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# Repricing Property Risk



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This programme supports the IPF's wider goals of enhancing the knowledge, understanding and efficiency of property as an investment class. The initiative provides the UK property investment market with the ability to deliver substantial, objective and high quality analysis on a structured basis. It will enable the whole industry to engage with other financial markets, the wider business community and government on a range of complementary issues.

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## REPRICING PROPERTY RISK

### IPF Research Programme Short Papers Series

#### Repricing Property Risk

#### IPF Research Programme 2006–2009

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- **to publish on topical issues in a shorter time-scale than we would normally expect for a more detailed research project, but with equally stringent standards for quality and robustness**
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## REPRICING PROPERTY RISK

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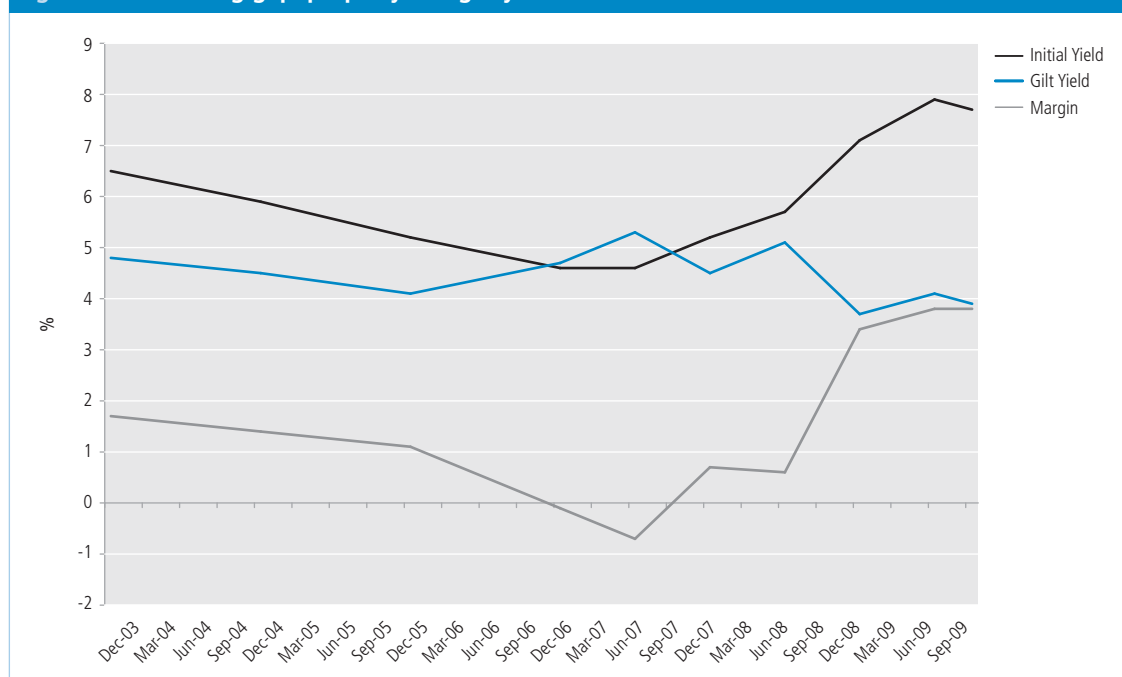
Gerry Blundell

## Background

By June 2007 the initial yield on UK property had fallen to 4.6% (see Figure 1). This was the lowest level since IPD's records began in 1981 and stood at a level that was 70bps below gilt yields. Property yields had been driven down by a combination of ready, cheap debt and a thirst for yield that reflected the aging profile of UK investors.

Even allowing for anticipated income growth at the time, yields of 4.6% probably implied a property risk premium of only 1% to 2%. This compares with a long run average risk premium that fluctuates around the 3% mark (see Box 1). However June 2007 proved to be a high water mark for property optimism. July saw the second Bear Sterns failure, the markets had glossed over the first one earlier that year. Since then events have conspired to drive gilt and property yields apart until by the autumn of 2009 a gap of nearly 4% had opened up. What sort of risk premium does that imply and how far might it contract as confidence returns to the market?

