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Miscellany

On accounting standards and fair valuation of life insurance and pension liabilities

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Abstract

The actuarial profession is increasingly teaming up with financial economists for a fruitful cooperation on the proper valuation of life insurance and pension (L&P) liabilities

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Notes

I am grateful for the comments and suggestions of an anonymous referee, Morten Balling, Anders Grosen, Peter Hermann, Jan Bo Jakobsen, Per Linnemann, Jens Perch Nielsen, Mogens Steffensen, and Frank Thinggaard. I am particularly indebted to Søren Andersen, Michael Harboe-Jørgensen, and Charlotte Møller for fruitful discussions and for sharing their insights on the Danish market value rules and regulation. I would also like to thank Henrik Steffensen of PriceWaterhouseCoopers for granting me access to PWC's excellent Comperio database. All errors are my own responsibility.

PETER LØCHTE JØRGENSEN

Julietta, the Accountant: "Would you like to check my figures?" James Bond: "Oh, I'm sure they are perfectly rounded!"

– James Bond: The World is Not Enough, MGM/United Artists (1999).

Jørgensen PL. On accounting standards and fair valuation of life insurance and pension liabilities. Scand. Actuarial J. 2004; 5:372–394.

As quoted by Malkiel ([1996](#)).

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This hierarchy was first presented in the June 2002 Exposure Draft for a revised IAS 39.

Dicke ([1998](#)) mentions rare cases where secondary markets for insurance policies have existed.

See International Association of Actuaries ([2000](#)) for a deeper discussion of the possibilities for estimating fair values of liabilities when financial markets are complete and incomplete, respectively.

One challenge here is to get good bond price observations covering the far end of the maturity spectrum. Unfortunately, government bonds with maturities above 20–30 years are relatively rare in most countries. In contrast, corporate bonds with maturities up to 100 years are not uncommon. IBM, Walt Disney, ABN-AMRO, and Coca Cola are examples of large international corporations that have issued 100 year bonds (see e.g. Grinblatt & Titman ([2002](#))).

The reader is also referred to Sheldon & Smith ([2004](#)) for a general introduction to market consistent valuation of L&P products.

See e.g. Linnemann ([2003a,b](#), [2004](#)) for actuarial approaches to market based valuation of participating life insurance contracts.

The Danish L&P sector has not (yet) adopted the fair value terminology explained in [Section 3](#). Values of liabilities for which there is no active market and thus have to be estimated (using for example financial modeling techniques) are also referred to as “market values”, and the remainder of this section therefore uses this term.

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referred to The Danish Financial Supervisory Authority ([2001](#)).



The term structure of zero-coupon interest rates tends to lie above the Danish FSA's reference rate in the long end of the maturity spectrum and below the reference rate in the short end. Casual empiricism suggests that "young" pension funds with relatively long liabilities tend to choose zero-coupon interest rates for discounting their projected cash flows, whereas mature pension funds and life insurance companies with relatively shorter liabilities tend to use the Danish FSA's reference rate. This indicates that L&P companies tend to choose the discounting methodology that minimizes the estimated value of liabilities.

Rules for sharing the investment (and insurance) surplus should follow the contribution principle and guidelines are formulated in a separate executive order issued by the Danish FSA. These guidelines have had to be revised and updated several times in connection with the issuance of the new market value reporting requirements, see The Danish Financial Supervisory Authority ([2004](#)).

Prior to 1997 the maximum allowable portfolio weight in stocks was 40%. It was raised to 50% between 1997 and 2000.

Readers familiar with the Danish language can consult The Danish Financial Supervisory Authority ([2002](#)) for illustrative numerical examples of how the values of the different entries on the balance sheet evolve in different investment scenarios under the new Danish market value regulation.

See e.g. The Danish Financial Supervisory Authority ([2002](#)).

French critics in particular seem to have had some success with their lobbying recently, see The

See e.g.

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Nicholson ([2004](#)).



See Mercer Oliver Wyman ([2004](#)) and The Economist ([2004a](#)).

See The Economist ([2004b](#)) and Watson-Wyatt ([2003](#)).

Related Research Data

Surplus-linked life insurance


Source: Informa UK Limited

A market-consistent framework for the fair evaluation of insurance contracts under Solvency II

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Life insurer performance under the bailout of distressed asset purchases

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