BUYING WITH LOCAL PRESENCE

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Abstract

A small group of informed buyers of illiquid and heterogeneous assets such as commercial properties have lower costs of information and search. These lower costs are tied to being local and having experience, which establish a reputation for reliable closing. Assets with discounts appear only sporadically, limiting the systematic influence of this small group of informed buyers as well as their ability to expand. Meaningful benefits accrue to a small group of local, experienced investors on the buy side. The potential for buy side driven returns are confirmed. The study complements and refines existing literature by showing that heterogeneity in local investors is a factor in segmenting returns to illiquid assets by cohort.

Keywords: locality, experience, asset pricing, real estate, returns
JEL Classification: G14, R33

1. Introduction

Studies show gains to locality in the broad financial markets. Institutional investors often concentrate their portfolios in stocks headquartered in close proximity and individual investors have shown a preference for the stocks of local firms (e.g., Grinblatt and Keloharju (2000), Pirinsky and Wang (2006)). Hong, Kubik and Stein (2005) find that U.S. money managers located near subject firms earn higher returns while Hong, Kubik and Stein (2007) show that firm location and the relative number of locally traded firms can create a local bias where stock prices are particularly high relative to fundamentals. These studies suggest that proximity adds value for locals investing in the stock of home firms as these firms have something of a "home field" advantage. A primary argument made in these studies is that informational advantages accrue to local investors giving these investors higher returns or better relative performance.

We broaden this relatively small existing literature on the spatial aspects of investment by investigating local investors in the commercial property market. The commercial property market is an appropriate setting for this extension since real estate markets are generally believed to have local characteristics that determine property level performance, although the actual asset is valued based on financial market influences. Real estate markets are also thought to be affected by information asymmetries (Garmaise and Moskowitz (2004) and others), which may permit market clienteles based on location. Furthermore, transactions in illiquid and opaque asset markets such as commercial real estate are characterized by heterogeneity on both the buy and sell sides.

Commercial property transactions are bilateral and both parties have reputations that have value, providing incentives to preserve opaqueness. Yet, at times there are demands for liquidity and certainty of execution. Sellers holding the illiquid assets are searching for those potential buyers that provide the most immediacy and can transact. The demand by some sellers for liquidity is

idiosyncratic and occasional. Buyer characteristics that indicate quick closing and performance have the potential to obtain a discount at purchase.

Notwithstanding the minimal use of commercial property markets to study location-based investment bias, these markets afford additional advantages for evaluating investment decision-making and the potential for local operating advantages, bias, and access to actionable information. Of major importance is that in commercial property transactions both buyers and sellers can be identified. This allows for the determination of buyer and seller characteristics and permits some discrete measurement of local investment experience along with comparison of more and less sophisticated investors. Differentiation between large scale active market participants and less active participants can be made on both the buy and sell sides. Moreover, real estate assets are mostly placed in a fixed location and valuation of commercial properties is closely related to the locality. Thus, the home bias or information advantages for buyer and seller sides of a transaction can be better examined.

In the present analysis, it is argued that price effects associated with local investors are more likely to be driven by information advantages possessed by a small portion of experienced and knowledgeable local investors. These local investors with experience acquire relatively more properties over time. They are professional investors who are better connected and more knowledgeable of a local market than inexperienced local investors and non-local investors. While non-local investors may be experienced investors, they are not as well-connected or informed locally. This segmentation creates opportunities for a different approach and allows testing of a buy side hypothesis, i.e., local, experienced investors obtain a price discount at purchase. Moreover, buying right is likely to create an asymmetry in capital gains. Any eventual excess return, including from both capital gain and income, an investor receives may come from decisions at purchase.

A simple search model is used to illustrate the main argument. The focus is on a small group of local investors with experience, who have the ability to acquire commercial properties at a discount to

market. Local investors do not comprise a homogeneous group and they vary in experience, information advantage, and access to the capital market. The subgroup of experienced local investors is more likely to possess information and execution advantages over non-local investors and obtains benefit as expected from the spatial investment literature.

A paradoxical result in asset markets is also addressed. A general characteristic of asset markets is that buying and selling may not be always symmetric. Some buyers have access to purchasing at a discount, including options, restricted stock, limited insider deals or having access to bulk capital. More typically they are selling into the same market and are market takers on the sell side. Against a null that selling and buying are identical is an alternative that liquidity provision or capital access creates buying opportunities that only some investors capture. If there is evidence on the buyer side and minimal evidence on the seller side using commercial property data, it suggests that the information advantage may be asymmetric in buying and selling. Asymmetric buying comes from the informed receiving a discount at purchase.

Empirical analysis is conducted using property level transaction data provided by CoStar Group, Inc. over the years 1995-2007.[1] The ability to differentiate parties distinguishes the real estate transaction data from other data obtained from stock brokerage or other account sources where the trading parties are delineated based on proxies. Real estate data are cleaner on location in that the assets do not move and the source of value is confined to the locality. In each transaction, buyers and sellers can be segmented based on the number of transactions they made over the sample period and on each participant's location.

The empirical results confirm that active local buyers obtain a price discount that is likely to be attributable to information and execution advantages. The advantages are to a small group of local buyers who are experienced and knowledgeable about the local market, which differs from the implicit

[1] The sample is constrained to end at the end of 2007 of a collapse in transaction volume during the financial crisis. The number of observations declines precipitously after 2007. See the data section for more details.

assumption from the literature that local buyers are homogeneous. Specifically, we find that local investors with experience obtain a price discount of 8 - 12% relative to non-local investors, while inexperienced local investors receive no discount. On the sell side, there is limited support for the existence of local seller cohorts obtaining sales price premiums relative to the non-local seller cohort. This indicates the price effect comes principally on the buy side. When examining capital gains of sellers, we find that local sellers with experience are more likely to earn excess capital gains than non-local sellers.

These results suggest that there is a potential for investors closer to an asset to get higher returns. More specifically, local, experienced investors can earn a return premium when compared with non-local investors and less active local investors. More informed, connected investors can at times buy at lower prices. Since these opportunities do not occur frequently, they do not create a cornering of the market. Also, as there is limited evidence to support price variation between differentiated local investors and non-local investors on sale, the gain may mainly come from the buy side. The overall return premium earned by local buyers is concentrated among the experienced who can at times acquire properties at a discount.

The empirical findings are also supportive of an industry adage that "you make money when you buy, not when you sell" since excess returns are mainly driven by the purchase decision.[2] Apart from indicating that a round-trip buy and sell involves different decision making, this asymmetry supports a buy and hold strategy in real estate as the benefit to trading is asymmetric and is limited to the buy side. This is an augmented buy-and-hold strategy and does not involve the investor purchasing randomly. Instead, investors buy based on specific investment knowledge which accrues to being local and experienced. There are also implications for other basic strategies in real estate. Following Atack and Margo's (1998) support for location strategies in real estate, we show that local and experienced

[2] Many experienced real estate investors are fond of the adage that "you make money when you buy, not when you sell."

apartment purchasers in Atlanta receive a discount. The potential for above market returns is focused on the buy side with the sell side being associated with market price takers. Since apartments are one of the most transparent property types, the results imply perhaps larger effects in other property types.

The paper is structured as follows. Section 2 provides background and places the study in the literature. Section 3 provides a basic theoretical framework and an outline of model implementation. Data and empirical results are in Section 4, and Section 5 provides concluding remarks.

2. Background and Literature

2.1 Location, Experience and Investment

Several studies show that locality influences the pricing and returns of financial assets. Coval and Moskowitz (1999, 2001) show that there are gains to locality in financial markets. Institutional investors concentrate their portfolios in stocks located near where they are domiciled and operate. Grinblatt and Keloharju (2000) show that individual investors concentrate their portfolios with companies in close proximity. The relative concentration among individual investors is greater than for institutions. Hong, Kubik and Stein (2005) find that U.S. money managers located near subject companies earn higher returns, particularly in the South. With fewer traded firms located in the South and a local bias, stock prices there are particularly high relative to fundamentals (Hong, Kubik and Stein (2007)).

Brown, Ivković, Smith and Weisbenner (2008) find a locality and neighborhood effect in stock ownership. In Ivković and Weisbenner (2007), individuals trade if their neighbors are doing the same. Pirinsky and Wang (2006) show that returns on a local stock are highly correlated with an index for firms in the same metro area, holding the overall market and industry constant. Investors are influenced by returns and prospective returns within a geographical context with a bias or effect from locality.

