The Actuarial Profession
making financial sense of the future

Investment Debate
Ian Maybury

# Are we bound by bonds? Is there opportunity in equity

14th April 2011

# Defined Benefit (DB) Pensions R.I.P

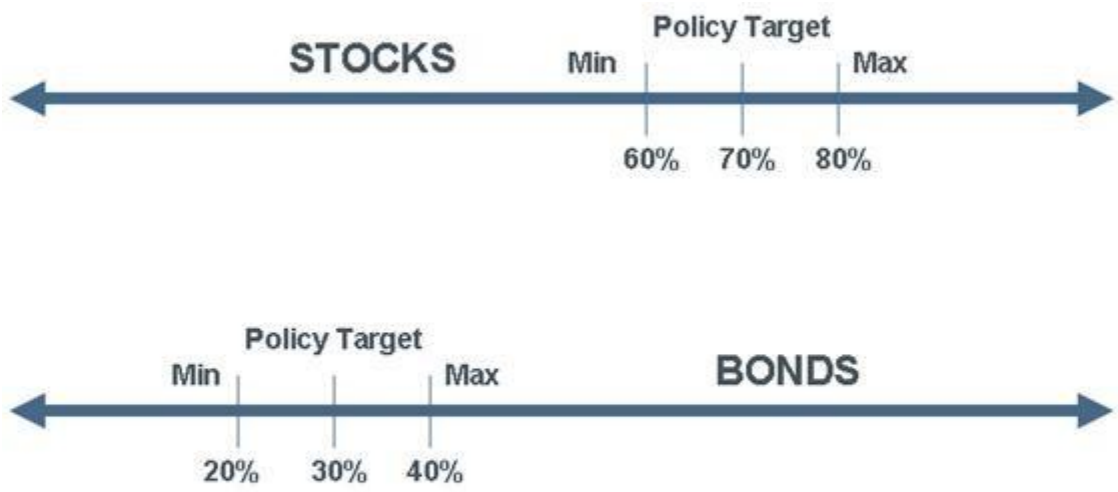
## Defined Benefit (DB) Pensions in the "End Game"

- **Closed** to New Entrants
- **Closur**e to Future Accrual
- Increased recognition of deficit and contribution **volatility** on corporate and public balance sheet
- Increasing **regulation**


- Therefore DB Pensions no longer a **"Long Term"** problem.
- Increased focus on **risk management**

