FIN 366: INVESTMENTS
BRIEFING

Chapter 5: Risk, Return, and the Historical Record

Holding period returns (HPR) represent the **capital gain** (or price appreciation) and **dividend yield** (or income component) associated with a security over a period. Over multiple periods, we may average HPRs using the simple **arithmetic average**, or the **geometric average** which takes into account the time value of money. For returns less than one year, we annualize to express as a "return per year" using the **Annual Percentage Rate (APR)** by multiplying the per period rate by the number of periods per year, or by the **Effective Annual Rate**, which accounts for the compound growth from period to period. **Risk** considers a security or portfolio's likelihood of achieving various returns. **Scenario analysis** helps to quantify risk by examining different possible returns in various economies or states of the world. The **expected return** is the "average" HPR an investor might expect from a security. The **variance** and **standard deviation** of the security's returns quantify the risk associated with an investment, and the standard deviation is particularly useful because it is expressed in the same units as the returns, in *percent*. The **risk premium** is the *expected* return of a security above the risk-free rate (T-bills). The **excess return** is the *actual* return above the risk-free rate. **Risk aversion** implies investors demand a higher reward to invest in riskier assets. The **Sharpe Ratio** is a measure that provides the reward per "unit" of risk, or a way to compare returns from different portfolios while accounting for their risk levels. **Capital Allocation** is the choice between holding risky assets (stocks and bonds) and risk-free securities, and the **complete portfolio** consists of your holdings overall, risky and risk-free. The **Capital Allocation Line** is a graphical depiction of all different portfolio combinations achieved by adjusting our weights in risky vs. risk-free assets. The **Capital Market Line** is a version of the capital allocation line where the risky asset we use is the "market portfolio", proxied by a market index mutual fund. Finally, **nominal interest rates** are the rates at which dollar values grow, while **real interest rates** capture the change in purchasing power by subtracting out **inflation**.