

Principles and Practice of Assessing Damages for Personal Injury and Wrongful Death in Ireland

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Outline of Talk

- The Legal Principles
- Brief History of Actuaries as Expert Witnesses
- Key Actuarial Assumptions
 - *Mortality*
 - *The Discount Rate*
 - *Taxation*
 - *Other Contingencies*
- Developments to Limit Size of Awards
- Concluding Remarks



Background

- The [US] National Association of Forensic Economics, held annual meeting in Dublin (2005)
 - Justice Finnegan, Prof Steve Haberman, Prof Richard Verrall and others
- Contacted me this summer doing as book on determining economic damages in personal injury and death litigation around the world
- To be published by Emerald Press/Elsevier,
 - edited by Professor Robert Thornton, Lehigh University (US), & Jack Ward, The National Association of Forensic Economics (US).
- Deadline for final proofs is 1st December.



Legal Principles

- Compensation based on principle *restitution in integrum*
- Diverging practical interpretation of principle in different jurisdictions
- In Ireland wrong extinguished only by single lump sum, for both past and future loss
- Total award must be judged fair and reasonable...
 - Sub-divisions only as aid
 - Non-pecuniary loss - redress for pain and suffering, expectation of life curtailed, and quality of life impaired
 - Pecuniary loss - the monetary loss, after reasonable care to mitigate the loss - loss of earnings and perquisites of employment, loss of pension benefits, additional healthcare and living expenses arising from injury.
 - Aggravated, exemplary or restitutionary damages



Brief History of Actuaries as Expert Witnesses

- "...where there is a substantial element of future loss of earnings involved with any claim the evidence of an Actuary is not merely desirable but necessary."
- from *The Segrave-Daly* (1998) Supreme Court judgement in 1968 (Quoted *Actuary in Irish Litigation Work*,
- Guidance Note 24 (ROI) of Society of Actuaries in Ireland, requires the actuary to assist the court by giving impartial advice
- Reputation of profession not unhelpful but early actuarial pioneers built reputation in court.
- Irish practice different to UK practice. Lord Justice Oliver (UK) : "as a method of providing a reliable guide to individual behaviour patterns or future economic and political events, the predictions of an actuary could be only a little more likely to be accurate (and would be certainly less entertaining) than those of an astrologer".

Auty and Others v National Coal Board (1984)



Irish practice changes UK practice

- Brian S. Reddin nominated member by the Faculty of Actuaries on the original [UK] Ogden Committee...first report and actuarial tables in 1984...“the reasoning which leads to such figures could not be faulted”.
- But Ogden/Irish approach eventually accepted in UK...Wells v Wells [1999].
- Good summary of the practice of assessing damages in UK courts at the time is given in Owen and Shier (1986) and a contrast with the system in Ireland is given in Section II of the Report of Law Reform Commission of Ireland (1996). The evolution of actuarial practice on the assessment of damages in Ireland can be traced through Segrave-Daly (1974), Delany (1990), and Segrave-Daly (1998).
- But key changes in more recent times in Ireland and UK
 - In UK, Lord Chancellor prescribed rate of discount of 2.5% from end June 2001.
 - In Ireland, failure of index-linked market to develop – *Luke Boyne v Bus Átha Cliath and James McGrath*, April 2002.



General Approach to Estimating Lump Sum for Future Loss

- Future monetary loss are generally computed using a 'multiplicand' and a 'multiplier'
- The multiplicand is the estimated monthly (or weekly or annual) loss
 - calculation is not on the actual loss but on the net loss when minimised, qualified somewhat further as an Irish statute stipulates that the hypothecated 'loss' is not to be reduced by the proceeds of a contract of insurance or, in certain circumstances, by social insurance benefits payable, as a result of the wrongful action
- For wrongful death, a member of the extended family can sue for remedy for loss of financial support or services, less any gains accruing as a result of the premature death
- All amounts are net of taxes and other deductions



General Approach to Estimating Lump Sum for Future Loss

- The multiplier is the capitalised value of a monthly (or weekly or annual) loss of €1 over the period of the loss
- To calculate the multiplier the actuary must make assumptions on
 - ◆ the probability that each future payment is made
 - ◆ the amount by which the net loss of €1 in present day terms might increase to by the time of payment
 - ◆ the rate discount that must be applied to each future payment so that its present day value is determined
 - ◆ the rate and manner of taxation of income and capital gains in the future
 - ◆ other assumptions

