Factors Influencing the Propensity of Real Estate Investors in the U.K. to Employ Property Derivatives: A Survey

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1. Introduction
1.1 Background

• Recent global financial crisis (2007-2009) has shown what cataclysmic consequences the convergence of financial markets and real estate markets can have for national macro economies

• Interweavement of the two markets provides opportunities for product innovations on the one hand, and involves new risks on the other

• GFC has demonstrated how important it is to adapt flexible holding strategies and to have the ability to unwind property investments quickly

• There is not only cyclicality in real estate markets but also the necessity of rebalancing portfolio allocations from time to time (i.e. when equities or bonds get more attractive than real estate)
1.1 Background (cont’d)

- Typically, the trading volume of futures is correlated with the size of the underlying market and its volatility (Corkish, Holland and Vila, 1997)
- Real estate is the largest asset class in the world ($217 trillion)

Left chart: Global real estate market compared to equities and bonds (Source: Barnes, 2016); Right chart: Total volume of futures and options traded and/or cleared at 78 exchanges worldwide (Source: FIA, 2014)
1.1 Background (cont’d)

- Real estate is the **last major asset class** without liquid derivatives markets
- **Reasons** for that are not fully known or understood
- Five aggravating factors are:
  1. Inherent **illiquidity** in real estate markets;
  2. Heterogeneous **structure** of real estate markets;
  3. Difficulties associated with the **measurement** of financial performance of underlying assets;
  4. Autocorrelation of asset prices;
  5. Index itself is not investable (i.e. constituent parts cannot be bought)

- It is not possible to completely **reproduce** the financial characteristics of real estate assets by combining other financial assets – this makes the market **incomplete** which, in turn, renders **hedging** difficult and **perfect risk transfer** impossible
1.1 Background (cont’d)

Declining trading volume since 2008

![Graph showing derivatives traded on MSCI’s IPD Indexes in the U.K., covering both OTC swaps and exchange trades (Eurex).]
1.2 Definition

• In general: A derivative is a financial instrument whose value is derived from an underlying variable.

• This variable can be the price of a traded asset, an index or anything similar that can be measured reliably.

• In particular: A property derivative/real estate derivative is a financial instrument whose value is derived from an underlying real estate price index.
1.3 Aims and Objectives of the Research

• Existing research has unanimously confirmed that market liquidity is the most important prerequisite for the development of property derivatives markets.

• Present body of literature falls short, however, in exploring the reasons for the reluctant use of property derivatives, especially in the U.K., which is considered the most developed market in this regard.

• Aim of the current research is to better understand the main factors that influence the propensity of commercial real estate investors in the U.K. to employ property derivatives.

• Understanding of the investors’ views and the relationships between the influencing factors help explain the reasons for the illiquidity in the property derivatives market.

• Research allows drawing conclusions as to necessary product improvements, regulatory changes, and the future viability of commercial property derivatives.
1.4 Research Questions

1. What reasons do potential users (e.g. fund managers) put forward for not using property derivatives?
2. Is there a pattern that emerges in these reasons as to why real estate derivatives are not used?
3. What are the motivations that potential investors have for using property derivatives?
4. Do the characteristics of property futures, which are currently available on Eurex, meet investors’ expectations and their investment requirements?
5. What is the perception of liquidity that real estate investors have with regards to the property derivatives market?
6. Which conditions need be fulfilled in order for real estate investors to consider trading property derivatives?
2. Literature Review
2.1 Important Milestones in the Development of Property Derivatives Markets

PICs ... Property Index Certificates (tradable bonds which paid a quarterly income and a capital redemption amount contingent on the corresponding real estate index performance)

PIFs ... Property Index Forwards (PIFs were based on the IPD UK All Property Capital Growth Index and thus depending only on the capital growth and not on the income return)

FSA ... Financial Services Authority (today Financial Conduct Authority (FCA))

EMIR ... European Market Infrastructure Regulation
2.2 Prerequisites for Successful Property Derivatives Markets

