The Actuarial Profession making financial sense of the future

Pensions, benefits and social security colloquium 2011 Steven Baxter, Club Vita LLP

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Challenges of Longevity

Health, Diversity and Divergence

25-27 September 2011

A global success...

The website clip used at the conference can be found at Gapminder (http://www.gapminder.org/).

The clip highlighted the substantial progress that has been made in increasing life expectancy from birth across the world. Starting in early 1800s most nations had life expectancy from birth at around 25-35 years with a few countries having life expectancy close to 40. In many countries individuals lived into their 70s (just look at UK graveyards), but high infant mortality and premature death from infectious diseases kept life expectancy low.

During the first half of the 18th century GDP per capita markedly increased in many parts of the 'western world' - a product of increasing populations and the benefits continuing to be reaped by the industrial revolution.

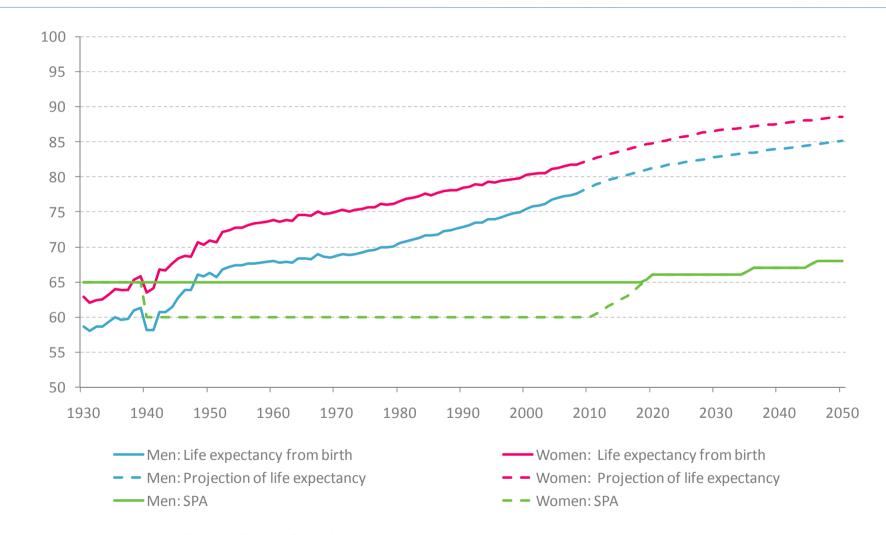
In the late 19th Century we see the demographic transition take place in the 'western world' as we are able to routinely combat infectious diseases.

As we enter the mid 20th Century we see life expectancy from birth in the western world reach over 65, and further success in increasing life expectancy comes from the CHD revolution – through behaviours and medical intervention.

At the same time the sub-saharan African countries see life expectancy rise, but continues to lag a long way behind the developed countries in Western and Northern Europe, North America and central Asia. This is due to ongoing problems with infectious diseases, famine, conflict and AIDs.

We see a clear regional /cultural clustering of longevity, and a clear correlation between affluence (GDP per capita) and longevity.

...but also a challenge



Source: Living longer and prospering? Harper, Howse & Baxter (2011)

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3 key challenges

- Health
- Diversity
- Divergence

Health matters

Men

2006	10.0		2.8	4.	3	
2005	10.1		2.7		4.1	
2004	9.9		2.6		4.1	
2003	9.4		2.9 4			
2002	9.1		2.9 4.			
2001	8.8	3	3.1 4.1			
2000						
1999	8.8	2	.7	3.9		
1998						
1997	8.3	3.	4	3.3		
1996						
1995	8.3	3.0) 3	3.4		
1994	8.3	2.7	3.	.5		
1993	8.0	2.9	3.	4		
1992	7.9	2.9	3.4	4		
1991	7.9	2.9	3.3	3		
1990	8.0	2.9	3.1			
1989	7.9	2.9	3.1			
1988	7.5	3.0	3.3			
1987	7.2	3.1	3.3			
1986	7.3	3.0	3.2			
1985	7.5	2.7	3.1			
1984	7.4	2.6	3.2			
1983	7.3	2.7	3.2			
1982	7.5	2.5	3.1			
1981	7.6	2.4	3.0			
(0 5	1(C	1:	5	