# Defined Benefit (DB) Pensions
# R.I.P

## No more "Set and Forget" Investment Strategy





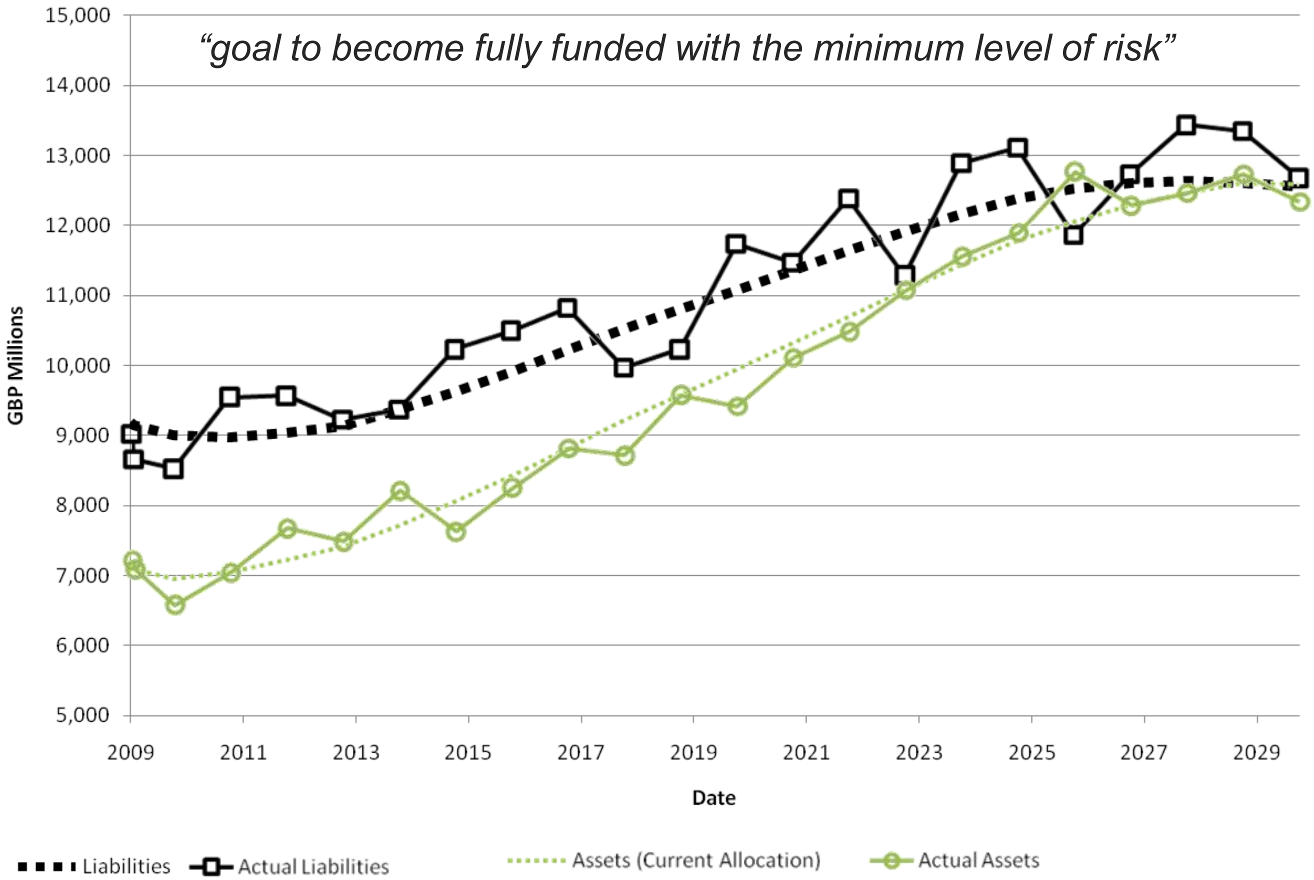
- A need for "Anticipate and Re-calibrate"

# Pension Risk Management Framework

## Set clear Goals and Objectives

**Flight Plan for pension schemes**

- a clear set of overall objectives that define your **scheme's goals** and **long term strategy**
- designed to **identify clear outcomes,** define the target path of your assets and liabilities, and to assist in monitoring the journey
- Regular reporting with clear risk analysis that offers regular insight and is a ***"call to action"*** for trustees, sponsors and key stakeholders



# Pension Risk Management Framework

## PRMF

| Overall Objective | Risk Targets | Aspirational Targets | Scheme Constraints |
|---|---|---|---|

