The Actuarial Profession
making financial sense of the future

Actuaries and the law
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Current issues
5th October 2010

Some issues…

1. It’s the economy, stupid
2. BAS
3. Inflation
4. Mortality
5. Beckmann
6. GMP equalisation
7. Autoenrolment
8. Fiduciary management
9. Mergers and other commercial pressures
10. 30 hours CPD!
11. Conflicts
12. The end of the road for portability
13. ETVs
14. Data
15. Re-thinking equalisation post Yorkshire Chemicals
16. Re-thinking benefit conversion in the light of IMG
17. Solvency II
18. Longevity swaps

A few con docs…

Department for Work and Pensions		
1	PPF Pensions on Divorce Regs 2010	22 June 2010
2	Guidance on the certification of DB and hybrid schemes	21 May 2010
3	Raising State Retirement Age to 66	6 August 2010
4	Making Automatic Enrolment Work	13 August 2010
5	FAS - Consultation on draft actuarial guidance and revision to the synthetic buy-out basis	10 March 2010
6	FAS - Draft guidance relating to the transfer of scheme assets to government	10 March 2010
7	Abolition of DC Contracting Out	19 October 2010
8	Default retirement age 65 / age discrimination	21 October 2010

A few con docs…

tPR		
1	Record-keeping: measuring member data	27 April 2010
2	Winding up: avoiding delays	5 May 2010
3	Monitoring employer support	7 September 2010
4	DB multi-employer schemes and employer departures: guidance for trustees	23 September 2010
5	Updated guidance on transfer incentives	5 October 2010

A few con docs…

Actuarial profession / Board for Actuarial Standards		
1	BAS Pensions Exposure Draft	21 May 2010
2	TM1	4 June 2010
3	Transformations	27 August 2010

A few con docs…

European Commission and others		
1	Pensions in Europe	15 November 2010
2	Unions 21 Tomorrow's Pensions: Next Steps	15 June 2010
3	Hutton Commission – review of public sector pensions	31 July 2010
4	HM Treasury: Annuity reform	10 September 2010
5	Contracted out rebates 2012 – 2017	15 November 2010

Inflation

- it could affect all accrued pensions
- if it does, it will affect all <u>future</u> revaluation and pension increases, not any increases granted thus far
- whether it does depends on:
  - the precise wording of the legislation change…
  - the precise wording of the Scheme Rules and…
  - how they interact

Inflation

- If you do **not** shift to CPI, danger of an extra underpin
  - your rules give RPI
  - but statutory minimum could have moved to CPI
  - and if CPI is rather greater than RPI …
- So costs could in fact rise, not fall
- Whether this will be the case is far from clear[1]

S51(3) of PA95 dis-applies the stat min if scheme gives RPI-linked increases

Also depends just how the legislation is amended

Inflation – Aon survey of 80 schemes

- 60% of schemes increase pensions by ref to RPI
- 20% of schemes increase pensions by ref to “legal minimum”
- 20% of schemes increase pensions by ref to “RPI or other”

- 15% of schemes revalue by ref to RPI
- 80% of schemes revalue by ref to “legal minimum”
- [5% of schemes revalue by ref to “RPI or other”]

Source: The Actuary Aug 2010

Inflation – KPMG survey of 139 schemes

- 20% of schemes: pension increases are “affected”
- 80% of schemes: revaluation is “affected”

Source: Professional Pensions July 2010

Differences RPI / CPI

1. RPI includes mortgage interest payments (MIPs)
   - Thus changes in interest rates affect the RPI directly
     - If interest rates are cut, it will reduce MIPs
     - Thus the RPI will fall but the CPI will not
2. RPI also includes council tax / other housing costs
3. CPI includes some financial services not included in the RPI.
4. CPI is based on a wider sample of the population.
5. “Technical differences” in averaging the cost of basket of goods
   - Geometric v Arithmetic mean

Quantifying the difference

- On average, since January 1997, CPI has been 0.85% pa less than RPI (e.g. if RPI was 3.5%, then on average CPI = 2.65%)
- However, this average difference fluctuates quite wildly
  - CPI has been as much as **2.6% less** than RPI
  - CPI has been as much as **3.5% greater**
- Note – if you use CPI data backfilled to 1989, the average difference drops from 0.85% to 0.7%

Breaking this down

http://www.statistics.gov.uk

This average difference, of 0.85%, can be allocated amongst each of the 5 major differences

