LIQUIDITY IN COMMERCIAL PROPERTY MARKETS

DECONSTRUCTING THE TRANSACTION PROCESS

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Abstract

This paper draws from a wider research programme in the UK undertaken for the Investment Property Forum examining liquidity in commercial property. One aspect of liquidity is the process by which transactions occur including both how properties are selected for sale and the time taken to transact. The paper analyses data from three organisations; a property company, a major financial institution and an asset management company, formally a major public sector pension fund. The data covers three market states and includes sales completed in 1995, 2000 and 2002 in the UK. The research interviewed key individuals within the three organisations to identify any common patterns of activity within the sale process and also identified the timing of 187 actual transactions from inception of the sale to completion.

The research developed a taxonomy of the transaction process. Interviews with vendors indicated that decisions to sell were a product of a combination of portfolio, specific property and market based issues. Properties were generally not kept in a "readiness for sale" state. The average time from first decision to sell the actual property to completion had a mean time of 298 days and a median of 190 days. It is concluded that this study may underestimate the true length of the time to transact for two reasons. Firstly, the pre-marketing period is rarely recorded in transaction files. Secondly, and more fundamentally, studies of sold properties may contain selection bias. The research indicated that vendors tended to sell properties which it was perceived could be sold at a 'fair' price in a reasonable period of time.

1.   Introduction

Despite the fact that nearly all market participants would cite low liquidity as a (problematic) characteristic of commercial property as an asset class, its complex nature and precise consequences are rarely analysed. Lizieri and Bond (2004) review the definitions of liquidity provided within both finance and real estate markets and conclude that liquidity is more than simply sales rates or turnover of transactions, there are cost and price dimensions. However, they also suggest that amongst other issues, information on the time taken to sell real estate helps in the development of understanding of liquidity of property. Therefore, as part of the wider IPF Liquidity of Commercial Property Markets scoping project, it was necessary to begin to identify the different elements of the sale process and the timing of each element.

The ability to enter and exit property markets at specific times is constrained by the time transactions take, any difficulties in identifying and bringing specific properties to the market and uncertain prices, including changes to prices over the transaction period. Time to transact has important implications for risk and return. Delay in realisation of capital value will reduce total return. Uncertainty about timing of receipt of capital value adds to the volatility of *expected* returns[1] with long delays being associated with increased uncertainty. Issues include differences in transaction times between property as an asset and competing asset classes and between different types of property, differentiated by, for example, type, size, number of tenancies, etc. Other questions include the factors that determine transaction time and whether any changes in those factors can be observed through time.

The overall aim of this paper is to carry out a preliminary examination of the property transaction process to begin to answer some of these questions for the UK commercial property market. In order to achieve this, three case studies were undertaken during October and November 2003. They provide benchmark information on practice in terms of both process and time to transact. Before setting out the details and results of the case studies, a review of literature related to these two aspects is set out below and related to the interviews carried out in the fieldwork.

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[1] That is, the *a priori* risk of the asset – see Lizieri and Bond (2004).

2. Liquidity and the Transaction Process

Bond and Lizieri (2004) present a comprehensive discussion of liquidity drawing upon a range of literature from real estate and financial economics. We draw upon this work in this section. They identify a number of dimensions of liquidity including:

- the rate of turnover/transactions and the time taken to transact;
- the costs associated with transacting (both formal costs – buy or sell fees – and information costs);
- the impact of the decision to transact on the price of the asset and the prices of similar assets; and
- uncertainty as to achieved price or return at the time of the decision to transact.

Many of the 'standard' approaches to liquidity focus on the importance of time to transact and the consequences for certainty about price.

A well-known risk in property investment is that asset managers may be unable to rebalance portfolios, may be unable to acquire the type of property required, or, due to lack of potential buyers, may be unable to obtain a "fair" price for an owned asset. Consequently Key *et al*. (1998) suggest that, for the property asset manager, liquidity is:

(a)   being able to buy/sell when I want;

(b)   being able to buy/sell what I want;

(c)   being able to sell at the price that I want.

McNamara (1998) offered a somewhat different perspective. His starting position is that liquidity is 'the ability of an investor to trade assets into a cash form or *vice versa*. It is used more loosely to describe the speed and/or volume of transacting in a given market'.

In property market text books, a similar set of definitions emerge focussing on ease of sale. Baum and Crosby (1995) define liquidity as 'the ease and certainty with which an asset can be converted to cash at, or close to, its market value'. However, their definitions and explanations are all in terms of time to sale and the barriers faced by potential purchasers. Ball *et al.* (1998) note that 'difficulties in trading property add a timing risk to uncertainties surrounding the cash-flow and cause problems in implementing an active portfolio management strategy.' The length of time taken to transact is an associated disadvantage'.

Hoesli & MacGregor (2000) identify two consequences: 'low liquidity creates two problems: first, it takes longer to realise an asset's market value and, secondly, there is a risk that the market price will change between the decision to sell and a sale being implemented. Thus the actual return may differ from the expected.' Influenced by Lin and Vandell's (2001) work in this area, Bond and Lizieri (2004) sum up these strands succinctly

> "A potential seller of real estate faces uncertainty as to the correct "price" for the asset, uncertainty as to potential buyers and uncertainty as to the likely sale date. These extra dimensions of uncertainty may not be fully reflected in ex-post measures of property market performance. "

The length of the transaction is a central, if partial, factor influencing the level of risk. The lengthier the sale period, the more likely that market conditions will change and the investor is less certain about the cash flow.

