



## FIN 366: INVESTMENTS BRIEFING

### Chapter 7: Capital Asset Pricing

---

The **Capital Asset Pricing Model (CAPM)**, a “centerpiece of modern financial economics”, is a model that relates the required rate of return on a security to its systematic risk, as measured by the stock’s beta. It allows us to calculate the expected return for a security if we know the risk-free rate, the expected return of the market, and the security’s beta. This model builds off the relationship we found with the *index model* by regressing a stock’s excess return on the market’s excess return. The **Mutual Fund Theorem** is an implication of the CAPM. It states that if all investors employ this same CAPM strategy in their stock analysis, they would all reach the same conclusions and choose to hold the same portfolio consisting of all assets in the market. This “mutual fund” consisting of all assets would be an optimal risky portfolio on the Capital Market Line tangent to the efficient frontier of all risky assets. The **Security Market Line (SML)** is the graphical representation of the expected return and beta relationship of the CAPM, with a y-axis of the stock’s expected return, and an x-axis of the stock’s beta. **Multifactor Models** consider factors in addition to the stock’s beta, such as size of the firm and the firm’s **book-to-market** ratio, that explain the stock’s return. The size of the firm is the firm’s market capitalization, while the book-to-market ratio is the book value of a firm’s equity divided by the market value of a firm’s equity. The size and book-to-market values explain some source of systematic risk that beta alone does not explain. A **value** stock has a high book value of equity relative to a low market value of equity while a **growth** stock has a low book value of equity but high market value of equity.