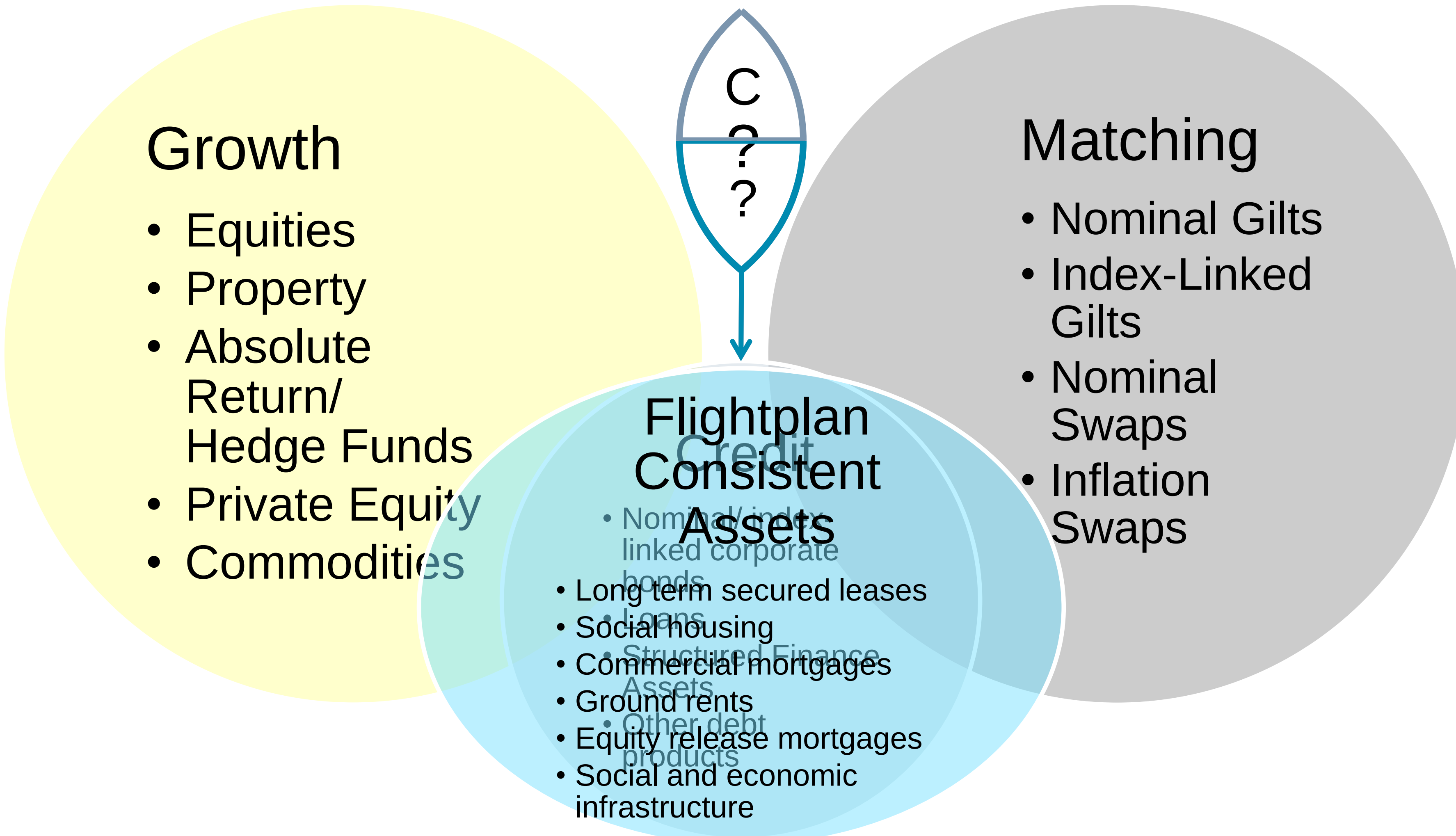
The pension risk management framework is a market consistent, transparent and actionable tool which is key for any trustee, sponsor or member

| Objective | Triggers | Performance Indicators |
|---|---|---|
| What is the overall objective? | To reach full funding on **self-sufficiency basis** | By **2020** on a **Swaps +75bps** with **£50m** of contributions p/yr |
| How will we measure the objective? | Using the required return on the Scheme's assets | Required Return of assets is **Swaps +160bps** |
| What are the primary risk targets? | Required rate of Return at Risk (RRaR)<br>Contributions at Risk (CaR) | RRaR should be no more than 300bps<br>CaR should be kept below £50m |
| What is the secondary risk target? | Value at Risk (VaR) | VaR should not exceed 20% of the liabilities |
| What are the primary aspirational targets? | To increase interest rate and inflation hedge ratios | Hedge ratios equal to funding level |
| What is the secondary aspirational target? | Dynamic de-risking | Based upon regular monitoring |
| What is the primary Scheme constraint? | Liquidity | Enough liquidity to pay pension payments |
| What is the secondary Scheme constraint? | Collateral Requirements | Enough eligible collateral to cover the 1yr derivative VaR95 |

Regular monitoring allows a call to action that enables trustees and sponsors to anticipate and recalibrate the investment strategy

