

Systematic property risk: Quantifying UK property betas 1983-2005

format of presentation

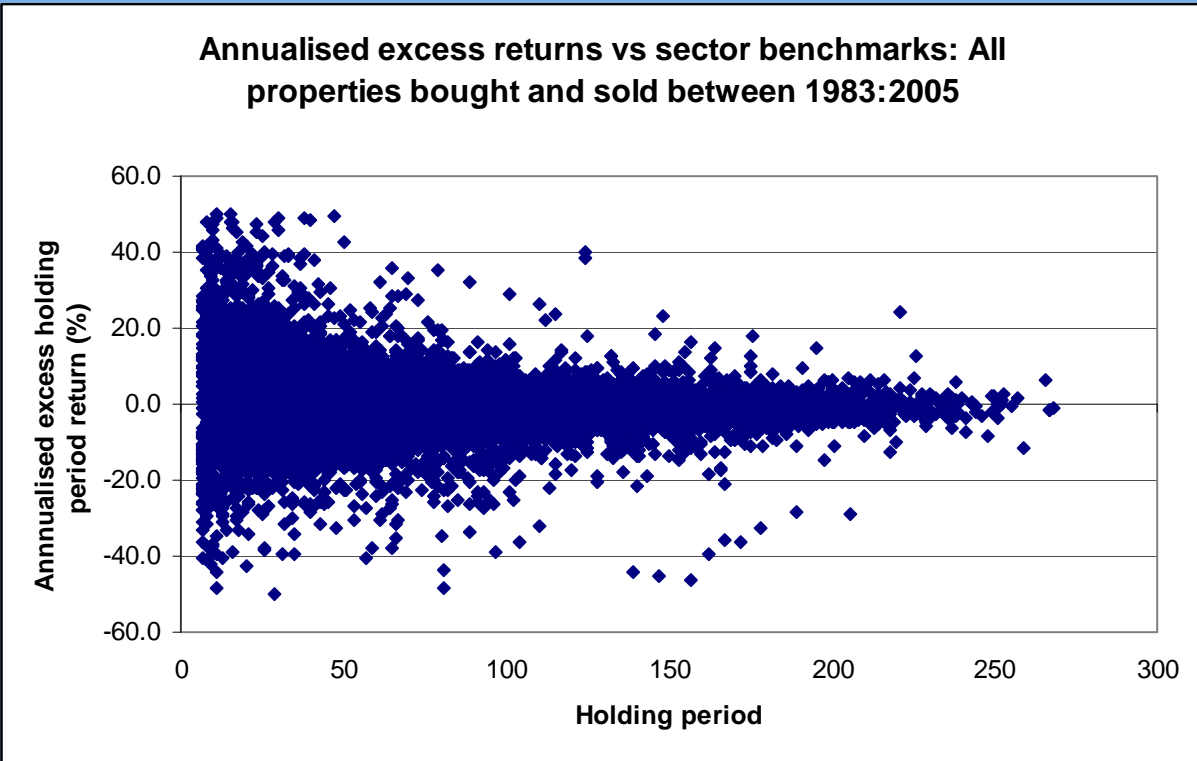
- Brief overview of the database
- Characteristics of excess performance
- Looking at benchmark returns
- Correlations and Betas
- Ongoing work

the database

Sector	Gerald Eve IPD Database 1983 - 2005					
	Total %		Sold %		Held %	
Offices	5,839	27.8	3,691	28.6	2,148	26.4
Retail	10,199	48.4	6,843	53.0	3,356	41.3
Industrial	5,000	23.8	2,372	18.4	2,628	32.3
Total	21,038	100%	12,906	100%	8,132	100%

