

Week-02-L-02

Agricultural Statistics in Practice

Forecasting Techniques in Agriculture

Measurement of Forecasting Components

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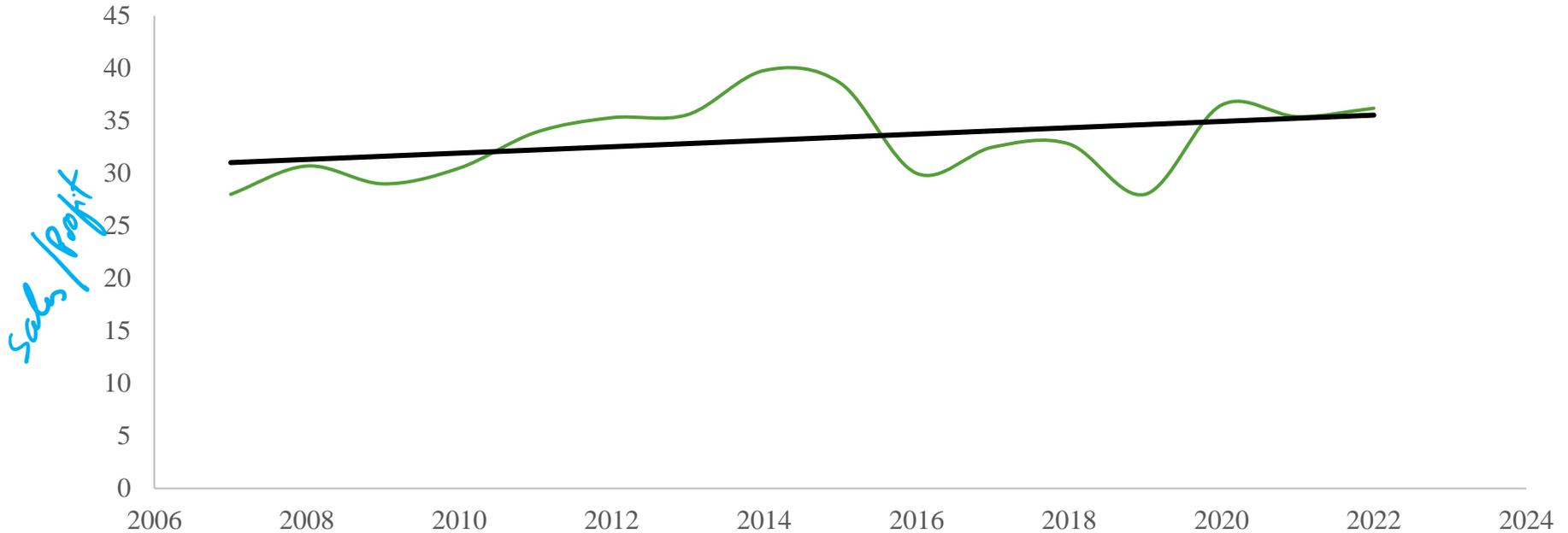




Some observations

- We see four things here:
 1. Increase = Prosperity
 2. Decrease = Decline
 3. Depression
 4. Recovery