- Necessary conditions for a successful [housing] futures market which affect the demand for hedging (Gemmill, 1990):
  1. the size of the underlying market;
  2. the unpredictability of prices;
  3. a sufficient number of independent buyers and sellers of the commodity;
  4. a sufficiently homogeneous commodity;
  5. no other satisfactory means of hedging

- Three additional, necessary but not sufficient, conditions for a liquid real estate derivative market (Gordon and Havsy, 1999):
  1. a large actively traded underlying market of assets;
  2. presence of sophisticated institutional investors who have both the skills and the need to manage risk;
  3. availability of reliable indices or real-time pricing of underlying assets respectively

  - Once the three conditions are fulfilled, a precipitating event or stochastic shock would create a ‘volatility spike’ followed by a rapid development of new risk management tools
2.3 Types of Underlying Real Estate Indices

- Real estate indices
  - Appraisal-based indices
  - Transaction-based indices
    - Repeat-sales indices
    - Hedonic indices
  - Indices based on Real estate shares or REITs

2. Literature Review
2.3 Types of Underlying Real Estate Indices (cont’d)

- Appraisal-based:
  - Due to low transaction frequency in commercial real estate markets, appraisals are commonly used to construct price indices
  - Temporal lag
  - Volatility smoothing
  - Autocorrelation
  - Index provider MSCI-IPD
2.4 Typology of Existing Property Derivatives Markets

• By instrument:
  – Structured notes;
    • Bond-like investment whose coupons are linked to the performance of a real estate index
    • Are actually not considered derivatives in the narrower sense
    • Investor pays a capital sum upfront to the note issuer at par
    • At redemption the amount to be paid is calculated as follows: (Index Final / Index Initial) * Nominal Amount
    • One of the main reasons for their use is that they avoid the high regulatory hurdles and the operational complications associated with swaps and futures
2.4 Typology of Existing Property Derivatives Markets (cont’d)

– Swaps ⇒ Structure of a total return swap/sector swap

- Futures

IPD Total Return Index = Capital value growth + income return
## 2.4 Typology of Existing Property Derivatives Markets (cont’d)

<table>
<thead>
<tr>
<th></th>
<th>Structured notes</th>
<th>Swaps</th>
<th>Forwards</th>
<th>Futures</th>
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<td>No</td>
<td>No</td>
<td>Initial margin</td>
</tr>
<tr>
<td>ISDA documentation required</td>
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<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Credit Support Annex (CSA) required</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Trading place</td>
<td>OTC</td>
<td>OTC</td>
<td>OTC</td>
<td>Exchange</td>
</tr>
<tr>
<td>Counterparty risk</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>
2.4 Typology of Existing Property Derivatives Markets (cont’d)

Currently available on Eurex:

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Expiry</th>
<th>Diff. to prev. day last</th>
<th>Last price</th>
<th>Date</th>
<th>Time</th>
<th>Traded contracts</th>
<th>Open interest (adj.)</th>
<th>Open interest date</th>
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</thead>
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<tr>
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<td>02/08/2017</td>
</tr>
</tbody>
</table>

Total: 0, 1,266
2.5 Pricing of Property Derivatives

- Focus of the discussion in the realm of arbitrage-free models has been on total return swap spreads and their pricing.
- When market frictions and counterparty risks are considered, the theoretical spread value is no longer zero.
- Despite some mixed results in the academic literature, it seems that the market prices of spreads are higher than theoretically suggested (possible reasons include the nascent stage of the market and imbalances between hedgers and speculators; large spreads observed in the market are considered to come from market disturbances).
- Equilibrium models on the other hand consider those factors that cause the disequilibrium between the real estate index and the tracked market.
- These are in particular the index lag, transaction costs, transaction timing and time differences in receiving exchanged cash flows of a total return swap.
- There is general agreement among some authors (Geltner and Fisher, 2007; Syz and Vanini, 2011; Lizieri et al., 2012) that there is a trading window around the zero spread value.
2.6 Possible Reasons for the Reluctant Use of Property Derivatives