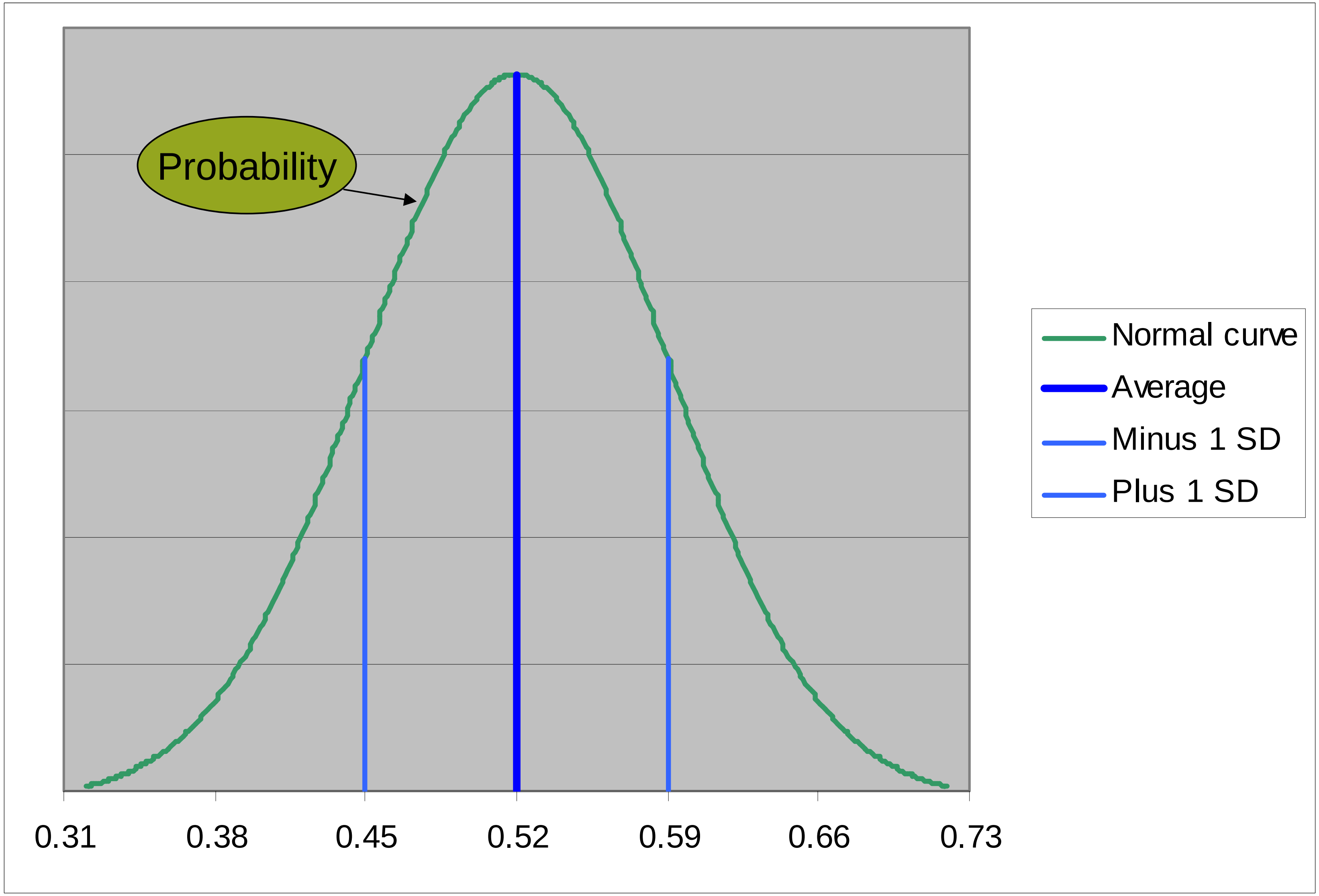
Mortgage interest payments	0.01%
Council tax / other housing costs	0.37%
Other factors	-0.12%
Different population	0.07%
Technical differences	0.52%
Total	0.85%

So – “technical differences” in the way prices are averaged within the basket of goods accounts for a weighty 0.52% pa of the overall difference – on average.