3.   Literature Review: Property Transactions: The Process and the Time to Sale

3.1   The Transaction Process

A number of studies have examined whether there are systematic differences between sold and unsold properties. These studies have raised interesting questions concerning temporal and cross-sectional variations in saleability. For example, are certain *assets* more saleable than others at their market value; does saleability vary between *time periods*; does *location* or *type* make assets more saleable and does uncertainty concerning price at the decision to sell stage create a reluctance to sell[2]? Although there has been limited research on the determinants of sale of individual properties in the UK, there are strong *a priori* expectations drawn from this previous research and (albeit often anecdotal) market observation.

The first study related to this topic was carried out by Guilkey, *et al* (1989). They investigated whether there were systematic differences between sold and unsold properties. Using relatively small sample in the US, they test four hypotheses concerning the impact of information asymmetries, liability matching, economies of scale associated with large lot sizes and geographical remoteness. Supporting agency and information asymmetry effects, they found that managers tended to sell assets that did not maximise manager compensation and properties located in markets with strong current demand but rapid recent increases in new supply that were not continuing. They also found that lease maturity, holding period,

tenant quality, capitalisation rate, income per square foot, age and a range of economic drivers had significant explanatory power.

In related work, Collett et al (2003) focused on the holding periods of commercial property assets in the UK. Using the IPD transaction data, they examined hypotheses concerning the effect of size, returns and market conditions in acquisition and sale period. They found that good market performance was associated with higher sale rates. Further, they identify a lot size effect with small lot sizes having a higher propensity to sell than large lots.

In recent research, Fisher *et al* (2003) examine the determinants of transaction frequency and the underlying factors that affect the probability of property sales occurring from period to period. They draw an important distinction between *liquidity* and transacti*on frequency*. This is an interesting issue since properties may not transact because they are difficult to sell or because the owner does not wish to sell. A decision not to sell may be associated either with negative or with positive asset attributes. For instance, the low transaction frequency identified by Collett *et al* (2003) for retail warehouses is almost certainly due to positive attributes rather than negative factors and does not suggest that they are less liquid for owners. Conversely, studies which find that small lots sizes are sold more commonly than larger lots sizes do not indicate differential liquidity. Rather they may imply differences in *motivation to sell* rather than *ability to sell*.

A priori, Fisher *et al* (2003) hypothesise that a range of owner specific (gearing, fund type, historic performance, previous valuation) and property specific (holding period, voids, size and age) variables together with market factors (cost and flow of funds, employment, capital growth, and equity returns) affects sales activity. In line with Collett *et al* (2003), they point to a strong positive correlation between capital growth and turnover. Overall, whilst bearing in mind that sale probability and liquidity are separate, they find that their *a priori* expectations are confirmed and that the factors identified provide significant explanatory power of sale probability.

This research suggests that there are both systematic or market and specific factors that affect the probability that an asset is selected for sale. This point will be developed later in this paper

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[2] That additional uncertainty is, as in the financial definitions in Lizieri and Bond (2004), a liquidity cost. It is not the additional time taken to transact, but the uncertainty as to final achieved return that is critical.

In 1995, the Investment Property Forum reported on the results of a working party investigating the streamlining of the property transaction process. The objective was to make property "more liquid" by the identification of areas of the transaction process that could be improved, thereby quickening the sale process (IPF, 1995). This work did not identify any specific time frames for selling property but did identify the process. It included some element of preparation by the seller and also identified the period of marketing and negotiation; including the agreement of heads of terms, negotiation of the documentation and the undertaking of surveys and environmental investigations.

The working party concluded that the system in England and Wales was capable of being flexible and a great deal could be done to decrease the time taken to transact and to reduce difficulties in the system. They also concluded that advance preparation of materials necessary to affect a sale and, in appropriate circumstances, the use of alternative methods of due diligence and disposal could speed up transactions significantly.

Following this report, a supporting document was produced by the Investment Property Forum setting out a Code of Practice to implement a streamlining of the transaction process (IPF, 1996). It set out the information that a prospective seller should have available to show prospective purchasers including management information (service charge accounts, rent arrears, etc), documents and plans, replies to normal pre-contract enquiries, and an "informal" inspection and survey.[3] It also suggests that an environmental audit should be undertaken prior to offering for sale to identify possible problems which may abort a sale.

After heads of terms are agreed, IPF (1996) accepts that there will be a normal "ritual dance" around these terms by legal advisors. It suggests that timetables for negotiation and contract exchange are agreed at the same time as heads of terms to limit the open-ended nature of these negotiations.

3.2   Time to transact

There appears to be little work in the UK which identifies how long transactions take. McNamara (1998) identified the three periods as the time from initial decision to dispose to the point at which draft heads of terms were agreed (marketing period), to exchange of contracts (due diligence) and final transfer of monies (settlement). He carried out a survey of around 30 property professionals and asked them for estimates of the average time taken to

transact typical property types measured across the three basic events identified above. The property types and the time taken in weeks for the three events are set out in Table 1.