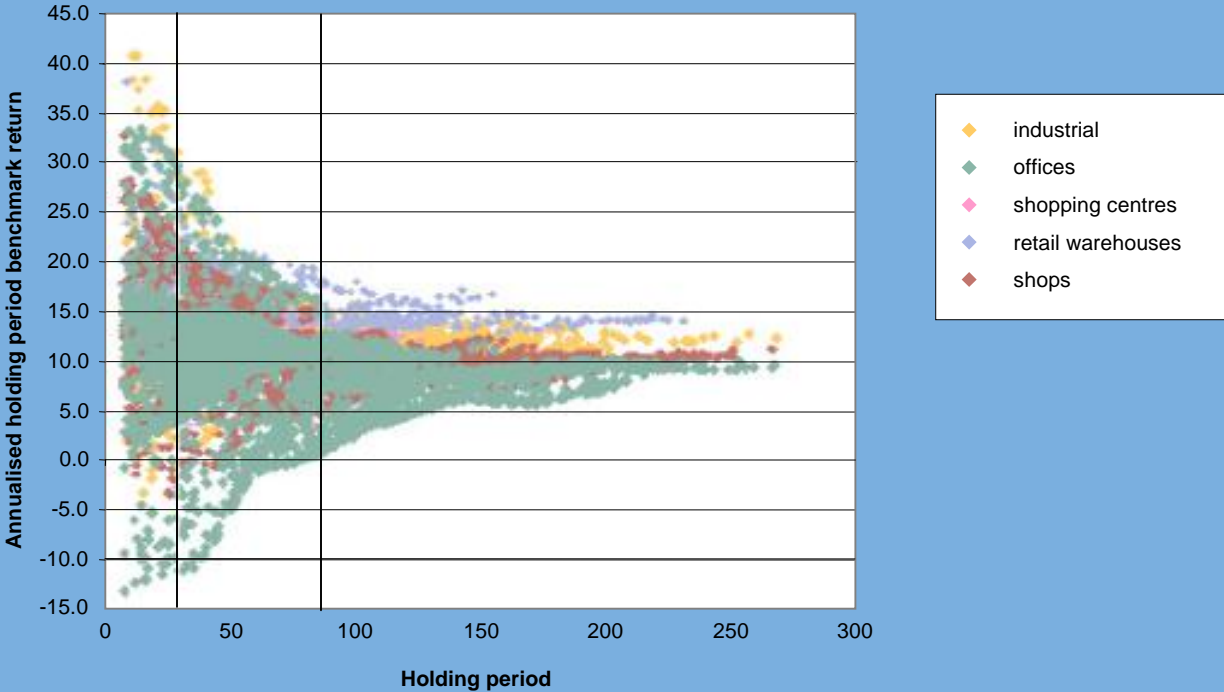
Updated annually

looking at how individual assets perform relative to the benchmark



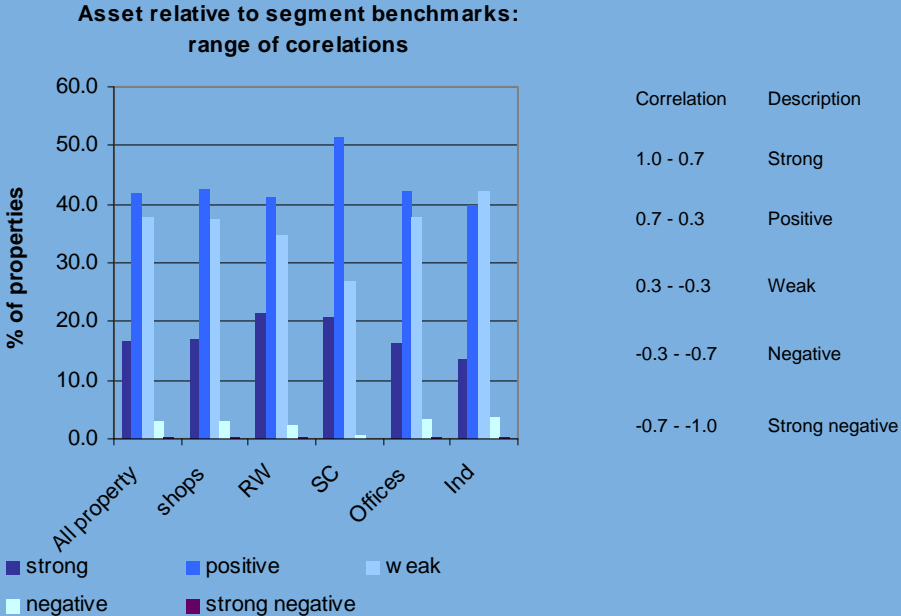
benchmark performance combined with holding periods

