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Beck, Jason; Scott, Frank and Yelowitz, Aaron
Armstrong Atlantic State University, University of Kentucky,
University of Kentucky

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Competition and Market Structure

in Local Real Estate Markets

Jason Beck
Department of Economics
Armstrong Atlantic State University
Savannah, GA 31419

Frank Scott
Department of Economics
University of Kentucky
Lexington, KY 40506

Aaron Yelowitz
Department of Economics
University of Kentucky
Lexington, KY 40506

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Abstract: The persistence of the standard six percent real estate sales commission across markets and over time calls into question the competitiveness of the residential real estate brokerage industry. While there is anecdotal evidence that some local real estate markets are fairly concentrated, no systematic study of market structures has been conducted. We have collected primary data on the number and market shares of real estate brokers in a variety of small, medium, and large real estate markets across the U.S. for 2007 and 2009. In addition to these cross sectional data, we have also collected longitudinal data on the size distribution of firms for Louisville, KY for a nine-year period. In our cross-sectional analysis of medium and large markets, we find no evidence that market concentration might create problems for competition. We do find that small markets on average have higher HHI's than medium and large markets. The longitudinal analysis reveals that many small brokers are in and out of the market, selling a house or two one year and selling zero houses the next year.

Competition and Market Structure in Local Real Estate Markets

Introduction

Residential real estate brokerage is characterized by low barriers to entry and a large number of firms. Furthermore, the Multiple Listing Services (MLS) found in practically every local real estate market act to level the playing field since listings from small firms or new entrants receive equal exposure with those of large established firms. Despite these market attributes, an unusually pervasive and seemingly rigid six percent commission rate structure exists in local real estate brokerage markets across the country.

For this and other reasons, the competitiveness of real estate brokerage in the United States has been an ongoing concern of both federal and state governments. The Federal Trade Commission and the U.S. Department of Justice (DOJ) conducted a joint study of competition in the real estate brokerage industry in 2007.¹ The DOJ's Antitrust Division maintains a website for consumers devoted to competition and real estate.² While most states have real estate commissions that regulate and license real estate agents and brokers, efforts at the state level have not always promoted competition. A 2005 U.S. Government Accountability Office (GAO) study analyzed the potential anticompetitive effects of various state laws that prohibit rebates or set minimum service standards.³

On the other hand, the main industry trade group contends that there is little concentration in the real estate industry and that consumers benefit from competitively determined prices. A 2005 research report by the National Association of Realtors (NAR)

¹ Federal Trade Commission and U.S. Department of Justice, *Competition in the Real Estate Brokerage Industry*, April 2007.

² http://www.justice.gov/atr/public/real_estate/index.htm. A primary emphasis is the commission rates charged by real estate brokers.

³ U.S. Government Accountability Office, *Real Estate Brokerage: Factors That May Affect Price Competition*, August 2005.

concluded that “the residential real estate brokerage industry is fiercely competitive.” They analyzed the national market for real estate brokerage and found that the top 100 real estate firms (in 2004) held only 17 percent of the market share.⁴

While the NAR claims that real estate commissions are competitively determined, the GAO points out that commission rates have remained relatively uniform across markets and over time and do not reflect the costs of selling a house.⁵ Yinger (1981), Hsieh and Moretti (2003), and White (2006) present a compelling argument that such fee rigidity is an indicator of a lack of competition. Competition in markets causes prices to approximate economic costs. The cost of selling a house has both a fixed component and a variable component (which may be nonlinear), and the slope of the variable component is less than one. So competition would lead to a commission rate structure that is lower for higher valued houses, instead of the rigid six-percent rate that is observed.⁶ Delcours and Miller (2002) study brokerage fees charged in other highly industrialized countries. They find a variety of rate structures in other countries that are on average significantly below those prevailing in the U.S., which suggests that the U.S. market for residential real estate brokerage is less than fully competitive.

The number and size distribution of firms is an important determinant of the nature of competition in a market. At the national level, both the NAR and the FTC/DOJ reports point out that the industry is not concentrated.⁷ But as most observers agree, real estate markets are local, so national-level market structure information is not dispositive. To determine whether supplier

⁴ National Association of Realtors, 2005, pp. 1, 9.

⁵ GAO (2005), pp. 9-10, especially fn. 12. Weicher (2006) reviews the empirical evidence on brokerage commission rates, and comments on the paucity of research, primarily because of the difficulty in getting data.

⁶ Carney (1982) offers a search cost explanation for why commission rates should be lower on higher priced homes.

⁷ NAR (2005), pp. 8-9; FTC/DOJ (2007), pp. 30-32.

concentration at the local market level creates the potential for softer competition and price rigidity, data on the number and size shares of firms in local markets are required.

Limited evidence on market structure in local real estate markets does exist. The FTC/DOJ report offered four examples of concentrated local markets: two firms with more than 50% of the northeastern Ohio market, one firm with more than 50% of the Des Moines, IA market, two firms with more than 50% of the State College, PA market, and two firms with more than 75% of the Lincoln, NE market.⁸ Forgey, Mullendore, and Rutherford (1997) studied a medium-sized Texas city and found four-firm concentration ratios of 57% for listing firms and 46% for selling firms. Colwell and Marshall (1986) looked at market structure in Champaign, IL and found lower levels of concentration.⁹

Concern over competition in residential real estate brokerage combined with a paucity of data on market concentration in local real estate markets provides the motivation for this paper. We have collected information on the number and market shares of real estate brokers in a variety of small, medium, and large cities throughout the U.S. We collected these data from the National Association of Realtors official website, www.realtor.com, in fall 2007 and then again in fall 2009. We find that in a minority of the small cities and in only a few of the medium-sized cities, HHI's fall into the range that would invite scrutiny by the FTC and DOJ under the 1997 Horizontal Merger Guidelines. In addition, individual firm market shares tend to be somewhat volatile and HHI's change nontrivially between 2007 and 2009 in a number of different markets.

To further explore the stability of market shares over time, we have also collected data for Louisville, KY from 2000 to 2008. These data enable us to track firms over time from the

⁸ FTC/DOJ (2007), p. 32.

⁹ Dietrich and Holmes (1990) found the Tyneside area in Great Britain to be relatively unconcentrated in the late 1980's.

smallest to the largest during a steady upswing and then through an abrupt downswing in the residential real estate market. Different measures of market structure yield very similar results whether looking at the selling side or the buying side of market transactions. HHI declines very slowly over time, and the identities of the top ten firms are very stable over time. In this market firms do not seem to specialize in one side or the other of market transactions.

The next section of this paper analyzes aspects of the market for residential real estate brokerage that affect the nature of competition. Following that we discuss and analyze the cross-sectional data that we have collected on small, medium, and large local real estate markets. Then we discuss and analyze the time series data we have collected for Louisville, KY for 2000-2008. We conclude the paper with a further discussion of competition and collusion in real estate brokerage.

Aspects of Real Estate Brokerage That May Affect Competition

Residential real estate transactions usually involve middlemen.¹⁰ Sellers and buyers typically engage the services of professional real estate agents, many of whom are licensed Realtors®, i.e. members of NAR. Some home sellers do not hire a professional real estate agent to help market their houses, but instead choose the “For Sale by Owner” (FSBO) route.¹¹

¹⁰ Yinger (1981) discusses information and search in real estate markets and models the role of brokers in real estate transactions.

¹¹ FSBO sales constituted 14% of home sales in 2004 (NAR (2005), p. 5). See Hendel, Nevo, and Ortalo-Magne (2009) for a comparison of outcomes when owners marketed their homes themselves vs. when they marketed their homes using a traditional agent and the MLS.

Similarly, some buyers do not directly employ the services of an agent to help in their search for a house. The range of services offered by real estate agents can vary considerably.¹²

The geographic scope of the market is local. There is general agreement on this matter. The 2007 FTC/DOJ report asserts that “competition among brokers is primarily local because real estate is fixed in a geographic location, and buyers and sellers want some in-person interaction with a broker who has experience and expertise relevant to that particular location.”¹³ This view is supported by NAR-funded research, which describes the real estate industry as a collection of many local real estate markets.¹⁴

The cost structure is such that there are at most only modest economies of scale in real estate brokerage. That is not surprising, given the nature of the production process. The primary input is labor and human capital on the part of the seller’s agent and brokerage firm and the buyer’s agent and brokerage firm. Empirical estimation of cost functions for residential real estate brokerage confirms this basic intuition. Zumpano, Elder, and Crellin (1993), Zumpano and Eder (1994), and Anderson, Lewis, and Zumpano (2000), find at best modest economies of scale.¹⁵ As the NAR (2005, Appendix 1) also points out, a survivor analysis of real estate brokerage indicates that small firms compete effectively with larger firms, as evidenced by stability of market shares of different-sized firms over time.

Entry into the real estate industry is relatively costless and agents and brokers enter and exit on a regular basis. States require real estate professionals to be licensed in order to operate. There are two types of licenses, agents and brokers. Agent licensure always precedes broker

¹² See the 2007 FTC/DOJ report for a description of a typical real estate transaction and the range of services offered by different brokers.

¹³ FTC/DOJ (2007), p. 30.

¹⁴ See Sawyer (2005).

¹⁵ Zumpano (2002) summarizes the empirical research on production and costs in real estate brokerage.

licensure and has lower requirements. These requirements vary from state to state, but usually involve classroom hours, an exam, and a licensing fee.¹⁶ Brokerage licensure usually requires practicing as an agent for a specified time, additional classroom hours, an exam, and a licensing fee. Brokers must also line up agents, set up an office and staff it, and advertise. The FTC/DOJ Report (2007, p. 33) did express the concern that brokerage entry appears to be more difficult than agent entry.

The advent of the internet has drastically changed the role of the middleman in a number of markets, for example travel agents and life insurance agents.¹⁷ And the internet is playing an ever-increasing role in real estate transactions. The NAR's web site Realtor.com lists homes for sale in all fifty states and thousands of cities and towns representing over 800 MLS's. Since prospective buyers can directly access listing information themselves through Realtor.com and web sites maintained by various individual brokers and agents, much of the search that used to be done with the assistance of an agent or broker no longer requires their labor input.

The internet has also increased the viability of business models that differ from the traditional full-service brokerage. Various aspects of the real estate transaction can now be separated and performed in different ways, not necessarily involving real estate brokers and agents playing their traditional roles.¹⁸ The GAO (2005, pp. 19-20) described several alternative approaches that are now available to consumers: (1) full-service discount brokerages; (2) limited-service discount brokerages; (3) information and referral companies; and (4) alternative listing

¹⁶ Kentucky is a typical case. Prospective agents must spend 96 hours in real estate courses, pass the state real estate licensing exam, and pay the state licensing fee of \$55. Private accredited real estate courses tend to range from \$500 to \$750, and the licensing exam fee is \$75. See www.krec.ky.gov.

¹⁷ Brown and Goolsbee (2002) find that internet comparison shopping has reduced term life insurance prices by as much as fifteen percent.

¹⁸ See, for example, Bernheim and Meer (2008).

web sites. But despite playing an ever-increasing role in real estate markets, the internet has not yet had any significant impact on commissions.

Real estate professionals have historically stifled price competition through their professional associations and local multiple listing services. The Supreme Court ruled in 1950 that MLS's could not require participating brokers to charge standard commission rates. After many MLS's switched to suggested fee schedules, the DOJ acted in the 1970's to halt this practice. So, formal policies to maintain uniform rates have disappeared.¹⁹

The NAR (2005, pp. 6-8) claims that collusion to set commission rates at the agent level is impossible, because brokers and not agents set commission rates. Brokers negotiate the split of commissions with their agents, with more successful agents being able to claim a larger proportion. Brokers compete vigorously to retain good agents, so agents are able to extract surplus from brokers competing for their services. If collusion is the reason for the persistent uniformity in commission rates, it must occur at the broker level.

White (2006, pp. 5-6) points out two structural features of real estate markets that facilitate collusion. First, the MLS has natural monopoly aspects that enable the collective members of a MLS to exclude "maverick" rivals who are price-cutters. Second, real estate agents operate on both the sell-side and buy-side of the market, and so must continually cooperate with other agents in order to complete transactions. Such a social climate may facilitate the maintenance of high fee levels.

Levitt and Syverson (2008) also analyze collusion on the part of real estate professionals as a possible explanation of why the industry has been successful in preserving its position at the center of real estate transactions, and for the resistance to changes in prices or services rendered.

¹⁹ See the discussion and references in GAO (2005), pp. 12-13.

They offer the necessity of cooperation as a reason, something that sets real estate transactions apart from travel agents, stock brokers, etc. They model the collusive equilibrium, and discuss the role of the number of firms in the market. Such collusion is obviously easier to achieve if the market for real estate brokerage is highly concentrated.