Table 1 : Time taken in weeks to transact

	Marketing Period		Due Diligence	Settlement	Total
	Mean	Stan Dev			
Cathedral City retail unit	4.2	1.5	5	1	10.2
Large town retail unit	4.7	1.7	4	1	9.7
Small town retail unit	5.8	2.6	6	1	12.8
Major city shopping centre	8.6	4.5	12	1	21.6
Large town shopping centre	7.7	3.4	12	1	20.7
Small town shopping centre	7.6	3.6	12	1	20.6
Retail warehouse	5.0	2.7	4	1	10.0
Retail warehouse park	5.2	3.0	6	1	12.2
City office	7.4	3.1	8	1	16.4
West End office	6.2	2.2	8	1	15.2
Provincial city centre office	6.8	2.9	6	1	13.8
Business park	6.0	3.2	6	1	13.0
Standard industrial shed	5.4	2.5	6	1	12.4
Distribution warehouse	5.7	2.1	6	1	12.7

Source : McNamara (1998)

Generally, free-standing retail units reportedly took the least time to transact, with retail warehouses at 10 weeks and standard shop units in large towns and cathedral cities also around 10 weeks. Small town standard units took around 13 weeks. Standard industrial units and distribution warehouses also took around 12/13 weeks and offices outside London took around 13/14 weeks. City and West End offices were longer at over 15 weeks. Shopping centres took the longest at around 20/21 weeks. Due diligence ranged from 4 weeks for the retail warehouses and some standard shop units to 12 weeks for shopping centres. Marketing periods ranged from 4/5 weeks for the shop and retail warehouse units to over 8 weeks for shopping centres. Offices were around 7 weeks. The completion period was 1 week in all cases although this seems very low and anecdotal comment would suggest 1 month to be more likely.

However, this evidence is drawn from surveys of agents and "typical" periods and the standard deviations suggest that there are some significant differences of opinion between respondents. The case studies reported here will provide some real data on actual transactions and how long they took to complete.

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[3] The IPF suggestion of an informal survey and inspection being made available to the prospective

4.   The Case Studies

The case studies were based on the data from three different funds; one large financial institution running a variety of general, long term and pension funds, one pension fund and asset management company and one large property company. Between them, they administer or manage a wide variety of different portfolios, including some monthly valued funds, and a mixture of property only and mixed asset portfolios.

The research included two strands. First, an interview was carried out with a number of representatives of each fund to discuss the processes involved in the different organisations leading to decisions to sell. The actual sale process was then followed through in each interview.

The second aspect of the research entailed the detailed investigation of actual transactions. In order to address the issue of different market states, transactions in the calendar years 2000 and 2002 were collected. This normally entailed sales which were completed in the calendar year but occasionally the data related to completion dates which went into 2001. In order to gain all three states of rising, falling and stable markets, it was originally decided to attempt to get 1995 in addition (as this was the last time all three property sector capital growth indices fell). However, the files of properties so far back proved difficult to access, especially in the tight time frame of this preliminary study, and data for 1995 (with occasionally completions into 1996) was only available from one fund. Whilst providing information about the assets sold, two of the organisations allowed access to the actual sale files in order to extract relevant dates. This involved visits to their offices in order to read the files. The other organisation provided pre-analysed data.

Data were obtained from over 187 properties across the three main commercial property sectors. A proportion of the assets were sold by auction (approximately 10%). The majority of the assets were sold by private treaty, often through a 'best bids' process. In a number of cases, owners had been approached regarding individual buildings or portfolios and made acceptable offers so that the "decision to sell" was made *after* the offer was received.

It should further be noted that one of the organisations had a policy of disposing of small, non-core assets in this period and a substantial proportion of the sales involved this type of property – most commonly 'High Street' shops in market towns. For 182 properties, the basic property sector was identified within five segments; Office, Industrial, Standard Shop, Retail

purchaser raises issues of liability and whether such a thing as an "informal" survey is possible.

Warehouse and Shopping Centre. Some of these segments are very small; for example, only five shopping centres and 12 retail warehouses. As the data is only from three companies, it cannot be assumed to represent any sort of sample of the institutional and quoted property company sector; the results are indicative only.

Discussion with the interviewees took place around a "model" transaction. Before analysing the data on transaction times the transaction process, as identified by the interviewees, is set out below.

5.   The Transaction Process

5.1   A Model Transaction

McNamara (1998) breaks the sales process down into three parts; marketing, due diligence and settlement. The available case study data does record the time taken from the decision to market the property to completion which marries well with the McNamara survey. However, a typical transaction as identified by the case study interviewees includes a *pre-marketing* process. Therefore, transaction time commencing with the marketing of the particular asset underestimates the total time for the sale process.

The interviewees from the three funds described a typical transaction as involving a number of the key stages. These are illustrated diagrammatically in Appendix One.

The pre-marketing period where decisions to transact are made could be split into three stages encompassing four decisions. The first is the general portfolio decision to sell property as an asset - this strategic process is similar for all the competing assets. This triggers the sale process. The first stage runs from this decision and the decision as to which sector or sub-sector the particular asset to be sold will come. The second stage is the decision to sell a particular asset within that sector. Finally, having decided to sell the property, the process of getting the property ready to market takes time.