Wobble factor

- Difference dues to “Technical Differences” = 0.52% on average
- **Very** stable over time (at least since 1997)
  - Very small “Standard Deviation”
  - Means we expect it to wobble about usually within the range 0.45% to 0.59% - being plus or minus one Standard Deviation of the average

Wobble factor
Difference due to Geometric v Arithmetic mean

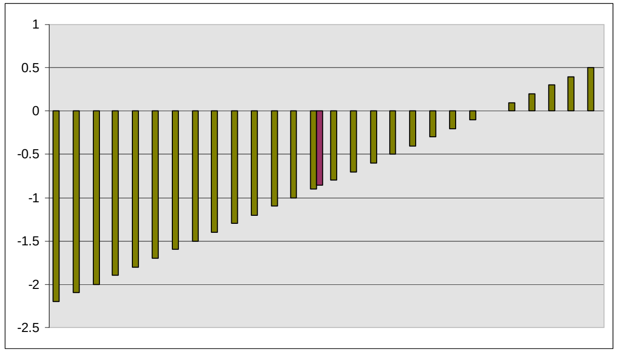


Wobble factor – difference between CPI & RPI

- Overall difference = 0.85% on average
- **<u>Very</u>** unstable over time (at least since 1997)
  - Very large "Standard Deviation" of 1.3%
  - Means we expect it to wobble about usually within the range
    - 2.2% smaller than RPI
    - 0.5% bigger than RPI
  - being plus or minus one Standard Deviation of the average

- **Note** – if you use CPI data backfilled to 1989
  - the average difference drops from 0.85% to 0.7%
  - but the SD **increases** to 1.5%

Inflation
To summarise



- Overall difference on average -0.85% …
- But volatile
  - The part of the difference due to method is stable (at 0.5%)
  - Housing accounts for most of the rest (at 0.4%)
  - Although other factors can be significant in any given month

- Or using backfilled data to 1989
  - Overall difference on average -0.7% but volatile
  - The part of the difference due to method is stable (at 0.5%)

Inflation - housing

"As we have discussed, over the longer term I would welcome your views on how we might accelerate the process of including housing costs in the CPI inflation target."

Letter from the Chancellor to the Governor of Bank of England Governor on 18 May 2010

Inflation - market view

- Actuaries don’t use immediate rates of inflation in their sums
- They use the long-term rate implied from traded instruments
- There is no traded CPI-linked instrument
- Even if the DMO starts issuing CPI linkers – deep & liquid?

- Footnote – demand for RPI linkers
  - ILG market c.1/5th the Fixed Gilt market
  - Argument made that yields distorted by inadequate supply
  - *“Overstates inflation by up to 0.3%”*

Inflation
Adjusting for CPI

The ultra-aggressive approach	Rate
Long term RPI inflation based on spot rates	X%
Less 0.3% for supply / demand distortion	X-0.3%
Less 0.85% for average CPI difference	X-1.15%

The more cautious approach	Rate
Long term RPI inflation based on spot rates	X%
Ignore supply / demand distortion	X%
Less 0.5% for average CPI difference due to “Technical Differences” ignoring housing etc	X-0.5%

Inflation
Translating this into assumptions

Impact of floors and caps on CPI and RPI

In all cases taking a floor of 0%
Taking CPI as RPI less 0.5%

RPI	2.50%	2.75%	3.00%	3.25%	3.50%	3.75%	4.00%
CPI	2.00%	2.25%	2.50%	2.75%	3.00%	3.25%	3.50%

Using Black Scholes with 2% volatility:

Min (RPI, 5%)	2.49%	2.68%	2.88%	3.06%	3.25%	3.42%	3.59%
Min (CPI, 5%)	2.10%	2.30%	2.49%	2.68%	2.88%	3.06%	3.25%
Difference	**0.39%**	**0.38%**	**0.39%**	**0.38%**	**0.37%**	**0.36%**	**0.34%**