Experience by extensive trading in stock markets finds mixed results. Returns to experience are negative in Barber and Odean (2000, 2009) and Barber, Lee, Lui and Odean (2009). Reasons include downward biases in reserve prices or excessive learning from small trades (Linainmaa (2010, 2011)). Seru, Shumway and Stoman (2009) and Mahani and Bernhardt (2007) find that experienced trading is profitable if constrained.

2.2 Location, premiums and real estate investment

Previous literature studies whether non-local buyers pay more in property transaction prices and finds a significant price premium paid by non-local buyers.[3] In the residential real estate literature, the focus is on search behavior and is characterized by a buyer making an infrequent purchase with constraints.[4] For commercial real estate, previous literature studies whether non-local buyers pay more in property transaction prices and finds a significant price premium paid by non-local buyers (Lambson, McQueen and Slade (2004)). Cheng, Lin and Liu (2008) modify the search process to include recall. Rather than accepting any offer above the reservation price, the seller in a hot market contacts previous offers to induce bidding. In a cold market the seller keeps in contact with offers below the reservation price.

To provide explanations for the price premium, researchers have focused on search behavior, anchoring, and information asymmetry in the property markets. In particular, the focus is on non-local buyers. These non-local investors are decomposed by location to test for an anchoring effect, and whether they have previous experience or geographic proximity as measures of information

[3] Non-local buyers are often considered to be from outside a state. This is sufficient filtering given the metropolitan areas from which the data are taken.

[4] The purchase of a house is a relatively infrequent event for most market participants. This is in contrast to many consumer goods. The purchase frequency is also lower than for most capital goods. In commercial real estate this is more pronounced. Limited frequency is found by Wheaton, Baranksi and Templeton (2009) for Manhattan. Over a century of transactions, there are only 86 repeat office market transactions from 1899-1999. Fisher, Gatzlaff, Geltner and Haurin (2004) show that the transaction frequency of commercial real estate is positively correlated with prices and appreciation. Liquidity is pro-cyclical.

asymmetry. The literature also implicitly assumes that even if a buyer has only a one time purchase experience, the information problems faced by the buyer will be mitigated relative to those without any experience. Previous research finds relatively weak evidence on either the anchoring or information asymmetry explanations (Lambson, McQueen and Slades (2004)).[5]

A possible counter-argument for the previous research is that non-local buyers are more likely to be professional investors.[6] Moreover, local experienced buyers or those buyers who purchase many properties are likely to know more about location-related information such as trends in growth, zoning, crime rate and other social and environmental issues. They possess information advantages over non-local buyers. They have information advantages and can transact. In contrast, a local buyer without experience may not have an information advantage over non-local professional investors, and hence, they should not necessarily obtain a price discount relative to non-local buyers. In essence, it is possible that heterogeneity among local buyers drives the property transaction premium or discount between local and non-local buyers. More importantly, the market may simply show that a small cohort of informed locals can at times acquire properties at a discount by adding liquidity and an ability to transact.

Our focus is on a subgroup of local investors with experience (measured as the number of properties bought over years). We argue this is a better measure of local investors' information advantage over non-local buyers. The local buyers are not homogeneous in the sense that they vary in information advantages and experience. The local, experienced buyers are more likely to possess information advantages over non-local buyers and inexperienced locals. Price discounts, if any, should come from experience or information advantage, not from the mere presence of locality.

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[5] Lambson, McQueen and Slades (2004) report that the tests for the anchoring and information asymmetry explanations lack power to significantly reject the null hypotheses, while collectively the two effects appear to influence the size of the out-of-state premium.

[6] The argument is that non-local investors would be larger players looking for expansion. These investors know the fundamentals of real estate investment and asset management and have some scale. They may be looking for diversification and are likely to constantly look for investment opportunities in real estate. They may have advantages in capital formation as well.

3. Theoretical Framework and Model Implementation

3.1 Theoretical Framework

Sellers generate or post an asking price A and retain a reservation price $R(A)$ where $R' > 0$ and primes denote first derivatives. The asking prices of all specific assets currently in the market are available at the property specific asking price A. Sellers provide these asking prices to the market and buyers make inferences about $R(A)$. The reservation price has an unobservable error. Some sellers are willing to accept a low offer in exchange for liquidity or certainty of execution, for example. Those sellers are exposed by signals from buyers able to provide liquidity.

The seller's reservation price satisfies the stopping rule condition.

$$R(A) = C + \frac{1}{\rho}\int_{R(A)}^{\infty} (P - R(A))dF(P) \tag{1}$$

The seller will accept any price offer P which exceeds the reservation price. Prices are drawn from the distribution function, $F(P)$. The return while searching for a buyer is from net operating income (C) and expected capital gain. The discount rate is ρ. For commercial real estate, C has the natural interpretation as the cash flow during the search period. For an unleveraged property with no current capital expenses, it is the net operating income. Net operating income is the product of a multiplier cap rate and the market price of the property. That market price is a drawing from $F(P)$.

For the seller, search is an option. The strike price is the reservation $R(A)$. The seller sets the reservation price as equal to the net operating income C plus the expected dollar capital gain from placing the property on the market. That expected capital gain is $\frac{1}{\rho}\int_{R(A)}^{\infty} (P - R(A))dF(P)$. Dividing this equation through by a price P converts it to a return. As yet, no transaction price is available.

Buyers make a bid B on a specific property. Those bids are up to their reservation purchase price $M(B), M' > 0$. Since the distribution of prices is the same, with a common discount rate buyers set their reservation prices as

$$M(B) = S + \frac{1}{\rho} \int_0^{M(B)} (M(B) - P) dF(P) \quad (2)$$

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Buyers have a cost of search S. Search is both formal and informal. Informal is the search that active real estate investors do prior to property selection and formal is related to specific property due diligence. In real estate transactions, buyers put down an earnest money deposit toward the down payment as good faith. That deposit is typically refundable, allowing the buyer to conduct due diligence. Due diligence is related to inspecting the property and dealing with environmental, planning, entitlement, legal and tenant matters, which takes time and involves cost S. Buyers can reduce the cost of both informal and formal search. For example, an active local investor may need little time for formal due diligence since market conditions and terms are already known.

The buyer's reservation price is the sum of the search cost and the return to finding a good deal. This return is $\frac{1}{\rho} \int_0^{M(B)} (M(B) - P) dF(P)$. It is the discounted present value of the excess of the price a buyer is willing to pay over that obtained ($M(B) - P$), integrated over the price distribution.

Properties are on the market. Some sell and others do not. Those that sell meet a price condition where

$$M(B) \geq P \geq R(A). \quad (3)$$

Here, the $M(B)$ is minimized over all buyers participating in the market. The reservation price $R(A)$ is on a specific property. A property with a price offer outside the range in (3) fails to sell.

The property has a physical description in its hedonic characteristics H. For an apartment building, these characteristics include number of units, apartment unit composition and sizes, location

and other characteristics. Buyers and sellers see the characteristics and they are priced by the market in equilibrium as $P(H)$. A conventional hedonic regression is for a specification for $P(H)$ and contains no strategic behavior by either buyers or sellers. The reservation prices are not disclosed nor are the search costs.

In Equation (2), the reservation price condition is for buyers rather than properties. The focus is on a specific property. The issue is whether sellers and their representatives can find characteristics among the buyers in the event of a liquidity constraint and whether buyers are able to execute. The problem has elements of knowledge and learning.

The sellers look at Equation (2) for buyers, and view observables X as those that summarize the usually predetermined reservation price and search cost $M(B)$, S. They set $\min M(B) = \mu$ as the lowest reservation price among eligible buyers and form predictions $S(X)$. That creates a condition among buyers of the specific property that the seller is offering of

$$(4) \qquad E(P(H) \mid P(H) \le \mu) = \int_0^{\mu} (\mu - P(H)) dF(P(H)) = \rho\left[\mu - S(X)\right]$$

Sellers construct the hedonics based on H for recent transactions that fall within the reservation price limits of Equation (3). They add the discount for $\rho\left[\mu - S(X)\right]$ in times when they are liquidity constrained. The ability to close is the yield ρ on the ratio of the optimal buyer's premium over the search cost $\mu - S(X)$. In estimation, $E(P(H) \mid P(H) \le \mu) - \rho\left[\mu - S(X)\right] = 0$ and the buyer obtains a discount.

