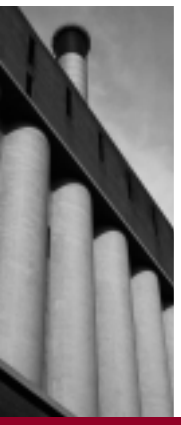
IPF Investment Property Forum

INVESTMENT PROPERTY FORUM Educational Trust

Liquidity in Commercial Property Markets




Working Paper Five:

Liquidity - Findings and Recommendations

April 2004

Liquidity in Commercial Property Markets

Research Findings

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The IPF Educational Trust and IPF Joint Research Programme

This report was funded and commissioned under the auspices of the IPF Educational Trust and IPF Joint Research Programme.

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 Liquidity in Commercial Property Markets Research Team

This research was undertaken by a joint research team from three Universities.

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The IPF Project Steering Group

The IPF appointed a project steering group to guide and assist the research team. The IPF gratefully acknowledges the contribution from:

Stephen Palmer (Seven Dials Consulting), Richard Barkham (Grosvenor), Paul McNamara (Prudential Property Investment), Stuart Morley (GVA Grimley), Francis Salway (Land Securities) and Charles Follows (IPF).

Preface

This report is the fifth of the five working papers prepared by the research team. It provides an overview of the findings and recommendations for future research.

Working Papers 1,2,3 and 4 are detailed studies of particular aspects of liquidity in the commercial property markets. Working Paper 5 draws together the whole project in a summary of the research findings with recommendations for future research. The principal authors of each paper are identified. The research team was lead by Professor Colin Lizieri of The University of Reading Business School.

Full results of the Liquidity in Commercial Property Markets project are set out in the five working papers:

WP1: Defining Liquidity in Property

WP2: Deconstructing the Transaction Process

WP3: The Analysis of Transactions Evidence

WP4: Liquidity Risk and Real Estate

WP5: Liquidity – Findings and Recommendations

The five working papers are available from IPF, 3 Cadogan Gate, London SWIX 0AS. (ipfoffice@ipf.org.uk, 020 7334 3799) price £150.

The IPF congratulates the research team on an excellent project that lays the foundation for an ongoing research programme into liquidity in commercial property markets.

The lack of liquidity of the property markets has long been stated as a significant disadvantage of holding a directly invested property portfolio. It is cited as a contributory factor to the 20 year decline in the average property weighting of institutional investment portfolios. This report confirms that property liquidity is a multi-dimensional concept, and that the measures of liquidity from the other asset classes do not always simply transfer to the commercial property markets.

The IPF will commission further research into this important area. This report is the start of a structured research programme to give a deeper understanding of property liquidity and the implications for property as an asset class.

The IPF invite comments on the findings and the recommendations for future research. Please address comments or suggestions to Charles Follows, Research Director, IPF, 3 Cadogan Gate, London SWIX 0AS. cfollows@ipf.org.uk, 020 7696 1649

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Working Paper Five: Liquidity – Findings and Recommendations

1. Introduction

In this, the final working paper of the Investment Property Forum's Liquidity in Commercial Property Markets, the findings of the research project are reviewed and assessed. We use the findings to assess the relative risk of different types of real estate investment – by type of vehicle and by type of property asset – across a number of "liquidity dimensions." Since that assessment can only be preliminary, we conclude by identifying areas of further research or market practice, which have the potential for enhancing the market's understanding of the nature of property liquidity.

The liquidity project consisted of four broad elements: a review of research on liquidity in capital markets and its applicability to commercial real estate; an analysis of the process by which assets are sold and of time on the market; collation and re-analysis of available data on commercial property transaction data; and a preliminary attempt to assess the implications of liquidity on the *ex ante* risk of real estate. This paper follows these four stages in outlining the main findings of the project.

Section three attempts to apply the findings to a range of property investment vehicles and segments of the direct property market. We construct a "liquidity matrix" which compares and assesses the relative liquidity of the investment assets across a number of dimensions of liquidity, reflecting market structures, market depth, time to trade, costs and pricing processes. We stress this multi-dimensionality: there can be no one definitive liquidity measure. We should stress that the property assets are assessed relative to each other and not in relation to other asset classes.

Finally, in section four we set out a possible future research programme that would contribute to an enhanced understanding of the nature and impact of liquidity in commercial real estate. We use the term "research" in the widest sense, to incorporate both formal analytic studies of liquidity (for example pricing and time on market impacts at individual asset and portfolio level) and changes in market practice that might deliver invaluable data to inform decision-making (regular provision of analysis of transactions data, for example).

2. Liquidity Research: A Summary of Findings

2.1 Defining Liquidity

In examining the literature in liquidity research in a wide range of capital markets, two key points emerge forcibly. First, liquidity is much more than the time taken to execute a trade – the "standard" meaning of liquidity in much of the real estate literature. Embedded in the definition of liquidity is a sense of the cost of trading – direct costs (transaction costs, bid-ask spreads) and indirect costs (price impacts due to the act of trading, risk due to uncertainty of the timing of sale and the realised price). Allied to this is the fact that *liquidity is a multi-dimensional concept*.