- Small number of studies have touched on this issue
- Lim and Zhang (2006):
  - Biggest concern among U.S. investors, which prevented them from investing in property derivatives, was related to the liquidity of the property derivatives market and the associated lack of secondary market
  - Investor uncertainty on how to price property derivatives
  - Issues related to the appraisal-based real estate index which lags behind the performance of the underlying real estate market
  - Lack of expertise and knowledge in the field of property derivatives
  - Requirement to obtain trustee or investment committee approval
- Venter (2007):
  - Real estate indices
  - Pricing of property derivatives
  - Education of end users on specific property derivatives products
  - Fund mandates not allowing property derivative trading
  - Applicable tax and accounting rules
2.6 Possible Reasons for the Reluctant Use of Property Derivatives (cont’d)

- Püntener (2011):
  - Distinguishes impeding factors at an institutional level from those at the company level or organisational level
  - At the institutional level: lack of understanding between the property industry and the financial derivatives industry, education (i.e. knowledge about the product), taxation (i.e. with regards to the applicable tax regime), accounting volatility due to mark-to-market valuations, low transparency of the IPD-index, pricing of total return swaps, and legal and mandate restrictions concerning the use of property derivatives
  - At the organisational level: lack of understanding between the property and financial divisions within a company, the necessity to have an internal risk management in place, issues arising from mandates, certain council laws, contract size for small property funds, and a poor fit with the corporate strategy

- Existing studies have mainly a quantitative research design

- The reason(s) for the reluctant use remain unclear
2.6 Possible Reasons for the Reluctant Use of Property Derivatives (cont’d)

- Usefulness and hedging effectiveness of property derivatives
- Reliable performance measurement/real estate index
- Suitability of the index (lag, time basis risk, not rigorous enough)
- Problems with performance measurement/index issues
- Property derivatives pricing
- Uncertainty as to pricing property derivatives
- Spreads too large to justify contract entry
- Role of intermediaries
- Lack of involvement by intermediaries
- Lack of liquidity curtails adequate risk management for intermediaries
- Knowledge about property derivatives
- Unfamiliarity with the product/knowledge gap
- Aftermath of the GFC and Basel III

Lack of liquidity/Low trading volume/reluctance of investors to use property derivatives

- Peculiarities of the real estate market
  - Nature of the market (illiquid underlying asset)
  - Lack of homogeneity of the underlying real estate market
  - Imbalance between hedgers and speculators (long side/short side imbalance)
- Taxation issues
  - Uncertainty as to the applicable taxation regime
- Accounting issues
  - Induced accounting fluctuations for end users
- Soft factors
  - Psychological barriers
- Lack of confidence in market and financial products
- Failed attempt of product launch at London FOX
3. Research Methodology
3.1 Theoretical Research Paradigms (Epistemology) and their Philosophical Assumptions (Ontology)

• Ontological beliefs or philosophical assumptions about the **nature and structure of reality** and the underlying epistemology (refers to the theory of knowledge and to what constitutes acceptable knowledge in the field of study) for inquiring into the nature of the social world

• This is important because “[d]ifferent ways of viewing the world shape different ways of researching the world” (Crotty, 1998, p. 66)
3.1 Epistemology and Ontology (cont’d)

- In social science the ontological debate has been primarily between internal realism, relativism and nominalism (Easterby-Smith et al., 2015)
  - Relativism which asserts that there is no single reality that can be discovered but there are many perspectives which depend on the viewpoint of the observer

- Social constructionism
  - Focus on the subjective meanings and phenomena, and the interpretations of these in order to reveal a reality behind
  - Requires an interactive link between the researcher and the research subject
  - Focus is on what people are feeling and thinking
  - Researcher enters the social world of the research subjects and tries to understand the world from their point of view
3.2 Overall Methodological Approach and Justification