# Pension Risk Management Framework

## Flight Plan Consistent Assets



# Pension Risk Management Framework

## Flight Plan Consistent Assets

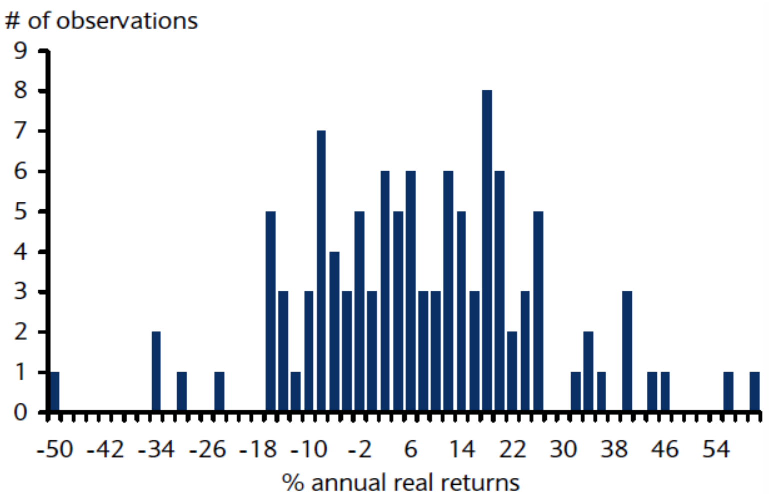
| | FPCAs | Matching | Growth | Credit |
|---|---|---|---|---|
| **High Correlation to Liabilities** | ✓ | ✓ | ✗ | ✗/✓ |
| **Contractual Cashflows** | ✓ | ✓ | ✗ | ✓ |
| **Senior Secured** | ✓ | ✓ | ✗ | ✗ |
| **Long Duration** | ✓ | ✗/✓ | ✗ | ✗/✓ |
| **Excess Returns** | ✓ | ✗ | ✓ | ✓ |
| **(Il)Liquidity Premium** | ✓ | ✗ | ✗ | ✗/✓ |
| **Potential for Upside Gain** | ✓ | ✗ | ✓ | ✗ |

# Why Invest in Equities when you could invest in Bonds?

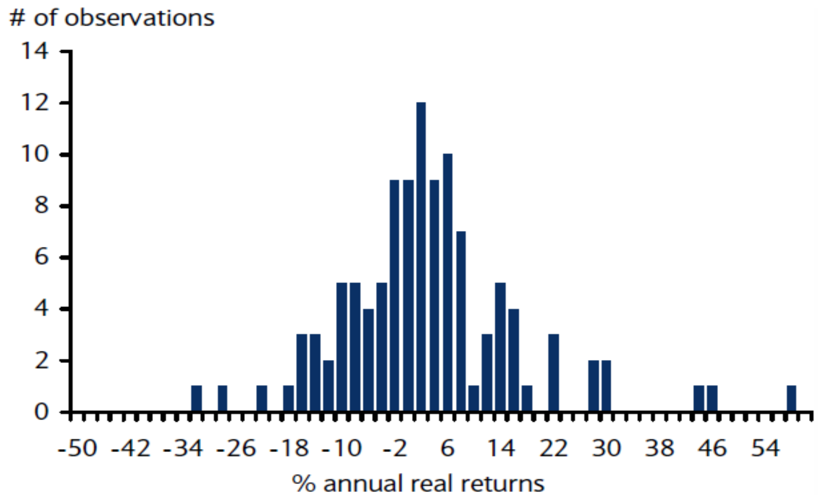
**Real investment returns by asset class (% pa)**

| | 2010 | 10 years | 20 years | 50 years | 111 years |
|---|---|---|---|---|---|
| Equities | 8.9 | 0.6 | 6.0 | 5.4 | 5.1 |
| Gilts | 4.4 | 2.4 | 5.8 | 2.5 | 1.2 |
| Corporate bonds | 3.9 | 2.1 | N/A | N/A | N/A |
| Index-linked | 5.3 | 2.4 | 4.3 | N/A | N/A |
| Cash | -4.1 | 1.1 | 2.6 | 1.7 | 1.0 |

