Pensions Reform and Capital Markets

A UK Perspective

Adair Turner

Capital Matters Conference

26th April, 2006

Rate of return in PAYG system

$$\frac{\text{Retirement Income}}{\text{Working Life Contributions}} = \text{Function of} \left(\frac{\text{\% of Adult Life Working}}{\text{\% Retired}} \;,\; \begin{array}{c}\text{Population}\\ \text{Growth}\end{array} \;,\; \begin{array}{c}\text{Productivity}\\ \text{Growth}\end{array} \right)$$

Rate of return in a stable PAYG scheme = Population growth rate + Productivity Growth Rate

Fishing boats, fish and a falling population

Steady State

- 1,000 population
- 500 per generation
- 500 working, 500 retired
- Workers work
    - Half time fishing
    - Half time building a boat
- Boats wear out over one working life

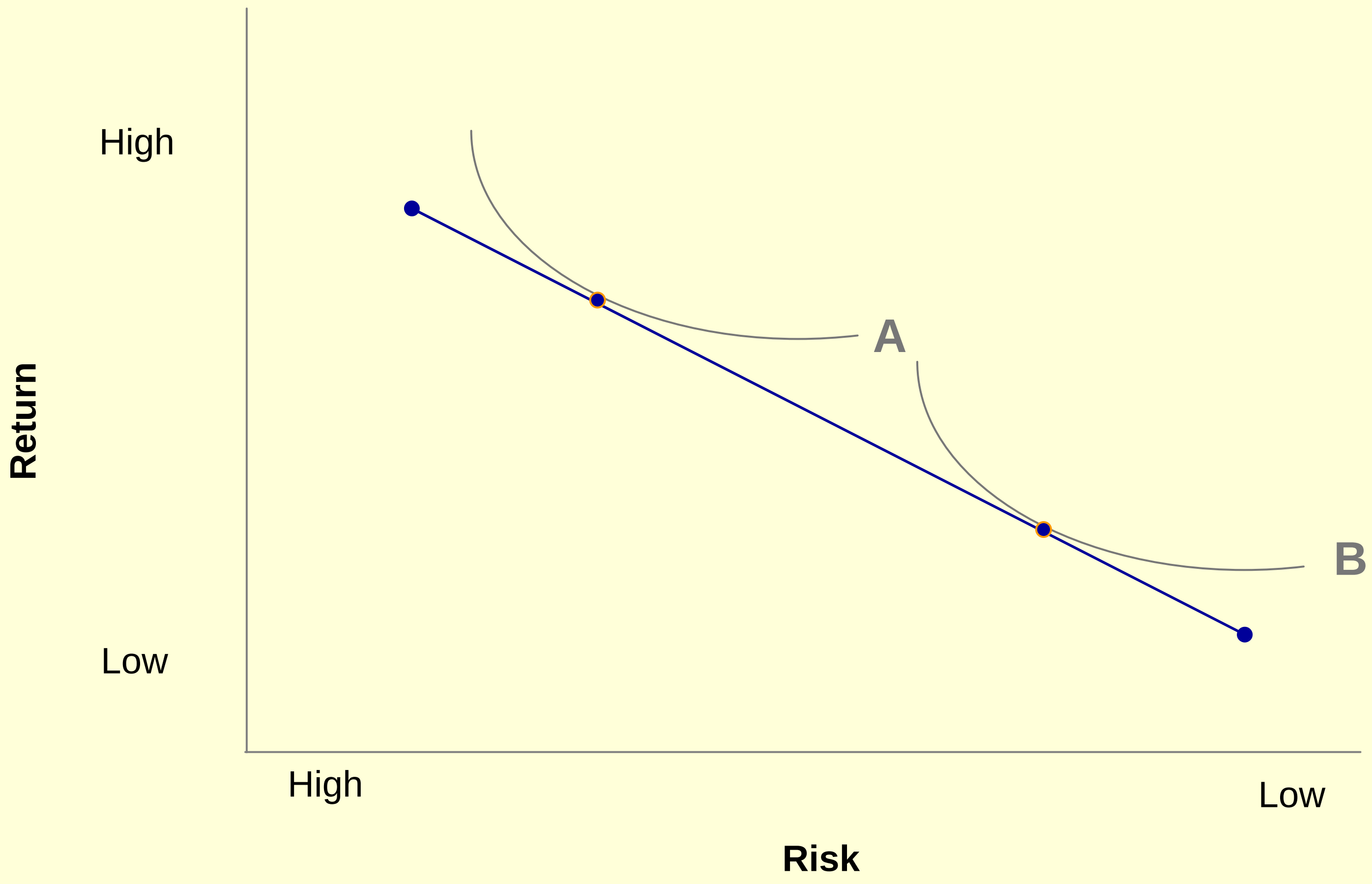
Relative price: 1 boat = ½ of catch for one working life