Among the many intertwined dimensions of liquidity one can identify: frequency of trading; the cost of trading; time on the market; market volatility in the trading period; price uncertainty; holding period; uncertainty as to achieved sale price; and the price impacts of buying and selling. The importance of these dimensions vary across asset classes and investment types; the importance may vary also by market condition. This means that it is not a simple task to translate liquidity measures from one asset class or market place to another. None the less, by examining liquidity research in other markets, important insights may be gained.

In equity and bond markets, the focus of liquidity research has been on cost implications: the direct costs of trading, the impact of trading on prices and the certainty of realisation price. In the market microstructure literature, where much of the most sophisticated liquidity models may be found, four aspects of liquidity help define markets:

- **tightness - the cost of liquidating a portfolio quickly;**
- **depth - the ability to sell without affecting prices;**
- **resilience - the ability of prices to recover from shocks;**
- **immediacy - the costs of selling now rather than waiting.**

Similarly, in the asset return literature, the focus has been on costs. Trading costs have an impact on the decision whether or not to trade. High costs deter trading and lengthen holding periods. This can result in portfolios that become increasingly inefficient through lack of rebalancing. While the literature has contrasted informed professional investors with smaller, private retail investors (who face higher transaction and information costs), an analogy could be drawn with asset classes with very different transaction costs.

It is important to note that the vast bulk of research on liquidity has occurred in publicly – trading markets (notably equity markets). In such markets, market depth and presence of market makers ensure that adjustments to supply and demand fundamentals occur through the price mechanism. This means that volume of transactions and bid-ask spreads are valid measures. In private markets, volume and spread may be incomplete measures as adjustments occur through time to trade, absence of trading and increases in uncertainty in distressed market circumstances, than through simple price adjustments.

2. Liquidity Research: A Summary of Findings

A final, critical, issue found in the financial markets literature is the extent to which illiquidity is priced – is there a return premium for illiquidity? There is no consensus on this issue. It appears that stocks that are *systematically* less liquid than others may be rewarded and there may be a return premium in aggregate when market conditions make for illiquidity. The former is consistent with the observation that small capitalisation stocks (and specifically those with a low free float) generate higher than expected returns: the latter consistent with the point made above of price adjustments in response to difficult markets.

Real estate, as a private market, is characterised by an uneven distribution of information, assets with highly individual characteristics, entry barriers (particularly for smaller investors) and, arguably, a major role for agents in determining prices and transactions. As a result it is difficult to apply standard proxies for liquidity from securities markets. This, together with the difficulties of obtaining data may explain the paucity of studies of property market liquidity.

There have been a few studies that have examined time on the market and holding period (the latter being associated with sales rates and transaction costs). Those studies, in relation to direct investment in real estate, demonstrate that elements of liquidity vary across different types of property (by sector, by location, by size of property) and by market condition. Studies examining the probability of sale come to similar conclusions: at least with respect to frequency of transaction, some types of property are more liquid than others. Research into public traded indirect real estate vehicles – REITs and property companies – suggest that they do have equity-like liquidity characteristics. However, real estate related factors – asymmetric information, management factors, asset value uncertainty and depth of market (market capitalisation) do seem to play a role in relative liquidity.

In summary, liquidity is much more complex than a simple sales or turnover rate: costs, pricing and risk components need to be considered. Different elements or proxies of liquidity will be more important than others for each asset class, the importance determined by market structures and asset characteristics. Although they are partial proxies, transaction rates do provide valuable information in understanding relative liquidity between investments within an asset class. However, it is important to consider the risk-return implications of differential liquidity as proxied by sales rates.

Defining Liquidity - Summary:

- **Liquidity is a multi-dimensional concept;**
- **Dimensions include trading frequency, time to trade, cost of trading, price impacts of trading and risk in the trading process;**
- **Trading volume and transaction rates are only partial proxies for liquidity;**
- **The importance of different dimensions varies by type of asset and market structure;**
- **In public markets, adjustments occur largely through the price mechanism;**
- **In private markets, adjustment processes also occur through trading rates and time to execute trades;**
- **Securities markets evidence suggest that there is a return premium for systematic illiquidity.**

2. Liquidity Research: A Summary of Findings

2.2 The Sales Process and Time on the Market

The ability to exit and enter a market at specific times is constrained by the length of time a transaction takes. Uncertainly about timing adds to the volatility of expected returns; delay in realisation may reduce capital returns; lengthy and uncertain transaction times influence the risk-return characteristics of real estate compared to other assets. The second major strand of the liquidity project thus focused on the sales process and the time taken to sell an asset (we note here that a parallel exercise on the buy side, while difficult, would be an invaluable exercise).

To investigate these elements, the research team conducted intensive interviews with staff at three representative investors – a listed property company, a pension fund and a life insurer. The interviews focused on the stages through which properties move towards sale and the factors that affect the speed of that movement. Then, records of around 200 sales were collected and analysed from the three funds to provide benchmark information on the distribution of time taken to market, agree terms and settle/complete deals.

