Society of Actuaries in Ireland

EQUITY RISK PREMIUM

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Bank Depositor:	Guaranteed, regulated
Bank Shareholder:	Unguaranteed, unregulated

How much more should shareholders receive?

Stylised World

Risk free interest rate 0%

No dividends

Constant equity volatility 16%

At the money European call $N\left(\frac{1}{2}\sigma\sqrt{t}\right)$

Risk is time horizon dependent

Time Horizon (years)	¼	1	4	9	16	25
Annualised Risk Premium %*	6.40	3.19	1.60	1.05	0.76	0.62

* At the money call (conservative)

Equity Risk Premium varies with time horizon

Typical Time Horizon?

- Redington's "Expanding Funnel of Doubt"
- Typical manager turnover 20 – 25% per annum
- Historic equity risk premium (danger here!)

Plausible case for 1 – 5 years (maybe less)

Weighted average time horizon needed to explain ERP

Historic equity risk premium cannot be "fitted"

- Non stationarity of variance
- Possible investor risk preference (structural)
- Difficulties in calculation of equity risk premium

Conclusions

- Investors can estimate required return (average volatility)
- Equity risk premium can be viewed as weighted average of risk traded
- Longer term investors get a “free“ lunch
- NPRF long term investor
- Historic risk premium looks high
- Breakeven risk is low
- Even if premium is 1%, still good value
- NPRF use 3% over bonds (allocation and return)