Impact of Large Investors in Distressed Housing Markets

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Abstract

We examine a recent trend in the market where large investors purchase residential properties. We find that investors purchase at a discount of 9.5% compared to individuals purchasing one house in the same time period and market after controlling for physical characteristics, cash purchases, REO sales, and property quality. Smaller investors purchase at a discount of approximately 8.0%, larger investors purchase at a discount of 13.6%, and institutional investors purchase at a discount of 7.7%, relative to single-purchase buyers. We also provide evidence regarding the price improvement related to investor buyers in the market. While they purchase at a discount relative to single-purchase buyers, presence of more investor buyers in the market help improve house values. A 10% increase in the percentage of houses purchased by investors in a census block is associated with a 0.20% increase in price.

Keywords: Investors • Blackstone • Housing Prices • Buyer Power

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1. Introduction

The recent emergence of large scale buyers in local housing markets follows the substantial decline in housing values beginning in 2006 and extending at least through 2012 in many markets. Entities such as New York-based Blackstone Group (NYSE: BX) and California-based American Homes 4 Rent (NYSE: AMH) and other national and local entities are acquiring thousands of single-family dwellings across markets particularly hard hit by the housing recession in an investment strategy presumably intended to capture cash flow from renting the dwellings to tenants and cash flow from appreciation in property value.[1]

Entry by large investors potentially bring liquidity, transactional efficiencies (i.e., sophisticated targeting of potential acquisition properties, cash purchases, superior negotiation skills and experience, streamlined closings, etc.), and operational efficiencies (i.e., property and portfolio management expertise) to local housing markets that consumers in those markets may not have. Large investors may also enjoy some monopsony advantage during distressed times and might be able to utilize their buyer power and negotiation skills to purchase properties at a discount to market value. On the other hand, purchases by large investors would increase the overall demand in the market, deplete inventory of distressed properties in the local market, and help push the prices upwards. Thus, it is not clear whether entrance by large investors would increase or decrease house prices in the market.

[1] As of this writing, Blackstone Group has committed more than $3 billion purchasing and renovating single-family dwellings through its Invitation Homes division and related its subsidiaries. (http://www.blackstone.com/the-firm/overview/history, last accessed 9/18/2013.) Also, American Homes 4 Rent has acquired single-family dwellings in 30+ markets around the U.S. (http://americanhomes4rent.com/, last accessed 9/18/2013.)

The empirical question addressed in this study is whether large investors acquire single-family dwellings at prices higher or lower than single-purchase buyers and whether their purchases lead to higher or lower prices for other dwellings in that market. The price impact and investment performance of large investors is clearly important for the investment community. It is also of potential interest for academics and policy makers as the price impact of large investors might influence the speed and magnitude of recovery in housing markets, particularly in markets with a large percentage of distressed properties. Whether large investors improve home prices or suppress them further is also critical for the overall economy given that recovery in housing markets is a leading indicator of economic growth (e.g., Green, 1997; Case, Quigley, and Shiller, 2005; Leamer, 2007; Ghent and Owyang, 2010; and Kydland, Rupert, and Sustek, 2014).

The data analyzed to address this question consists of 72,128 transactions involving single-family dwellings for approximately $20.212 billion that occurred in Miami-Dade County, Florida, between January, 2009 and September, 2013, the date of the extraction of the data. Of these transactions, investors, defined as grantees that purchased 2 or more single-family dwellings or purchased 1 single-family dwelling as an LLC, LP, etc. during the sample period, purchased 24,607 single family dwellings (34.1% of the sample)[2]. The largest two sets of investors (6 to 28 purchases and "institutional, average of approximately 40 purchases) purchased 8,925 single-family dwellings (12.4% of the sample) with a collective expenditure of approximately $1.29 billion. Medium investors (3 to 5 purchases) purchased 5,218 single-family dwellings (7.2% of the sample) with total expenditures of approximately $961 million. Small

[2] There is some possible ambiguity regarding the classification of small investors. We define small investor as 2 purchases or 1 purchase by a LLC, LP, etc. It has been suggested by our mentors, Mo Rodriquez and Jeff Havsy, that we attempt to use the billing address and property address of the assessor files to refine this investor classification so that we avoid the possible classification of one time purchasers as well as some non-investors that may have moved a couple of times during the sample period. One problem with this approach is that some property billing addresses may be a financial institution that pays the property taxes. We are working to implement this suggestion and determine if the results are robust for the small investor definitions.

investors (2 purchases or 1 purchase by a LLC, LP, etc.) purchased 10,464 single-family dwellings (14.5% of the sample) with total expenditures of approximately $3.626 billion. Single-purchase buyers purchased 47,521 single-family dwellings (65.9% of the sample) with total expenditures of approximately $14.33 billion[3].

The analysis conducted for this study suggests that, holding other factors constant, large investors (2 or more purchases or 1 purchase by an LLC, LP, etc.) bought single-family dwellings at an average discount of 9.5% from the prices paid by buyers who bought only one dwelling during the same time period in this market. The analysis further suggests that compared to single-purchase buyers, institutional investors (10 or more in at least one year plus other purchases by same investor) purchased at a discount of 7.7%, larger investors purchased 6 to 28 single-family dwellings at an average discount of 13.6%, medium investors who purchased 3 to 5 single-family dwellings did so at an average discount of 11.1% compared to single-purchase buyers, and that smaller investors purchased 2 or more single-family dwellings or 1 single-family dwelling as an LLC, LP, etc. at an average discount of 8.0% compared to single-purchase buyers.

The findings thus support the contention that larger investors do indeed have buyer power in local housing markets relative to single-purchase buyers, but that there is substantial variation

[3] We dropped 597 bulk sale properties by various investors from the sample due to price identification/assignment problems. They are identified as multiple parcel sales in the data. FDOR defines them as "Arm's-length transaction transferring multiple parcels with multiple parcel identification numbers". The 597 properties represent .82% of the sample right before we dropped them from the final Miami Dade County single family dataset. The rationale for removing them from the sample is that the sale price is the same for each bulk sale set of properties we examined. Thus, we are unable to determine a price for each individual property in these sets. One possibility is to divide price evenly across properties in a given bulk sale purchase, but this would not match the correct price with the correct characteristics of each property. As an illustration of the problem, for one bulk purchase by "Roar Investments" the mean, minimum, maximum and medium price is $1,098,000 for each of the 23 properties in this bulk sale set in 2011. We could divide the $1,098,000 by the total of 23 properties and assign this average price to each of the 23 properties, but that would assume that each of the properties are identical in terms of housing characteristics (square feet, age, pool, fireplace, etc.) and location. For the entire sample of 597 bulk sale properties the average price is $1,108,393 with a median of 799,800.

in buyer power across small, medium, large, and institutional investors (with size determined by number of dwellings purchased by each type of investor). Notably, the smallest investors captured discounts approximately the same as the discount capture by the institutional investors (8.0% versus 7.7%, respectively). The results suggest that large investors are purchasing at discounted prices relative to the prices paid by single-purchase buyers. Thus, single-purchasers rather than investors are more likely to be responsible for price recovery in this market.

2. Large Investors in Single-Family Homes Market

The rental market for single-family homes have been traditionally dominated by local investors and individual "mom and pop" style owners. However, the recent financial crisis has decreased the homeownership rate and increased rental demand, and consolidated millions of single-family homes under the ownership of banks and government-sponsored enterprises. These developments have also attracted large investor buyers into single-family homes market.

According to a recent study from the Federal Reserve, business investors buying three or more homes accounted for 6.5% of home sales nationwide in 2012, up from less than 1% in 2004 (Molloy and Zarutskie, 2013). Large investor buyers, mainly private equity firms such as Blackstone and Colony Capital, have invested $20 billion to purchase as many as 200,000 single-family homes throughout the United States. These large investor purchases represented 6-12% of distressed home sales from 2012 through mid-2013 (Rahmani, et. al., 2013). About 2.4 million single-family homes were converted from owner-occupied to rental tenure between 2007 and 2011, which brought the total number of single-family rental homes to 14 million, approximately one-third of the nation's rental housing inventory (Kurth, 2012).

Global investment banks have provided credit lines to fund single-family home purchases by investment firms, and helped them issue the first rent-backed security in November, 2013. For instance, Deutsche Bank provided approximately $3.6 billion to fund Blackstone's acquisitions and Wells Fargo provided a $500 million line of credit to American Homes 4 Rent. Some analysts estimate the market for rent-backed securities to reach $1.5 trillion level (Rahmani, et. al., 2014). Some firms (e.g., Starwood Waypoint) have taken their new rental companies public as real estate investment trusts (REITs). The monetary policy by the Fed also contributed to these developments; interest rates at close to zero levels pushed pension funds and mutual funds to seek higher yields and pursue risky strategies, and this led to additional flows of capital into rental single-family markets.

At first glance, entry of large investor buyers into the single-family home market appears to have many positive outcomes, such as improving property values by reducing the inventory of foreclosed homes, lessening the negative externalities caused by foreclosed homes on other home values, and bolstering local fiscal conditions. They also help with price discovery in markets where transaction volume has dried up.[4] However, there is some concern that large investors will seek to quickly get rid of as many of their houses as they can and cut maintenance expenditures as soon as they find more attractive investment instruments or if they suffer financial distress. There is also a concern in some markets about the possibility of another speculative cycle that could end in a bust. Others are concerned about how large investor buyers will impact the local rental markets and affordability and accessibility for renters.

[4] See Camargo, Kim and Lester (2014) for a discussion of how the information contained in asset prices plays a crucial role in the decision-making processes of many agents in the economy and what role a government can play in "unfreezing" a market.