Figure 1: A widening gap: property and gilt yields since 2003



## Survey Evidence

In May and September 2008 the IPF conducted two revealing surveys of investor (IFA) expectations. Although one year expected property returns were then zero, those polled in May remained fairly optimistic over a five year term, their expectations averaging about 6-7%pa. However the poll reported a required margin over risk free rates (risk premium) of nearly 4%; implying a required return of 8-9%, somewhat more than what those surveyed expected and pointing towards likely net dis-investment. During the summer, conditions in the property market deteriorated further with yields rising 50bps and rents edging down, justifying the caution of those polled.

When they were resurveyed in September 2008, property's expected 5 year returns had risen to 7-8%pa, not withstanding increasing pessimism from consensus forecasts and industry gurus. Intriguingly since the May survey investors' required margin over gilts had fallen by around 50bps to 3.4%. The September survey asked a new

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question: “what margin over risk free returns would investors want from UK equities?” The average response was a 4.7%, some 130bps ahead of the property risk premium. At that time redemption yields on 15 year gilts stood at 4.6% so the survey was pointing to a required property return of 8% and 9% for equities. In September 2009 the IFA survey was repeated. Risk premia had risen to 3.6% for property and 4.8% for equities. How far are these requirements met by current asset pricing?

### BOX 1: THE LONG TERM RISK PREMIUM

The risk premium is the extra return investors require to be persuaded to transfer their funds from risk free assets such as cash or government bonds to a riskier form of exposure such as property. Its size (spread) will reflect a range of factors, liquidity, expected earnings growth, default probability etc. The property risk premium has been variously estimated over the years as typically fluctuating in the 2% to 3% range, depending on the state of the market.

An estimate of the long term risk premium, and hence its average past level can be derived by looking at past return data to property and bonds. It can be demonstrated that over the long run, setting aside the vagaries of yield impact, the risk premium will equate to the initial yield plus net income growth less an allowance for depreciation. Over the 1981/2008 period IPD records the following average values:

Component	%
All property initial yield	6.4
Plus income growth	6.3
Less depreciation	2.3
Less gilt yields	7.3
<b>Risk Premium</b>	<b>3.1</b>

However the evidence suggests that the risk premium fluctuates significantly around this 3% level depending how expectations for income growth inflation and other factors vary. At mid 2007 when the initial yield was only 4.6%, expected income growth was just under 5% including an allowance for reversionary potential. Deducting 5.3% for gilts (the risk free rate) and 2.5% for depreciation left a balance of only 1.6% as the implied risk premium.

Figure 2 sets out a fairly conventional analysis of prospective long run returns from yields current at the time of drafting (October 09). Because it tries to take a long term view over the next 15 years it makes no allowance for yield shift. In 28 years of IPD records yield shift made virtually no contribution to returns, and at the expense of considerable short term volatility<sup>1</sup>. So total expected return is the balance of current yield plus expected inflation and real income growth in the asset class (if any) less all costs.

<sup>1</sup> This is illustrated by the experience of the past 28 years (1981/2008) shown in the table below

Component of return	Annual mean	Volatility
Yield shift	0.2%pa	6.9
Rental growth	3.9%pa	7.5
Income growth	6.3%pa	3.9
Income return	6.6%pa	1.1
Total return	10.6%pa	8.7

Yield shift contributes virtually nothing to long term returns and yet is a major contributor to volatility. Surely a case for a yield shift derivatives contract. Note how the upwards only rent review clause enhances volatility-adjusted growth.

