
Actuarial Methods in the EU Groupe Consultatif

Paul Thornton
David Collinson
Michael Lucas



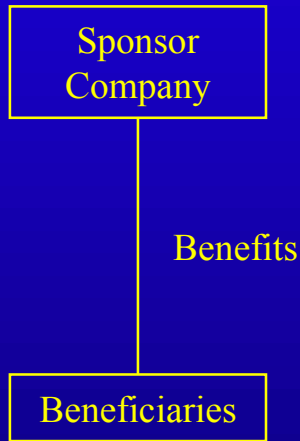
Format of the Groupe Consultatif report

- Commentary and overview of retirement benefits and funding vehicles, actuarial methods and assumptions
- Country by country description
- Definition of actuarial methods



Pension plan financing

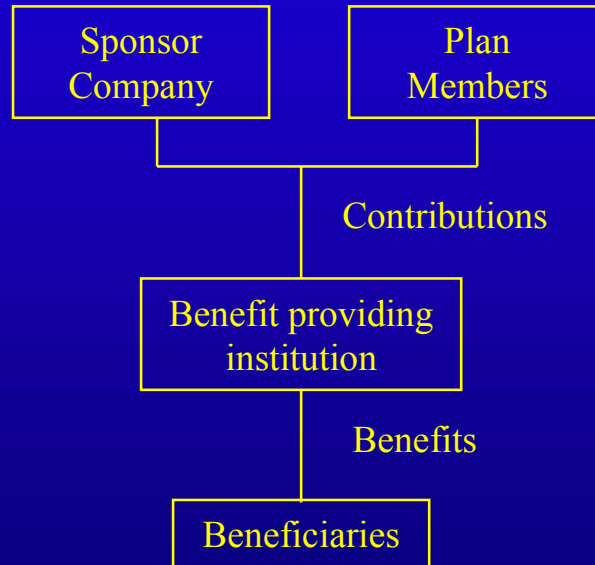
Direct Pension Promise (internal financing)



Examples

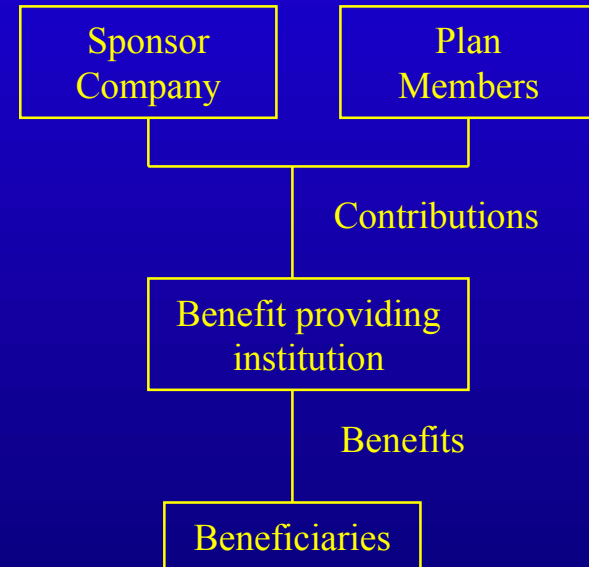
Germany
Sweden
Austria

External Sponsored Institution



United Kingdom
Netherlands
Ireland

Insurance



Belgium
Netherlands
Spain



Typical actuarial calculations

- Calculation of past service funding position
- Calculation of cost and contributions
- Analysis of demographic and economic experience
- Calculation of early retirement factors
- Calculation of commutation factors
- Asset/Liability modelling



The focus for today's session

- The calculation of the past service funding position....influenced by
 - Regulation/supervision
 - Tax
 - Accounting
 - Funding vehicle eg life assurance or pension fund
- The past service funding position is a comparison of
 - Technical provisions
 - Fund assets

The funding target in each country is a result of a mixture of influences, not least common practice. There is variation both within and between countries.