The first stage of the disposal process is the decision to sell. For many fund managers, this may result from the strategic asset allocation level or from a tactical asset allocation decision to sell out of a particular sector or region. From this point, suitable properties for sale may be identified based on performance analysis. Where a fund requires cash, at a specific time, it is important to note that *only properties where a sale is highly probable will be selected;* this inevitably affects transactions and time on the market statistics. Other sales motivations may come from portfolio rebalancing decisions, a requirement to liquidate assets (e.g. unit trust redemptions) or, on occasions, unsolicited offers.

A number of factors may cause delays in the sales process. Temporary, solvable problems include title problems, tenant disputes, outstanding rent reviews: issues that, if unresolved, would lead to a price well below market value perceptions. Other factors may be intractable but temporary – rent reviews and lease terminations would be examples. Such issues can be anticipated: however demand for the property is likely to be constrained until they are resolved. During the course of a sale, unexpected events may lead to delay or loss of purchaser – tenant insolvency or default for example. Such events may not be predictable.

Those interviewed suggested that there were few abortive sales. This suggests either that the sales selection filtering process removes properties where there is a high risk of failure, or that, once in the process a momentum builds up with all interested parties working to resolve problems – or some combination of the two. McNamara's (1998) research on time to sale split the disposal process into three parts: marketing, due diligence and settlement. The case study research suggests that the pre-marketing phase is an important stage in the process. Ignoring it underestimates the total disposal time. Keeping properties in a state of readiness may reduce the time taken in this phase (at a cost) but cannot deal with temporary sale obstacles. It appeared that, in many instances, agents were asked to advise on the marketability of properties considered for sale and to provide a preliminary valuation. If this phase or preliminary legal checks identify problems, a property may not be brought to market.

2. Liquidity Research: A Summary of Findings

Once formal marketing commences, disposal broadly follows the three stage process identified by McNamara. Delays are most likely to occur in the due diligence phase between heads of terms and exchange. Problems include changes in status of purchaser or of tenant, discovery of inherent problems, changes in market conditions and problems in raising funds. This last was seen as a critical factor leading to delays and difficulties – use of bank finance (and debt in general) were seen as a major cause of lengthy negotiations and problem sales.

One important issue raised in the analysis of the sales process is the role of valuation. It has been argued that the regular, periodic valuations for performance measurement and asset value purposes do not fully account for the price-sensitive issues that emerge at the due diligence stage. In part, this might result from the time limited and routine nature of such valuations. However, it may be that the prior valuation acts as a reserve price for many sellers, restricting the number of properties coming to market and hampering the sales process. There was no clear consensus about the impact of the prior valuation but certainly suggestions that it acted as an inertia force.

From the sales records obtained from the three funds, the mean time from start of formal marketing/notice of intention to sell to completion was 298 days – nearly ten months. However, this crude average is misleading, since the distribution is heavily skewed by a small number of sales which took a considerable time, presumably as a result of complications in the negotiation process of the problems with the asset. As a result, the median time to sale, at 190 days or six months, is probably a fairer reflection of the typical sale for these funds. Time to sale is very varied, however. Some sales are agreed and settled in weeks. Of the three major stages, the longest is the period from initiation to price agreement (median 88 days); due diligence takes, on average, 62 days while the period from exchange to completion had a median time of 19 days.

Although the sample size was small, the sales were disaggregated by property type. While there were variations in the median transaction time – with office properties reaching completion in 119 days compared to over 200 days for shopping centres and retail units – the differences are not statistically significant. Surprisingly, retail warehouses have the longest median and mean time to sell. However, there are just twelve such sales making comparisons unreliable. Overall, the times to transact are somewhat longer than the estimates obtain by McNamara. It should be noted that McNamara's figures are agents' estimates so his respondents may have excluded "problem" sales.

The real estate sales process, then, is complex and lengthy. There is some evidence that a filtering of properties takes place that means that buildings which would be particularly difficult to sell or where the "market price" is below the prior valuation or assessment of worth do not come to market. This has implications for studies of valuation accuracy and for the understanding of market liquidity. Of those properties that do come to market, unexpected "shocks" can cause major delays, causing the distribution of times on the market to be both widely dispersed and positively skewed. The evidence suggests that the streamlining of the transactions process has led to reductions in the final settlement time from exchange to completion. However, the marketing period and, in particular, the due diligence period remain lengthy. In part, this may be due to the increasing use of debt by purchasers and the potential delays the introduction of a third party to the sales process can bring.

2. Liquidity Research: A Summary of Findings

It should be emphasised that the case study research has focused upon the sales process. The research project did not have resources to examine the "buy side" of the equation, the time it takes the purchaser to enter the market. This is not the simple mirror image of the sale process as there are search times and costs to be considered. Further, the difference between time to sale and time to purchase will vary depending on market conditions (supply and demand) although they will not be perfectly negatively correlated[1]. More work is needed in this area.