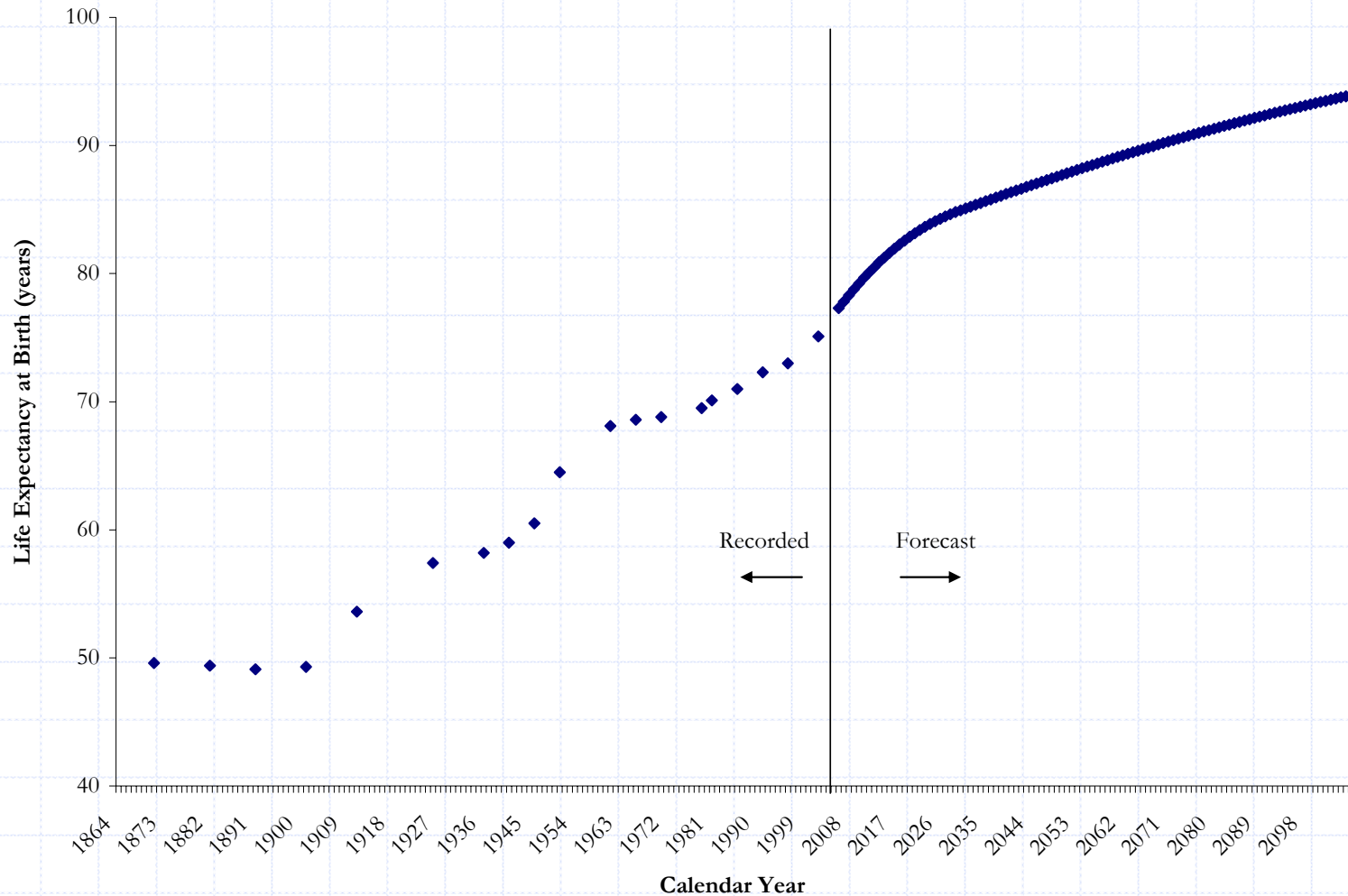


Key Actuarial Assumptions: *Mortality*

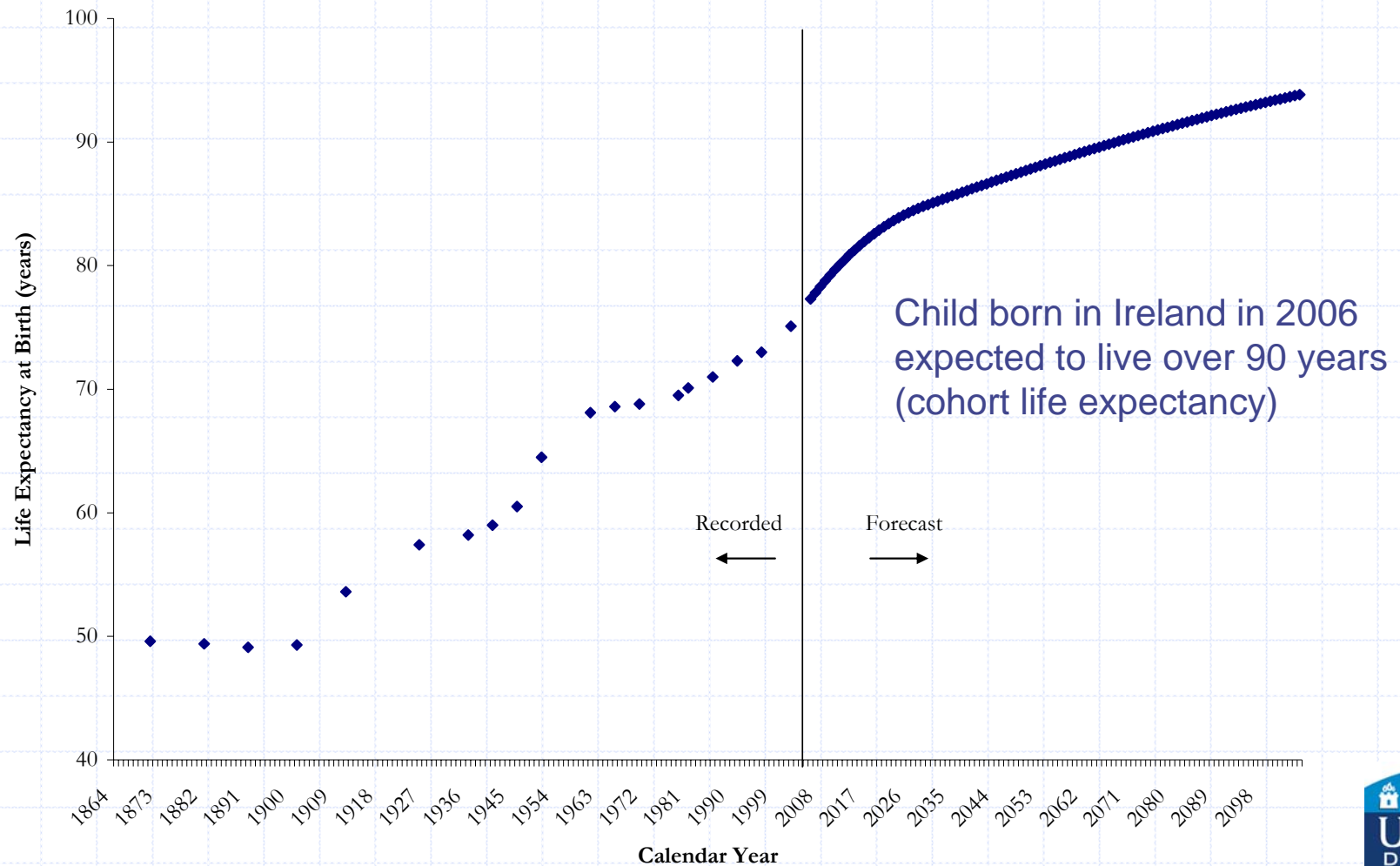
- Actuaries in Ireland typically do not explicitly allow for future mortality improvements
 - May make an implicit allowance for it - basing calculations on a lighter mortality table
 - or ignore mortality improvements altogether (i.e., assume no mortality improvements in the future)
- But mortality in Ireland (as elsewhere) has established long-term trend of decline...
- Increase in life expectancy averaging, per calendar year of 20th Century,
 - 0.26 years for males
 - 0.30 years for females