Since the sellers are looking for observables, they target characteristics of the buyers including location and experience. The list is not exhaustive, but the seller who needs immediacy is looking at variables that indicate a high probability and swift ability to close. Sellers know that these characteristics of the buyer result in a successful close. If these liquidity incidents are idiosyncratic, they may be asymmetric. They appear as buyer discounts using these characteristics, but do not pick

off particular sellers. In a normal, non-distressed market, not all sellers need liquidity at the same time, and this demand is a disturbance or innovation.

In a pricing application of Equation (4), buyers with low total search costs receive a discount. Those with low search cost and higher probability of closing are local with experience. The seller and representatives (brokers) will show and focus the deal on these liquidity buyers who can make quick decisions and execution. These buyers obtain a good deal and buy at a discount to market, but are unable to sustain the condition across the market. When they buy they obtain a good deal, but the next seller who does not demand liquidity finds a buyer with a separate and higher reservation price $M(B)$.

Conversely, when the buyers are looking at sellers there is no issue on unobservable due diligence costs in $S(X)$. The seller has net operating income C which is as disclosed or to be determined on due diligence. Under normal market conditions, buyers set an estimate of the reservation price for a given property at κ and make offers based on

$$E(P(H) \mid P(H) \geq \kappa) - \rho\left[\kappa - C(X)\right] = 0 \tag{5}$$

The situation is asymmetric. Unlike buyers, sellers do not have differential costs of due diligence. The test is for whether operating performance and capital gain depend on seller characteristics.

3.2 Model Implementation

Implementation involves a price equation on the buy side for the price with the hedonic description and the characteristics of purchasers, including location and experience. A similar sell-side equation has characteristics of the sellers. The buy-side price equation is

$$P = H\beta_1 + Z_1\gamma_1 + \varepsilon_1. \tag{6}$$

Here, H is the property description with parameters β. The buyer's characteristics are Z_1 with parameters γ_1. The error is ε_1. Given the search process, some buyers are able to have lower costs,

implying discounts in γ_1 . While drawing is from an independent and identical distribution, some buyer features in Z_1 have nonzero coefficients. In a search structure, a buyer with a low maximum reserve will transact at lower prices even if the distribution of assets is independent. The sellers have a price equation analogously of

$$P = H\beta_2 + Z_2\gamma_2 + \varepsilon_2 . \quad (7)$$

If experience or locality do not bring premiums or higher prices for a seller, then $\gamma_2 = 0$.

For estimation purposes, investors are broken down into two groups by residence, that is, whether they are in-state (local) or out-of-state (non-local) investors. Locals live near the asset class, non-locals do not. Each group is then divided based on number of transactions into low, medium and high levels of experience during the sample period.[7] For each category, a dummy variable is created. With the low category and the non-local category omitted in estimation, there are conditional probabilities of medium and high experience and whether an investor is local or not. For instance, on the buy-side equation, a negative coefficient of the local dummy would suggest that being local is associated with a discount. Similarly, on the sell side, a positive coefficient yields a premium. Similar effects obtain for experience, along with the interaction. The asset price equation controls for being institutional versus individual. Asymmetric buying occurs if there is a discount for location or experience in buying but none on selling.

The model specification used is standard in the real estate literature. Lambson, McQueen and Slade (2004) provide the general empirical model, which is modified to allow testing on our research hypotheses.[8] Price is delineated on a per unit basis, which is a function of ownership characteristics

[7] In the asset class of real estate, low trading is buying or selling only one property, medium as trading between two and five properties, and high as six or more properties during the sample period.

[8] There are many empirical studies in the real estate literature that use this basic type of model for rents and value. These include Guntermann and Norrbin (1987), Sirmans and Benjamin (1991), Benjamin and Lusht (1993), Hardin and Wolverton (1999), and others.

including local and non-local participants, experience and a vector of hedonic property variables. Also, control variables for time and property sub-market are also added.

4. Data and Empirical Results

4.1 Data

To conduct this study, data on apartment building transactions that occurred in the Atlanta metropolitan area are obtained from CoStar Group, Inc. CoStar provides detailed information on buyer and seller address, transaction pricing, transaction date, and other property characteristics. The data range from 1995 to 2007.[9] This data set allows us to assess the effects of investors' local presence and experience on property transaction prices.

There are 2,136 reported apartment transactions in the Atlanta area during the period. After deleting the transactions with missing data on buyer and seller information as well as property characteristics, a sample with 1,851 observations is obtained. Table 1 reports the summary statistics f for the sample. In Panel A, descriptive statistics for the continuous variables are provided. The mean transaction price is about $10.2 million, with the minimum and maximum prices being $250,000 and $132,500,000, respectively. The dependent variable, log of price per unit, ranges from 8.99 to 11.91, with a standard deviation of 0.57. The average building age is about 33.4 years, which is relatively older than that in Lambson, McQueen and Slade (2004). A mean unit number of 178 suggests that the apartments in the sample are relatively large, which differentiates these commercial properties from most residential properties.[10]

[9] Ideally, it will be great to extend the sample period to the end of 2009 or the latest time. However, due to a collapse in transaction volume during the financial crisis, the number of observations declines dramatically after 2007. A small number of transactions recorded in the Costar database during the recent two years suggest that it doesn't benefit much by adding the data while there is a potential selection issue associated with these recent data. Hence, we end our data in 2007.

[10] In this research the term commercial real estate is taken to mean properties that are normally bought for investment including the multifamily property type used in this study. The differentiating condition is that these are income producing assets bought for investment.

One of the key variables in our analysis is number of transactions associated with a buyer. The variable is used to measure a buyer's experience or degree of information advantage relative to inexperienced buyers, both local and non-local. To construct this variable, we search the entire sample based on a buyer's name to record the number of transactions for each buyer. Similar to the previous study (Lambson, McQueen and Slade (2004)), this simple search algorithm may lead to bias in measuring number of transaction for a buyer. Therefore, we carefully consider different scenarios in order to obtain a relatively accurate measurement on this variable. For example, in some cases a buyer's name is recorded as John D. David, or John David, or Mr. John D. David. Under this circumstance, all the transactions associated with these names would be considered purchases by the buyer after we cross checked other relevant information such as buyer address and contact information. This allows for grouping of buyers based on other controls and not just name. Similarly, the number of transactions for a seller is obtained from the data. Panel A of Table 1 reports that a typical buyer purchases 3.93 apartment properties and a typical seller sell 3.01 apartment properties during the sample period.[11]

Panel A of Table 1 also compares the statistics for the non-local and local buyers. The statistics show that non-local buyers tend to buy larger and newer properties. The average number of units for the non-local buyers is 269, while the number of units for the local buyer is 115. The average age of the properties acquired by the non-local buyers and the local buyers are 23.87 and 39.85, respectively. Moreover, on average local buyers tend to buy more properties compared with non-local buyers. The number of transaction for an average local buyer is 4.56, while an average non-local buyer purchases about 3.01 properties during the period.

In Panel B of Table 1, descriptive statistics of the binary variables are reported. The local buyers account for 59.4% of the total sample, while 63.2% of the sellers are local. Buyers (or sellers)

[11] The analysis is on multifamily projects. We are not concerned with individual units and small scale investors that may be acquiring condominium units for investment. Such activities are not our focus.

are divided into three categories by number of transactions. Highly experienced buyers (sellers) are those with at least six purchases (sales) during the sample. Those with medium experience have from two to five trades. Those with low experience made one trade (buy).[12] Based on this classification, among the 59.4% properties purchased by local buyers, 11.5% and 20.5% are purchased by buyers with either high and median levels of experience, respectively. About 27.4% of them are associated with local buyers without experience. More importantly, the 11.5% of transaction volume substantially overstates the size of the local, experienced group since it is based on transaction volume and is not a percentage of unique buyers. In the latter situation, the percentage is about 2.5%. Similarly, among the local sellers (63.2%), the sellers with no experience account for 32.5%, while 10.3% and 20.4% of local sellers have high and median level of experience, respectively. As a percentage of unique sellers, the percentage associated with experience locals is again much lower.

The percentage of properties purchased by REITs is relatively small, only 3.08% of the buyers are REITs. 160 property transactions are associated with portfolio sales, which accounts for about 8.6% of the total number of observations. Only 33 properties are for REO sales. In terms of property quality, based on the subjective estimates of the property condition provided by Costar, 76.7% of properties are classified in "Average" condition, while 21.7% of the properties are considered having "Good" or "Excellent" quality. Only 1.62% of the properties in Atlanta metropolitan area are classified as being in "Poor" condition. Panel B also reports the percentage of the property transactions in each year over the sample period. As expected, 235 and 276 transactions occurred in 2005 and 2006, more than the number of transactions occurred in 1995 (71transactions), which is consistent with the recent real estate market cycle.