This third stage, between decision to sell and marketing, usually involves an instruction to agents to prepare an assessment of value and marketability. Often, but not always, solicitors are simultaneously instructed to identify any potential legal obstacles to sale. This can take one to two weeks. It is possible that agents and solicitors may identify market factors (agents) or asset specific factors (solicitors) that might need to be addressed before marketing.

Following receipt of marketing report from agents, formal marketing occurs[4] involving production and distribution of a brochure, advertising etc. Best bids are then invited from interested purchasers. Typically, this can take three to four weeks, according to the case study interviewees.

The bids received are assessed and Heads of Terms agreed with the selected bidder. At this point, solicitors are instructed to proceed towards exchange of contract and go through the due diligence process. Due diligence can take another three to four weeks. However, it was at this stage that transactions are most likely to be delayed, sometimes dramatically, due to four main factors listed below.

- Previously unknown or ignored inherent problems;
- Changes in the asset e.g. tenant default;
- Change in market conditions;
- Changes in the circumstances of the purchaser, for example:
  - *Difficulty of funding. Increasing use of debt was said to sometimes result in an additional due diligence process which could cause delay;*
  - *Re-assessment of offer price.*

Exchange of contracts takes place at the end of this period. This is the point at which at which the sale becomes certain. For properties sold at auction, price agreement and exchange of contract occur 'when the hammers falls'.

Legal completion is the final act in the process. This is the date on which ownership rights are transferred to the purchaser and cash is transferred to the vendor. Anecdotal evidence suggests that simultaneous exchange of contract and completion has become more common. However, the norm is for a gap of two to four weeks between exchange of contracts and completion.

5.2   Variations to the model transaction

The interviewees identified a number of variations within all parts of the transaction process. For fund managers, the initial selection process may be generated at a strategic asset allocation level. This would then be followed by a tactical analysis of the sectors and regions from which to sell property assets. At the individual asset level, assets would be ranked

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[4] In practice, agents may well have already marketed the asset with some of the contacts.

according to their estimated future performance. Performance analysis may be both backward and forward-looking. The assessment would focus on issues such as bad debts, voids, the outcome of rent reviews and achieved growth. The forward-looking analysis would essentially involve an assessment of worth. Finally, assets would be selected that could be sold in the time period to generate the funds required. This leads to an important finding. Where funds need to generate cash in a specific time period, only properties which can be reasonably expected to find a buyer in that specific time period could be selected.

There were a number of other 'routes' to sale

- *Certain organisations may focus on specific regions, sectors or lot sizes. **Non-conforming assets** were more likely to be sold.*

- *In some cases attractive **unsolicited offers** are received. Where acceptable, this tends to speed up the disposal process dramatically since the marketing and negotiation phases are bypassed.*

- *For **open-ended funds** such as unit trusts, there may be an urgent requirement to liquidate assets to match unit redemptions. This increased pressure to sell could force managers to consider selling any asset.*

Property-specific factors which can _delay_ disposal can be categorised into problems that are either solvable or temporary but intractable. Solvable problems are issues which can be addressed over a period of time but would render a property non-saleable, or unattractive to a significant proportion of potential purchasers if marketed prior to problem resolution. The consequence is that price achieved may be significantly below the perception of market value with the problem resolved. Such issues include title problems, outstanding rent reviews, disputes with tenants, tenant insolvency, non-compliance with fire regulations *inter alia*. Theoretically, all inherent obstructions to sale can be resolved in advance of any decision to sell.

However, this is not necessarily the case with temporary intractable factors. Although these are often predictable and will disappear over time, crucially they tend to be outside the control of the owner. Imminent rent reviews and potential lease terminations are the main problems. The additional risk associated with unknown future income due to imminent rent reviews or potential lease expiries can reduce the pool of potential buyers and hence the price obtained. Whilst, these issues can be anticipated, they are not easy to resolve in advance.

In addition, there are a number of other ways in which the implementation of the decision to sell may be delayed. The decision-making process may identify ways in which value can be added to an asset at relatively low cost e.g. by redecoration or refurbishment. Where third parties are involved e.g. in a head lease, or limited partnership, there may be delays associated with permissions to assign or pre-emption rights. Associated delays can occur during the selling process, as well as affecting the decision to sell due to largely unpredictable events. For instance, tenants can become insolvent, seek to assign or be in breach of the lease covenants.

It was also interesting to note that, contrary to expectation, very few of the interviewees claimed experience of abortive transactions. This could be because of the filtering process by which there is a tendency to *only* bring forward for sale assets which *can* be sold. Further, transactions tend to acquire a momentum so that when a problem occurs with a sale, the agents, vendors and other interested buyers have both financial and psychological reasons to proceed.

We turn now to analysis of the transactions data obtained.

6. The Case Study Results

In order to examine the validity of this typical transaction, transaction data was collected and analysed to validate the approximate timings of the typical transaction outlined above and in McNamara (1998). The transactions were scrutinised for the following base data.

- The date of decision to sell. In practice, this proved extremely difficult to identify. Sale files often commenced with an instruction to agents. Rarely could we find any evidence of the precise date when the organisation had decided to sell an asset.
- The date of commencement of marketing. As noted above, in the 'idealised' transaction, the formal marketing would occur two to three weeks after instruction of the agent to prepare an assessment of value and marketability.