Cross-Section Analysis

A nationally consistent source of data on local real estate markets is available from the NAR, which maintains a website that assembles homes listed on regional MLS's. This website, www.realtor.com, allows users to search/browse through listings practically anywhere in the country by city or ZIP code.²⁰ For a given listing, basic housing characteristics such as number of bedrooms, number of bathrooms, age of the home, ZIP code, square footage, listing price, and type of home (condominium vs. single family dwelling) are usually available along with a number of photographs. Importantly for our purposes, the brokerage firm through which the house is being listed is also reported. As such, it is possible to record all the listings in a city at a given point in time and use this to analyze local market structure.²¹

Realtor.com contains all the houses in a given geographic market where the listing real-estate agent uses the MLS.²² Data on one hundred diverse markets were initially collected from

²⁰ Realtor.com provides information on approximately 95% of all homes listed on MLS's around the country (GAO, 2005, p. 18).

²¹ We focus on the brokerage of existing homes because the selling process for newly built homes is often drastically different. In a new development the relative homogeneity of the homes likely makes the marginal effort to sell a house different than for an existing house and so it is common for one agent or firm to handle the entire development. Also, we noted that it is common for new housing developments to post a single representative listing for the multiple homes available. Furthermore, it is quite common for new home builders to vertically integrate and have a hand in the brokerage and financing of their own homes. A home's construction status is available in the data and those designated as new construction were excluded from the analysis.

²² By 2005, web-based brokers had emerged who often made available information about listings to potential customers via websites. The NAR gave individual agents the right to "opt-out" of having their listings displayed by

Realtor.com between October 17th and December 21st, 2007. The 2005 Rand McNally Atlas and the American Community Survey: American Fact Finder were used to select the cities.²³ Since small towns greatly outnumber large cities some stratification was necessary. Specifically, in the case of large cities, 17 were selected at random from the nation's 50 largest. A similar process was used to select 30 midsized cities.²⁴ To ensure geographically separate markets, small towns within 20 miles of a city with over 200,000 residents were excluded. We then randomly selected 43 small markets for closer analysis.

The collection process for an individual market was typically completed within a three-day window, the exceptions being a few very large markets like Atlanta and Los Angeles which took up to five days. Individual market websites were scraped by hand. This process was very labor intensive, which perhaps explains the limited evidence previously collected on local market structures.

After selecting cities based on population size, we observed that the correlation between population and activity in the local real estate market is very imperfect. Since our interest is the market for residential real estate brokerage, we decided to rank markets according to the number of listings instead of metropolitan population. Tables 1a, 1b, and 1c present a list of the observed markets in the data set. Markets have been divided into three categories (large, medium, and small) based on the number of listings observed, not population. This brought us up to eighteen

particular websites. In response to imminent legal action by the Department of Justice in September 2005, the NAR changed the policy to a blanket opt-out allowing realtors to prohibit their listings from appearing on any website other than Realtor.com.

²³ (<http://factfinder.census.gov/home/saff/main.html?lang=en>).

²⁴ Midsized cities were defined as having a population too small to be counted as one of the 50 largest (less than 362,850) but greater than 40,000 inhabitants. Our sample includes 30 midsized cities so classified. All were selected randomly except for Lexington, KY, Des Moines, IA, and Lincoln, NE. The former was chosen because of the authors' familiarity with local market conditions, and the latter two were chosen to permit comparison with earlier research.

large markets (5,000+ listings), 30 medium markets (1,000-4,999 listings), and 42 small markets (<1,000 listings).

The total number of listings across markets ranged from 103 (Montpelier, VT) to 27,732 (Atlanta, GA), with an average of 3,086 listings per market. There were 20,798 different firms operating with a fairly wide breadth of size, measured by number of listings. Around thirty-five percent of observed real estate brokers had only a single home listing and around half had either one or two listings. Note that in the data, only firms with a positive number of listings are visible, thus firms that were operating but had zero listings on the day of data collection cannot be accounted for. Ninety-nine percent of all firms had fewer than 200 listings and only about a tenth of one percent of all firms had over a thousand listings. The largest firm, which happened to operate in the largest market (Atlanta, GA), held 2,485 listings at the time of data collection. This firm operated several branches differentiated by geographical focus throughout the Atlanta MSA with a wide variety of types of listings.

After analyzing the 2007 data, we decided to re-scrape the medium and small markets. In fall 2009 we collected data from each of the medium and small markets so that we could analyze changes in market structure over time.²⁵ Because scraping and cleaning data from the large markets involved such a significant time cost, and since large markets were uniformly unconcentrated, we did not revisit them.

Table 1a contains information for 18 large markets in 2007 on MSA population, number of listings, number of firms, average listings per firm, HHI, and four-firm concentration ratio. The table also contains information on the four largest brokerage agencies, their total listings,

²⁵ Note that these data only permit a picture of brokerage markets from the perspective of listings. In the next section we are able to compare the size distribution of brokerage firms by listings to the size distribution based on representation of the buyer side of market transactions.

and their market shares. As can be seen, none of these markets have an HHI that would have invited scrutiny by the USDOJ or the FTC if a merger between two brokers had been proposed, i.e. these markets all fall into the competitive category since $HHI < 1,000$.²⁶ The average HHI across the 18 large markets in 2007 was 378.

Table 1b contains information for 30 medium-sized markets, i.e. markets having between 1,000 and 4,999 listings for 2007. Again, MSA population, number of listings, number of firms, average listings per firm, HHI, four-firm concentration ratio, and identity and market share of the top four brokerage firms are included. The average HHI in these medium-sized markets in 2007 was 837, falling to 797 in 2009. In 2007, seven of the thirty markets had HHI's greater than 1,000: Des Moines, IA, Salem, OR, Lansing, MI, Buffalo, NY, Springfield, MO, Augusta, GA, and Peoria, IL. Only Des Moines, IA had an HHI that exceeded 1,800, which in 2007 would have been classified as highly concentrated according to the USDOJ/FTC Horizontal Merger Guidelines.²⁷ Interestingly, the HHI in Des Moines declined from 3,320 to 1,538 between 2007 and 2009.

Other medium-sized markets experienced significant changes in market structure over the two-year interval in our sample. The HHI increased from 734 to 1,023 in Santa Fe, NM and from 1,157 to 1,665 in Lansing, MI. The HHI decreased from 953 to 639 in Pueblo, CO and from 1,652 to 1,388 in Augusta, GA. Considerable variation in individual brokerage firm market shares and market ranks also occurred over the two-year observation period. The most extreme

²⁶ Market shares can also be calculated based on dollar volume of sales. Unsurprisingly, HHI's based on listings are highly correlated with HHI's based on dollar volume of sales.

²⁷ The USDOJ and FTC recently issued revised HHI classifications. Markets with $HHI < 1,500$ are classified as unconcentrated, markets with HHI between 1,500 and 2,500 are classified as moderately concentrated, and markets with $HHI > 2,500$ are classified as highly concentrated. See <http://www.justice.gov/atr/public/guidelines/hmg-2010.html#5c>. The old cutoffs were $< 1,000$ for unconcentrated, between 1,000 and 1,800 for moderately concentrated, and $> 1,800$ for highly concentrated.

change occurred in Des Moines, IA, where market leader Iowa Realty saw its market share decline from 53% in 2007 to 29% in 2009. Iowa Realty was apparently the firm singled out by the FTC/DOJ in their 2007 Report (p. 32) which offered Des Moines as an example of a highly concentrated market.

Table 1c contains information for 42 small markets, i.e. markets having fewer than 1,000 listings, for 2007. If concentration is a problem in residential real estate brokerage, it is in smaller markets that we would expect to observe it. The average HHI in small markets was 1,177 in 2007 and 1,308 in 2009, indicating that smaller markets are considerably more concentrated than larger markets. In 2007, 25 of the 43 small markets had HHI's greater than 1,000, with the HHI exceeding 1,800 in six markets. The highest levels of market concentration occurred in Blytheville, AR, with an HHI of 2,114, and Carlsbad, NM, with an HHI of 2,244. Both are very small markets, with 221 and 125 total listings in 2007, respectively.

Overall market structures fluctuated considerably between 2007 and 2009 in the small market sample. In Carlsbad, NM, for example, the HHI increased from 2,244 to 3,166, while in Roswell, NM the HHI decreased from 2,030 to 1,616. Sizable changes also occurred in individual firm market shares. In Blue Springs, MO, for example, Reece & Nichols increased their market share from 19.8% in 2007 to 34.0% in 2009. In LaPine, OR, RE/MAX Sunset Realty increased their market share from 12.6% to 30.5% over the same period.

There is evidence from these data of concentration in some small markets, but not in medium and large markets. And market shares are fluid, in that there are nontrivial changes from 2007 to 2009, especially in a few instances when the market leader has a sizable share in 2007. These results suggest that further longitudinal analysis of market structure in residential real estate brokerage would be useful.

Longitudinal Analysis

Results from the cross section analysis raise the following question: How stable are firm market shares over time? One thing we are able to do that previous researchers have not done before is to look at the size distribution of firms in a particular market over an extended period of time. We have collected extensive data on market transactions and the dollar volume of sales, for both the sell-side broker and the buy-side broker, for Louisville, KY from January of 2000 through November of 2008. These data allow us to track firms from the smallest to the largest over the entire time period. We are thus able to understand changes in the market positions of industry leaders, as well as survival and growth of firms on the competitive fringe.

We obtained these data from the MLS of Louisville, KY, which has a population of roughly 500,000 residents, with an additional 700,000 in the metro area. Information was available for all homes sold through the MLS from January 1, 2000 through November 29, 2008.²⁸ Observations with a missing firm identifier variable, either on the listing or selling side, were not included in the analysis. The primary data set used for analysis begins with 113,014 sold houses. The average house was 1,880 square feet, had three bedrooms, two full baths, a basement, central air-conditioning, and was 30.7 years old. It was on the market for 74 days and sold for \$162,457.²⁹

Table 2 contains information for each year from 2000 through 2008 on the number of transactions, the number of listing firms, the average number of sales per firm, and the HHI. We

²⁸ To check for consistency, we compared one hundred randomly selected sold homes from the MLS data with local county property records (<http://jeffersonpva.ky.gov/>). While these records were much less detailed than the MLS data, no inconsistencies were found.

²⁹ The median price was \$118,000.

calculate HHI's for both the selling side and the buying side, based on both the number and the dollar-volume of sales. Table 2 also contains the identity and market share of the top ten residential brokerage firms based on the number of transactions in which the firm was the listing broker.³⁰

The residential real estate boom and bust are immediately evident in these data. The number of houses sold increases steadily from 10,315 in 2000 to 15,076 in 2006. The number of real estate brokers with at least one listing increased from 350 to 511 over the same period.³¹ The average number of sales per firm stayed fairly steady, hovering around 30 transactions per year. After the 2006 peak, the number of houses sold in the first eleven months of 2008 declined sharply to 10,960. The number of listing brokers fell to 442, and the average transactions per firm fell to 24.8.

The market became increasingly less concentrated over the 2000 to 2008 period, through both boom and bust. We have computed HHI's using market shares of listing brokers (seller side), calculated by both number of transactions and dollar volume of transactions. We have also calculated HHI's using market shares of buyer-side brokers by number of transactions and dollar volume of transactions. The steady decline in concentration when the housing market was thriving and when the market tanked is clearly evident regardless of which of the four measures is used.

³⁰ While a firm wishing to list a client's home on the MLS must be a dues paying member, browsing the listings is an option available to anyone. As such, real estate agents who specialize in representing buyers may not join the MLS, but they can still participate in an MLS transaction as the selling agent. In the MLS data, all non-member firms were all coded identically and thus are indistinguishable from one another. We therefore lump these firms together in our analysis. In 2000, non-member firms accounted for less than 1% of transactions. That number steadily increased until 2006 when the percentage of transactions involving non-member offices reached 3.4%. If each of those transactions were associated with an atomistic non-member office, our calculation of the buy-side HHI would be overstated by nearly 12 points.

³¹ This increase is consistent with the findings of Hsieh and Moretti (2003).

Closer scrutiny of the different measures turns up several interesting findings. HHI's using the number of transactions are smaller than HHI's using the dollar volume of sales. This result implies that higher-priced houses are disproportionately handled by larger real estate brokerage firms. HHI's declined most sharply in the years immediately before and immediately after the peak year of 2006. This result suggests that larger firms lost market share to smaller firms and new entrants during years of rapid market growth, but when the market turned down sharply these smaller firms and new entrants were able to hold on to their business relatively better than the larger firms.