4.2 Empirical Results

[12] Admittedly, our classification is somewhat arbitrary. However, when other cut-off points are used, the main empirical results still hold. Additional robustness checks based on institutional grade properties are also presented.

Table 2 presents the basic estimation results regarding property transaction prices for local versus non-local buyers. The focus of Model 1 is on the dummy variable for local buyers (i.e., *Local_buyer*). In Model 2, the local buyer dummy is decomposed into three dummy variables based on each buyer's number of transactions (i.e., *Local_large, Local_median, and Local_small*). *Local_large* is equal to one if the buyer is from Georgia and has bought at least six properties during the period. *Local_median* is equal to one if the buyer is from Georgia and has bought at least two but less than six properties during the period. The non-local buyer dummy is omitted. In Model 3, the non-local buyer dummy is decomposed into three dummy variables based on each buyer's number of transactions (i.e., *NonLocal_large, NonLocal_median, and NonLocal_small*) are generated. Similarly, *NonLocal_large* is equal to one if the buyer is *not* from Georgia and has bought at least six properties during the period. The omitted dummy is the non-local buyers with more experience (*NonLocal_large*), which allows us to assess whether local buyers without prior experience obtain a price discount relative to non-local buyers with experience.

The results show that, in Model 1, the coefficient for *Local_buyer* is negative (-0.082) and statistically significant at the 1% level indicating that local buyers pay less when purchasing apartment buildings in Atlanta. This result is complementary of the main empirical results in Lambson, McQueen and Slade (2004) that non-local buyers pay a price premium on apartment buildings. When decomposing *Local_large* based on buyer experience, we find that local buyers with experience get a much higher price discount relative to those buyers without experience. Specifically, the local buyers with more experience (i.e., *Local_large and Local_median*) get 13% and 8.6% price discount, respectively, compared with the non-local buyers. Both coefficients are statistically significant at the 1% level. In comparison, the coefficient for the local buyers without experience is much lower (-4.7%), and is only marginally significant at the 10% level. Most importantly, Model 3 shows that compared with the non-local buyers with more experience, the local buyers without experience

(*Local_small*) do not necessarily obtain a price discount in apartment transactions relative to non-local buyers. The coefficient for *Local_small* while negative is not statistically significant. Taken together, these results suggest that the local price discount is mainly driven by buyers' information advantage or experience. In other words, being local is *not* a sufficient condition to obtain a price discount on the property markets. Rather, local buyers with more experience and thus greater information advantages over non-local buyers are those who are more likely to get transaction price discounts. This supports our main hypothesis on information advantage in real estate markets.

Among the control variables, price per unit of apartment buildings decreases with age and the number of units. This suggests that older properties and properties with more units tend to be sold at lower price. Meanwhile, prices increase with quality of property and unit size. The coefficients for the lower quality dummies (BC_A and BC_P) are -0.134 and -0.469 and statistically significant at the 1% level, which is consistent with conventional wisdom. Moreover, an asset associated with portfolio sales has higher price while a distressed property is sold at discount, as expected. Finally, REIT buyers tend to pay higher prices as has been shown in the literature.

One concern related to the main results from Table 2 may be that the price discount obtained by local investors with experience can be driven by the variation in size of apartment buildings. In other words, one might argue that non-local buyers are largely institutional investors who only focus on institutional grade properties (i.e., those large and high quality properties). To address this concern, apartment buildings with less than 100 units are excluded from the analysis, which results in a smaller sample of 1,108 observations. Table 3 presents the estimation results based on the smaller sample. The results in Table 3 provide additional support for the main hypothesis. Again, the local buyers without prior experience (*Local_small*) do not get a price discount relative to non-local buyers while the discounts for large local and median investors are smaller than in the initial modeling. Specifically, the coefficient for *Local_small* is not statistically significant. *Local_large* and *Local_median* have

smaller coefficients (-8.4% and -6.6%, respectively) than in Table 2, but are still statistically significant at the 1% and 5% levels, respectively. When comparing transaction prices between the local buyers without experience and the non-local buyers with experience (Model 3), again we find that the former do not necessarily obtain a price discount relative to the non-local buyers with more experience. These results provide a strong robustness check for the results in Table 2. The more experienced local buyers are the ones that acquire properties at a discount to non-local buyers with experience. It is not that the non-locals over pay, but is instead an information asymmetry benefit that accrues to experienced, local players. While the coefficient for *Non-local_median* is marginally statistically significant, the general implication remains that the primary discounts accrue to more experienced, local buyers.

Table 4 presents the results indicating that buyers with experience pay less for apartment buildings no matter whether they are local or non-local investors. In Model 1, the variable of interest is a continuous variable (*Buyer_trans*), which measures the number of transaction purchased by an investor over the sample period. The coefficient for *Buyer_trans* is -0.003 and statistically significant at the 1% level, suggesting that buyers with more experience pay less for apartment buildings in Atlanta market. One might argue that the relation between number of transactions and price per unit can be nonlinear. Model 2 uses two dummy variables to address this issue. Specifically, *Buyer_25* is equal to 1 if a buyer purchases at least two but less than six properties during the period, 0 otherwise. *Buyer_6* is equal to 1 if a buyer purchases at least six properties over the period, 0 otherwise. The omitted variable, *Buyer_1*, is equal to 1 if a buyer purchases only 1 property during the period. The results from Model 2 add further evidence, that is, the buyers with more experience (*Buyer_6*) get a significant price discount (4.4%) relative to those without experience.

In addition, an interaction term between buyers' number of transactions and the local presence (*Inter_trans_buyer)* is employed to examine the effect of number of transactions on in-state buyers'

transaction prices in Model 3. The coefficient for *Inter_trans_buyer* is -0.005, statistically significant at the 1% level, suggesting that the more properties a local buyer purchases, the more price discount the buyer will get. Finally, we take a closer look at local in-town buyers, who are located in the Atlanta MSA, as a robustness check. These investors should have more information advantages over non-local buyers, and thus they pay less on the property market. As expected, the results show that local buyers obtain a slightly deeper price discount relative to non-local buyers.[13] The coefficient is -0.09, statistically significant at the 1% level. Take together, the results in Table 4 show that it is experience that provides an information advantage to local investors and is a main driver for any buyer to get discount on transaction prices.

Table 5 reports the results using the same specifications in Table 4, based on the data for institutional grade properties. While the coefficients for *Buyer_25* and *Buyer_6* are not statistically significant, the interaction term has a statistically significant negative coefficient (-0.004), which confirms that among the institutional grade properties, the more properties a local buyer purchases the lower price the buyer pays. Moreover, local buyers get a price discount relative to non-local buyers. These results are generally consistent with previous reslts.

The additional relevant question about the effect of local presence and experience on transaction prices is whether local *sellers* have a price premium due to their information advantage. The results in Table 6 show that *Seller_trans* (the number of transaction by a seller) has a positive, statistically significant coefficient (0.006). This implies that the more properties an investor sells, the higher price per unit the seller may get. Moreover, the coefficient for *Seller_6* (the dummy indicating an investor sells at least six properties during the sample period) is 0.067, statistically significant at the 1% level, implying that those investors selling more obtain a price premium relative to those having less experience in the property market. However, when examining whether local investors sell at a

[13] The results are similar to the prior results in large part due to the fact that Atlanta based investors dominate the in-state category. The delineation is basically in-state versus out-of-state.

higher price than non-local sellers, there are no statistically significant results. The coefficient for *Local_seller* of -0.013 is not statistically significant. Furthermore, when we decompose the local seller dummy into three dummy variables based on the number of transactions associated with a seller, we do not find significant results that local sellers can sell at premium relative to non-local sellers.

Table 7 replicates the results in Table 6 using the data for institutional grade properties as a robustness check. The results are similar to those in Table 6 except for the results in Model 4. Specifically, both *Seller_trans* and *Seller_6* have a positive, statistically significant coefficient, suggesting that those investors selling more obtain a price premium relative to those having less experience in the property market. Again, local investors do not obtain a premium for their sales relative to non-local sellers. For the three decomposed local seller dummies, the results are mixed. Local sellers with less experience (*Local_median_s, Local_small_s)* sell at lower prices than non-local sellers for institutional grade properties, while local sellers with more experience (*Local_large_s*) sell properties at slightly higher prices. Taken together, the results presented in Table 6 and Table 7 on the seller side suggest that, while the more experienced sellers tend to get a price premium, there is limited evidence showing that the local experienced sellers consistently sell at higher prices than non-local sellers.

