
EQUITY INVESTMENTS

Study Sessions 10, 11, & 12

Topic Weight on Exam	20–30%
SchweserNotes™ Reference	Book 3, Pages 10–343

A NOTE ON ASSET VALUATION

Cross Reference to CFA Assigned Topic Review #34

Graham and Dodd's *Security Analysis* was the basis for modern security analysis. They focused on the *intrinsic values* of securities (independent of its market price), whether large well-established stocks, secondary market stocks, or bonds of various ratings. The unifying concept in all of their work is *earnings power*. Earnings power can be used to determine the *margin of safety* for preferred stocks and bonds and can be multiplied by the appropriate capitalization factor to determine the intrinsic value of common stock.

In *The Theory of Investment Value*, John Burr Williams introduced the idea that the current value of a share of stock can be determined as the present value of its expected future dividends. The dividend discount and free cash flow valuation models that we use today all stem from this initial insight by Williams.

The work of these three men forms the framework of fundamental equity analysis upon which modern security analysis is built.

EQUITY VALUATION: APPLICATIONS AND PROCESS

Cross-Reference to CFA Institute Assigned Topic Review #35

Intrinsic value is the estimate of an asset's value that would be made by someone who has complete understanding of the characteristics of the asset and its issuing firm. To the extent that market prices are not perfectly (informationally) efficient, they may diverge from intrinsic values. The difference between an analyst's estimate of a security's intrinsic value and its market price has two components—the difference between the security's *actual* intrinsic value and its market price, and the difference between the security's actual intrinsic value and the analyst's estimate of the intrinsic value:

$$IV_{\text{analyst}} - \text{price} = (IV_{\text{actual}} - \text{price}) + (IV_{\text{analyst}} - IV_{\text{actual}})$$

The **going concern assumption** is simply the assumption that a company will continue to operate as a business (as opposed to going out of business). **Liquidation value** is an estimate of what the assets of the firm would bring if sold separately, net of the company's liabilities.

Equity valuation is the process of estimating the value of an asset by (1) using a model based on the variables the analyst believes determine the fundamental value of the asset or (2) comparing it to the observable market value of "similar" assets. Equity valuation models are used by analysts in a number of ways including stock selection, forecasting the value impact of corporate actions, providing fairness opinions, communication with analysts and investors, valuation of private firms, portfolio management, and asset allocation.

The **five elements of industry structure** that determine the competitive environment in which firms compete and drive successful competitive strategy (as developed by Professor Michael Porter) are:

1. Threat of new entrants in the industry.
2. Threat of substitutes.
3. Bargaining power of buyers.
4. Bargaining power of suppliers.
5. Rivalry among existing competitors.

The basic building blocks of equity valuation come from accounting information contained in the firm's reports and releases.

Quality of earnings issues can be broken down into several categories and may be addressed only in the footnotes and disclosures to the financial statements:

1. Accelerating or premature recognition of income.
2. Reclassifying gains and non-operating income.
3. Expense recognition and losses.
4. Amortization, depreciation, and discount rates.
5. Off-balance-sheet issues.

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Equity Investments

An **absolute valuation model** refers to one which estimates intrinsic value based on future earnings, cash flows, and risk. Dividend discount and free cash flow valuation models are examples of absolute valuation models.

A **relative valuation model** estimates the value of a security relative to market prices of other similar securities. Valuation based on price-to-earnings, price-to-cash flow, and price-to-sales ratios of other securities or securities indexes are examples of relative valuation models.

In **choosing a valuation model**, the analyst should consider the purpose of the analysis and the characteristics of the firm, including whether it pays dividends, the stability of its cash flows, how well its earnings growth can be estimated, and the nature of its assets.

EQUITY: MARKETS AND INSTRUMENTS

Cross-Reference to CFA Institute Assigned Topic Review #36

This topic review addresses the mechanics of investing in international markets. Be familiar with definitions and terminology.

Methods to Reduce Execution Costs

Execution costs include the following:

- Tangible costs, such as commissions, fees, and taxes.
- Intangible costs, such as market impact and opportunity costs.

There is a cost tradeoff between market impact and opportunity cost.

With *program trading*, a manager can offer the entire basket of securities rather than trade security by security in order to avoid large execution costs associated with the liquidation of several positions within a portfolio.

Internal crossing occurs when a portfolio manager executes a buy order for one client and simultaneously executes a sell order for a different client for the same security within the firm.

External crossing utilizes an electronic crossing network (ECN).

In a *principal trade*, the principal acts as dealer and pledges to take the opposite side of an order for a firm price.