Market shares and rank of the largest real estate firms are fairly stable over the entire period of observation, even though market concentration was declining overall. From 2000 until 2002, the identities of the top ten listing firms don't change. In each of the years 2003, 2004, 2006, and 2007, one new firm cracks the top ten. Two new entrants show up in 2005. Only in 2008, a year of considerable turmoil in residential real estate, is there any significant movement in and out of the top of the market. One other observation is that the largest firms generally do not seem to specialize in representing either sellers or buyers. For example, nine of the top ten top listing firms in 2000 were also among the top ten firms representing buyers in housing transactions.

The overall geographic market is fairly unconcentrated, however, it is possible that distinct sub-markets exist and that real estate brokers specialize by geographic region within the greater metropolitan area. To determine whether concentrated sub-markets exist we analyzed sales in distinct areas within the city.³² Table 3 contains data on the number of sales, HHI, and

³² The Louisville MLS divides the city into 26 areas. Of the 26, several were very inactive and had relatively few recorded transactions. We therefore included only those areas with at least 100 recorded transactions in 2006. Specific definitions of the areas and a map can be found at www.MLSKY.net.

identities and market shares of the top four firms for 2000 and 2006 in nineteen different geographic areas within the greater Louisville metropolitan area. This information allows us to analyze whether there are significant geographic sub-markets within the area covered by the MLS, where tacit collusion might evolve if significant pockets of concentration exist.

While several of these smaller geographic areas exhibit greater concentration than the entire urban area, they also exhibit much greater fluidity in market shares over time. For example, in Area 10 the HHI in 2000 was 4,720 and the largest firm had a market share of 66.9%. That area experienced considerable growth in the number of transactions between 2000 and 2006, and the HHI declined to 1,667 and the largest firm's market share dropped to 35.4%. Similarly, in Area 31, the number of transactions increased almost by an order of magnitude from 2000 to 2006, the HHI declined from 2,812 to 1,181, and the largest firm's market share dropped from 37.5% to 9.4%. So there is no evidence that these smaller areas constitute distinct geographic markets.

So far we have concentrated on market shares and changes in market shares of the largest firms in the market. With this dataset, we can also gain some understanding of the market behavior of smaller firms, including those who show up in market transactions data in one year but are absent because they had no transactions the next. Figure 1 presents a histogram of the number of listing (seller side) firms having one sale, two sales, three sales, etc. in 2000, along with the number of brokers representing the buyer side having one sale, two sales, etc. As is evident, the large majority of residential real estate brokerage firms are fairly small. Among the 350 brokers having at least one listing, 95 (27%) had just one listing and 57 (16%) had just two listings for the entire year.

To further understand survival and growth of smaller brokers, we identified all the firms in the sample that only had one listing transaction in 2000. We then tracked the listings of these firms over the 2000 to 2008 period. Table 4 contains information on sales in subsequent years of the 95 real estate brokers who had exactly one sale in 2000. Sixteen of the 95 firms disappeared completely from the market, i.e. had zero listings in any of the following eight years. Thirty-one firms grew on average over the 2000 to 2008 period, i.e. averaged more than one transaction per year. Of these firms, however, only five brokers had at least one transacted listing in each of the succeeding eight years. It is clear from these data that a large number of small brokers are in and out of the market, selling a house or two in one year and then selling zero houses in the next year.

Conclusions

The persistence of the standard six percent real estate sales commission across markets and over time calls into question the competitiveness of the residential real estate brokerage industry. While there is anecdotal evidence that some local real estate markets are fairly concentrated, no systematic study of market structures has been conducted. We have collected primary data on the number and market shares of real estate brokers in a variety of small, medium, and large real estate markets across the U.S. for 2007 and 2009. In addition to these cross sectional data, we have also collected longitudinal data on the size distribution of firms for Louisville, KY for a nine-year period.

In our cross-sectional analysis of medium and large markets, we find no evidence that market concentration might create problems for competition. Among 18 large markets and 30

medium markets in 2007, only Des Moines, IA had an HHI that exceeded 1,800, the level which would have caused it to be categorized as highly concentrated according to the USDOJ/FTC Horizontal Merger Guidelines. And two years later, the HHI in Des Moines declined from 3,320 to 1,538.

If concentration is a problem in real estate brokerage, we would expect it to be most prevalent in small markets. We do find that small markets on average have higher HHI's than medium and large markets. But in only 6 out of 42 small markets did the HHI in 2007 exceed 1,800. Small markets also exhibited considerable volatility in HHI's, as individual firm market shares often changed significantly between 2007 and 2009.

The volatility in market shares we observed in our 2007 and 2009 snapshots prompted us to follow firms in one particular market for an extended period of time. We tracked real estate brokers from smallest to largest in Louisville, KY from 2000 to 2008. Overall concentration declined steadily over the entire period. The identities and market shares of the top ten firms were very stable in this particular market. At the other end of the spectrum, among the 350 brokers having at least one listing in 2000, 95 had just one listing and 57 had just two listings for the entire year. When we tracked the 95 firms having just one listing for the next eight years, 16 firms disappeared completely while only 5 firms had at least one transacted listing every year. The longitudinal analysis reveals that many small brokers are in and out of the market, selling a house or two one year and selling zero houses the next year.

The competitiveness of real estate brokerage in the U.S. has been an ongoing concern at both the federal and state level, evidenced by a persistent and pervasive six percent sales commission structure. There are several possible explanations for the lack of competition, but one explanation that our research refutes is a concentrated size distribution of firms in local real

estate brokerage markets. A more likely culprit is the monopoly position of the National Association of Realtors in licensing Realtors® at the national level, the control of MLS's by local boards of Realtors® at the local geographic market level, and the business/social culture that has evolved among agents who at times represent sellers and at other times represent buyers, and who must cooperate with other agents in order to complete transactions.

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Table 1A: Large Markets (5,000+ listings)

City	HHI 2007	Listings 2007	Firms 2007	Listings per Firm, 2007	Largest 4 Firms, 2007	Firm's Listings	Firm's Market Share
Atlanta, GA Pop: 4,247,981	251	27,732	1,065	26.0	Coldwell Banker Residential Brokerage REMAX GREATER ATLANTA Morris & Raper Realtors Harry Norman Realtors 4-FIRM TOTAL:	2,485 1,975 1,630 1,213 7,303	9.0 7.1 5.9 4.4 26.3
Baltimore, MD Pop: 2,552,994	592	8,951	577	15.5	Long & Foster Real Estate, Inc. Coldwell Banker Residential Brokerage RE/MAX Sails Inc. Prudential Carruthers REALTORS 4-FIRM TOTAL:	1,797 1,062 257 181 3,297	20.1 11.9 2.9 2.0 36.8
Los Angeles, CA Pop: 12,365,627	229	8,110	1,756	4.6	Coldwell Banker Res. Brokerage PRUDENTIAL CALIF. REALTY Re/Max Marquee Partners Keller Williams Realty Sunset 4-FIRM TOTAL:	985 567 252 99 1,903	12.3 7.1 3.2 1.2 23.8
Philadelphia, PA Pop: 5,687,147	291	9,865	481	20.5	Prudential Fox & Roach Realtors Coldwell Banker Preferred RE/MAX Affiliates CENTURY 21 Advantage Gold Estate 4-FIRM TOTAL:	1,345 434 320 313 2,412	13.6 4.4 3.2 3.2 24.5
Dallas, TX Pop: 5,161,544	252	7,870	837	9.4	Ebby Halliday, REALTORS Coldwell Banker Residential Brokerage VIRGINIA COOK, REALTORS Allie Beth Allman & Assoc. 4-FIRM TOTAL:	807 516 317 274 1,914	10.3 6.6 4.0 3.5 24.3
Phoenix, AZ Pop: 3,251,876	258	12,822	691	18.6	Realty Executives West USA Realty John Hall & Associates Coldwell Banker Residential Brokerage 4-FIRM TOTAL:	1,432 782 505 467 3,186	11.2 6.1 3.9 3.7 24.9
San Diego, CA Pop: 2,813,833	328	6,864	1,199	5.7	Prudential California Realty Coldwell Banker Res. Brokerage Century 21 Award RE/MAX Associates 4-FIRM TOTAL:	982 594 261 229 2,066	14.3 8.7 3.8 3.3 30.1
St. Louis, MO Pop: 2,698,687	484	8,525	632	13.5	Coldwell Banker Gundaker RE/MAX Properties West RE/MAX Results Realty Executives of St. Louis 4-FIRM TOTAL:	1,736 284 228 191 2,439	20.4 3.3 2.7 2.2 28.6
Portland, OR Pop: 1,927,881	347	6,792	466	14.6	RE/MAX Equity Group The Hasson Company Realtors Prudential NW Properties Realty Trust Group, Inc.	1,005 295 290 279	14.8 4.4 4.3 4.1

					4-FIRM TOTAL:	1,869	27.5
Denver, CO Pop: 2,179,240	166	11,637	1,205	9.7	Coldwell Banker Residential Brokerage	887	7.6
					RE/MAX ALLIANCE	752	6.5
					RE/MAX Professionals	346	3.0
					HOME REAL ESTATE	310	2.7
					4-FIRM TOTAL:	2,295	19.7
Cincinnati, OH Pop: 2,009,632	763	8,201	195	42.1	Sibcy Cline, Inc.	1,232	15.0
					Coldwell Banker West Shell	974	11.9
					Huff Realty	889	10.8
					Comey Shepherd, Realtors	815	9.9
					4-FIRM TOTAL:	3,910	47.7
Indianapolis, IN Pop: 1,525,104	305	10,140	719	14.1	F. C. Tucker Company	1,193	11.8
					Carpenter, REALTORS	844	8.3
					CENTURY 21 Realty Group	487	4.8
					Keller Williams Indpls Metro	351	3.5
					4-FIRM TOTAL:	2,875	28.3
San Antonio, TX Pop: 1,711,703	235	8,951	611	14.7	Keller Williams Realty	876	10.1
					Coldwell Banker D'Ann Harper, REALTORS	385	4.5
					Century 21 United - A Epstein	366	4.2
					Legacy Group Keller Williams	317	3.7
					4-FIRM TOTAL:	1944	22.5
Columbus, OH Pop: 1,612,694	515	7,483	362	20.7	HER Real Living	1,221	16.3
					COLDWELL BANKER KING THOMPSON	942	12.6
					RE/MAX Town Center, LLC	357	4.8
					C21 Joe Walker	208	2.8
					4-FIRM TOTAL:	2,728	36.5
Charlotte, NC Pop: 1,330,448	297	10,511	880	11.9	Allen Tate Company	1,341	12.8
					RE/MAX Executive Realty	621	5.9
					Helen Adams Realty	608	5.8
					Wilkinson & Associates	410	3.9
					4-FIRM TOTAL:	2,980	28.4
Jacksonville, FL Pop: 1,122,750	486	10,260	575	17.8	WATSON REALTY CORP	1,996	19.5
					PRUDENTIAL NETWORK REALTY	591	5.8
					RE/MAX SPECIALISTS	470	4.6
					VANGUARD REALTY INC GMAC	397	3.9
					4-FIRM TOTAL:	3,454	33.7
Birmingham, AL Pop: 1,052,238	785	5,758	214	26.9	REALTYSOUTH - ADMIN OFFICE	1,442	25.0
					RE/MAX SOUTHERN HOMES	432	7.5
					LAH Real Estate	274	4.8
					RE/MAX ADVANTAGE	202	3.5
					4-FIRM TOTAL:	2,350	40.8
St. Petersburg, FL Pop: 2,395,997*	221	7,241	650	11.1	Coldwell Banker Residential Real Estate	601	8.3
					Charles Rutenberg Realty Inc	518	7.2
					Keller Williams Gulf Coast	391	5.4
					RE/MAX Action First	231	3.2
					4-FIRM TOTAL:	1,741	24.0

Table 1B: Medium Markets (1,000-4,999 listings)