Women

	-				
2006	10.6	3.9	5.	4	
2005	10.7	3.	9 5.2	5.2	
2004	10.7	3.	5.0)	
2003	10.5	3.8	5.0		
2002	10.3	3.8	5.0		
2001	10.3	3.8	3.8 5.0		
2000					
1999	9.8	3.3	5.6		
1998					
1997	9.3	3.8	5.3		
1996					
1995	9.4	3.5	5.3		
1994	9.4	3.4	5.2		
1993	9.4	3.6	5.0		
1992	9.4	3.6	4.9		
1991	9.3	3.7	4.9		
1990	9.2	3.5	5.1		
1989	8.9	3.6	5.3		
1988	8.6	3.6	5.4		
1987	8.3	3.9	5.3		
1986	8.5	3.7	5.2		
1985	8.8	3.3	5.2		
1984	8.8	3.2	5.2		
1983	8.6	3.4	5.2		
1982	8.5	3.4	5.1		
1981	8.5	3.4	5.0		
	0 5	10	15		

Healthy life expectancy has not increased as much as life expectancy

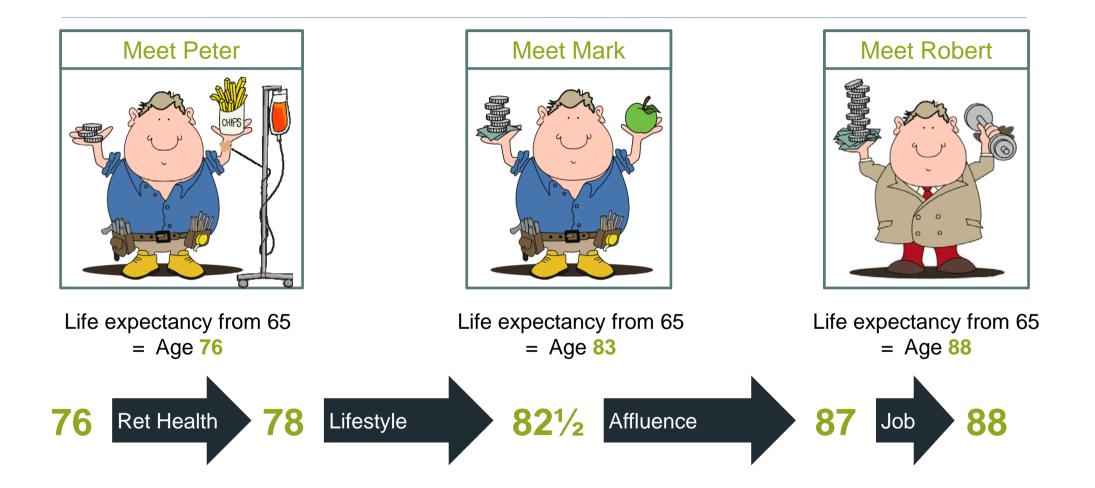
Disability free life expectancy

- Extra years healthy but not disability free
- Remaining years

- Disability free life expectancy
 Extra years healthy but not disability free
 Remaining years
- Source: Living longer and prospering? Harper, Howse & Baxter (2011)

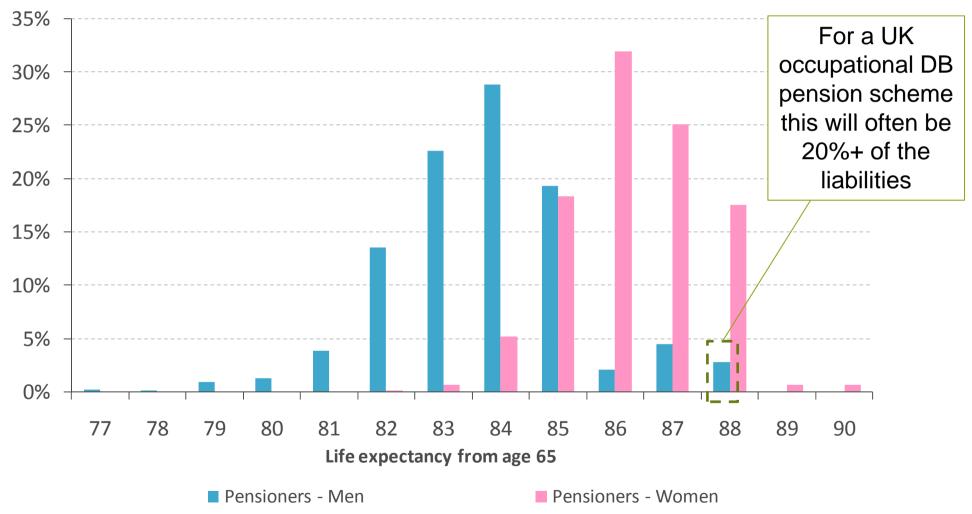
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Diversity in longevity



