FINC 305 LN2 - Linear Regression

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In both Economics and Finance studies, we always begins with the following premise: y and x are two variables, representing some data we retrieved from real world, and we are interested in "how y varies with changes in x", such as "how return of Apple's stock change when the market portfolio return changes." Based on this consideration, y is called the **dependent variable**, the **independent variable**, **response variable**, or **predicted variable**. x is called **independent variable**, the **explanatory variable**, the **control variable**, the **predictor variable** or the **regressor**. In this lecture, we will go further to review and study simple and multiple regresssions, discussing potential applications, and how to inprove the explanatory and predictive power of linear models you build.

1 Simple and Multiple Linear Regression

1.1 Assumption