



# GLOBAL STRATEGY & INVESTMENT CONSULTING

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## PROPERTY DERIVATIVES

A BRIEF OVERVIEW

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## Property Derivatives

A property derivative is one whose price and value is derived from the value of a real estate asset, usually represented in the form of an index. The product usually takes the form of a total return swap or forward and can adopt a funded format where the property derivative is embedded into a note structure. In the total return swap or forward transactions, parties usually take opposite positions on the price movements of a property index.

The most common benchmarks used for property derivatives in the UK are the various property indices published by the Investments Property Databank (IPD), which cover approximately 12,000 directly held UK property investments. A variety of indices are used in other markets such as the NCREIF property index (NPI) in United States.

Property derivatives offer an alternative method of investment in commercial and residential property, as well as a system for managing existing exposure in both the direct and indirect real estate markets. They enable strategic and tactical management of property market risk by gaining or reducing exposure to property without dealing in the physical asset or through indirect vehicles. In case of commercial property, exposure can be to the market (as a whole), individual sectors or indeed the relative performance of one sector against another.

### Types of Property Derivatives

There are 2 main types of Property Derivatives in the property market today:

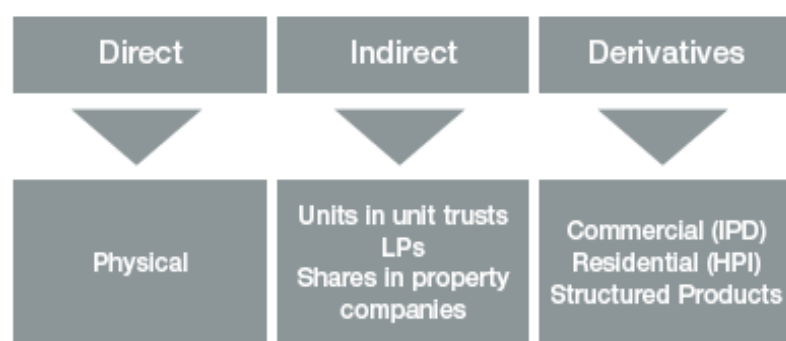
#### 1. Property Index Notes (PINs)

PINs are essentially bonds. The cash flows of these bonds are structured in a way that is meant to be similar to a transaction in physical property. This means that the PIN pays the capital return on redemption of the bond and a quarterly coupon to investors. In this way, the seller of the PIN pays the IPD annual capital growth at redemption and the IPD income return to the counter party on a quarterly basis. This means that the counter party is, therefore, receiving the total return of the commercial property market, just as they would with a physical transaction in property.

#### 2. Total Return Swap (TRS)

A Property Total Return Swap is simply an exchange of cash flows. Here, the total return on property, as measured by the change in the relevant IPD index, is exchanged for the return on cash. The rate of return on cash is determined by a floating rate of interest plus a spread.

### Property Investment Options



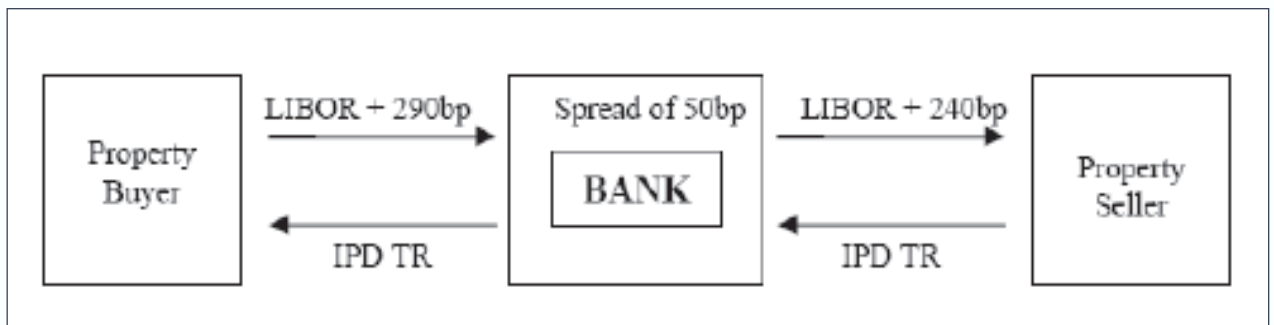
**How do property derivatives compare with traditional physical purchase?**

- Property derivatives are not subject to the supply and demand limitations of physical purchase
- Transactions are quick and cheap with round trip savings of roughly 7%.
- Savings are greater still if viewed as a sale with agreement to repurchase.
- A swap on the IPD can deliver instant diversification.
- Portfolio sector weightings can be altered without incurring the Stamp Duty Land Tax.