It is out of the scope of this paper to address all of these questions. In this paper, we focus on whether investor buyers acquire single-family dwellings at a premium or discount to single-purchase buyers and whether their purchases lead to higher or lower prices (externalities) for other dwellings in that market.

Whether large investor buyers enjoy a discount or pay a premium to single-purchase buyers is largely a question of whether they have effective "buyer power" in local housing markets.[5] The concept of buyer power has its roots in antitrust economics. Just as a monopolist has the ability to limit the quantity of a good or service brought to market and set prices profitably above the competitive level, so can a monopsonist limit its purchase quantity to set prices below the competitive level.

The concept of buyer power, however, is broader than monopsony power because it need not result solely from a depression of quantity purchased. Buyer power may also occur in the form of bargaining power (or, to use the phrase coined by Galbraith (1952 and 1954), "countervailing power").[6] Buyers with enhanced bargaining abilities may be able to significantly influence prices when there is imperfect competition among sellers.

Large investors do enjoy some monopsony advantage during distressed times in many housing markets in which there is an abundance of distressed properties for sale and little demand by local players. However, there are other reasons why large investor buyers might enjoy buyer power and acquire single-family homes at a discount to individual buyers. A major reason is that large investors generally purchase these homes with cash, rather than obtaining mortgages for each home. Paying with cash gives investor buyers a competitive advantage when

[5] The term "buyer power" should not be confused with "buying power" which is commonly used to refer to the amount of money available to purchase a good or service.
[6] See von Ungern-Sternberg (1996) for a detailed exposition of the theory of countervailing power.

negotiating the price of a home because of two reasons. First, a cash buyer may present less risk to the seller of the deal falling apart due to the mortgage-contingency clause in a sales contract. Second, a cash purchase may reduce the time required to complete the transaction because cash buyers do not have to spend time obtain loan approval for the purchase. As a result of these two reasons, a seller would be willing to accept a lower price when she faces a cash buyer. Indeed, Asabere, Huffman, and Mehdian (1992) and Lusht and Hansz (1994) report discounts for cash financing of 13 and 16 percent, respectively. A recent study by Hansz and Hayunga (2014), however, report a price premium of 4 percent for cash purchases.

Large investor buyers might also enjoy buyer power because they bring transactional efficiencies to the market, including sophisticated targeting of potential acquisition properties, superior negotiation skills and experience and streamlined closings. These efficiencies increase their bargaining power and give incentives to sellers to accept lower prices.

On the other hand, large investor buyers may end up paying more than individual buyers because single-purchase buyers are mostly local buyers while large investors are more likely to be non-local buyers. Non-local buyers may have higher search costs, inferior knowledge of the individual properties and the local market, and unrealistic beliefs about market values. As a result, as empirically reported in Lambson, McQueen, and Slade (2004), non-local (out-of-state) buyers pay a premium to local buyers.

Large investors may also have a shorter time horizon to purchase, particularly when the investor buyer is a fund that has allocated a certain amount of funds for investment in specific single-family home markets. These buyers may outbid other buyers, and pay a price premium, in order to obtain the targeted capital commitment. This effect should be stronger in markets where

investor buyers' target volume is a larger percentage of the total value of homes available in that market.

It is also important to note that purchases by large investors may reduce the inventory of distressed properties. It has been well established that distressed properties have a negative externality on the values of other properties in that neighborhood and that this impact increases with the size of the distressed property inventory (Campbell, Giglio and Pathak, 2011; Gerardi, Rosenblatt, Willen and Yao, 2012; Li, 2014). Thus, when targeting to buy large number of units, the buyer may be able to enjoy the positive externalities of her early purchases. By internalizing these positive externalities, large buyers may attach a higher value and may be willing to pay more for these early purchases than small buyers.

It is also possible that large buyers would prefer to buy in bulk, or arrange simultaneous closings, in order to avoid possible positive externalities of their early purchases on their later purchases if their purchases increase demand and reduce the inventory of distressed properties, and thus avoid paying more for their later purchases. For example, large volumes of purchases by investors might send a signal to other potential (and hesitant) buyers that the homes are temporarily undervalued and now is the right time to buy. This signal could place upward pressure on prices.

The next section of this study presents an empirical analysis of a local housing market and the relative prices paid by dominant and non-dominant buyers, where dominant buyers are larger investors who emerged in this market following its recent price downturn.

3. Data

In order to conduct the empirical analysis, we obtain data from a number of datasets. The primary dataset contains information on sales in Miami-Dade County, Florida, from January, 2009 through September, 2013[7]. The dataset includes grantee and grantor information, sales price, date of sale, a unique property ID (Folio number), deed book and deed page, property address, DORcode (type of property), SalesCode (type of sale),[8] square feet of the building, square feet of the land, number of bedrooms, number of bathrooms, number of stories, year built, and effective year built. A second dataset from Miami-Dade contains information about properties with pools that we use to create a pool dummy variable. A third set of yearly datasets are obtained from the Florida Department of Revenue (FDOR). Each year, every Florida County provides a dataset that contains the assessed value of the land and assessed value of each property to FDOR. We use the FDOR Miami-Dade datasets to estimate the percentage of value from the land and match with the sales dataset by year and by property ID. The datasets also contains a quality description each year that we match with the sales data to obtain an estimate of the quality of the property. In addition, census block and census block group are available in the FDOR datasets and we use census block group to control for location. We match the data from the above-described datasets with information from the local MLS by the tax district's property information numbers. We extract time on the market, sales price, list price, cash sale and REO sale information from the MLS data for the matched sample. To identify cash sales for non-MLS matched properties, we use as a proxy from the tax district data which shows whether or not there is a third party escrow company payee identified for each property at the time of sale.

[7] The rationale for the time period is that grantor and grantee information is available from January 2009 and we extracted the data in September/October 2013.

[8] See for example "Real Property Transfer Qualification Codes for use by DOR & Property Appraisers Beginning January 1, 2012" at:
http://dor.myflorida.com/dor/property/rp/dataformats/pdf/salequalcodes12.pdf

If there is no third party payee matched to the sale, we consider this to be a cash sale.[9] To identify REO properties, our first cut is to use REO sales identified in the MLS data. For the remaining MLS and non-MLS sales, we examine ownership of each property and code as a REO; bank owned, owned by a mortgage company, ownership by a financial institutions such as FNMA, HUD, etc. The initial coding is in SAS with a visual verification in Excel.

We define as investors as grantees that purchased two or more properties or grantees that were identified as a LLC, LP, Inc. and had only one purchase during the sample period. Investors were identified by visual inspection of all the grantee names and classified as either an individual or an investor. The number of purchases by each investor is tallied and the small investor group includes all investors that have less than 2 purchases. The medium investor group includes all investors with 3 to 5 purchases during the sample period. The larger investor group is defined as investors that purchase 6 to 28 houses during the sample period, but no years in which the entity has 10 or more purchases. The institutional group is defined as an entity with 10 or more purchases in a given year and then including all other purchases for that entity. All institutional purchasers purchased at least 10 properties or more in one or more years. The average number of purchases for the 118 institutional purchasers is 39.58 properties over the five years. Fifty eight percent of the institutional purchases have 40 or more observations, 72% have 30 or more observations, 87% have 20 or more purchases and the remaining 13% purchased

[9] This may result in a bias toward zero with regards to the size and significance of the coefficient on the cash variable in the regression models. The overall cash percentage is 43.48%. The cash percentage is approximately 41% for the MLS sales and the estimated cash percentage is approximately 47% for the non-MLS sales using this method. These numbers are consistent with the 43% estimate by Realty Trac, August 29, 2013 (http://www.inman.com/2013/08/29/all-cash-deals-on-the-rise/).

between 10 and 19 houses over the sample period with a least one year with 10 or more properties purchased.[10]

The initial data had 148,128 transactions from 2009 through September 2013. We excluded all sales with a price below $20,000 with 92.5% of sales below $20,000 having a transaction price of $100 or less. The remaining 7.5% below $20,000 had an average price of $6,815. We excluded another 201 sales that had a price of $10,000,000 or greater and dropped 11,801 sales that were purchased by a financial institution such as a bank or FNMA on the assumption that these are properties financial institutions purchased at courthouse auctions. This leaves 79,009 transactions. Another 6,881 or 4.6% of the initial sample is deleted due to missing data, leaving a final sample of 72,128 transactions with investors purchasing 24,607 of these properties and individuals purchasing the remaining 47,521 properties.

We present variables used in the analysis and their description in Table 1. Table 2 provides descriptive statistics for the full sample, individual purchases and investor purchases with a difference in means t-test. Sales prices are lower for investor purchases ($239,024 vs. $301,566), but they are also smaller, older, have smaller lots, with lower land value percentages associated with lower valued properties. Fewer bedrooms, bathrooms, less stories and a lower percentage without a pool are consistent with lower valued properties relative to individual purchased properties. A higher percentage of investor properties are fair or average quality and a lower percentage are above average or excellent quality compared to individual purchased properties.

[10] Institutional Investors/purchasers are often defined as entities that purchase at least 10 properties in a calendar year. It is not clear if this is in a local market or throughout the US. We define our institutional investor group as 10 or more purchases by an entity in one of the five years in Miami-Dade county and all other purchases by that same entity are classified as institutional purchases.

