

Dear future actuaries,

It is our pleasure to introduce you to the inaugural edition of our weekly email, which will be coauthored by Yuzhu Liang, Matthew Selfe, and Vanck Zhu. We hope that you will find it informative, and we welcome any and all feedback from you.

Summary:

1. A Brief Overview of the Profession
2. What's Happening in the Actuarial World
3. Term of the week

1. A Brief Overview of the Profession

The actuarial profession is one that spans a variety of different niches, the commonality being that all actuaries use mathematical, probabilistic, and statistical methods to properly value risk and take measures to control it. An example: insurance premiums are determined strictly by actuarial valuations of the risk (of theft, fire, accidental death, etc.). Outside of insurance, actuaries are found working with pensions, investment management, and other 'non-traditional' fields that involve the valuation of risk. Each field has plenty of further subdivisions that are worth exploring on your own time.

If you are interested in learning more, there are quite a few resources available on the web:

- <http://www.actuaries.org.uk/> the website of UK's Institute of Actuaries/Faculty of Actuaries
- <http://www.soa.org/> the website of US's life insurance society
- <http://www.casact.org/> the website of US's non-life insurance society
- <http://www.actuarialoutpost.com><<http://www.actuarialoutpost.com/>> excellent forum for actuarial information, although US-based
- www.vault.com<<http://www.vault.com/>> must be a member, but Vault has a must-read guide for all aspiring actuaries

2. What's Happening in the Actuarial World

Towers Perrin and Watson Wyatt combined to form Towers Watson at the beginning of this year. The two companies cite decreasing revenues during this recession and the desire to reduce costs as the factors leading to the merger. Full article:

http://business.timesonline.co.uk/tol/business/industry_sectors/support_services/article6604454.ece

Defined Benefit pension schemes continue to get pummeled in spite of the recent uptick in the markets. IBTimes reports that 75% of DB plans in the UK are currently in deficit. The move to Defined Contribution plans should continue to be popular, and most of the work for actuaries in pensions should remain in advising firms as they move from DB to DC plans. Full articles: <http://www.ibtimes.co.uk/articles/20100209/75-of-db-pension-schemes-in-deficit.htm> http://www.ipe.com/news/estimated-80-of-irish-db-schemes-are-in-deficit_34023.php

According to this Wall Street Journal article ranking careers, the actuarial profession tops the tables yet again in 2010. Full article: <http://online.wsj.com/article/SB10001424052748703580904574638321841284190.html>

3. Term of the Week

Discount Rate: The discount rate is similar to the interest rate, except that it uses the future value of a financial instrument as the denominator. For example, if you own a bond worth 100 GBP in a year, and it is worth 90 GBP today, the discount rate is:

$$(100 - 90)/100 = 10\%$$

More generally:

$$d = (v_t - v_p)/v_t$$

where:

d = discount rate

v_t = value at time t

v_p = value at present

It is easy to see the relationship between the discount rate and interest rate (let interest rate be 'i').

$$d = (v_t - v_p)/v_t = 1 - v_p/v_t$$

but $v_t/v_p = 1 + i$ (definition of interest rate), so:

$$d = 1 - 1/(1 + i) = i/(1 + i)$$

so:

$$d = i/(1 + i)$$

That is all for today. Thank you for reading, and again, be sure to send us feedback.

Best,

Vanck Zhu
Executive Committee Member