Recorded and Forecast (Period) Life Expectancy at Birth for Male in Ireland (CSO (2008))



Recorded and Forecast (Period) Life Expectancy at Birth for Male in Ireland (CSO (2008))

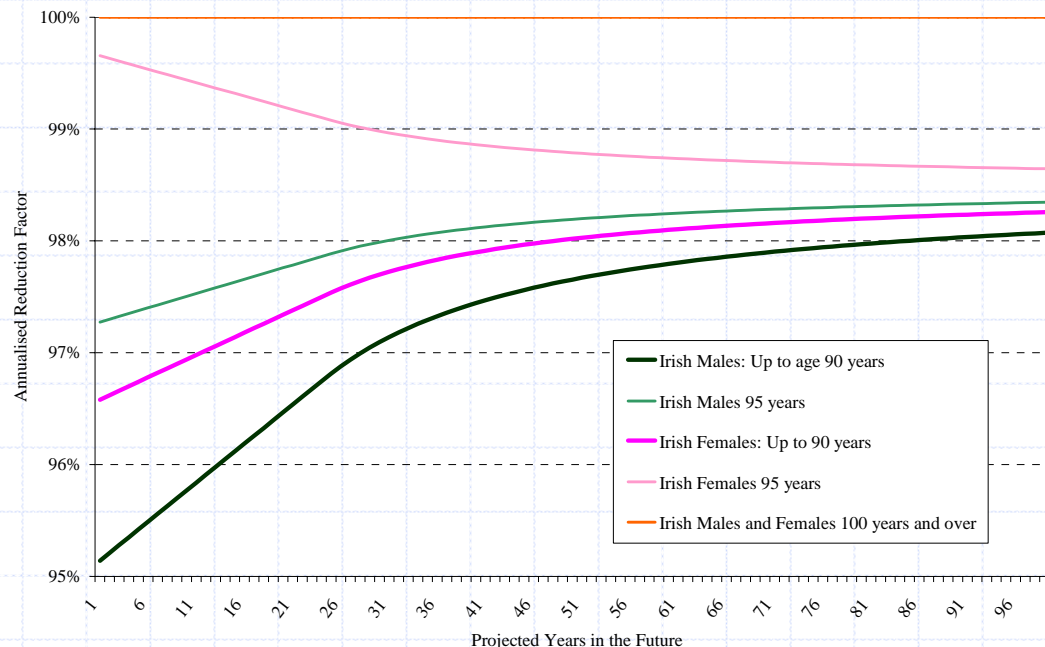


CSO Mortality Projection Method Targeting Approach

Key assumptions:

- (1) Current rates of improvement fall to long-term rate of 1.5% p.a.
- (2) Linearly over next 25 years
- (3) No improvements assumed after 100 years of age

Mortality Reduction Factors (Annualised) for each age, years forecast from Calendar Year 2005, and gender, used in Official Population Projections



Key Actuarial Assumptions: *Mortality*

Percentage Increase in Multiplier for loss of one unit per annum, when allowance is made for Future Mortality Improvements

Gender	From Age (years)	Discount Rate 0%		Discount Rate 2%		Discount Rate 4%	
		Annuity to 65	Annuity for Life	Annuity to 65	Annuity for Life	Annuity to 65	Annuity for Life
<i>Males</i>	25	2%	25%	2%	13%	1%	7%
	45	2%	30%	2%	19%	2%	13%
	65	-	37%	-	29%	-	23%
	85	-	36%	-	33%	-	31%
<i>Females</i>	25	1%	17%	1%	9%	1%	4%
	45	1%	20%	1%	13%	1%	8%
	65	-	23%	-	18%	-	14%
	85	-	18%	-	17%	-	16%



Key Actuarial Assumptions: *Discount Rate*

- Principle Applied: *If there exists a freely traded asset whose proceeds exactly reproduce the pecuniary loss then the market price of the replicating asset gives the value of the claim.*
- But in precedent of *Luke Boyne v Bus Átha Cliath and James McGrath*, Justice Finnegan ruled that,
 - there were no index-linked stock available in this jurisdiction
 - so prudent investor would invest in a portfolio of higher risk equities and lower risk gilts, the portfolio mix depend on the particular circumstances of the case
 - For Mr Boyne, a portfolio consisting of 70% in equities and 30% in gilts was prudent and reasonably mitigates the damages.
 - On the basis of evidence presented, he judged that the real rate of return on such a portfolio would be 3%.