Demographic Change

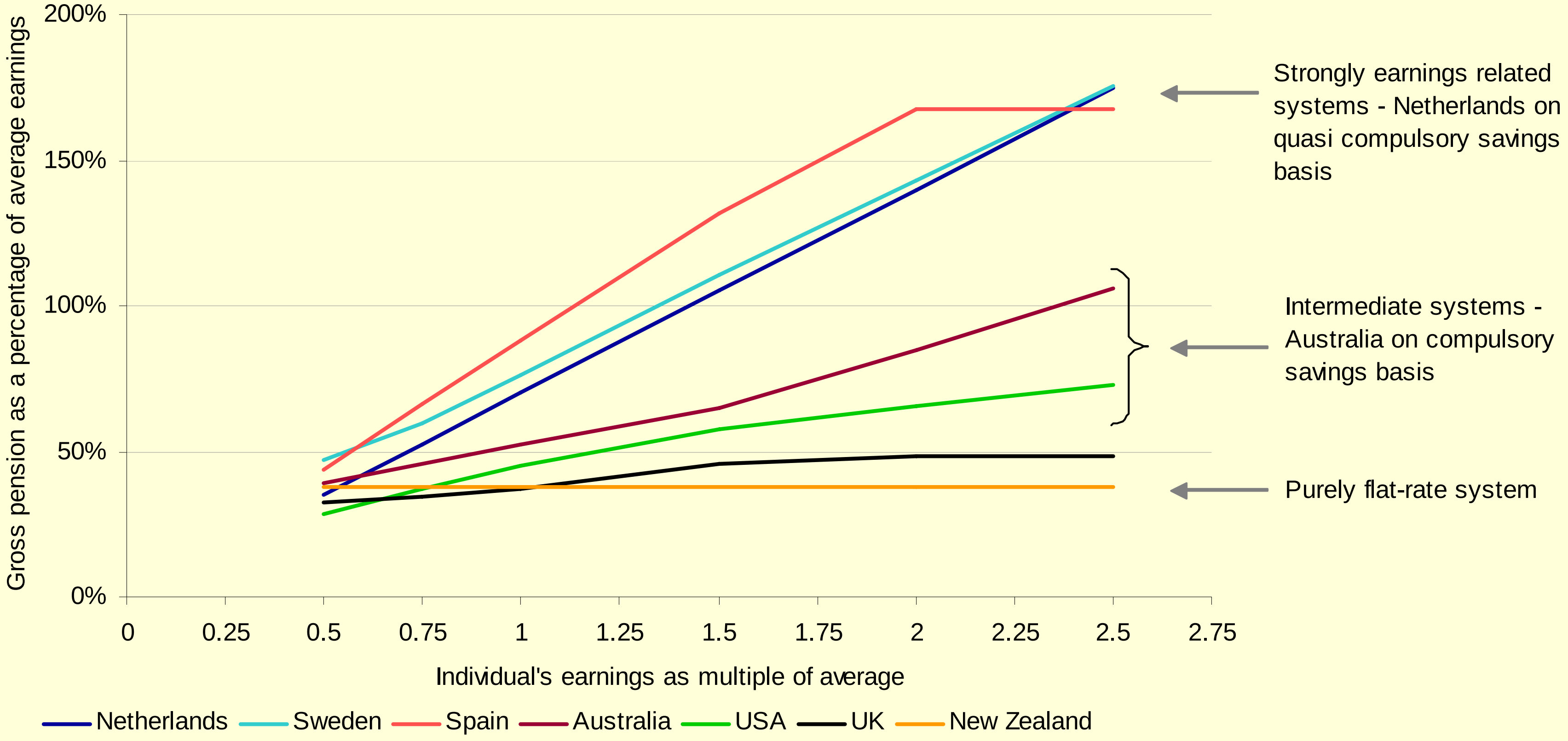
- 500 generation of retirees followed by 250 generation of workers
- Retirees would like to sell 500 boats they have built
- Workers only need to buy 250 boats