- The date of final price agreement. This was usually easily identified since Heads of Terms could be found on the file. It is specifically termed *final* price agreement since, in a number of transactions, price agreement could occur only for the transaction to break down.
- Exchange of contracts.
- Completion.

The interviews with the representatives of the three funds suggested that there are distinct periods in which the decision making process moves from the decision to sell property as an asset class, to the decision to sell from a particular sectors and finally to the identification of individual assets for disposal. These periods are extremely difficult to identify chronologically and are rarely formally recorded. First sale records usually commence after that process has been completed and the agent is about to be instructed. In the 154 instances where the date of 1st record and the date agent appointed are both known, 100 occur at the same time. We should also note that the database will almost certainly exclude some properties that were withdrawn from sale and never brought back to the market[5]. As a result, the data presented here will tend to understate the total length of the sales process.

The overall transaction time as set out in Table 2 is therefore the time from the first record of the proposed sale, the date the sale file was started, which often coincide with the date the agent was instructed. The average transaction time for the 184 transactions where this information was recorded is 298 days, over 9 months. However, this average is skewed by a small number of very long transactions: the median transaction time is 190 days, or just over 6 months.

The longest period is for negotiation. The average time is 178 days but again this is heavily skewed and the median is 88 days, nearly 3 months. The due diligence process identified by McNamara (1998) between sale agreed and contract averages 83 days and, although less heavily skewed, the median is lower at 62 days or 2 months. The contract to completion period averages 19 days or nearly 3 weeks.

Table 2 : Overall Transaction Times

	Overall Transaction Time	Exchange to completion	Price to exchange	1st record to price
Average	298	19	83	178
Median	190	19	62	88
Standard Dev	381	19	82	325
Skewness[6]	4.07	1.43	2.25	5.39
Number	184	185	178	179

Figures 1 to 4 set out the distributions of the periods identified above. Figure 1 illustrates that very few transactions take less than 50 days. The largest tranche of transactions (around 25%)

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[5] Technically, the data is "right censored".
[6] Normalised to zero: large positive numbers indicate positive, upside, skewness.

take between 50 and 100 days, with another 15% taking between 100 and 150 days. Well over 60% take no more than 250 days or 8 months.

Figure 1 : Total Transaction Time

Total length of transaction
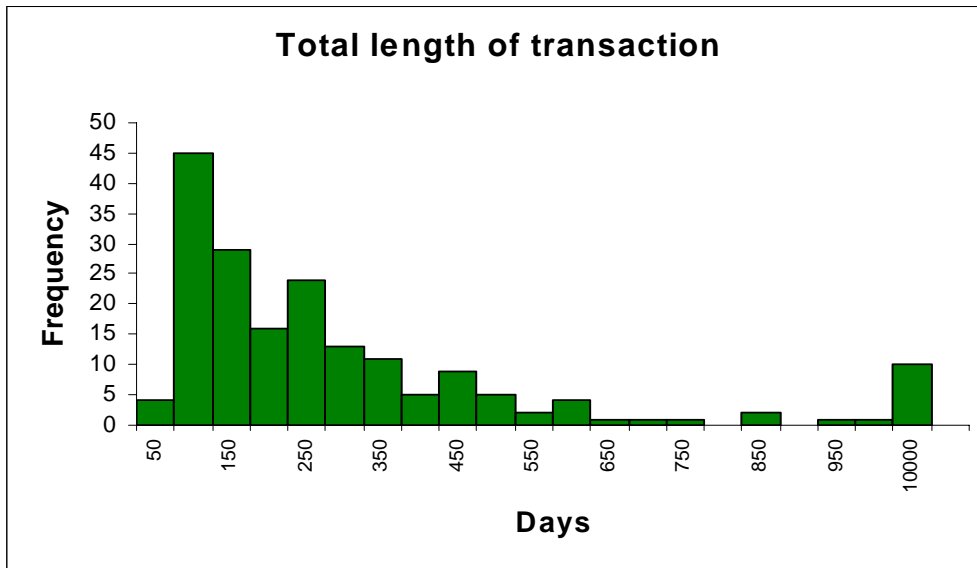
Figure 2 illustrates that over 20% of transactions take between 10 and 50 days to market while another 15% take less than 10 days. A further 15% take between 50 and 100 days. Marketing in around 60% of cases takes three months or less. However, that still leaves around 30% of cases taking between 100 and 300 days; over 3 months to nearly 10 months to market.

