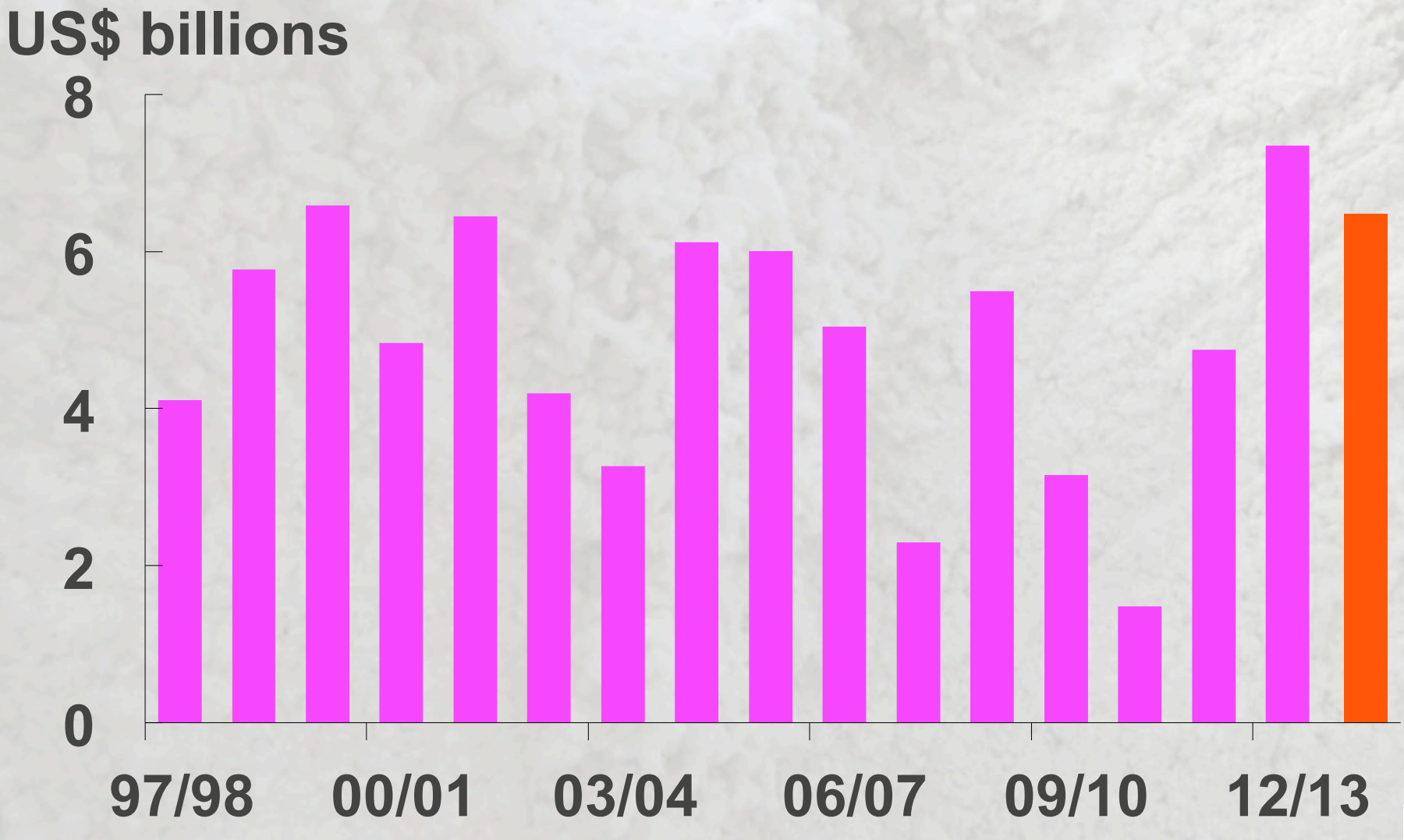
- Transit time for African origins (excluding port congestion delays) is higher than for most, but not all, leading competitors
- Inland transportation costs higher than most leading competitors, with exception of Brazil
- Maritime costs relatively low and do not vary substantially among countries
- **Further research needed on logistics costs from farm to gin, which are likely to me higher in Africa than elsewhere**