While Table 2 provides a comparison between individuals and investors, Table 3 summaries key variables over time between individuals and investors. Table 4 provides additional statistics by year and by each investor group for the same set of variables. REOs have been a primary issue in the last five years and the data indicates that the largest percentage of REOs in this sample occurred in 2009, with a high of 44% in 2009 decreasing to 18% in 2013. In Table 4, we see that thirty percent of smaller investor purchases are REO properties, with a high of 48% in 2009 and likewise decreasing to 18% in 2013. Medium sized investors (3 to 5 purchases) followed a similar pattern with an average of 30%, 59% in 2009 and dropping off to 24% in 2013. The average percentage REO purchases for investors that purchased 6 to 28 properties is 30%, with a similar trend of 54%, highest in 2009 and 23%, lowest in 2013. The Institutional Investor group follows a similar trend with a high of 41% in 2009 and a low of 17% in 2013 with an average of 26% over the five years. The trend in the data indicates a significant decrease in the number of REO transactions over the last five years.[11]

Another variable of interest that has generated a number of articles in the popular press is the cash transaction.[12] In Table 2, we note that investors pay cash for about 70% of their purchases and individuals buy with cash in about 29% of their transactions over the 2009-2013 sample period. In Table 3, these estimates are by year and we see that individuals used cash in 24% of their transactions in 2009 and approximately 38% in 2013. In Table 4, we observe that small investors with 2 or fewer purchases buy with cash in 53% of the transactions in 2009 with

[11] Note that we ended the sample in September 2013 when we collected the data, thus we are not comparing a full year of data to prior years.

[12] For example a report by Goldman Sachs, in the Mortgage Analyst, August 14, 2013 titled "How much upside to purchase mortgage originations?" estimates an increasing percentage of cash transactions with approximately 30% cash transactions in 2009 and roughly 58% in the summer of 2013. RealtyTrac, August 18, 2014 state: "Among metropolitan statistical areas with a population of at least 500,000, those with the top six highest percentages of cash sales were all in Florida: Miami-Fort Lauderdale-Pompano Beach (64.1 percent)" is the highest.

an increase in cash purchases to 73% in 2013. Panel B provides statistics that show a similar pattern, with the mid-tier investors using cash in 60% of their 2009 transactions and increasing to 75% in 2013 with an average of 68%. Larger investors that purchased 6 to 28 properties used cash in 70% of their transactions in 2009 and 79% in 2013 with an average of 78%. Not surprising, institutional purchasers purchase with cash in approximately 84% of their purchases, with a range of 80% to 89% over the five year period. The data clearly indicates that cash purchases were increasing in the small and medium investor groups with the larger investor and institutional group purchasing with cash at a relatively high rate throughout the sample period.

Statistics from Tables 3 and 4 indicate that percentage of properties with a pool is reasonably stable on a per group basis over the five years, individual investors at 28%, smaller investors at 26%, medium investor group at 18% and the two larger investor groups at 15%. Sale price in general is trending up over the sample period, though for two larger investor groups (investors with 10 or more purchases), the price is highest in 2009, drops for 2010 and 2011, and rebounds in 2012 and 2013. In addition price per square foot (PSF) in general is following the same trend which suggests an improving market. One other item of note in these tables is that the MLS market share of all groups is dropping over this time period. Individual buyers have the highest MLS usage rate of 70%, though 2013 is showing a drop to 59% thru September 2013. MLS transactions dropped from a high of 67% in 2009 to 49% in 2013 for small investors and dropped from a high of 67% in 2009 to 46% in 2013 for the medium investor group. The large investor group has a high of 56% in 2009 and a low of 38% in 2013. The institutional investor group shows less of a decline, with a high of 37% in 2009 and a low of 26% in 2010, and an average of 32% over the five years.[13]

[13] The trend of increasing cash transactions and decreasing MLS market share is interesting. Banks are generating fewer transactions, impacting the fees they earn from financing residential real estate and

For the MLS subsample in Table 2, average time on the market is 147 days for properties purchased by investors and 160 days for individuals, with a list price of $294,170 for investor purchased properties and $350,510 for individual buyers. MLS sale prices are $268,440 for investor purchased properties versus $323,887 for individuals.[14]

4. Methods

We estimate a model with census block group fixed effects and sale year month fixed effects. The initial empirical model we estimate allows us to compare Investor purchased properties to properties purchased by individuals, and takes the following form:

$$y_i = \beta_0 + \beta_1 Investor + \beta_2 Cash + \beta_3 REO + \beta_4 MLS + \Sigma \beta i\, Q_i + \Sigma \beta i\, TS_i \quad \Sigma \beta i\, X_i + \varepsilon_i, \quad (1)$$

where the dependent variable y is the logged sales price (Tables 6, 7, 8, & 10), or time on the market (Table 9). *Cash* is a dummy variable indicating the house is purchased with cash and *Investor* is a dummy variable indicating an investor purchased the property with variations (small, medium, large) as described in the Tables. *R* is a dummy for a REO and *M* is a dummy for sold through the MLS. *Q* is a set of variables describing the relative quality of a property in a given year and *TS* is a set of additional variables describing the type of sale. The vector X_i for the sales price model includes a full set of housing characteristics as indicated in Table 6, 7, 8 and Table 10. These include physical characteristics such as size, effective age, bathroom and bedrooms, and pool, and ε is a random error term.

brokers are selling a lower percentage of the transacting properties resulting in lower demand for real estate broker services and most likely lower total dollar commissions for real estate brokers. This analysis is admittedly limited to one market, so it would be interesting to see if this trend is occurring in other markets nationally.

[14] Note that public records do not include information on marketing time. Therefore, analysis of marketing time is limited to properties sold thru the MLS.

Three alternative specifications of the price model allow more focused analysis of the statistical relationships between transaction price and buyer types. In Table 7 we replace the *Investor* variable with four binary variables defined in Table 1 that refine the type of investor into *Small Investor (two or fewer purchases), Medium Investor (3 to 5 purchases) and Large Investor* (6 to 28 purchases with none greater than 9 in a year) and *Institutional Investor* (at least 10 purchases in one year) categories. These binary variables take the value of 1 if the transaction involves a grantee who fits the size categories defined above and 0 otherwise. The omitted category is individual single-purchase buyers.

In Table 8 results are presented for models where the samples are either MLS sales or Non-MLS sales. In Table 10 Panel A, coefficients for the investor variables are presented for each year where the model is based on either Model 4 in Table 6 or Table 7. In Panel B, we split the sample into CASH only purchases and Financing-only purchases and estimate Model 4 in Table 6 for the overall investor variable or Model 4 in Table 7 for the four defined groups of investors. Panel C examines the models for REO properties and a sample that excludes REO properties.

The X_i for the time-on-the-market model includes a similar set of variables as the initial sales price model, but the sample is only for the MLS sold properties. The time on the market model also includes the degree of overpricing as an additional control variable. The model also has controls for list year and month, whereas the sales price model includes controls for sale year and month. Both models have fixed-effects for census block group to control for location and t-tests are based on heteroskedasticity-consistent standard errors that account for clustering by house.

In addition, for time on the market, we estimate a hazard model with a Weibull specification of the baseline hazard function, where *Investor=I* and *Cash=C and R=REO*

$$f(t|\, X, I, C, R, Q, TS) = \varphi\, \lambda(X, I, C, R, Q, TS)^{\varphi}\, t^{\varphi-1}\, exp(-(\lambda(X, I, C, R, Q, TS)*t)^{\varphi}) \quad (2)$$

where φ is a duration dependency parameter, λ is a scaling parameter, t is time on the market, and other variables are as previously described. See Lancaster (1990) for further discussion. T-tests based on heteroskedasticity-consistent standard errors that account for clustering by house are presented along with the model coefficients. The time on the market models include only MLS sales that make up approximately 64% of the full sample. One additional variable added to the independent variables in the time on the market model is the degree of overpricing or *DOP*. *DOP* is the percentage deviation from an expected list price for a house described by ***X*** housing characteristics and ***M*** *marketing attributes*. *DOP* is calculated as log(*LP*) - E(log(*LP*); X, M).

We also estimate a Probit model to examine the characteristics associated with investors versus individuals as follows:

$$\text{Prob (Investor)} = \pi(X, I, C, R, M, Q, TS), \quad (4)$$

In Equation (4), the dependent variable Prob(Investor) is the probability of an investor purchasing the property, and *X, C, R, M, Q, and TS* are as defined above and in Table 5.

4. Empirical Results

The Probit model suggests conclusions similar to the results from the difference in means t-tests. Larger properties and above average quality properties are less likely to be purchased by investors. Likewise, MLS listed properties are less likely to be purchased by an investor relative to individuals. Properties with more bedrooms are more likely to be purchased by investors, though the marginal effect is only .013. Notably, cash purchases are 35% more likely to be

purchased by an investor and REO sales are more likely to be purchased by an investor. It appears that investors are better equipped to compete for distressed properties, prefer properties that are average or below average in quality, and more frequently purchase with cash.

Results obtained from the initial regression model in Table 6 indicate that investors are purchasing properties at approximately a 17% discount relative to individuals after controlling for physical characteristics and a proxy for quality. We then control for types of sales along with REO and Cash. This results in a reduction of the discount to approximately 8%. The last controls added in Model 4 include the Percentage of Sales in a Census Block defined as the number of sales by year divided by the number of housing units in the 2010 census block. This demand variable indicates that prices increase as the percentage of houses purchased in a census block increases, with a 10% increase associated with a 0.79% increase in housing prices. We also include the percentage of houses that sold that are purchased by investors in a census block by year. The coefficient is .00020, thus a 10% increase in investor purchases is associated with a 0.20% increase in purchase price. Thus, while investors purchase at a discount relative to individuals, their purchases have a positive impact on market values of houses in that census block market. After controlling for the percentage of sales and percentage of investor purchases in a census block, the Investor Purchase discount is 9.5%.