- Methodological approach refers to a certain way of thinking about certain phenomena
- Describes the process and logical structure of inquiry into the research problem
- Present research problem can be tackled best by grounding the reasons for the reluctant use of property derivatives in the answers provided by research participants (semi-structured interviews) who are active in the field and who are knowledgeable about the product
3.2 Overall Methodological Approach and Justification (cont’d)

- Grounded theory
  - Was developed by Glaser and Strauss (1967) “as a reaction against the extreme positivism that had permeated most social research”
  - Generating theory from data (collected by interacting with research participants/interviews)
  - Interpretive process that is grounded in the views of the research participants and contrasts the logical deduction from a priori assumptions
  - Helps to find out why something is going on and what accounts for certain patterns of behaviour
  - Research process does not begin with preconceived ideas
3.2 Overall Methodological Approach and Justification (cont’d)

• Why grounded theory?
  – Theory is grounded in and derived from the data which demonstrates legitimacy \(\Rightarrow\) direct interaction with the research subjects
  – Reasons for the reluctant use of property derivatives emerge from the data and are not preconceived or subjectively determined by the researcher
  – Uncovers the beliefs held by the investors active in the field, it explores their meanings and provides explanations for their present investment behaviour \(\Rightarrow\) research findings are meaningful to the people in the field because the data was collected from them
3.2 Overall Methodological Approach and Justification (cont’d)

• Why grounded theory?
  – Theoretical **sampling** technique provides a certain automatism and logic to the sampling process and ensures that the identified categories are theoretically saturated
  – Type of theory that is developed is usually a **substantive** theory and hence useful to practice
3.3 Data Collection and Analysis

- A set of data was collected from 43 in-depth interviews with U.K. professionals in the field
- Data collection took place between June 2016 and March 2017
- Interviews lasted between 30 minutes and two hours
4. Findings and Analysis
4.1 Discovered Influencing Factors

- Analysis of the collected research data yielded a total of 29 categories.
- According to Strauss and Corbin (1998), categories are “concepts, derived from data, that stand for phenomena” (p. 114).
- The first differentiation that was discernible in the interview data concerns both the internal (endogenous) organisational conditions of the interviewees and the external operational (exogenous) conditions of their organisations.
- Therefore, at the highest level of conceptualisation, the influencing factors can be divided into endogenous and exogenous factors.
4.1 Discovered Influencing Factors (Cont’d)

Factors Influencing the Propensity of Real Estate Investors in the U.K. to Employ Property Derivatives

- Endogenous Factors
  - Organisational Level
  - Individual Level

- Exogenous Factors
  - Related to the Market
  - Related to the Instrument
  - Related to Clients from IM Firms
  - Related to the Value System
4.2 Tested Influencing Factors

• Those factors that were already discussed in the literature, were tested as to their impact on the propensity to use the instruments

• Tested factors are:

1. Administrative and Operational Requirements;
2. Understanding of Markets and Instruments – Need for Education;
3. Pricing of Property Derivatives;
4. Homogeneity of Market Views;
5. Importance of Real Estate Indices for the Use of Property Derivatives;
6. Ambiguities Concerning the Taxation of Property Derivatives;
7. Induced Accounting Volatilities;
8. Restrictions by Fund’s Mandate
### 4.3 Overview of Discovered and Tested Influencing Factors

<table>
<thead>
<tr>
<th>Origin of Factors</th>
<th>Sub-Level</th>
<th>Influencing Factor</th>
<th>Emerged from Data or Tested</th>
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<tbody>
<tr>
<td>Endogenous</td>
<td>Organisational Level</td>
<td>Motivations for Using Property Derivatives and Corresponding Return Expectations</td>
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<tr>
<td></td>
<td></td>
<td>Decision-Making Process to Employ Property Derivatives</td>
<td>Emerged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Administrative and Operational Requirements</td>
<td>Tested</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hedging Strategies</td>
<td>Emerged</td>
</tr>
<tr>
<td></td>
<td>Individual Level</td>
<td>Understanding of the Market and Instruments – Need for Education</td>
<td>Tested</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Psychological Barriers</td>
<td>Emerged/Defined</td>
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<tr>
<td></td>
<td></td>
<td>Perception of Investment Managers Towards Property Derivatives</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Awareness of Current Instruments and Ways of Market Access</td>
<td>Emerged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disproportion Between Effort and Impact</td>
<td>Emerged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demonstrating Practical Competence</td>
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### 4.3 Overview of Discovered and Tested Influencing Factors (cont’d)