Annualised Real Returns on Major Markets, 101 Years Ending 31st Dec. 2000

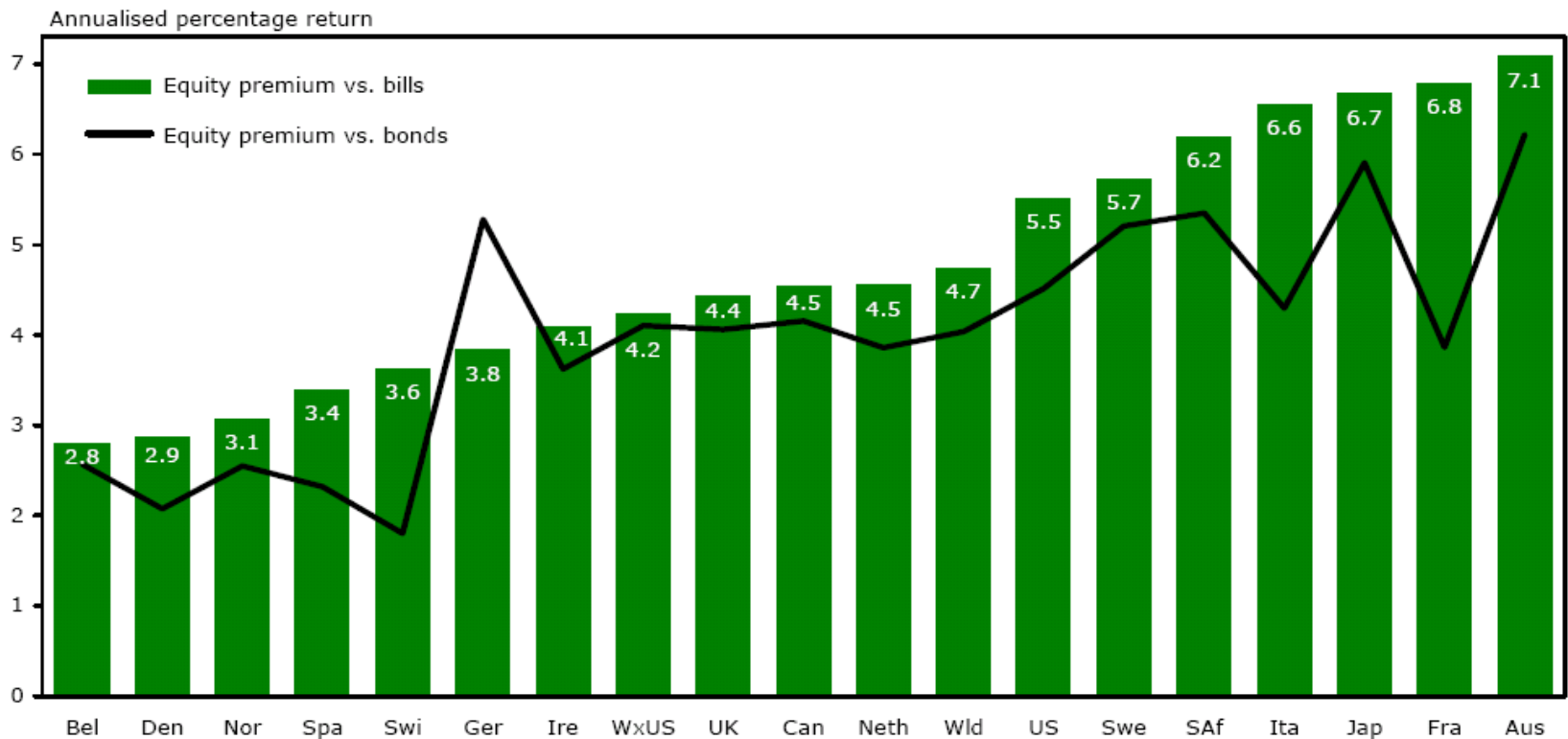
Market	Equity	Bonds	Cash	Portfolio of 70% Equities/30% Bonds	Inflation
	% p.a.	% p.a.	% p.a.	% p.a.	% p.a.
Ireland	4.7	1.0	0.7	3.6	4.5
UK	5.8	1.3	1.0	4.5	4.1
US	6.7	1.6	0.9	5.2	3.2
Japan	4.5	-1.6	-2.0	2.7	7.6
Netherlands	5.8	1.1	0.7	4.4	3.0
Germany	3.6	-2.2	-0.6	1.9	5.1
France	3.8	-1.0	-3.3	2.4	7.9
Italy	2.7	-2.2	-4.1	1.2	9.1
Spain	3.6	1.2	0.4	2.9	6.1