City	HHI 2007	HHI 2009	Listings 2007	Listings 2009	Firms 2007	Firms 2009	Listings Per Firm 2007	Listings Per Firm 2009	Largest 4 Firms, 2007	Firm's Listings	Firm's Market Share	Largest 4 Firms, 2009	Firm's Listings	Firm's Market Share
Dayton,OH Pop: 848,853	619	757	4,941	4,467	190	184	26.0	24.3	Coldwell Banker Heritage Realtors IRONGATE INC. REALTORS Real Living Realty Services Big Hill GMAC Real Estate 4-FIRM TOTAL:	758 624 442 266 2,090	15.4 12.6 9.0 5.4 42.3	Coldwell Banker Heritage Realtors IRONGATE INC. REALTORS Real Living Realty Services Sibcy Cline Inc. 4-FIRM TOTAL:	802 704 334 226 2,066	18.0 15.8 7.5 5.1 46.3
Albuquerque,NM Pop: 729,649	720	721	4,536	3,511	425	380	10.7	9.2	Coldwell Banker Legacy Keller Williams Realty Vaughan Company REALTORS ALLSTAR REALTY 4-FIRM TOTAL:	1,077 318 243 212 1,850	23.7 7.0 5.4 4.7 40.8	Coldwell Banker Legacy Keller Williams Realty ALLSTAR REALTY Vaughan Company REALTORS 4-FIRM TOTAL:	819 260 204 166 1,449	23.3 7.4 5.8 4.7 41.3
Grand Rapids,MI Pop: 740,482	532	506	4,529	3,087	220	207	20.6	14.9	Five Star Real Est Greenridge Realty Keller Williams of GR East Coldwell Banker Hoppough 4-FIRM TOTAL:	603 533 336 232 1,704	13.5 11.9 7.5 5.2 38.2	Greenridge Realty Keller Williams of GR East Five Star Real Est RE/MAX OF G.R. INC. 4-FIRM TOTAL:	392 362 271 179 1,204	12.7 11.7 8.8 5.8 39.0
Bakersfield,CA Pop: 661,645	414	448	4,488	1,631	388	292	11.6	5.6	Watson Touchstone Real Estate Coldwell Banker Preferred Coldwell Banker America West Bakersfield Premier Realty 4-FIRM TOTAL:	614 463 286 172 1,535	13.7 10.3 6.4 3.8 34.2	Coldwell Banker Preferred Watson Touchstone Real Estate RE/MAX Magic Keller Williams Realty/ Haggin 4-FIRM TOTAL:	219 208 102 55 584	13.5 12.8 6.3 3.4 35.9
Charleston,SC Pop: 549,033	823	964	4,360	3,026	304	248	14.3	12.2	PRUDENTIAL CAROLINA REAL ESTATE Daniel Island Real Estate AGENTOWNED PREFERRED GROUP RE/MAX PROFESSIONAL REALTY 4-FIRM TOTAL:	1,174 198 140 125 1,637	27.0 4.6 3.2 2.9 37.7	CAROLINA ONE REAL ESTATE AGENTOWNED PREFERRED GROUP Daniel Island Real Estate Coldwell Banker United 4-FIRM TOTAL:	862 179 137 120 1,298	28.8 6.0 4.6 4.0 43.3
Oklahoma City,OK Pop: 1,095,421	173	221	4,298	3,878	333	345	12.9	11.2	Keller Williams-Green Meadow Churchill-Brown and Associates PRUDENTIAL ALLIANCE GROUP Keller Williams-Northwest 4-FIRM TOTAL:	216 215 179 171 781	5.0 5.0 4.2 4.0 18.2	Keller Williams-Green Meadow Metro First Realty Churchill-Brown and Associates Dean Lemons and Associates 4-FIRM TOTAL:	258 243 228 159 888	6.7 6.3 5.9 4.1 22.9
Nashville,TN Pop: 1,311,789	323	322	4,159	4,243	313	328	13.3	12.9	Keller Williams Realty Village Real Estate Services RE/MAX Elite Crye-Leike Inc. REALTORS 4-FIRM TOTAL:	337 319 303 238 1,197	8.1 7.7 7.3 5.7 28.8	Village Real Estate Services Fridrich & Clark Realty Crye-Leike Inc. REALTORS Re/Max Elite 4-FIRM TOTAL:	331 297 285 280 1,193	7.8 7.0 6.7 6.6 28.1
Ocala,FL Pop: 258,216	578	627	4,020	3,078	278	220	14.5	14.0	FOXFIRE REALTY CB/ELLISON REALTY RE/MAX Premier Realty KELLER WMS CORNERSTONE RE 4-FIRM TOTAL:	551 467 389 388 1,795	13.8 11.7 9.7 9.7 45.0	FOXFIRE REALTY CB/ELLISON REALTY KELLER WMS CORNERSTONE RE RE/MAX Premier Realty 4-FIRM TOTAL:	476 383 284 252 1,395	15.5 12.5 9.2 8.2 45.3
Salt Lake City,UT Pop: 968,858	279	161	3,682	3,913	455	513	8.1	7.6	Coldwell Banker Residential Brokerage Prudential Utah Real Estate Allpro Realty Group Inc. Keller Williams Utah Realtors 4-FIRM TOTAL:	429 250 184 100 963	11.7 6.8 5.0 2.7 26.2	Equity Real Estate RE/MAX Associates Coldwell Banker Residential Brokerage Prudential Utah Real Estate 4-FIRM TOTAL:	244 165 162 160 731	6.2 4.2 4.1 4.1 18.7
Fresno,CA Pop: 799,407	621	695	3,166	1,297	377	259	8.4	5.0	Guarantee Real Estate London Properties, Ltd. CENTURY 21 C. Watson Realty Realty Concepts, Ltd 4-FIRM TOTAL:	512 503 191 153 1,359	16.2 15.9 6.0 4.8 42.9	London Properties, Ltd. Guarantee Real Estate CENTURY 21 C. Watson Realty Realty Concepts, Ltd 4-FIRM TOTAL:	227 226 54 52 559	17.5 17.5 4.2 4.0 43.2
Boise,ID Pop: 464,480	403	537	3,108	2,541	202	200	15.4	12.7	Group One Keller Williams Realty Boise Holland Realty Coldwell Banker Aspen 4-FIRM TOTAL:	285 275 250 181 991	9.8 9.5 8.6 6.2 34.2	Coldwell Banker Tomlinson Group One Keller Williams Realty Boise Market Pro Real Estate Service 4-FIRM TOTAL:	383 277 260 102 1,022	15.1 10.9 10.2 4.0 40.3
Des Moines,IA Pop: 481,394	3,320	1,538	2,968	1,900	15	43	197.9	44.2	Iowa Realty Coldwell Banker Mid-America Group	1,240 335	52.7 14.3	Iowa Realty RE/MAX Real Estate Group	551 283	29.1 14.9

									PRUDENTIAL FIRST REALTY	327	13.9	Coldwell Banker Mid-America Group	257	13.6
									RE/MAX Real Estate Group	253	10.8	RE/MAX Real Estate Concepts	240	12.7
									4-FIRM TOTAL:	2,155	91.7	4-FIRM TOTAL:	1,331	70.2
Wichita,KS Pop: 571,116	555	770	2,639	2,345	118	121	22.4	19.4	PRUDENTIAL DINNING-BEARD	354	13.4	J.P. WEIGAND & SONS	442	18.9
									J.P. WEIGAND & SONS	282	10.7	PRUDENTIAL DINNING-BEARD	304	13.0
									COLDWELL BANKER STUCKY & ASSOC	213	8.1	Coldwell Banker Plaza Rea	237	10.1
									PLAZA REAL ESTATE	176	6.7	REALTY EXECUTIVES CENTER I	130	5.6
									4-FIRM TOTAL:	1,025	38.9	4-FIRM TOTAL:	1,113	47.5
Lexington,KY Pop: 408,326	672	546	2,593	2,462	173	174	15.0	14.1	Rector-Hayden, Realtors	539	20.8	Rector-Hayden, Realtors	375	15.2
									Milestone Realty Consultants	176	6.8	Bluegrass Sotheby's Int Realty	212	8.6
									RE/MAX Creative Realty	157	6.1	Keller Williams Bluegrass Real	202	8.2
									Keller Williams Bluegrass Real	149	5.7	Milestone Realty Consultants	157	6.4
									4-FIRM TOTAL:	1,021	39.4	4-FIRM TOTAL:	946	38.4
Spokane,WA Pop: 417,937	766	649	2,372	4,312	114	144	20.8	29.9	Tomlinson Black	532	22.4	Tomlinson Black	765	17.8
									Keller Williams Spokane	216	9.1	Keller Williams Spokane	409	9.5
									Coldwell Banker Northwest Group	134	5.7	Windermere Manito	347	8.1
									Windermere Manito	134	5.7	Coldwell Banker Northwest Group	226	5.3
									4-FIRM TOTAL:	1,016	42.8	4-FIRM TOTAL:	1,747	40.6
Arlington,TX Pop: 1,710,318*	408	343	2,258	1,415	394	329	5.7	4.3	Ebby Halliday, REALTORS	205	9.1	Keller Williams Realty Arlington	146	10.3
									CENTURY 21 Judge Fite Co.	194	8.6	Ebby Halliday, REALTORS	124	8.8
									Re/Max Associates Of Arlington	193	8.5	Re/Max Pinnacle Group Realtors	86	6.1
									Keller Williams - DFW Metro So	149	6.6	Re/Max Associates Of Arlington	76	5.4
									4-FIRM TOTAL:	741	32.8	4-FIRM TOTAL:	432	30.6
Salem,OR Pop: 347,214	1,156	949	2,170	2,359	142	140	15.3	16.9	COLDWELL BANKER MOUNTAIN WEST	581	26.8	COLDWELL BANKER MOUNTAIN WEST	548	23.3
									Prudential R.E. Professionals	304	14.0	Prudential R.E. Professionals	336	14.3
									Re/Max Equity Group	243	11.2	Re/Max Equity Group	194	8.2
									WINDERMERE PACIFIC WEST PROP	155	7.1	WINDERMERE PACIFIC WEST PROP	158	6.7
									4-FIRM TOTAL:	1,283	59.1	4-FIRM TOTAL:	1,236	52.4
Santa Fe,NM Pop: 129,292	734	1,023	2,078	2,129	156	146	13.3	14.6	Santa Fe Properties	390	18.8	Sotheby's International Realty, Inc.	486	22.9
									Prudential Santa Fe RE	203	9.8	Santa Fe Properties	293	13.8
									Sotheby's International Realty, Inc.	173	8.3	Prudential Santa Fe RE	252	11.9
									BARKER REALTY, INC.	166	8.0	Santa Fe Realty Partners, Inc.	193	9.1
									4-FIRM TOTAL:	932	44.9	4-FIRM TOTAL:	1,224	57.6
Lansing,MI Pop: 455,516	1,157	1,665	2,047	1,461	93	87	22.0	16.8	Coldwell Banker Hubbell	452	22.2	Coldwell Banker Hubbell	520	35.6
									RE/MAX R.E. Professionals	403	19.8	RE/MAX R.E. Professionals	236	16.2
									BriarWood Realty	257	12.6	Tomie Raines	100	6.9
									Tomie Raines	125	6.1	Keller Williams Realty Lansing - East	72	4.9
									4-FIRM TOTAL:	1,237	60.6	4-FIRM TOTAL:	928	63.6
Buffalo,NY Pop: 1,170,111	1,744	1,784	1,923	1,715	79	110	24.3	15.6	Hunt Real Estate ERA	568	29.5	RealtyUSA	530	30.9
									RealtyUSA	500	25.0	Hunt Real Estate ERA	463	27.0
									MJ Peterson Real Estate	134	7.0	MJ Peterson Real Estate	135	7.9
									Cash Realty of NY, Incorporate	41	2.1	Gurney Becker & Bourne	57	3.3
									4-FIRM TOTAL:	1,243	64.6	4-FIRM TOTAL:	1,185	69.1
Springfield,MO Pop: 368,374	1,560	1,592	1,867	1,843	125	109	14.9	16.9	Murney Associates	618	33.2	Murney Associates	605	32.9
									Carol Jones REALTORS LLC	314	16.9	Carol Jones REALTORS LLC	299	16.3
									Coldwell Banker - Vanguard	176	9.5	Coldwell Banker - Vanguard	233	12.7
									Re/Max House Of Brokers	125	6.7	Re/Max House Of Brokers	103	5.6
									4-FIRM TOTAL:	1,233	66.3	4-FIRM TOTAL:	1,240	67.4
Little Rock,AR Pop: 610,518	507	583	1,710	1,673	112	110	15.3	15.2	Crye-Leike REALTORS	218	12.8	Crye-Leike REALTORS	245	14.6
									Keller Williams Realty LR Branch	142	8.3	Coldwell Banker RPM	157	9.4
									Adkins, McNeill, Smith & Associates	129	7.5	THE JANET JONES COMPANY	136	8.1
									THE JANET JONES COMPANY	129	7.5	Keller Williams Realty LR Branch	120	7.2
									4-FIRM TOTAL:	618	36.1	4-FIRM TOTAL:	658	39.3
Providence,RI Pop: 1,582,997	398	397	1,685	795	201	170	8.4	4.7	Coldwell Banker Residential Brokerage	210	12.5	Residential Properties, Ltd.	88	11.1
									RE/MAX PREFERRED	151	9.0	Coldwell Banker Residential Brokerage	86	10.8
									KELLER WILLIAMS REALTY	109	6.5	RE/MAX PREFERRED	62	7.8
									RE/MAX 1ST CHOICE	97	5.8	Westcott Properties	43	5.4
									4-FIRM TOTAL:	567	33.7	4-FIRM TOTAL:	279	35.1
Norfolk,VA Pop: 1,576,370*	867	739	1,573	1,710	72	96	21.9	17.8	Nancy Chandler Associates Inc.	235	15.0	William E. Wood & Associates	277	16.2
									William E. Wood & Associates	222	14.1	Nancy Chandler Associates Inc.	197	11.5
									Long & Foster Real Estate	204	13.0	Rose & Womble Realty Company	163	9.5
									Judy Boone Realty	172	11.0	Prudential Towne Realty	142	8.3