**Distribution of real annual equity returns**



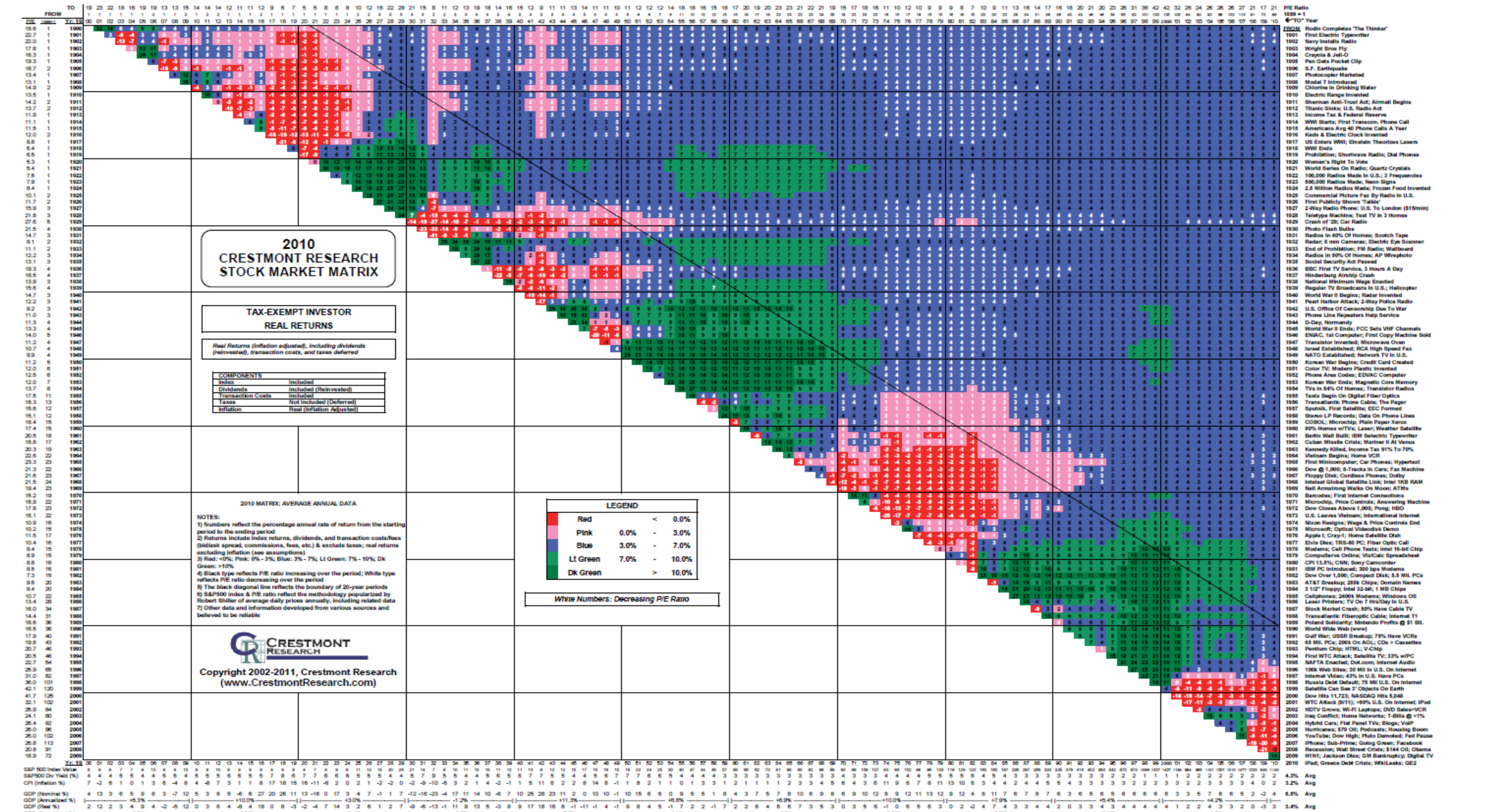

**Distribution of real annual gilt returns**




*Source: Equity Gilt Study 2011, Barclays Capital*

# Equity Risk and Returns

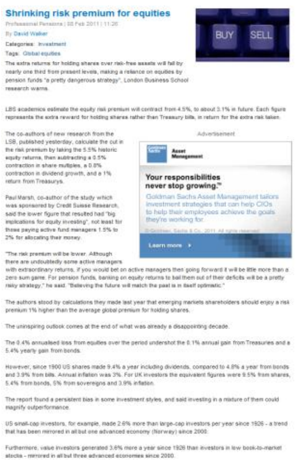
## Stock Market Matrix




Source: *Crestmont Research Stock Market Matrix, http://www.crestmontresearch.com/pdfs/Stock-Matrix-Tax-Exempt-Real3-11x17.pdf*

# Equity Risk Premium

## Recent discussions regarding equity risk premium



### Shrinking risk premium for equities

Professional Pensions | 08 Feb 2011 | 11:26

By David Walker

Categories: Investment

Tags: Global equities

The extra returns for holding shares over risk-free assets will fall by nearly one third from present levels, making a reliance on equities by pension funds "a pretty dangerous strategy", London Business School research warns.

