Real Estate Agent Remarks: Help or Hype?

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Abstract
This article groups the remarks of a multiple listing service listing into common themes and then uses a hedonic pricing model to determine whether such comments are priced in a meaningful way. The comments provide information on the motivation of the seller, location of the property and physical improvements or defects. Most of the comments analyzed are statistically significant. Negative comments are associated with lower sales prices suggesting the helpful nature of comments. Some of the positive comments, however, including "new paint" and "good location" are also associated with lower sales prices suggesting that some comments may be better classified as hype.

Introduction

An important role of a real estate agent is to convey useful information to help potential buyers in their search for a home. The provision of a multiple listing service (MLS) allows agents to search for properties that will fit the client's needs. Information regarding age, size, number of bedrooms, number of bathrooms and other physical or financing information is helpful for identifying homes for further investigation. However, two houses with the same physical and financing descriptors may be quite different. Other features that are often qualitative in nature may enhance the overall suitability of a property. Verbal descriptors, however, are subject to puffing[1] and thus rather than helping a buyer identify a suitable property, they perhaps may more appropriately be described as agent "hype."

Previous studies have examined the impact of brokerage on the sale price of single-family homes. This literature is reviewed in Yavas (1994) and Benjamin, Jud and Sirmans (2000). Results presented in Yinger (1981), Bagnoli and Khanna (1991) and Yavas (1992) indicate that sellers employing an agent obtain a higher selling price. Real estate agents help to reduce buyers' search costs and sellers employ agents in the expectation of higher prices.

The empirical research to date, however, has not addressed the issue of agent "comments." For each listing on a MLS, a section is provided for agents to furnish additional information about the property. This section of the listing may provide

information such as whether the seller is motivated to sell, if the property is a foreclosure and other potentially important information that is not included elsewhere in the MLS listing. Examples of these remarks include "Well Maintained Home," "Ready to Sell" and "Foundation Problems." Due to a lack of data, most research has ignored these remarks. If such remarks do not convey useful information, we would expect no measurable effect on selling price or marketing period. In this article, we analyze the informational content of agent comments by estimating the impact of the information on the selling price and marketing period of the house.

Increased attention to the financial importance of characteristics other than physical, location and market conditions has increased as data became available. Springer (1996), for example, analyzes the impact of seller motivations on price and time on the market. Shilling, Benjamin and Sirmans (1990) and Forgey, Rutherford and VanBuskirk (1994) investigate the impact of foreclosure on price. Turnbull, Sirmans and Benjamin (1990) examine the impact of seller relocation and Zuehlke (1987) investigates how vacancy impacts time on the market. This study both complements and extends the existing research. By including explanatory variables to represent agent remarks in a hedonic model, we estimate the value that such remarks have on residential real estate sale price and marketing time.

Data and Model

Data

The sample data consists of 58,386 residential transactions sold and closed through the Metroplex MLS in Tarrant County, Texas, between January 1994 and December 1997. The data selected for inclusion in the regression analysis can be classified into five categories:

1. Directly quantifiable variables such as the number of bedrooms, number of bathrooms and total square footage.
2. Location indicators that refer to MLS specified areas.
3. Time of sale variables indicating the month and year sold.
4. Remarks by the agent that are factually verifiable.
5. Qualitative remarks by the agent.

This article is primarily concerned with the last two sets. The "Remarks" section of the MLS page typically contains marketing oriented verbiage such as "Good Location," "Great Buy" or "Well Maintained." We speculate that some comments contained in this section convey important pricing information. We focus on this section of the MLS data to determine the degree to which such remarks are reflected in the selling price and marketing period.

The average sale price was \$107,136 and the average time on the market was 103 days. The properties ranged in size from 800 sq. ft. to 7,557 sq. ft. with an average of 1,919 sq. ft. The average house in the sample was approximately twenty years old with a range from zero to ninety-seven years. Additional descriptive statistics of the sample data are provided in Exhibit 1.