Benchmark holding period total returns by holding period



correlation between individual assets and the market

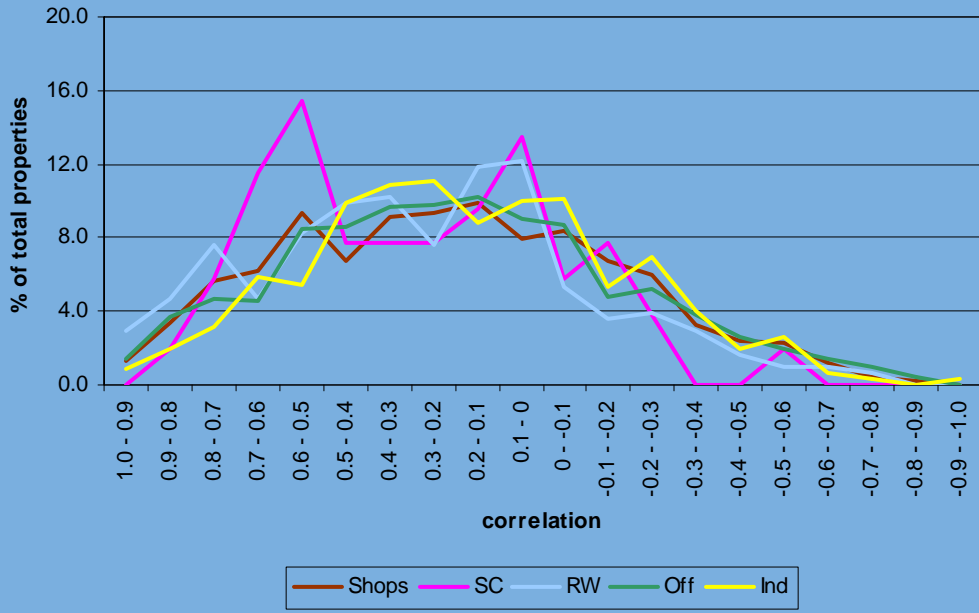
Distribution of correlations



over the short term (traded within three years)

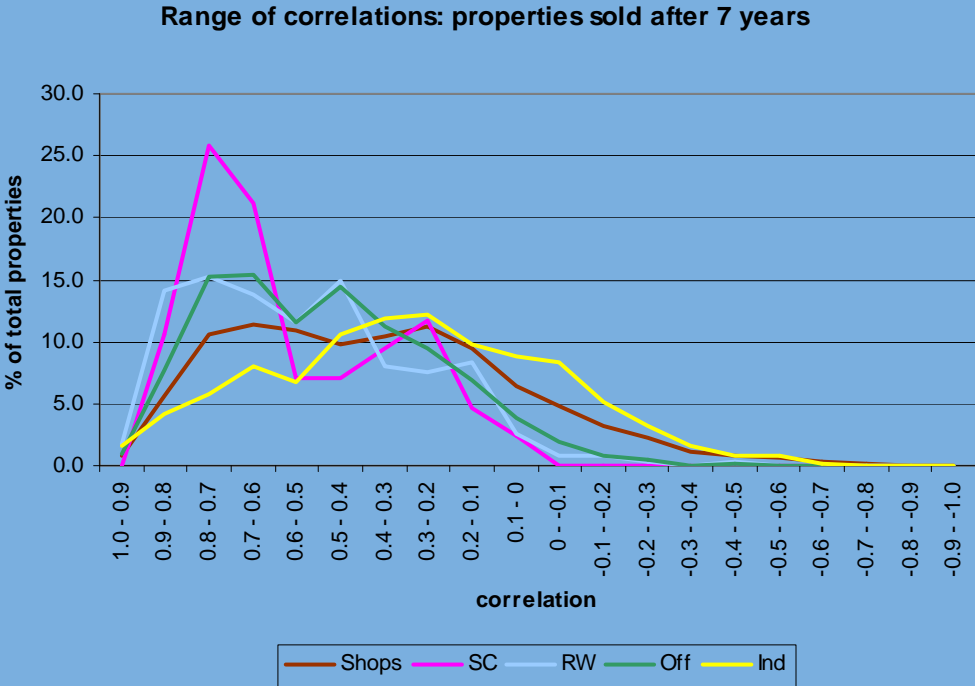
Range of correlations – short and long holds