In Table 7, results are provided for investor groups, 2 or less, 3 to 5 purchases, 6 to 28 purchases and institutional (average 40 purchases, must have at least one year with 10 purchases). These results indicate that the two middle groups purchase at deeper discounts and that small investors and institutional investors purchase at similar discounts. The other variables have similar results to those found in Table 6. REOs sale at approximately a 14% discount, MLS sales are at a premium of 4.5% and cash sales occur at a discount of approximately 12%. The

quality proxy variables have the expected signs compared to average quality, with fair quality selling at about a 9% discount, above average quality properties selling at a 6% premium and excellent quality properties selling at a 15% premium.

Examining the purchases that occurred through the MLS in Table 8, investors purchase at a 10.2% discount compared to a 9.5% discount for the full sample. The smaller investor MLS group purchases at a 7% discount compared to an 8% discount for the full sample and a 7.8% discount for the non-MLS purchases. The results are very similar for the small investor. The medium group of investors purchases at about the same discount across the MLS at 11.3% and the full sample at 11.07%, but for the medium investor the Non-MLS discount is about 2 percentage points lower at 8.6%. The large investors purchase at a discount of 13.6% for the full sample, compared to the MLS sample discount for these large investors of 16.3% and the Non-MLS discount of 7.9%, suggesting that compared to individual that purchase thru the MLS, large investors are able to negotiate better prices thru the MLS than they are when they compete against individuals buying non-MLS properties. Institutional investors purchase at a 7.7% discount in the full sample, a 12.8% thru the MLS, but only a 2.7% discount when competing for properties compared to individuals purchasing outside the MLS.

It is interesting that, except for small investors who purchased one or two properties during the sample period, investors enjoy larger discounts when they purchase MLS-listed properties. It is also interesting to note that price advantage enjoyed by investors thru MLS becomes larger as the investor size increases. One possible explanation is properties not listed on MLS require better knowledge of the individual property and the surrounding area. In some distressed sales, buyers are not even allowed to enter and inspect the property. In those cases, local buyers who already know certain features of the property will have informational

advantage over investor buyers who are less likely to be local. It is possible that MLS reduces such informational asymmetries, at least for a subset of properties, between the two groups of buyers.[15] In fact, this is reflected in the coefficients of the seven "sale type" variables in Table 8: Corrective deed, quit claim deed, etc., Auction/Deeds from financial institutions, Deeds executed by bankruptcy trustees, Transaction involving affiliated parties, Sale not exposed to the open-market, Forced sale or sale under duress and REO sale. Notably, the absolute value of each of these coefficients is smaller for MLS sales than for non-MLS sales. In other words, MLS reduces the negative impact of each of these sale types.

The time on the market models in Table 9 for MLS marketed properties suggest that investors take about the same amount of time to buy as individuals in the MLS market. In Model 1, Investors purchase properties that have been on the market about the same amount of time as individual purchased properties. Yet in the 2nd model, the evidence indicates that the Institutional investor group purchases properties that have been on the market about 7.1% longer than individual purchased properties. However, the duration models (3 & 4) tell a slightly different story. Investor purchases take slightly more time, but once we separate the investors into groups, it appears again that it is the institutional investors that are buying properties that have been on the market a slightly longer period of 1.7% compared to individual purchased properties. In either case we are only looking at roughly 3 to 11 more days depending on whether you use the estimate from the duration model or the regression model. Our results for time on the market suggest that time on the market is only marginally important in examining investor activity in the housing market.

[15] In order to party reduce informational disadvantage they were facing, many institutional investors, including industry leader Blackstone, started partnering with smaller firms by 2012, who could provide better knowledge of local markets (Gittelsohn, 2012).

In Table 10, we estimate Equation 1 (Table 6 regression model 4 and Table 7 regression model 4) for each year. Panel A reports the Investor coefficient and the Investor group coefficients. The results indicate that the discount for investors is stable over time, with a discount of approximately 10% each year. For the four investor groups, the discount ranges from a statistically significant 6.5% to 15.6% with no discernable pattern. One item of note is that in 2013, the institutional investor group purchases at similar prices as individuals in the market. Institutional investors as a group purchased their largest number of houses during the first nine months of 2013, 1,482 compare to a high of 1,237 in 2012 for a full year.

Panel B presents the results when the complete sample is separated into a CASH sample and a Financing sample. Investor properties purchased with CASH compared to individual properties purchased with CASH are purchased at about a 9% discount with a range between 7% and 13%. Investor purchased properties that use financing purchase at a discount of between 6.3% and 9.3% compared to individual properties purchased with financing.

Evidence provided in Table 8 indicates that cash only marginally impacts the Investors discount. In the with cash sales only, we see that the investor coefficients are similar to the overall investor coefficients in Table 6 and Table 7 and that the mortgage coefficients for the each investor group are typically lower, with the exception of the institutional investor group. When this group uses financing they purchase at discounts about 1.9% deeper than their cash purchases.

Panel C results for REO investor purchases and Non-REO investor purchases indicate that investors are able to purchase REO properties at deeper discounts than individuals purchasing a REO with a range of 9.5% to 15%, with the larger investors enjoying the deepest discount. For the sample excluding REOs, investors purchase at lower discounts than the same

REO group, with the exception of institutional investors. They buy non-REO properties at prices paid by individuals buying non-REO properties, but buy REO properties at the largest discount, 14.7%, of any of the investor groups. REOs make up about 26% of institutional purchases over the sample period, the lowest of any group, but Auctions/Deeds from financial institutions represent about 48.5% of institutional purchases during the sample period, the highest of any group, then next highest is the large investor group at approximately 30% of their purchases, while REOs represent about 38% of their purchases. Individuals purchased only 1.2% of Auctions/Deeds from financial institutions, while about 30% of their purchases are REOs.

5. Conclusion

Our results indicate that investors purchased residential real estate at discounts relative to individuals (single-purchase buyers) during the years 2009 through 2013, with the exception of institutional investor in 2013. Smaller investors purchased at a discount of approximately 8.0%, larger investors purchased on average at a discount of 13.6%, and institutional investors purchased at a discount of 7.7%, relative to single-purchase buyers. We also provide evidence regarding the price improvement related to investor buyers in the market. The results for percent sales in a given census block in a given year suggest that additional demand is placing upward pressure on prices, and the percent of investors in a census block in a given year also result in upward pressure on prices. One would expect the presence of investors in the market to lead to increased competition for individual purchases, resulting in possible increased prices in the market. But the empirical evidence suggests otherwise; once the percent of investors and the percent of sales in a census block are added as control variables, the discounts obtained by

investors increase, which supports the view that price improvements are being driven by individuals, not investors in the market.

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Table 1 - Variables and Description

Variable	Description
Miami-Dade Recorded Sales Price	selling price of the house, expressed as ln(sp) in the regression models.
Lot Size feet in 1,000's of square feet	land square feet reported by the appraisal district, divided by 1,000.
Percentage land value	appraisal district land value divided by total assessed value, multiplied by 100
Size of house in 100's of square feet	number of square feet divided by 100.
Age of house in 10's of years	year of sale minus effective year built divided by 10.
Bedrooms	number of bathrooms.
Bathrooms	number of bedrooms.
Stories	number of stories.
Pool	dummy variable indicating the presence of a pool.
Fair quailty	dummy variable indicating the appraisal district's "Minimum/Below Average" rating of property improvement quality.
Average quality	dummy variable indicating the appraisal district's "Average" rating of property improvement quality.
Above Average quality	dummy variable indicating the appraisal district's "Above Average" rating of property quality.
Excellent quality	dummy variable indicating the appraisal district's "Excellent" rating of property improvement quality.
Cash	dummy variable indicating a cash purchase.
Transfer qualified as arm's length by deed	dummy variable indicating transfer is qualified per exam of deed (arm's length, Appraiser Salescodes).
Corrective deed, quit claim deed, etc.	dummy variable indicating transfer is a corrective deed, quit claim deed or tax deed (Appraiser Salescodes).
Auction/Deeds from financial institutions	dummy variable indicating transfer is from a financial institution (primarily auction, Appraiser Salescodes, not REO).
Deeds executed by bankruptcy trustees	dummy variable indicating transfer is from a bankruptcy trustee, etc. (Appraisal District Salescodes).
Transaction involving affiliated parties	dummy variable indicating transfer involves affiliated parties (Appraisal District Salescodes).
Sale not exposed to the open-market	dummy variable indicating transfer is not exposed to the open market (Appraisal District Salescodes).
Forced sale or sale under duress	dummy variable indicating transfer is forced, under duress or to prevent foreclosure (Appraisal District Salescodes).
REO sale	dummy variable indicating transfer is classified as a REO sale.
Individual Purchase	dummy variable indicating a grantee that purchased one property during the sample period and is not a LLC, LP, Inc., etc.
Investor Purchase	dummy variable indicating a grantee purchased 2 or more properties during the sample period or the grantee is a LLC, LP, Inc, etc. and purchased only 1 property during the sample period.
Smaller Investor with 2 or fewer purchases	dummy varialbe indicating investor purchasing 1 or 2 properties during the sample period (1 if the grantee is a LLC, LP, Inc. and purchased only 1 property during the sample period).
Medium Investor with 3 to 5 purchases	dummy variable indicating an investor purchasing 3 to 5 properties during the sample period.
Larger Investor with 6 to 28 purchases	dummy variable indicating an investor purchasing 6 to 28 purchases, but with less than 10 properties each year.
Institutional Investor purchases	dummy variable indicating an investor purchasing 10 or more in at least one year, plus all other sales for that entity.
Percent Sales in Census Block by year	number of sales in census block divided by the number of houses (census 2010) in the census block, percent can be higher than one hundred percent if houses have been added to the census block after 2010.
Percent Investors in Census Block by year	(number of investor purchases in census block each year divided by the number of sales in the census block each year) times 100.
Number of Purchases	the number of purchases by each purchaser/entity in the sample, with a range of 1 to 345 purchases.
MLS Sale	dummy variable indicating that the house sold via the MLS.
Days on the Market	statistics available only for MLS properties, time on the market from listing to sale, n=46,019 total sales, of which 33,090 are by individuals and 12,929 are by investors in this subsample.
List Price (MLS only)	statistics available only for MLS properties, list price for MLS properties, n=46,019 total sales, of which 33,090 are by individuals and 12,929 are by investors in this subsample.
Sale Price (MLS only)	statistics available only for MLS properties, sale price for MLS properties, n=46,019 total sales, of which 33,093 are by individuals and 12,926 are by investors in this subsample.

