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FOR PROFESSIONAL ADVISERS ONLY

Property: Past Trends

Presentation to the Actuarial Profession and the Investment Property Forum

HSBC

Global Asset Management

Property and its role: the importance of diversification

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- "*Property is still perceived by investors and consultants to have attractive diversifying potential and this positions it well in relation to the alternatives and the mainstream asset classes.*" **Bond *et al* Asset Allocation in the Modern World, IPF Research Project, 2007**

- *"…the most commonly cited reason for increasing exposure to real estate was its low correlation with other asset classes. This was particularly the case in the UK and Germany/Austria*" **JP Morgan The Alternative Asset Survey 2007**

- "*The objective of the real estate exposure is to provide diversification for the multi-asset fund and a return between bonds and equities that is marginally better than the UK IPD Index (or similar).*" **INREV Investor Universe UK Survey 2010**

What has been the experience during the financial crisis?

Overview

- **Why are correlations and volatilities important?**
- **What can we learn from the past? Key questions:**
  - **What's** correlation **between UK commercial property and other UK assets, and how has this changed over time?**
  - **How** volatile **has UK commercial property been relative to other UK assets, and how has this changed over time?**
  - **What impact do different forms of ownership have?**
- **Conclusions**

Why are correlations and volatilities important?

- **Inputs to determine:**
  - **Portfolio risk**
  - **Efficient allocation of assets (strategic and tactical asset allocation)**
- **Re-cap on basic theory:**

Portfolio risk = market (systematic) risk + specific (unsystematic) risk

$$\sigma_p^2 = \sum_{i=1}^{N} \sum_{\substack{j=1 \\ i \neq j}}^{N} X_i X_j \sigma_i \sigma_j \rho_{ij} + \sum_{i=1}^{N} X_i^2 \sigma_i^2$$

Where:

$\sigma_p^2 =$ portfolio risk

$X_i =$ weight in asset i

$\sigma_i =$ standard deviation of returns, asset i

$\rho_{ij} =$ correlation coefficient between asset i and j

Scope of analysis

- **Direct property data**
  - **IPD UK Monthly Index as published**
  - **IPD UK Monthly Index ‘unsmoothed’ to remove serial correlation (after Blundell and Ward (1987)**
- **Listed property securities**
- **Geared direct property**
  - **Simulated return based on IPD UK Monthly Index**
  - **Experience of pooled property funds**

