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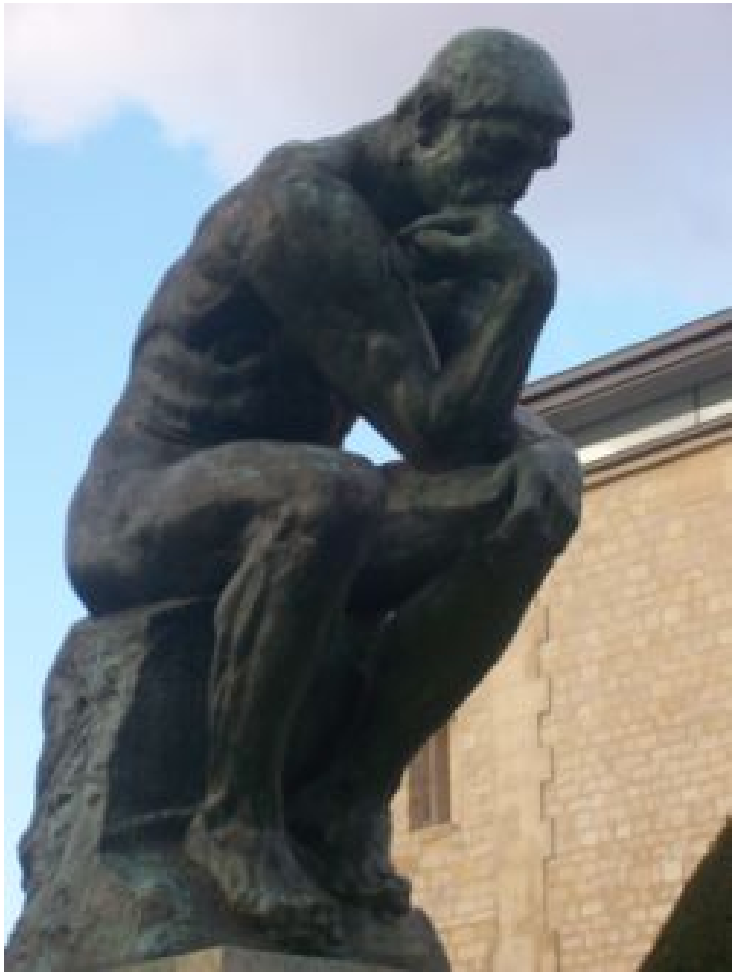
The Equity Risk Premium

Setting an assumption in the context of professional responsibilities

Watson Wyatt Worldwide

Why are we here?



"What was new was the application of actuarial science and the newly available statistics of 'political arithmetic' to this business. A reasonable calculation instead of a bet was now possible on a matter hitherto of awe-inspiring uncertainty"

J.M.Roberts: "History of the World"

Equity Risk Premium

- The ERP is forward looking; an ex-ante assessment
- It is **NOT** the historical out-performance of equities over bonds
- Even if we knew what investors at any date in the past had expected – this could only ever be partially relevant in today's environment

SAI & the ERP

- For what purpose do actuaries use an ERP assumption?

- PEN - 2 (GN11)
- PEN - 4 (GN3A)
- LA - 8 (GN8)
- PRSA - 2 (GN31A)

Guidance notes

- Different assumptions are necessary
- Purpose is (highly) relevant
- Note in particular that savings projections do not include risk analysis
- Limiting best estimate to a maximum of 4% (10 year geometric per annum) is highly dubious
- There should not be any question of scope creep of existing guidance to ***value added*** professional advice

Non prescribed uses of the ERP

- Funding valuations
- Asset allocation advice
- Pricing unit linked products
- (Consider any business enterprise)

- *What is your ERP?*

6 questions

- Know that you can have a guaranteed 4% p.a. return on cash deposits/bonds over the next 5 years.
- (This is not an academic study)

Question 1

- Someone approaches you saying that they have an excellent investment opportunity & want your cash. Knowing that you could make a lot or lose everything, how much would you expect to make as an “average” outcome over the next 5 years per annum before departing with your cash?

Question 2

- Same question – but you are looking at a list of companies in the paper and picking one that you like for whatever reason. You could make a lot or lose everything. What return would you expect as an average outcome before risking your cash?

Question 3

- Same question – but it's a pool of equities. You'd be investing in the market rather than in an individual company?

Question 4

- What is YOUR 5 year equity risk premium in % p.a.?

Question 5

- If you own any equity (other than company or pension fund) how much do you actually expect them to return at an expected/average level over the next 5 years?

Question 6

- Now imagine that you are being asked to advise someone else who trusts you and wants to make an equity investment. You need to make an assumption about the ERP to tell them what an average outcome might be. They could make much more or lose everything. It is an assumption and advice upon which you will be personally judged particularly if a loss is incurred. What return would you suggest they assume they could get as an average outcome over 5 years before deciding whether it is worthwhile to risk their cash?

6 questions - Answers

- Q1 (BES?)
- Q2 (Idea?)
- Q3 (Market?)
- Q4 (Your ERP?)
- Q5 (Portfolio?)
- Q6 (Advice?)

6 questions - Answers

- Q1 (BES?) 15.0%
- Q2 (Idea?) 12.0%
- Q3 (Market?) 8.8%
- Q4 (Your ERP?) 8.7%
- Q5 (Portfolio?) 9.5%
- Q6 (Advice?) 7.3%

The difference between "best estimate" and advice to third parties was 1.4% p.a.!!

Dimson, Marsh, Staunton

- 1900-2005 the excess equity return over bonds was 4.0%p.a.
  - This is adjudged to be too high because of (according to DMS):
    - "Luck"
    - US return was too high and boosted the average (!!)
    - There is now more scope for diversification (?)
- This *reasoning* is used to suggest that the ERP should be lower than the ex-post figure of 4% p.a. (despite recognition of the ex-ante nature of the problem)
- Historical perspectives largely ignored (e.g. 2 World wars)
- (Question 6 syndrome)

Historical return experience

- Note that we need to make an assumption for typically 10 or 20 (or 3) years (and not 100 years).
- Of the historical data since 1900 (DMS) we have ten 10 year data points and five 20 year data points.
- The 10 year excess returns vary between -3% and +17%p.a.
- The 20 year figures vary between -1 and +12% p.a.
- We have only one independent 100 year data point (4%). Even if we had more they would be largely irrelevant in the ex-ante assessment.

Deriving an ERP assumption

- Higher ERP
  - Historical return experience
  - Low current bond yield
  - Investor requirements
- Lower ERP
  - Dividend discount model
  - Relative pricing arguments
  - Current stage of the business cycle

Deriving an ERP assumption

- Market derived assumptions feed partially off historical return
- Absolute level of nominal yield
  - Do high nominal & real yields imply a higher required ERP?
- Do people implicitly expect a certain nominal return?
  - Would people be satisfied with an expected return on equity of 4% if bond yields were 1%?
- Economic & social stability
- Any arguments about expectations or the past need to be combined with an assessment of whether the effect has been recognised by the market and priced in

Suggestions

- Abandon a prescribed range for the ERP.
- It is appropriate and correct to have different ERP assumptions for different purposes.
- Society Committees and Council are responsible for certain prescribed assumptions. Council are responsible to ensure that they are consistent (not the same) and fit for purpose.
- Beware of question 6 syndrome (particularly in relation to pension transfer values and Funding Proposals)
- Avoid spread of prescription to professional value added areas
- No limit is not a sanction to use high number
- Actuaries need (to want) to justify their assumptions
- Improve technical modelling skills
- Promote research culture
- Retain ***professional*** status