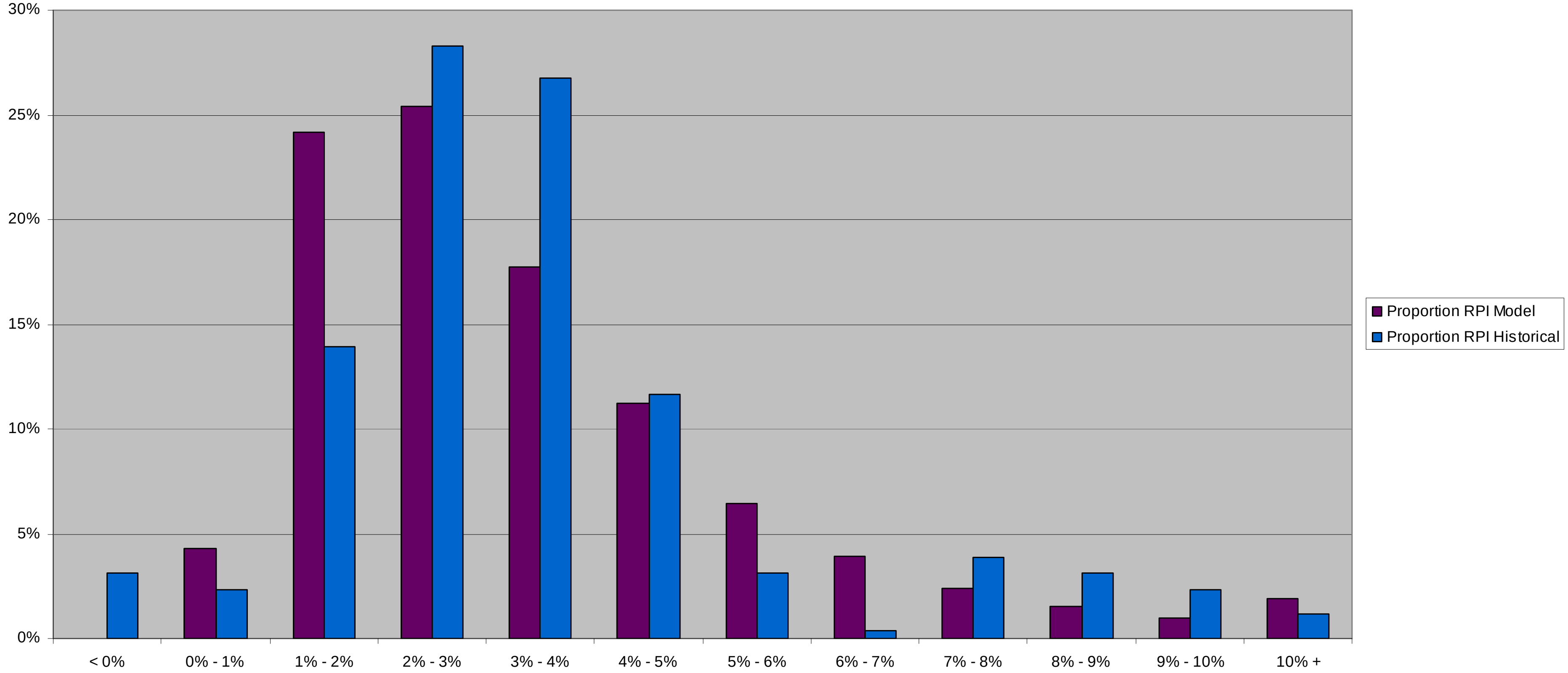
But what if you are caught with "best of"

- Look at RPI and CPI data (backfilled to 1989)
  - Gives μ and σ values for RPI
  - And μ and σ values for CPI
  - And finally, gives you the linking correlation parameters between pairs
- Generate 60,000 RPI values (lognormal distribution[1])
- Generate 60,000 linked CPIs (on a bivariate lognormal distribution[2])
- So each CPI / RPI pair is linked