Price of boats, relative to fish, will fall

Welfare maximisation through liberating risk-return preferences

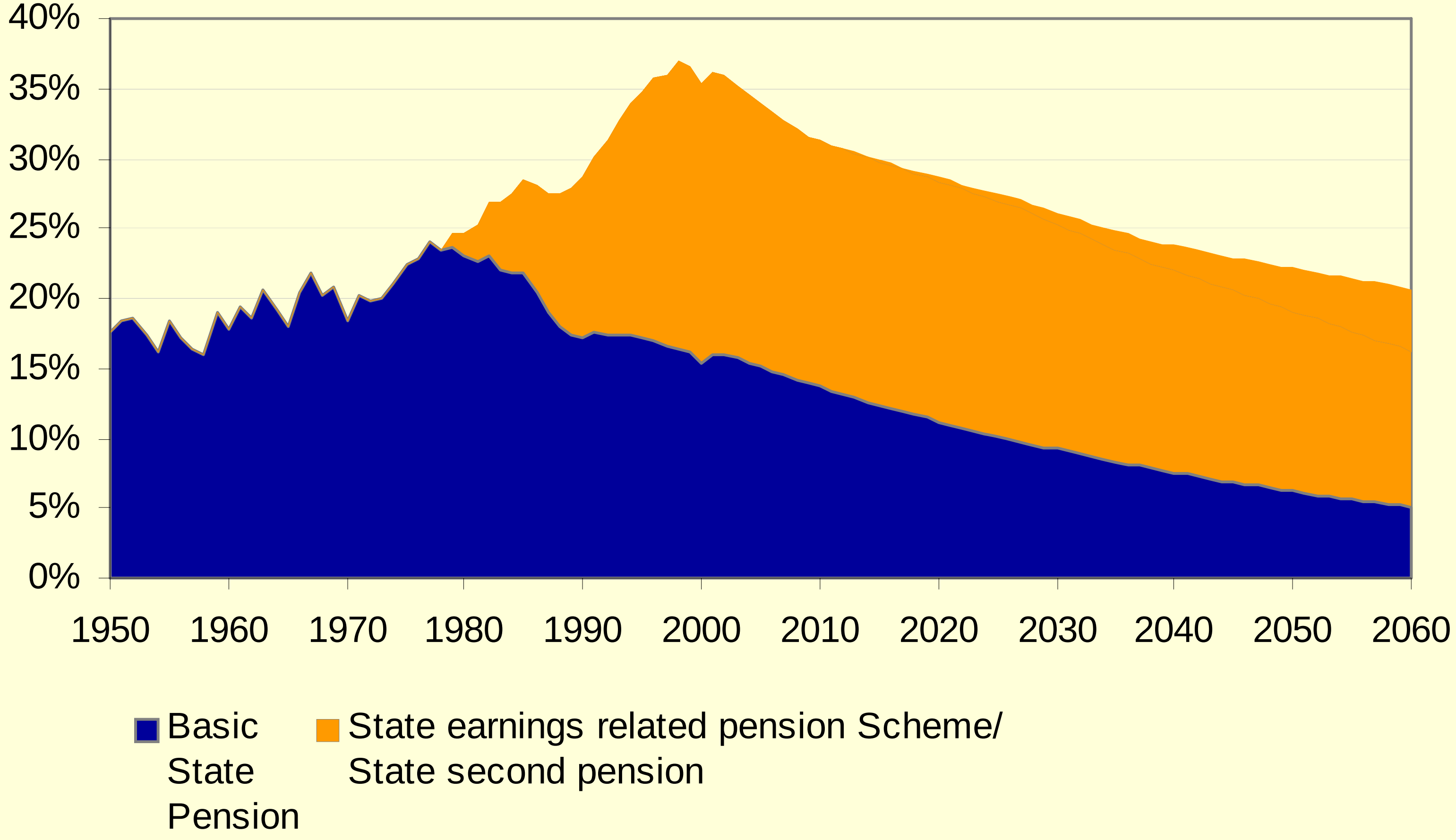


Gross mandatory pension system values



Source: *Monitoring Pension Policies, Annex: Country Chapters*

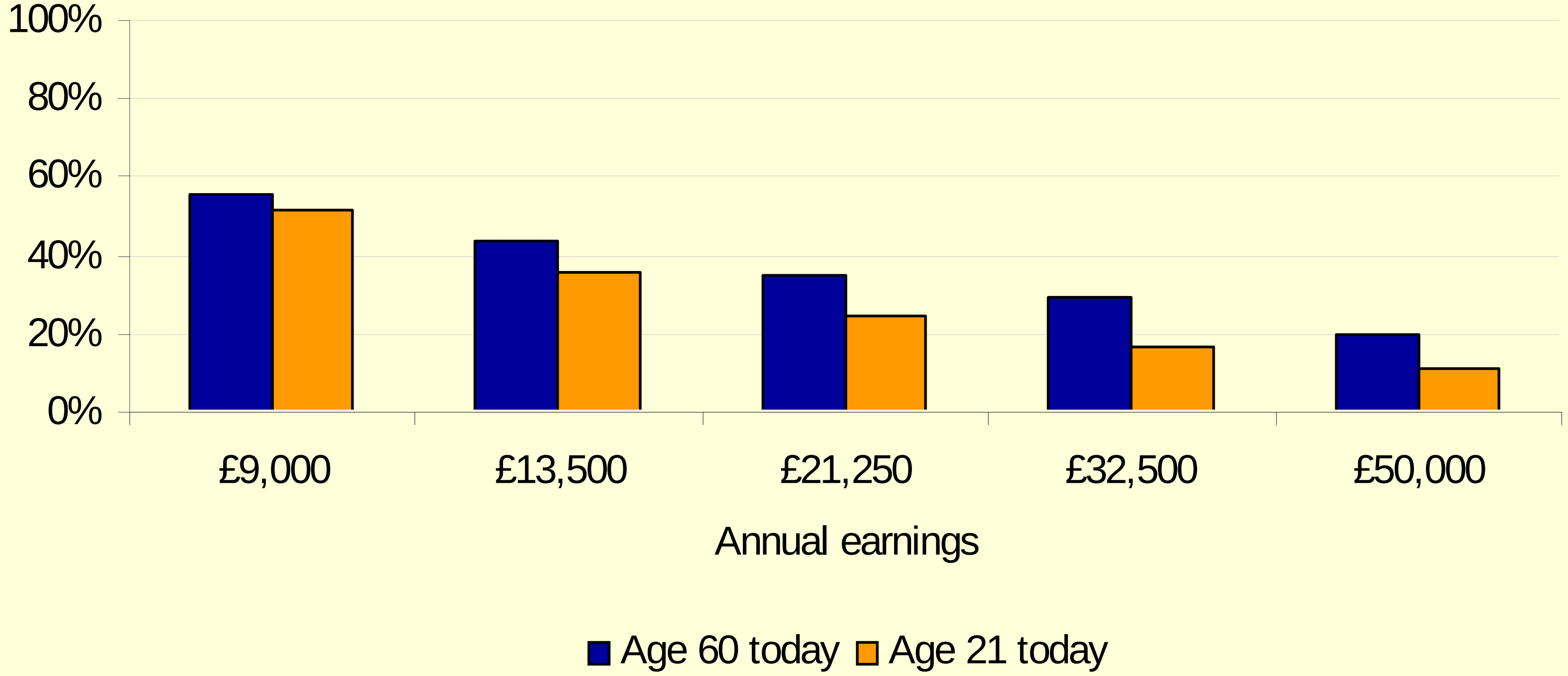
State pension at retirement of average earner as % of average earnings



Note: This shows the maximum state pension that someone could receive if they had a full contribution record
Source: *UK Government Actuary's Quinquennial Review of the National Insurance Fund as at April 2000*