<table>
<thead>
<tr>
<th>Exogenous</th>
<th>Factors Related to the Market</th>
<th>Factors Related to the Instrument</th>
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<tbody>
<tr>
<td></td>
<td>Structural Change in the Property Derivatives Market Evolution</td>
<td>Emerged</td>
</tr>
<tr>
<td></td>
<td>Banks’ Withdrawal from the Property Derivatives Market</td>
<td>Emerged</td>
</tr>
<tr>
<td></td>
<td>Notion of Illiquidity</td>
<td>Emerged</td>
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<tr>
<td></td>
<td>Pricing of Property Derivatives</td>
<td>Tested</td>
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<tr>
<td></td>
<td>Importance of other Market Actors</td>
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<tr>
<td></td>
<td>Homogeneity of Market Views</td>
<td>Tested</td>
</tr>
<tr>
<td></td>
<td>Importance of Real Estate Indices for the Use of Property Derivatives</td>
<td>Tested</td>
</tr>
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<td></td>
<td>Risk-Return-Profile</td>
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<td></td>
<td>Negative Connotations Associated with Derivatives</td>
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<tr>
<td></td>
<td>Ambiguities Concerning the Taxation of Property Derivatives</td>
<td>Tested</td>
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<td>Availability of Products</td>
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<td>Conflicting Investment Horizons</td>
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<td></td>
<td>Induced Accounting Volatilities</td>
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<td>Introducing Additional Risk</td>
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<td>Factors Related to the Clients of Property Investment Management Firms</td>
<td>Investor Expectations of Real Estate as an Asset Class</td>
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<td>Restrictions by Fund’s Mandate, Fund Prospectus or Investment Management Agreement</td>
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<td>Factors Related to the Value System</td>
<td>Remit of Property Investment Managers</td>
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<td>Metric of Measuring Investment Performance</td>
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</table>
4.4 Model of Factors that Influence the Propensity to Employ Property Derivatives
4.5 Tree Map

- Illustrating the weightings of the different categories generated by qualitative data analysis software
4.6 Six common motivations for employing property derivatives

1. Creating index exposure (i.e. investors wish to go long the index as a proxy for bricks and mortar investments/liquidity management)

2. Hedging (i.e. the basic idea is to use the derivative instrument to offset the adverse impact of the price movement in the underlying real estate market)

3. Switching sector allocations

4. Taking advantage of relative value pricing

5. Switching asset allocations

6. Accessing certain sectors that cannot be accessed in form of physical real estate
4.7 Conditions for Investing in Property Derivatives – Decision-making Process

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Internally (within the organisation)</th>
<th>Externally (outside the organisation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obtaining the internal approval from investment committee</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Fund must have cash available</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Fund is looking to hedge out some exposure</td>
<td></td>
<td>X(^{104})</td>
</tr>
<tr>
<td>Fund mandate allows investment in property derivatives</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Market forecast needs to be in the right direction</td>
<td></td>
<td>X(^{105})</td>
</tr>
<tr>
<td>Attractive pricing of the property derivative (i.e. property index future)</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Sufficient liquidity in the market/market depth</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Can the position be held to term?</td>
<td></td>
<td>X(^{106})</td>
</tr>
</tbody>
</table>

104 ... Depending on the type of fund.
105 ... Depending on market conditions which are not controlled by the organisation.
106 ... Depending on the mandate, investment management agreement or fund prospectus.
4.8 Hedging Strategies

Three reasons have been identified that explain why investment managers believe that there is no need to hedge real estate market risk.