Figure 2 : First Record to Price Agreement

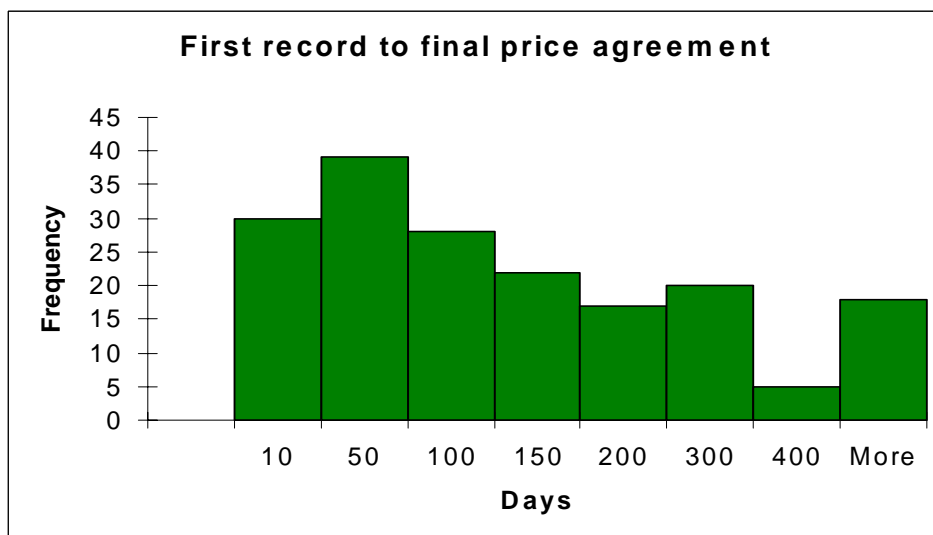**First record to final price agreement**

Figure 3 illustrates that in just less than 10% of the transactions monitored price agreement and exchange appear to be simultaneous, due to some properties being sold at auction (and also, we suspect, a few recording errors). The majority of transactions had a time from agreement to contract of less than 100 days (nearly 60%) and a further 15 % took no more than 150 days or just over 5 months. The due diligence periods are therefore both shorter (the median being nearly a month less) and less variable than the marketing period.
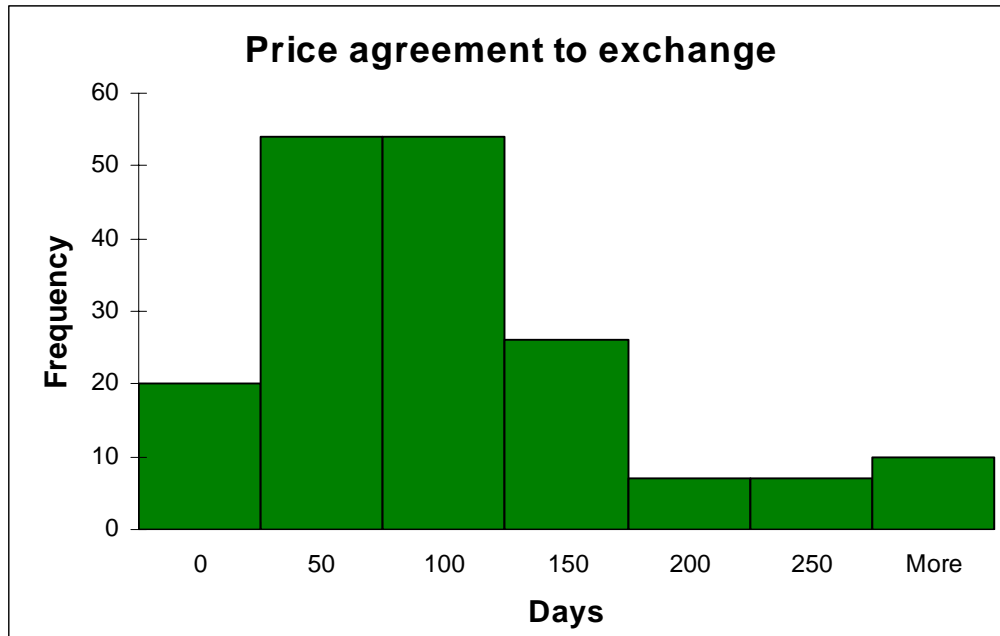
Figure 3 : Price Agreement to Contract Exchange

Figure 4 illustrates that over 30% of transaction have simultaneous exchange and completion but the largest group (around 25%) take between 26 and 30 days, or four weeks. Another 25% approximately take less than four weeks leaving relatively few transactions taking more than a month to complete.

Tables 3 to 5 set out the breakdown of the above figures for the three time periods of completions in 1995/96, 2000/01 and 2002. The mean times suggest that transaction times have *increased* rather than decreased despite the Forum's attempts to streamline the process (Investment Property Forum, 1995; 1996). In 1995, the average transaction time was 165 days: this rises to 272 days in 2000 and 339 days in 2002. However, 1995 is a very small sample and the 2000 and 2002 results are influenced by skewness. The median times for 2000 are higher at 235 days than for 2002 at only 144 days, under 5 months, suggesting that the "typical" time to sale *is* shorter.

