

Portfolio Engineering and the Three Factor Model

The work of two of the world's leading Financial Economists, Eugene Fama of the University of Chicago and Kenneth French of Dartmouth College, forms the basis of our investment philosophy.

Their analysis of the sources of investment returns has reshaped portfolio theory and greatly improved understanding of the factors that drive equity performance.

The Three Factor Model:

1. **Equity Market**
(complete value-weighted universe of shares)
Shares have higher expected returns than fixed interest.
2. **Company Size**
(measured by market capitalization)
Small company share have higher expected returns than large company shares.
3. **Company Price**
(measured by ratio of company book value to market equity)
Lower-priced "value" shares have higher expected returns than higher priced "growth" shares.

The idea that equities behave differently from fixed interest is widely accepted. Within equities, Fama and French find that differences in share returns are best explained by company size and price characteristics. Taken together, the three factors on average explain more than 90% of the performance of diversified share portfolios.

Value Companies

Because they are riskier, financially less healthy "value" companies have higher costs of capital than financially healthier "growth" companies. When they borrow from a bank, value companies pay higher interest rates; likewise, when they issue shares, they receive lower prices. A company's cost of capital is the investor's expected return. Small value companies therefore have higher expected returns than large growth companies. Long-term increases in expected return can only be achieved by accepting greater small cap and / or value risk.

The three-factor model defines risk with a precision that has made it the modern research standard. Size and price characteristics, along with broad share market exposure, are the major explanatory variables in equity returns.

Fixed Interest

The primary role of fixed interest is diversification to dampen portfolio volatility. While low-grade obligations and long-term bonds have higher expected returns than high-grade obligations and short-term bonds, we believe that the corresponding premiums are not large enough to reward the additional risk.

By keeping maturities short and credit quality high, Dimensional minimises portfolio risk from fixed interest so that investors can focus on the much-higher equity market return factors. Within our fixed interest maturity and credit range, we strive to maximize returns and outperform conventional benchmarks through engineering.