

# Covariate

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In statistics, a **covariate** is a variable that is possibly predictive of the outcome under study. A covariate may be of direct interest or it may be a confounding or interacting variable.

The alternative terms explanatory variable, independent variable, or predictor, are used in a regression analysis. In econometrics, the term "control variable" is usually used instead of "covariate".<sup>[1][2]</sup> In a more specific usage, a covariate is a secondary variable that can affect the relationship between the dependent variable and other independent variables of primary interest.

An example is provided by the analysis of trend in sea level by Woodworth (1987). Here the dependent variable (and variable of most interest) was the annual mean sea level at a given location for which a series of yearly values were available. The primary independent variable was time. Use was made of a covariate consisting of yearly values of annual mean atmospheric pressure at sea level. The results showed that inclusion of the covariate allowed improved estimates of the trend against time to be obtained, compared to analyses which omitted the covariate.

## See also

- Covariance
- Analysis of covariance
- Time-varying covariate

## References

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