Model

We test the basic hypothesis of whether real estate agent comments provide useful information by employing a hedonic pricing model (see Edmonds, 1984). The hedonic pricing model used in this study (Equation (1)) makes the typical assumption that the log of the sale price of a house is a function of several quantitative and qualitative factors, location, and year and month sold. Equation (2) is similar, but refers to the marketing period. We estimate the following ordinary least squares regression models:[2]

$$LSP_i = f(X_i, Y_i, SM_i, T_i), \qquad (1)$$

$$LTOM_i = f(X_i, Y_i, SM_i, T_i), \qquad (2)$$

where:

LSP_i = The natural logarithm of selling price of property i;
$LTOM_i$ = The natural logarithm of time on the market (TOM) of property I;
X_i = A vector of characteristics associated with the sold property i;
Y_i = A set of comments by the agent for property i;
SM_i = A set of control dummy variables for location, representing the 117 MLS specified submarkets; and
T_i = A set of control dummy variables indicating month of sale, January 1994 to December 1997).

The X_i vector is comprised of:

SF = Square feet;
$SFSQ$ = Square feet squared;
AGE = Age of house at closing;
$AGESQ$ = Age of house at closing squared;
BR = Number of bedrooms;
$BATH$ = Number of bathrooms;
$GARAGE$ = A dummy variable indicating a garage;
FPL = Number of fireplaces;
$POOL$ = A dummy variable indicating a pool; and
TOM = Number of days the property was on the market, (when $LTOM$ is being estimated, list price (in \$1,000s) is substituted here).

In addition to the standard set of variables describing property and market characteristics, each model includes dummy variables for agent remarks. Our set of agent comments can be dichotomized into two types: (1) comments that are factually verifiable; and (2) those that are statements of opinion. The comment section of the MLS listing was searched for "key words" that we coded as dummy variables where the variable takes the value 1 if it meets the descriptor below, and 0 otherwise.

The Y_i vector includes the agent's comments as follows:

Comments that are factually verifiable:

FORECLOSE = A foreclosure;

$\qquad$ *VACANT* = A vacant property;
$\qquad$ *GOLF* = Property is near or on a golf course;
$\qquad$ *LAKE* = Property is near or on a lake;
$\qquad$ *UPDATED* = Property has been remodeled, remodeled kitchen, updated;
$\qquad$ *PAINT* = Property has been painted or has new paint;
$\qquad$ *NEWCARP* = Property has new carpet;
$\qquad$ *ROOFWORK* = Property has a replaced roof or a new roof; and
$\qquad$ *REPAIR* = Property has an engineers report, foundation report or foundation issue.

Comments that are statements of opinion:

MOTIVATED = Seller is motivated, must sell, anxious, relocating or transferred; there is a selling bonus, reduced price; sold as is or fast sale;
GOODBUY = Property is a great buy, super buy or fantastic buy;
GOODLOC = Property has a good location, great location, ideal location, prime location or excellent location; and
GOODCOND = Property is well maintained, in mint condition, immaculate or custom.

Empirical Results

If every house is a "good buy" or in a "good location" the value of such comments are expected to be zero as no additional information is conveyed. The fact that the frequency of each comment is small indicates that it has the potential to convey useful information.

Some of the comments we expect to be associated with increased property value. As indicated in Exhibit 1, new *PAINT* (15% of properties) is the most commonly listed comment. The carpet is stated to be new in 4.1% of the sample, 2.5% had recent roof repair or replacement (*ROOFWORK*) and 10.6% of the properties had been *UPDATED*. It seems likely that houses with new paint needed painting, that new carpet was needed in some houses, that roofs needed work and some houses needed updating. Even so, some of the expense of the new paint, carpet, roof

