

# Is Pension Fund Asset Allocation Really Determined by Fundamentals?

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# Key Question

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- Do pension funds make asset allocation decisions based on corporate finance risk considerations?
- Factors which might matter:
  - Size of pension scheme relative to company
  - Size of deficits relative to company
  - Maturity of scheme



# Data

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- UK listed companies have had to report pension liabilities on FRS17 basis since late 2001
- Collected roughly 150 data items for FTSE350 on corporate finance from FRS17 disclosures
- Matched data to other data on market returns/option price data, betas, etc.

# Accounting Dates

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- Roughly 48% of FTSE350 (168 companies) use Dec. 31 as end of year, 17% (60 companies) use 31 March, 8% (29 companies) use 30 September, remainder use a variety of dates
- Define a panel with two waves:
  - 2001 Wave = Accounting dates between 30 June 2001 and 29 June 2002
  - 2002 Wave = Accounting dates between 30 June 2002 and 29 June 2003

# Pension Surplus(Deficit)/Pension Liabilities

## FTSE 350 companies with positive reported pension liabilities

	2001	2002
5%	-30%	-48.1%
10%	-24.9%	-43.7%
25%	-15.2%	-34.0%
50%	-7.7%	-27.4%
75%	3.3%	-17.3%
90%	15.5%	-8.3%
95%	21.8%	-1.0%
N	242	257

**Wave 2002 has only 10 companies with surpluses as opposed to 81 in 2001.**

**Among FTSE 100, wave 2001 has only 4 companies in surplus as opposed to 46 in 2001**

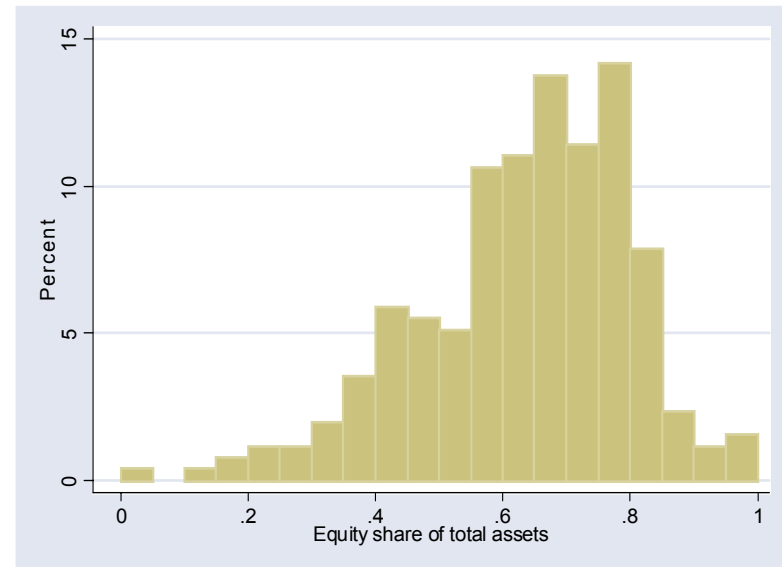


# Equity Allocation of Pension Funds

UK FTSE 350 – Calendar Year 2002 accounts

## Percentiles

1%	.169485		
5%	.3179815		
10%	.4089045	Obs	254
25%	.5425532		
50%	.6640593	Mean	.6343839
75%	.755668		
90%	.8119375	Variance	.0278154
95%	.8623853	Skewness	-.7325749
99%	.9631634	Kurtosis	3.641208