Range of correlations: properties sold within 3 years



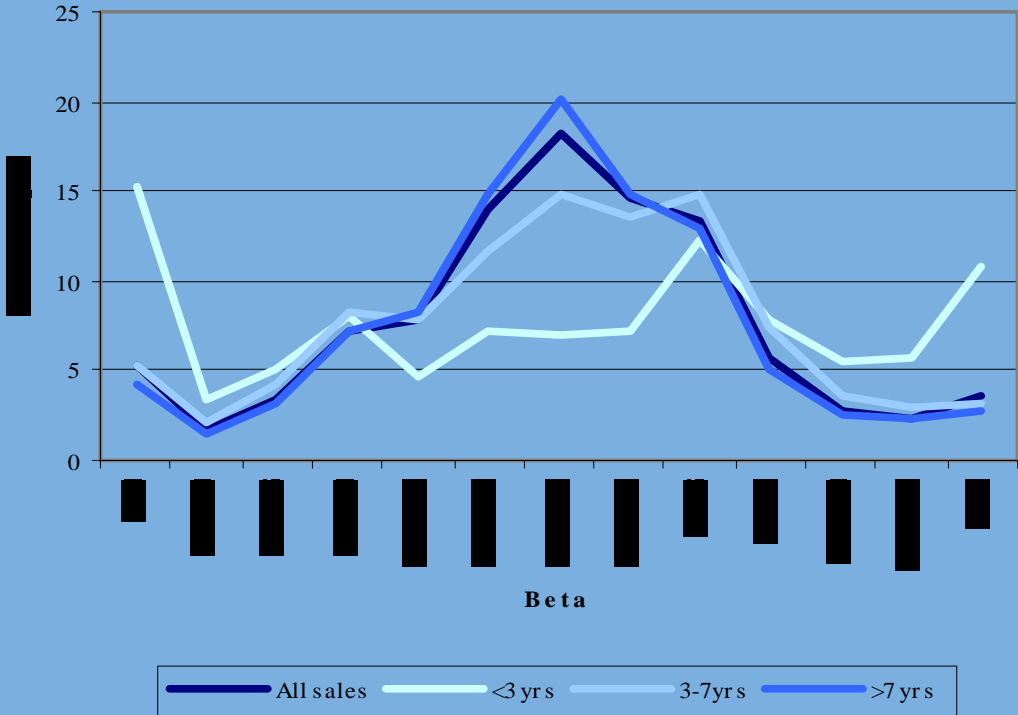
and the longer term (traded after seven years)