Exhibit 1 | Descriptive Statistics

Variable	Mean	Std. Dev.	Min.	Max.
SALE PRICE	107,136	65,474	30,000	449,529
LSP	11.44	0.52	10.31	13.02
LIST PRICE	110,669	67,488	35,000	499,000
SF	19.19	7.22	8	75.57
AGE	19.78	18.95	0	97
BR	3.23	0.64	0	5
BATH	2.30	0.74	1	5
GARAGE	0.82	0.38	0	1
FPL	0.84	0.53	0	4
POOL	0.15	0.36	0	1
TOM	102.74	74.25	1	549
FORECLOSE	0.02	0.13	0	1
VACANT	0.03	0.17	0	1
GOLF	0.01	0.09	0	1
LAKE	0.04	0.20	0	1
UPDATED	0.11	0.31	0	1
PAINT	0.15	0.36	0	1
NEWCARP	0.04	0.20	0	1
ROOFWORK	0.03	0.16	0	1
REPAIR	0.00	0.06	0	1
MOTIVATED	0.05	0.22	0	1
GOODBUY	0.01	0.09	0	1
GOODLOC	0.02	0.15	0	1
GOODCOND	0.08	0.28	0	1

Note: Housing sales for the Fort Worth, Texas Regional MLS. $N = 58,386$

work or updating, should be capitalized into the value of the house after controlling for other housing characteristics. Each of the above items is factually verifiable and conjectured to increase the value of a house. A more subjective comment, *GOOD CONDITION* appears in 8.3% of the sample, and is also expected to be associated with increased value.

Agent comments regarding location include *LAKE, GOLF* and *GOOD LOCATION*. Lake and golf are factually verifiable and prior research indicates that properties located close to or on a lake or a golf course sell for higher prices. The subjective variable *GOOD LOCATION* is an indicator of the agent's

assessment of the location compared to other properties. Each of these variables is expected to result in increased value of the subject property.

The frequency of property descriptors, which prior research indicates a lower sales price, include *MOTIVATED* at 5.3%, *VACANT* at 2.9% and *FORECLOSE* at 1.7%. While we did not find a previous study that assessed *REPAIR*, we found this to be a relatively rare comment with a frequency of 0.3%, which we conjecture will lower value. The variable we have no priors on is the *GOODBUY* indicator that appears in 0.71% of the data. If this is an indication that the house is priced lower than comparable homes, then we expect a discount associated with this comment. If this is hype, however, this comment may prove statistically insignificant.

The regression results are presented in Exhibit 2.[3] The model containing all variables, including the Remarks, explains 86.44% of the variation of house prices for this sample. For the TOM model, 7.93% of the variation of the TOM is explained. These results are similar to other studies on housing prices and TOM. Yavas and Yang (1995), for example, report an R^2 of 81% for the housing model and an R^2 of approximately 6% for TOM model. Yavas and Yang comment that the literature shows that TOM models have significantly lower R^2s than the house price models.

For the house selling price model, a majority of the comments are statistically significant at the 1% level whereas only about half of the variables meet that level of significance for explaining TOM. *FORECLOSE* has the highest impact on selling price, resulting in approximately a 16% decrease, but it has no significant impact on marketing time. Forgey, Rutherford and VanBuskirk (1994) report a 23% discount, and Shilling, Benjamin and Sirmans (1990) find a discount of 24% on foreclosed property values. *VACANT*, another factually verifiable comment, is associated with a decrease in sale price of about 4% and has no effect on marketing time. Zuehlke (1987) does not estimate a housing price model, but models marketing time using a hazard model and finds that vacant houses "exhibit positive duration dependence."

Sellers as classified by the MOTIVATED variable appear willing to accept a discount of 4% on the sales price. These motivated sellers, however, realize about a 15% longer marketing period. Springer (1996) finds that motivated sellers sell for about 2% less and take 8% longer to sell. Glower, Haurin and Hendershott (1998) report no housing price premium or discount for motivated sellers. Using a hazard model, they estimate that motivated sellers have a higher probability of selling within a given period. The subjective comment *GOODBUY* is associated with a price reduction of about 5% indicating that the agent is relating valuable information. Such properties tend to be good buys.