Finally, we examine whether local presence and experience also affect the sellers' capital gains, using a subsample from repeated sales during the period. Table 8 reports the results, which show that local sellers tend to get higher capital gains than non-local sellers, controlling for holding time and other variables. The coefficient for *Local_seller* is positive (0.102) and statistically significant at the 1% level. Furthermore, the local sellers with more experience (*Local_large_s* and *Local_meidian_s*) have higher capital gains than non-local sellers. While the coefficient for *Local_small_s* is positive, it is statistically significant only at the 10% level. Together with the previous findings related to price premium for local buyers and sellers, these results imply that the higher capital gains may be mainly

driven by the price discount obtained by local experienced buyers. In other words, by purchasing more properties, active local investors gain information advantage and they can identify pricing anomalies for excess returns. Those investors with one property do not have a reference comparison. The higher capital gains are mainly earned on the purchase.

Overall, we confirm that a very small local cohort of experienced buyers pays less for properties in Atlanta market compared with non-local buyers and local, inexperienced buyers. Local, inexperienced buyers do not necessarily pay less than their non-local counterparts. Moreover, experience matters in transaction prices no matter whether a buyer is local or non-local. Even non-locals can achieve some benefit based on trading (buying) frequency. We also find that local experienced sellers enjoy slightly higher capital gains.

5. Concluding Remarks

The effect of locality and the information advantage of local investors on commercial property transaction prices are examined. While locality may have a benefit in reducing search costs, what is more important are the information and execution advantages accruing to experienced local investors. Experienced local investors are those engaged in given property markets more frequently. They have information and execution advantages over non-local investors in local asset markets and are able to discern better priced assets and act.

Specifically, our empirical results show that a small group of local buyers tend to pay less for apartment buildings relative to non-local buyers. However, price discounts come from information advantage or experience, not from the mere presence of locality. Also, information advantage and experience lead to higher capital gains as the higher capital gains come from price execution or identifying good assets by buying at lower prices. In addition, experience benefits both local and non-local investors who are heterogeneous across and between subset. Also, by using apartment buildings,

which are more transparent than other real property as the real estate investment type, it is likely that the results can be generalized to other real assets, especially real property.

Local active investors are more appropriately compared with small operators and cash-rich infrequent investors.[14] The locally active investors acquire assets at a discount to market. The good deals from active local players are primarily distinguished at purchase. Less-informed locals or those without scale or experience, or non-locals buy assets at market prices or at a premium to these active experienced investors. Typical market prices, however, are set by both non-active locals and active locals, who account for the majority of actual transactions.

A small group of local active investors is likely able to acquire hard-to-evaluate assets, such as those in distress or unleveraged. These investors have access to the resources required for managing and maintaining the assets. The local investors are active in acquisition, but need not be fast, turnaround specialists since the primary benefit is on the buy side which supports a buy-and-hold strategy. These properties are additions to the holdings of long term focused local investors. When active local players sell, they have moved their assets to at least the market price and may earn a slight disposition premium. Nonetheless, the excess return appears to come primarily from having bought right. These results confirm the industry adage "you make money when you buy, not when you sell."

The more refined anomaly is not that non-locals pay a premium, but that a small group of local players typically obtains a quantifiable discount. Non-expert locals without scale and experience and non-locals who have general real estate expertise, but are buying primarily for portfolio diversification reasons, pay more than this small cohort of experienced locals. The portfolio diversification itself is largely between metro areas, where the idiosyncratic risk is relatively lower and is associated with capital formation.

[14] In real estate the proverbial cash rich unsophisticated investors are anecdotally doctors.

As one could argue, ultimately investors choose where to live and/or to operate. They understand that some locales in remote areas might yield a premium on nearby assets and large areas with bright lights have possibilities since those areas are heterogeneous themselves. They choose whether to buy or sell, and to hold, liquidate or add. Thus, the definition of location and particularly experience is eventually endogenous. Apart from that, the data on commercial property transactions reflect concentrated efforts of a few informed investors. This problem is also acute in stock markets. The frequent traders and high-volume participants, however, are institutional. Data on trading from small-time individuals led by perverse churning incentives may be an adverse selection itself. As we point out, all investors have to be included, institutional and individual.[15]

Finally, the data imply that on the sell side (for non-exchange traded assets) experienced players remain primarily price-takers. This has major implications in a down market since it is probable that experienced investors will be active buyers, but only wanting to acquire at a discount, and that sellers, no matter what the experience level, will be price-takers. In short, even the most experienced investors are constrained with regard to exit strategy and are subject to substantial market risk. This price-taking requirement is limiting in markets with price declines since the seller cannot execute a trade unless at market. More research is needed in this area to confirm these conjectures.

[15] In finance, returns have been shown to be higher in smaller markets. They are not higher in large bright-lights markets including Boston and New York. But, there is evidence that as much as three-quarters of real-estate return variability occurs within rather than between markets. Virtually all high-tech startups are located in Silicon Valley. It takes a skilled venture capitalist to find and nurture the good ones.

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Table 1. Summary Statistics of the Atlanta MSA Apartment Sales

Panel A: Continuous data				
Variable	Mean	Std. Dev.	Minimum	Maximum
All properties (1,851)				
Sale_price	10,203,388	12,385,232	250,000	132,500,000
Price_per_unit	52,545	28,103	8,000	149,392
Logpriceunit	10.72	0.57	8.99	11.91
Age	33.36	19.05	0	120
Units (100)	1.78	1.64	0.04	17.38
Size	175,438	165,297	2,860	1,558,482
Land_area_sf	600,671	649,928	3,920	6,316,200
Buyer_trans	3.93	6.26	1	39
Seller_trans	3.01	3.06	1	14
Non-local Buyers (752)				
Sale_price	17,407,239	14,259,562	250,000	132,500,000
Price_per_unit	61,647	28,760	9,115	149,392
Logpriceunit	10.91	0.51	9.12	11.91
Age	23.87	14.89	1	97
Units (100)	2.69	1.74	0.06	17.38
Size	267,713	166,694	2,904	1,558,482
Land_area_sf	922,494	746,679	7,492	6,316,200
Buyer_trans	3.01	2.69	1	11
Seller_trans	3.75	3.45	1	14
Local buyers (1,099)				
Sale_price	5,274,092	7,714,071	250,000	57,285,000
Price_per_unit	46,316	25,873	8,000	147,115
Logpriceunit	10.59	0.57	8.99	11.90
Age	39.85	18.87	0	120
Units (100)	1.15	1.22	0.04	8.22
Size	112,289	131,184	2,860	1,001,880
Land_area_sf	380,462	459,240	3,920	3,042,230
Buyer_trans	4.56	7.75	1	39
Seller_trans	2.50	2.64	1	14

The table reports summary statistics for property characteristics. The apartment sales data are from a twelve year period beginning 1995 and ending 2007. Data are from the Atlanta MSA apartment market. The data are provided by CoStar. Logpriceunit is the log of price per unit. Size is the total square footage of the building area of a property. Land_area_sf is the total square footage of the land occupied by a property. Buyer_trans is the total number of transactions by a buyer. Seller_trans is the total number of transactions by a seller.