Valuation of assets

- Market value - Austria, Belgium, Netherlands (some funds), Norway (accounting purposes), Portugal, Spain, UK
- Discounted income value - Cyprus, Ireland, UK (use is generally declining)
- Average market value - Cyprus, Ireland, UK (not common)
- Book value - Denmark, Finland, Germany

From an actuarial perspective the valuation of assets should be consistent with the valuation of the liabilities (technical provisions) and the expected return on assets assumption



Technical provisions

- The amount of the technical provisions is dependent on
 - Actuarial funding method
 - Economic assumptions (Discount rate, salary inflation, price inflation, social security inflation)
 - Demographic assumptions (Retirement age, mortality, turnover, disability, partners issues)
 - The benefits valued eg discretionary benefits

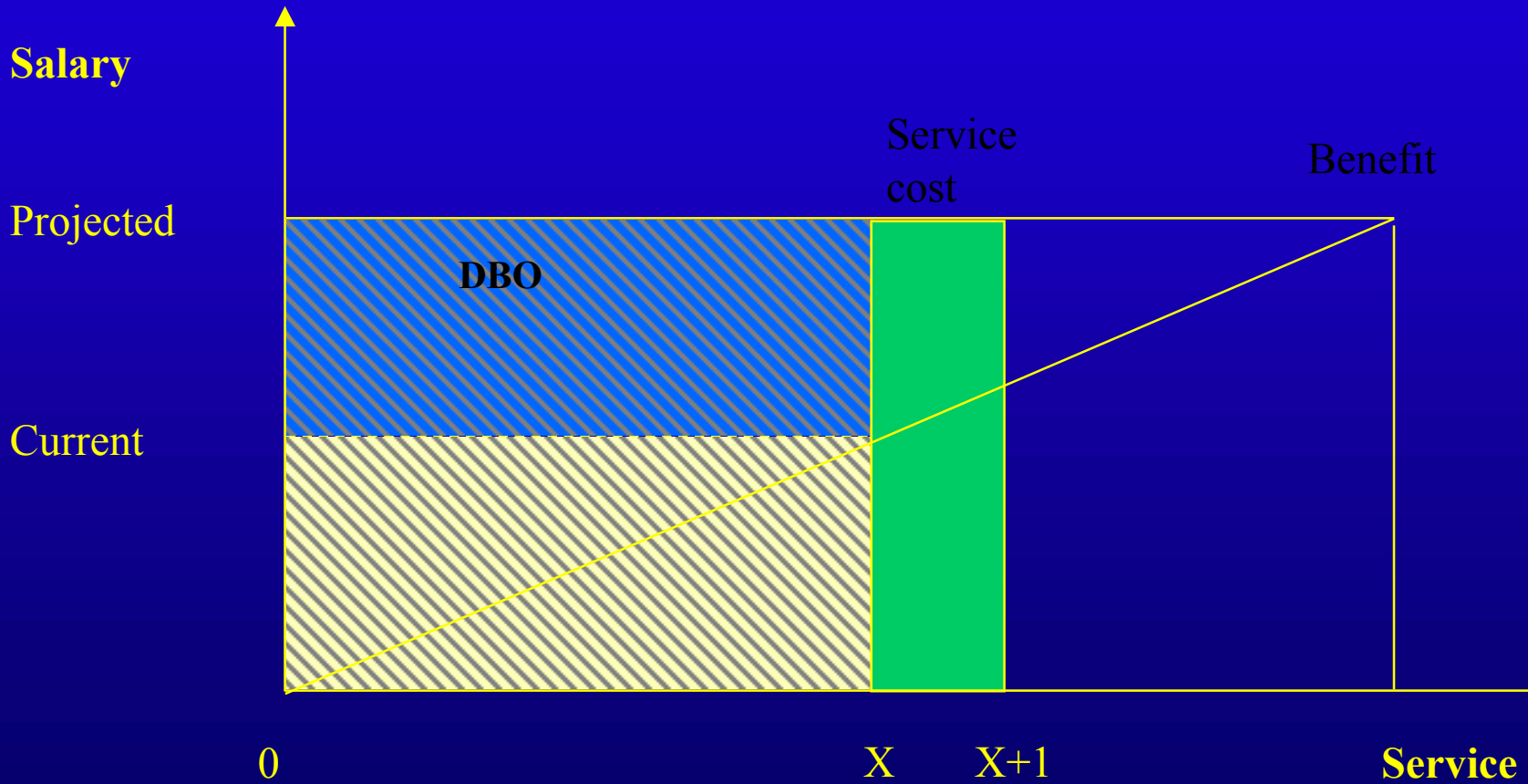


Most commonly used actuarial funding methods

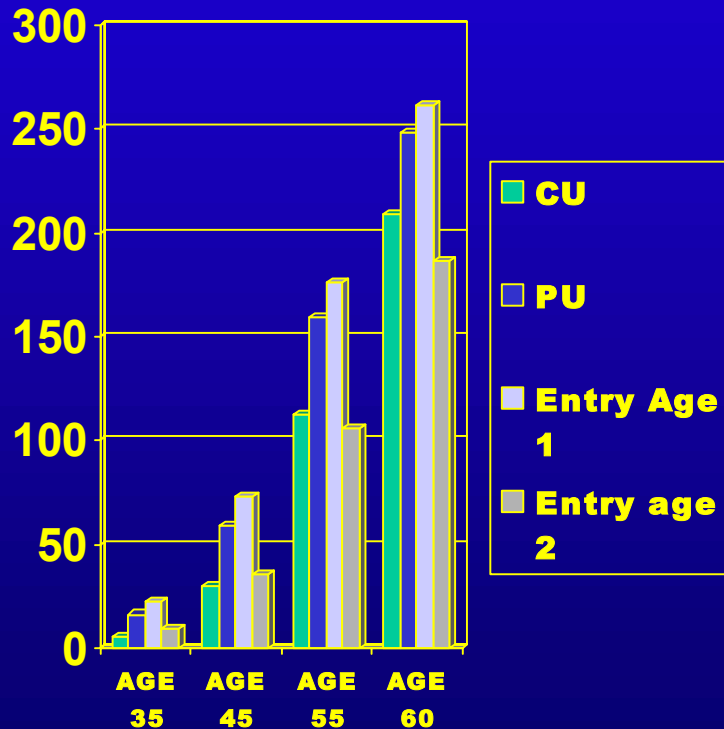
- *Projected Unit Method* - Belgium, Cyprus, Germany (commercial accounting), Ireland, Netherlands (commercial accounting), Spain and United Kingdom and IAS/US GAAP
- *Current Unit Method* - Finland, Netherlands, Norway, Switzerland
- *Attained Age Method* - Austria, Germany (infrequent), Ireland (infrequent)
- *Entry Age Method*-Germany and Austria (Infrequent)



Pension accrual



Comparison of funding methods



- Entry age method can be the strongest or weakest, depending on how it is applied
- All 4 of these approaches are used in the EU
- At age 35, the strongest method has a funding level of 388% of the weakest
- Under Entry age 2 increases in benefits are funded over the remaining service period-a common approach in insured plans



Factors affecting choice of method

- Tax restrictions eg Germany, maximum funding in Netherlands
- Supervisory minimum funding levels eg Netherlands, Belgium, UK
- Accounting standards eg FRS17, IAS19, FAS87, local accounting rules
- Nature of fund eg 'open' or 'closed'
- Funding vehicle eg pension fund or life insurance
- Past custom and practice

The role and responsibilities of the actuary varies across the EU, with significant variation in the extent to which actuaries have professional freedom or must follow detailed rules and regulations



Economic assumptions

- Single defined discount rate used eg Germany, Netherlands, Sweden, Finland, Switzerland
- Full set of assumptions applied eg Belgium, Cyprus, Ireland, UK and Spain plus applications of US GAAP and IAS19

