<u>Glossary</u>

1. Averaging

The effect of averaging is to give a smoother curve reducing the influence of the fluctuation that pulls the annual figures away from the general trend.

2. Centring

Synchronizing of moving averages and original data is done through a process called Centring

3. Cycle in moving average

Whenever the cycle in the data is of uniform length, we should take a moving average period equal to or greater than the average period of the cycle in the data. Generally the periods will range between 3 to 10 years for general business series.

4. Forecast

To calculate or estimate something in advance; predicts the future.

5. Graphic method

In this method, the given data are plotted on a graph paper and trend line is fitted to the data just by inspecting the graph of the series.

6. Least square method

The method of least squares is a standard approach to the approximate solution of over determined systems, i.e., sets of equations in which there are more equations than unknowns. "Least squares" means that the overall solution minimizes the sum of the squares of the errors made in the results of every single equation.

7. Linear trend

A first step in analyzing a time series, to determine whether a linear relationship provides a good approximation to the long-term movement of the series; computed by the method of semi averages or by the method of least squares.

8. Moving averages method

In this method the average value for a number of years (months or weeks) is secured and this average is taken as the normal or trend value for the unit of time falling at the middle of the period covered in the calculation of the average.

9. Non linear trend

There are situations where the straight line trend cannot fit the data adequately. In such cases better description of the time series is given by a nonlinear curve and the following methods are used for measuring the non-linear trends.

10. Normal equations

The set of equations arising in the least squares method whose solutions give the constants that determine the shape of the estimated function.

11. Parabola

The plane curve given by an equation of the form y=ax2+bx+c.

12. Polynomial equation

A polynomial is either zero or can be written as the sum of a finite number of non-zero terms. Each term consists of the product of a constant (called the coefficient of the term) and a finite number of variables (usually represented by letters), also called indeterminates, raised to whole number powers. The exponent on a variable in a term is called the degree of that variable in that term.

13. Straight line trend

The straight line trends indicate the increase and decrease of a time series at a constant amount. It is the simplest form of describing the secular trend movement and the trend is frequently accurate.

14. Summation

It is frequently necessary in statistical and psychometric calculations to take the sum of a number of values. The symbol used to indicate this operation of adding up a group of numbers is a capital Greek Sigma - Σ

15. Trend

Trend is a concept in time series analysis that refers to a movement or trend in a series over very long periods of time.