# MARKET TRENDS

# Estimated Size of China National Reserve



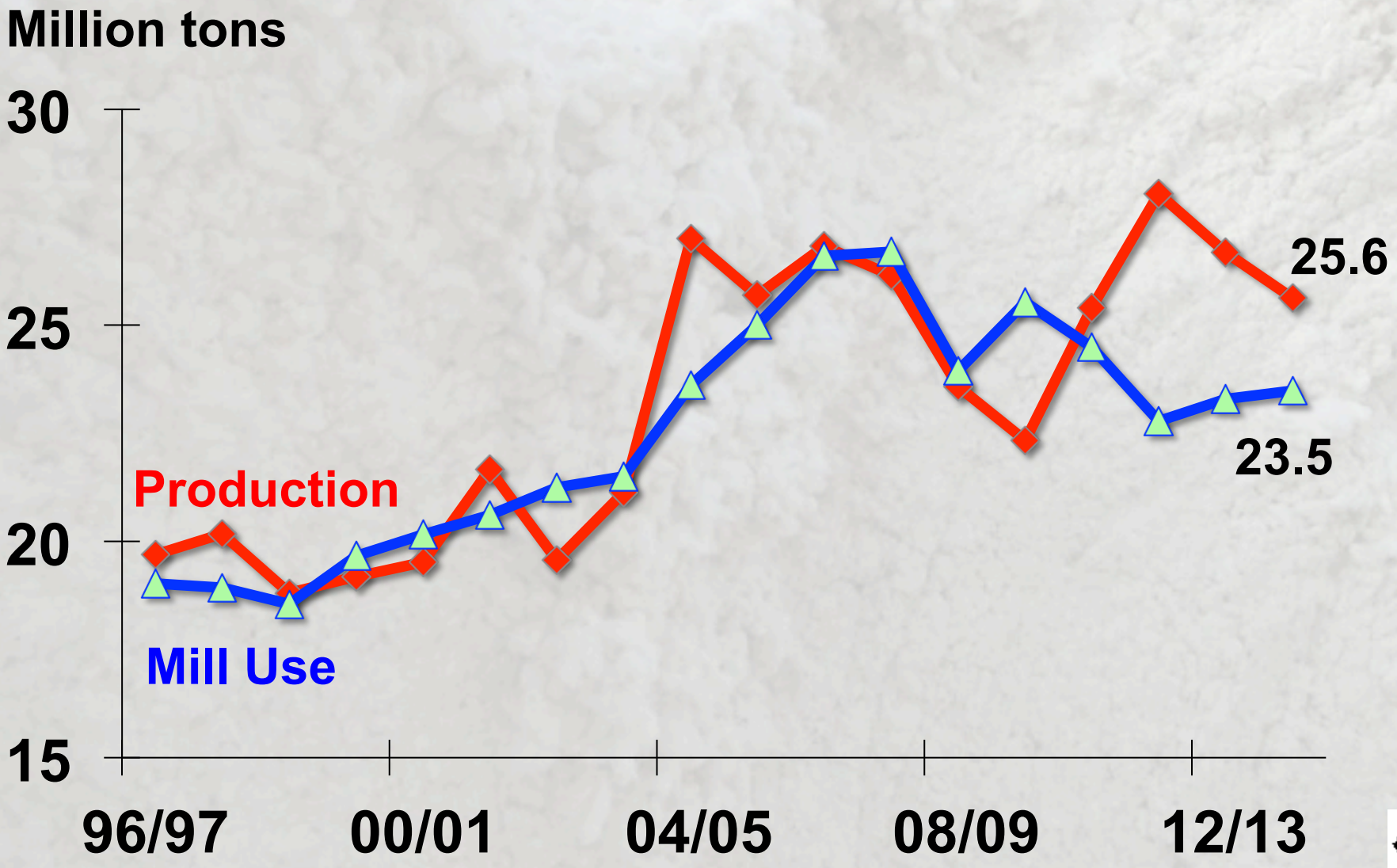
# Direct Assistance to Cotton



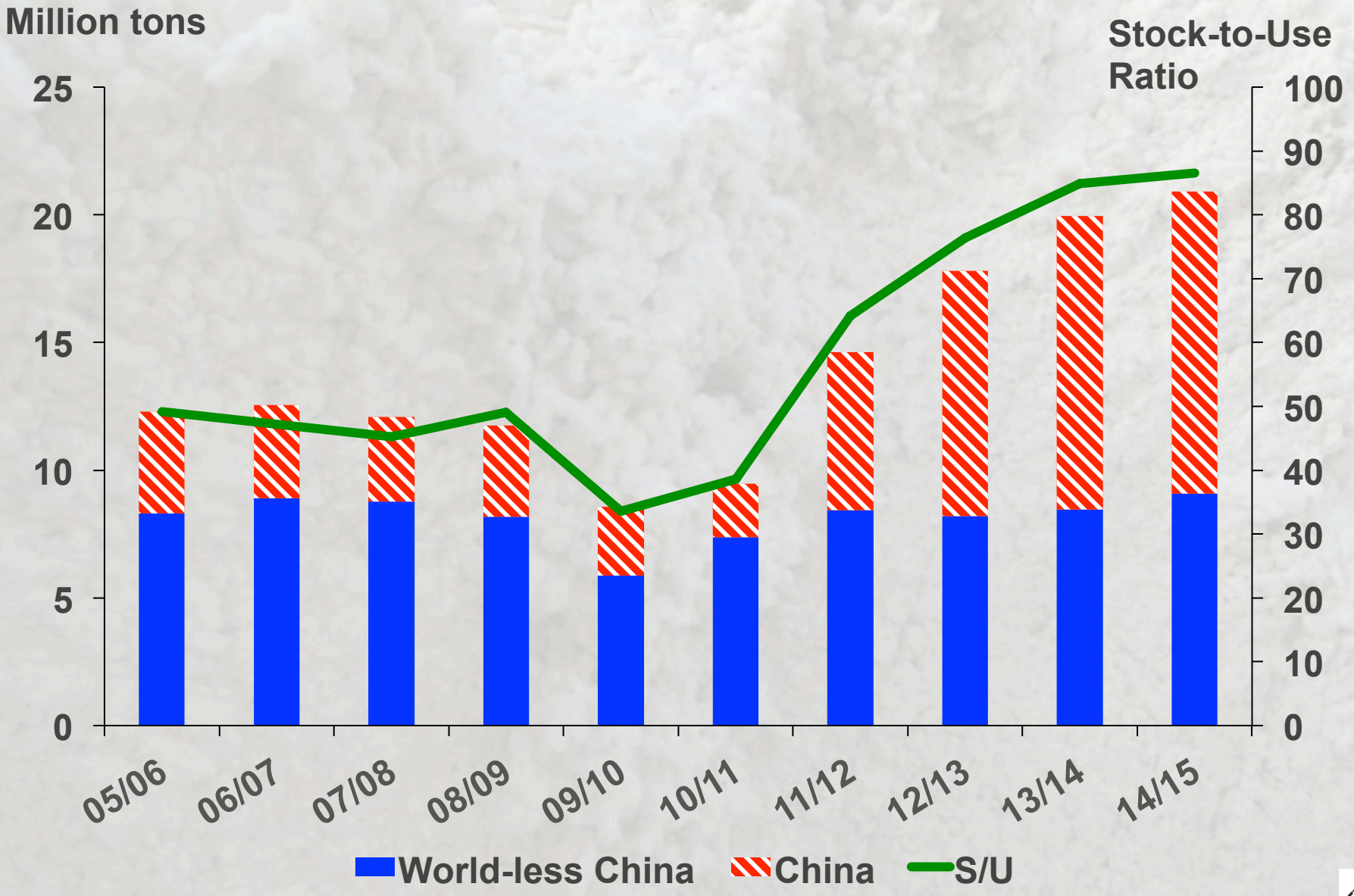
# Observations

- Changes in forms of government assistance in China and USA
- Effect of changes is difficult to measure *ex ante* and time will be required to evaluate costs
- In both cases, and for reasons not necessarily related to gov't support, significant long-term expansion in production is unlikely