Sources: For Ireland see Whelan (2002), otherwise figures taken from Tables 4-1 and 5-1 in Dimson *et al.* (2002).



Across 19 Markets, 1900 to 2005

Chart 17: Worldwide annualised equity risk premia relative to bonds and bills, 1900–2005



Source: Dimson, Marsh and Staunton (ABN AMRO) and *Triumph of the Optimists*, Princeton University Press, 2002

Source: Dimson, Marsh et al. (2006)

Key Actuarial Assumptions: *Discount Rate*

- ◆ So 3% not unreasonable...but neither is 4% or 4.5% or...
- ◆ It is very difficult to estimate the real return from risky assets
 - That is why they are termed risky!
- ◆ Not very satisfactory approach.
- ◆ Is there a better way?



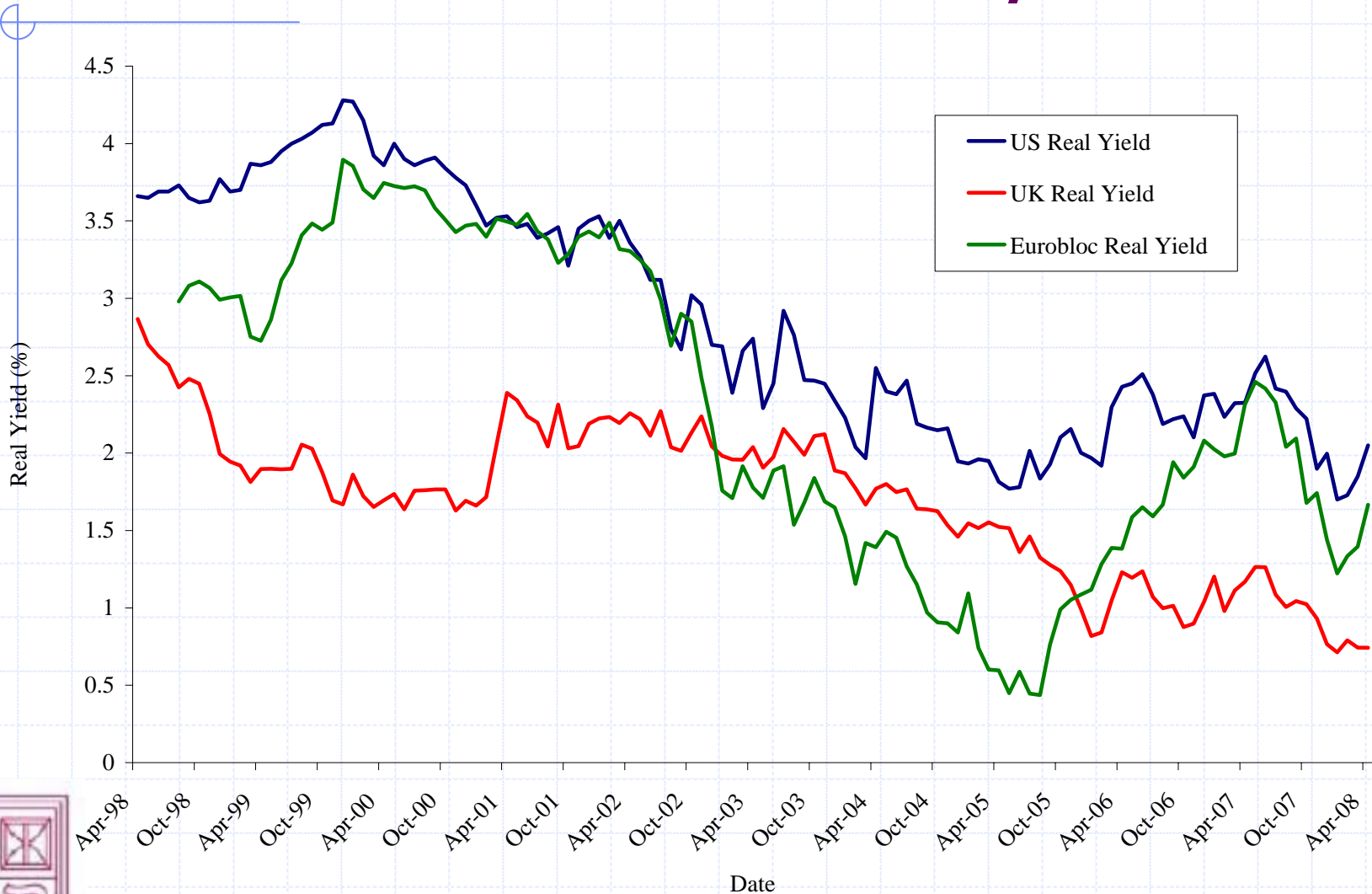
Key Actuarial Assumptions: *Discount Rate*