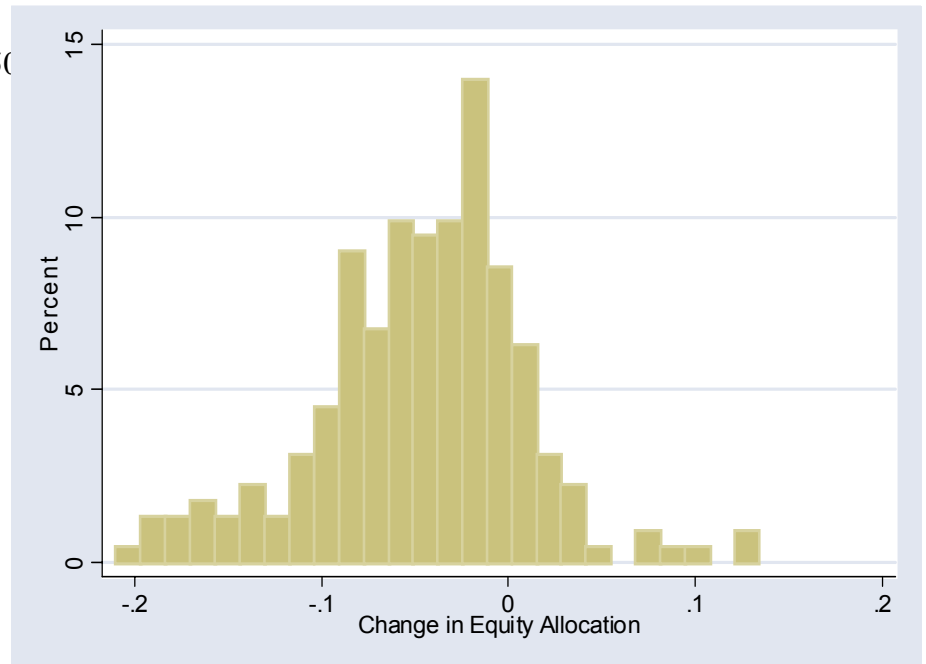
FTSE 350: 2002

FTSE100 slightly lower median, lower mean

# Equity Allocation of Pension Funds

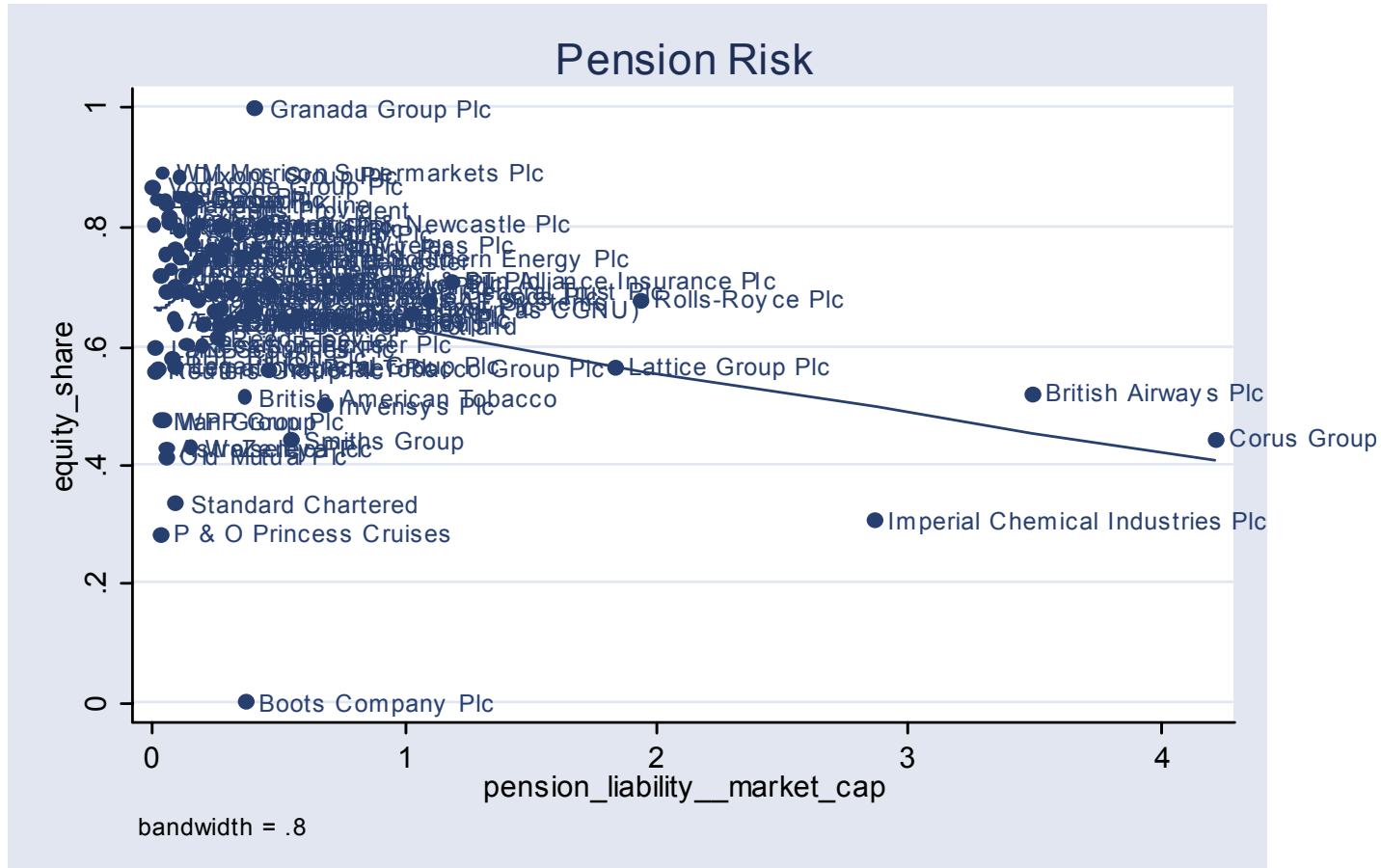
Variation in equity share between 2001 and 2002 (FTSE 350)