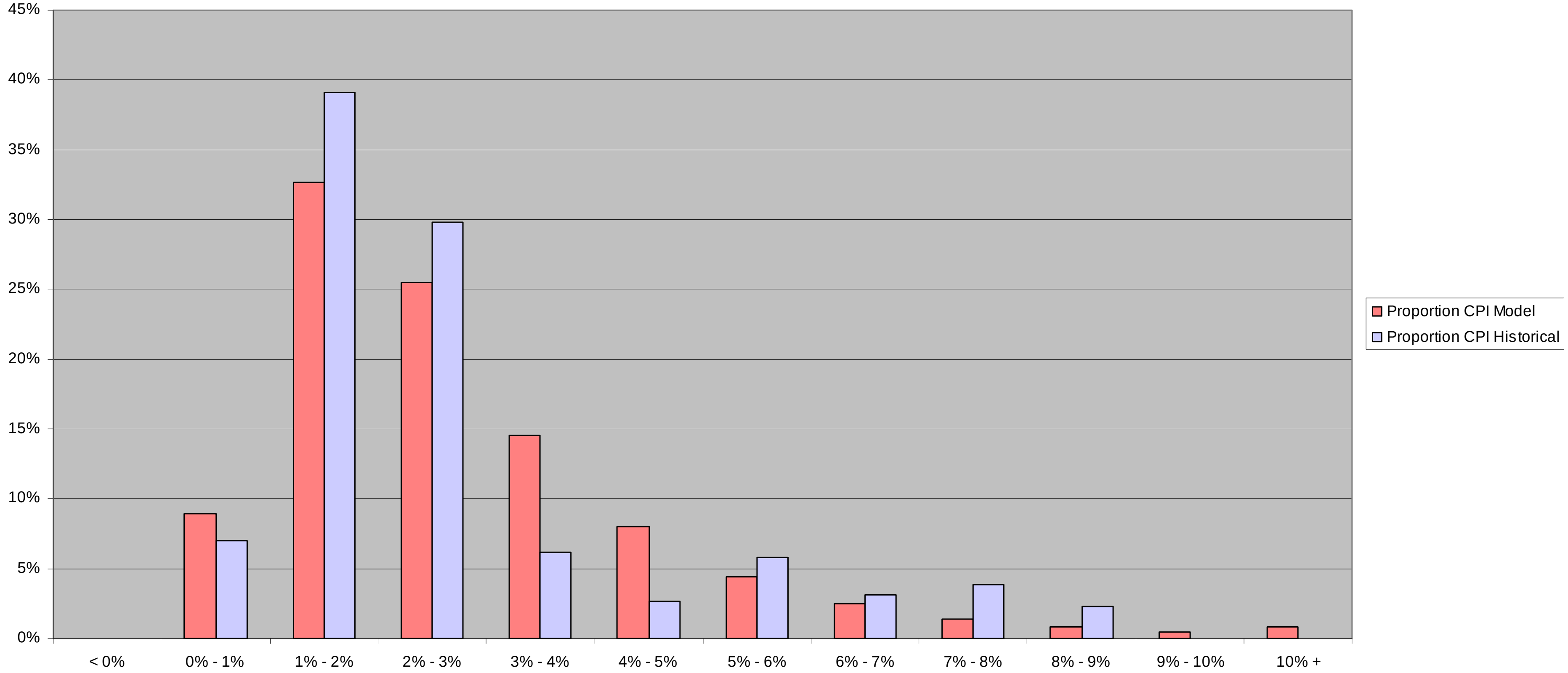
1 Lognormal not a bad fit and we understand is "industry standard"