Table 2 - Descriptive Statistics

Descriptive statistics for the full sample and subsamples of properties sold to individuals and properties sold to investors. The data is from three data sources, Miami-Dade County Appraisal District, Florida Department of Revenue Files and MLS data. Excluding residential houses with missing characteristics, obvious outliers and all transactions where the grantee is a financial entity, the sample includes 72,128 houses sold during January 2009-September 2013, with 47,521 sales purchased by an individual that purchased only one house during the time period. The remaining 24,607 sales are purchased by individuals or entities that purchased 2 or more houses or 1 house by an entity such as an LLC, LP, or Corporation during the time period. We do not report the month year dummy variables or census block group dummies below for brevity. There are 57 months and 1,169 census block groups in the sample. The t-statistics are calculated to test the null: mean(individual purchase) - mean(investor purchase)=0. Statistics with significance at the 1% level are denoted with a ** and the 5% level are denoted with a *.

	Full Sample, n=72,128		Individual Purchase, n=47,521		Investor Purchase, n=24,607			
Summary Statistics of Key Variables	Mean	Median	Mean	Median	Mean	Median	t-statistics	
Miami-Dade Recorded Sales Price	280,229	169,900	301,566	190,000	239,024	124,500	17.39	**
Lot Size feet in 1,000's of square feet	9.566	7.50	9.784	7.50	9.144	7.50	7.25	**
Percentage of Appraisal district value from land	30.959	27.10	31.318	27.51	30.267	26.38	8.33	**
Size of house in 100's of square feet	20.429	18.21	21.103	18.88	19.127	16.78	26.02	**
Age of house in 10's of years	3.395	3.20	3.272	3.00	3.634	3.50	-22.12	**
Bedrooms	3.275	3.00	3.311	3.00	3.208	3.00	15.26	**
Bathrooms	2.110	2.00	2.162	2.00	2.011	2.00	21.31	**
Stories	1.183	1.00	1.195	1.00	1.160	1.00	11.63	**
Pool	0.253	0.00	0.279	0.00	0.203	0.00	22.23	**
Fair quailty	0.096	0.00	0.073	0.00	0.143	0.00	-30.35	**
Average quality	0.548	1.00	0.538	1.00	0.567	1.00	-7.48	**
Above Average quality	0.255	0.00	0.277	0.00	0.212	0.00	19.06	**
Excellent quality	0.101	0.00	0.112	0.00	0.078	0.00	14.43	**
Cash	0.435	0.00	0.295	0.00	0.705	1.00	-114.45	**
Transfer qualified as arm's length by deed	0.507	1.00	0.589	1.00	0.348	0.00	63.21	**
Corrective deed, quit claim deed, etc.	0.044	0.00	0.045	0.00	0.042	0.00	2.01	*
Auction/Deeds from financial institutions	0.080	0.00	0.013	0.00	0.210	0.00	-98.78	**
Deeds executed by bankruptcy trustees	0.015	0.00	0.016	0.00	0.013	0.00	2.61	**
Transaction involving affiliated parties	0.022	0.00	0.025	0.00	0.016	0.00	8.08	**
Sale not exposed to the open-market	0.015	0.00	0.007	0.00	0.030	0.00	-24.05	**
Forced sale or sale under duress	0.010	0.00	0.009	0.00	0.012	0.00	-4.22	**
REO Sale	0.308	0.00	0.297	0.00	0.329	0.00	-8.99	**
Individual Purchase	0.659	1.00	1.000	1.00	0.000	0.00	-	
Investor Purchase	0.341	0.00	0.000	0.00	1.000	1.00	-	
Smaller Investor with 2 or fewer purchases	0.145	0.00	0.000	0.00	0.425	0.00	-	
Medium Investor with 3 to 5 purchases	0.072	0.00	0.000	0.00	0.212	0.00	-	
Larger Investor with 6 to 28 or more purchases	0.059	0.00	0.000	0.00	0.173	0.00	-	
Institutional Investor purchases	0.065	0.00	0.000	0.00	0.190	0.00	-	
Percent Sales in Census Block by year	11.722	7.69	11.846	7.30	11.482	8.00	1.70	
Percent Investors in Census Block by year	34.109	25.00	13.435	0.00	74.034	80.00	-333.05	**
Number of Purchases	8.337	1.00	1.000	1.00	22.507	3.00	-79.28	**
MLS sale	0.638	1.00	0.696	1.00	0.525	1.00	45.94	**
Days on the Market (statistics for MLS only, n=46,019 total, 33,090 individuals & 12,929 investors)	156.54	112.00	160.06	115.00	147.52	102.00	8.69	**
List Price (statistics for MLS only, n=46,019 total, 33,090 individuals & 12,929 investors)	334,681	193,500	350,510	214,900	294,170	139,900	9.81	**
Sales Price (statistics for MLS only, n=46,019 total, 33,090 individuals & 12,929 investors)	308,309	185,000	323,887	203,000	268,440	132,000	11.10	**

Table 3 - Selected Sample Statistics by year for the Total Sample, Individual Purchasers and Investors that purchased single family properties over the sample period in Miami-Dade County from January 2009 - September 2013.

Panel A - Selected Sample Statistics for the Total Sample by Year. Statistics Include Number of Transactions, Average Price, Average Price Per Square Foot (PSF), Average Effective Age, Percentatge with a Pool, Percentage Cash Transactions, the Percentage Purchased through the MLS, Percentage REO, Percentage Investor Purchases by Year, Percentage of Houses Sold in a Census Block per Year relative to the number of housing units in the 2010 Census Block and the Investor Purchased Properties as a percentage of properties Sold in each Census Block each Year.

Year Sold	N	Average Price	PSF	Age	% Pool	% Cash	% MLS	% REO	% INV	%SOLD	%CBINV
2009	12,748	$260,075	113	32	25%	35%	68%	44%	28%	10%	28%
2010	14,092	$260,506	110	32	25%	40%	65%	35%	32%	12%	32%
2011	14,863	$265,327	109	33	26%	39%	70%	35%	32%	12%	32%
2012	16,668	$292,216	120	33	25%	49%	64%	24%	36%	15%	36%
2013	13,757	$320,686	137	39	26%	54%	52%	18%	41%	9%	41%
Total	72,128	$280,229	118	34	25%	43%	64%	31%	34%	12%	34%

Panel B - Selected Sample Statistics for Individual Sales by Year. Statistics Include Number of Transactions, Average Price, Average Price Per Square Foot (PSF), Average Age, Percentatge with a Pool, Percentage Cash Transactions, the Percentage Purchased through the MLS, Percentage REO, Percentage Investor Purchases by Year, Percentage of Houses Sold in a Census Block per Year relative to the number of housing units in the 2010 Census Block, and the Investor Purchased Properties as a percentage of properties Sold in each Census Block each Year.

Year Sold	N	Average Price	PSF	Age	% Pool	% Cash	% MLS	% REO	% INV	%SOLD	%CBINV
2009	9,155	$271,279	117	32	26%	24%	70%	41%	0%	9%	10%
2010	9,518	$279,593	117	31	28%	25%	72%	33%	0%	11%	14%
2011	10,125	$285,425	117	33	28%	26%	75%	32%	0%	12%	13%
2012	10,655	$320,659	130	31	28%	34%	71%	23%	0%	17%	15%
2013	8,068	$356,897	150	38	29%	38%	59%	18%	0%	9%	16%
Total	47,521	$301,566	126	33	28%	29%	70%	30%	0%	12%	13%

Panel C - Selected Sample Statistics for Investor Sales by Year. Statistics Include Number of Transactions, Average Price, Average Price Per Square Foot (PSF), Average Age, Percentatge with a Pool, Percentage Cash Transactions, the Percentage Purchased through the MLS, Percentage REO, Percentage Investor Purchases by Year, Percentage of Houses Sold in a Census Block per Year relative to the number of housing units in the 2010 Census Block and the Investor Purchased Properties as a percentage of properties Sold in each Census Block each Year.

Year Sold	N	Average Price	PSF	Age	% Pool	% Cash	% MLS	% REO	% INV	%SOLD	%CBINV
2009	3,593	$231,528	100	34	21%	61%	62%	51%	100%	11%	74%
2010	4,574	$220,786	94	34	20%	70%	52%	37%	100%	13%	72%
2011	4,738	$222,378	93	35	21%	66%	60%	40%	100%	12%	73%
2012	6,013	$241,815	102	37	19%	74%	52%	27%	100%	12%	73%
2013	5,689	$269,333	118	40	20%	77%	42%	19%	100%	10%	78%
Total	24,607	$239,024	102	36	20%	70%	53%	33%	100%	11%	74%

Table 4 - Selected Sample Statistics by year for the selected groups of Investor Samples that purchased single family properties over the sample period in Miami-Dade County from January 2009 - September 2013.