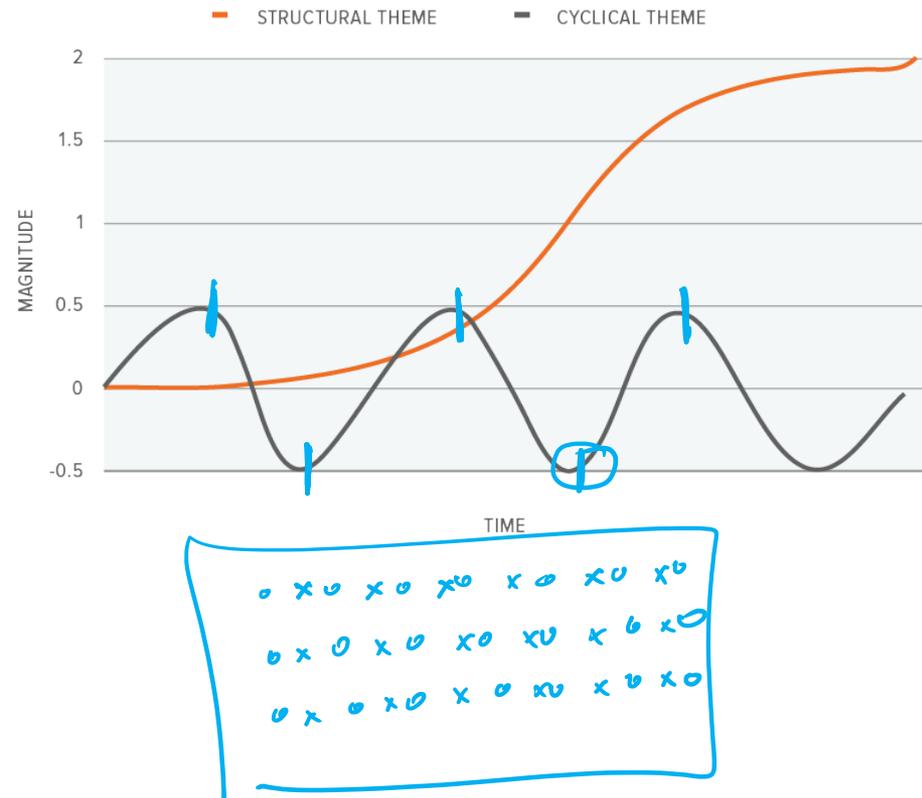
Production of raw cotton in India FY 2007-2022





Cyclical Fluctuations

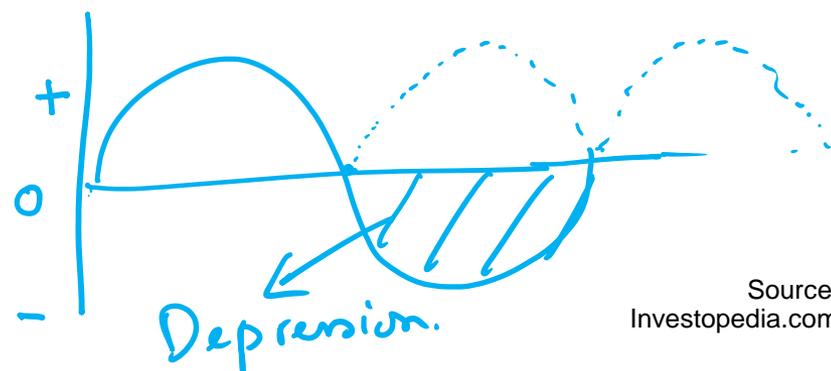
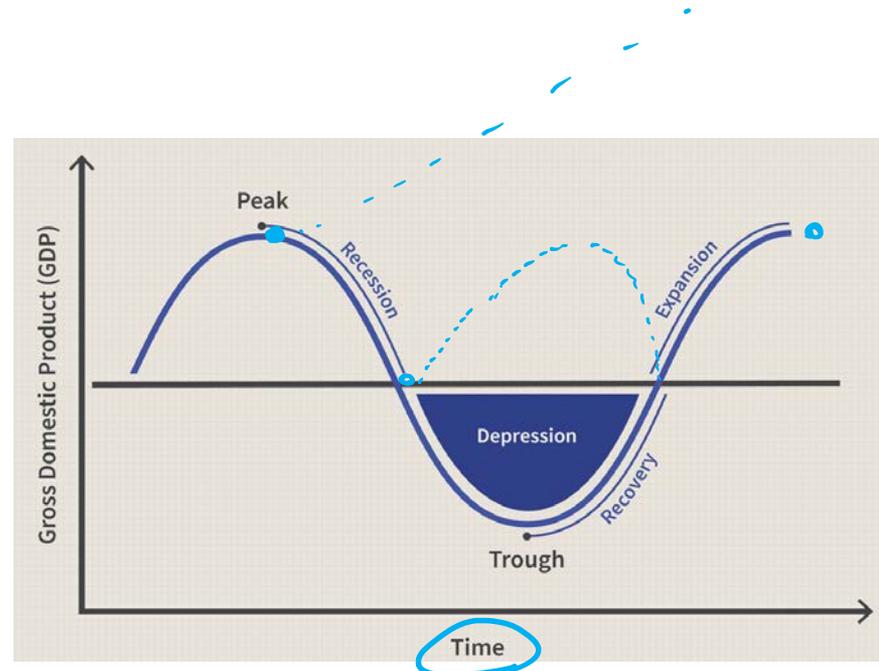
- Cyclical fluctuations refer to repetitive patterns of ups and downs in agricultural economy.
- These fluctuations are caused by various factors such as market conditions, weather patterns, and global economic trends.
- Understanding cyclical fluctuations is crucial for farmers as it helps anticipate changes in demand, prices, and profitability.
- Cyclical variation can manifest as oscillations without a fixed period but still show some predictability.
- It is a non-seasonal component that introduces regular fluctuations in the time series data.