LBS academics estimate the equity risk premium will contract from 4.5%, to about 3.1% in future. Each figure represents the extra reward for holding shares rather than Treasury bills, in return for the extra risk taken.

The co-authors of new research from the LSB, published yesterday, calculate the cut in the risk premium by taking the 5.5% historic equity returns, then subtracting a 0.5% contraction in share multiples, a 0.8% contraction in dividend growth, and a 1% return from Treasurys.

Paul Marsh, co-author of the study which was sponsored by Credit Suisse Research, said the lower figure that resulted had "big implications for equity investing", not least for those paying active fund managers 1.5% to 2% for allocating their money.

"The risk premium will be lower. Although there are undoubtedly some active managers with extraordinary returns, if you would bet on active managers then going forward it will be little more than a zero sum game. For pension funds, banking on equity returns to bail them out of their deficits will be a pretty risky strategy," he said. "Believing the future will match the past is in itself optimistic."

The authors stood by calculations they made last year that emerging markets shareholders should enjoy a risk premium 1% higher than the average global premium for holding shares.

The uninspiring outlook comes at the end of what was already a disappointing decade.

The 0.4% annualised loss from equities over the period undershot the 6.1% annual gain from Treasuries and a 5.4% yearly gain from bonds.

However, since 1900 US shares made 9.4% a year including dividends, compared to 4.8% a year from bonds and 3.9% from bills. Annual inflation was 3%. For UK investors the equivalent figures were 9.5% from shares, 5.4% from bonds, 5% from sovereigns and 3.9% inflation.

The report found a persistent bias in some investment styles, and said investing in a mixture of them could magnify outperformance.

US small-cap investors, for example, made 2.6% more than large-cap investors per year since 1926 - a trend that has been mirrored in all but one advanced economy (Norway) since 2000.

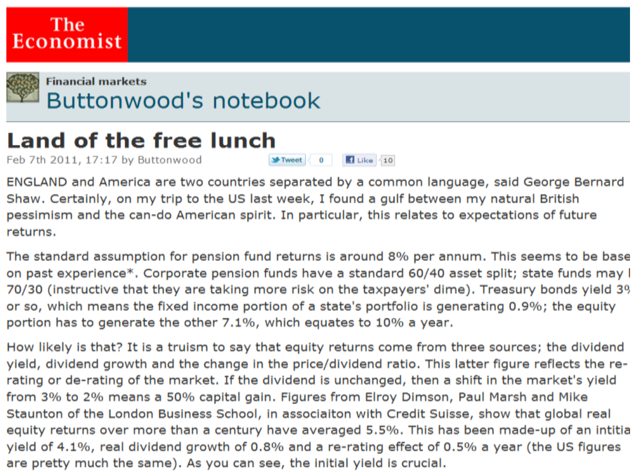
Furthermore, value investors generated 3.6% more a year since 1926 than investors in low book-to-market stocks - mirrored in all but three advanced economies since 2000.



"A study by LBS academics (and sponsored by Credit Suisse Research) estimates the **equity risk premium will contract from 4.5%, to about 3.1% in the future**. The risk premium has been calculated by taking the 5.5% historic equity returns, then subtracting a 0.5% contraction in share multiples, a 0.8% contraction in dividend growth, and a 1% return from Treasurys."

*Source: Professional Pensions, [http://www.professionalpensions.com/professional-pensions/news/2024862/shrinking-risk-premium-equities](http://www.professionalpensions.com/professional-pensions/news/2024862/shrinking-risk-premium-equities)*

"Their reasoning was that equities have always beaten bonds (except in the last decade) by a wide margin and will continue to do so. That has been true of the US, where equities have always produced real returns over 20 years, as the LBS/Credit Suisse data show. **But it has not been true in Britain; and in France, there have been periods of 60 years or more when equities have not produced positive real returns**."



The Economist

Financial markets

Buttonwood's notebook

### Land of the free lunch

Feb 7th 2011, 17:17 by Buttonwood

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ENGLAND and America are two countries separated by a common language, said George Bernard Shaw. Certainly, on my trip to the US last week, I found a gulf between my natural British pessimism and the can-do American spirit. In particular, this relates to expectations of future returns.