Panel A - Selected Sample Statistics for the Small Investor Group (2 purchases or 1 purchase by an LLC, LP, etc.) by Year. Statistics Include Number of Transactions, Average Price, Average Price Per Square Foot (PSF), Average Age, Percentatge with a Pool, Percentage Cash Transactions, the Percentage Purchased through the MLS, Percentage REO by year, Percentage of Houses Sold in a Census Block per Year relative to the number of housing units in the 2010 Census Block and the Investor Purchased Properties as a percentage of properties Sold in each Census Block each Year.

Year	N	Average Price	PSF	Age	% Pool	% Cash	% MLS	% REO	%SOLD	%CBINV
2009	1,687	$292,652	113	35	25%	53%	67%	48%	10%	76%
2010	1,824	$325,243	117	33	27%	57%	61%	34%	11%	73%
2011	2,110	$323,256	119	35	26%	56%	66%	35%	12%	74%
2012	2,489	$364,950	134	37	25%	71%	58%	23%	13%	73%
2013	2,354	$403,340	156	43	25%	73%	49%	18%	10%	78%
Total	10,464	$346,602	130	37	26%	63%	59%	30%	11%	75%

Panel B - Selected Sample Statistics for the Medium Investor Group (3 - 5 Purchases) by Year. Statistics Include Number of Transactions, Average Price, Average Price Per Square Foot (PSF), Average Age, Percentatge with a Pool, Percentage Cash Transactions, the Percentage Purchased through the MLS, Percentage REO by year, Percentage of Houses Sold in a Census Block per Year relative to the number of housing units in the 2010 Census Block and the Investor Purchased Properties as a percentage of properties Sold in each Census Block each Year.

Year	N	Average Price	PSF	Age	% Pool	% Cash	% MLS	% REO	%SOLD	%CBINV
2009	925	$164,236	83	36	19%	60%	67%	59%	9%	74%
2010	963	$174,995	88	35	20%	65%	63%	47%	11%	73%
2011	1,031	$170,379	83	35	19%	64%	64%	42%	11%	73%
2012	1,232	$198,277	92	36	18%	73%	58%	32%	12%	74%
2013	1,067	$206,980	103	39	18%	75%	46%	24%	10%	78%
Total	5,218	$184,213	90	36	18%	68%	59%	40%	11%	74%

Panel C - Selected Sample Statistics for the Large Investor Group (6 to 28 Purchases over the 5 years) by Year. Statistics Include Number of Transactions, Average Price, Average Price Per Square Foot (PSF), Average Age, Percentatge with a Pool, Percentage Cash Transactions, the Percentage Purchased through the MLS, Percentage REO by year, Percentage of Houses Sold in a Census Block per Year relative to the number of housing units in the 2010 Census Block and the Investor Purchased Properties as a percentage of properties Sold in each Census Block each Year.

Year	N	Average Price	PSF	Age	% Pool	% Cash	% MLS	% REO	%SOLD	%CBINV
2009	546	$179,473	86	36	17%	70%	56%	54%	10%	73%
2010	888	$127,729	71	38	14%	82%	48%	41%	11%	71%
2011	978	$134,877	70	36	16%	80%	56%	46%	11%	71%
2012	1,055	$140,628	75	38	15%	74%	50%	31%	11%	72%
2013	786	$157,099	82	44	17%	79%	38%	23%	10%	78%
Total	4,253	$144,643	75	38	15%	78%	49%	38%	11%	73%

Panel D - Selected Sample Statistics for the Institutional Investor Group (10 or more in a year plus other purchases by same investor) by Year. Statistics Include Number of Transactions, Average Price, Average Price Per Square Foot (PSF), Average Age, Percentatge with a Pool, Percentage Cash Transactions, the Percentage Purchased through the MLS, Percentage REO by year, Percentage of Houses Sold in a Census Block per Year relative to the number of housing units in the 2010 Census Block and the Investor Purchased Properties as a percentage of properties Sold in each Census Block each Year.

Year Sold	N	Average Price	PSF	Age	% Pool	% Cash	% MLS	% REO	%SOLD	%CBINV
2009	435	$202,915	106	28	13%	86%	37%	41%	21%	68%
2010	899	$149,824	77	30	14%	89%	26%	27%	21%	69%
2011	619	$103,370	61	34	14%	83%	36%	39%	14%	72%
2012	1,247	$123,712	70	37	14%	80%	36%	26%	11%	73%
2013	1,482	$160,893	87	36	16%	84%	30%	17%	9%	77%
Total	4,672	$145,210	79	34	15%	84%	32%	26%	14%	73%

Table 5 - Investor Probit Model

Probit model where the dependent variable (investor=1, 0 otherwise) is defined as a buyer that purchased two or more properties or an entitity such as an LP, LLC, etc that purchased one property during the fifty seven month sample period, January 2009 - September 2013. The model includes monthly dummy variables (not reported for brevity) and dummy variables for Census block groups (not reported for brevity) to control for location. The estimates of the coefficients are presented in the table, with t-statistics reported using heteroskedasticity-robust standard errors. Statistics with significance at the 1% level are denoted with a ** and at the 5% level are denoted with a *.

Independent Variable	Model 1, Probit	Model 1, Reporting Marginal Effects	t-statistics
Constant	-0.174		-0.79
Informed Seller/Large Grantor	0.032	0.011	1.95
Land Square Feet	-0.011**	-0.004**	-4.26
Land Percentage	0.000**	0.000**	3.32
Size	-0.012	-0.004	-0.86
Square_feet_squared	0.001	0.001	0.87
Age	0.002*	0.001*	2.53
Age_squared	-0.001	-0.000	-1.58
Bedrooms	0.036**	0.013**	3.44
Bathrooms	-0.000	-0.000	-0.01
Stories	-0.009	-0.003	-0.48
Pool	-0.014	-0.005	-0.91
Fair quailty	0.010	0.004	0.16
Above Average quality	-0.104**	-0.036**	-3.36
Excellent quality	-0.134**	-0.046**	-3.00
Cash Purchase	0.994**	0.350**	90.82
REO Sale	0.115**	0.041**	7.03
Listed on the MLS	-0.470**	-0.170**	-39.41
Sale Year Month fixed effects	Yes		
Location Census Block Group fixed effects	Yes		
Number of Observations	72,128		
Pseudo R2	0.1749		
Log - pseudolikelihood	-38,194		

Table 6- Investor Purchases

Single Family fixed effects regression models based on the complete sample. We define a single grantee purchase as an individual purchase except when the entity is a LLC, LP or Incorporated entitity. An entity that purchases 2 or more properties or one property purchased, for example, by a LLC, LP, Incorporated entitity, are defined as investors. The data is for Miami-Dade county, January 2009-September 2013. The variable of interest is whether an entitiy purchases one or more properties as an investor. We obtain data from Miami-Dade County Appraisal Districts, the Florida Department of Revenue (FDOR) and a local MLS. All models include month/year dummy variables (not reported for brevity) to control for potential serial effects and all regressions include dummy variables for Census block group (not reported for brevity) to control for location. The estimates of the coefficients are presented in the table, with t-statistics reported using heteroskedasticity-robust Huebner/White standard errors. Statistics with significance at the 1% level are denoted with a ** and at the 5% level are denoted with a *.

Independent Variable	Model 1-All Sales		Model 2-All Sales		Model 3-All Sales		Model 4-All Sales	
Constant	12.02209**	789.14	11.34181**	454.76	11.43700**	509.43	11.41614**	511.33
Land Square Feet			0.00301**	7.72	0.00318**	9.00	0.00315**	8.94
Land Percentage			0.00327**	9.35	0.00292**	8.94	0.00294**	9.01
Size			0.03822**	36.20	0.03796**	42.35	0.03792**	42.56
Square_feet_squared			-0.00021**	-15.02	-0.00020**	-17.07	-0.00020**	-17.03
Age			-0.10124**	-19.95	-0.08374**	-17.64	-0.07862**	-16.64
Age_squared			0.00483**	8.34	0.00386**	7.13	0.00328**	6.07
Bedrooms			0.01401**	4.49	0.01360**	4.80	0.01354**	4.79
Bathrooms			0.02096**	5.56	0.02233**	6.63	0.02227**	6.62
Stories			-0.00569	-1.02	-0.00485	-0.97	-0.00480	-0.97
Pool			0.10746**	24.53	0.09601**	25.74	0.09683**	26.00
Fair quailty			-0.09360**	-4.27	-0.09362**	-4.27	-0.09364**	-4.26
Above Average quality			0.06400**	7.15	0.05973**	7.61	0.06051**	7.70
Excellent quality			0.16200**	11.62	0.14971**	11.96	0.14934**	11.91
Cash Purchase					-0.12238**	-39.02	-0.12266**	-39.18
Corrective deed, quit claim deed, etc.					-0.74712**	-59.54	-0.74457**	-59.37
Auction/Deeds from financial institutions					-0.21568**	-28.70	-0.21316**	-28.32
Deeds executed by bankruptcy trustees					-0.08927**	-5.88	-0.08773**	-5.74
Transaction involving affiliated parties					-0.62686**	-35.53	-0.62424**	-35.40
Sale not exposed to the open-market					-0.17152**	-11.03	-0.17696**	-11.59
Forced sale or sale under duress					-0.25821**	-24.52	-0.25490**	-24.07
REO sale					-0.14549**	-53.89	-0.14497**	-53.73
MLS sale					0.04245**	13.12	0.04491**	13.80
Percent Sales in Census Block by year							0.00079**	7.95
Percent Investors in Census Block by year							0.00020**	3.53
Investor Purchase	-0.17935**	-46.75	-0.17231**	-50.61	-0.08352**	-24.32	-0.09529**	-21.00
Sale Year/Month fixed effects	Yes		Yes		Yes		Yes	
Location Census block group fixed effects	Yes		Yes		Yes		Yes	
Number of Observations	72,128		72,128		72,128		72,128	
R^2	0.755		0.816		0.859		0.860	