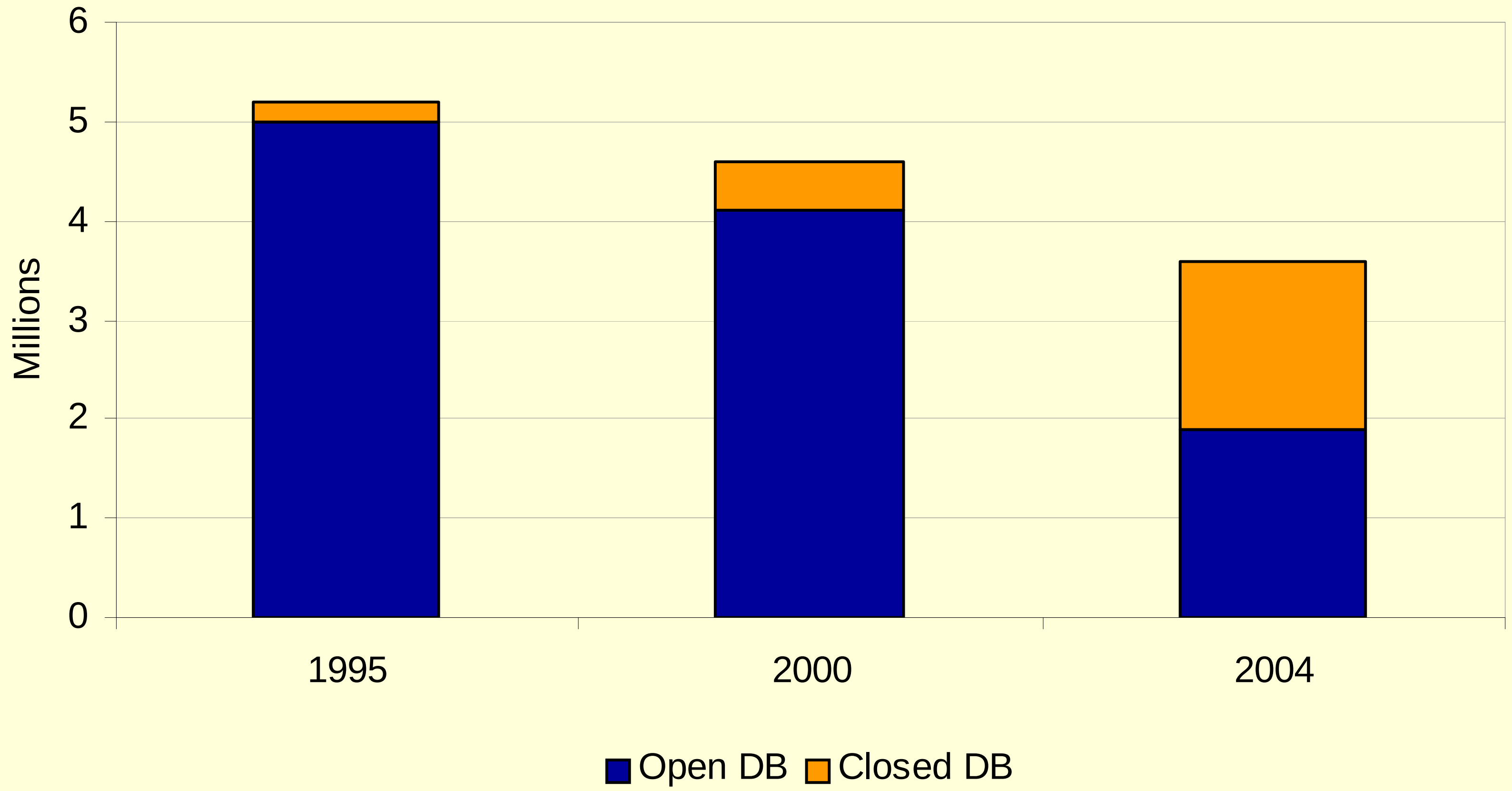
Gross replacement rate from mandatory UK system: %

Contributory Pensions only



Active members of private sector Defined Benefit pension schemes by scheme status

