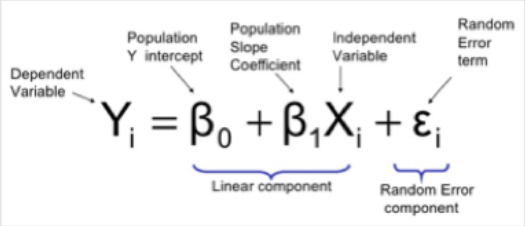
Wk-05-Lab-Overview

Assumptions:

r is the correlation coefficient is how well the data fits a regression line.

Correlation Coefficient (r) Guide
.00-.19 very weak .
.20-.39 weak
.40-.59 moderate
.60-.79 strong
.80-1.0 very strong

Regression Line:



beta_0 - we will rename that to **alpha**
X - is the independent variable that “explains” the movement of Y.
Y - is the dependent variable (and also what we want to ‘predict’)

Explanation (Review)
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β, or **beta** is the slope, or **regression** coefficient. It is a measure of **volatility** relative to a benchmark,
such as the S&P 500 (we use the ETF SPY for our X so we are modeling S&P 500)

Investors uses β to asses how risky it is invest in a stock “Y”. In essence the investor asses risk by checking the volatility of the symbol with respect to SPY

High βs have **higher risk** and **greater returns.**

Beta Guide:

- β > 1 **more volatile** than the market (greater than 1)
- β = 1 **equally** volatile as the market, moves in the **same** direction as the market.
- 0< β <1 **less volatile** than the market (e.g, utility companies)
- β = 0 **unresponsive to** the market (e.g., cash remains at the same value, assuming no inflation).
- β < 0 **negatively** responsive to the market — or inversely related to market when the market is gaining, stock goes down when the 'market' declines stock does better

Beta in a nutshell: High beta could be good for growth stocks but may be (too) risky.

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α, or **alpha** is the intercept - and it is a measure of the **excess return** on an investment in comparison to the market (Y).

In our lab we will assumes alpha does not include the error measure, the residual, the noise, or randomness.

Alpha Guide:

- α > 5 investor is super great!
- α > 1 more profitable the market (when the market is also profiting)
- α = 1 more profitable than the market (by 1% better)
- α < 1

Alpha in a nutshell: High alpha is always good.