Table 7- Investor Purchases by Investor group

Fixed effects regression models of house prices based on the complete sample. We define a single grantee purchase as an individual purchase except as indicated in the following statement. An entity that purchases 2 or more properties or one property purchased, for example, by a LLC, LP, Incorporated entitity, are defined as investors purchased properties. Model 1, Model 2 , Model 3, and Model 4 separates the investor sample into smaller (less than 2.5 purchases), medium (3 to 5 puchases), large (6 to 28 purchases), and institutional (entities with 10 or more purchases in a year plus any additional purchases by these entities, for example 10 purchases for 3 years and 7 purchases for 2 years, all 44 purchases would be classified as institutional purchases). Model 5 replaces the REO variable with 3 dummies as defined in the table and uses census block fixed effects to control for location. The data is for Miami-Dade county, January 2009-September 2013. The variable of interest is whether an entitiy purchases one or more properties as an investor. We obtain data from Miami-Dade County Appraisal Districts, the Florida Department of Revenue (FDOR) and a local MLS. All models include month/year dummy variables (not reported for brevity) to control for potential serial effects and all regressions include dummy variables for Census block group (not reported for brevity) to control for location. The estimates of the coefficients are presented in the table, with t-statistics reported using heteroskedasticity-robust Huebner/White standard errors. Statistics with significance at the 1% level are denoted with a ** and at the 5% level are denoted with a *.

Independent Variable	Model 1-All Sales		Model 2-All Sales		Model 3-All Sales		Model 4-All Sales	
Constant	12.02137**	789.96	11.34373**	455.12	11.43536**	509.75	11.41471**	511.45
Land Square Feet			0.00300**	7.68	0.00319**	9.00	0.00316**	8.94
Land Percentage			0.00319**	9.16	0.00292**	8.93	0.00293**	9.01
Size			0.03816**	36.00	0.03796**	42.33	0.03791**	42.54
Square_feet_squared			-0.00021**	-14.98	-0.00020**	-17.08	-0.00020**	-17.04
Age			-0.10061**	-19.84	-0.08327**	-17.56	-0.07819**	-16.55
Age_squared			0.00474**	8.20	0.00381**	7.04	0.00323**	5.99
Bedrooms			0.01430**	4.58	0.01380**	4.87	0.01374**	4.86
Bathrooms			0.02087**	5.54	0.02224**	6.61	0.02218**	6.60
Stories			-0.00584	-1.04	-0.00493	-0.99	-0.00488	-0.99
Pool			0.10717**	24.43	0.09601**	25.73	0.09683**	26.00
Fair quailty			-0.09452**	-4.32	-0.09289**	-4.24	-0.09292**	-4.23
Above Average quality			0.06380**	7.12	0.05990**	7.62	0.06067**	7.71
Excellent quality			0.16148**	11.61	0.15004**	12.00	0.14966**	11.95
Cash Purchase					-0.12178**	-38.89	-0.12205**	-39.03
Corrective deed, quit claim deed, etc.					-0.74728**	-59.53	-0.74476**	-59.36
Auction/Deeds from financial institutions					-0.21382**	-26.10	-0.21119**	-25.76
Deeds executed by bankruptcy trustees					-0.08805**	-5.79	-0.08653**	-5.66
Transaction involving affiliated parties					-0.62748**	-35.55	-0.62488**	-35.42
Sale not exposed to the open-market					-0.17295**	-11.16	-0.17826**	-11.70
Forced sale or sale under duress					-0.25747**	-24.44	-0.25419**	-24.00
REO sale					-0.14431**	-53.24	-0.14379**	-53.09
MLS sale					0.04272**	13.21	0.04516**	13.88
Percent Sales in Census Block by year							0.00079**	7.97
Percent Investors in Census Block by year							0.00020**	3.41
Smaller Investor with 2 or fewer purchases	-0.14044**	-25.39	-0.13763**	-28.90	-0.06881**	-15.77	-0.08021**	-15.06
Medium Investor with 3 to 5 purchases	-0.18410**	-27.67	-0.17430**	-28.41	-0.09946**	-17.13	-0.11066**	-16.87
Larger Investor with 6 to 28 purchases	-0.24343**	-35.67	-0.23063**	-37.10	-0.12465**	-18.81	-0.13554**	-18.85
Institutional Investor purchases	-0.20754**	-30.93	-0.19879**	-31.87	-0.06524**	-9.10	-0.07730**	-10.21
Sale Year/Month fixed effects	Yes		Yes		Yes		Yes	
Location Census block group fixed effects	Yes		Yes		Yes		Yes	
Number of Observations	72,128		72,128		72,128		72,128	
R^2	0.755		0.816		0.859		0.860	

Table 8 - Investor Purchases by MLS Sales and Non-MLS Sales

Fixed effects regression models of house price where Model 1 and Model2 are estimated for properties purchased through the MLS and Model 3 and Model 4 are estimated for properties purchased purchased outside the MLS We define a single grantee purchase as an individual purchase except as indicated in the following statement. An entity that purchases 2 or more properties or one property purchased, for example, by a LLC, LP, Incorporated entitity, are defined as investors purchased properties. Model 2 and Model 4 separates the investor sample into smaller (less than 2.5 purchases), medium (3 to 5 puchases), large (6 to 28 purchases), and institutional (entities with 10 or more purchases in a year plus any additional purchases by these entities, for example 10 purchases for 3 years and 7 purchases for 2 years, all 44 purchases would be classified as institutional purchases). The data is for Miami-Dade county, January 2009-September 2013. The variable of interest is whether an entitiy purchases one or more properties as an investor. We obtain data from Miami-Dade County Appraisal Districts, the Florida Department of Revenue (FDOR) and a local MLS. All models include month/year dummy variables (not reported for brevity) to control for potential serial effects and all regressions include dummy variables for Census block group (not reported for brevity) to control for location. The estimates of the coefficients are presented in the table, with t-statistics reported using heteroskedasticity-robust Huebner/White standard errors. Statistics with significance at the 1% level are denoted with a ** and at the 5% level are denoted with a *.

Independent Variable	Model 1-All MLS Sales		Model 2-All MLS Sales		Model 3- Non-MLS Sales		Model 4- Non-MLS Sales	
Constant	11.460**	541.23	11.460**	541.27	11.402**	239.00	11.400**	238.73
Land Square Feet	0.003**	8.12	0.003**	8.07	0.003**	4.68	0.003**	4.69
Land Percentage	0.003**	10.32	0.003**	10.21	0.002**	3.80	0.002**	3.87
Size	0.039**	40.11	0.039**	39.88	0.037**	22.75	0.037**	22.79
Square_feet_squared	-0.000**	-14.95	-0.000**	-14.91	-0.000**	-10.01	-0.000**	-10.00
Age	-0.074**	-16.65	-0.073**	-16.55	-0.074**	-7.55	-0.073**	-7.49
Age_squared	0.002**	4.67	0.002**	4.50	0.003**	3.14	0.003**	3.08
Bedrooms	0.011**	4.16	0.011**	4.30	0.017**	2.72	0.017**	2.71
Bathrooms	0.025**	8.29	0.025**	8.22	0.023**	3.06	0.023**	3.04
Stories	0.012**	2.88	0.012**	2.91	-0.032**	-2.81	-0.031**	-2.73
Pool	0.097**	29.13	0.097**	29.06	0.083**	9.51	0.083**	9.56
Fair quailty	-0.100**	-4.92	-0.101**	-4.96	-0.083*	-1.97	-0.082	-1.93
Above Average quality	0.050**	6.80	0.050**	6.79	0.060**	3.39	0.060**	3.38
Excellent quality	0.141**	11.60	0.141**	11.63	0.139**	4.71	0.139**	4.72
Cash Purchase	-0.156**	-53.50	-0.153**	-52.21	-0.045**	-6.61	-0.047**	-6.90
Corrective deed, quit claim deed, etc.	-0.318**	-5.80	-0.323**	-5.88	-0.779**	-61.27	-0.778**	-61.16
Auction/Deeds from financial institutions	-0.132**	-4.12	-0.125**	-3.98	-0.287**	-30.34	-0.300**	-28.18
Deeds executed by bankruptcy trustees	-0.067**	-4.27	-0.066**	-4.22	-0.120**	-4.04	-0.119**	-4.03
Transaction involving affiliated parties	-0.202**	-4.89	-0.205**	-4.90	-0.680**	-36.83	-0.681**	-36.85
Sale not exposed to the open-market	-0.146**	-8.08	-0.140**	-7.66	-0.264**	-12.40	-0.271**	-12.74
Forced sale or sale under duress	-0.216**	-19.38	-0.214**	-19.24	-0.314**	-13.05	-0.315**	-13.06
REO sale	-0.084**	-28.83	-0.082**	-28.26	-0.235**	-29.77	-0.236**	-29.68
MLS sale	-	-	-	-	-	-	-	-
Percent Sales in Census Block by year	0.00017**	3.91	0.00017**	3.92	0.00116**	7.99	0.00115**	8.00
Percent Investors in Census Block by year	0.00018**	3.39	0.00018**	2.95	0.00023	1.93	0.00023	1.94
Investor Purchase	-0.102**	-23.25			-0.072**	-7.42		
Smaller Investor with 2 or fewer purchases			-0.071**	-13.78			-0.078**	-7.01
Medium Investor with 3 to 5 purchases			-0.113**	-17.74			-0.086**	-6.41
Larger Investor with 6 to 28 purchases			-0.163**	-23.83			-0.079**	-5.62
Institutional Investor, all purchases by investor with 10 or more purchases in a			-0.128**	-16.20			-0.027*	-2.08
Sale Year/Month fixed effects	Yes		Yes		Yes		Yes	
Location Census block group fixed effects	Yes		Yes		Yes		Yes	
Number of Observations	46,019		46,019		26,109		26,109	
R^2	0.926		0.926		0.762		0.762	

Table 9 - Time on the Market using only the MLS sample.