Two alternatives approaches:

- (1) Use French (or other eurozone government) index-linked bonds
 - no currency risk.
 - the risk is how French (or eurozone) inflation might differ from Irish inflation in the future.
 - the average inflation rates within the two economies should be reasonably close...it always has been in currency unions...
 - ◆ inflation in Ireland and the UK over the period from political independence of Ireland at the end of 1921 to the breaking of the fixed exchange rate in early 1979 averaged less than 0.2% per annum.
 - ◆ In 10 US cities inflation over 1918-2004, differed by less than 0.4% p.a.
 - ◆ A 0.5% difference leads to an accumulated 22% difference in price levels over 40 years
- (2) Argue that real yields on index-linked stock around the world indicate the real returns expected from low risk investments.



Real Yields on State-Guaranteed US, UK and Eurobloc Bonds, Decade to End April 2008.

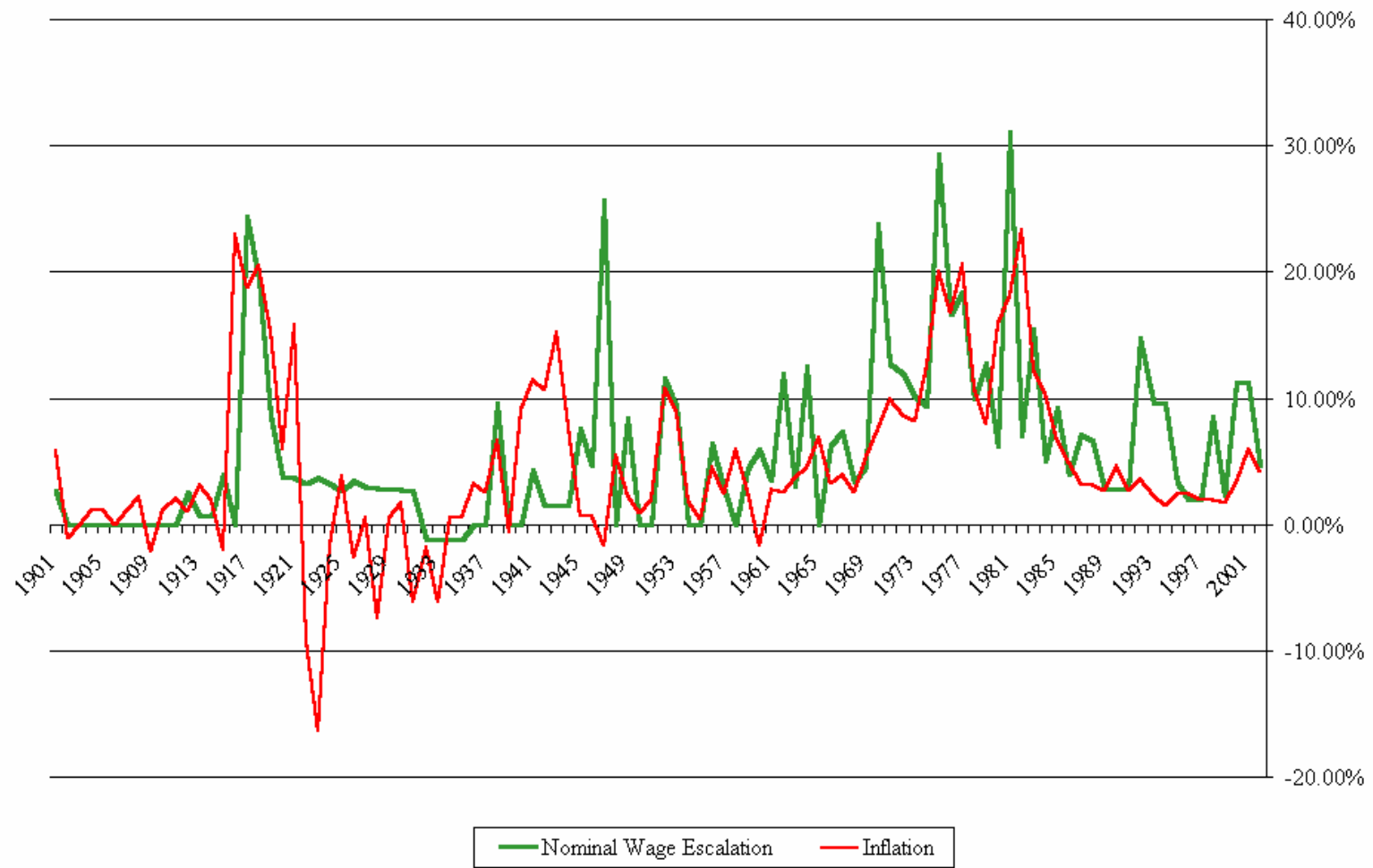


Key Actuarial Assumptions: *Discount Rate*

- These arguments suggest that 3% real was reasonable in April 2002 but now the rate is lower, at about 2.5% real.
- This applies only to inflation-linked future cashflows lost.
- Salaries have typically grown at a higher rate than consumer prices...



Nominal Wage Escalation (Carpenters) and Inflation in Ireland, Year-on-Year over 20th Century



Real Irish Wage Rates (Carpenters) and its Variability, Periods Ending End 2000

Years Ending	Nominal Wage Increase	Real Wage Increase	Of Real Wage Increase				
			Average	SD	Min.	Max.	
2000							
25	7.9%	1.7%	1.8%	5.5%	-13.2%	10.9%	