									4-FIRM TOTAL:	833	53.0	4-FIRM TOTAL:	779	45.6
Pueblo,CO Pop: 141,472	953	639	1,517	1,147	119	116	12.8	9.9	REMAX of PUEBLO	353	23.3	Coldwell Banker Partners R.E.	178	15.6
									Coldwell Banker Partners R.E.	207	13.7	Keller Williams Performance Realty	134	11.8
									Keller Williams Performance Realty	172	11.3	REMAX of PUEBLO	96	8.4
									JONES-HEALY REALTORS	94	6.2	REMAX PUEBLO CENTRAL	88	7.7
									4-FIRM TOTAL:	826	54.5	4-FIRM TOTAL:	496	43.5
Lubbock,TX Pop: 249,700	808	646	1,379	1,161	81	81	17.0	14.3	COLDWELL BANKER RICK CANUP	217	15.8	COLDWELL BANKER RICK CANUP	163	14.0
									RE/MAX Lubbock	180	13.1	RE/MAX Lubbock	119	10.3
									KELLER WILLIAMS REALTY	159	11.6	WESTMARK REALTORS	97	8.4
									WESTMARK REALTORS	115	8.4	KELLER WILLIAMS REALTY	90	7.8
									4-FIRM TOTAL:	671	49.0	4-FIRM TOTAL:	469	40.4
Augusta,GA Pop: 499,684	1,652	1,388	1,300	1,570	43	89	30.2	17.6	MEYBOHM REALTORS	408	31.4	MEYBOHM REALTORS	483	30.8
									BLANCHARD & CALHOUN REAL ESTATE	269	20.7	BLANCHARD & CALHOUN REAL ESTATE	266	16.9
									RE/MAX AUGUSTA, INC.	119	9.1	KELLER WILLIAMS REALTY AUGUSTA	89	5.7
									CENTURY 21 Jeff Keller Realty	108	8.3	CENTURY 21 Jeff Keller Realty	85	5.4
									4-FIRM TOTAL:	904	69.5	4-FIRM TOTAL:	923	58.8
Sioux Falls,SD Pop: 187,093	763	909	1,289	1,088	52	61	24.8	17.8	HJN Team Real Estate	192	14.9	HJN Team Real Estate	225	20.7
									HEGG REALTORS	151	11.7	HEGG REALTORS	147	13.5
									RE/MAX Professionals Inc	149	11.6	RE/MAX Professionals Inc	107	9.8
									the real estate company	129	10.0	the real estate company	103	9.5
									4-FIRM TOTAL:	621	48.2	4-FIRM TOTAL:	582	53.5
New Haven,CT Pop: 824,008	419	401	1,261	480	169	103	7.5	4.7	Coldwell Banker Residential Brokerage	173	13.7	Coldwell Banker Residential Brokerage	53	11.1
									PRUDENTIAL CONNECTICUT REALTY	88	7.0	H. Pearce Real Estate Co., Inc.	44	9.2
									H. Pearce Real Estate Co., Inc.	76	6.0	WEICHERT REALTORS - Regional Props	34	7.1
									WEICHERT REALTORS - Regional Props	70	5.6	WILLIAM RAVEIS REAL ESTATE	26	5.4
									4-FIRM TOTAL:	407	32.3	4-FIRM TOTAL:	157	32.8
Peoria,IL Pop: 366,899	1,168	1,388	1,098	1,045	46	37	23.9	28.2	Re/Max Unlimited	227	20.6	Re/Max Unlimited	218	20.9
									Jim Maloof/REALTOR	197	17.9	Jim Maloof/REALTOR	208	19.9
									Coldwell Banker Devonshire	145	13.2	Coldwell Banker Devonshire	176	16.9
									Keller Williams Premier Realty	105	9.6	Keller Williams Premier Realty	118	11.3
									4-FIRM TOTAL:	674	61.3	4-FIRM TOTAL:	720	69.0

Table 1C: Small Markets (<1,000 listings)

City	HHI 2007	HHI 2009	Listings 2007	Listings 2009	Firms 2007	Firms 2009	Listings Per Firm 2007	Listings Per Firm 2009	Largest 4 Firms, 2007	Firm's Listings	Firm's Market Share	Largest 4 Firms, 2009	Firm's Listings	Firm's Market Share
Avondale,AZ Pop: 76,939	256	190	973	456	208	151	4.7	3.0	Realty Executives Fulton Homes Sales Corporation West USA Realty Keller Williams Realty Prof. Partners 4-FIRM TOTAL	71 60 58 43 232	7.3 6.2 6.0 4.4 24.0	Keller Williams Realty Prof. Partners DPR Realty West USA Realty Realty Executives 4-FIRM TOTAL	29 20 20 18 87	6.4 4.4 4.4 4.0 19.1
Springfield,IL Pop: 201,473	1,439	1,947	942	794	44	39	21.4	20.4	Re/Max Professionals Real Estate Group Aspen Real Estate Company Coldwell Banker Devonshire 4-FIRM TOTAL	291 135 119 64 609	30.9 14.3 12.6 6.8 64.6	Re/Max Professionals Real Estate Group Coldwell Banker Devonshire Charles Robbins, REALTORS 4-FIRM TOTAL	256 215 77 43 591	32.2 27.1 9.7 5.4 74.4
Hampton,VA Pop: 146,437	662	584	933	935	67	82	13.9	11.4	LONG & FOSTER REAL ESTATE GSH Real Estate Greg Garrett Realty.Com William E. Wood & Associates 4-FIRM TOTAL	112 108 102 76 398	12.0 11.6 10.9 8.2 42.7	LONG & FOSTER REAL ESTATE Prudential Towne Realty Greg Garrett Realty.Com Abbitt Realty Company 4-FIRM TOTAL	117 99 80 75 371	12.6 10.6 8.6 8.1 39.8
BlueSprings,MO Pop: 48,080	808	1,468	843	887	102	60	8.3	14.8	Reece & Nichols Re/Max Heartland, Realtors Realty Executives Metro One Keller Williams Realty - Eastland Partn 4-FIRM TOTAL	167 108 82 74 431	19.8 12.8 9.7 8.8 51.1	Reece & Nichols Keller Williams Realty - Eastland Partn Re/Max Heritage Chartwell Realty Llc 4-FIRM TOTAL	302 108 64 44 518	34.1 12.2 7.2 5.0 58.4
St.Joseph,MO Pop: 122,336	1,800	2,248	784	719	32	28	24.5	25.7	Reece & Nichols Ide Capital RE/MAX PROFESSIONALS OF ST. JOSEPH Prudential Summers Realtors COLDWELL BANKER GENERAL PROP 4-FIRM TOTAL	253 134 107 98 592	32.3 17.1 13.7 12.5 75.5	Reece & Nichols Ide Capital RE/MAX PROFESSIONALS OF ST. JOSEPH Prudential Summers Realtors COLDWELL BANKER GENERAL PROP 4-FIRM TOTAL	286 114 108 84 592	39.8 15.9 15.0 11.7 82.3
McAllen,TX Pop: 569,463	486	517	759	617	92	98	8.3	6.3	Keller Williams Realty RGV RE/MAX 1ST Choice Trendsetters Real Estate & Investments Star Properties GMAC Real Estate 4-FIRM TOTAL	113 65 56 38 272	14.9 8.6 7.4 5.0 35.8	Keller Williams Realty RGV Trendsetters Real Estate & Investments Star Properties GMAC Real Estate RE/MAX 1st Choice 4-FIRM TOTAL	103 50 37 33 223	16.8 8.1 6.0 5.4 36.3
Auburn,AL Pop: 115,092	725	1,003	730	754	40	46	18.3	16.4	21 Paramount Real Estate, Inc. FIRST REALTY Porter Properties SUMMIT REALTY SOUTHEAST 4-FIRM TOTAL	109 106 49 49 313	14.9 14.5 6.7 6.7 42.8	Porter Properties FIRST REALTY PRUDENTIAL PREFERRED REAL EST. PRESTIGE PROPERTIES, INC. 4-FIRM TOTAL	141 130 88 71 430	18.8 17.3 11.7 9.4 57.2
Manchester,NH Pop: 380,841	360	347	686	561	129	114	5.3	4.9	RE/MAX Omega Group Prudential Verani Realty Coldwell Banker Residential Brokerage The Masiello Group 4-FIRM TOTAL	73 54 44 38 209	10.6 7.9 6.4 5.5 30.5	Keller Williams Realty-Metropolitan Prudential Verani Realty Coldwell Banker Residential Brokerage RE/MAX Omega Group 4-FIRM TOTAL	47 46 39 37 169	8.4 8.2 7.0 6.6 30.1
Sumter,SC Pop: 104,464	783	805	684	676	42	36	16.3	18.8	ADVANTAGE REALTY GROUP , INC. RUSSELL & JEFFCOAT REALTORS ERA-Wilder Realty-Sumter ASSOCIATES REALTY 4-FIRM TOTAL	92 82 73 64 311	13.5 12.0 10.7 9.4 45.6	ADVANTAGE REALTY GROUP RUSSELL & JEFFCOAT REALTORS ERA-Wilder Realty-Sumter PRUDENTIAL John M. Brabham 4-FIRM TOTAL	83 80 74 74 311	12.3 11.9 11.0 11.0 46.1
Yakima,WA	801	912	669	787	34	38	19.7	20.7	Prudential Almon Realty	102	15.3	RE/MAX Traditions	142	18.1

