AAMP Briefing Packet 1.3.b.
Measuring Price Movements

(i) Nominal prices
(ii) Inflation and real prices
(iii) Price trends
(iv) Price seasonality
Have maize prices gone up in 2008?

In Kenya?
In Malawi?
In South Africa?
In Zambia?
In Mozambique?
(i) Nominal prices

• $P_t =$ Nominal price in month $t$: depends on
  • Inflation ($I$)
  • Trends ($T$)
  • Seasonality ($S$)
  • Random Shocks ($E$)
Nominal maize prices, South Africa (rands/ton)
(ii) Inflation and real prices

- Inflation measures (CPI, GDP deflator)
- Real price = Pt/deflator
Real maize prices, South Africa
2007 rands/ton
(iii) Price trends

- $Pt = a + b \cdot \text{TIME}$
- $\ln Pt = a + b \cdot \text{TIME}$
- $\ln PT = a + b \cdot \text{TIME} + c \cdot \text{TIME}^2$
Maize price trends in South Africa

- Nominal maize price: 0.25% per year
- Real maize price: 0.04% per year
- Inflation: 0.21% per year
(iv) Price seasonality

- Moving average price
- Seasonal index = $P_t/MA$
- Grand seasonal index = average SI, by month
Twelve Month Moving Average
South African nominal maize price

![Graph showing Twelve Month Moving Average of South African nominal maize price from 1994 to 2008. The x-axis represents years from 1994 to 2008, while the y-axis represents the nominal maize price in rands/ton, ranging from 0 to 2500. The graph includes two lines: one for the nominal maize price and another for the 12-month moving average.](image_url)
South Africa, Grand Seasonal Index

Grand Seasonal Maize Price Index

Grand Seasonal Index
Exercise: Divide into four Groups

- Kenya
- Malawi
- Mozambique
- Zambia
Exercise: Compute and Graph

- Nominal maize price
- Real maize price (I)
- Trend in real maize price (T)
- Price seasonality (S, GSI)
Discussion question: Have maize prices risen above normal levels in 2008?