

4.4: Causal (Econometric) Forecasting Methods (Degree)

Some forecasting methods try to identify the underlying factors that might influence the variable that is being forecast. For example, including information about climate patterns might improve the ability of a model to predict umbrella sales. Forecasting models often take account of regular seasonal variations. In addition to climate, such variations can also be due to holidays and customs: for example, one might predict that sales of college football apparel will be higher during the football season than during the off-season.

Several informal methods used in causal forecasting do not rely solely on the output of mathematical algorithms, but instead use the judgment of the forecaster. Some forecasts take account of past relationships between variables: if one variable has, for example, been approximately linearly related to another for a long period of time, it may be appropriate to extrapolate such a relationship into the future, without necessarily understanding the reasons for the relationship.

One of the most famous causal models is **regression analysis**. In statistical modeling, regression analysis is a set of statistical processes for estimating the relationships among variables. It includes many techniques for modeling and analyzing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables (or 'predictors'). More specifically, regression analysis helps one understand how the typical value of the dependent variable (or 'criterion variable') changes when any one of the independent variables is varied, while the other independent variables are held fixed.

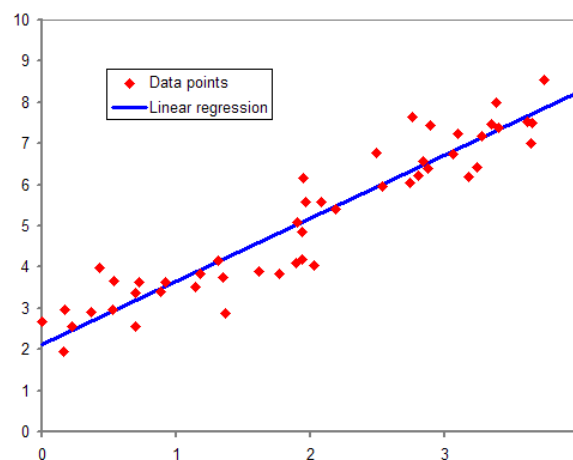


Figure 4.4.1: Example of regression analysis.

4.4: Causal (Econometric) Forecasting Methods (Degree) is shared under a [CC BY-NC 4.0](https://creativecommons.org/licenses/by-nc/4.0/) license and was authored, remixed, and/or curated by LibreTexts.