The Sales Process: Summary

- **Uncertainty of the timing of sale adds to the volatility of returns;**
- **Potential asset sales are pre-vetted and unsuitable properties may never come to market;**
- **By implication, time on market and probability of sale figures may overstate liquidity;**
- **Regular, routine valuations may neglect factors that delay sales or reduce the final price;**
- **From the case studies, median time from initiation to sale was around six months (190 days), but with major variations in time on the market;**
- **Most time was spent in the marketing stage (88 days), followed by due diligence (62 days), completion averaging just 19 days;**
- **It was argued that a purchase funded with debt was more likely to be delayed than a pure equity purchase.**

2.3 Transactions Activity: Empirical Evidence

The third strand of the research project examined and analysed available data on transactions activity, sales and purchase rates for UK direct, private market real estate sales and, where possible, for non-UK private markets and a range of indirect property vehicles both public and private. Transactions rates, as discussed, can only be a partial proxy for liquidity, since they do not address issues of costs and pricing impacts.

Nonetheless, they can provide valuable information on *relative* liquidity between types of property or geographical markets and on changes to liquidity resulting from market conditions or changes to the institutional environment.

There is no single ideal UK database for analysing commercial property transactions. The research utilised a number of data sources to build a picture of activity levels in the UK: the Inland Revenue / Land Registry transactions records, Property Data's commercial transactions database, sales and purchase analysis commissioned from Investment Property Databank, the JLL/IPD Auctions Record Analysis Service (ARAS) and ONS records on institutional acquisitions and disposals. Each cover a different population or segment of the market. Data are available for property company share turnover and for PUT sales; public listed vehicle turnover figures for non-UK markets and transaction rates from IPD's non-UK databases were also examined.

[1] *To some extent, if demand exceeds supply (more buyers than sellers) then each buyer will have to "wait" longer to buy a property while sellers will find it easy to dispose of properties in a short period of time; the opposite will be true in bear markets. This points towards a negative correlation between variations in time to buy and time to sell. By contrast to a public, securitised market where the imbalance between supply and demand is resolved through price adjustment, in private markets adjustment may occur in transaction levels and time to transact.*

2. Liquidity Research: A Summary of Findings

Given resources and data coverage, the only year where full UK direct market data could be analysed was 2002. The Inland Revenue figures suggest that around 5% of the non-residential property stock turned over. Much of that stock is not investment property or is held by smaller investors. Transaction rates in the professional investment market are much higher: depending on the dataset and calculation method, ranging from 10% to 19%[2]. Institutional turnover looks to be around 12-15%. Such rates imply a median holding period of 5-6 years, somewhat shorter than that estimated by Collett et al. for the late 1990s. Activity levels may have been higher in 2002 due to portfolio sales and transfers in advance of changes to the Stamp Duty regime. The figures suggest that, by value, owner-occupied and smaller private held real estate has a sales rate as low as 2-3% by value, compared to around 7% in the residential owner-occupied market.

Examining the time series of activity rates, the research showed that transactions rates fell in the early 1990s (suggesting a link to the property cycle) but have been growing at around 2-4% per annum since that time. The different databases show slightly different trends and turning points. Some 75% of the variation in transaction rates from the IPD dataset can be explained by a model with, as independent predictor variables, equity market yields (a negative relation with transaction rates); property returns (a positive relationship) and lagged transaction rates.

The inclusion of the latter suggests that the market is "sticky" with momentum effects. Inclusion of a dummy for changes in Stamp Duty regimes had no significant effect: it is not possible to discern a negative impact on sales rates. The absence of an effect may result from the portfolio sales noted above as a reaction to the Stamp Duty Land Tax announcement.

Disaggregating the data, it is clear that transactions activity varies considerably across many dimensions of the property market: across time, across geographical markets, across sectors and segments, by lot size, by property vehicle and by investor type. By market segment, results for 2000-2002 do not always confirm conventional wisdom on liquidity. In particular, the London markets for standard offices, shops and standard industrials all have transaction rates that are lower than those found in other regions. Central London offices – often cited as a particularly liquid market – have low sales and purchase rates. Of course, such markets *are* larger than other markets and there are more transactions by volume than elsewhere – but these transactions represent a lower proportion of the overall market than for other segments. Other results are closer to standard expectations: smaller, more standard, units (standard industrials, standard shops, retail warehouses[3]) have higher transaction rates than large and unique assets, notably shopping centres.

Transactions and trading rates are also influenced by geography: there are considerable differences in sales and purchase rates across towns. However, there is no clear discernable pattern by type of town or location; neighbouring or similar centres can have quite different rates. There appears to be some association with net flow of money but that, in turn, would need explanation. In general, there is a negative correlation between lot size and activity rate although this does not seem to hold in the retail warehouse market nor to Central London offices.

[2] *The differences reflect differing composition of properties and investors and the extent to which there is "leakage" – that is, where sales by one investor are not matched with an acquisition elsewhere.*

[3] *We noted above that the case studies suggested that retail warehouses had long times to sale. The transaction evidence casts further doubt on the reliability of that figure.*

2. Liquidity Research: A Summary of Findings

Over the 1998-2002 period, properties owned by pooled funds were much more likely to transact than those held by insurance funds, pension funds or property companies. Pooled funds had transaction rates of around 22% compared to 14% for property companies, 13% for segregated pension funds and 10% for insurance funds and charities. Between 2000 and 2002 property company sales rates increased sharply (perhaps as a result of sales to special purpose vehicles or private equity vehicles) and the gap between pooled funds and the institutional investors narrowed somewhat. There is evidence that property companies are selling smaller units and concentrating their holdings. Transactions rates by properties were 21% 1998-2002, compared to 14% relative to value. Other investor types show similar, if less pronounced trends.