Correlation with UK equities

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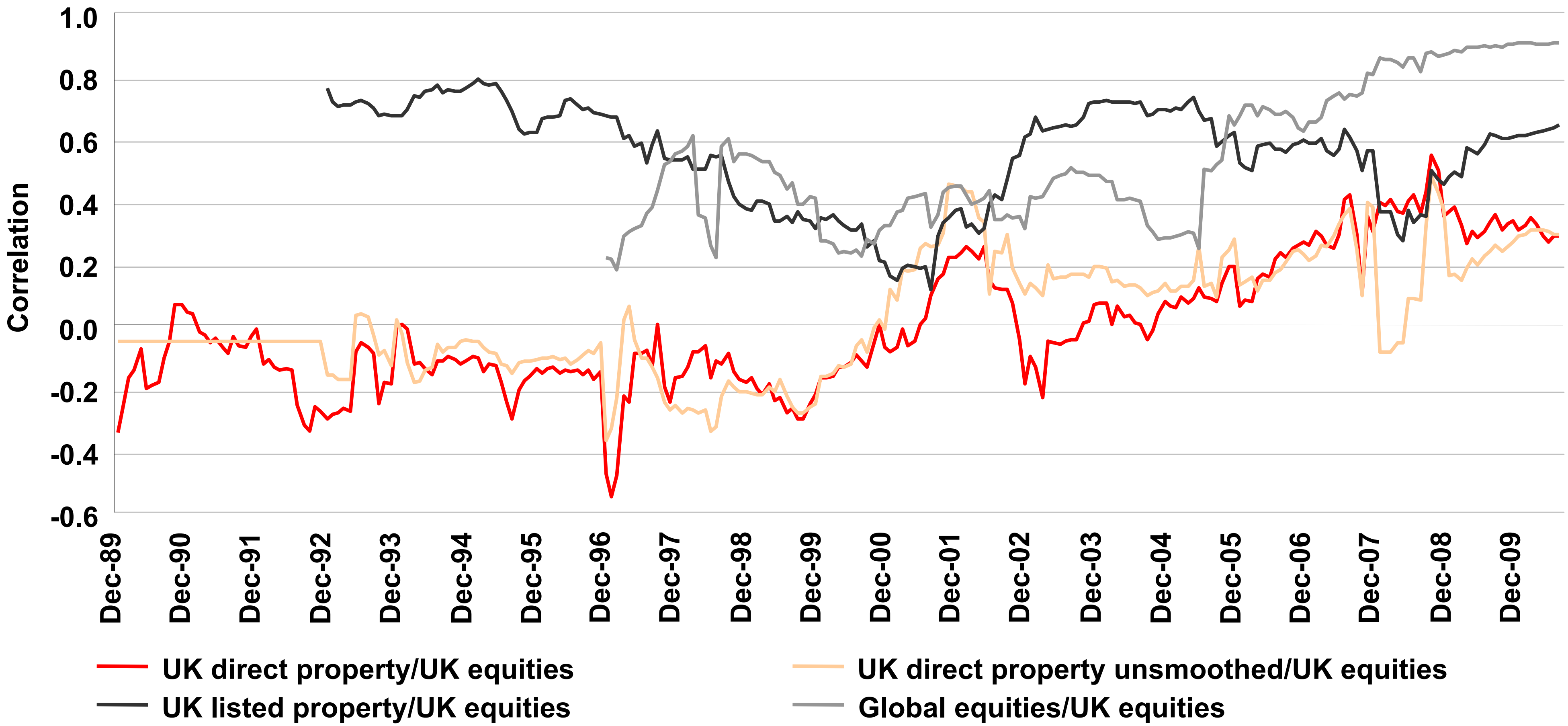
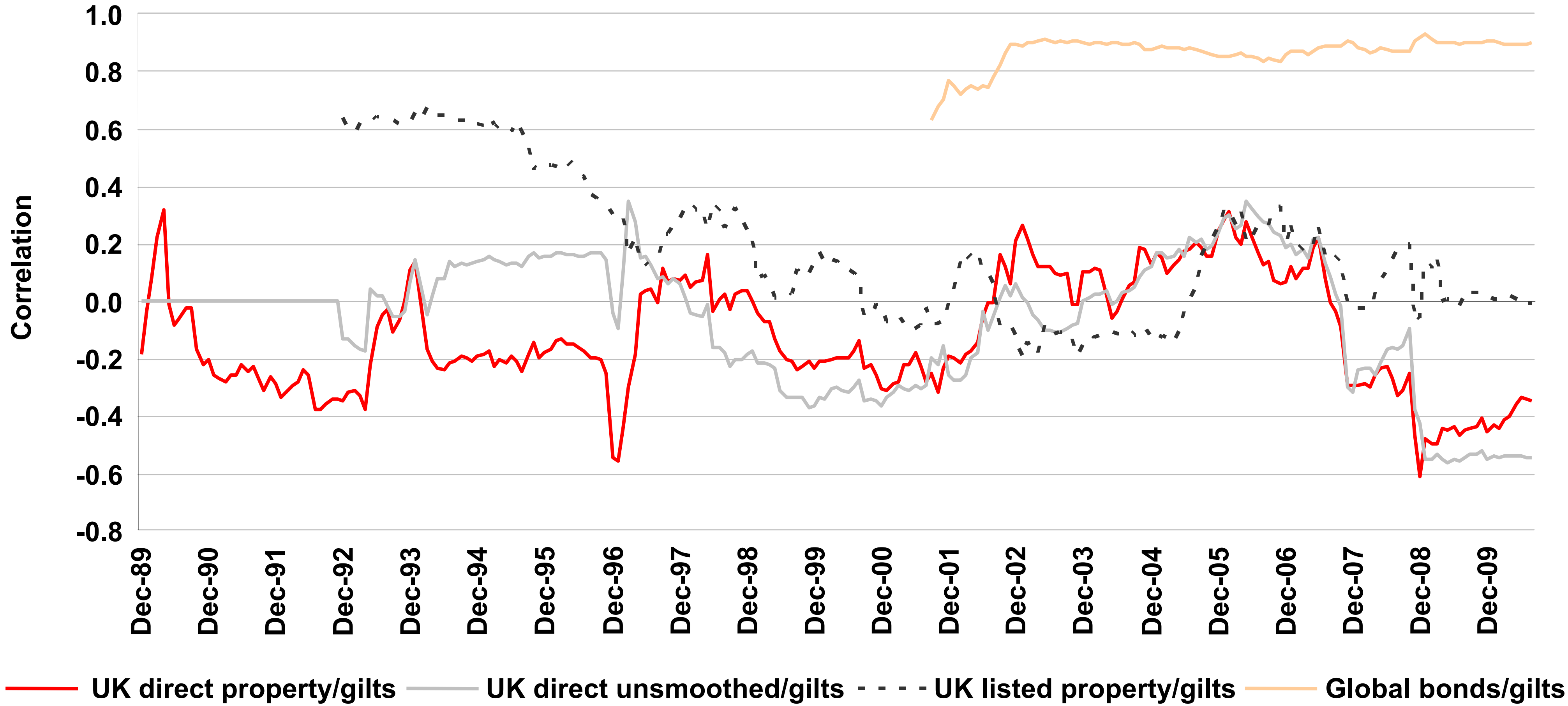
Rolling 36 month correlations with UK equities