Table 1 continued

Panel B: Binary Variables

	All Transactions		Non-local Buyers		Local Buyers	
Variable	Mean	Percent	Mean	Percent	Mean	Percent
Local_buyer	1,851	59.4	752	0	1,099	100
Local_seller	1170	63.2	374	49.7	796	72.4
Exchange	35	1.89	15	1.99	20	1.82
REIT_buyer	57	3.08	42	5.59	15	1.36
Portfolio_sale	160	8.64	114	15.16	46	4.19
REO_sale	33	1.78	7	0.93	26	2.37
BC_GE	401	21.7	223	29.6	178	16.2
BC_A	1,420	76.7	524	69.7	896	81.5
BC_P	30	1.62	5	0.66	25	2.27
In-town buyer	251	13.6	0	0	251	22.8
Local_large	213	11.5	0	0	213	19.4
Local_median	379	20.5	0	0	379	34.5
Local_small	507	27.4	0	0	507	46.1
Nonlocal_large	126	6.81	126	16.8	0	0
Nonlocal_median	291	15.7	291	38.7	0	0
Nonlocal_small	335	18.1	335	44.6	0	0
Local_large_s	190	10.3	106	14.1	84	7.64
Local_median_s	378	20.4	143	19.0	235	21.4
Local_small_s	602	32.5	125	16.6	477	43.4
Nonlocal_large_s	128	6.92	77	10.2	51	4.64
Nonlocal_median_s	252	13.6	149	19.8	103	9.37
Nonlocal_small_s	301	16.3	152	20.2	149	13.6
1995	71	3.84	27	3.59	44	4.00
1996	116	6.27	51	6.78	65	5.91
1997	135	7.29	42	5.59	93	8.46
1998	92	4.97	32	4.26	60	5.46
1999	145	7.83	42	5.59	103	9.37
2000	136	7.35	45	5.98	91	8.28
2001	93	5.02	29	3.86	64	5.82
2002	109	5.89	23	3.06	86	7.83
2003	121	6.54	28	3.72	93	8.46
2004	158	8.54	64	8.51	94	8.55
2005	235	12.7	129	17.2	106	9.65
2006	276	14.9	150	19.9	126	11.5
2007	164	8.86	90	11.9	74	6.73

The table reports statistical for binary variables. Local_buyer is an indicator for local buyer. Exchange is an indicator for a property involved in a tax-deferred exchange. BC_A is an indicator for a property in "average" condition. BC_P is an indicator for a property in "poor" condition. In-town buyer is an indicator for a property purchased by a buyer from Atlanta MSA area. Local_large is an indicator for a local buyer who bought at least six properties during the period. Local_median is an indicator for a local buyer who bought at least two but less than six properties. Local_large_s is an indicator for a local seller who purchased at least six properties during the period.

Table 2. Apartment Pricing and Local Presence, Atlanta MSA 1995-2007

	Model 1		Model 2		Model 3	
Variable	Coef.	T-statistics	Coef.	T-statistics	Coef.	T-statistics
Intercept	10.620 ***	138.02	10.684 ***	136.83	10.680 ***	128.22
Age	-0.031 ***	-18.00	-0.031 ***	-17.88	-0.031 ***	-17.74
BC_A	-0.134 ***	-6.56	-0.133 ***	-6.49	-0.133 ***	-6.48
BC_P	-0.469 ***	-4.67	-0.469 ***	-4.62	-0.469 ***	-4.61
REIT_buyer	0.109 ***	3.34	0.106 ***	3.26	0.101 ***	3.01
REO_sale	-0.221 ***	-3.64	-0.220 ***	-3.64	-0.220 ***	-3.63
Unitsize_sq	-0.123 ***	-6.12	-0.128 ***	-6.25	-0.128 ***	-6.24
Age_sq	2.0E-04 ***	14.18	2.6E-04 ***	14.03	2.6E-04 ***	13.93
Exchange	0.087 **	2.16	0.093 **	2.43	0.095 **	2.47
Landperunit	-0.001	-0.61	-0.001	-0.46	-0.001	-0.45
Landperunit_sq	1.0E-05	0.95	7.9E-06	0.74	7.7E-06	0.73
Local_buyer	-0.082 ***	-4.23				
Local_large			-0.130 ***	-5.30	-0.128 ***	-3.98
Local_median			-0.086 ***	-3.64	-0.084 ***	-2.64
Local_small			-0.047 *	-1.82	-0.046	-1.39
NonLocal_small					0.026	0.87
NonLocal_median					-0.014	-0.46
Portfolio_sale	0.073 ***	3.54	0.073 ***	3.59	0.070 ***	3.41
Unit_sq	0.006 ***	3.09	0.005 ***	3.00	0.005 ***	2.94
Units	-0.052 ***	-3.72	-0.047 ***	-3.39	-0.047 ***	-3.40
Unitsize	0.660 ***	9.63	0.676 ***	9.80	0.676 ***	9.82
N	1,851		1,851		1,851	
F-Value	70.06		67.70		65.19	
Adj. R^2	0.656		0.648		0.648	

The dependent variable is the log of the per unit sales price. The variables of interest are Local_buyer, Local_large, Local_median, and Local_small. Local_buyer =1 if the buyer is an in-state buyer, and equal to 0 otherwise. Local_large =1 if the buyer is an in-state investor and bought at least 6 properties during this time period, and equal to 0 otherwise. Similarly, Local_median=1 if the buyer is an in-state investor and bought at least 2 but less than 6 properties during this time period, and equal to 0 otherwise. NonLocal_large=1 if the buyer is an out-of-state investor and bought at least 6 properties during the time period. NonLocal_median =1 if the buyer is an out-of-state investor and bought at least 2 but less than 6 properties over the time period. Exchange =1 if the transaction is a 1031 tax exchange sale. Unit_sq is the square of number of units in an apartment building. Submarket dummies and year dummies are included as control variables. T-statistics based on White-heteroskadasticity consistent standard errors are reported. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

Table 3. Apartment Pricing and Local Presence, Atlanta MSA (Institutional Grade Properties)

	Model 1		Model 2		Model 3	
Variable	Coef.	T-statistics	Coef.	T-statistics	Coef.	T-statistics
Intercept	10.713 ***	99.27	10.771 ***	98.26	10.798 ***	96.62
Age	-0.043 ***	-19.84	-0.042 ***	-19.78	-0.043 ***	-19.76
BC_A	-0.101 ***	-4.72	-0.100 ***	-4.66	-0.101 ***	-4.71
BC_P	-0.328 *	-1.79	-0.326 *	-1.77	-0.323 *	-1.76
REIT_buyer	0.060	1.59	0.059	1.55	0.042	1.10
REO_sale	-0.170 ***	-2.64	-0.173 ***	-2.67	-0.172 ***	-2.66
Unitsize_sq	-0.088	-1.55	-0.092	-1.63	-0.093 *	-1.66
Age_sq	4.2E-04 ***	12.45	4.2E-04 ***	12.41	4.3E-04 ***	12.49
Exchange	0.089	1.48	0.090	1.51	-0.089	1.49
Landperunit	0.004	0.32	0.004	0.31	0.005	0.37
Landperunit_sq	2.9E-04 *	0.29	2.9E-04	0.29	2.4E-04	0.24
Local_buyer	-0.065 ***	-3.36				
Local_large			-0.084 ***	-3.28	-0.109 ***	-3.32
Local_median			-0.066 **	-2.41	-0.091 ***	-2.58
Local_small			-0.043	-1.19	-0.069 *	-1.64
NonLocal_small					-0.003	-0.11
NonLocal_median					-0.053 *	-1.76
Portfolio_sale	0.058 ***	2.62	0.059 **	2.65	0.053 **	2.42
Unit_sq	-9.2E-04	0.73	-9.2E-04	-0.74	-9.9E-04	-0.78
Units	0.030 **	2.07	0.030 **	2.10	0.029 **	2.08
Unitsize	0.573 ***	3.92	0.585 ***	4.08	0.587 ***	4.11
N	1,108		1108		1108	
F-Value	60.16		57.78		55.79	
Adj. R^2	0.724		0.723		0.724	

The results are based on a subsample containing the apartment buildings with more 100 units, or institutional grade properties. The dependent variable is the log of the per unit sales price. The variables of interest are Local_buyer, Local_large, Local_median, and Local_small. Local_buyer =1 if the buyer is an in-state buyer, and equal to 0 otherwise. Local_large =1 if the buyer is an in-state investor and bought at least 6 properties during this time period, and equal to 0 otherwise. Similarly, Local_median=1 if the buyer is an in-state investor and bought at least 2 but less than 6 properties during this time period, and equal to 0 otherwise. NonLocal_large=1 if the buyer is an out-of-state investor and bought at least 6 properties during the time period. NonLocal_median =1 if the buyer is an out-of-state investor and bought at least 2 but less than 6 properties over the time period. Exchange =1 if the transaction is a 1031 tax exchange sale. Submarket dummies and year dummies are included as control variables. T-statistics based on White-heteroskadasticity consistent standard errors are reported. ***, **, and * indicate statistical significance at 1%, 5%, and 10% levels.