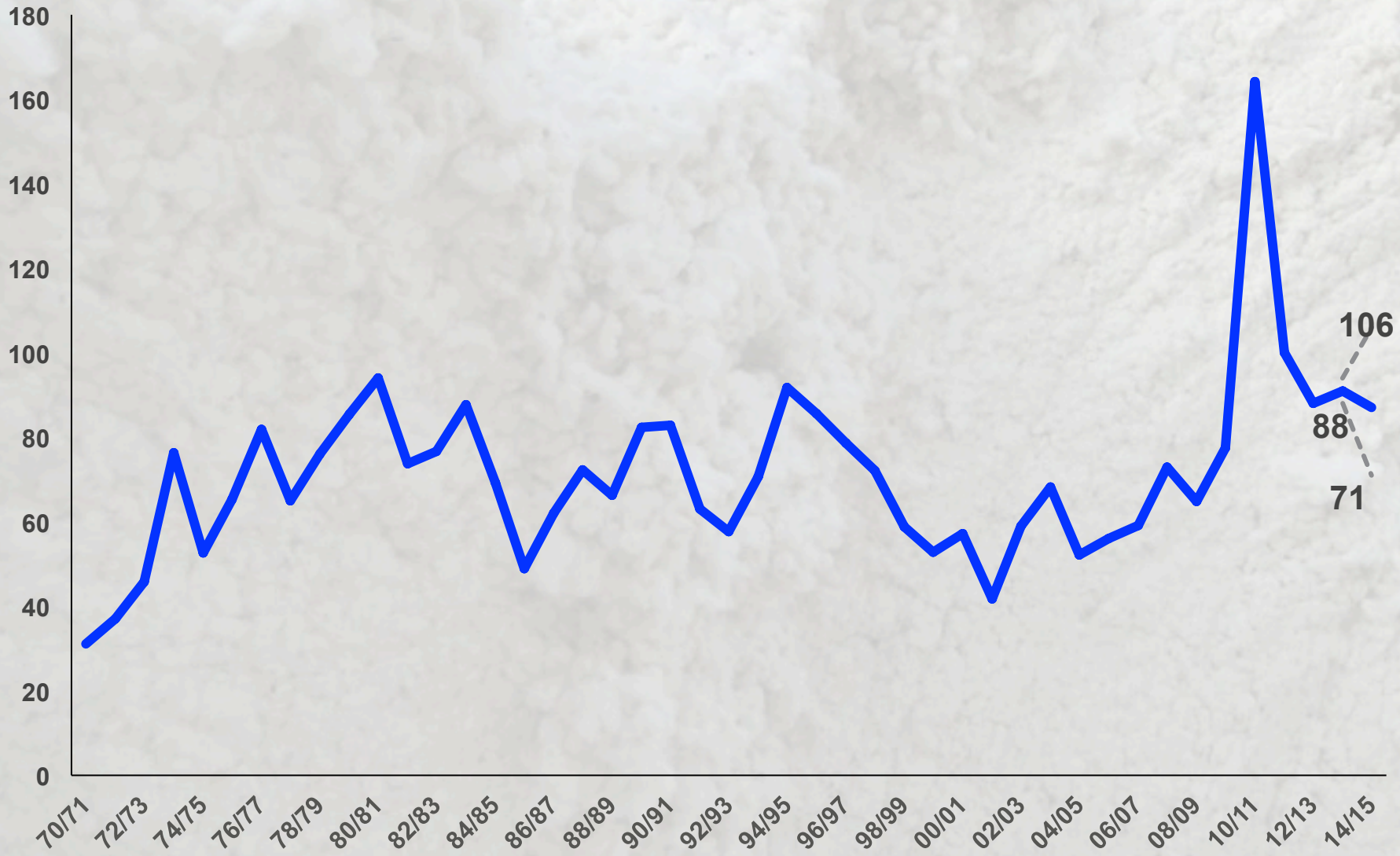
# World Cotton Production & Mill Use



# World Ending Stocks



# Cotlook A Index




Source: Cotton Outlook

# Cotton and Polyester Prices*


Source: Cotton Outlook

# *Thank you*

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