Turnover rates for authorised property trusts show a much lower rate of trading than in the direct market (as measured by IPD). This may be as much motivational (a buy and hold strategy amongst smaller funds investing through this medium) as an indication of difficulties and constraints to trading. As might be expected, transaction rates for public listed UK property companies are far greater than those found in the private market – averaging over 61% of market capitalisation per annum from 1993-2002, with the rate increasing over time. This is a reminder of how low trading rates are in the direct property market by comparison to activity in publicly traded markets.

International comparisons are hampered by quality of data in other markets. Using the IPD databases for other European countries, it seems that UK transaction rates are higher than those found in other countries. Where time series are available (broadly 1997-2002) there has only been one year when the UK was not ranked first in terms of turnover (in 2000, Swedish transactions spike upwards sharply before falling back to a much lower level). In 2002, the UK turnover rate was double that found in France, in the Netherlands and in a number of other countries. This position seems to hold in public markets, with UK property companies having higher transactions rates than US REITs and Australian Listed Property Trusts. This is interesting in the context of the potential for a UK REIT. It should be remembered that REIT/LPT structures, aimed at private investors who hold assets longer and tend to have higher transaction costs compared to professional, institutional investors, might be expected to show lower activity levels than property company shares – largely a professional vehicle.

Transactions activity is only a partial measure of liquidity. However, the analyses found in Working Paper 3 reveal interesting findings that confirm some but refute other beliefs about liquidity in commercial real estate markets. Trading activity rates are generally higher for small lot size property, for properties held by pooled funds, property companies and in smaller portfolios. Complex, heterogeneous, assets with fewer potential buyers – such as shopping centres – have lower transactions rates than more standard units. However, the gaps appear to be narrowing over time. In some sectors – notably Central London Offices – apparent liquidity seems to relate to the overall size of the market and is not reflected in above average transaction rates. Generally, the UK commercial market appears to have higher trading rates than other countries, although comparisons are difficult to make. Finally, the much higher turnover rates found for public property vehicles emphasise that the direct property market is relatively illiquid compared to public-traded securities markets, and is characterised by thin transaction rates.

2. Liquidity Research: A Summary of Findings

Transactions Activity: Summary

- **Transactions rates are a partial proxy for liquidity but offer valuable information on relative liquidity between asset times and over time;**
- **There is no one ideal source of transactions data for commercial property;**
- **Transactions volumes and rates vary greatly by sector of the market from 2-3% for owner occupiers to 12-15% for active institutional funds;**
- **Transactions rates are vastly higher in public traded markets;**
- **In private markets, transactions rates have trended upwards since the lows of the early 1990s;**
- **Transactions rates can be explained largely by equity and property returns and are "sticky";**
- **There is no clear evidence of declining transactions rates with increases in Stamp Duty, perhaps due to new vehicle creation;**
- **Transactions rates vary greatly by market segment, and do not always conform to market preconceptions;**
- **The UK markets appear to have higher levels of transaction activity than equivalent European and global markets, both for private and public forms of real estate.**

2.4 Time on the Market and the Risk of Real Estate

The fourth working paper represents a preliminary attempt to analyse the impacts of illiquidity in a quantitative manner. The data collected on time on the market as set out in working paper 2 are used in an analytic frame that allows a re-estimation of expected risk from the perspective of an investor about to acquire a property asset. It is hard to do justice to the arguments of the paper in a short summary. Here we simply outline the underlying premise and the preliminary results.

In most securities markets, the time it takes to trade an asset is brief. As a result, uncertainty as to time on the market does not have a significant impact on risk. However, as the transactions case studies showed, in real estate time on the market is both lengthy and highly variable. Real estate performance measures such as IPD are based on the valuations of multiple portfolios. It would be near impossible for individual fund managers to trade in such a way that their portfolios would track the index. The conventional measure of risk – the volatility of returns, measured by the standard deviation – does not account for the uncertain marketing and due diligence period and, as a result, understates the risk that an investor faces when acquiring an asset: the *ex ante* risk.

If the *ex ante* risk is much greater than the *ex post* risk conventionally reported, then the property allocation puzzle – the low actual real estate weightings of institutional investors when compared to theoretical mean-variance allocations – may be in part explained. It may be possible to "correct" the reported ex *ex post* measure to take into account the additional risk faced at market entry. The results presented in working paper 4 and in this summary are only preliminary and provisional, but provide an insight into the potential of such an approach.

2. Liquidity Research: A Summary of Findings

The model estimated is complex but in concept is straightforward. For a known holding period (including the average time to market and sell the asset), it is possible to estimate a distribution of possible returns (based on known returns for the relevant asset type). The variance of this distribution is the *ex post* risk of the asset. However, if we consider that the marketing and sale period is uncertain, then an additional risk exists *ex ante*. The significance of this additional risk depends on the length of the marketing time and on the holding period. For highly liquid assets (where the marketing time approaches zero), the additional risk may be trivial; for assets where the holding period is long relative to the marketing period, the *ex post* and *ex ante* risk differences diminish. For commercial real estate, the marketing and sale period is lengthy and large relative to a holding period that has been shortening as funds manage their portfolios more actively.