**Figure 2: Long Term Returns at Current Yields (October 2009)**

Component	Cash	ILG <sup>1</sup>	Fixed <sup>1</sup>	UK Property	FTSE All Share
Yield	0.5	1.0	3.9	7.9(2)	3.4
Expected Inflation linked growth	0	2.9	0	2.9	2.9
Real Income Growth	0	0	0	-1.5 <sup>4</sup>	2.5 <sup>4</sup>
(less costs, depreciation, dilution)	-0.1	-0.1	-0.1	-4.0 <sup>5</sup>	-1.2 <sup>5</sup>
<b>TOTAL</b>	<b>0.4</b>	<b>3.8</b>	<b>3.8</b>	<b>5.3</b>	<b>7.6</b>

<sup>1</sup> approximately 15 year duration

<sup>2</sup> IPD Monthly Initial Yield Aug 09

<sup>3</sup> 40 bps management + 250 bps depreciation + 110 transaction costs at 15% rotation pa.

<sup>4</sup> Based on consensus forecasts 2010/13 then 1981/2008 real trend for next 10 years

<sup>5</sup> Includes 50 bps for dilution, 25 bps management, 45 bps transaction costs assuming a modest 50% rotation per annum

The Figure takes a fairly jaundiced view of property's costs relative to gilts, allowing a full 2.5% for property depreciation and 0.5% for equity dilution<sup>2</sup>, arguably both have upside risk going forward. It also reflects short term pessimism about rental growth although it omits 2009.

What do the results tell us? Despite the rise in yield since 2007 property still looks unattractive against gilts with a prospective risk premium after all costs of less than 2% over gilts compared with a required margin from the IFA survey of 3.6%. On the strength of Figure 2 most respondents would not seek to hold property at these levels.

Either initial yields need to rise or income growth prospects improve. On their own initial yields need to rise a further 1.1% to around 9%, a level last seen in 1992. By the same token UK equities look over-priced too requiring a further 1% on yields or a similar improvement in earnings prospects.

This conclusion conflicts with recent evidence in the markets of renewed interest in prime income producing property where yields are again falling. But just as the stock market rally since March was largely to do with re-rating while earnings prospects weakened, so the spike in prime property values may well prove short lived without a recovery in occupational markets. The similar trend in both equity and property markets reflects the sharp rise in correlation since the start of the credit crunch.

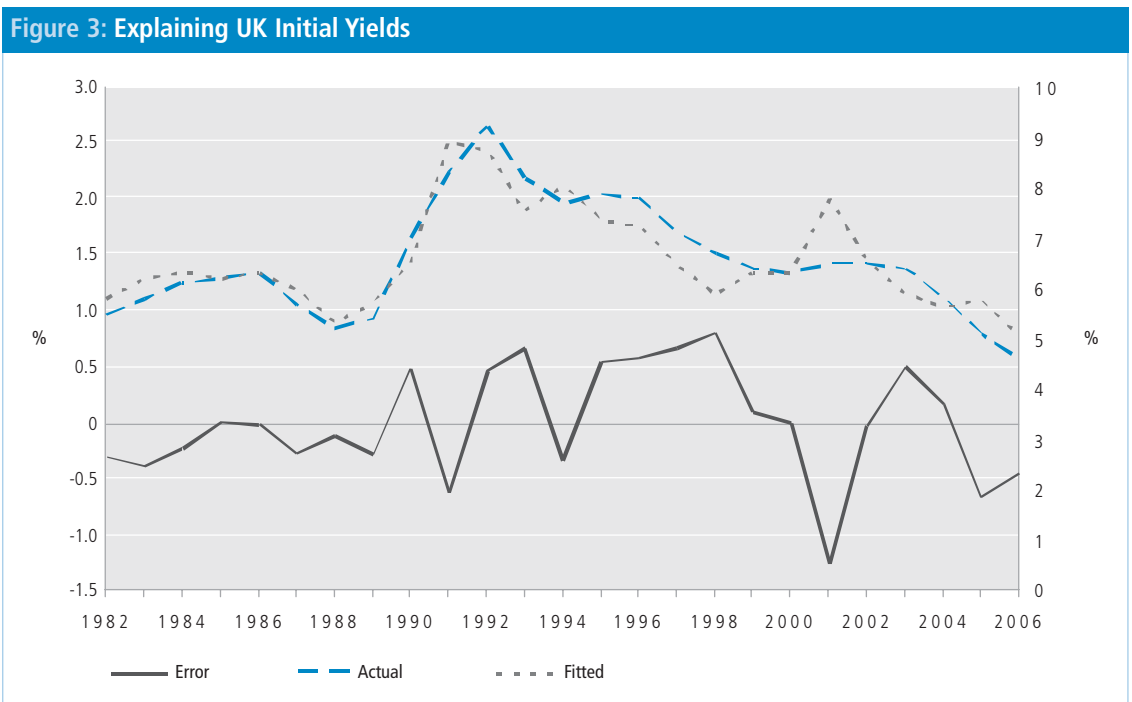
But markets' perception of fair value varies through time as appetite for risk waxes and wanes. All else is rarely held constant. Since March index linked and conventional gilt yields have fallen, making the estimation of a "fair value" yield difficult. Estimates of property's appropriate return margin over gilts have varied from as low as 1% to the heights of 5%. The two investor surveys illustrate how this margin can move through time. Because analyses like Figure 2 are frozen at one point in time, it is difficult to account for changing conditions so what can past data on the risk free rate, rental growth and yields tell us?