Fixed effects regression models of time on the market using a subsample of 46,019 houses sold via the MLS. We define a single grantee purchase as an individual and entities that purchases 2 or more properties or one property purchased, for example, by a LLC, LP, Incorporated entitity, are defined as investors. Model 1 & Model 3 incude one dummy for all investors and Model 2 & Model 4 break the investor sample into smaller (less than 2.5 purchases), medium (3 to 5 purchases), larger (6 to 28 purchases), and Institutional purchases (entity with at least 10 purchases in a year and all other purchases by such an entitiy). The data is for Miami-Dade county, January 2009-September 2013. The variable of interest is whether an entitiy purchases one or more properties. We obtain data from Miami-Dade County Appraisal Districts, the Florida Department of Revenue (FDOR) and a local MLS. All models include month/year dummy variables (not reported for brevity) to control for potential serial effects and all regressions include dummy variables for Census block groups (not reported for brevity) to control for location. The estimates of the coefficients are presented in the table, with t-statistics reported using heteroskedasticity-robust Huebner/White standard errors. Statistics with significance at the 1% level are denoted with a ** and at the 5% level are denoted with a *.

Independent Variable	Model 1 - DOM Investor		Model 2- DOM Investor Groups		Model 3-Duration DOM Investor		Model 4-Duration DOM Investor	
Constant	4.814**	109.96	4.812**	109.90	1.622**	55.68	1.622**	55.31
Land Square Feet	0.001	1.19	0.001	1.19	0.000	1.28	0.000	1.29
Land Percentage	-0.001*	-2.37	-0.001*	-2.30	-0.000	-1.85	-0.000	-1.76
Size	0.005**	3.67	0.005**	3.70	0.001**	4.84	0.001**	4.87
Square_feet_squared	-0.000	-0.36	-0.000	-0.37	-0.000	-1.16	-0.000	-1.17
Age	0.051**	5.22	0.051**	5.21	0.009**	5.12	0.009**	5.11
Age_squared	-0.002	-1.60	-0.002	-1.58	-0.000	-0.96	-0.000	-0.93
Bedrooms	-0.004	-0.56	-0.004	-0.55	-0.001	-0.95	-0.001	-0.94
Bathrooms	0.022**	2.89	0.022**	2.89	0.004**	3.13	0.004**	3.13
Stories	0.055**	4.65	0.054**	4.64	0.012**	5.43	0.012**	5.41
Pool	-0.020*	-2.07	-0.019*	-2.05	-0.005**	-2.66	-0.005**	-2.65
Fair quailty	-0.038	-0.94	-0.036	-0.89	-0.004	-0.59	-0.004	-0.51
Above Average quality	-0.013	-0.70	-0.012	-0.66	-0.000	-0.13	-0.000	-0.08
Excellent quality	-0.031	-1.18	-0.030	-1.14	-0.002	-0.43	-0.002	-0.36
Cash Purchase	-0.107**	-13.53	-0.109**	-13.68	-0.015**	-9.31	-0.015**	-9.53
Corrective deed, quit claim deed, etc.	0.064	0.92	0.067	0.97	0.011	0.82	0.012	0.86
Auction/Deeds from financial institutions	-0.369**	-4.01	-0.374**	-4.08	-0.045**	-2.94	-0.047**	-3.06
Deeds executed by bankruptcy trustees	-0.233**	-8.56	-0.233**	-8.57	-0.050**	-8.99	-0.050**	-8.99
Transaction involving affiliated parties	-0.087	-1.09	-0.086	-1.08	-0.016	-1.24	-0.016	-1.24
Sale not exposed to the open-market	0.072	1.46	0.068	1.39	0.014*	2.04	0.013	1.90
Forced sale or sale under duress	0.328**	8.95	0.328**	8.95	0.060**	11.17	0.060**	11.17
REO sale	-0.428**	-56.09	-0.429**	-56.11	-0.093**	-63.49	-0.093**	-63.50
Percent Sales in Census Block by year	-0.00055*	-2.28	-0.00055*	-2.28	-0.00006	-1.74	-0.00006	-1.74
Percent Investors in Census Block by year	-0.00045**	-3.01	-0.00044**	-2.94	-0.00006*	-2.07	-0.00006*	-2.03
Investor Purchase	0.020	1.65			0.006*	2.55		
Smaller Investor with 2 or fewer purchases			0.011	0.79			0.005	1.77
Medium Investor with 3 to 5 purchases			0.024	1.49			0.005	1.54
Larger Investor with 6 to 28 purchases			0.005	0.26			0.004	1.11
Institutional Investor purchases			0.071**	3.28			0.017**	4.04
DOP (degree of overpricing)	0.005**	18.82	0.005**	18.75	0.001**	18.40	0.001**	18.32
Only MLS Listed and Sold Properties	Yes		Yes		Yes		Yes	
List Year/Month fixed effects	Yes		Yes		Yes		Yes	
Location Census block group fixed effects	Yes		Yes		Yes		Yes	
Number of Observations	46,019		46,019		46,019		46,019	
Adjusted R^2	0.257		0.257					
Log pseudolikelihood					23,494		23,499	

Table 10 - Investor Coefficients & T-Statistics for Different Samples by Year, by CASH, and by REO

Panel A - Model 4 from Table 6 and Model 4 from Table 7 sale price regressions are estimated for each year. We present only the investor coefficients and t-statiscs, along with year, number sold each year and R2 for the model. The year 2013 includes data from January through September 2013.

Year Sold	2009	2010	2011	2012	2013	2009-Sept. 2013
N	12,748	14,092	14,863	16,668	13,757	72,128
Investor Coefficient & t-statistics	-0.111** -8.95	-0.088** -8.36	-0.100** -10.02	-0.093** -10.86	-0.085** -8.73	-0.09529** -21.00
R2	0.843	0.867	0.884	0.894	0.891	0.860
Smaller Investor with 2 or fewer purchases	-0.087** -5.76	-0.065** -5.33	-0.081** -6.97	-0.071** -6.93	-0.087** -7.80	-0.08021** -15.06
Medium Investor with 3 to 5 purchases	-0.121** -7.12	-0.111** -7.39	-0.106** -7.51	-0.110** -8.39	-0.105** -7.52	-0.11066** -16.87
Larger Investor with 6 to 28 purchases	-0.156** -7.32	-0.130** -7.96	-0.121** -7.81	-0.137** -10.83	-0.132** -8.86	-0.13554** -18.85
Institutional Investor purchases	-0.136** -5.70	-0.083** -4.36	-0.156** -8.39	-0.094** -7.04	-0.020 -1.48	-0.07730** -10.21
R2	0.843	0.867	0.884	0.894	0.892	0.860

Panel B - Model 3 and Model 4 sale price regressions from Table 6 are estimated for properties purchased with Cash and properties that are purchased with financing. We present only the investor coefficients and t-statiscs, along with years, number sold each in the sample and R2 for the model.

	Results for properties that are purchased with CASH.	**Results are for properties purchased with financing.**	Total Sample Results from Table 6, Model 4 or Table 7, Model 4.
Year Sold	2009-2013	2009-2013	2009-Sept. 2013
N	31,358	40,770	72,128
Investor Coefficient & t-statistics	-0.098** -14.77	-0.075** -11.72	-0.09529** -21.00
R2	0.865	0.863	0.860
Smaller Investor with 2 or fewer purchases	-0.089** -11.83	-0.063** -8.31	-0.08021** -16.29
Medium Investor with 3 to 5 purchases	-0.107** -12.27	-0.093** -8.68	-0.11066** -19.92
Larger Investor with 6 to 28 purchases	-0.131** -14.97	-0.086** -5.63	-0.13554** -18.90
Institutional Investor purchases	-0.070** -7.93	-0.089** -4.93	-0.07730** -10.21
R2	0.866	0.863	0.860

Panel C - Model 3 and Model 4 sale price regressions from Table 6 are estimated for properties purchased as REOs and the set of properties that exclude REOs. We present only the investor coefficients and t-statiscs, along with years, number sold each in the sample and R2 for the model.

	Results for properties that are purchased as REOs	**Results are for properties purchased excluding REOs.**	Total Sample Results from Table 6, Model 4 or Table 7, Model 4.
Year Sold	2009-2013	2009-2013	2009-Sept. 2013
N	22,191	49,937	72,128
Investor Coefficient & t-statistics	-0.116** -20.49	-0.066** -10.75	-0.09529** -21.00
R2	0.884	0.856	0.860
Smaller Investor with 2 or fewer purchases	-0.095** -13.84	-0.061** -8.82	-0.08021** -16.29
Medium Investor with 3 to 5 purchases	-0.108** -13.84	-0.086** -9.25	-0.11066** -19.92
Larger Investor with 6 to 28 purchases	-0.146** -16.71	-0.093** -9.08	-0.13554** -18.90
Institutional Investor purchases	-0.147** -16.33	-0.017 -1.63	-0.07730** -10.21
R2	0.884	0.856	0.860