Range of correlations – short and long holds



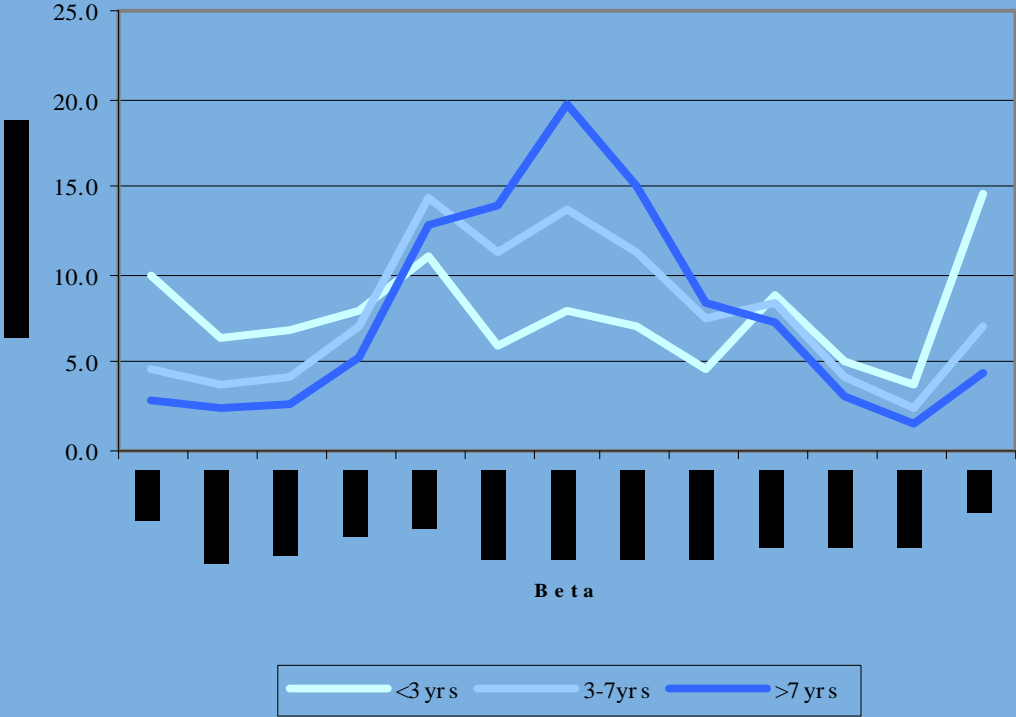
distribution of betas

Distribution of betas by holding period groupings