The standard assumption for pension fund returns is around 8% per annum. This seems to be base on past experience*. Corporate pension funds have a standard 60/40 asset split; state funds may l 70/30 (instructive that they are taking more risk on the taxpayers' dime). Treasury bonds yield 3% or so, which means the fixed income portion of a state's portfolio is generating 0.9%; the equity portion has to generate the other 7.1%, which equates to 10% a year.

How likely is that? It is a truism to say that equity returns come from three sources; the dividend yield, dividend growth and the change in the price/dividend ratio. This latter figure reflects the re-rating or de-rating of the market. If the dividend is unchanged, then a shift in the market's yield from 3% to 2% means a 50% capital gain. Figures from Elroy Dimson, Paul Marsh and Mike Staunton of the London Business School, in associaiton with Credit Suisse, show that global real equity returns over more than a century have averaged 5.5%. This has been made-up of an initia yield of 4.1%, real dividend growth of 0.8% and a re-rating effect of 0.5% a year (the US figures are pretty much the same). As you can see, the initial yield is crucial.

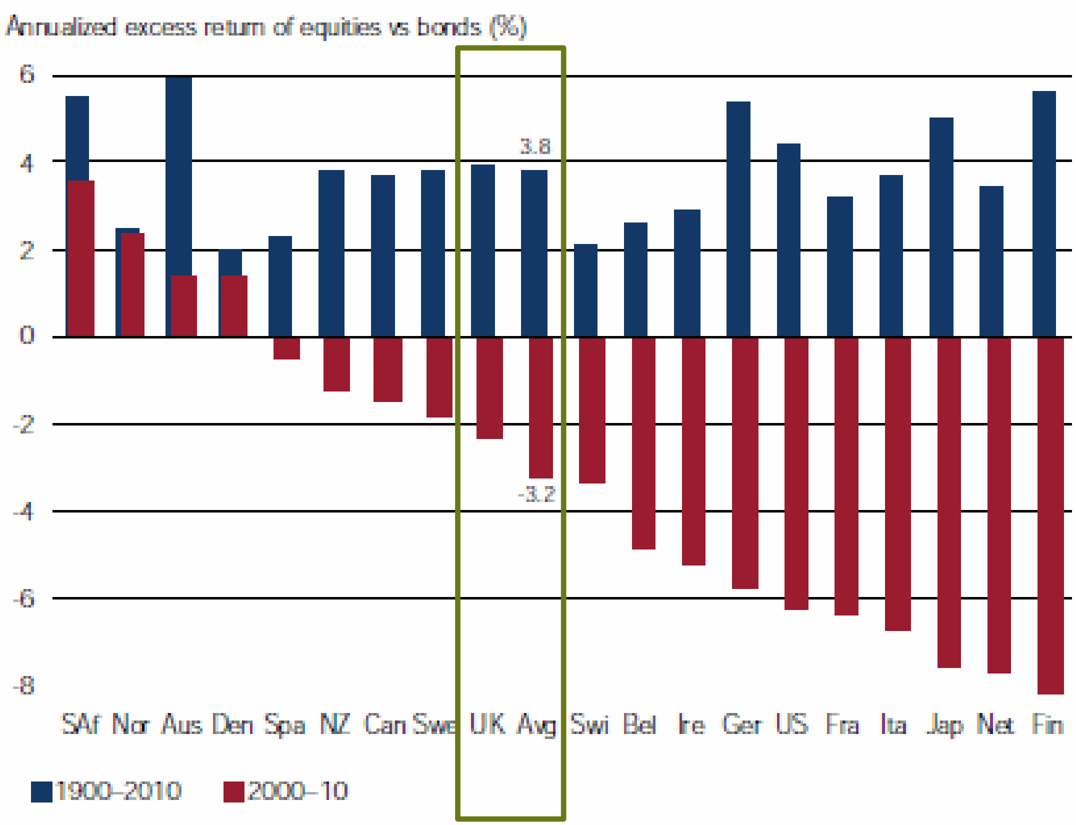
*Source: The economist, [http://www.economist.com/blogs/buttonwood/2011/02/equity_risk_premium/print](http://www.economist.com/blogs/buttonwood/2011/02/equity_risk_premium/print)*

