

Editor's Note: A sheet of formulas such as those presented below accompanies the CFP® Certification Examination as an aid to the person taking the test. However, the formulas are not labeled. For your information in preparing for the test, we have indicated what the formulas may be used for.

Value: Constant Dividend Growth Model

$$V = \frac{D_1}{r - g}$$

Req. Rate of Return (CDGM)

$$r = \frac{D_1}{P} + g$$

Covariance

$$COV_{.ij} = \rho_{ij} \sigma_i \sigma_j$$

Two-Asset Portfolio Standard Deviation

$$\sigma_p = \sqrt{W_i^2 \sigma_i^2 + W_j^2 \sigma_j^2 + 2W_i W_j COV_{.ij}}$$

Beta

$$\beta_i = \frac{COV_{.im}}{\sigma_m^2} = \frac{\rho_{im} \sigma_i}{\sigma_m}$$

Population Standard Deviation

$$\sigma_r = \sqrt{\frac{\sum_{t=1}^n (r_t - \bar{r})^2}{n}}$$

Sample Standard Deviation

$$S_r = \sqrt{\frac{\sum_{t=1}^n (r_t - \bar{r})^2}{n - 1}}$$

Conversion Value of a Bond

$$CV = \frac{Par}{CP} \times P_s$$

Req. Rate of Return:

Security Market Line (CAPM)

$$r_i = r_f + (r_m - r_f) \beta_i$$

Req. Rate of Return: Capital Market Line

$$r_p = r_f + \sigma_p \left[\frac{r_m - r_f}{\sigma_m} \right]$$

Sharpe Performance Index

$$S_p = \frac{r_p - r_f}{\sigma_p}$$

Jensen Performance Index

$$a_p = \bar{r}_p - [\bar{r}_f + (\bar{r}_m - \bar{r}_f) \beta_p]$$

Treynor Performance Index

$$T_p = \frac{r_p - r_f}{\beta_p}$$

Duration

$$D = \frac{\sum_{t=1}^n \frac{C_t(t)}{(1+i)^t}}{\sum_{t=1}^n \frac{C_t}{(1+i)^t}}$$

OR,

$$D = \frac{1+y}{y} - \frac{(1+y) + t(c-y)}{c[(1+y)^t - 1] + y}$$

Percentage Change in a Bond's Price,
Given a Change in its YTM

$$\frac{\Delta P}{P} = -D \left[\frac{\Delta y}{1+y} \right]$$

Information Ratio

$$IR = \frac{R_p - R_B}{\sigma_A}$$