There are a wide variety of ways of interpreting past data to estimate how fair value fluctuates. No one way has a monopoly of insight and indeed a diversity of approaches helps to maintain a liquid market. Set out below are two, a simplistic econometric approach and a method borrowed from equities.

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### Econometric Approach

Figure 3 shows the results of a simple exercise to 'explain' initial yields from the IPD Annual Universe in terms of trends in index linked gilt yields (risk free rate), inflation and rental growth (proxy for expected income growth).



Using 1982-2006 data it "predicted" initial yields of 5.1% at 2006, much higher than the actual outcome of 4.6%. The model was reasonably well specified and appeared to be suggesting that at end 2006 property was overpriced. When a term was introduced to reflect investor optimism the 2006 error was eliminated and the model's performance improved. Given current conditions (15 year index linked yields at 1.0%, 2009 inflation heading for -1% and consensus rental change minus 10%) it predicts initial yields of 8.6%, a big increase on the IPD Universe's outcome for end 08 of 6.8% but still a bit below the fair value level inferred from the IPF investor survey.

However, as the solid line in Figure 3 shows yields rarely stop at "fair value". There is a tendency to overshoot. In the simple model used the average error was +/-55 basis points, a variance that was reduced by introducing a sentiment variable. We could, on the strength of this, easily see initial yields rising through 2010 to 9% before stabilising.

### Schiller's Cyclically Adjusted P/E

This has been developed as a measure of fundamental value in the US equity market by Robert Schiller of Yale. Past earnings are adjusted for inflation and then expressed as a 10 year trailing average. When divided into market value they provide an inflation adjusted P/E, or year's purchase in property parlance. This average is then compared to the century long average of 10 year averages at Schiller's disposal to measure over/under valuation in the US and other equity markets. Since its introduction a number of value style equity investors have adopted it as a guide to market over and under pricing.



Although only having 27 years of income the same approach was applied to the UK IPD data. The Schiller fair value for IPD stands at an inflation adjusted YP of 35 years (1990/2007). At end 2007 the Schiller YP for the IPD Universe was 68 years suggesting a +50% over valuation at end 2007. Income returns would have to rise from 4.6% (end 07) to 8.8% to return to fair value. With -26% capital returns in 2008 the Schiller YP fell to 47 years suggesting the market was still a third overvalued but well on its way towards fair value. If, as the consensus of forecasters reported by the IPF suggest, values fall by 18% in 2009 (IPF Survey Aug 2009) initial yields will rise to 8.4% by end year, an extra 50bps over the levels in Figure 2. In 2010 to get the Schiller ratio back to its long term average, yields will need to rise to about 9.5%.

Both methods suggest that investors' required margin over gilts will fluctuate as income expectations vary. Both approaches also point strongly to continued rises in yield this year. As might be expected their precise results differ with a range of initial yields between 9% and 9.5%. If as a working assumption we take 9% then it is possible to estimate the implied likely risk premium<sup>3</sup>. Excluding costs, the assumptions set out in Figure 2 point to a risk premium of around 2.6% at present.

