

# Bab 7

## Bentuk Distribusi Data

**Kompetensi:**  
Mahasiswa mampu menganalisis bentuk distribusi data untuk gejala ekonomi



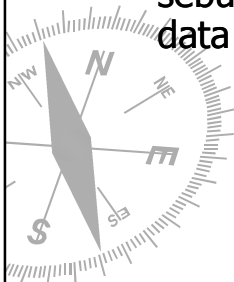
Ali Muhson - FISE UNY

© 2007

Hal. 7-1

## Bentuk Distribusi Data

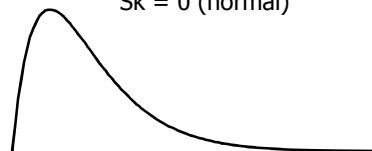
- Skewness
  - Ukuran kesimetrisan/ kemiringan sebuah distribusi data



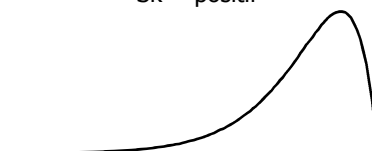
Ali Muhson - FISE UNY



Sk = 0 (normal)



Sk = positif



Sk = negatif

© 2007

Hal. 7-2

## Mengukur Skewness

### ► Metode Pearson

$$Sk = \frac{\bar{X} - Mo}{SD}$$

Atau

$$Sk = \frac{3(\bar{X} - Md)}{SD}$$

### ► Metode Moment

$$Sk = \frac{m_3}{\sigma^3}$$



$$m_2 = \frac{\sum (X - \bar{X})^2}{n}$$

$$m_3 = \frac{\sum (X - \bar{X})^3}{n}$$

Ali Muhson - FISE UNY

© 2007

Hal. 7-3

## Mengukur Skewness

### ► Software Method

$$sk = \left( \frac{m_3}{\sigma^3} \right) \left( \frac{\sqrt{n(n-1)}}{n-2} \right)$$

$$sk = \frac{n}{(n-1)(n-2)} \sum \left( \frac{X - \bar{X}}{SD} \right)^3$$

$$SE_{sk} = \sqrt{\frac{6}{n}}$$

$$SE_{sk} = \sqrt{\frac{6n(n-1)}{(n-2)(n+1)(n+3)}}$$

Ali Muhson - FISE UNY

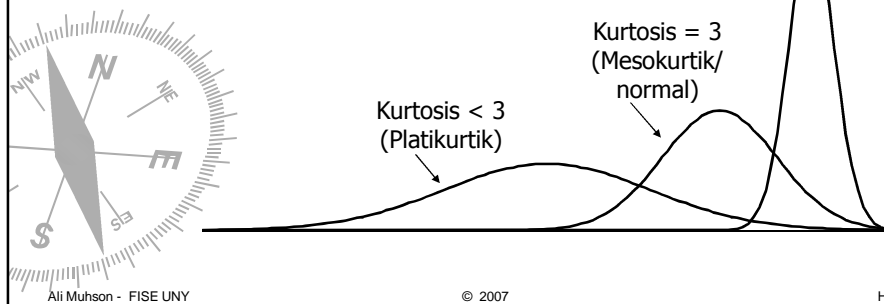
© 2007

Hal. 7-4

# Bentuk Distribusi Data

## ► Kurtosis

- Ukuran kemenjuluran/kerampingan sebuah distribusi data



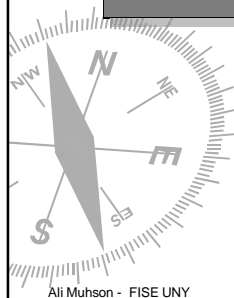
# Mengukur Kurtosis

## ► Metode Moment

$$k = \frac{m_4}{\sigma^4} - 3$$



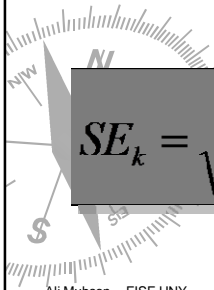
$$m_4 = \frac{\sum (x - \bar{x})^4}{n}$$



## Mengukur Kurtosis

### ► Software Method

$$k = \left( \frac{n-1}{(n-2)(n-3)} \right) \left[ (n+1) \left( \frac{m_4}{\sigma^4} - 3 \right) + 6 \right]$$


$$SE_k = \sqrt{\frac{24}{n}}$$

$$SE_k = 2SE_{sk} \sqrt{\frac{n^2 - 1}{(n-3)(n+5)}}$$