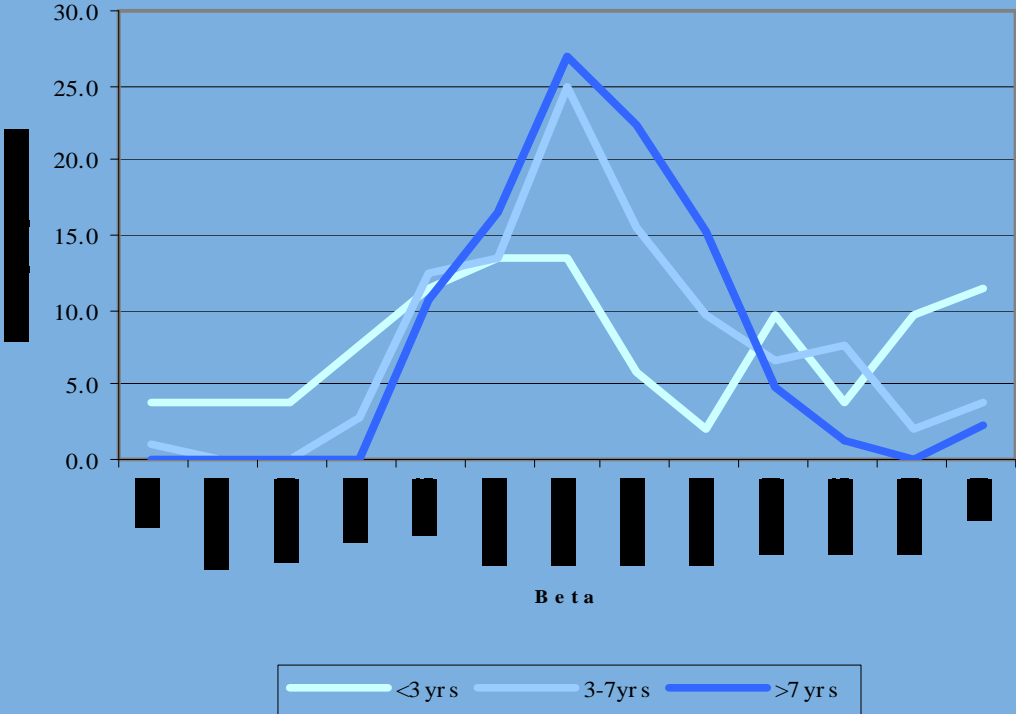
distribution of betas: shops

Distribution of betas by holding period groupings: shops



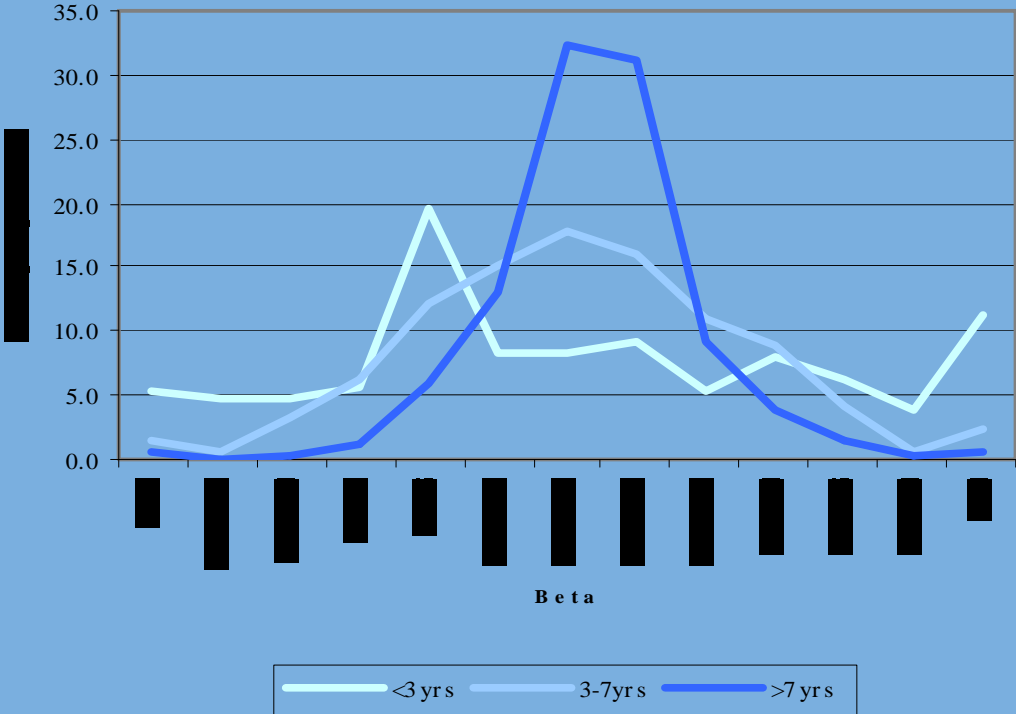