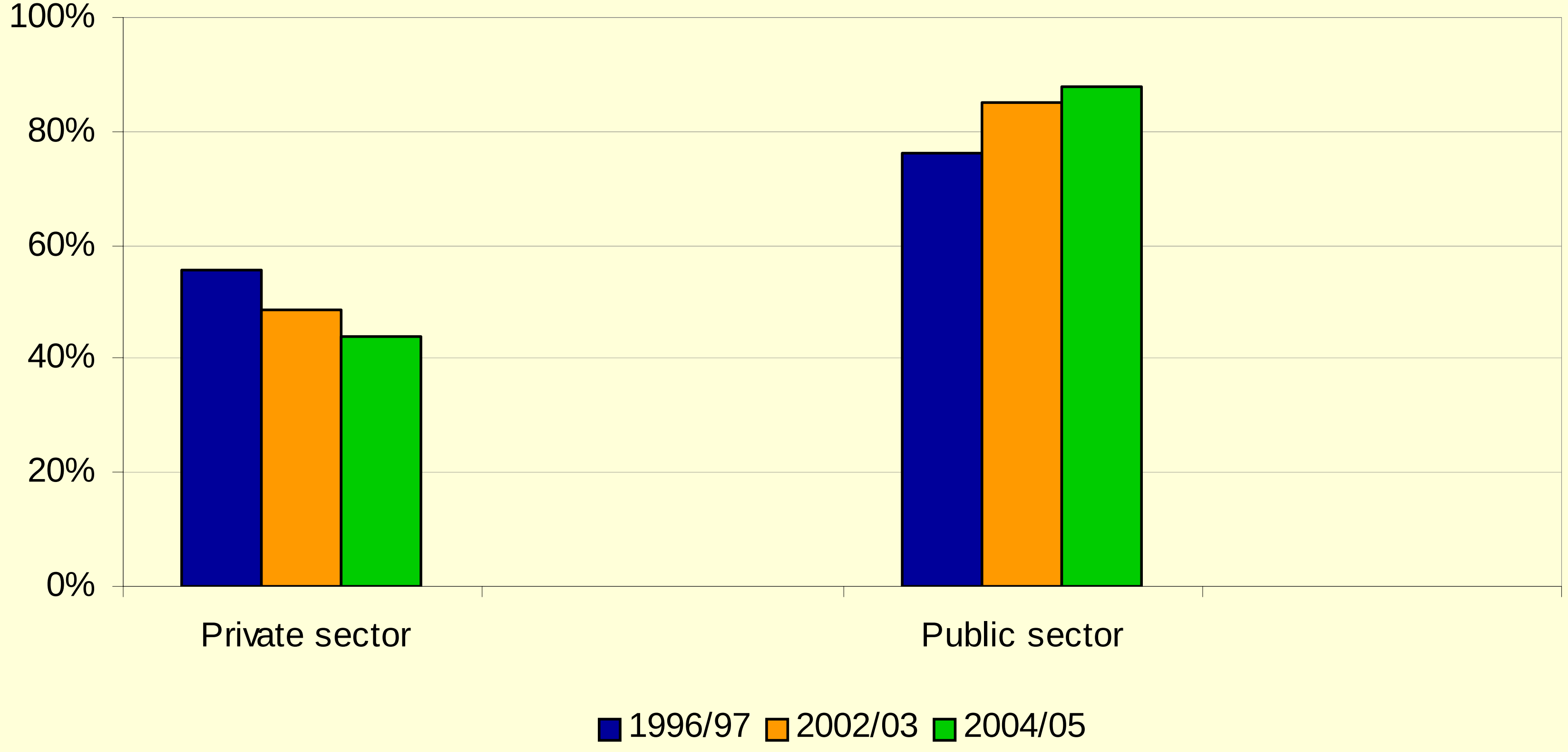
Millions



Source: *UK Government Actuary Department, 2004*

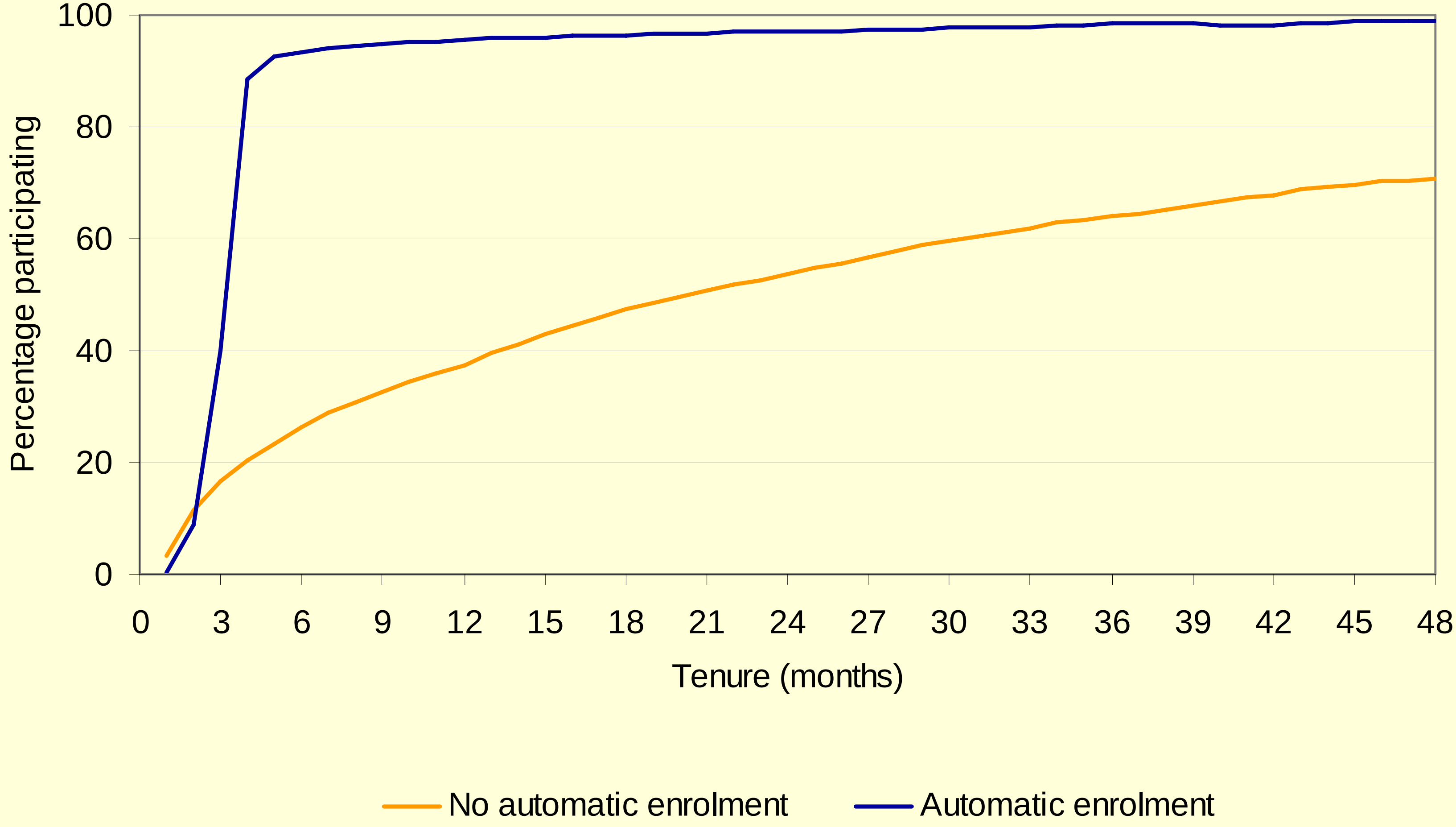
Participation in public and private sector non-state pension schemes:

% of workforce



Source: *UK Pensions Commission estimates*

Percentage of employees participating in a 401(K) pension scheme



Note: This shows the participation rate for two cohorts of employees within the same firm. The automatic enrolment cohort were employees who had to make a specific decision to opt out of the 401(k) plan, the no-automatic enrolment cohort had to make a specific decision to join the 410(k) plan.