The factually verifiable location variables indicating proximity to golf course or a lake are associated with increases in value of 6.1% and 5.6%, respectively. Lake properties take 8.9% longer to sell. Do and Grudnitski (1995) and Asabere and Huffman (1996) document a premium of approximately 7% for houses located

Exhibit 2 | Regression Results

Variable	Parameter Estimate	Standard Error	T for H0: Parameter = 0	Prob > |T|
Panel A: Housing Price Sales				
INTERCEP	10.435	0.0078	1,342.10	0.0001
SF	0.047	0.0002	205.79	0.0001
SFSQ	−0.000	0.0000	−56.08	0.0001
AGE	−0.013	0.0002	−89.50	0.0001
AGESQ	0.000	0.0000	74.02	0.0001
BR	0.006	0.0017	3.45	0.0006
BATH	0.024	0.0018	13.33	0.0001
GARAGE	0.098	0.0022	44.09	0.0001
FPL	0.068	0.0019	35.40	0.0001
POOL	0.052	0.0023	22.44	0.0001
TOM	−0.000	0.0000	−11.99	0.0001
FORECLOSE	−0.159	0.0062	−25.90	0.0001
VACANT	−0.042	0.0048	−8.78	0.0001
GOLF	0.061	0.0086	7.17	0.0001
LAKE	0.056	0.0042	13.36	0.0001
UPDATED	0.049	0.0027	18.52	0.0001
PAINT	−0.017	0.0024	−7.27	0.0001
NEWCARP	−0.004	0.0041	−1.01	0.3133
ROOFWORK	−0.008	0.0051	−1.60	0.1094
REPAIR	−0.085	0.0143	−5.96	0.0001
MOTIVATED	−0.043	0.0036	−11.98	0.0001
GOODBUY	−0.049	0.0092	−5.30	0.0001
GOODLOC	−0.007	0.0053	−1.25	0.2119
GOODCOND	0.036	0.0029	12.58	0.0001
Panel B: Time on the Market				
INTERCEP	4.320	0.0300	143.92	0.0001
SF	0.010	0.0012	8.43	0.0001
SFSQ	−0.000	0.0000	−1.94	0.0524
AGE	−0.004	0.0006	−6.66	0.0001
AGESQ	0.000	0.0000	10.11	0.0001
BR	−0.020	0.0068	−2.95	0.0032
BATH	0.022	0.0071	3.14	0.0017
GARAGE	−0.070	0.0087	−8.06	0.0001

Exhibit 2 | (continued)

Regression Results

Variable	Parameter Estimate	Standard Error	T for H0: Parameter = 0	Prob > |T|
FPL	−0.070	0.0074	−9.36	0.0001
POOL	−0.015	0.0091	−1.67	0.0950
LISTPRICE	0.000	0.0001	0.32	0.7470
FORECLOSE	−0.027	0.0240	−1.14	0.2531
VACANT	0.009	0.0185	0.47	0.6366
GOLF	0.043	0.0333	1.30	0.1931
LAKE	0.089	0.0163	5.42	0.0001
UPDATED	−0.027	0.0104	−2.59	0.0095
PAINT	−0.000	0.0093	−0.02	0.9862
NEWCARP	0.022	0.0161	1.36	0.1733
ROOFWORK	0.050	0.0199	2.53	0.0116
REPAIR	0.150	0.0554	2.71	0.0067
MOTIVATED	0.145	0.0138	10.50	0.0001
GOODBUY	0.011	0.0360	0.31	0.7539
GOODLOC	0.036	0.0208	1.74	0.0823
GOODCOND	−0.026	0.0112	−2.30	0.0217