distribution of betas: shopping centres

Distribution of betas by holding period groupings: shopping centres



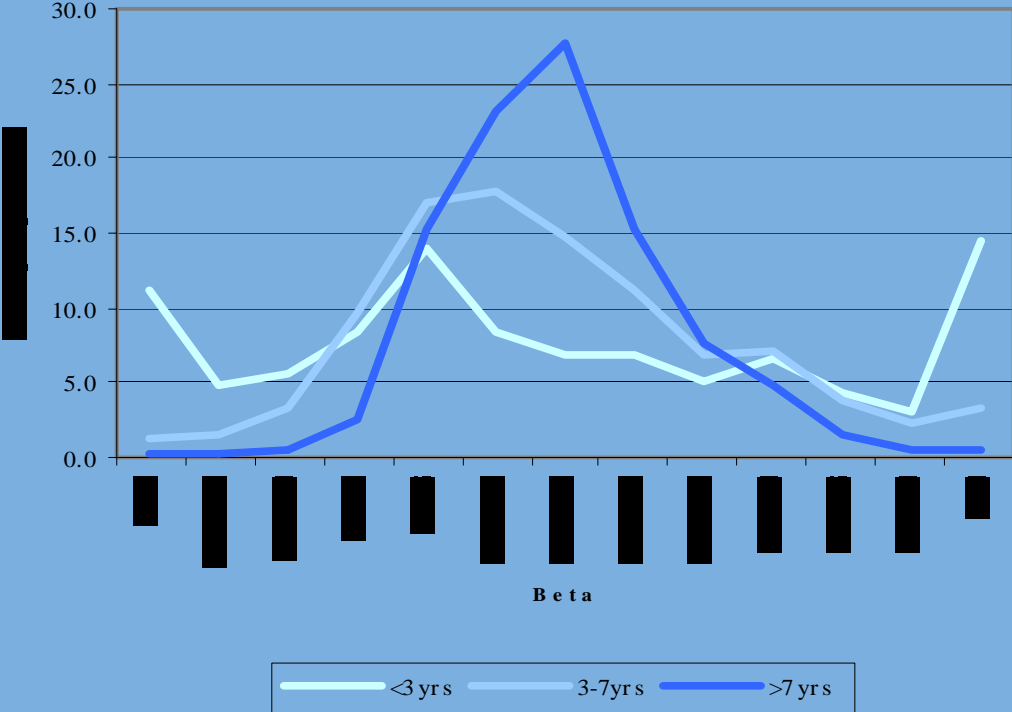
distribution of betas: retail warehouses