1. Perceived low volatility associated with bricks and mortar investments. In addition, the income component is perceived as being quite stable and the capital component becomes important only when the asset is sold.

2. Possibility to invest through the cycle without the need to sell properties.

3. Argument that the hedging decision rests with the asset allocator, that is, with the investor in the fund or REIT.
### 4.9 Perception of Illiquidity

<table>
<thead>
<tr>
<th>Interview no.</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Monthly or at least quarterly trade volume of 100 million pounds</td>
</tr>
<tr>
<td>9</td>
<td>250-300-million-pound trade volume per year</td>
</tr>
<tr>
<td>12</td>
<td>Clip sizes of 250-300 million pounds</td>
</tr>
<tr>
<td>12</td>
<td>Being able to trade 3-5% of the fund size which is 2.5 billion pounds, i.e. 125 million pounds</td>
</tr>
<tr>
<td>14</td>
<td>Clip size of 100 million pounds (REIT)</td>
</tr>
<tr>
<td>17</td>
<td>One billion pounds trading volume per day</td>
</tr>
<tr>
<td>21</td>
<td>Clip size of 15-20 million pounds</td>
</tr>
<tr>
<td>32</td>
<td>One billion over a certain period in a sub-sector trade (e.g. shopping centres)</td>
</tr>
</tbody>
</table>
### 4.10 Pricing of Property Derivatives – A Central Issue

<table>
<thead>
<tr>
<th>Parameter</th>
<th>First school of thought</th>
<th>Second school of thought</th>
</tr>
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<tbody>
<tr>
<td>Components of the future price</td>
<td>Year-to-date performance plus expected performance of the total return index until contract maturity.</td>
<td>Spot price which requires an adjustment for the 3-month temporal lag in the total return index plus carry plus liquidity premium or discount for holding the derivative position.</td>
</tr>
<tr>
<td>Consideration of inherent illiquidity of the underlying real estate assets/liquidity in futures</td>
<td>No consideration.</td>
<td>The value of liquidity to the buyer and the seller is asymmetric depending on the condition of the market, i.e. whether there is a bear or bull market. In a bear market the market values liquidity to exit a position held and in a bull market it values the liquidity to enter a trade that provides exposure to the real estate market.</td>
</tr>
<tr>
<td>Treatment of transaction costs</td>
<td>Do not impact the price of the future contract.</td>
<td>Do not impact the price of the future contract. Since a trade is considered a round trip, i.e. buying and selling real estate exposure, the benefits of transaction costs is identical for both the buyer and the seller.</td>
</tr>
<tr>
<td>Reward for taking property market risk</td>
<td>Difference between agreed price and index value at maturity.</td>
<td>Property market total return.</td>
</tr>
</tbody>
</table>
5. Summary and Conclusions
5.1 Influencing Factors with High Explanatory Power

The following influencing factors with high explanatory power have been identified:

1. Motivations for Using Property Derivatives
2. Decision-Making Process to Employ Property Derivatives
3. Hedging Strategies
4. Structural Change in the Property Derivatives Market Evolution
5. Notion of Illiquidity
6. Pricing of Property Derivatives (suggested by the literature)
7. Homogeneity of Market Views (suggested by the literature)
8. Importance of Real Estate Indices for the Use of Property Derivatives (suggested by the literature)
9. Investor Expectations of Real Estate as an Asset Class
10. Investor Expectations of Investment Managers
11. Remit of Property Investment Managers
12. Metric of Measuring Investment Performance
5.2 Influencing Factors with a Contributing Role

In addition, the following factors have been identified as having a contributing role for explaining the reluctance of property investment managers to use property derivatives.