Pop: 71,845									Re/max 37 House	93	13.9	Prudential Almon Realty	128	16.4
									Aspen Real Estate, LLC	70	10.5	Windermere Real Estate	67	8.6
									Windermere Real Estate	64	9.6	John L Scott	63	8.1
									4-FIRM TOTAL	329	49.2	4-FIRM TOTAL	400	51.1
Eau Claire,WI Pop: 148,337	717	806	664	689	54	47	12.3	14.7	CB BRENNER	95	14.3	CB BRENNER	137	19.9
									C21 METRO REALTY INC	90	13.6	C21 METRO REALTY INC	69	10.0
									KLEVEN REAL ESTATE, INC.	45	6.8	DONNELLAN REAL ESTATE	53	7.7
									EAU CLAIRE REALTY INC	44	6.6	EDINA/CHIPPEWA VALLEY	44	6.4
									4-FIRM TOTAL	274	41.3	4-FIRM TOTAL	303	44.0
Joplin,MO Pop: 157,322	1,450	1,820	635	654	30	28	21.2	23.4	CHARLES BURT REALTORS	178	28.0	PRO 100 INC. REALTORS	187	28.6
									PRO 100 INC. REALTORS	124	19.5	CHARLES BURT REALTORS	154	23.6
									KELLER WILLIAMS REALTY OF SW MO	77	12.1	KELLER WILLIAMS REALTY OF SW	125	19.1
									Associates, Ltd	44	6.9	REMAX CLASSIC	42	6.4
									4-FIRM TOTAL	423	66.6	4-FIRM TOTAL	508	77.7
Iverness,FL Pop: 6,789	857	1,015	609	658	70	51	8.7	12.9	CENTURY 21 J W Morton Real Estate	117	19.3	CENTURY 21 J W Morton Real Estate	77	16.9
									Keller Williams of Citrus County	72	11.9	RE/MAX Realty One	74	16.2
									RE/MAX Realty One	67	11.0	American Realty & Inv.	59	12.9
									American Realty & Inv. ERA	65	10.7	Keller Williams of Citrus County	59	12.9
									4-FIRM TOTAL	321	52.9	4-FIRM TOTAL	269	59.0
Mankato,MN Pop: 85,712	1,026	1,203	594	614	41	33	14.5	18.6	American Way Realty	111	18.7	American Way Realty	163	26.6
									REALTY EXECUTIVES RIVER VALLEY	96	16.2	REALTY EXECUTIVES RIVER VALLEY	70	11.4
									CENTURY 21 ATWOOD REALTY, Inc.	71	12.0	RE/MAX Dynamic Associates	67	10.9
									RE/MAX Dynamic Associates	68	11.5	CENTURY 21 ATWOOD REALTY, Inc.	63	10.3
									4-FIRM TOTAL	346	58.3	4-FIRM TOTAL	363	59.1
Yuba City,CA Pop: 139,149	997	944	551	333	76	78	7.3	4.3	RE/MAX GOLD	123	23.4	RE/MAX GOLD	81	25.1
									CENTURY 21 Select Real Estate, Inc.	81	15.4	CENTURY 21 Select Real Estate, Inc.	41	12.7
									Associated Brokers A R.E. Corp	52	9.9	Associated Brokers A R.E. Corp	21	6.5
									ERA - SHOWCASE REAL ESTAT	37	7.0	ERA - SHOWCASE REAL ESTATE	19	5.9
									4-FIRM TOTAL	293	55.7	4-FIRM TOTAL	162	50.2
Bellevue,NE Pop: 109,569	1,196	858	539	276	43	36	12.5	7.7	CBSHOME Real Estate	134	24.8	CBSHOME Real Estate	54	19.6
									NP Dodge	97	18.0	Prudential Ambassador R E	32	11.6
									DEEB Realty	48	8.9	DEEB Realty	30	10.9
									Celebrity Homes Inc	33	6.1	NP Dodge	27	9.8
									4-FIRM TOTAL	312	57.8	4-FIRM TOTAL	143	51.8
Owensboro,KY Pop: 109,875	1,161	1,400	489	481	17	16	28.8	30.1	CENTURY 21 Partners	87	17.8	REMAX PROFESSIONAL REALTY GRP	108	22.5
									L. STEVE CASTLEN, REALTORS	75	15.4	L. STEVE CASTLEN, REALTORS	97	20.2
									COLDWELL BANKER REALTY GROUP	71	14.6	CENTURY 21 Partners	58	12.1
									REMAX PROFESSIONAL REALTY GRP	61	12.5	COLDWELL BANKER REALTY GROUP	54	11.2
									4-FIRM TOTAL	294	60.3	4-FIRM TOTAL	317	65.9
Scranton,PA Pop: 560,625	1,129	940	467	408	40	41	11.7	10.0	ERA One Source Realty	109	23.4	ERA One Source Realty	78	19.3
									SEMIAN & GRESS REAL ESTATE	73	15.7	CLASSIC PROPERTIES	58	14.3
									CLASSIC PROPERTIES	51	11.0	SEMIAN & GRESS REAL ESTATE	49	12.1
									Coldwell Banker Town & Country Prop	42	9.0	Coldwell Banker Town & Country	25	6.2
									4-FIRM TOTAL	275	59.1	4-FIRM TOTAL	210	51.9
Lincoln,NE Pop: 266,787	1,156	895	422	442	38	44	11.1	10.1	Bancwise Real Estate Solutions	114	27.1	Nebraska Home Sales	87	19.7
									Nebraska Home Sales	59	14.0	Bancwise Real Estate Solutions	54	12.2
									RE/MAX Real Estate Group	33	7.8	Lincoln First Realty	45	10.2
									Prudential Ambassador	27	6.4	Prudential Ambassador	45	10.2
									4-FIRM TOTAL	233	55.3	4-FIRM TOTAL	231	52.3
Goldsboro,NC Pop: 113,329	780	1,074	412	428	43	37	9.6	11.6	Century 21 Dees & Tyndall REALTORS	61	14.9	PRUDENTIAL THE MCMILLEN GROUP	100	23.6
									PRUDENTIAL THE MCMILLEN GROUP	58	14.2	Century 21 Dees & Tyndall	62	14.6
									REALTY WORLD/CAROLINA LIVING	38	9.3	REALTY WORLD/CAROLINA LIVING	46	10.9
									Coldwell Banker Crawford-Norwood Realty	32	7.8	Houser Associates Real Estate	36	8.5
									4-FIRM TOTAL	189	46.1	4-FIRM TOTAL	244	57.5

Findlay,OH Pop: 71,295	1,724	1,815	402	490	27	29	14.9	16.9	RE/MAX REALTY/FINDLAY PRUDENTIAL CHASLO REALTY Rooney and Associates Real Estate ERA NOAKES-ROONEY AND ASSOCIATES 4-FIRM TOTAL	135 61 45 40 281	33.8 15.3 11.3 10.0 70.4	RE/MAX REALTY/FINDLAY PRUDENTIAL CHASLO REALTY Rooney and Associates Real Estate COLDWELL BANKER GEYER 4-FIRM TOTAL	160 87 73 59 379	32.7 17.8 14.9 12.0 77.4
SanAngelo,TX Pop: 105,781	1,028	774	400	519	39	44	10.3	11.8	COLDWELL BANKER Patterson Prop ERA NEWLIN & VINCENT REALTY DIERSCHKE & DIERSCHKE ALLISON-LACY REAL ESTATE 4-FIRM TOTAL	92 52 48 28 220	23.0 13.0 12.0 7.0 55.0	Addresses Real Estate COLDWELL BANKER Patterson Prop DIERSCHKE & DIERSCHKE SCOTT ALLISON REAL ESTATE 4-FIRM TOTAL	77 68 54 48 247	14.8 13.1 10.4 9.3 47.6
Marion,IN Pop: 73,403	1,204	1,023	383	302	28	25	13.7	12.1	Goff Real Estate FC TUCKER REALTY CENTER RE/MAX REGENCY, REALTORS CENTURY 21 Kilgore, Realtors 4-FIRM TOTAL	75 65 58 36 234	19.6 17.0 15.1 9.4 61.1	FC TUCKER REALTY CENTER RE/MAX REGENCY, REALTORS CENTURY 21 Kilgore, Realtors Goff Real Estate 4-FIRM TOTAL	56 50 37 29 172	18.5 16.6 12.3 9.6 57.0
Bangor,MN Pop: 144,919	1,600	1,562	378	322	24	24	15.8	13.4	ERA Dawson Bradford Co., Realtors, Bang Realty of Maine - Bangor TOWN & COUNTRY, REALTORS Assist 2 Sell 1st Choice Realty 4-FIRM TOTAL	119 71 44 25 259	31.4 18.7 11.6 6.6 68.3	ERA Dawson Bradford Co., Realtors, Bang TOWN & COUNTRY, REALTORS Realty of Maine - Bangor RE/MAX Advantage Realty Group 4-FIRM TOTAL	103 46 45 22 216	32.0 14.3 14.0 6.8 67.1
Salina,KS Pop: 59,760	2,106	2,198	330	349	14	14	23.6	24.9	SALINAHOMES.COM, INC. MILLWOOD REALTY TEAM 1 REAL ESTATE COLDWELL BANKER, A-P-W 4-FIRM TOTAL	96 82 59 56 293	29.2 24.9 17.9 17.0 89.1	SALINAHOMES.COM, INC. MILLWOOD REALTY COLDWELL BANKER, A-P-W TEAM 1 REAL ESTATE 4-FIRM TOTAL	116 83 68 35 302	33.3 23.9 19.5 10.1 86.8
Brookfield,WI Pop: 38,649	1,067	1207	318	383	57	71	5.6	5.4	Shorewest Realtors, Inc. First Weber Group RE/MAX Realty 100 Coldwell Banker Residential Brokerage 4-FIRM TOTAL	75 55 23 22 175	23.5 17.2 7.2 6.9 54.9	Shorewest Realtors, Inc. First Weber Group RE/MAX Realty 100 The Thomson Group 4-FIRM TOTAL	96 77 34 25 232	25.1 20.2 8.9 6.5 60.7
Longview,WA Pop: 92,942	2,091	1,661	313	427	32	35	9.8	12.2	Coldwell Banker Flaskerud Windermere Allen & Associates John L. Scott - Longview Prudential NW Properties 4-FIRM TOTAL	116 72 29 23 240	37.1 23.0 9.3 7.4 76.7	Windermere Allen & Associates Coldwell Banker Flaskerud Prudential NW Properties John L. Scott - Longview 4-FIRM TOTAL	139 80 41 35 295	32.6 18.7 9.6 8.2 69.1
Grandview,MO Pop: 24,881	1,298	1,141	307	165	66	44	4.7	3.8	Reece & Nichols Coldwell Banker All American Realty Realty Executives Metro One Vintage Realty 4-FIRM TOTAL	105 13 12 12 142	34.2 4.2 3.9 3.9 46.3	Reece & Nichols GLAD HEART REALTY Keller Williams Southland Meyers Grandview R. E. Co. 4-FIRM TOTAL	49 19 8 7 83	29.7 11.5 4.9 4.2 50.3
Corvallis,OR Pop: 78,153	920	1,074	289	394	36	39	8.0	10.1	Town & Country Realty Re/Max Integrity KELLER WILLIAMS REALTY Coldwell Banker Valley Brokers 4-FIRM TOTAL	55 35 32 29 151	19.0 12.1 11.0 10.0 52.1	Town & Country Realty Coldwell Banker Valley Brokers KELLER WILLIAMS REALTY RE/MAX Integrity 4-FIRM TOTAL	81 65 45 41 232	20.6 16.5 11.4 10.4 58.9
Roswell,NM Pop: 61,382	2,030	1,616	279	388	17	23	16.4	16.9	CENTURY 21 Home Planning RE/MAX OF ROSWELL Prudential Grieves Group Realtors COLDWELL BANKER T&T 4-FIRM TOTAL	80 69 43 17 209	30.9 26.6 16.6 6.6 80.7	CENTURY 21 Home Planning Prudential Grieves Group Realtors RE/MAX OF ROSWELL WISE CHOICE REAL ESTATE 4-FIRM TOTAL	113 80 48 34 275	29.1 20.6 12.4 8.8 70.9
PineBluff,AR Pop: 107,341	1,282	1,144	248	185	26	27	9.5	6.9	First Realty Group, Inc. Hometown Realty Services Lunsford & Associates Wilson-Rodgers & Associates 4-FIRM TOTAL	59 38 37 29 163	23.8 15.3 14.9 11.7 65.7	Hometown Realty Services First Realty Group, Inc. Wilson-Rodgers & Associates Exit Realty Deaton Group 4-FIRM TOTAL	34 30 29 24 117	18.4 16.2 15.7 13.0 63.3
LaPine,OR	558	1,271	222	213	41	36	5.4	5.9	RE/MAX Sunset Realty	28	12.6	RE/MAX Sunset Realty	65	30.5