50	8.1%	1.7%	1.8%	5.1%	-13.2%	15.1%	
75	6.4%	1.3%	1.5%	6.2%	-13.2%	27.9%	
100	5.7%	1.1%	1.3%	6.5%	-18.7%	27.9%	
Since Start 1900	5.6%	1.0%	1.2%	6.5%	-18.7%	27.9%	



Key Actuarial Assumptions: *Discount Rate*

- Must also make some allowance for salary rises as a result of skills acquired over time (promotions, etc.)
- Wage inflation is assumed to be 2% p.a. above price inflation in many economic projections (e.g., Pension Board (2005, 2006))
- This means that net discount rate for loss of wages should be c.0.5% per annum.
- A reduction in the discount rate by 2% (in the range 0-4%) increasing the lump sum by about 40% for a 25 year old (male or female) and about 20% for a 45 year old, for a regular loss up to age 65 years.



Key Actuarial Assumptions: *Taxation & Other Contingencies*

- ◆ The lump sum award is treated as a capital receipt - not subject to tax. Any proceeds derived from the lump sum – by way of income or capital gain – are taxed in the normal way for all but one class of plaintiff.
- ◆ “The calculations of the actuary, which are no doubt mathematically precise, assume, *inter alia*, that, for the lifetime of the plaintiff (something over 50 years) the current rates of taxation will be maintained for the entire period...”

Judgement of Griffin J. of Supreme Court, *Griffiths v Von Raaj* (1985) ILRM 582.
- ◆ 6th Edition of Ogden Tables shows 10-20% reduction for able-bodied male to age 65 might be reasonable (depending on age).
- ◆ Local work needs to be done on estimating reductions for other contingencies...in the meantime UK is a guide.



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