The theoretical model was used in conjunction with estimated times to sale taken from the case study funds reported in Working Paper 2 and the *ex post* risk and return figures taken from the IPD monthly index. A note of caution is necessary here in that the sample transactions from the case studies are relatively few in number and the distribution of sales times is highly skewed and non-normal in nature. The model has been adjusted to account for the observed distribution but further work and a larger sample of sales records would be required to give the results greater robustness.

For an investor with an expected holding period of seven years and expected marketing and sales time of six months – plausible numbers from past research and the findings of this IPF research project - the "illiquidity factor" is 1.38 – that is, the *ex ante* risk is 38% higher than the reported *ex post* risk. For a shorter holding period and a longer average time to sale – say five years and eight months – the illiquidity factor rises to 1.94: that is *ex ante* risk is nearly double the *ex post* risk. However, for long holding periods and shorter selling periods, the additional risk can be minor.

This additional risk at the point of entry results from the nature of real estate as an asset: its heterogeneity and the thin transaction market that results in potentially long gaps before buyers and sellers are matched. While the effects of this difference between *ex ante* and *ex post* risk can be reduced by longer holding periods, it should be noted that longer holding periods are, themselves, a symptom of illiquidity, arising out of, *inter alia*, high transaction costs and asymmetric information. Further, as the case study research showed, some properties are never brought to market as they are considered barely saleable. If the implied sales periods of these were considered the risks on entering the direct market could be very large indeed.

Risk and Time on the Market: Summary

- **Uncertain time on the market increases the risk of an investor entering the property market;**
- **This *ex ante* risk is greater than that reported by, for example, IPD statistics;**
- **It is possible to "correct" performance based risk measures;**
- **Additional *ex ante* risk depends on the expected holding period, the typical time on the market and the volatility of returns;**
- **For an investor with a seven year holding period and a property with a time to sale averaging six months, *ex ante* risk increases by about 40%;**
- **For an investor with a five year holding period and a property with a time to sale averaging eight months, *ex ante* risk increases by about 90%.**

3. Relative Risk in Commercial Real Estate Markets

In this section, we summarise the liquidity characteristics for a number of alternative types of property investment categories, based on the findings of the research together with a consensus overview assessment provided by the project research team. Here we are interested in the ways an investor may gain an investment exposure to real estate assets and the attendant liquidity features. The characteristics of the alternative categories open to investment were ranked on a simple scale in the *low-medium-high* range. The rankings reported below are on a *relative* property basis, that is, the categories are judged from a property perspective and not relative to other investments nor in absolute terms.

The main property investment categories were identified as follow:

Investment Categories

Shopping Centres	**Standard Shops**	**Retail Warehouses**
Central London Offices	**Other Offices**	**Industrials**
Listed Property Companies	**Limited Partnerships**	**Property Unit Trusts**
Authorised Property Unit Trusts	**Unitised Funds/Property Bonds**	**PICS/PIFS**

There are other ways a play on property may be made including: warrants/certificates, European certificates, options and spread betting. Also, there are several interesting recent developments that are likely to improve the range of available property products. A very recent innovation is real estate exchange traded funds (ETFs) by AXA Investment Managers. Although it is still to be decided what funds will be available, these tracker funds will be based on the EPRA European indices. Experience of such vehicles, albeit largely based on aggregate equity indices in both the US and Europe, suggests that they are highly liquid and transparent vehicles and actively traded.

Looming on the horizon are REITS. Consultation is still to take place on these tax-transparent vehicles and there is currently no defined model. However, if all goes well a structure is likely to be in place in 2005. REITS have been successful in several countries and constitute a substantial and actively traded market in the US. It is thought that some existing property companies may switch over to a REIT structure[4]. The development of REITs is also likely to encourage a wider range of underlying investments such as infrastructure and specialist funds such as hotels and residential.

The criteria used to assess property liquidity for the above categories are:

Criteria for ranking liquidity

Central Exchange, Secondary Trading	**Market Size and Market Capitalisation**
Transactions Volumes	**Length of Time to Transact**
Price Certainty	**Spread i.e. Price vs. Valuation**
Transaction Costs	**Administrative and Ongoing Costs**

[4] *We noted above that both US REITs and Australian Listed Property Trusts have apparent lower transactions rates than UK property companies but attributed this to the different nature of the investors holding securities.*

3. Relative Risk in Commercial Real Estate Markets

Working Paper Three, *The Analysis of Transactions Evidence,* used transactions activity, in the broadest sense, as an indicator of liquidity, tracking liquidity across different property markets. The property matrix shown here ranks, *on a relative basis,* a wider set of criteria which may be used to capture liquidity across property categories and vehicles. Although many of the listed liquidity criteria may be difficult to measure formally, an assessment of their relative impact may be made (see section 5 in Working Paper 2).

The important distinction between the various categories is that the direct property market, as represented by categories such as shopping centres and Central London offices, is characterised by private market transactions, large lot size/capital value and entry barriers, whereas the public traded market is not. However, the available types of public vehicles typically have a small exposure, fund size and extent of holdings, relative to the total investable commercial property market. This means that it may not be possible to obtain the desired property exposure through such vehicles.