Pop: 5,799									Coldwell Banker First Resort	20	9.0	John L Scott Lapine	23	10.8
									Dennis Haniford's Cascade Rlty	19	8.6	Prudential NW Properties	17	8.0
									Gilchrist Real Estate - Lapine	15	6.8	Dennis Haniford's Cascade Rlty	15	7.0
									4-FIRM TOTAL	82	36.9	4-FIRM TOTAL	120	56.3
Blythville,AR Pop: 18,272	2,114	1,972	221	211	14	12	15.8	17.6	Century 21 McWaters Realty	89	40.1	Century 21 McWaters Realty	75	35.6
									Goff Real Estate	28	12.6	Goff Real Estate	35	16.6
									RE/MAX Great River Realty	27	12.2	RE/MAX Great River Realty	30	14.2
									Crye-Leike Missco Realty	22	9.9	Crye-Leike 1st Choice Realty	25	11.9
									4-FIRM TOTAL	166	74.8	4-FIRM TOTAL	165	78.2
DelRio,TX Pop: 44,856	1,049	1,242	211	210	18	17	11.7	12.4	CADENA REALTY	42	19.9	REMAX DEL RIO	38	18.2
									DEL RIO REALTY	26	12.3	Amistad Realty & Associat	36	17.2
									REMAX DEL RIO	23	10.9	Amistad Lake/Ranchero Pro	31	14.8
									Century 21 Brenda Hunter	22	10.4	Texas Heritage Real Estat	27	12.9
									4-FIRM TOTAL	113	53.6	4-FIRM TOTAL	132	63.2
Lewiston,ID Pop: 57,961	1,314	2,072	209	243	18	16	11.6	15.2	CENTURY 21 Beutler & Asso	52	24.9	Coldwell Banker Tomlinson	96	39.5
									Coldwell Banker Tomlinson	34	16.3	CENTURY 21 Beutler & Asso	43	17.7
									RE/MAX EXECUTIVES	29	13.9	WINDERMERE REAL ESTATE	20	8.2
									COLDWELL BANKER TOWN & COUNTRY	16	7.7	Assist2Sell Discovery Rea	13	5.4
									4-FIRM TOTAL	131	62.7	4-FIRM TOTAL	172	70.8
Eureka,CA Pop: 126,518	854	1,026	193	213	37	33	5.2	6.5	Ming Tree Gmac Real Estate	33	17.1	Coldwell Banker Cutten Realty	47	22.1
									Coldwell Banker Cutten Realty	32	16.6	Ming Tree Gmac Real Estate	27	12.7
									Benchmark Realty Group	17	8.8	Benchmark Realty Group	21	9.9
									Community Realty	15	7.8	Community Realty	20	9.4
									4-FIRM TOTAL	97	50.3	4-FIRM TOTAL	115	54.0
Portsmouth,NH Pop: 20,784	607	893	186	232	46	44	4.0	5.3	RE/MAX Coast To Coast Properties	28	15.1	RE/MAX Coast To Coast Properties	43	18.5
									Coldwell Banker Residential Brokerage	19	10.2	Olde Port Properties	32	13.8
									The Masiello Group	18	9.7	Coldwell Banker Residential Brokerage	30	12.9
									Keller Williams Coastal Realty	10	5.4	Betty LaBranch Real Estate, Inc.	19	8.2
									4-FIRM TOTAL	75	40.3	4-FIRM TOTAL	124	53.4
Minot,ND Pop: 67,932	1,605	1,682	177	217	12	9	14.8	24.1	CENTURY 21 ACTION REALTORS	47	26.6	SIGNAL REALTORS, INC.	47	21.7
									SIGNAL REALTORS, INC.	30	17.0	CENTURY 21 ACTION REALTORS	45	20.7
									COLDWELL BANKER 1ST MINOT	25	14.1	COLDWELL BANKER 1ST MINOT	40	18.4
									Prudential Preferred Properties, Inc.	24	13.6	BROKERS 12 INC.	32	14.8
									4-FIRM TOTAL	126	71.2	4-FIRM TOTAL	164	75.6
Butte,MT Pop: 34,606	1,120	1,256	165	235	22	25	7.5	9.4	HOMESTEAD REAL ESTATE	32	19.3	HOMESTEAD REAL ESTATE	49	20.9
									MARKOVICH REAL ESTATE	27	16.3	MCLEOD REALTORS	40	17.0
									MCLEOD REALTORS	22	13.3	MARKOVICH REAL ESTATE	39	16.6
									HARRISON AVE REALTY INC	19	11.5	HARRISON AVE REALTY INC	27	11.5
									4-FIRM TOTAL	100	60.3	4-FIRM TOTAL	155	66.0
Delano,CA Pop: 38,824	474	804	149	50	45	25	3.3	2.0	Century 21 Central Valley Real	14	9.5	Liberty One Real Estate	8	15.7
									Liberty One Real Estate	14	9.5	Watson Touchstone ERA	8	15.7
									San Joaquin Realty	10	6.8	San Joaquin Realty	6	11.8
									Stroope, REALTORS-GMAC	9	6.1	Oasis Real Estate	3	5.9
									4-FIRM TOTAL	47	31.8	4-FIRM TOTAL	25	49.0
Carlsbad,NM Pop: 25,625	2,244	3,166	125	151	10	6	12.5	25.2	C-21 ASSOC PROF	39	31.0	C-21 ASSOC PROF	59	39.3
									ERA-MONTGOMERY REAL ESTAT	31	24.6	ERA-MONTGOMERY REAL ESTAT	45	30.0
									DUNAGAN ASSOCIATES	29	23.0	DUNAGAN ASSOCIATES	40	26.7
									MEANS REAL ESTATE LLC	14	11.1	MEANS REAL ESTATE LLC	4	2.7
									4-FIRM TOTAL	113	89.7	4-FIRM TOTAL	148	98.7
Montpelier,VT Pop: 8,035	1,286	1,673	103	123	23	16	4.5	7.7	CENTURY 21 Jack Associates	25	24.5	Heney Realtors	34	27.6
									Heney Realtors	20	19.6	CENTURY 21 Jack Associates	30	24.4
									BCK Real Estate	12	11.8	Fecteau Real Estate	13	10.6
									Berg, Carmolli & Kent Real Estate	7	6.9	BCK Real Estate	10	8.1
									4-FIRM TOTAL	64	62.7	4-FIRM TOTAL	87	70.7

Table 2: Longitudinal Analysis of Market Structure, Louisville KY

Houses Sold	Listing Firms	Sales per Firm	HHI Listing Agent	Top 10 Listing Firms (by number of sales)	Firm's Sales	Firm's Market Share	Prior Year Rank	HHI (dollar value Listing Agent)	HHI Sales Agent	HHI (dollar value, Sales Agent)
2000										
10,315	350	29.5	735	SEMONIN REALTORS	2,096	20.3	n/a	857	725	877
				CENTURY 21 REALTY GROUP-HAGAN	1,031	10.0				
				RE/MAX PROPERTIES EAST	1,029	10.0				
				COLDWELL BANKER/MCMAHAN CO.	688	6.7				
				RE/MAX ASSOCIATES	491	4.8				
				PRUDENTIAL PARKS & WEISBERG	375	3.6				
				RE/MAX PROFESSIONALS	276	2.7				
				RE/MAX ALLIANCE	271	2.6				
				COLDWELL BANKER ACTION, RLTRS	248	2.4				
				ERA-KEPPLE-KEENE, REALTORS	240	2.3				
2001										
11,013	337	32.7	732	SEMONIN REALTORS	2,195	19.9	1	843	709	827
				RE/MAX PROPERTIES EAST	1,169	10.6	3			
				CENTURY 21 REALTY GROUP-HAGAN	1,054	9.6	2			
				COLDWELL BANKER/MCMAHAN CO.	788	7.2	4			
				RE/MAX ASSOCIATES	524	4.8	5			
				PRUDENTIAL PARKS & WEISBERG	345	3.1	6			
				RE/MAX ALLIANCE	334	3.0	8			
				ERA-KEPPLE-KEENE, REALTORS	294	2.7	10			
				RE/MAX PROFESSIONALS	285	2.6	7			
				COLDWELL BANKER ACTION, RLTRS	268	2.4	9			
2002										
11,116	368	30.2	678	SEMONIN REALTORS	2,135	19.2	1	775	681	770
				RE/MAX PROPERTIES EAST	1,235	11.1	2			
				CENTURY 21 REALTY GROUP-HAGAN	910	8.2	3			
				COLDWELL BANKER/MCMAHAN CO.	764	6.9	4			
				RE/MAX ASSOCIATES	452	4.1	5			
				PRUDENTIAL PARKS & WEISBERG	337	3.0	6			
				ERA-KEPPLE-KEENE, REALTORS	289	2.6	8			
				RE/MAX PROFESSIONALS	280	2.5	9			
				COLDWELL BANKER ACTION, RLTRS	276	2.5	10			
				RE/MAX ALLIANCE	267	2.4	7			
2003										
12,800	393	32.6	634	SEMONIN REALTORS	2,559	20.0	1	710	656	761
				RE/MAX PROPERTIES EAST	1,245	9.7	2			
				CENTURY 21 REALTY GROUP-HAGAN	793	6.2	3			
				COLDWELL BANKER/MCMAHAN CO.	715	5.6	4			
				RE/MAX ASSOCIATES	506	4.0	5			
				PRUDENTIAL PARKS & WEISBERG	423	3.3	6			
				ERA-KEPPLE-KEENE, REALTORS	328	2.6	7			
				RE/MAX ALLIANCE	316	2.5	10			
				RE/MAX PROFESSIONALS	289	2.3	8			
				RE/MAX 100, INC.	209	1.6	14			
2004										
13,950	432	32.3	595	SEMONIN REALTORS	2,762	19.8	1	639	595	696
				RE/MAX PROPERTIES EAST	1,328	9.5	2			
				COLDWELL BANKER/MCMAHAN CO.	713	5.1	4			
				CENTURY 21 REALTY GROUP-HAGAN	685	4.9	3			
				RE/MAX ASSOCIATES	449	3.2	5			

				PRUDENTIAL PARKS & WEISBERG	393	2.8	6			
				RE/MAX ALLIANCE	387	2.8	8			
				RE/MAX PROFESSIONALS	307	2.2	9			
				ERA-KEPPLE-KEENE, REALTORS	277	2.0	7			
				COLDWELL BANKER ACTION, RLTRS	233	1.7	13			
				2005						
13,061	478	27.3	451	SEMONIN REALTORS	2,211	16.9	1	508	541	597
				RE/MAX PROPERTIES EAST	941	7.2	2			
				CENTURY 21 REALTY GROUP-HAGAN	654	5.0	4			
				COLDWELL BANKER/MCMAHAN CO.	620	4.8	3			
				RE/MAX ASSOCIATES	510	3.9	5			
				RE/MAX ALLIANCE	283	2.2	7			
				ERA-KEPPLE-KEENE, REALTORS	275	2.1	9			
				PRUDENTIAL PARKS & WEISBERG	274	2.1	6			
				KENTUCKY SELECT PROPERTIES	270	2.1	32			
				GRACIOUS LIVING REALTY	243	1.9	287			
				2006						
15,076	511	29.5	410	SEMONIN REALTORS	2,408	16.0	1	474	483	559
				RE/MAX PROPERTIES EAST	938	6.2	2			
				RE/MAX ASSOCIATES	731	4.9	5			
				COLDWELL BANKER/MCMAHAN CO.	690	4.6	4			
				CENTURY 21 REALTY GROUP-HAGAN	662	4.4	3			
				GRACIOUS LIVING REALTY	349	2.3	10			
				PRUDENTIAL PARKS & WEISBERG	305	2.0	8			
				RE/MAX ALLIANCE	294	2.0	6			
				RE/MAX EXECUTIVE GROUP, INC.	288	1.9	22			
				KENTUCKY SELECT PROPERTIES	249	1.7	9			
				2007						
14,726	485	30.4	373	SEMONIN REALTORS	2,189	14.9	1	433	424	477
				RE/MAX PROPERTIES EAST	919	6.2	2			
				CENTURY 21 REALTY GROUP-HAGAN	674	4.6	5			
				RE/MAX ASSOCIATES	673	4.6	3			
				COLDWELL BANKER/MCMAHAN CO.	600	4.1	4			
				RE/MAX EXECUTIVE GROUP, INC.	375	2.6	9			
				GRACIOUS LIVING REALTY	332	2.3	6			
				PRUDENTIAL PARKS & WEISBERG	278	1.9	7			
				MILESTONE REALTY CONSULTANTS	272	1.9	13			
				KENTUCKY SELECT PROPERTIES	263	1.8	10			
				2008						
10,960	442	24.8	348	SEMONIN REALTORS	1,547	14.1	1	411	388	464
				RE/MAX PROPERTIES EAST	634	5.8	2			
				CENTURY 21 REALTY GROUP-HAGAN	480	4.4	3			
				RE/MAX ASSOCIATES	477	4.4	4			
				COLDWELL BANKER/MCMAHAN CO.	406	3.7	5			
				BENNETT-WEBB REALTY	274	2.5	86			
				RE/MAX EXECUTIVE GROUP, INC.	273	2.5	6			
				RE/MAX 100, INC.	249	2.3	12			
				ERA-KEPPLE-KEENE, REALTORS	221	2.0	11			
				REAL ESTATE 3000	202	1.8	18			