1. Understanding of the Market and Instruments – Need for Education (suggested by the literature)
2. Psychological Barriers
3. Awareness of Current Instruments and Ways of Market Access
4. Banks’ Withdrawal from the Market
5. Risk-Return-Profile
6. Introducing Additional Risk
5.3 Influencing Factors with a Low Explanatory Power

A low explanatory power has been found for the following factors:

1. Administrative and Operational Requirements (suggested by the literature)
2. Perception of Investment Managers of Property Derivatives
3. Disproportion Between Effort and Impact
4. Demonstrating Practical Competence
5. Importance of other Market Actors
6. Negative Connotations Associated with Derivatives
7. Ambiguities Concerning the Taxation of Property Derivatives (suggested by the literature)
8. Availability of Products
9. Conflicting Investment Horizons
10. Induced Accounting Volatilities (suggested by the literature)
11. Restrictions by Fund’s Mandate, Fund Prospectus or Investment Management Agreement (suggested by the literature)
## 5.4 Overview of Influencing Factors

<table>
<thead>
<tr>
<th>Origin of Factors</th>
<th>Sub-Level</th>
<th>Influencing Factor</th>
<th>Assessment of the Explanatory Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endogenous</td>
<td>Organisational Level</td>
<td>Motivations for Using Property Derivatives</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decision-Making Process to Employ Property Derivatives</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Administrative and Operational Requirements</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hedging Strategies</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Individual Level</td>
<td>Understanding of the Market and Instruments – Need for Education</td>
<td>Contributing factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Psychological Barriers</td>
<td>Contributing factor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perception of Investment Managers of Property Derivatives</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Awareness of Current Instruments and Ways of Market Access</td>
<td>Contributing factor</td>
</tr>
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<td>Disproportion Between Effort and Impact</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Demonstrating Practical Competence</td>
<td>Low</td>
</tr>
</tbody>
</table>
## 5.4 Overview of Influencing Factors (cont’d)

<table>
<thead>
<tr>
<th>Exogenous</th>
<th>Factors Related to the Market</th>
<th>Influencing Factors</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Structural Change in the Property Derivatives Market Evolution</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Banks’ Withdrawal from the Market</td>
<td>Contributing factor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Notion of Illiquidity</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pricing of Property Derivatives</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Importance of other Market Actors</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Homogeneity of Market Views</td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factors Related to the Instrument</th>
<th>Influencing Factors</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of Real Estate Indices for the Use of Property Derivatives</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Risk-Return-Profile</td>
<td>Contributing factor</td>
<td></td>
</tr>
<tr>
<td>Negative Connotations Associated with Derivatives</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Ambiguities Concerning the Taxation of Property Derivatives</td>
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<td></td>
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<tr>
<td>Availability of Products</td>
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<tr>
<td>Induced Accounting Volatilities</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Introducing Additional Risk</td>
<td>Contributing factor</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factors Related to the Clients of Property Investment Management Firms</th>
<th>Influencing Factors</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investor Expectations of Real Estate as an Asset Class</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Investor Expectations of Investment Managers</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Restrictions by Fund’s Mandate, Fund Prospectus or Investment Management Agreement</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Factors Related to the Value System</th>
<th>Influencing Factors</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remit of Property Investment Managers</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Metric of Measuring Investment Performance</td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>
5.5 Summary and Conclusions

- First and foremost, no one individual factor has been singled out as being solely responsible for the reluctant use of property derivatives by investment managers.
- Two main motivations are to create index exposure and to hedge.
- Both motivations are associated with certain return expectations and hedging needs.
- When creating index exposure with property index futures, property investment managers expect to receive a return equal to or higher than the one from physical real estate (they require additional compensation for the additional perceived risk taken when entering a derivative contract).
- Conversely, when they hedge they either require hedging total return or the more volatile capital return component as opposed to the more stable income component.
- Usefulness of currently available instruments:
  - The first point is that according to interviewees, property index futures do not provide the total index return consisting of income return and capital return, but only an uptick at the margins (uptick is the difference between index value implied by the current derivative price, or the price at which the counterparties enter the contract, and the index value at maturity. In other words, it is very difficult or almost impossible to achieve property-like returns with property index futures. The reason is that the current property future price already contains the market sentiment.
  - Hedging becomes equally complicated because the current future price already implies a potential downswing of the market that the investor wants to hedge.
5.5 Summary and Conclusions (cont’d)

