Evaluation Measures

- Sharpe Index:

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

- Or:

$$S = \frac{E[r_p - r_b]}{var(\bar{d})}$$

- Treynor Index:

$$T_p = \frac{Er_p - r_f}{\beta}$$

- Jensen's alpha:

$$\alpha = R_p - [r_f + \beta(Er_m - r_f)]$$

- Appraisal Ratio:

$$A_p = \frac{\alpha_p}{\sigma_p}$$

- Portfolio Change Measure:

$$\sum_i r_{i,t}[w_{j,t} - w_{j,t-1}]$$

Example

- $r_f = 0$
- 0.2% per month
- $r_p = \alpha_p + \beta r_m + e_p$
- $\hat{\alpha} = 0.2$
- $\hat{\sigma}(e) = 2\%$
- $SE(\hat{\alpha}) = \frac{\hat{\sigma}(e)}{\sqrt{n}}$
- $t(\alpha) = \frac{\hat{\alpha}}{SE(\hat{\alpha})}$

Market Timing

- P_1= proportion of the correct forecases of Bull Markets
- P_2= correct forecasts of Bear markets
- Measure:$P_1 + P_2 - 1$
- CAPM: $c(r_m - r_f)^2$

Performance Attribution

	Policy	Actual	Index	Portfolio
EQUITY	0.6	0.7	5.81	7.28
BONDS	0.3	0.07	1.45	1.89
CASH/MM	0.10	0.23	0.48	

Actual	Passive
Actual	
Passive	