Agency trades are negotiated trades executed through a broker who searches the market for the best execution price available. The broker does not act in a principal capacity but as an agent for the portfolio manager.

Futures contracts include buying and selling contracts on a market index. Simultaneously selling and buying securities for the portfolio allows the manager to gain fast exposure to a market while minimizing opportunity costs.

Indications of interest involve dealers who search the market for counterparties willing to engage in a specific trade.

Alternatives to Direct International Investing

The investor has available a number of alternatives to investing directly in the securities of overseas companies:

- American depository receipts (ADRs).
- Closed-end country funds.
- Open-end funds.
- Exchange-traded funds.

RETURN CONCEPTS

Cross-Reference to CFA Institute Assigned Topic Review #37

Holding period return is the increase in price of an asset plus any cash flow received from that asset, divided by the initial price of the asset. The holding period can be any length. Usually, it is assumed the cash flow comes at the end of the period:

$$\text{holding period return} = r = \frac{P_1 - P_0 + CF_1}{P_0} = \frac{P_1 + CF_1}{P_0} - 1$$

An asset's required return is the minimum expected return an investor requires given the asset's characteristics.

If expected return is greater (less) than required return, the asset is undervalued (overvalued). The mispricing can lead to a return from convergence of price to intrinsic value.

Equity Investments

The equity risk premium is the return over the risk-free rate that investors require for holding equity securities. It can be used to determine the required return for specific stocks:

$$\text{required return for stock } j = \text{risk-free return} + (\text{equity risk premium}) \\ + \text{other adjustments for } j$$

A historical estimate of the equity risk premium consists of the difference between the mean return on a broad-based, equity-market index and the mean return on U.S. Treasury bills over a given time period.

There are four types of estimates of the equity risk premium: (1) historical estimates, (2) forward-looking estimates, (3) macroeconomic model estimates, and (4) survey estimates.

1. The historical estimates are straightforward to compute, but they are not current.
2. Forward-looking estimates use current information, but that information needs to be updated periodically as new estimates are generated.
3. Macroeconomic models use current information, but they are only appropriate for developed countries where public equities represent a relatively large share of the economy.
4. Survey estimates are easy to obtain, but there can be a wide disparity between opinions.

Models used to estimate the equity risk premium:

- CAPM:

$$\text{required return on stock } j = \text{current risk-free return} + (\text{equity risk premium}) \\ \times (\text{beta of } j)$$

- Multifactor model:

$$\text{required return} = \text{RF} + (\text{risk premium})_1 + \dots + (\text{risk premium})_n$$

- Fama-French model:

$$\text{req. ret. of stock } j = \text{RF} + \beta_{\text{mkt},j} \times (\text{R}_{\text{mkt}} - \text{RF}) + \beta_{\text{SMB},j} \times (\text{R}_{\text{small}} - \text{R}_{\text{big}}) + \beta_{\text{HML},j} \times (\text{R}_{\text{HBM}} - \text{R}_{\text{LBM}})$$

where:

$$\begin{aligned} (\text{R}_{\text{mkt}} - \text{RF}) &= \text{market risk premium} \\ (\text{R}_{\text{small}} - \text{R}_{\text{big}}) &= \text{a small-cap risk premium} \\ (\text{R}_{\text{HBM}} - \text{R}_{\text{LBM}}) &= \text{a value risk premium} \end{aligned}$$

- The Pastor-Stambaugh model adds a liquidity factor to the Fama-French model.
- Macroeconomic multifactor models use factors associated with economic variables that would affect the cash flows and/or discount rate of companies.
- The build-up method is similar to the risk premium approach. One difference is that this approach does not use betas to adjust for the exposure to a factor. The bond yield plus risk premium method is a type of build-up method.

Beta estimation:

- A regression of the returns of a publicly-traded company's stock returns on the returns of an index provides an estimate of beta. For forecasting required returns using the CAPM, an analyst may wish to adjust for beta drift using an equation such as:

$$\text{adjusted beta} = (2/3) \times (\text{regression beta}) + (1/3) \times (1.0)$$

- For thinly-traded stocks and non-publicly traded companies, an analyst can estimate beta using a four-step process: (1) identify publicly traded benchmark company; (2) estimate the beta of the benchmark company; (3) unlever the benchmark company's beta; and (4) relever the beta using the capital structure of the thinly-traded/non-public company.

Each of the various methods of estimating the required return on an equity investment has strengths and weaknesses.

- The CAPM is simple but may have low explanatory power.
- Multifactor models have more explanatory power but are more complex and costly.
- Build-up models are simple and can apply to closely held companies, but they typically use historical values as estimates that may or may not be relevant to the current situation.