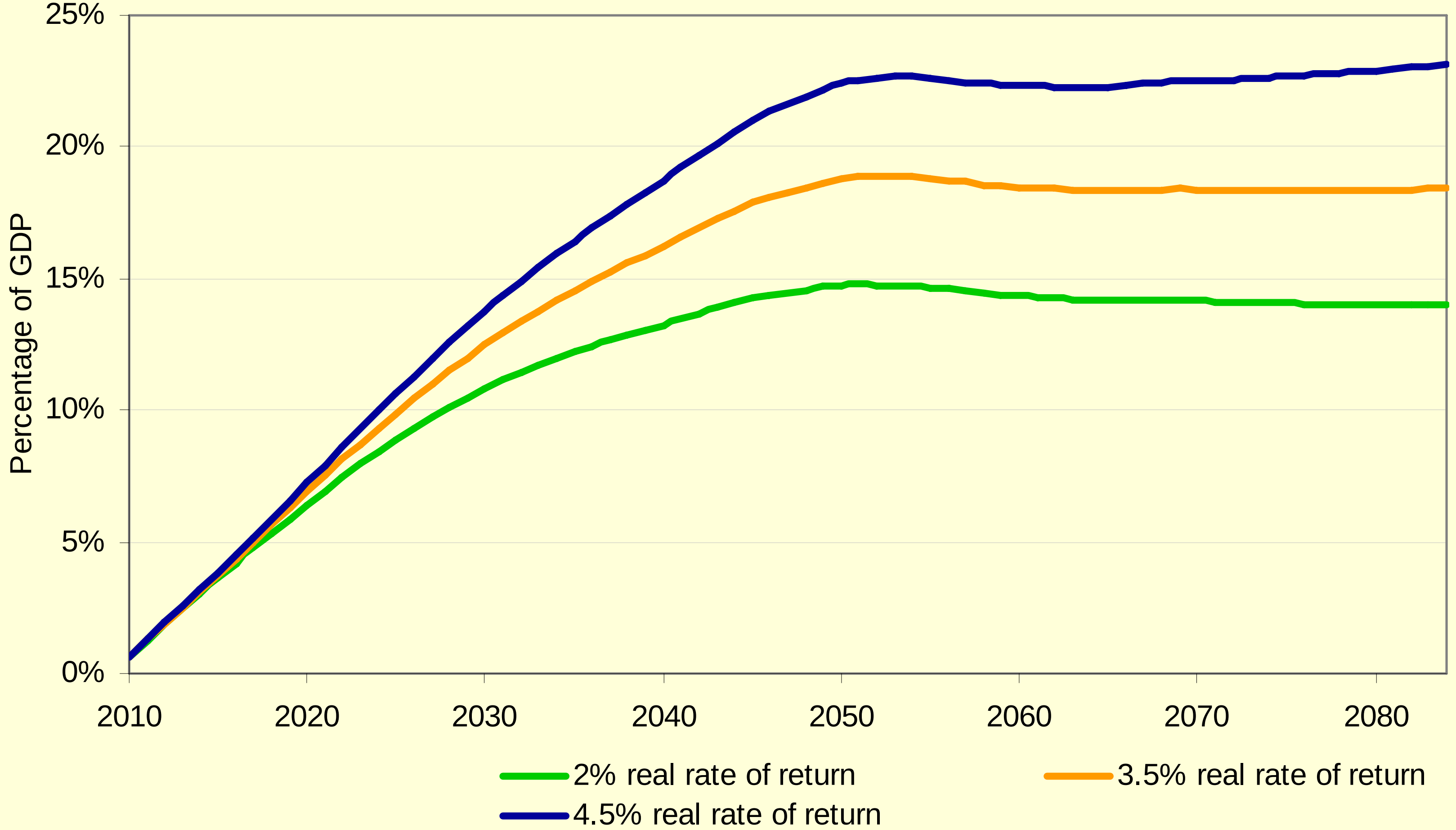
Source: *Madrian and Shea 2001*

Cost curve for pension provision

Percentage reduction in yield

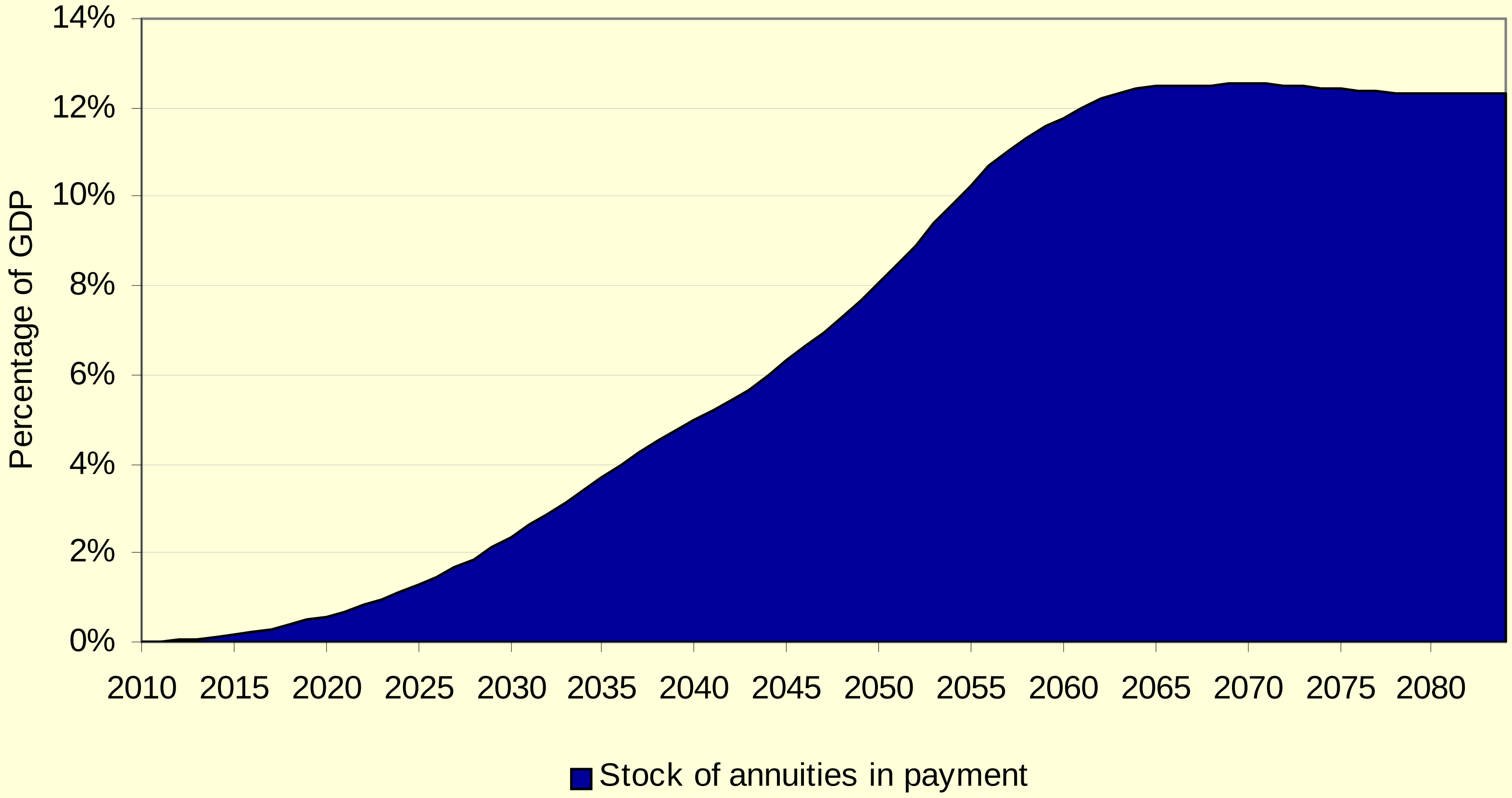
Aggregate National Pension Savings Scheme funds