However all this analysis is based on past trends and the past frequently belies the future. We are likely to see property's risk premium rise for a variety of reasons so the traditional 2% to 3% range may not be sufficient for asset allocators. Put another way as property market conditions return to normal it is possible that yields will not fall back towards their historic mean. There are a number of sources of uncertainty and risk that are endemic in markets that were not present for much of the past series on which long term averages are based. These are briefly reviewed below.

### Leverage

The level of debt in real estate is at record levels, De Montfort<sup>4</sup> estimate a total loan book of £200bn to a commercial property universe that is probably not in excess of £500bn. Gearing at, say, at least 40% must increase the risk premium compared with what was a relatively ungeared asset over most of the 1981/2008 period. Even if they do not have debt attached the comparables process of valuation will transmit the shock of forced sales to unleveraged stock valuations.

To illustrate this suppose a property was priced at an initial yield of 8% and after all costs etc had an expected return of 8%, a premium over gilts at 4% of 400bps, roughly the required risk premium. If it was geared at 40% LTV with debt at 7.5% the geared return would be 10.3%. Clearly the required return will rise with debt attached because the volatility risk to the remaining capital is higher and there is also interest rate and refinancing risk. This should increase the property's risk premium ie lower its valuation. If the illustrative example is typical of the market as a whole (and this is setting aside refinancing costs) then the levered risk premium on the remaining equity will rise by over 100bps to proportionately reflect the extra risk associated with gearing. Moreover this will be partially transmitted to other ungeared properties through the comparables process of valuation. If only half of this is transmitted to ungeared properties then the post credit crunch risk premium will have been raised by some 50bps.

<sup>3</sup> by re-arranging the Gordon growth model it can be demonstrated that the forward looking or ex ante risk premium equates to the fair value yield plus expected earnings growth less the risk free rate, depreciation and additional annualised costs over those associated with holding the risk free rate.

<sup>4</sup> Macted, B and Porter, T. 2009. The UK Commercial Property Lending Market: Year-end 2008 Research Finding, De Montfort University

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### Changes in Lease Structure

The recession will also exercise an influence through weakness in the tenant markets. Shortening lease lengths and the slow unpicking of the upwards only rent review clause are likely to increase risk premia as the owner is more frequently exposed to the possibility of market rental falls. The average lease length for most of the 1981/2008 period was 10 or more years. Looking forward it is unlikely to be much more than five. This effectively doubles releasing risk for which investors will, or should, require additional return, depending on the strength of the leasing market. This is likely to cause a divergence between prime and secondary stock yields, but overall could well push risk premia up by 25bps. On the other hand the increasing prevalence of RPI linked leases could well offset this trend.

### Climate Change

Carbon related regulations, and related taxation, will increase the rate of depreciation. Anxiety about the uncertain impact of CO<sub>2</sub> regulations will raise perceived risk about the asset class and will raise yields. This again will have an uneven influence across the market depending on location (flood risk) and the value of land as a proportion of total value. However it is difficult to see anything other than an upward influence on depreciation rates and thus the level at which yields will settle to as normal market conditions return.

As these factors slowly get baked into market prices we can expect the required margin over the risk free rate to rise. We will see a divergence in risk premia within the property universe as not all types of stock will be equally affected by these factors. Quite how this will play out is beyond the scope of this brief commentary, and should be a key area for research over the coming months as investors get ready to re-enter the market.

But it seems fair to assume that property as an asset class will never be quite the same again. On a conservative basis these structural factors could see long run risk premia rising by 100bps. So when and if average yields begin to fall again they may not have as much downside as some are hoping, or as might be estimated from time series analysis and econometric forecasts.

Shorter leases, leverage and taxation issues will all serve to move property away from its historic bond/equity hybrid status towards appearing to investors as more like an equity, albeit a high yield one. When the IFA's are polled in 2010 it will be interesting to see if any difference then remains between required equity and property returns.





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