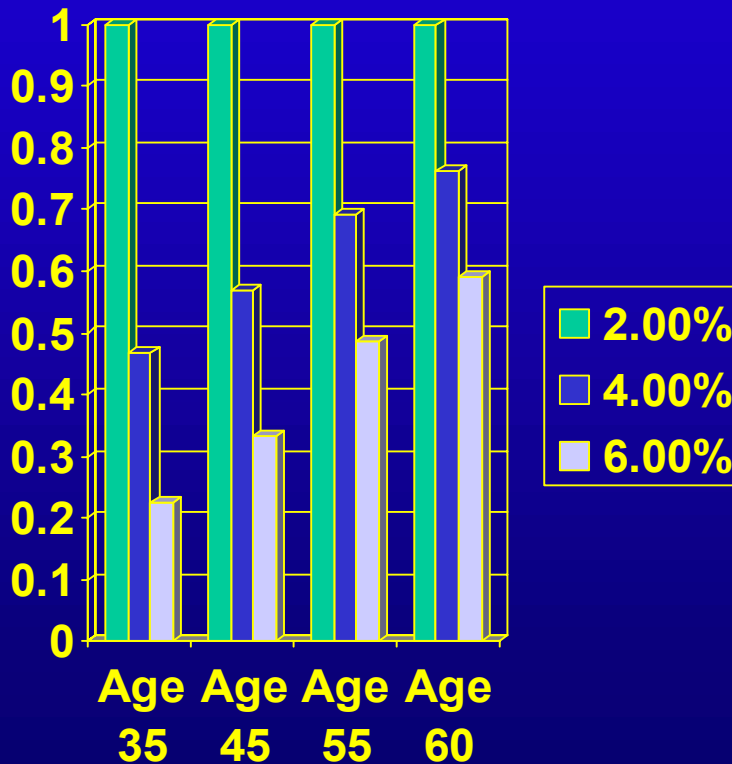


Example single discount rates

- Austria - 6.0% for book reserve tax calculations
- Finland - 3.5% to 4.25% for pension funds
- Germany - 6.0% for book reserve calculations
- Netherlands - 4.0%
- Slovenia - 4.0%
- Norway - 3.0% or 4.0%
- Sweden - 3.75%
- Switzerland - 4.0%



The impact of the net discount rate



- The 6% provision is less than 25% of the 2% provision at age 35
- The impact of different discount rates reduces with age