Source: IPD UK Monthly Index, Datastream (FTSE All Share), HSBC Global Asset Management (UK) Limited.
The above information refers to the past and is not a guide to future performance

Correlation with UK gilts

Rolling 36 month correlations with UK gilts



Source: IPD UK Monthly Index, Datastream (10 Year Gilts), HSBC Global Asset Management (UK) Limited.
The above information refers to the past and is not a guide to future performance

The changing characteristics of UK commercial property

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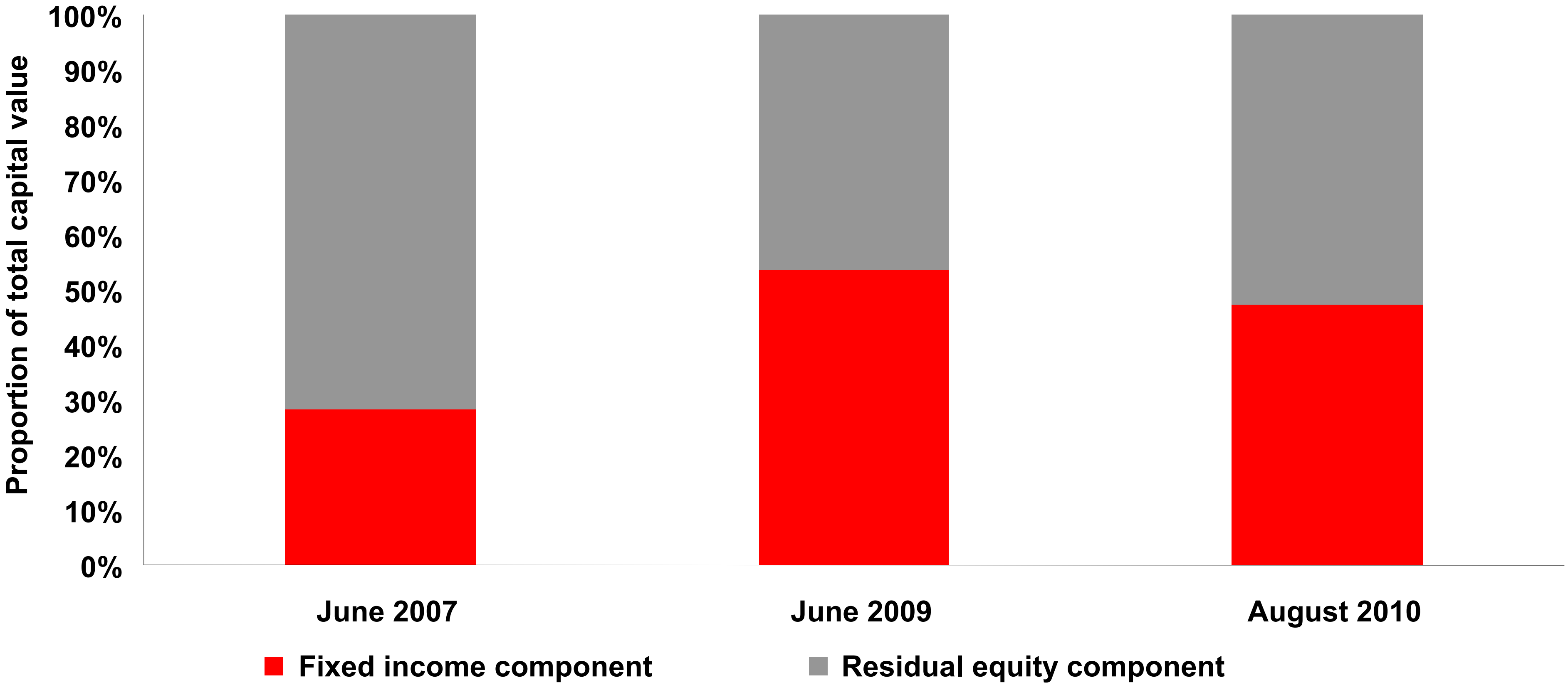
	June 2007	June 2009	August 2010
Property initial yield	4.6%	7.9%	6.5%
5 year gilt yield	5.7%	3.2%	1.6%