**Derivative advantages and disadvantages over direct property investment**

ADVANTAGES	DISADVANTAGES
Quick	Counter-party risk
Cost effective	Generic bundle
Ease in execution, assignment or termination	Not available for all asset types or classes
Relative flexibility	No control over referenced assets
Avoids management	Index shortcomings
Ability to short market	Index is a trailing indicator
Avoids time delay	Relatively new product

**How does a total return swap work?**



The buyer will pay LIBOR plus a fixed margin and will receive from the IPD. The seller will receive LIBOR plus a fixed margin and pay the IPD. The spread over LIBOR represents the expected behavior of the IPD over the duration of the swap such that the NPV of both buying and selling are the same, excluding the bank's spread.

**Uses of Property Derivatives:**

- **Portfolio Management**
- Pension/Life Funds can alter asset allocation to property without trading in the underlying asset.
- Property Funds can adjust sector allocations taking specific views and can invest in sectors of the market to which they would not normally gain exposure due to size constraints.
- Investment
- Hedge Funds can use property derivatives to gain exposure to another asset class.
- Specific Property Swaps can be used to dispose off the economic interest of a building without transferring legal ownership of the asset.
- Hedging
- Real Estate Companies can hedge property portfolios both in terms of capital value and rental income.
- Property Developers can hedge speculative developments



### Property Derivatives facing few constraints

The property index derivatives market has remained disappointingly small compared to the size and performance of the traditional property market. Few reasons for this are:

Basis Risk: The index used for settlement of derivatives is not meaningful for transactions where the investors are trying to hedge. The method of calculating the index is not clear in terms of the approach which creates a doubt in the mind of the investor and to avoid the situation he looks for other convenient products.

Need for a two-sided market: Every trade must have a buyer and a seller. There are loads of people who will want to sell a property derivative when the market is sliding. Because the value of the property to hedge is in trillions of pounds, there will always be someone who wants to sell. But who will buy the derivative in a falling market?

Lack of homogeneous products: Property is not homogenous. It is not like a tonne of cocoa or a barrel of oil. A prime office block in the city of London is a different asset to one in the West End. Derivatives are financial instruments that derive their value from an underlying asset. So to create a homogenous product in derivatives, with underlying asset so different from each other, is a difficult task. For this, index based trading is being used but investor communities still have to get adapted to these kinds of transactions.

Lack of standardized documentation: According to the 2007 ISDA - Property Index Derivatives Definition; the parties have to enter into an ISDA Master Agreement, which is a set of standard terms for derivative transactions amended by a schedule - a document setting out agreed specific variations. They can enter into one of the two categories of template property index derivative confirmations although they may of course create their own template confirmations. This confirmation will incorporate the agreed master agreement. The parties may also choose to provide collateral to control their exposure to each other in the event of a default or termination, under a credit support annex to the master agreement. This process does not give a concrete and transparent system of the execution of the transaction.

Pricing the contracts: Derivative contracts are presently executed as matched bargain trades between a buyer and a seller because intermediaries are unwilling to assume property risks which cannot be off-loaded immediately. Pricing of derivatives is therefore determined through bilateral negotiations rather than by the market forces which results in a deviation in the prices of the derivatives from the true value of the underlying asset. Also, the risk is very difficult to assess as contracts are priced on the basis of a broad index.