2 Other distributions are available!

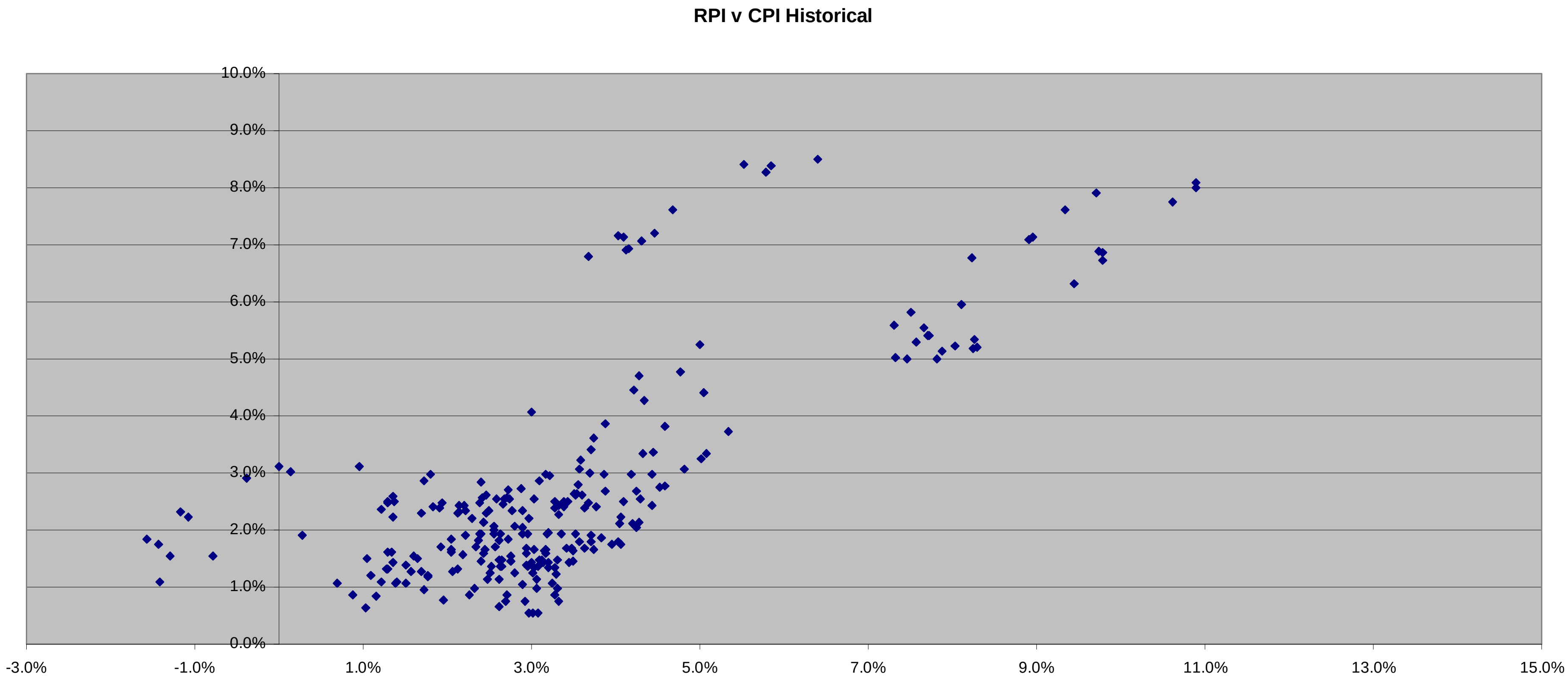
RPI
Historical data (since 1989) versus our (lognormal) model