Source: IPD UK Monthly Index, Datastream.
Based on estimates from HSBC Global Asset Management (UK) Limited, see appendix and Blundell and Morrell (1997)

Key observations on correlations

- **Property's correlation with UK equities**
  - Generally weak: 36 month range generally -0.2 to +0.4; long run average 0.1 (not significantly different from zero)
  - Some increase over time.. but not much during financial crisis (unlike global equities)
  - Unsmoothing direct property makes little difference
  - Unsurprisingly, listed property exhibits stronger correlation…but still only moderately positive
- **Property's correlation with gilts**
  - Generally weak: 36 month range generally -0.4 to +0.2; long run average -0.2
  - Little significant change over time, and no increase during financial crisis
  - Unsmoothing makes little difference
  - Listed property weakly correlated

Direct property weakly correlated with UK equities and gilts; listed property less so

Volatilities: has there been any change?

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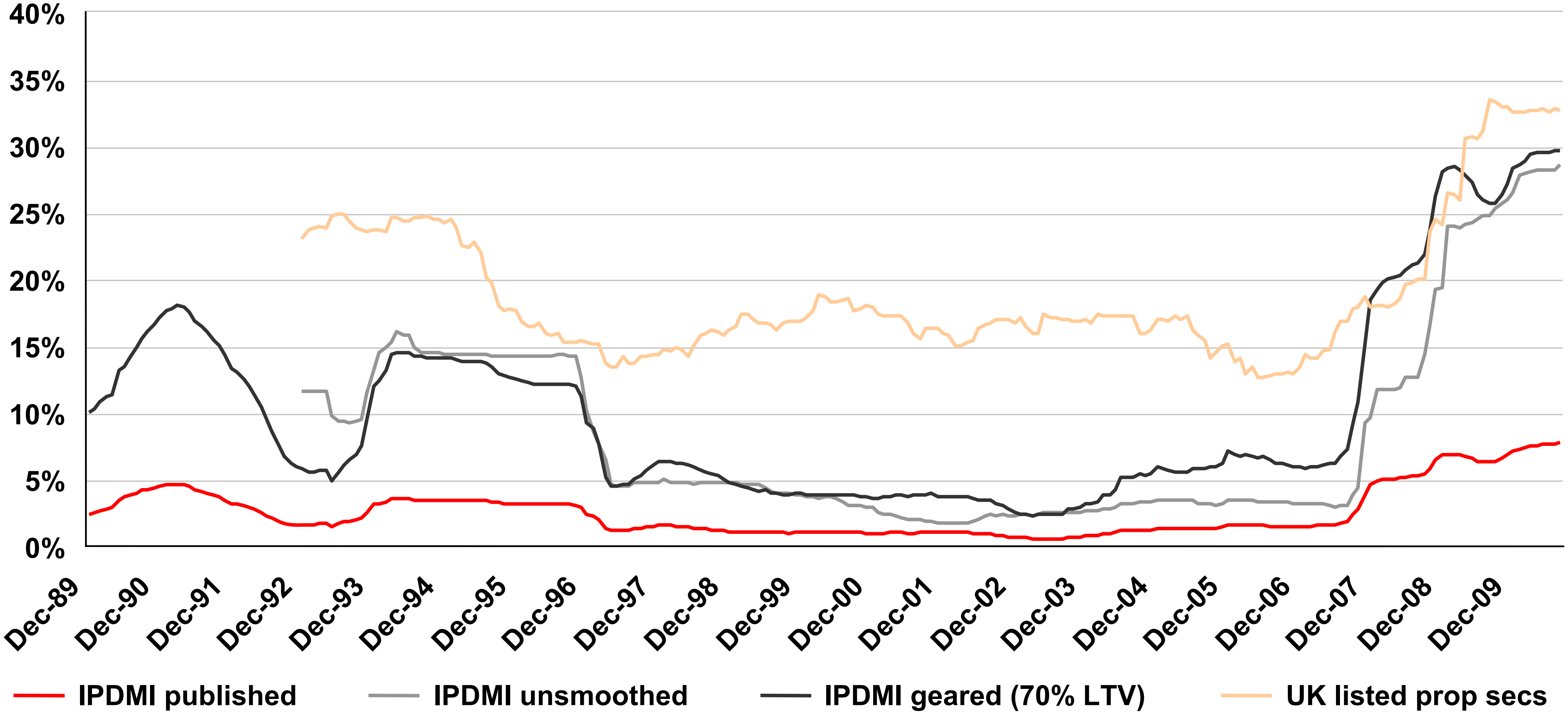
Rolling 36 month volatilities



