Arbitrag price Theory (APT)

$$r_i - r_f = \beta_1 (r_M - r_f) + \beta_2 (\text{gdp growth}) + \beta_3 (\text{inflatio[n]}) + \beta_4 (\text{Exchange rate movement}) + \beta_5 (\text{interest rate}) + \text{Err[or]}$$

An extension of CAPM with more explanatory variables to affect excess return of i^{th} stock.

Fama- French three factor Model

$$(r_i - r_f) = \alpha + \beta_1 (r_M - r_f) + \beta_2 \, r_{SMB} + \beta_3 \, r_{HML} + \varepsilon$$

r_{SMB} = historical rate of return on small si[ze] portfolio – big size portfolio

r_{HML} = historical rate of return on high B[/M] ~~ratio~~ portfolio – low B/M ratio.

B/M ratio → Book to Market rati[o]

Book value = If all assets are sold and all debts [paid]

Market value = Total stock [pu...] × Each stock price