Percentiles			
1%	-.335226		
5%	-.1859357		
10%	-.1400082	Obs	231
25%	-.0830409	Sum of Wgt.	231
50%		Mean	-.0529932
		Std. Dev.	.0893082
75%	-.0134888		
90%	.0074313		
95%	.0304655		
99%	.1343837		



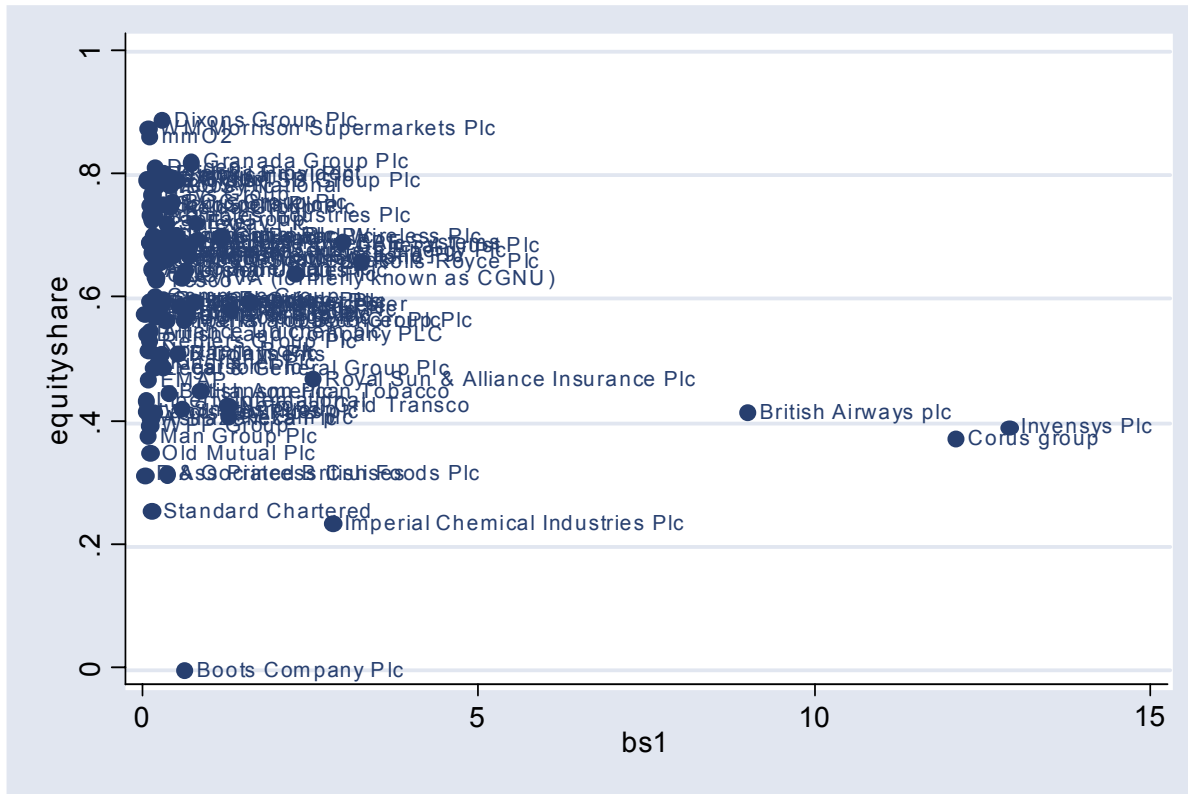
Slightly bigger drop among FTSE100

# Pension Liabilities/Market Cap (2001)

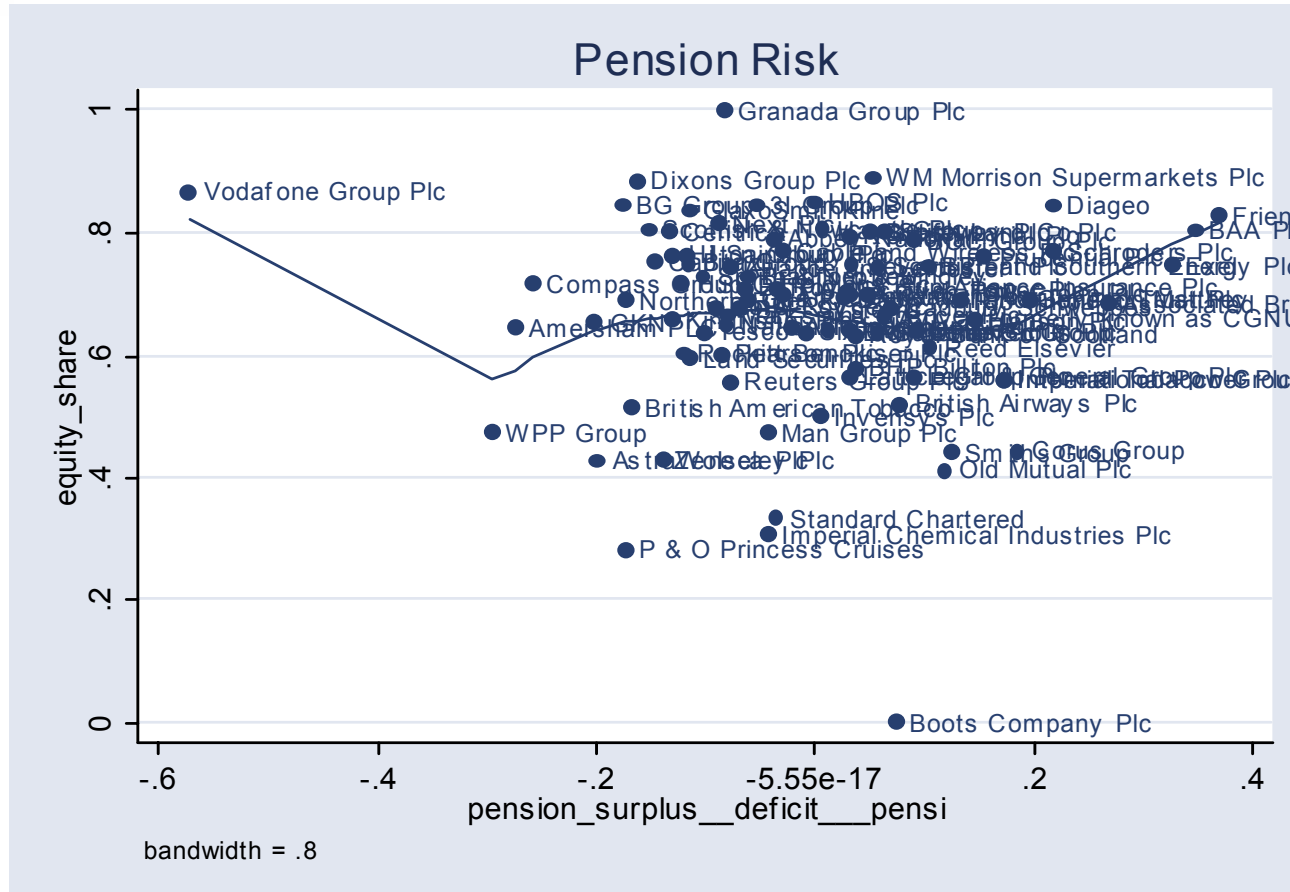