Source: IPD UK Monthly Index, Datastream (FTSE All Share, 10 Year Gilts, FTSE EPRA/NAREIT UK), HSBC Global Asset Management (UK) Limited.
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Experience of UK pooled property funds

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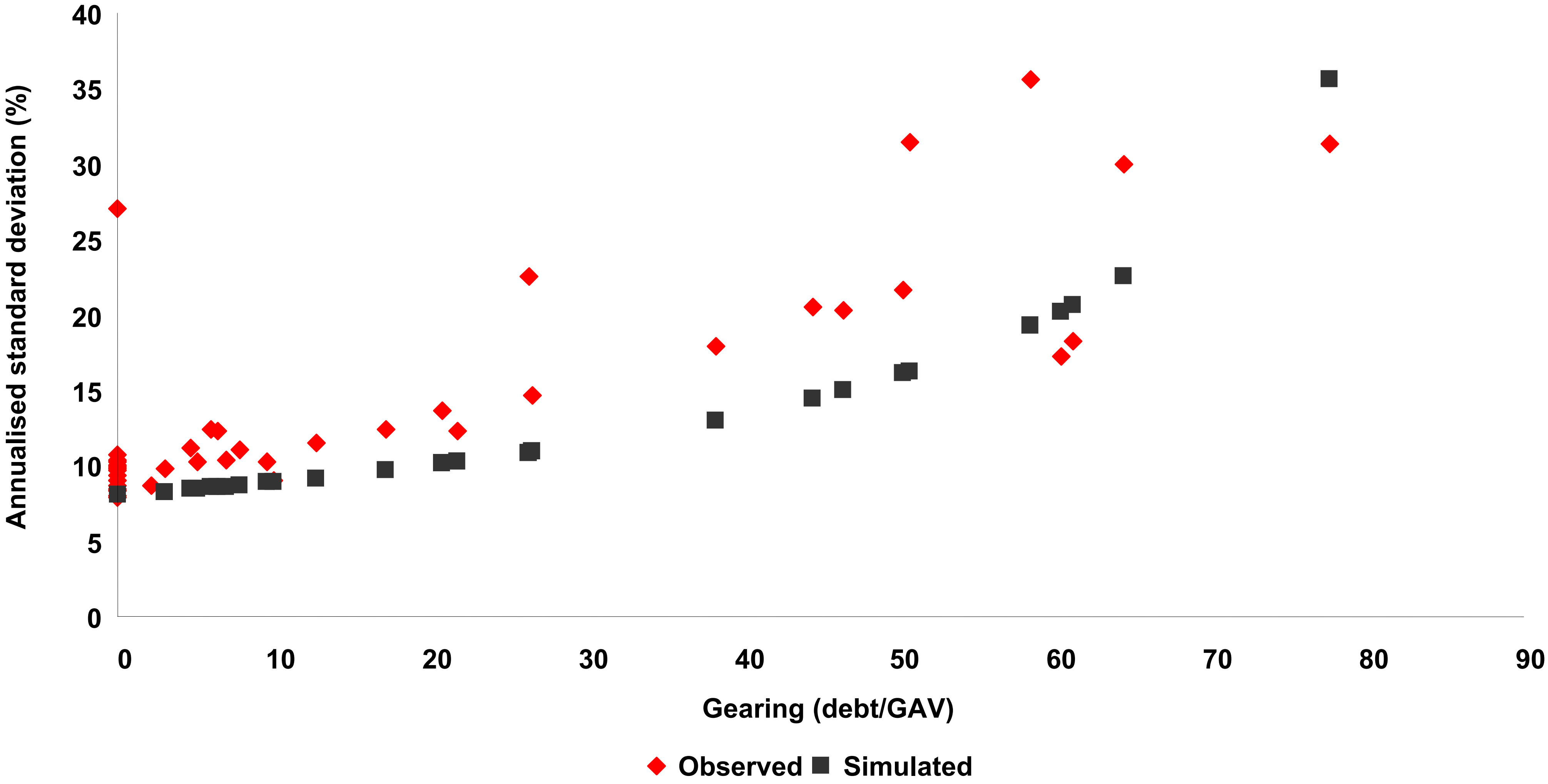
Volatility of balanced and specialist UK pooled property funds, 2003-2010 relative to gearing