Table 4. Apartment Pricing and Transaction Volume (Experience), Atlanta MSA 1995-2007

	Model 1		Model 2		Model 3		Model 4	
Variable	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
Intercept	10.618 ***	138.22	10.617 ***	136.52	10.634 ***	138.20	10.649 ***	138.32
Age	-0.031 ***	-17.89	-0.031 ***	-17.91	-0.031 ***	-18.24	-0.032 ***	-18.44
BC_A	-0.133 ***	-6.51	-0.132 ***	-6.44	-0.133 ***	-6.46	-0.134 ***	-6.48
BC_P	-0.472 ***	-4.68	-0.468 ***	-4.63	-0.475 ***	-4.70	-0.471 ***	-4.63
REIT_buyer	0.114 ***	3.50	0.119 ***	3.60	0.111 ***	3.42	0.108 ***	3.37
REO_sale	-0.226 ***	-3.73	-0.223 ***	-3.69	-0.242 ***	-3.96	-0.239 ***	-3.94
Unitsize_sq	-0.126 ***	-6.16	-0.125 ***	-6.13	-0.129 ***	-6.30	-0.128 ***	-6.30
Age_sq	2.6E-04 ***	14.09	2.6E-04 ***	14.11	2.7E-04 ***	14.15	0.0003 ***	14.25
Exchange	0.087 **	2.18	0.091 **	2.29	0.091 **	2.22	0.103 ***	2.69
Landperunit	-0.002	-0.64	-0.001	-0.55	-0.001	-0.57	-0.001	-0.46
Landperunit_sq	1.0E-05	0.96	9.4E-06	0.88	9.3E-06	0.89	8.0E-06	0.76
Local_buyer	-0.074 ***	-3.68	-0.077 ***	-3.91				
Buyer_trans	-0.003 ***	-2.91						
Buyer_25			-0.006	-0.30				
Buyer_6			-0.044 **	-2.14				
Inter_trans_buyer					-0.005	-5.43		
In-town buyer							-0.090 ***	-4.47
Portfolio_sale	0.075 ***	3.65	0.075 ***	3.91	0.082 ***	4.08	0.083 ***	4.12
Unit_sq	0.005 ***	3.01	0.005 ***	3.01	0.005 ***	2.88	0.005 ***	2.90
Units	-0.048 ***	-3.46	-0.049 ***	-3.49	-0.039 ***	-2.96	-0.040 ***	-3.01
Unitsize	0.672 ***	9.73	0.668 ***	9.70	0.686 ***	9.92	0.680 ***	9.97
N	1,851		1,851		1,851		1,851	
F-Value	68.89		67.46		69.91		69.86	
Adj. R^2	0.647		0.647		0.646		0.646	

The dependent variable is the log of the per unit sales price. The variables of interest are Buyer_trans, Buyer_25, Buyer_6, Inter_trans_buyer, and In-town buyer. Buyer_trans is the number of transactions that the buyer bought during the time period. Buyer_6 =1 if the buyer bought at least 6 properties during this time period, and equal to 0 otherwise. Similarly, Buyer_25=1 if the buyer bought at least 2 but less than 6 properties during this time period. Inter_trans_buyer is an interaction term between Local_buyer and number of transactions associated with a buyer. In-town buyer is a dummy for those experienced in-town buyers, which is equal to 1 if the buyer is from Atlanta MSA and bought at least 4 properties over a period more than 2 years. Submarket dummies and year dummies are included as control variables. T-statistics based on White-heteroskadasticity consistent standard errors are reported. ***, ** and * indicate statistical significance at 1%, 5%, and 10% levels.

Table 5. Apartment Pricing and Experience, Atlanta MSA Subsample (Institutional Grade Properties) 1995-2007

	Model 1		Model 2		Model 3		Model 4	
Variable	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
Intercept	10.712 ***	98.96	10.699 ***	97.25	10.72 ***	98.17	10.737 ***	98.34
Age	-0.042 ***	-19.63	-0.042 ***	-19.61	-0.043 ***	-19.59	-0.043 ***	-19.60
BC_A	-0.100 ***	-4.69	-0.101 ***	-4.71	-0.100 ***	-4.63	-0.098 ***	-4.56
BC_P	-0.331 *	-1.81	-0.327 *	-1.79	-0.339 *	-1.86	-0.330 *	-1.82
REIT_buyer	0.061	1.62	0.055	1.45	0.059	1.56	0.058	1.54
REO_sale	-0.176 ***	-2.69	-0.173 ***	-2.64	-0.195 ***	-2.92	-0.195 ***	-2.96
Unitsize_sq	-0.088	-1.54	-0.084	-1.50	-0.097 *	-1.65	-0.099 *	-1.74
Age_sq	4.2E-04 ***	12.33	4.2E-04 ***	12.30	4.0E-04 ***	12.18	4.2E-04 ***	12.05
Exchange	-0.089	-1.47	0.090	1.49	0.085	1.36	0.094	1.61
Landperunit	0.004	0.29	0.004	0.32	0.004	0.27	0.005	0.36
Landperunit_sq	2.9E-04	-0.30	2.8E-04	0.28	3.0E-04	0.29	2.1E-04	0.20
Local_buyer	0.060 ***	2.92	0.068 ***	3.36				
Buyer_trans	-0.001	-1.20						
Buyer_25			-0.025	-1.09				
Buyer_6			0.013	0.54				
Inter_trans_buy					-0.004 ***	-3.78		
In-town buyer							-0.070 ***	-3.09
Portfolio_sale	0.059 ***	2.67	0.055 **	2.47	0.066 ***	3.01	0.067 ***	3.05
Unit_sq	-0.001	-0.73	-9.3E-04	-0.74	-0.001	-0.89	-0.001	0.85
Units	0.029 ***	2.10	0.029 **	2.06	0.035 ***	2.42	0.034 **	2.35
Unitsize	0.579 ***	3.98	0.568 ***	3.96	0.607 ***	4.12	0.608 ***	4.18
N	1,108		1108		1108		1108	
F-Value	58.98		57.79		60.01		59.97	
Adj. R^2	0.723		0.723		0.723		0.723	

The results are based on a subsample containing the middle 50% transactions of the full sample in terms of sale prices, or institutional grade properties, which have the transaction prices ranging from $1.2 million to $15 million. The dependent variable is the log of the per unit sales price. The variables of interest are Buyer_trans, Buyer_25, Buyer_6, Inter_trans_buyer, and In-town buyer. Buyer_trans is the number of transactions that the buyer bought during the time period. Buyer_6 =1 if the buyer bought at least 6 properties during this time period, and equal to 0 otherwise. Similarly, Buyer_25=1 if the buyer bought at least 2 but less than 6 properties during this time period. Inter_trans_buyer is an interaction term between Local_buyer and number of transactions associated with a buyer. In-town buyer is a dummy for those experienced in-town buyers, which is equal to 1 if the buyer is from Atlanta MSA and bought at least 4 properties over a period more than 2 years. The models are restricted to institutional grade properties, which have transaction prices ranging from $1.2 million to $15 million. Submarket dummies and year dummies are included as control variables. T-statistics based on White-heteroskadasticity consistent standard errors are reported. ***, ** and * indicate statistical significance at 1%, 5%, and 10% levels.

Table 6. Apartment Pricing and Seller Experience, Atlanta MSA 1995-2007

	Model 1		Model 2		Model 3		Model 4	
Variable	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
Intercept	10.622 ***	137.60	10.626 ***	136.80	10.641 ***	137.78	10.636 ***	134.06
Age	-0.031 ***	-18.05	-0.031 ***	-18.00	-0.032 ***	-18.55	-0.032 ***	-18.55
BC_A	-0.137 ***	-6.64	-0.139 ***	-6.74	-0.135 ***	-6.47	-0.135 ***	-6.51
BC_P	-0.470 ***	-4.70	-0.471 ***	-4.71	-0.469 ***	-4.64	-0.469 ***	-4.65
REIT_buyer	0.111 ***	3.37	0.110 ***	3.31	0.119 ***	3.67	0.118 ***	3.58
REO_sale	-0.223 ***	-3.67	-0.222 ***	-3.63	-0.232 ***	-3.79	-0.233 ***	-3.81
Unitsize_sq	-0.121 ***	-5.91	-0.120 ***	-5.90	-0.125 ***	-6.25	-0.124 ***	-6.15
Age_sq	2.6E-04 ***	14.23	2.6E-04 ***	14.23	2.7E-04 ***	14.29	2.7E-04 ***	14.32
Exchange	0.088 **	2.21	0.087 **	2.21	0.091 **	2.20	0.089 ***	2.19
Landperunit	-0.001	-0.57	-0.001	-0.57	-0.001	-0.47	-0.001	-0.45
Landperunit_sq	9.9E-06	0.92	9.8E-04	0.91	8.7E-06	0.83	8.7E-06	0.82
Local_buyer	0.081 ***	4.15	0.080 ***	4.13				
Seller_trans	0.006 **	2.39						
Seller_25			0.011	0.60				
Seller_6			0.067 ***	3.08				
Local_seller					-0.013	-0.73		
Local_large_s							0.040	1.63
Local_median_s							0.005	0.23
Local_small_s							0.004	0.15
Portfolio_sale	0.065 ***	3.09	0.065 ***	3.12	0.085 ***	4.18	0.082 ***	4.02
Unit_sq	0.005 ***	3.03	0.006 ***	3.01	0.005 ***	2.83	0.005 ***	2.78
Units	-0.056 ***	-3.83	-0.057 ***	-3.83	-0.039 ***	-2.85	-0.042 ***	-2.90
Unitsize	0.650 ***	9.34	0.648 ***	9.33	0.669 ***	9.75	0.665 ***	9.62
N	1,851		1,851		1,851		1,851	
F-Value	68.88		67.68		69.07		66.37	
Adj. R^2	0.647		0.648		0.642		0.643	

