Equations

$$E(r)=\sum \Pr(s)\,r(s) \qquad \sigma^2=\sum \Pr(s)\left[r(s)-E(r)\right]^2$$

$$E(r_p)=w_1E(r_1)+w_2E(r_2) \qquad \sigma_p^2=w_1{}^2\sigma_1{}^2+w_2{}^2\sigma_2{}^2+2w_1w_2COV(r_{1,},r_2)$$

$$\rho_{1,2}=\frac{COV(r_{1,}r_2)}{\sigma_1\sigma_2} \qquad COV(r_{1,},r_2)=\rho_{1,2}\sigma_1\sigma_2$$

$$COV(r_{1,},r_2)=\sum \Pr(s)[\,r_i(s)-E(r_1)][r_2(s)-E(r_2)]$$

$$w_{\min 1}=\frac{\sigma_2^2-\sigma_1\sigma_2\rho_{1,2}}{\sigma_1^2+\sigma_2^2-2\sigma_1\sigma_2\rho_{1,2}}$$

$$w_{opt_1}=\frac{\left[E(r_1)-r_f\right]\sigma_2^2-\left[E(r_2)-r_f\right]\sigma_1\sigma_2\rho_{1,2}}{\left[E(r_1)-r_f\right]\sigma_2^2+\left[E(r_2)-r_f\right]\sigma_1^2-\left[E(r_1)-r_f+E(r_2)-r_f\right]\sigma_1\sigma_2\rho_{1,2}}$$

$$S=\frac{E(r_p)-r_f}{\sigma_p} \qquad \sigma_C=y\sigma_p \qquad y^*=\frac{E(r_p)-r_f}{A\sigma_p^2}$$

$$\beta=\frac{COV_{A,M}}{\sigma_M^2}=\rho_{A,M}\,\frac{\sigma_A}{\sigma_M} \qquad E(R_j)=r_f+\left[E(R_M)-r_f\right]\beta_j \qquad S_A=\frac{E(R_A)-r_f}{\beta_A}$$

$$\beta_p=\sum w_i\beta_i \qquad r_i-r_f=\alpha_i+\beta_i(r_M-r_f)+e_i \qquad R_i=\alpha_i+\beta_iR_M+e_i$$

$$\sigma_i^2=\beta_i^2\sigma_m^2+\sigma^2(e_i) \qquad COV(R_i,R_j)=\beta_i\beta_j\sigma_M^2$$

$$R^2=\frac{\beta^2\sigma_M^2}{\sigma^2}=1-\frac{\sigma^2(e)}{\sigma^2}$$

$$Trin=\frac{Volume\ declining\ /\ Number\ declining}{Volume\ advancing\ /\ Number\ advancing}$$

$$CI=\frac{\text{Yield on top-rated corporate bonds}}{\text{Yield on intermediate-grade corporate bonds}}$$