Flexible exposure: Derivatives also allow investors to change their exposure to property for a period of time, which is particularly useful for pension and life funds driven by asset allocation requirements. But they give capital constrained investors an access to the property market along with those who have little expertise in managing real estate. This may not prove good for the retail investors because of lack of liquidity in the current derivatives market. Moreover, the returns are dependent on specific indices rather than the underlying portfolios which enable participants to benefit from the excess returns generated on their assets through active asset management only.



### Caution

Property derivatives are getting a lot of attention from investment banks, issuers and fund managers. But these are people who inflate the assets exponentially; and with a less liquid market like property derivatives, it can affect a large number of retail investors. The current sub-prime mortgage crisis in the United States and the subsequent global credit crunch are timely reminders of the power of its influence.

### Properties derivatives – The next big thing?

*“With the evolution of property derivatives, it is now becoming possible to swap sectoral or regional risks”*

Real estate is the only major asset class with no associated mature derivatives market. The situation is changing with both institutional and corporate investors starting to show a keen interest to understand derivatives. With property emerging as a global asset class, derivatives for real estate are becoming even more attractive to potential investors. This is because the contracts are quicker and cheaper to execute than a purchase or sale of the underlying asset and also derivatives allow investors to take a short position on property. All the common derivatives classes like forwards, swaps and options can easily be applied to the property market for transacting property risk without the need to transact in the physical asset. These features will enhance the liquidity in the property markets and investors will be able to hedge their future property transactions.

Property derivatives have been on the verge of explosion for years. With tedious regularity, investors have understood the effectiveness of the instruments and boasted about their numbers. Increased growth rates are a signal of the market's imminent take-off. According to London-based researcher Investment Property Databank, trading in UK commercial real estate derivatives rose by 70% in the third quarter of this year. Derivatives with a face value of £1.7bn (€2.5bn) were traded in this period, compared with just £1bn in the previous quarter. The global notional outstanding value of property derivative trades also reached its highest point of £11.5bn.

Derivative volumes, all markets, IPD Index linked	
Global Total Notional, all trades to date	£ 11.5 bn
Global Outstanding Notional	£ 8.8 bn
Global Total Contracts, all trades to date	796
Global Outstanding Trades	612
Notional of all trades executed in Q3 2007	£ 1.80 bn

Source: IPD Nov-07

Total IPD return forecast



Source: IPF

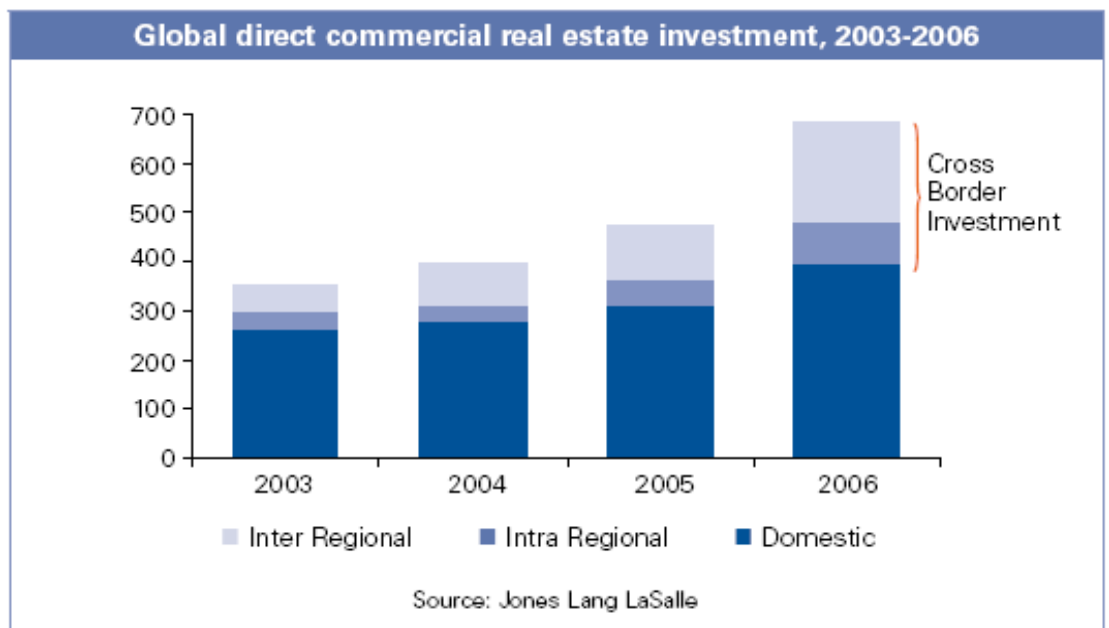
Trends in the property markets

The search for yield-accretive deals pushes investors to new markets.