Distribution of betas by holding period groupings : retail warehouses



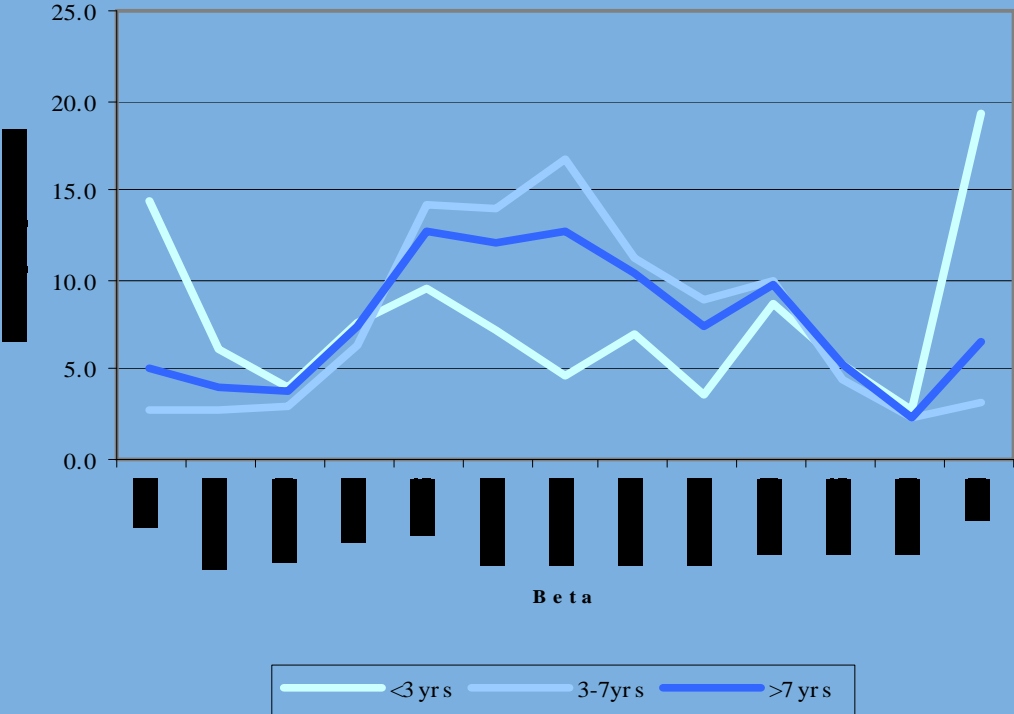
distribution of betas: offices

Distribution of betas by holding period groupings: offices



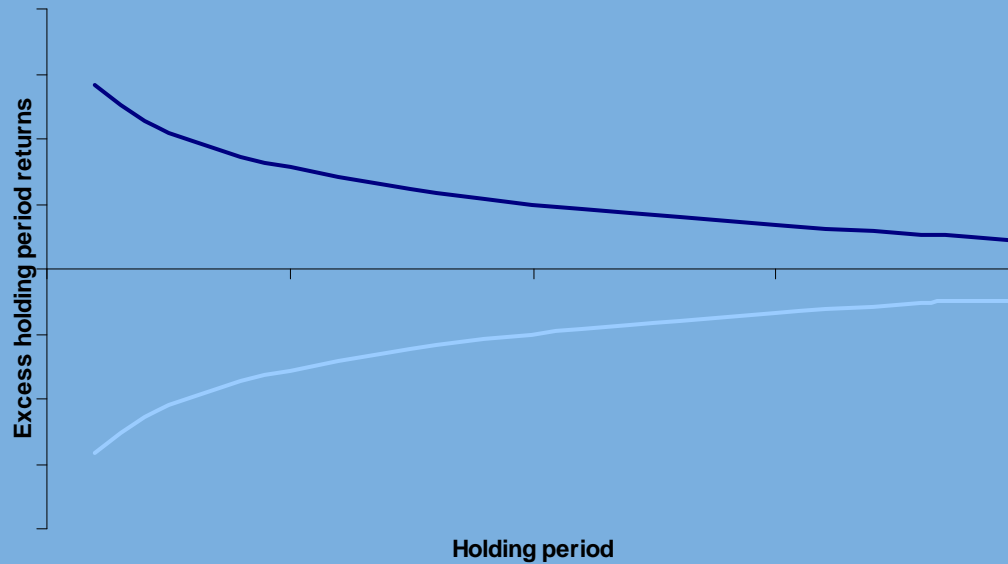
distribution of betas: industrial

Distribution of betas by holding period groupings: industrial



Accounting for convergence of excess returns

Non linear function to include forecast market returns, holding period and market conditions



accounting for excess returns

- Conditional on:
 - Holding period
 - Market performance between dates of purchase and sale
 - ⇒ Identification of market environments
 - Property 'specifics' – winners/losers
 - Random component
- Non-linear
 - variety of functional possibilities!

Market Environments

- No consensus on the definition nor methodology with which to capture the behaviour of market environments
 - looking at various definitions/approaches that have been previously employed
 - opportunity costs and the risk-free rate

other issues

- Correlation characteristics
- Are Beta values different over different holding periods?
- Does the 'unquantified holding period relationship' result in bias to the 'standard betas' presented here?

Conclusions and further research

- The pattern of individual asset returns mimics Benchmark returns in delivering much more volatile returns over shorter periods
- A significant portion of individual assets have a low correlation with benchmark returns, reflecting a high level of asset specific risk
- A good number of industrial properties have little correlation with benchmark returns, even over longer holding periods
- The distribution of betas varies over the length of holding periods with the exception of industrials
- This presentation has profiled some descriptive results and shows there are underlying non-linear relationships that need to be identified which incorporate: holding periods, market forecasts and a definition of 'market environments' to help identify winners and losers!
- Still lots to do which we are excited about, and remember...