Characteristics & Phases

- **Peak:** Highest point of economic activity, indicating period of growth & expansion.
- **Recession:** Decline in economic activity following the peak, characterized by decreased production, income, and employment.
- **Trough/Depression:** Lowest point of the cycle, signifying period of contraction & widespread economic decline.
- **Expansion:** Phase where economy begins to recover from trough & experiences growth & increased activity.





Seasonal Changes

- It is important to separate and measure seasonal changes.
- There are two motives for doing so:
 - a. To examine changes caused by seasons on particular variable in time series.
 - b. To analyse seasonal variations & plan more realistically for purchases, production, etc.
 - To examine changes caused by seasons, variable should be removed from time series & its value should be determined.
 - By summing results of specific season over several years, irregular fluctuations will be cancelled out because of independent random fluctuations.



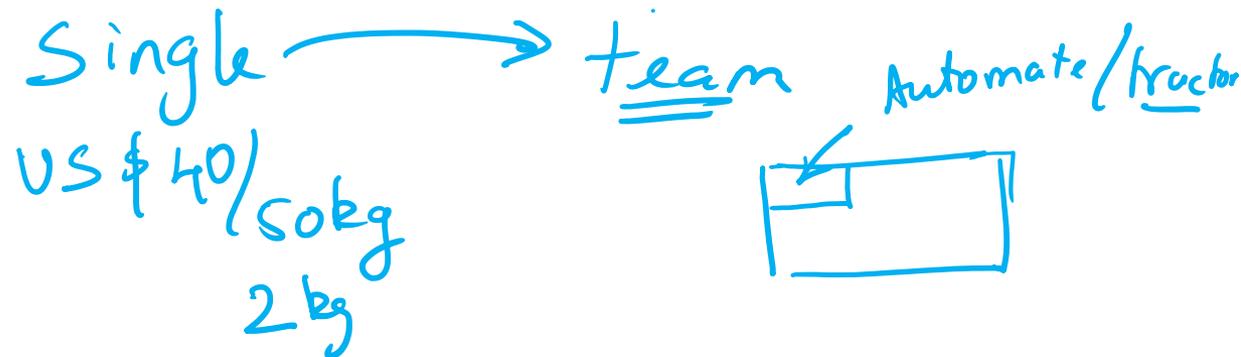
Seasonal Changes

- To exclude the influence of cyclical and trend fluctuations in the season, seasonal variations are calculated in percentages from their mean.
 - Analysing seasonal variations can help in planning more realistically for:
 - purchases, ✓
 - production, ✓
 - exports etc. ✓



Recapitulating:

- By understanding these patterns and implementing appropriate strategies, farmers can minimize risks and seize opportunities.
- Continuous monitoring, adaptation, and collaboration within the agricultural community are essential for successfully managing cyclical fluctuations.
- Farmers can use this knowledge to plan for optimal planting and harvesting times, considering the cyclical nature of corn production.
- Times of high production can be recognized to store crops & to diversify income during times of low productions.



Thank You