The dependent variable is the log of the per unit sales price. The variables of interest are Seller_trans, Seller_25, Seller_6, Local_seller, Local_large_s, Local_median_s, and Local_small_s. Seller_trans is the number of transactions the seller bought during the time period. Seller_6 =1 if the seller bought at least 6 properties during this time period, and equal to 0 otherwise. Similarly, Seller_25=1 if the buyer bought at least 2 but less than 6 properties during this time period. Local_seller =1 if the seller is an in-state seller. Local_large_s =1 if the seller is an in-state investor and sold at least 6 properties during this time period, and equal to 0 otherwise. Submarket dummies and year dummies are included as control variables. T-statistics based on White-heteroskadasticity consistent standard errors are reported. ***, ** and * indicate statistical significance at 1%, 5%, and 10% levels.

Table 7. Apartment Pricing and Seller Experience (Institutional Grade Properties), Atlanta MSA 1995-2007

	Model 1		Model 2		Model 3		Model 4	
Variable	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
Intercept	10.711 ***	97.40	10.715 ***	97.03	10.712 ***	99.19	10.765 ***	96.83
Age	-0.043 ***	-20.17	-0.042 ***	-20.15	-0.044 ***	-20.01	-0.044 ***	-20.73
BC_A	-0.102 ***	-4.79	-0.105 ***	-4.96	-0.099 ***	-4.59	-0.097 ***	-4.58
BC_P	-0.322 *	-1.76	-0.322 *	-1.74	-0.328 *	-1.82	-0.308 *	-1.72
REIT_buyer	0.063 *	1.66	0.059	1.58	0.067 *	1.75	0.060	1.54
REO_sale	-0.177 ***	-2.70	-0.173 ***	-2.61	-0.203 ***	-3.02	-0.215 ***	-3.22
Unitsize_sq	-0.082	-1.43	-0.082	-1.45	-0.099 *	-1.75	-0.095 *	-1.67
Age_sq	4.3E-04 ***	12.72	4.3E-04 ***	12.75	4.3E-04 ***	12.47	4.4E-04 ***	13.07
Exchange	0.094 *	1.74	0.093 *	1.71	0.083	1.30	0.076	1.30
Landperunit	0.006	0.45	0.006	0.46	0.003	0.23	0.007	0.48
Landperunit_sq	2.4E-046	0.24	2.4E-04	0.24	3.6E-04	0.36	2.3E-04	0.22
Local_buyer	0.065 ***	3.37	0.080 ***	4.13				
Seller_trans	0.011 ***	3.91						
Seller_25			0.011	0.55				
Seller_6			0.101 ***	4.19				
Local_seller					0.028	1.52		
Local_large_s							0.048 *	1.91
Local_median_s							-0.059 **	-2.30
Local_small_s							-0.075 **	-2.45
Portfolio_sale	0.040 *	1.84	0.043 **	1.96	0.069 ***	3.11	0.057 ***	2.61
Unit_sq	-0.001	-0.81	-0.001	-0.88	-0.001	0.84	-0.001	0.94
Units	0.027 **	2.01	0.029 **	2.13	0.034 **	2.40	0.033 **	2.35
Unitsize	0.548 ***	3.71	0.547 ***	3.70	0.605 ***	4.21	0.584 ***	4.01
N	1,108		1,108		1,108		1,108	
F-Value	60.19		59.13		59.61		58.25	
Adj. R^2	0.727		0.728		0.721		0.725	

The dependent variable is the log of the per unit sales price. The variables of interest are Seller_trans, Seller_25, Seller_6, Local_seller, Local_large_s, Local_median_s, and Local_small_s. Seller_trans is the number of transactions the seller bought during the time period. Seller_6 =1 if the seller bought at least 6 properties during this time period, and equal to 0 otherwise. Similarly, Seller_25=1 if the buyer bought at least 2 but less than 6 properties during this time period. Local_seller =1 if the seller is an in-state seller. Local_large_s =1 if the seller is an in-state investor and sold at least 6 properties during this time period, and equal to 0 otherwise. Submarket dummies and year dummies are included as control variables. T-statistics based on White-heteroskadasticity consistent standard errors are reported. ***, ** and * indicate statistical significance at 1%, 5%, and 10% levels.

Table 8. Capital Gains and Local Presence, Atlanta MSA 1995-2007

	Model 1		Model 2		Model 3		Model 4	
Variable	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
Intercept	0.170	1.23	0.067	0.47	0.039	0.19	-0.057	-0.27
Age	-0.001	-0.35	-0.001	-0.44	-0.011	-1.31	-0.010	-1.10
BC_A	0.032	0.91	0.036	1.01	0.006	0.17	0.011	0.30
BC_P	0.029	0.33	0.025	0.28	0.230 *	1.91	0.025 **	2.08
REIT_Buyer	-0.042	-0.62	-0.051	-0.74	-0.065	-0.86	-0.078	-0.99
REO_sale	-0.354 ***	-3.91	-0.355 ***	-3.90	-0.291 **	-2.56	-0.293 **	-2.58
Unitsize_sq	-0.008	-0.17	-0.008	-0.17	-0.386 **	-2.07	-0.376 *	-1.94
Age_sq	2.4E-05	0.83	2.7E-05	0.93	2.4E-05	1.37	2.1E-04	1.18
Exchange	0.056	0.52	0.050	0.44	-0.079	-0.70	-0.078	-0.66
Landperunit	0.011	0.51	0.011	0.50	0.076 *	1.69	0.077 *	1.69
Landperunit_sq	0.000	-0.42	0.000	-0.40	-0.010 **	-2.05	-0.009 **	-1.96
Local_seller	0.102 ***	3.21			0.089 **	2.57		
Local_large_s			0.084 **	1.96			0.115 **	2.51
Local_median_s			0.133 ***	3.11			0.123 **	2.20
Local_small_s			0.084 *	1.76			0.005	0.09
Portfolio_sale	0.128 **	2.51	0.128 **	2.50	0.042	0.93	0.039	0.87
Hold time	0.020 ***	3.64	0.020 ***	3.73	0.020 ***	3.22	0.020 **	3.26
Unit_sq	0.007 ***	2.82	0.007 ***	2.89	0.005	1.60	0.005	1.59
Units	-0.080 ****	-3.19	-0.081 ***	-3.21	-0.053 *	-1.73	-0.053 *	-1.69
Unitsize	0.117	0.78	0.120	0.81	0.702 *	1.94	0.685 *	1.81
N	443		443		298		298	
F-Value	3.284		3.176		2.013		2.015	
Adj. R^2	0.199		0.198		0.136		0.141	

The dependent variable is the difference of log per-unit_prices for repeat sales. The variables of interest are Local_seller_s, Local_large_s, Local_median_s and Local_small_s. Local_large_s =1 if the seller is an in-state investor and sold at least 6 properties during this time period, and equal to 0 otherwise. Similarly, Local_median_s =1 if the seller is an in-state investor and sold at least 2 but less than 6 properties during this time period. The models (3) and (4) are based on a subsample containing the middle 50% transactions of the full sample in terms of sale prices, or institutional grade properties, which have the transaction prices ranging from $1.2 million to $15 million. Submarket dummies and year dummies are included as control variables. T-statistics based on White-heteroskadasticity consistent standard errors are reported. *** indicate statistical significance at 1%, 5% and 10% levels.