Investment Property Forum

Investment Property Forum Educational Trust

Pricing Property Derivatives: An Initial Review

Executive Summary

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September 2006

This research was commissioned by the IPF ET and IPF Joint Research Programme

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The three-year 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 the other financial markets, wider business community and government on a range of complementary issues.

The programme is funded by a cross-section of 16 businesses, representing key market participants. The IPF Educational Trust and the IPF gratefully acknowledge the contributing organisations; Capital & Regional, Donaldsons, Grosvenor, GVA Grimley, Investment Property Databank, KPMG, LaSalle Investment Management, Land Securities, Lovells, Morley Fund Management, Nabarro Nathanson, Prudential Property Investment Managers, Quintain Estates & Development, Scottish Widows Investment Partnership, SJ Berwin and Strutt & Parker.

The research team

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The project steering group

The Property Derivatives Interest Group (PDIG) steering committee reviewed the research findings. The IPF gratefully acknowledges the contribution from the Chairman, Iain Reid (Protego), and the members Anne Leckie (Standard Life), Becky Worthington (Quintain), Colin Barber (Propex), James Adam (ICAP), Paul McNamara (PruPim), Rawle Parris (ABNAmro), Richard Sutherland (Tavistock), Sabrina Wisner (IPF), Tim Horsey and Charles Follows (IPF).

The views expressed in the report are those of the researchers alone and do not necessarily represent the views of PDIG or the individual members of the PDIG steering group.

PDIG is a special interest group of the IPF.

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Context

The last two years have seen the emergence of a burgeoning property derivatives market that continues to develop and mature apace. Along with property derivatives, the widespread use of indirect property vehicles and the impending introduction of REITs in 2007 bring to the property investment market products long established in the other asset classes and other markets. These developments will benefit the UK property investment market and reinforce its position as one of the main asset classes for investors.

However, most property practitioners are not schooled in derivatives and the theoretical framework underlying their pricing. Property fund managers, surveyors and other property market practitioners may struggle fully to understand these financial products. On the other hand, derivatives people are engaging with the property market for the first time.

In order to fill these knowledge gaps the IPF ET and IPF joint research programme commissioned this research. This research helps the transparency, efficiency and operation of the property investment market by reviewing the development of the property derivatives markets and exploring the underlying pricing framework. In addition, the researchers interviewed a number of market participants and report on their views of the pricing mechanism currently used in this developing market.

This report comprises of the executive summary of the research findings. To purchase a copy of the full research findings report please contact the IPF (details below).

The IPF ET and IPF congratulate the research team and invite comments on the findings. Please address comments or suggestions to Charles Follows, Research Director, IPF, New Broad Street House, 35 New Broad Street, London EC2M 1NH.
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Executive summary

- This report reviews the development of property derivatives and, in particular, total return swaps in the UK market. It considers pricing processes observed in the market and compares them to those that would be expected based on finance theory and the experience of other asset markets.
- Formal attempts to establish an active UK property derivatives market were hampered by the failure of London FOX and a set of regulatory and tax obstacles. PICs and PIFs were successfully launched and traded but a change in the regulatory environment – driven by PDUA/PDIG – has revived interest in the market and seen the development of an over the counter total return swap market.
- It is estimated that some £800 million of trades took place in 2005, a figure matched in the first half of 2006. Further evidence of interest comes from the trading forums organised by HERMES, GFI and ICAP and new initiatives by others, including MSS Capital and Goldman Sachs.
- A fundamental financial principle is that efficient markets will eliminate arbitrage opportunities. The same assets available in two different markets should have the same price. If an investor can sell one cashflow from an asset, receive a second cashflow in exchange and can use that cashflow to buy the original asset, the total net present value must be zero.
- A second key financial principle is that risk should be priced appropriately. Apparently similar assets may exhibit differences in prices due to differences in their relative risk. Direct property investment and investment in property derivatives represent different assets and to the extent that they are different their prices must be different.
- These principles hold in swap markets. In fixed to floating interest rate swaps, the fixed rate produces payments that, when discounted at forecast LIBOR rates, produce zero NPVs. In financial market index swaps, risk adjusted returns equalise. Thus, for equity-interest rate swaps (for example FTSE to LIBOR) the margins (spreads) are very small – a few basis points. The same is observed in bond-interest rate swaps. The margins do not simply reflect differences in expected returns, as they reflect the fact that risks are not equal.
- The limited evidence that exists on real estate swap pricing, from the trading forums and indicative prices available on Bloomberg, Reuters and Propex for example, suggest that property / LIBOR swaps have traded at large margins – as much as 500dps to 600bps for one year swaps, 400dps to 450bps for two year swaps, over 300bps for three year swaps. What is the source of such large margins?
- Evidence from a set of interviews with market participants in early 2006 suggests that the base approach is to look at the difference between expected returns for the two assets. This establishes an initial margin that may then be risk adjusted. This approach is inconsistent with financial theory.
- The survey provided evidence that investors were using derivatives to change their exposure to the asset class while avoiding transaction costs in the underlying market. This identifies property market characteristics and inefficiencies in that market as a potential source of margin.
- Property markets are more complex due to the nature of the asset class. It is not easy to reproduce or track IPD due to large lot sizes, high specific risk and, critically, high transaction costs that drive long holding periods for direct investors.
- There are also index issues mostly relating to the valuation-based nature of most property indices. This produces serial correlation, smoothing from temporal aggregation effects and issues concerning timeliness and insider knowledge.

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- As yet there is a limited theoretical literature on property derivatives. The papers that do exist show that expected margins should be very small or zero – consistent with the equity market swap literature. The results, though, assume market efficiency. Actual margins may reflect inefficiencies in the underlying market but, once again, should not result primarily from differences in expected returns.
- In analysing swaps, it is important to emphasise that what is being swapped is a bundle of return and risk and that the risks differ. If LIBOR returns and property returns are correctly priced and lie on the securities market line (meaning that riskier assets offer higher returns to accurately reflect that risk differential) then there should be no margin. This assumes that investors hold well diversified portfolios and are thus concerned about systematic risk, not specific risk.
- In practice, a key issue that needs to be considered is whether it is possible to create a perfectly hedged portfolio despite tracking error and the return-eroding impact of transaction costs. The proposed FTSE Property Index, based on the MSS FTSEpx property fund, creates an (albeit imperfect) investable exchange-traded underlying asset. This introduces the possibility of perfect hedging.
- In conclusion, there appear to be pricing anomalies in the property derivatives market and in the pricing processes advocated by the market participants interviewed. As the market develops and as knowledge and understanding deepens, the margin should adjust to a value that reflects inefficiencies and trading costs in the underlying property market, but importantly not differences in expected returns.

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