Figure 4 : Contract Exchange to Completion
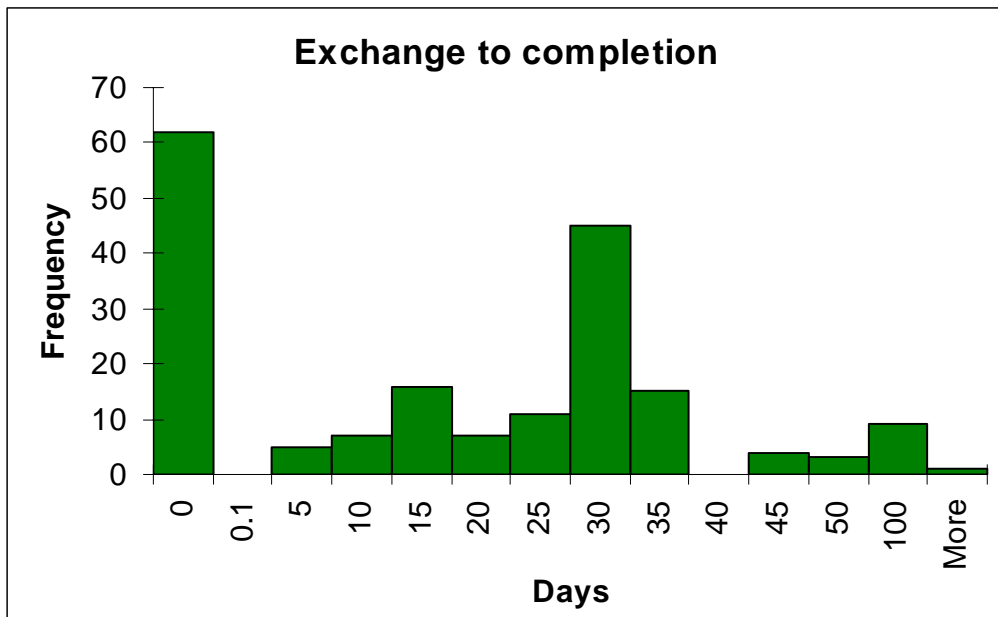
One major difference between 2002 and the earlier transactions is that the completion period has dropped from around four weeks in 1995 to three weeks in 2000 and to two weeks in 2002. Both medians and averages tell a similar story. The marketing period has a more variable trend. The small number of transactions in 1995 suggest a short period of around one and a half to two and a half months increasing significantly in 2000 to around five months. In 2002 the median falls back to less than two months, similar to 1995 but the average increases significantly on the back of a few very long transactions. Price to exchange, the due diligence period remains virtually identical in 2000 and 2002 suggesting no improvements in this part of the transaction.

Table 3: 1995/96 Transaction Times

	Overall Transaction Time	Exchange to completion	Price to exchange	1st record to price
Average	165	24	53	75
Median	76	28	0	44
SD	141	14	110	65
Skewness	1.13	-0.15	1.92	2.25
Number	16	17	15	15

Table 4: 2000/01 Transaction Times

	Overall Transaction Time	Exchange to completion	Price to exchange	1st record to price
Average	272	21	86	166
Median	235	22	62	151
SD	143	19	83	122
Skewness	0.87	1.01	3.39	1.11
Number	70	69	69	70

Table 5: 2002 Transaction Times

	Overall Transaction Time	Exchange to completion	Price to exchange	1st record to price
Average	339	16	85	203
Median	144	14	66	51
SD	500	20	77	434
Skewness	3.17	1.90	1.64	4.20
Number	98	99	94	94

The sale price and all details of the different parts of the transaction were available for around half (93 of the 187) transactions. These transactions were analysed to test whether the higher value transactions took longer and whether the time taken for specific parts of the transaction process changed with higher value properties.

Table 6 sets out the correlation matrix of price and transaction times. It appears that the value of the property has very little effect on how long it takes to sell. The relationship between price and total transaction time is not significantly different from zero with a correlation coefficient of 0.06. The highest positive relationship between price and transaction time is for the marketing period but this correlation coefficient is only 0.18[7]. Of equal interest is the fact that the various components of the process are not correlated: a long marketing period is not followed by a long due diligence or completion period. This suggests that a long transaction is not a simple function of value: is may be a function of a long marketing period or a long due diligence period, but not rarely both together.

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[7] Weakly significant at the 10% level.

Table 6: Correlation Matrix of Price and the Different Parts of the Transaction Process

	Time exchange to completion	Time sale agreed to exchange	1st record to agreement	1st record to completion	Price
Time exchange to completion	1.000				
Time sale agreed to exchange	-0.104	1.0000			
1st record to agreement	0.087	-0.022	1.000		
1st record to completion	0.106	0.477	0.707	1.000	
Price	-0.035	-0.065	0.179	0.060	1.000

Analysis of the 182 transactions where the property segment was known was undertaken, but given the time constraints and the small number of observations in many of the segments, only total transaction time was identified. It does not show the trends picked up in the survey of professionals by McNamara (1998); shopping centres and standard shops have the same median similar to the shopping centre times identified by McNamara but double the time identified by him for standard shops. and in this sample retail warehouses have the highest mean and the highest median again over double the time identified by McNamara. The office and industrial median times seem closer to those of McNamara's survey.

Table 7 : Transaction Total Time by Property Segment

	Industrial	Office	Retail Warehouse	Shopping Centre	Standard Retail	Total
Mean	215	197	292	232	219	219
Median	133	119	231	202	203	172
Standard deviation	248	184	271	102	147	176
Skewness	3.16	2.66	1.5	2.02	0.88	2.1
Number of transactions	20	35	12	5	110	182
Maximum	1140	921	920	411	693	1140
Minimum	52	25	36	156	31	25

But, in order to progress any disaggregation, the sample size needs to increase and the range of ownerships also needs to increase.

7.   Conclusions

It is clear that time to transact is an important dimension of liquidity risk for property investors. Prior to decision to sell, investors are uncertain about the amount of cash to be received and the period until receipt. In addition, it is also clear that the longer the period until receipt of cash, the greater the uncertainty about the amount receivable. Measures of performance which neglect this risk will tend to underestimate the volatility of the asset class.