• The second point is that in the current market setup the long and the short positions need to be matched, which is made difficult by asymmetric return expectations between the long and the short side of the derivative contract
  – Reason: Some hedgers require hedging only the capital return component and not the total return which would be necessary in order to meet the expectation of the long side when creating index exposure

• Based on the experience that practitioners made with property derivatives, it can be concluded that the instruments currently do not meet investor expectations

• Analysis of the decision-making process within property investment management organisations has shown that the often-cited illiquidity in the market is not the only condition that needs to be fulfilled in order to trade property derivatives. The conditions are diverse and depend on the investment objectives, the type of investor, the investment vehicle (e.g. type of fund, REIT), and a certain constellation of endogenous and exogenous factors. Therefore, the decision-making process is not a fixed procedure as such.

• There needs to be a need for using the instruments and attractive pricing in combination with sufficient liquidity
5.5 Summary and Conclusions (cont’d)

- Property derivatives market has turned into an end user market in which buyers and sellers negotiate the price and determine market liquidity.
- A special feature of the current property derivatives market is that the trades are negotiated between the counterparties (matched by a broker) and executed on Eurex which causes among practitioners the perception of non-transparency in the market in terms of pricing.
- Only way to currently get a view on pricing is through a broker.
- That is the reason why the prices on the exchange are not necessarily the ones at which the market is willing to trade because the trade needs to be negotiated.
- Currently, there is only one broker active in the market which is perceived by interviewees as a concentration of risk which inhibits to conduct price reviews and price comparisons – leads to difficulties when obtaining internal approvals from investment and risk committees.
- Among the chief concerns of the interviewed investment managers is the liquidity on closing a position out prior to maturity.
5.5 Summary and Conclusions (cont’d)

• The lack of depth and uncertainty around the costs of closing out a position severely limits their usefulness for purposes such as mitigating cash drag.

• With the virtually no liquidity at sector and sub-sector levels, it becomes very difficult for investors to make meaningful use of this market.

• One of the most intriguing factors with a high explanatory power is the pricing of property derivatives. It can be argued that given the different views on pricing and the debate around it, there is still a misunderstanding as to what can be inferred from the current derivative prices and what should be a fair value for a property derivative.

• Current pricing: investors do not get compensated for the real estate market risk taken. This implies that property index futures do not price like those on any other investable asset class.
5.5 Summary and Conclusions (cont’d)

• If the use of the instruments is limited to betting on whether forecasts are correct or not, then this feature casts some doubts on who the willing end users would be.
• Research evidence suggests that investment managers do not have the need to hedge the real estate investment risk because their clients want a full exposure to the property market.
• In addition, there is an awareness that income returns are quite stable and capital values have usually positive increments in the long-term which obviates the need for hedging.
• Furthermore, especially institutional investors are long-term investors who do not think short-term when it comes to assessing capital values. They are aware of the cyclicality of real estate which is often one part of a wider asset allocation strategy.
• Real estate risk is managed by limiting or reducing real estate exposure if necessary.
5.5 Summary and Conclusions (cont’d)

• Conversely, there is no need to hedge or quickly adjust real estate exposure because of the long cycle investment and potential divestment as ultima ratio.

• Therefore, it can be argued that property investment managers do not have an incentive to use property derivatives because their task is to provide full exposure to the real estate asset class, or a certain sector of it, and to manage that investment.

• Moreover, there is no benefit in reducing the exposure because that is something the investor would do at an asset allocation level. What investors usually want from an investment manager is a prudently managed property portfolio that provides returns in line with the mandate and commensurate with the real estate market risk taken.
References


EASTERBY-SMITH, M., THORPE, R. & JACKSON, P. R. 2015. Management and Business Research, Los Angeles, California, SAGE.


Q&A

Thank you!

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