Magic Formula - Notes

Algebra Quant

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1 In-Depth Analysis of Greenblatt's Magic Formula: Risk or True Value?

1.1 Theoretical Foundations

1.1.1 Different Measures of Risk

Systematic and Unsystematic Risk

$$R_{i,t} - R_{f,t} = \alpha_i + \beta_i * (R_{m,t} - R_{f,t}) + \epsilon_{i,t} \tag{1}$$

where,

- $R_{i,t}$: return of firm i at time t;
- $R_{f,t}$: risk-free rate at time t;
- α_i: part of the return on stock i that is not explained by covariation with the market;
- $beta_i$: exposure of a stock's return to the market return;
- $R_{m,t}$: return of the benchmark market index at time t;
- $\epsilon_{i,t}$: error term for the given stock at the given time (unsystematic).