Table 3: HHI and Market Shares by Areas within Louisville, KY

	Sales 2000	Sales 2006	HHI 2000	HHI 2006	4 Largest Firms 2000	Firm's Sales	Firm's Market Share	4 Largest Firms 2006	Firm's Sales	Firm's Market Share
Area0	87	153	1,362	639	SEMNON REALTORS RE/MAX CONNECTIONS CENTURY 21 REALTY GROUP-HAGAN RE/MAX PROPERTIES EAST	26 12 9 7	29.9 13.8 10.3 8.1	RE/MAX 100, INC. SEMNON REALTORS RE/MAX CONNECTIONS RE/MAX PROPERTIES EAST	21 21 15 13	13.7 13.7 9.8 8.5
Area1	794	1,160	605	434	SEMNON REALTORS CENTURY 21 REALTY GROUP-HAGAN RE/MAX PROPERTIES EAST COLDWELL BANKER/MCMAHAN CO.	122 79 71 54	15.4 10.0 8.9 6.8	SEMNON REALTORS CENTURY 21 REALTY GROUP-HAGAN RE/MAX PROPERTIES EAST GRACIOUS LIVING REALTY	158 87 73 65	13.6 7.5 6.3 5.6
Area2	773	1,052	1,079	583	SEMNON REALTORS RE/MAX PROPERTIES EAST CENTURY 21 REALTY GROUP-HAGAN PRUDENTIAL PARKS & WEISBERG	209 88 86 29	27.0 11.4 11.1 3.8	SEMNON REALTORS RE/MAX PROPERTIES EAST CENTURY 21 REALTY GROUP-HAGAN KENTUCKY SELECT PROPERTIES	198 94 62 60	18.8 8.9 5.9 5.7
Area3	662	796	1,556	601	SEMNON REALTORS CENTURY 21 REALTY GROUP-HAGAN RE/MAX PROPERTIES EAST WAKEFIELD, REUTLINGER COMPANY	235 72 56 45	35.5 10.9 8.5 6.8	SEMNON REALTORS KENTUCKY SELECT PROPERTIES RE/MAX PROPERTIES EAST BLUEGRASS R. E. PROFESSIONALS	139 73 63 49	17.5 9.2 7.9 6.2
Area4	582	824	693	410	SEMNON REALTORS CENTURY 21 REALTY GROUP-HAGAN COLDWELL BANKER/MCMAHAN CO. RE/MAX PROPERTIES EAST	103 63 54 34	17.7 10.8 9.3 5.8	SEMNON REALTORS COLDWELL BANKER/MCMAHAN CO. GRACIOUS LIVING REALTY RE/MAX ALLIANCE	103 55 51 48	12.5 6.7 6.2 5.8
Area5	780	987	905	563	SEMNON REALTORS CENTURY 21 REALTY GROUP-HAGAN COLDWELL BANKER/MCMAHAN CO. S. G. PRIEST COMPANY, REALTORS	162 113 71 61	20.8 14.5 9.1 7.8	SEMNON REALTORS CENTURY 21 REALTY GROUP-HAGAN S. G. PRIEST COMPANY, REALTORS COLDWELL BANKER/MCMAHAN CO.	168 82 63 48	17.0 8.3 6.4 4.9
Area6	1,162	1,760	635	482	SEMNON REALTORS CENTURY 21 REALTY GROUP-HAGAN RE/MAX PROPERTIES EAST PRUDENTIAL PARKS & WEISBERG	200 118 103 75	17.2 10.2 8.9 6.5	SEMNON REALTORS RE/MAX PROPERTIES EAST MILESTONE REALTY CONSULTANTS RE/MAX ASSOCIATES	288 119 109 93	16.4 6.8 6.2 5.3
Area7	1,196	1,636	927	544	SEMNON REALTORS RE/MAX PROPERTIES EAST CENTURY 21 REALTY GROUP-HAGAN RE/MAX ASSOCIATES	233 184 143 113	19.5 15.4 12.0 9.5	SEMNON REALTORS RE/MAX PROPERTIES EAST RE/MAX ASSOCIATES CENTURY 21 REALTY GROUP-HAGAN	291 150 125 69	17.8 9.2 7.6 4.2
Area8	878	1,233	1,090	862	SEMNON REALTORS RE/MAX PROPERTIES EAST RE/MAX ASSOCIATES CENTURY 21 REALTY GROUP-HAGAN	183 164 92 87	20.8 18.7 10.5 9.9	SEMNON REALTORS RE/MAX ASSOCIATES RE/MAX PROPERTIES EAST PRUDENTIAL PARKS & WEISBERG	279 137 137 68	22.6 11.1 11.1 5.5
Area9	1,186	1,300	1,156	644	SEMNON REALTORS RE/MAX PROPERTIES EAST CENTURY 21 REALTY GROUP-HAGAN PRUDENTIAL PARKS & WEISBERG	306 171 117 83	25.8 14.4 9.9 7.0	SEMNON REALTORS RE/MAX PROPERTIES EAST RE/MAX ASSOCIATES COLDWELL BANKER/MCMAHAN CO.	271 102 63 62	20.9 7.9 4.9 4.8
Area10	166	413	4,720	1,667	COLDWELL BANKER/MCMAHAN CO. CENTURY 21 REALTY GROUP-HAGAN QUIGGINS REALTY RE/MAX PROPERTIES EAST	111 24 6 5	66.9 14.5 3.6 3.0	COLDWELL BANKER/MCMAHAN CO. BETTY SEAY REALTY CENTURY 21 REALTY GROUP-HAGAN RE/MAX ALLIANCE	146 59 43 24	35.4 14.3 10.4 5.8
Area11	613	985	627	448	COLDWELL BANKER ACTION, RLTRS CENTURY 21 ADVANTAGE PLUS THE REALTY MARKETPLACE SEMNON REALTORS	79 67 55 50	12.9 10.9 9.0 8.2	CENTURY 21 ADVANTAGE PLUS THE REALTY MARKETPLACE DOGWOOD HOMES REALTY GROUP SEMNON REALTORS	102 88 77 74	10.4 8.9 7.8 7.5
Area12	37	158	1,731	770	SEMNON REALTORS ATCHER-GOFF REAL ESTATE REALTY WORLD-RIVER VALLEY PROP CENTURY 21 REALTY GROUP-HAGAN	11 8 6 2	29.7 21.6 16.2 5.4	FIRST TIME, INC. SEMNON REALTORS GRACIOUS LIVING REALTY DUVALL REALTY, LLC	22 21 20 15	13.9 13.3 12.7 9.5
Area19	124	304	895	603	COLDWELL BANKER/MCMAHAN CO. ELK CREEK REALTY SEMNON REALTORS ROBERT YATES REAL ESTATE	25 15 13 12	20.2 12.1 10.5 9.7	SEMNON REALTORS ROBERT YATES REAL ESTATE GOEBEL-HENRY REAL ESTATE ELK CREEK REALTY	51 33 23 17	16.8 10.9 7.6 5.6
Area20	352	489	1,002	966	SEMNON REALTORS COLDWELL BANKER/MCMAHAN CO. PRUDENTIAL PARKS & WEISBERG RE/MAX PROPERTIES EAST	81 46 38 33	23.0 13.1 10.8 9.4	SEMNON REALTORS COLDWELL BANKER/MCMAHAN CO. RE/MAX PROPERTIES EAST RE/MAX REAL ESTATE CENTER	128 54 41 19	26.2 11.0 8.4 3.9
Area21	370	415	1,330	849	SEMNON REALTORS RE/MAX REAL ESTATE CENTER COLDWELL BANKER/MCMAHAN CO. CENTURY 21 REALTY GROUP-HAGAN	96 72 33 31	26.0 19.5 8.9 8.4	SEMNON REALTORS RE/MAX PROPERTIES EAST COLDWELL BANKER/MCMAHAN CO. RE/MAX REAL ESTATE CENTER	97 44 34 26	23.4 10.6 8.2 6.3
Area29	82	155	794	1,364	K M BRUTHER REAL ESTATE GROUP SEMNON REALTORS TRI-COUNTY REALTORS BOHANNON REALTY	13 12 7 6	15.9 14.6 8.5 7.3	RE/MAX PREFERRED REALTY SEMNON REALTORS TORREY SMITH REALTY CO., LLC ROBERTS REALTY	47 18 16 15	30.3 11.6 10.3 9.7
Area30	339	567	1,337	1,182	COLDWELL BANKER LARRY ROGERS RE/MAX PERFORMANCE REALTY TORREY SMITH REALTY CO., LLC SEMNON REALTORS	96 45 39 38	28.3 13.3 11.5 11.2	COLDWELL BANKER LARRY ROGERS RE/MAX PERFORMANCE REALTY SEMNON REALTORS TORREY SMITH REALTY CO., LLC	131 120 48 45	23.1 21.2 8.5 7.9
Area31	16	117	2,813	1,181	SEMNON REALTORS RE/MAX ADVANTAGE + DOE RUN REALTY & APPRAISAL SER CENTURY 21 REALTY GROUP-HAGAN	6 5 3 1	37.5 31.3 18.8 6.3	STONEGATE REALTY, LLC RE/MAX EXECUTIVE GROUP, INC. DOE RUN REALTY & APPRAISAL SER SEMNON REALTORS	28 17 11 11	23.9 14.5 9.4 9.4

Table 4: Market Activity of Small Firms over Time in Louisville, KY

Firms w/ exactly 1 Sale in 2000	#sales in 2001	#sales in 2002	#sales in 2003	#sales in 2004	#sales in 2005	#sales in 2006	#sales in 2007	#sales in 2008	Avg#YearlySales
ACCORD R.E. & MORTGAGE BROKERS	0	0	0	0	0	1	3	0	0.5
ALAN ADELBERG & ASSOCIATES	1	0	0	0	0	0	1	1	0.38
ALL COUNTY REALTY	2	0	0	0	3	4	7	7	2.88
ANN CASLIN, REALTOR	2	1	0	0	0	0	0	0	0.38
ANN CLARK REAL ESTATE RESOURCES	2	2	2	2	0	0	0	0	1.00
ASSIST 2 SELL CAROUSEL REALTY	0	0	0	0	0	0	0	0	0.00
BOWLES REALTY	0	0	0	1	0	1	1	0	0.38
BRUMLEY REALTY & MANAGEMENT CO	0	0	1	0	0	3	0	0	0.50
BURKE REALTY COMPANY	1	0	0	0	0	2	1	0	0.50
C/B ROGERS REALTY-SIMPSONVILLE	0	11	40	44	27	20	30	0	21.50
CGR HOME BUILDERS, INC.	1	1	0	0	0	0	0	0	0.25
CHARLES A. BROWN, SR., REALTOR	0	0	0	0	0	0	0	0	0.00
CLASSICKLE REAL ESTATE SERVICES	0	0	0	1	0	0	0	0	0.13
CONWAY & ASSOCIATES, REALTORS	3	8	12	0	0	0	0	0	2.88
CUNNINGHAM REALTY COMPANY	1	0	0	1	4	0	0	0	0.75
DEAN'S REALTY SERVICE	0	0	0	0	0	1	0	0	0.13
DUANE REALTY & DEVELOPMENT	0	0	0	0	0	0	0	0	0.00
DUB POTTER REALTORS	1	1	2	0	5	6	5	1	2.63
DURST & MOERT, REALTORS	2	0	0	0	0	0	0	0	0.25
EDWARD FRANK CO., INC.	2	2	0	2	1	3	0	3	1.63
EDWIN MONTGOMERY R.E. BROKER	0	0	0	0	0	0	0	0	0.00
ENGLISH & ASSOCIATES	0	2	1	0	1	1	0	0	0.63
FULLER & ASSOCIATES COMM. R.E.	0	0	2	0	0	0	0	0	0.25
G. STARKS REALTY CO.	1	0	0	1	6	10	3	4	3.13
GALLAVIN & ASSOCIATES	0	0	3	1	3	1	17	6	3.88
GLEN E. STUCKEL	0	0	2	1	0	0	0	0	0.38
GOODKNIGHT PROPERTIES LTD.	0	0	0	0	0	0	0	0	0.00
GRAHAM REALTY	0	0	0	0	0	0	0	0	0.00
HAMILTON REALTORS	0	0	0	1	0	0	0	0	0.13
HAMILTON REALTY	0	0	0	0	0	0	0	0	0.00
HEARTLAND REALTY	0	0	0	1	0	0	1	1	0.38
HOMECO REAL ESTATE	0	0	1	2	0	0	0	0	0.38
HOMETOWN REAL ESTATE COMPANY	0	1	2	2	1	3	2	1	1.50
IMPRESSIVE PROPERTIES	0	0	0	0	0	0	11	5	2.00
IROQUOIS REALTY	0	0	0	0	0	0	0	0	0.00
J. A. SCHERER, REALTORS	1	0	0	0	0	0	0	0	0.13
J. D. COOPER, REALTY	4	3	3	4	1	3	0	0	2.25
J. MICHAEL JONES & ASSOCIATES	0	0	0	1	0	1	5	6	1.63
JACK GRIFFIN COMPANY REALTORS	4	2	0	0	0	0	0	0	0.75
JACK GRUNEISEN COMPANY	2	4	1	5	1	0	0	0	1.63
JACOBSON REALTY	13	11	14	9	4	4	0	0	6.88
JAY PAXTON, REALTOR	3	1	7	3	4	2	2	1	2.88
JEWELL REALTORS	0	2	3	3	7	4	4	0	2.88
JIM HALL & ASSOCIATES	1	0	5	5	8	2	0	0	2.63
JOE DAUGHERTY REAL ESTATE	2	1	4	0	0	0	0	0	0.88
JOHN T. MAY & ASSOCIATES	0	2	0	3	2	0	2	4	1.63

**Figure 1: Distribution of Firms by Size
Base on 10,315 Transactions in Louisville, KY in 2000**