Notes: Fort Worth, Texas Regional MLS. $N = 58,386$. For housing price sales: Adj. $R^2 = 86.44$ and F-Value = 2,034.68. For Time on the Market: Adj. $R^2 = 7.93$ and F-Value = 28.48.

near or on a golf course. While *GOLF* and *LAKE* refer to specific location amenities, *GOODLOC* is a subjective assessment of location quality. It shows a small negative, though statistically insignificant, price impact of −0.7%, and about a 3.6% longer marketing time (which is significant at the 10% level). A possible explanation of this result is that location is a hype comment and that truly good locations speak for themselves. This remark may to be an attempt to persuade buyers to look at a property that is unable to attract buyers based on its merits. Given that location variable dummies are included as control variables in the model, further statements by the agent regarding location appear to be hype.

Property improvements are noted through the variables *UPDATED*, *PAINT*, *NEWCARP* and *ROOFWORK*. *UPDATED* is associated with a gain in value near 5% and a 2.7% shorter time on market. Other comments that indicate updating, those of new paint, new carpet and roof work, show a decrease rather than the conjectured increase in selling price. The decreases are not large, but *PAINT* is statistically significant. *ROOFWORK* is also associated with an increase in the

time to sell a property. Several hypotheses may explain these results. Perhaps these comments are included to create interest in a property that otherwise is less desirable. Perhaps they indicate a partial updating and that the buyer will have to complete the remaining updating, which accounts for a lower price. Another possibility is that consumers have clear preferences when painting or replacing carpet. It may be, that as often as not, buyers prefer a different color of paint, or color or style or quality of carpet. It appears that sellers may be as well off to provide an allowance for these items or lower the price rather than replacing them. These comments may also indicate a motivated seller or a property in need of maintenance, both of which are shown to decrease selling price.

The final comment, which is factually verifiable, is that of *REPAIR*. Agent remarks regarding problems with the property are expected to be negatively priced. The report of major repairs needed (*REPAIR*), such as foundation problems, or an engineering report, or both, conveys significant information. Homes that have repair comments noted do indeed seem less desirable as they sell for about 8.5% less, and take 15% longer to sell.

Conclusion

The title of our article frames real estate agent comments as either help or hype. The empirical evidence leans towards help. The largest impacts are from what can be seen as negative comments. A foreclosed house sells for 16% less and a house in need of repair for about 8.5% less. Some positive, factually verifiable comments such as *GOLF*, *LAKE* and *UPDATED* are associated with increased selling prices. Other positive, factually verifiable comments including *PAINT*, *NEWCARP* and *ROOFWORK* are associated with marginally lower selling prices. This suggests that such comments may be more hype than help.

The subjective comments also show a price impact. Motivated sellers and properties that are stated to be a good buy show decreases in the selling price. Good condition is associated with an increase in sales price, whereas good location shows a lower sales price suggesting that this subjective comment may be puffing. Because many of the comments have a statistically verifiable pricing effect, real estate agent comments are important to pricing, though some comments may be more hype than help.

Endnotes

[1] Webster's defines puffery as "exaggerated commendation, especially for promotional purposes."

[2] The use of a log-linear model allows us to circumvent the effect of wide variations in sale price ($30,000 to $449,529) and to interpret the regression coefficients as percentage changes. The log-linear specification is typical for a hedonic model. We include the square of square feet and the square of age to account for the possible non-linearity of these variables. We tested the model for multicollinearity using VIFs. There is some

multicollinearity between sq. ft. and square of sq. ft., and age and square of age. However, the level of multicollinearity is not a problem in the model. The average VIF is 1.45. See Neter, Kuter, Nachtsheim and Wasserman (1996: 385–88) for a discussion of variance inflation factors.

[3] The control variables for location and selling time are not presented in Exhibit 2. There are 117 dummy location variables based on MLS defined market areas and forty-eight variables for month and year sold. The dummy variable for area forty-five and for months January through March 1994 are used as the control variables. Interested readers may contact the authors for this information.

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