Projections



Source: *UK Pensions Commission estimates*

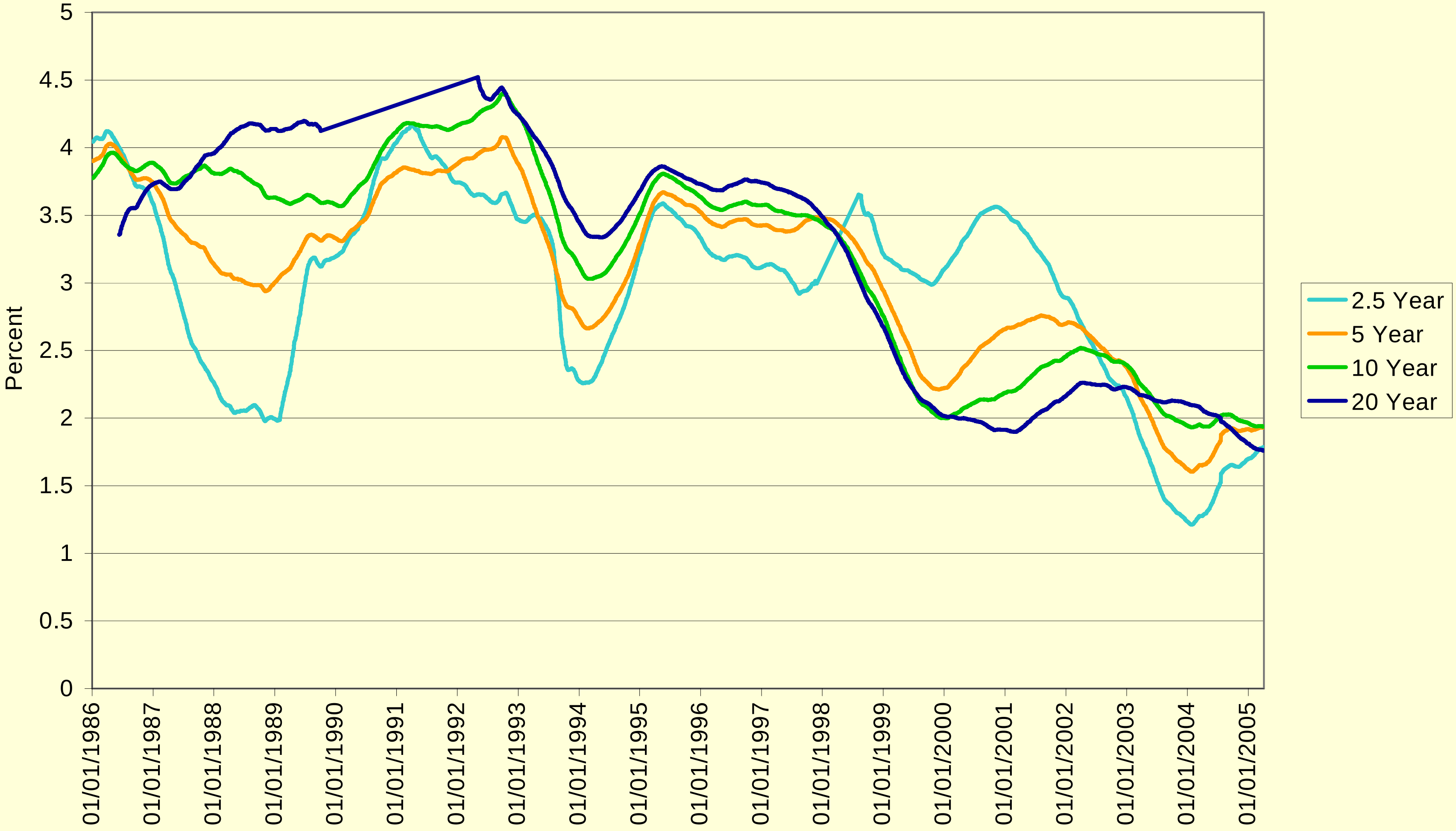
Stock of annuities arising from the NPSS



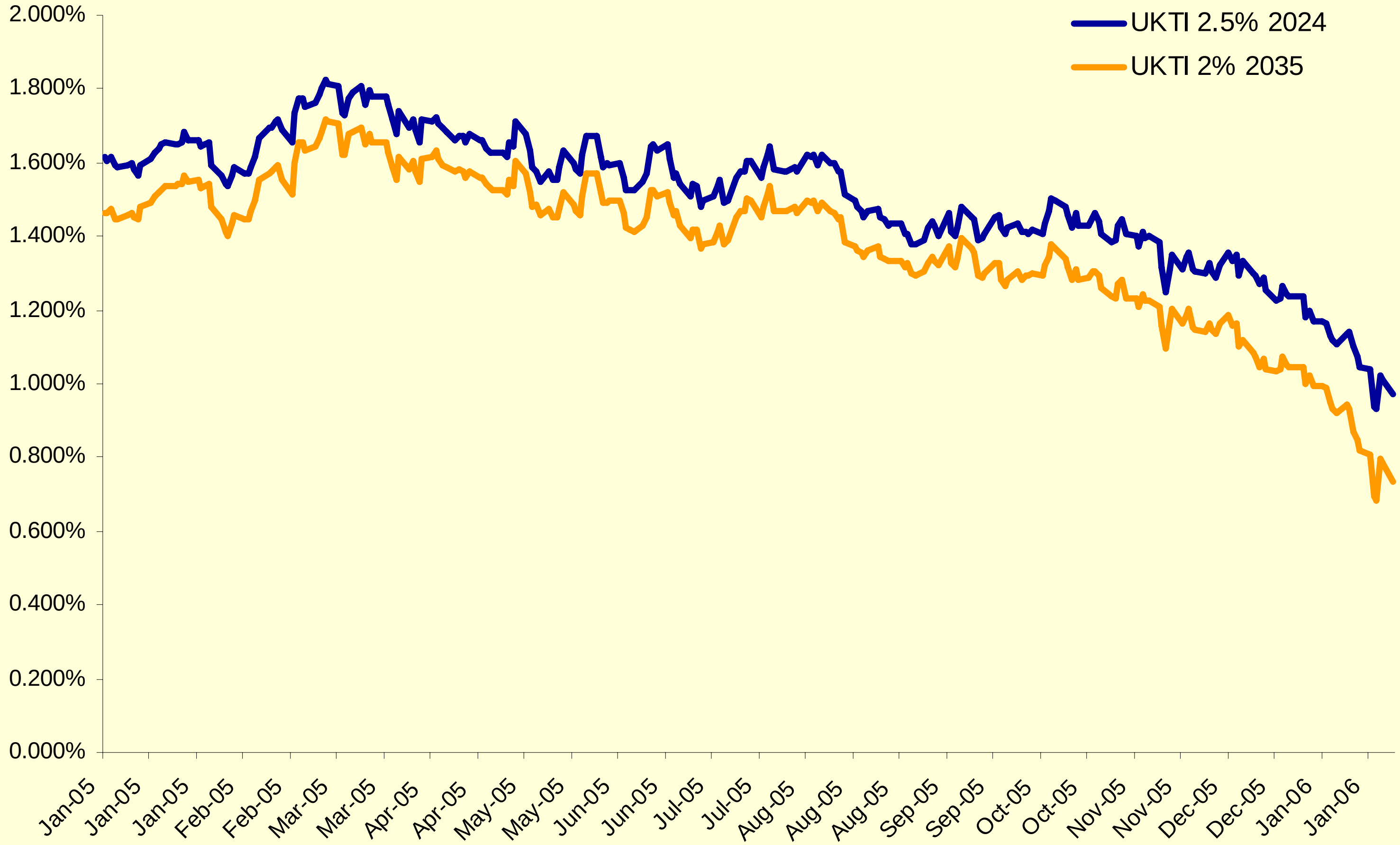
Source: *UK Pensions Commission analysis*