It is estimated that about \$50bn of capital has been lined up to invest in property and the search for yield accretive deals has been a key factor; driving interest in the emerging markets of Europe, Middle East and Asia. Foreign investments in real estate reached \$4.3bn in 2006 compared to just \$1.5bn in 2005 and \$0.4bn in 2004. India has seen dramatic growth in demand for residential, commercial and retail. Also, the extent of real estate investments is creating mammoth demand in the construction industry.

Inter and intra regional capital flows are occurring on an unprecedented level

Global direct real estate investments reached \$682bn in 2006, a y-o-y increase of 38%. More than one-third of that amount was a cross-border investment. Institutional investors in western economies are looking to emerging markets, seeking higher returns.



Source: Jones Lang LaSalle



The growth story of REITs

The global real estate investment trust (REIT) market has grown in value by almost 350% over the past five years. At the beginning of 2007, there were a total of 334 REITs listed around the world, with a combined value of 944.6bn. In 2006, listed real estate accounted for just 8.8% of the total value of global real estate.

Listed real estate as a proportion of the total real estate market(2006) All figures in USD billions			
		Total real estate market	Total listed real estate market
Asia Pacific	10,745	3,723	542.3 (14.6%)
Europe	15,305	6,848	431.6 (6.3%)
Latin & South America	2,186	632	1.7 (2.7%)
North America	13,615	6,127	549.7 (9.0%)
World	41,582	17,329	1,525.3 (8.8%)

Source: NAREIT

**Property derivatives - Its time to go global**

The year 2006 saw rapid growth of commercial property derivatives in the UK and the present depicts every sign that they will become a global phenomenon in 2007. Over the last year, many professionals have suggested that the kind of derivative deals now occurring in the UK would be simulated in other countries where property indices are available. But so far their development has been very limited (geographically). Now however there are strong signs that a global movement is about to begin.

- More recently, the first few continental European derivatives deals have finally taken place in France and Germany.
- In December 2006, Merrill Lynch and AXA carried out the first property swap deal in France using the IPD index for the Paris office market.
- In January, Goldman Sachs sold an option on the German commercial property index - the DIX. This was the first real estate derivative product to have been traded in Germany and also the first property option deal anywhere in the world.
- Interest is mounting in the US, particularly since the termination of Credit Suisse’s exclusive arrangement with the index providers NCREIF (the National Council of Real Estate Investment Fiduciaries). A large number of investment banks are now establishing property derivative desks in the hope that the market is about to witness an increasing curve.
- There is now a combination of exchanged-based and over-the-counter (OTC) activity going on with many of the largest property market players involved in the UK.
- Nascent indices include those being developed by the Chicago Mercantile Exchange, Massachusetts Institute of Technology and agents Cushman & Wakefield.
- In Hong Kong, a residential index of repeat sales has been specially created for derivative uses by the University of Hong Kong, working alongside GFI who also set up a desk there in October 2006.



- Many believe that Hong Kong's highly volatile property market provides potential arbitrage opportunities for property derivatives in an economy whose foundations and fortunes are built on strong property prices.
- Fimat is working to educate the Hong Kong market for the benefit of property derivatives and has made exploratory visits to Europe to see the way IPD is training institutional players in countries like Sweden.
- AFMA – the Australian Financial Managers Association has set up a working group with leading banks, financial institutions and accountants to work out the conditions needed for property derivatives to take off.

In property derivatives, there seems to be a worldwide trend which is being fuelled by investors, banks and brokers with very global perspectives. Consequently, 2007 looks set to see property derivatives becoming more widely used around the globe.



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