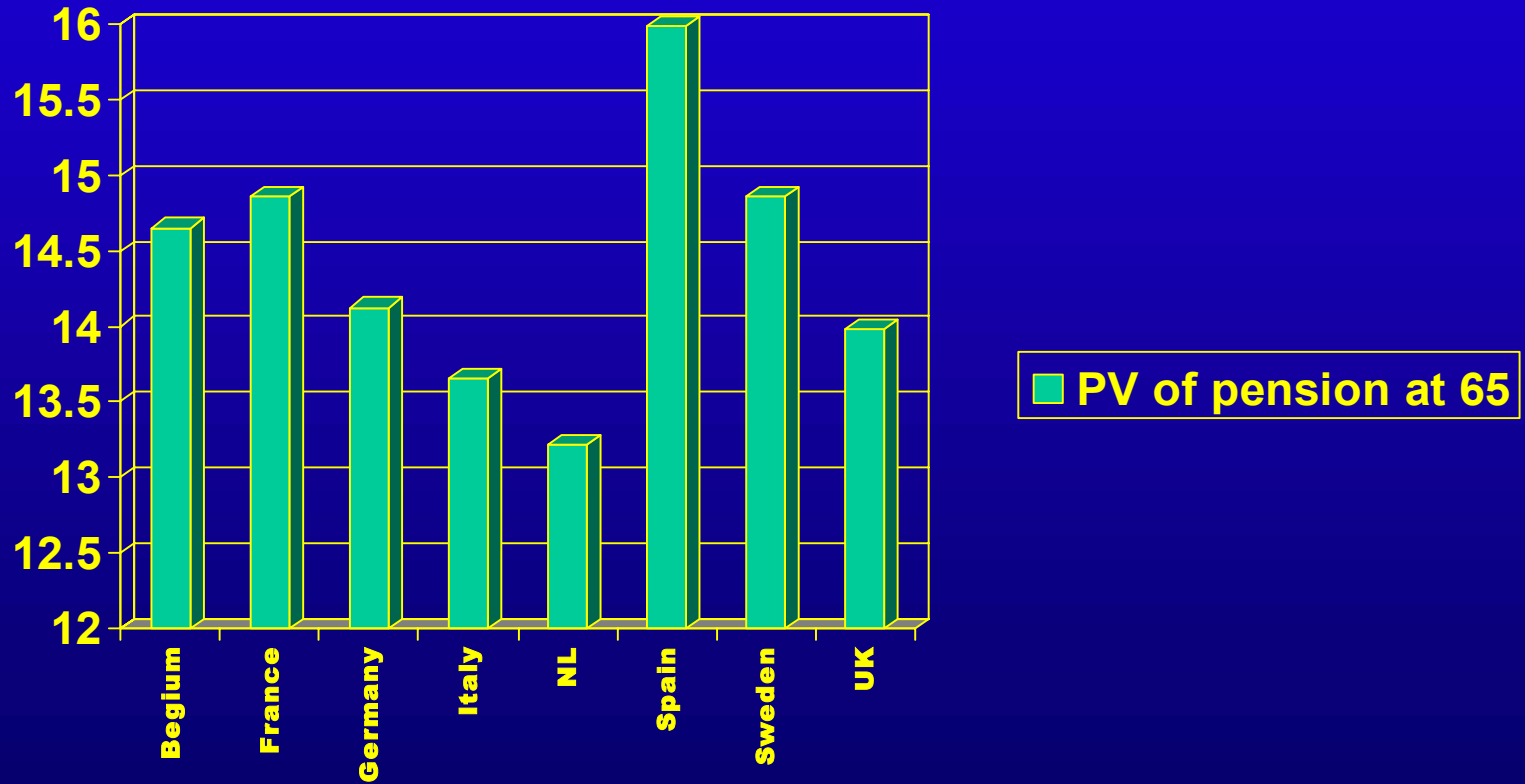


Demographic assumptions

- Practice ranges from full complete set of demographic assumptions to considering mortality and retirement only
- Practice varies from using standard tables specified in regulations to complete freedom of choice for the actuary (eg UK/Ireland)
- In most countries standard mortality tables developed either through population or other censuses are used