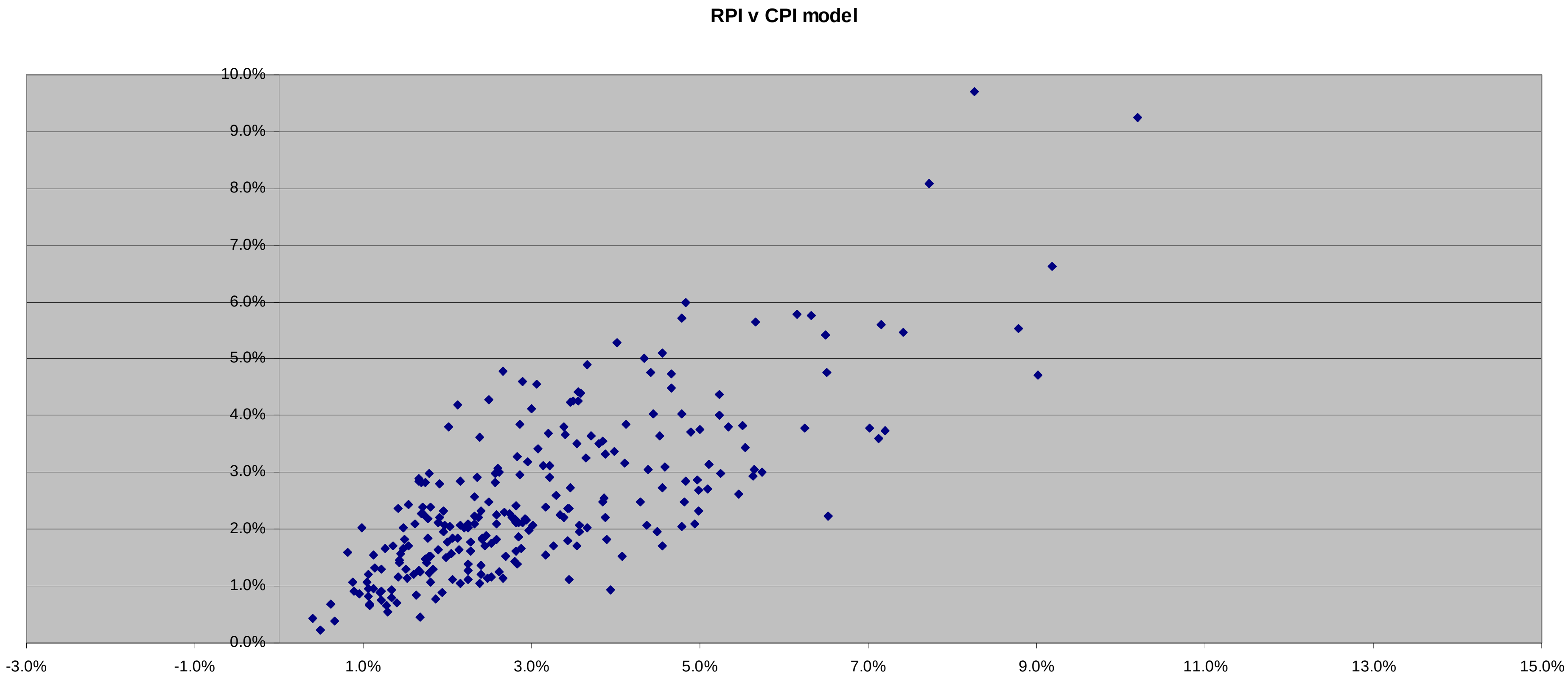
CPI
Historical data versus our model



RPI v CPI
Historical data



RPI v CPI
Our model



But what if you are caught with "best of"

Increase measure	Value
Average RPI	3.4%
Average CPI	2.7%
RPI with max 5% min 0%	3.0% (being classic "LPI")
CPI with max 5% min 0%	2.6% (being "new" LPI)
Better of RPI and CPI with max 5% min 0%	3.2% (being your new "stat min")

So this adds around 0.2% pa to the long term assumption for LPI pension increases

This is a direct consequence of the high volatility (σ) of the difference between CPI & RPI – the large wobble factor

But what if you are caught with “best of”

- So, we estimate 0.2% pa long term average extra benefit / cost if you get caught in this trap…

- However, it remains to be seen what insurers would do:
  - There are currently no assets to match
  - The cost of such a guarantee could be prohibitive
  - c.f. difficulties securing s21 orders

CPI – other horrors

- Once the RPI indices are published, they are **never** revised
- The CPI, on the other hand, is a revisable index
- In January 2006 index, the whole of the CPI, including back data, was re-referenced
- Around one-third of the monthly and annual rates of change were revised as a consequence
- A potential nightmare!

CPI – transfer embargo?

A spokesman for the DfE said: "We were obliged to instruct the scheme administrator of Teachers' Pensions to temporarily suspend CETV activity outside of the public service pensions network. The suspension will remain in place until the CPI issues have been worked through.

"Only when that work is completed will the department be in a position to recommence CETV calculations. We are crunching the numbers at the moment but don't have a timescale for when it will be done – sooner rather than later, hopefully.“

Mark King

guardian.co.uk

4 August 2010

Inflation – summary
The last inflation slide!

Step 1	Calculate long-term, market-implied RPI (adjusting for demand contsraints in linkers?)
Step 2	Derive consistent CPI (making an adjustment based on historical differences; techncial, housing, etc)
Step 3	Select a model for setting an LPI assumption (usually Black Scoles)
Conclusion A	The difference in LPI will be smaller than the difference in assumed inflation. If CPI is assumed 0.7% smaller than RPI… the effect on the increase assumption may only be 0.4%
Conclusion B	If you are caught by a underpin effect the effect on the inc assumption could be worth 0.2% pa

Other bits and pieces

- Beckmann
  - Early retirement on redundancy is “old age benefit”
  - (Condition was over 50 with five years’ service)
  - TUPE transfer occurs
  - MPA rises to 55
  - But the TUPE’d right may still relate to age 50…

Other bits and pieces

- BAS
  - Now a fact of life
  - 23 pages to define framework (in principle)
  - 13 more pages to define scope and authority
  - 156 separate principles[1]

[1] Estimate based on statistical analysis only

Other bits and pieces

- Solvency II
  - European consultation
  - Towards adequate, sustainable and safe European pension systems
    - Member States have also taken different approaches to protecting acquired pension rights. The Commission conducted a consultation … During this process, stakeholders signalled that there needs to be a *sui generis* solvency regime for pension funds and that it is important to avoid pro-cyclical solvency rules. **The Solvency II approach could be a good starting point**, subject to adjustments to take account of the nature and duration of the pension promise, where appropriate. The suitability of Solvency II for pension funds needs to be considered in a rigorous impact assessment, examining notably the influence on price and availability of pension products.