# Pension Liabilities/Market Cap (2002)

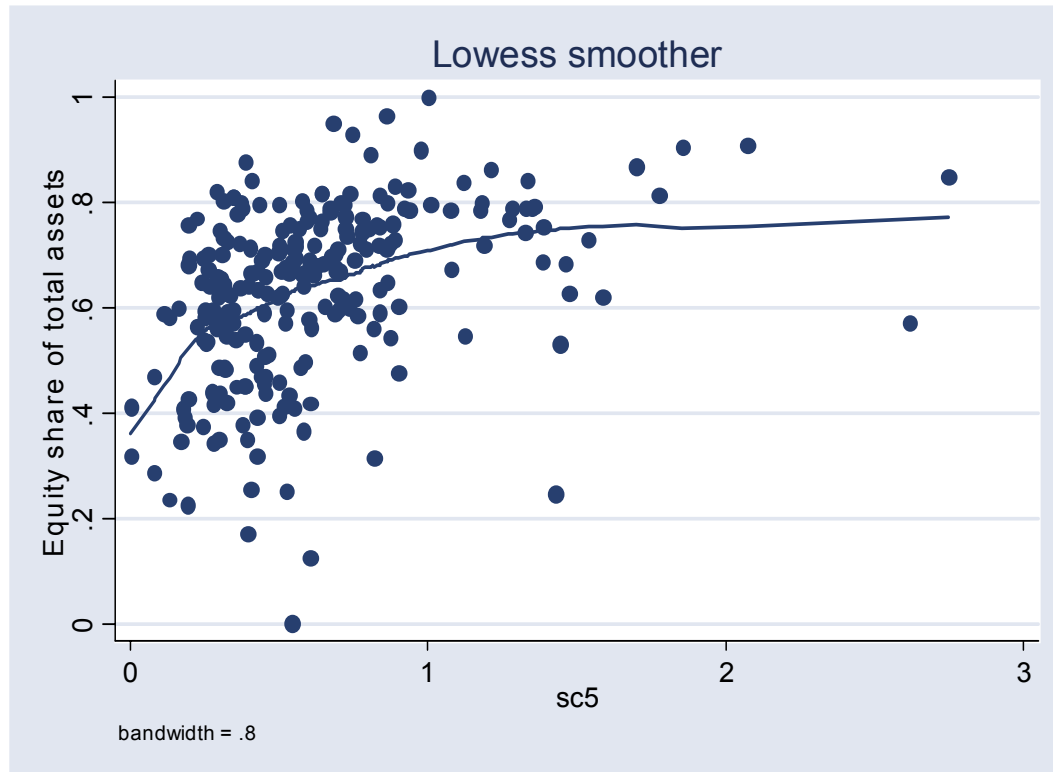


# Pension Surplus/Pension Liability (2001)

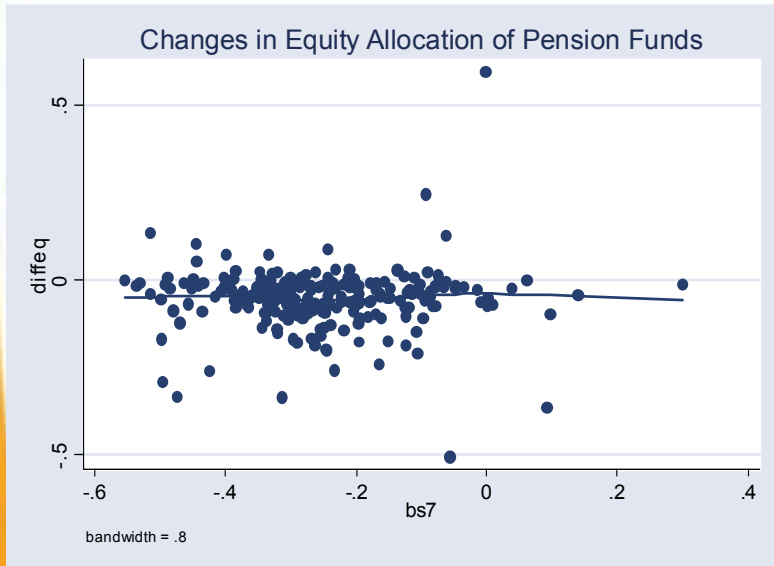


# Maturity

- FTSE350- 2002



# Changes in Equity Allocation



## Regression for Change in Equity Allocation

Lag BS1 -0.008  
(0.67)

Lag BS7 0.109  
(2.85)\*\*

ftse100 -0.028  
(2.24)\*

Lag PL1 -0.004  
(0.93)

Constant -0.026  
(2.43)\*

Observations 229

R-squared 0.05

Absolute value of t statistics in parentheses

•significant at 5%; \*\* significant at 1%

**BS7 is not statistically significant if robust regression methods are used.**



# Conclusions

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- Not much connection between fundamentals and asset allocation
- Results hold in both cross-section and panel regressions