# Equity Risk Premium

## Why do actuaries promote equities?

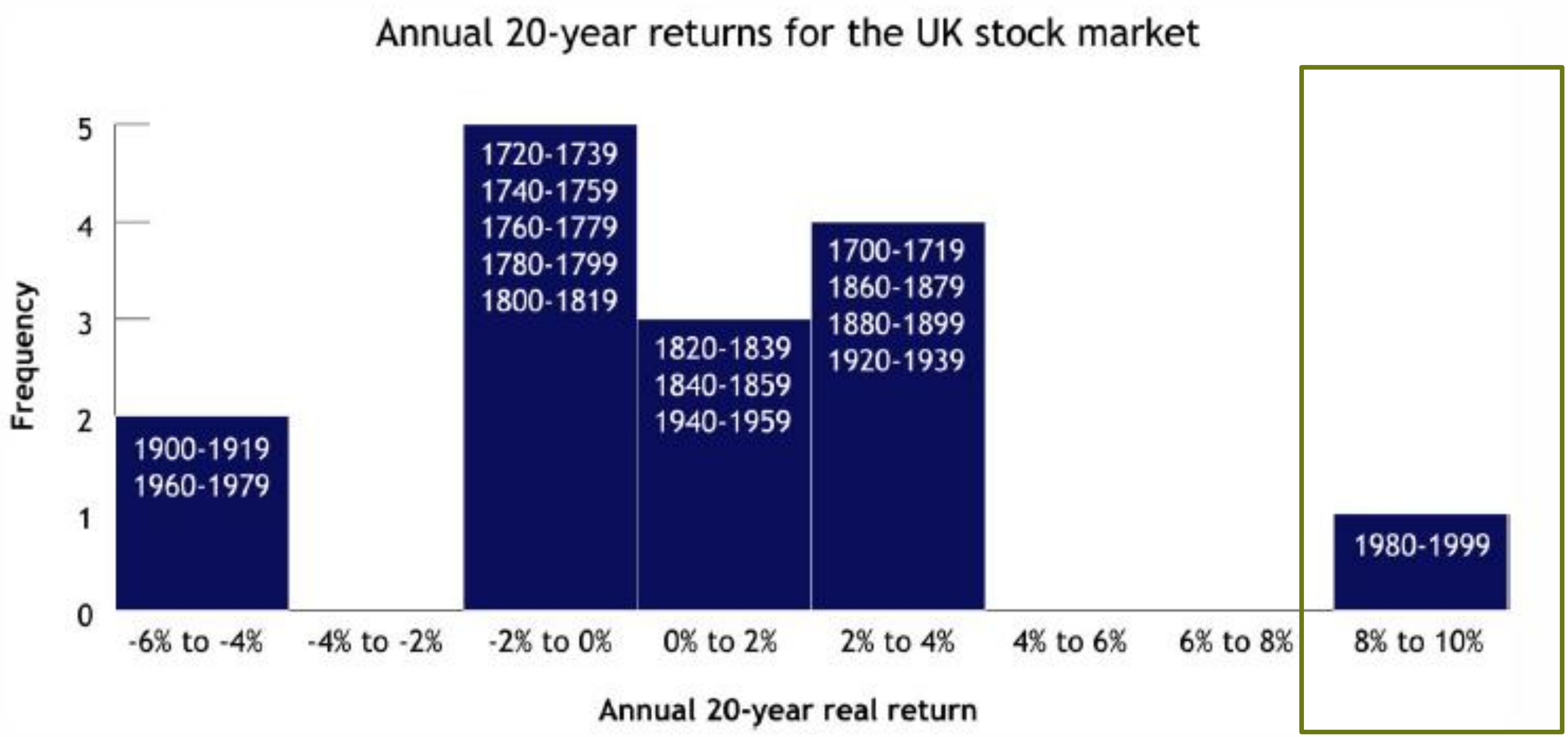
### Equity risk premium versus to bonds, 1900–2010 and 2000–10

**Source:** Elroy Dimson, Paul Marsh, and Mike Staunton, Triumph of the Optimists; authors' updates. Germany excludes 1922–23.




# DB Investing

## Why do actuaries promote equities?




Source: Global Financial Data, Datastream

# Questions or comments?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