The following table summarises the relative rankings for the various criteria:

Category	Central Exchange or Trading	Availability, Market Size, Market Cap	Transactions Volume	Time to Transact	Price Certainty	Spread: Price vs Valuation	Transaction Costs	Administrative & On-going Costs
Shopping Centres	Low	Low	Low	Low	Low/Medium	Medium/High	High	High
Standard Shops	Medium	Medium	Medium	Medium	Medium	Medium/High	High	Medium/High
Retail Warehouses	Medium	Medium	Low/Medium	Medium	Medium	Medium/High	High	High
Central London Offices	Low	Medium	Low/Medium	Low/Medium	Medium	Low/Medium	High	High
Other Offices	Medium	Medium	Low/Medium	Low/Medium	Medium	Low/Medium	High	High
Industrials	Medium	Medium	Medium	Low/Medium	Medium	Medium/High	High	High
Listed Property Companies	High	High	High	High	Medium/High	Medium/High	Low	Low
Limited Partnerships	Medium	Low/Medium	Low	Low	Low	High	Medium	Low/Medium
Property Unit Trusts	High	Low/Medium	Medium	Low/Medium	Low/Medium	High	Low	Low/Medium
Authorised Property Unit Trusts	Low	Low	Medium	Medium	Low/Medium	High	Low	Low/Medium
Unitised Funds/ Property Bonds	Low	Low	Low/Medium	Medium	Low	Medium	Low	Low/Medium
PICS/PIFS	Medium	Low/Medium	Low/Medium	Medium	Medium/High	Medium/High	Low	Low/Medium

3. Relative Risk in Commercial Real Estate Markets

It should be stressed that the above assessments are highly stylised and assume 'normal' market conditions for each category. When markets are active and trading activity is higher than normal a number of the criteria will display more favourable aspects. For example, availability, length of time to transact and valuation/price differences will all improve. Conversely, in the case of falling markets, liquidity positions will worsen. The impacts of the property cycle will not be equal for all vehicles and types of property, so it is quite plausible that relative positions will change. For example, the liquidity of small capitalisation listed property companies, particularly those with a low free float may worsen sharply when sentiment turns against the property sector in the equity market. This will not necessarily coincide with a weak transactions environment in the direct, private real estate market, resulting in a change in relative liquidity.

Relative Risk: Summary

- **In assessing liquidity, the different dimensions of the concept must be recognised;**
- **It is possible to assess the relative risk of assets or segments across the different liquidity dimensions;**
- **The importance of different dimensions varies across types of vehicles and across types of property in the private market;**
- **Risk relativities will vary across time and across stages of the property cycle;**
- **Issues of liquidity – and illiquidity – may be most important in depressed markets: a normal balanced market should not be assumed.**

4. Conclusions and Recommendations

Overall, the Investment Property Forum research project into liquidity in commercial property markets has demonstrated that the concept of liquidity is multi-dimensional and complex. There is no single definition or proxy measure that can fully capture the essence of liquidity in real estate markets. Many of the measures used in securities markets are predicated on a public market place where adjustments to variations in supply and demand are price driven and where time on the market is brief. In such markets, it is relatively straightforward to assess liquidity through transactions rates, spreads and transactions price movements in response to trading. This is much more problematic in thinly traded private markets where adjustments come as much through changes in sales and purchase rates and increases in time on the market as from price adjustments – not least from the inertia of a valuation-driven system.

Empirical work in the project demonstrated that time on the market is lengthy and, critically, that it is highly variable. This imposes additional uncertainty on the property investor. Analytically, preliminary results suggest that this uncertainty as to the final sale price and sale data can greatly increase the *ex ante* risk of property, particularly for investors intending to hold property for a comparatively short time (e.g. finite life property vehicles) or to hold property with complex characteristics and a restricted market for potential future purchasers (e.g. a major shopping centre). Analysis of transactions activity revealed considerable variations by type of investment vehicle, by type of ownership structure, by type of property and by stage in the market cycle. Not all commonly held perceptions about liquidity were confirmed: notably, transaction rates for Central London offices were low relative to other property segments despite the overall size of the sub-market.

The IPF research project was preliminary in nature. It was intended to review existing work, conduct some initial analysis and act as a springboard for a future programme of work. In order to improve our understanding of liquidity, there are a number of practical tasks that would provide invaluable information. These include:

- *Regular Transactions Reporting:* regular, disaggregated analyses of transactions activity from data providers such as IPD or Property Data would have benefits both in terms of a research resource and as an aid to practical decision making for investors and their advisors;
- *Improved Data on Size of Market:* it is difficult to measure liquidity in the absence of robust measures of the size of the commercial real estate market; in terms of buildings, floorspace and, critically, value. An industry-wide effort to develop and maintain good quality statistics on size of market has major benefits in portfolio decision-making as well as facilitating better analysis of sales and purchase rates, turnover and other inputs for the analysis of liquidity;
- *Improved Availability of Data on Activity Levels in Indirect Vehicles:* this is a problematic area given that many investors in private vehicles demand confidentiality, but any complete assessment of liquidity needs information on transactions activity for the fullest range of investment vehicles possible (and a benchmark against which to gauge that activity);
- *Collection of Data for Time on the Market:* for a complete assessment of liquidity and risk, the property industry needs reliable information on the time taken to market and sell different types of property in different market conditions. Realistically, only funds and owners themselves can generate this information. In turn, this requires:
  - *An independent data handler and strong confidentiality constraints to ensure the safe processing of market sensitive information;*
  - *A general level of agreement on the stages of the marketing and sales process to ensure common standards of data collection.*