Other bits and pieces

Abolition of DC Contracting Out (from April 2012)

Members won’t be able to transfer Protected Rights into a DC scheme

- Also abolishes portability, in effect
- And therefore ETV exercises
  - But who’s going to run an ETV now while inflation unclear?
- Although divorce not affected
- Income drawdown market?
- A cunning method of saving government cash?
  - The COD calculated by NISPI and deducted from the Additional State Pension works differently for GMP and Protected Rights

GMP equalisation
The Elephant in the room

GMP equalisation – Statement, 28th January 2010
The Minister for Pensions and the Ageing Society

The examination of the relevant legislation and case law has led the Government to conclude that where a scheme member has accrued entitlement to a guaranteed minimum pension after May 1990, European law requires that any inequality in scheme rules which results from the legislative provisions governing GMPs should be removed, whether or not a person can show that a comparator exists.

The Government intend to bring forward amending legislation when Parliamentary time allows. However, in the meantime, it is the Government's opinion that, in order to ensure full compliance with European law, trustees and others should act as if existing domestic legislation requires equalisation in respect of differences resulting from GMPs whether or not real comparators exist.

GMP Equalisation
The PPF's position

Pension
Protection
Fund

The response to the April 2008 consultation on the requirement under Section 171 of the Pensions Act 2004 to equalise compensation to allow for differences in the GMP formula

October 2009

GMP Equalisation
The PPF’s position - scope

- Recognised there is no consensus about what, if any, action trustees are obliged to take.

- Careful to say expressly that proposals applied only to schemes entering assessment.

- But that it would relate to payments both pre and post Assessment.

“Board’s clear view that trustees of schemes that have entered an assessment period can no longer do nothing”

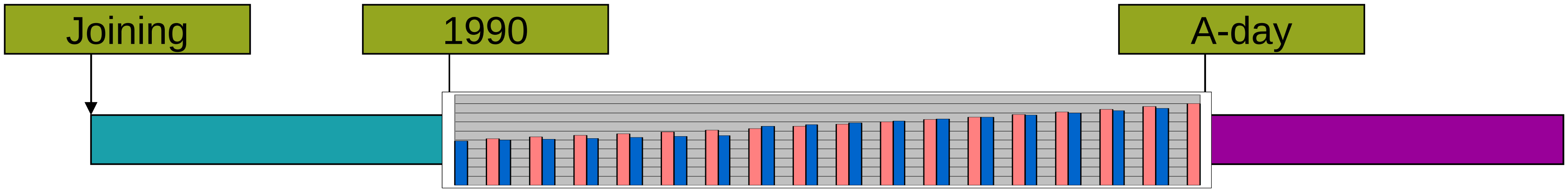
(April 2008)

PPF - 4 ways to equalise

1. On retirement, look at total expected M / F retirement income
2. Do the comparison year on year
3. As 2, but separately for GMP and XS
4. Incorporate SERPS payments

PPF – ACA response

- Too complex (given PPF is a broad church)
  - Small % uplift based on broad calculations
- The examples significantly understate the true complexity
  - (Sex-differentiated) early / late retirement
  - (Sex-differentiated) commutation factors
  - Backwards comparison made for each year between 1990 and Assessment



PPF - 4 ways to equalise

1. Rejected – “equalisation of employment benefits is not on a lifetime approach”
2. Do the comparison year on year (“partial application”)
3. Rejected – absurd
4. Rejected – Barber doesn’t relate to Social Security

PPF – sting in the tail?

2.13.3 In some cases, equalisation can make a significant difference. A good example would be a male deferred pensioner aged 60 at the assessment date with a Normal Pension Age of 65. The reason that this sort of member might be more significantly affected is due to both:

- the larger proportion of the relevant pension that relates to the GMP (due to the higher rate of accrual of GMP for females compared to males); and
- the advice received from Counsel that the GMP should be considered as a separate tranche of pension payable from the female's earlier State Pension Age.

For this example the member would be entitled to receive the GMP tranche paid unreduced from the assessment date since the member was over normal pension age for this tranche.

PPF – subsequent developments

- PPF Workshop 26 November 2009
  - Recognition that pensioner data will be an issue…
  - …but the intention is that method should use readily available data
  - Some examples were discussed
- Draft guidance due 18 March 2010, now June 2010…

Wind-ups: in practice

- OK for deferreds
- Major data issues for pensioners
  - We might have pension at DOR
  - But seldom at DOL
  - And all the issues about reconstructing M/F cash com or e/r terms mentioned previously

Wind-ups: impact

- 3.1% on the liabilities of those affected
- 2.4% on the total liabilities
  - Although some members get very much more
- Plus backpayments