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USDA Perspective: Challenges to Forecasting and Estimating Cotton Supply and Demand

Graham Soley

United States Department of Agriculture

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What is WASDE?

- The United States Department of Agriculture (USDA) publishes the World Agricultural Supply and Demand Estimates (WASDE)
- Annual forecasts for supply and use of commodities
- Geographical distribution of supply and use
- But also assess market imbalances



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Balance Sheets

- Conceptualize supply and use and market imbalances? **Balance sheets**
- Beginning stock + Production + Imports = Total Supply
- Domestic Use + Exports = Total Demand
- Total Supply – Total Demand = Ending Stocks
- World Ending Stock Relative to World Demand
- Influential on prices and signal to farmers for planting and mills for spinning



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Purpose of WASDE

- Better understanding of these imbalances aid in price discovery
- In an absolute (flat price) and relative (basis) sense
- Accuracy of statistics foundation for reliable forecasts
- Forecasting REALLY starts at ground truthing the raw statistics
- What are the challenges when assessing the quality and accuracy of raw data for analysis???



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Challenges

- Accuracy of historical estimates are critical as supply is carried forward
- Obvious – is the reported production number correct? If not, this complicates **balancing** the balance sheet.
- This applies for all attributes in the balance sheet (stocks, imports, exports, etc.). Holistic approach is critical.
- Can't look at only one attribute (e.g., production) for a commodity
- For example, how do we know published export volumes for cotton are correct?



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Case Study: U.S. Exports

- Three separate sources report cotton export volumes for the United States
- This is rare but several government agencies report different statistics for cotton trade (including Pakistan and Bangladesh)
- So which source is correct and why? Which source should USDA adopt?
- Before this month, USDA took a simple average of two data sources



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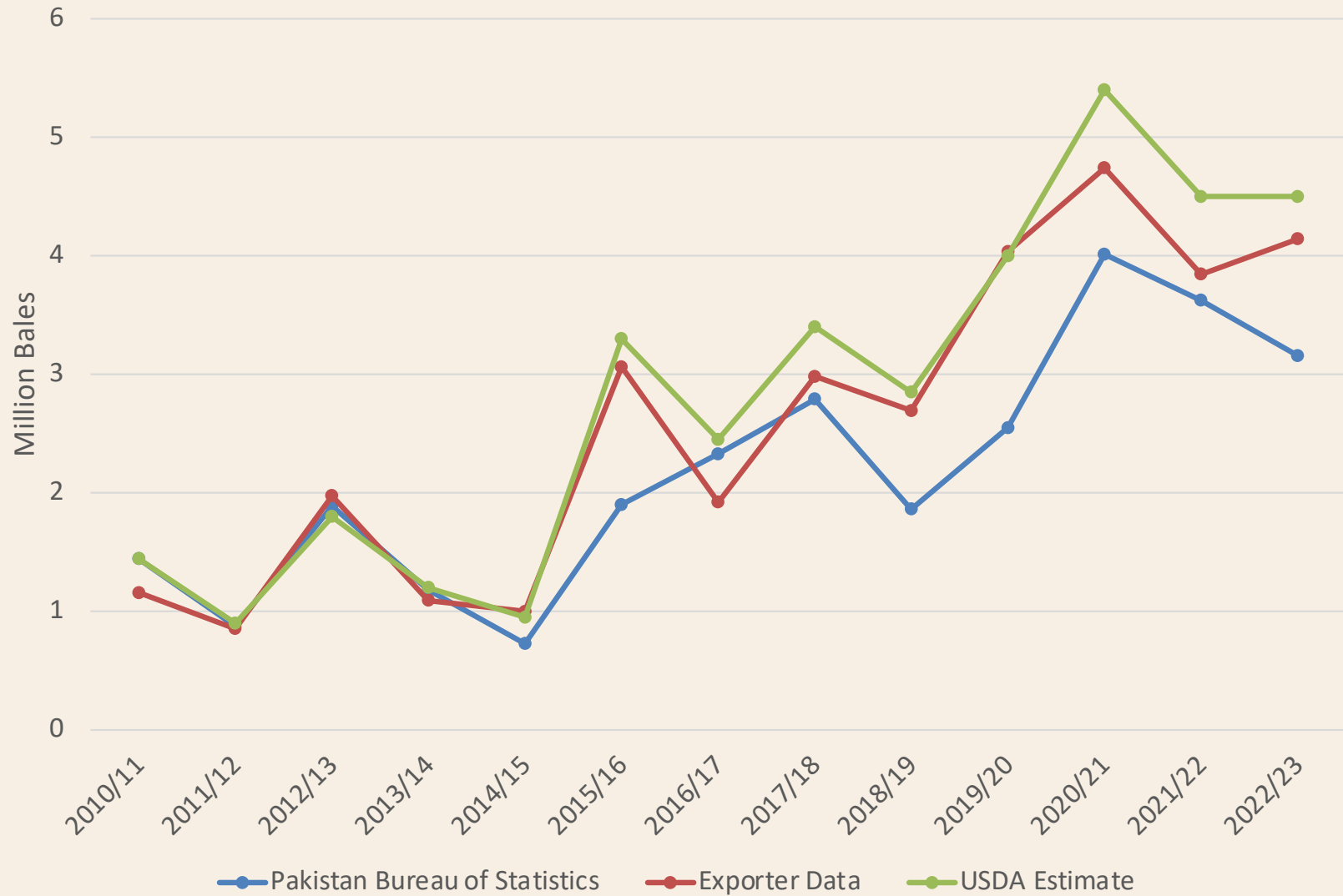
Case Study: U.S. Exports

- But problems arose → the balance sheet didn't balance. Too many exports and not enough supply.
- One source was dropped and USDA derives a best estimate based on the balance sheet and data sources. Does not reflect published data one to one...
- Lesson that published data may not be as clean as perceived
- Quality of raw statistics is pivotal to the conclusions drawn from analysis



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Case Study: Pakistan Cotton Imports





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Case Study: Pakistan Cotton Imports

- Discrepancy between exporter data and the Pakistan Bureau of Statistics is persistent
- USDA collects import data from the Bank of Pakistan to corroborate the USDA import estimate
- What can explain the difference between the Bank of Pakistan and Pakistan Bureau of Statistics?



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Case Study: Pakistan Cotton Imports

- Odd because what is the incentive (think import tariffs)?
- Remember, putting in a balance sheet perspective, the cotton consumption number (i.e., spinning of cotton) would be drastically different if the Bureau of Statistics was adopted



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Best Practices

- Prices → one of the best signals
- Derived trade → Pakistan example, what do exporters report was exported to Pakistan?
- Unit values
- Import vs. Export data, import data more reliable? Depends on the country but most of the time, YES
- Question everything!!!

THANK YOU!

graham.soley@usda.gov