Real yields to maturity on UK index-linked gilts

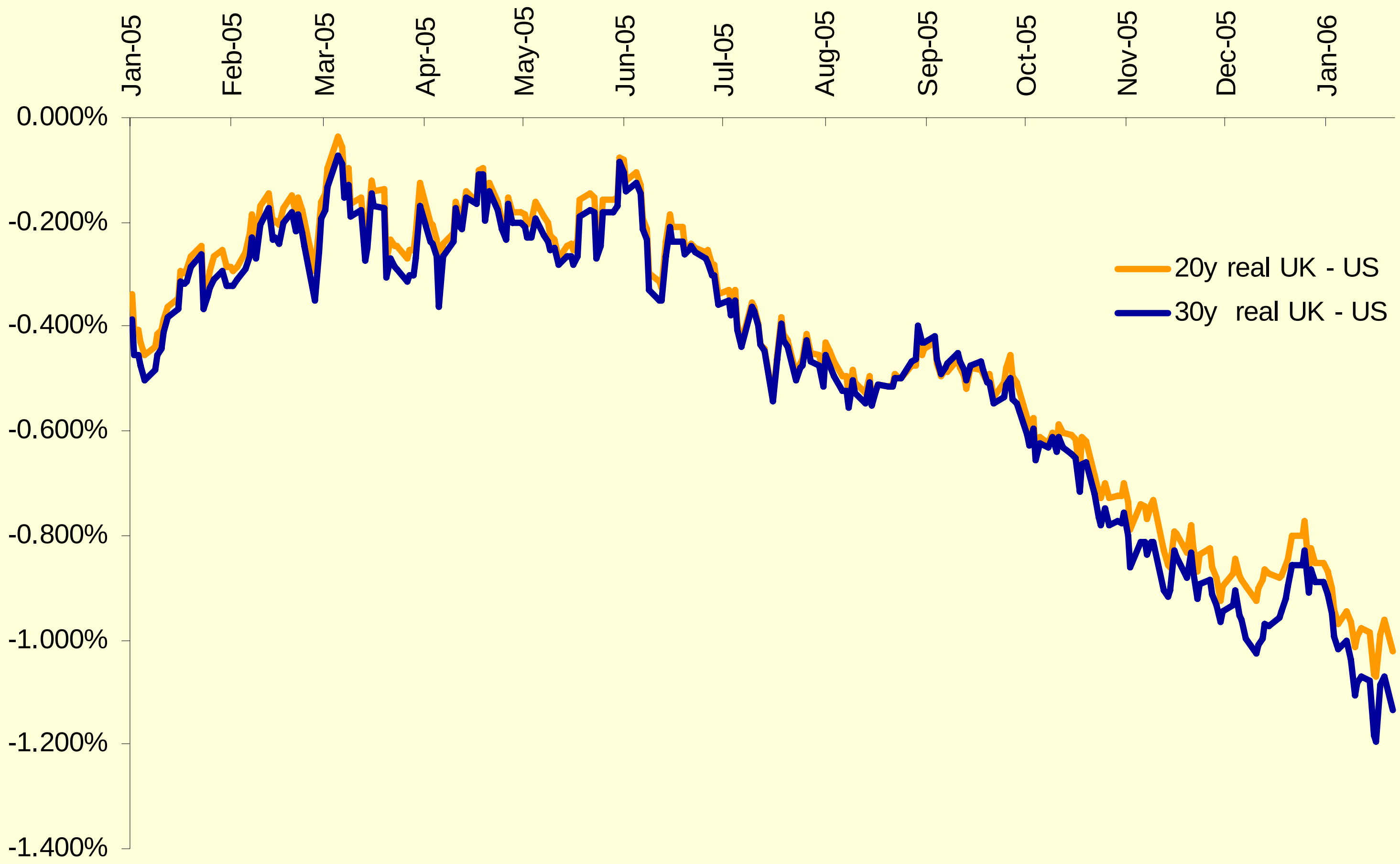
1986 – 2004



Sterling real gilt yield



UK Real Yield minus US Real Yield



Longevity risk in UK pension provision

£bn of total liabilities – broad estimates

	Pre-retirement? Still in Employment	Post-retirement? Already in Payment
Insurance Companies	10?	70?
Pension Funds	400?	400?
Unfunded Public Employee Pensions	260	190
State Pensions		
▪ Basic	490	380
▪ Earnings-related	170	90
Total	**1330**	**1130**

Risks in pension provision: Who will/should bear them?

	Government	Corporations	Insurance Companies	Individuals
Longevity risk Pre-retirement	○	○	◔	●
Longevity risk Post-retirement	◑ Up to a basic level	○	◑	○
Investment return risk Pre-retirement	◑ • Low risk/low return • Up to a basic level	◔	○	◕