This preliminary analysis of the transactions data indicates that a typical transaction has six separate stages. The available data identifies the timing of last three of these stages for 187 transactions in 1995/96, 2000/01 and 2002. The six stages are bounded by seven separate decisions: The portfolio decision to sell property starts the process; the stages which follow are:

Stage 1 - Property portfolio decision to sell particular sector or sub-sector

Stage 2 - Decision to sell particular asset

Stage 3 - Pre-marketing period

Stage 4 - Marketing period

Stage 5 - Due diligence period

Stage 6 - Exchange to Completion

The interviews give some insight into the sale decision. They suggest that many assets are sold for portfolio reasons (such as a decision to sell smaller properties or a particular sub-sector). However, the specific stock selection decision often relates to a notion of *readiness for sale*. They implied that a relatively small number of property specific problems might inhibit a sale. Properties are sold because they can be: those which, for example, have imminent rent reviews and lease expiries are not considered saleable at an acceptable price. A large number of prospective problems with specific properties, which might inhibit sales, are identified in Stages 2 and 3 of the decision making process - therefore the number of aborted sales in the database appears low.

If sales were a sample of all properties in portfolios, it would be expected that they would include more properties with attributes which inhibit sale and, therefore, potential time to sale would extend well beyond those observed average transaction times for the actual sales. Consequently, the study also suggests that transaction frequency or probability of sale provides only a partial indicator of asset liquidity. Sale probability depends upon whether the

seller is *motivated* to sell and whether the seller is *able* to sell. Proxy liquidity measures based on time to an actual sale are driven by the latter, which may be misleading.

The preliminary analysis of the 187 transactions for transaction time over the last three stages of the process suggests that very few generalisations can be made concerning the causes of longer and shorter transactions times. The only apparent trend is the continuing reduction in the time from exchange to completion, which now appears to average just over two weeks. However, of the three stages, this is the least variable and the least lengthy so it does not significantly reduce the overall transaction time. Over the whole data the average transaction time is 298 days, over 9 months. However, this average is skewed by a small number of very long transactions and the median transaction time is 190 days, or just over 6 months. Around 25% of transactions take between 50 and 100 days and 60% get completed within 8 months. These figures need to be placed in the context of the time to transact in securities markets (even for small capitalisation stocks and those with low free floats).

Given the length of time between exchange and completion is around two to three weeks, the vast majority of time to sale is in the marketing and due diligence periods. Marketing (median 88 days) is slightly longer than due diligence (median 62 days). No clear downward trend through time in either of these two periods is observable from the data, despite the efforts of the Investment Property Forum in promoting the streamlining of property transactions (although we should stress that the sample for the 1995/6 period was limited). Perhaps more surprisingly, there appears to be no reason or relationship between the length of these two periods. A long marketing period does not lead necessarily to a shorter or longer due diligence period. This may be because for some complex properties they both take longer to complete while, in others, some of the due diligence may be undertaken before the final price is agreed. If a prior offer had been received and later withdrawn, this would possibly increase the marketing period to final agreed price, but reduce the time to exchange. Reasons for purchasers withdrawing can be very specific; such as a tenant defaulting or changes to market conditions in the due diligence period.

Value of property has no apparent effect on length of transaction. Property sector disaggregation does not validate (or refute) the estimates of McNamara's (1998) respondents regarding different transaction times for the different property types and locations, but the largest sample, standard retails does appear to take far longer than those estimates. However, the sample also appears to include a number of small, secondary units being cleared out of portfolios.

Overall, the case study interviews provide some insights into the transaction process and the transactions data gives some indications of the timings of the last three stages of the transaction process; marketing, due diligence and completion. The key outstanding issue is the factors that cause extended transaction times. Are these simply 'liquidity shocks' that can occur randomly and are essentially unpredictable? Are certain categories of asset more prone to such liquidity shocks? Would unsold assets have taken longer to sell? The data could be examined further for sector differences but without a larger number of transactions the ability to drill down and disaggregate remains poor. Extending the data collection to more funds and companies could give extended insight in to selection bias and the drivers for transactions and deeper analysis of the source files could reveal and categorise the property specific issues which cause transactions to vary so much in time taken to completion.

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Strategic allocation process generates sale requirements

Tactical asset allocation identifies preferred sectors and regions.

Asset does not conform to target portfolio holdings

Worth assessment identifies individual assets preferred for sale

Unsolicited approach from (special) purchaser.

Pressure to generate cash e.g. unit redemptions

Individual asset recommended for sale

Major sale constraints identified

Internal assessment of sale feasibility

No major sale constraints identified

Abort

Delay

Minor preparations for sale

Wait for improved market conditions

Instruct agents to assess marketability and to estimate sale price.

Instruct solicitors to assess legal constraints to sale and carry out preliminary work

Prepare for sale

Major sale constraints identified

External assessment of sale feasibility

Abort

Delay

No major sale constraints identified

Wait for improved market conditions

Minor preparations for marketing and sale

Prepare for sale

Comparison of 'book value' with Market Value

Formal marketing

Go back to second/third bidders?

Receipt and assessment of offers/bids

Re-negotiation of price?

Purchaser's due diligence

Lender's due diligence, negotiation of funding and funding approval procedures?

Exchange of contracts

Completion.

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