4. Conclusions and Recommendations

The Investment Property Forum research project was relatively small scale and has a short reporting horizon. Much more work is needed in order to begin to develop a grasp of the implications of liquidity in *commercial* real estate markets. The research team have identified a number of possible future research directions that would improve our understanding of real estate liquidity. The topics identified below are interlinked and, inevitably, overlap. No doubt readers can identify many other projects in the same vein.

- *Model and Explain Variations in Transaction Rates:* the analysis of transaction activity reported in Working Paper 2 can be extended in a number of directions. It would be very valuable to extend the explanatory modelling work. What determines variations in transaction activity levels? What explains differences between property segments and property vehicles? Can we investigate and model transactions activity and liquidity proxies over different stages of the property cycle? It would also be valuable to carry out more work on transactions and turnover in relation to portfolios, in relation to private and public investment vehicles, in real-estate backed debt securities and in international markets;

- *Analysis of the Probability of Sale:* What characteristics of real estate influence sales rates (and, hence, holding periods)? Analysis of sold properties from the Investment Property Databank could help to untangle the different factors that drive sales rates (and, indeed, purchase rates) and the extent to which these change over time. This would shed light on *ex post* holding periods, on *ex ante* risk and on the processes that underpin differential liquidity.

  Parallel work in the US has analysed the NCREIF database, but the UK work could be deeper with more transactions to analyse and with proper account taken of unsold properties;

- *More analytic work on the process by which properties are sold.*
  - *What drives the sales decision? Are there properties that never sell?*
  - *What are the impacts of valuation on determining a sale price? Do valuations reflect lack of readiness for sale correctly?*
  - *What are the costs of maintaining property ready for sale and what are the costs of delay by not so doing?*

  Such research requires intensive case study research both cross-sectional (that is for a range of types of fund) and longitudinally (in that the performance of properties and the valuation process need investigation);

- *Research into Holding Period, Risk and Return Expectations:* most of our evidence on holding periods, risk and return is *ex post* or derived by implication from historic data. We have very little systematic knowledge about required returns, expected or target holding periods and only limited information on risk perception. As a result, survey work on the expectations of different types of investors would be a valuable complement to the existing body of work on market performance and would help in the understanding of investor behaviour in the face of illiquidity.

4. Conclusions and Recommendations

- *Research the Buy Side:* much of the detailed analysis and discussion in the IPF project has focussed on property sales. This needs to be rebalanced with a consideration of the process by which properties are purchased: the initial decision basis and criteria, the search process, the price negotiation process. It is clear that the purchase process is not the mirror image of the sale process other than at completion and, although there are points of similarity, there are also areas of divergence which will be conditional on market circumstances. Although there is information (and much market knowledge) of these practices, a systematic study with a focus on the time taken and the probability of success at various stages of acquisition would be highly valuable in enhancing our understanding of liquidity in commercial real estate.
- *What are the Implications of Illiquidity?* The research project did not fully address the cost/return implications of illiquidity. Areas for research might include the cost of being in the wrong asset class or market or segment due to delays in the sale or purchase process (an issue raised in McNamara's earlier study); the costs of rebalancing the portfolio or of having an inefficient portfolio as a result of the inability, at reasonable cost, to rebalance the portfolio; the pricing impacts of buy or sell decisions, particularly at the portfolio rather than the asset level. Such research, as well as greatly enhancing our understanding of property market liquidity, is of relevance to the discussions surrounding the development of property derivatives markets;
- *Illiquidity, Risk and Risk Premia:* much more analysis is needed of the implications of liquidity and illiquidity on required returns and on *ex ante* and *ex post* risk. In particular, the issue of whether or not systematic variations in liquidity are priced – that is, is there a liquidity return premium? – must be addressed.

Some of these research avenues are relatively self-contained and could be carried out in a relatively short time period. Others require data that are not available yet or that are unreliable. This implies either primary data gathering or a commitment from the industry to facilitate data collection, as suggested above. Finally, some of these research themes require detailed study over a more lengthy period of time: for example, analysis of the costs and benefits of keeping properties ready for sale or analysis of the buy side require intensive case based research and cannot be carried out effectively in a few months.

In many ways, this last group of projects may be better suited to research council funding, a funded research officer (with a contract extending over two or more years and a remit to support research on liquidity) or even CASE-type industrial supported doctoral research, perhaps with the IPF or its members providing material support and pledging to make data and information available to the research team. It would be inappropriate to force such important research projects to conform to tight deadlines more appropriate to market consultancy, to constrain research methods to fit such deadlines, or to only bring forward projects that have short term payoffs while neglecting potentially more valuable long term research.

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