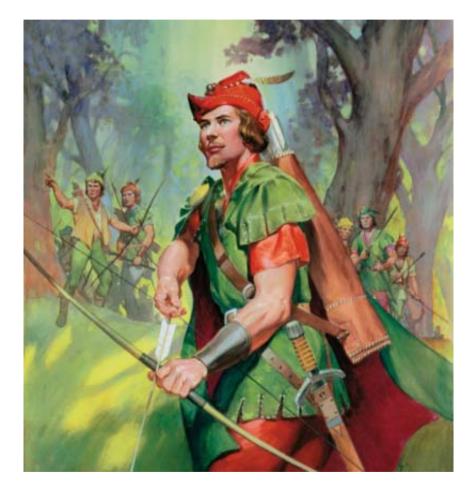
Source: Club Vita analysis of data from occupational pension scheme - see www. Clubvita.co.uk

Ensuring adequate reserves





Social security – fair design?



Bismarckian Social insurance? Or taking from the poor to give to the rich?

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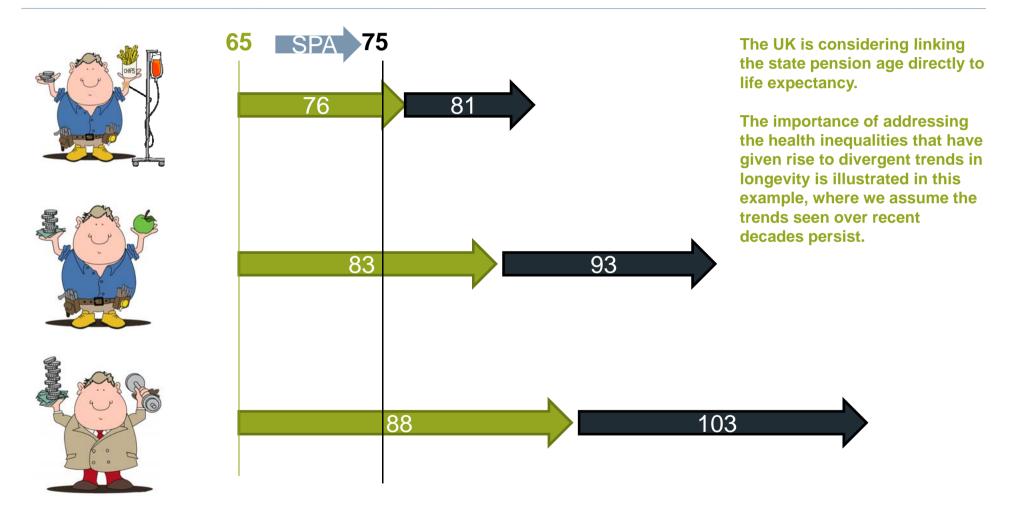
Suppose that we apply the same changes in state pension age to both Peter and Robert. Those who rely most on the safety, namely the poorer parts of society, will be disproportionately impacted. As a society is this something we are comfortable with?

Divergence or convergence?



Source: Living longer and prospering? Harper, Howse & Baxter (2011); Based on analysis of data from UK Office of National Statistics

What happens if the gap continues to grow...



Source: Green bars ased on analysis of data from Club Vita (<u>www.clubvita.co.uk</u>) and represent period life expectancies from age 65 in 2008. Black bars illustrate a hypothetical scenario if life expectancies continue to diverge between the higher and lower socio-economic classes in the UK.

And a challenge to the wider pension system...



- Appropriate funding
- De-risking

Defined Contribution



- Personal pension planning
- Adequacy of DC

3 key challenges

- Diversity
- Health
- Divergence

"Beware of Averages" "Health matters" "Mind the gap"

Want to know more?

Further information on the challenges raised in this presentation, and ways social security systems can respond are available in the paper "Living Longer and Prospering: Designing an adequate, sustainable and equitable UK state pension system."

The paper is available by contacting Steven at steven.baxter@clubvita.co.uk Living longer and prospering? Designing an adequate, sustainable and equitable UK state pension system Sarah Harper Kenneth Howse Steven Baxter January 2011

Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

The views expressed in this presentation are those of the presenter.