Comparison of pensioner mortality

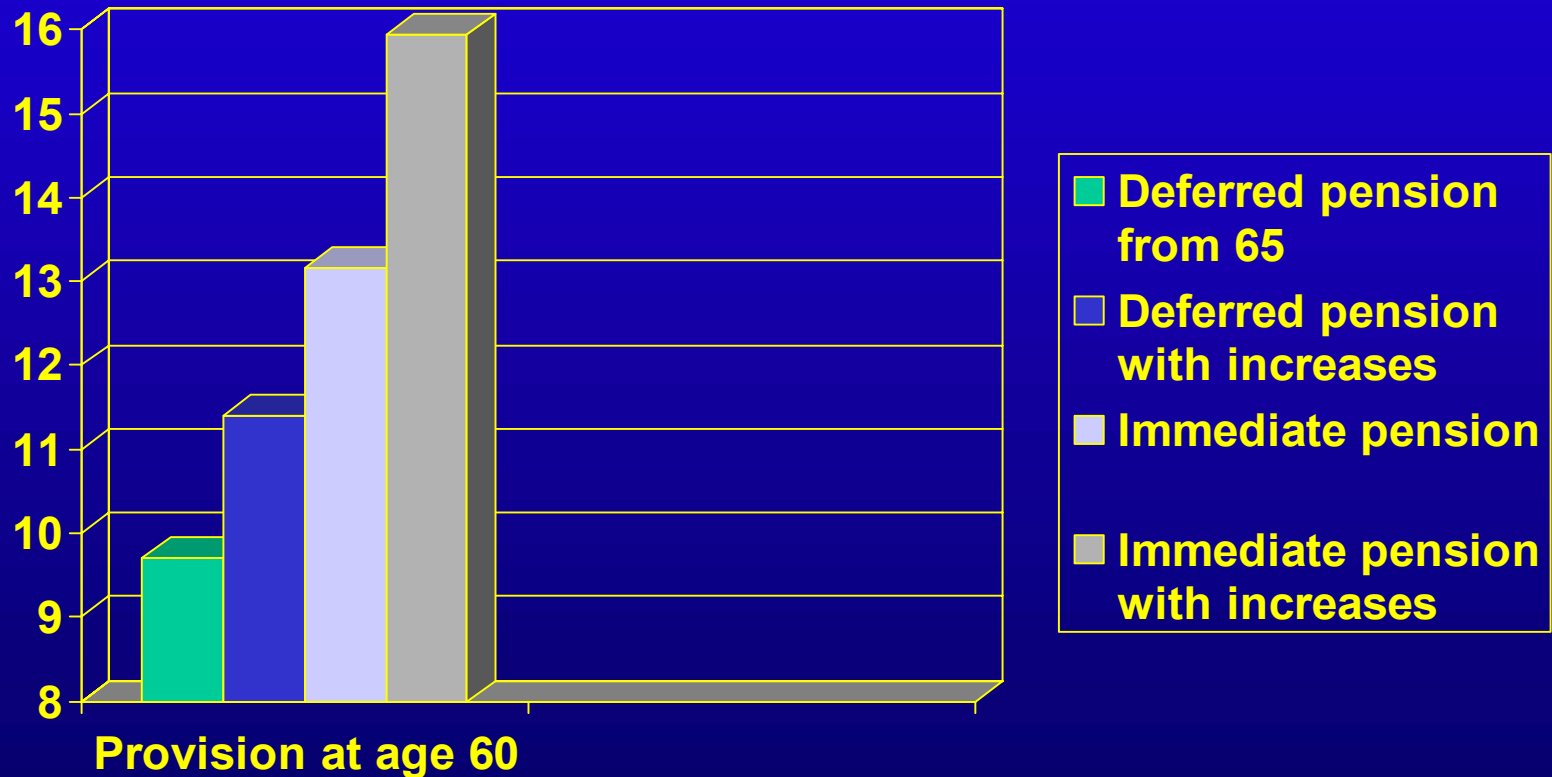


What benefits are valued?

- Under many pension plans there are options available for the employee eg retirement age
- Under many pension plans there are options available for the employer/fund eg discretionary pension increases

The extent to which these options/choices are built into the calculation of the technical provisions will affect the security provided to members

The possible impact of valuing options (early retirement and pension increases)



The development of accounting standards

- 10 years ago - only SSAP24??
- Now - currently IAS19 gaining wide recognition and use
- Expanded use of US GAAP by European companies listed on the New York Stock Exchange
- Further development of country specific accounting standards, for example, RJ271 in the Netherlands and Swedish accounting standards
- Replacement of SSAP24 by FRS17
- Increasing emphasis on 'Transparency' of accounting information on pension plans



Overall trend of accounting standards

- Move to market based approach for valuing assets
- Move to market related discount rate that reflects long-term, high quality corporate bond yields
- Move to straight line approach for amortisation of gains and losses
- Move to Projected Unit Method
- Move to more complete actuarial assumptions sets with each assumption specified individually rather than implicitly through the use of a net discount rate



Conclusions

- Different actuarial funding methods
- Different approaches to setting actuarial assumptions
- Different assumptions used
- Different approaches to valuation of assets
- Different approaches to setting demographic assumptions
- Different approaches to valuing options and choices



Conclusion

- **Being fully funded under the new EU directive on pensions will mean different things in different countries**



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