Source: IPD UK Pooled Property Funds, March 2003-June 2010, HSBC Global Asset Management (UK) Limited.
The above information refers to the past and is not a guide to future performance

Key observations on volatility

Annualised standard deviation of returns

	IPD UK Monthly Index					
	Published	Unsmoothed	Geared simulation	Listed property securities	Gilts	UK Equities
Jan 1990 to Aug 2010	4.0%	13.0%	16.2%	20.9%	6.8%	14.8%
Aug 2007 to Aug 2010	7.7%	28.5%	29.6%	32.6%	7.8%	20.0%

Source: IPD UK Monthly Index, IPD UK Pooled Property Fund Indices, Datastream (FTSE All Share, 10 Year Gilts, FTSE EPRA/NAREIT UK), HSBC Global Asset Management (UK) Limited.
The above information refers to the past and is not a guide to future performance

- Volatility has increased…in line with many markets
- Using traditional methods, “unsmoothing” UK direct property returns results in significantly higher measures of volatility
- Unsurprisingly, gearing increases volatility
  - Funds observed with higher volatility than theoretical simulations probably due to sector focus of many geared funds combined with asset concentration

Conclusions

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- **What's the correlation with UK assets and how has this changed over time?**
  - *UK direct*: **fairly weak relative to both equities and gilts; little change over time**
  - *Unsmoothed data*: **ditto**
  - *Listed property*: **stronger but not as high as often thought**
- **What's the volatility and has this changed over time?**
  - *UK direct*: **low but has almost doubled in recent years**
  - *Unsmoothed data*: **high and has increased sharply during crisis.**
  - *Listed property*: **high and has increased**
  - *Pooled property funds*: **volatility mainly a function of gearing plus (probably) asset concentration**
- **As with all such analysis, use history as input only to future expectations**

Technical appendix and references

Unsmoothing of IPD UK Monthly Index

Based on standard methods first introduced by Blundell and Ward (1987) of the following form:

$R_{t\ unsm} = Rt – (\alpha * Rt\text{-}1)/(1\text{-} \alpha)$

Where:

- $R_{t\ unsm}$ = unsmoothed return month t
- α = autocorrelation of monthly returns (one month lag) over rolling 36 month periods

Simulation of geared returns

Assumed 70% loan to value ratio; rolling 5-year amortisation based on floating 5-year swap rate applied to IPD UK Monthly Index returns

Comparison with pooled funds as recorded by IPD UK Pooled Property Fund Indices based on gearing as at June 2010 and annualised volatility of direct market.

Changing characteristics of property investment

Illustrative analysis undertaken assuming discount rate of 300 basis points over risk free assets, 10 year weighted unexpired lease term, management costs and voids amounting to 10% of rental income.

References

Bond *et. al.* (2007) Asset Allocation in the Modern World, IPF Research Project

Blundell and Ward (1987) Property portfolio allocation: a multi factor model Land Development Studies, Vol. 4 145-156

Blundell and Morrell (1997) Is property one asset class? Paper delivered to Institute and Faculty of Actuaries Investment Conference, June

INREV Investor Universe UK Survey 2010

Investment Property Databank UK Monthly Index and UK Pooled Property Fund Indices

JP Morgan (2007) The Alternative Asset Survey 2007

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