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Correlation

A statistical tool that helps in the study of the relationship between two variables is known as **Correlation.** It also helps in understanding the economic behaviour of the variables.

Two Variables are said to be Correlated if:

The two variables are said to be correlated if a change in one causes a corresponding change in the other variable. ***For example,*** *A change in the price of a commodity leads to a change in the quantity demanded. An increase in employment levels increases the output. When income increases, consumption increases as well.*

The degree of correlation between various statistical series is the main subject of analysis in such circumstances.

Correlation and Causation

The degree of correlation between two or more variables can be determined using correlation. However, it does not consider the cause-and-effect relationship between variables. If two variables are correlated, it could be for any of the following reasons:

1. Third-Party Influence:

The influence of a third party can result in a high degree of correlation between the two variables. This analysis does not take into account third-party influence. ***For example,*** the correlation between the yield per acre of grain and jute can be of a high degree because both are linked to the amount of rainfall. However, in reality, both these variables do not have any effect on each other.

2. Mutual Dependence (Cause and Effect):

It may be challenging to determine which is the cause, and which is the effect when two variables indicate a high degree of correlation. It is so because they may be having an impact on one another. ***For example,*** when there is an increase in the price of a commodity, it increases its demand. Here, the price is the cause, and demand is the effect. However, there is a possibility that the price of the commodity will rise due to increased

demand (population growth or other factors). In that case, increased demand is the cause, and the price is the effect.

3. Pure Chance:

It is possible that the correlation between the two variables was obtained by random chance or coincidence alone. This correlation is also known as **spurious**. Therefore, it is crucial to determine whether there is a possibility of a relationship between the variables under analysis. ***For example,*** even if there is no relationship between the two variables (between the income of people in a society and their clothes size), one may see a strong correlation between them.

So, it can be said that correlation provides only a quantitative measure and does not indicates cause and effect relationship between the variables. For that reason, it must be ensured that variables are correctly selected for the correlation analysis.

Significance of Correlation

1. It helps determine the degree of correlation between the two variables in a single figure.
2. It makes understanding of economic behaviour easier and identifies critical variables that are significant.
3. When two variables are correlated, the value of one variable can be estimated using the value of the other. This is performed with the regression coefficients.
4. In the business world, correlation helps in taking decisions. The correlation helps in making predictions which helps in reducing uncertainty. It is so because the predictions based on correlation are probably reliable and close to reality.