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Residential Asking Rents and Time on the Market

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Abstract Landlords offering a house in the rental market face a difficult strategic pricing decision. The revenue maximizing decision for the landlord involves a tradeoff between the rental rate and time on the market. Because the turnover of renters is higher than owners, and because the landlord must bear some carrying costs on a vacant house, pricing the rent too high may decrease revenue due to a higher vacancy period and pricing it too low may reduce the revenue when occupied. While there is substantial research on the relationship between listed prices and time on the market for freehold interests, this is the first study to provide empirical evidence on the relationship between asking rent, contract rent and time on the market for single family residential rental (leasehold) property interests. We present two models; a rental price model and a duration model for time-on-the market. Using data from the Dallas–Fort Worth area we find that landlords who set a lower asking rent relative to predicted rent can expect a shorter marketing period for their properties. The results also indicate that overpricing the asking rent and then lowering it at a later date leads to a longer marketing time (after the reset) and often a lower rent. These finding are reasonably robust for low-, mid-, and higher-valued rental properties.

Keywords Time on market · Duration model · Hedonic model · Atypicality · Residential rent · Asking rent

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Introduction

It is conventional practice in real estate markets for owners wanting to sell an interest (freehold or leasehold) in a property to initiate the negotiation process by disclosing a price at which they are willing to transfer property rights to potential buyers. Owners set listing prices (in the case of freehold interests) and asking rents (in the case of leasehold interests) that indicate their reservation prices and potential purchasers use owners' offer prices as a screening mechanism when searching for properties and when formulating their bids. Owners realize that higher offer prices serve as higher opening bids in the negotiation process, while also realizing that lower offer prices may attract more potential buyers more quickly, thus reducing the time it takes to sell or lease a property, other things held constant.

The strategic role of offer prices in housing markets has been considered in several previous studies, including Cubin (1974), Belkin et al. (1976), Janssen and Jobson (1980), Miller and Sklarz (1987), Haurin (1988), Kang and Gardner (1989), Horowitz (1992), Yavas and Yang (1995), Knight et al. (1994, 1998), Knight (2002) and Anglin et al. (2003). As noted by Knight et al. (1994), the common thread to the papers mentioned here is the notion that listing prices serve as information signals from sellers to buyers. In general, sellers recognize that a lower listing price may increase the probability of buyers making bids sooner, but they also realize that a lower listing price may truncate the upper end of the distribution of potential bids.

The studies noted above focus on the relationship between marketing time and listing prices for freehold interests. The present study provides empirical evidence of the relationship between offer price and time on the market for single family residential rental properties. To our knowledge, this is the first paper to investigate the time on the market for residential rental properties. Using a large sample of broker-assisted and Multiple Listing Service (MLS) listed single family residential rental property transactions from the Dallas–Forth Worth metropolitan area in Texas, this paper tests the null hypothesis that landlords' asking rents have no impact on the number of days between listing the property and subsequently signing a lease contract with a tenant. The results indicate that landlords who overprice their properties by setting high asking rents relative to expected contract rents experience longer marketing periods. This finding is statistically robust for low-, mid-, and high-valued residential rental properties in the sample.

This paper is organized as follows. "Literature Review" reviews of the literature on the role of listing prices in housing markets. "Data" describes the data. "Methods" describes the models used and "Results" presents the results. The final section summarizes the paper.

Literature Review

In three early studies of the empirical relationship between listing price and marketing time, Belkin et al. (1976), Janssen and Jobson (1980), and Kang and Gardner (1989) use ordinary least squares techniques to examine the relationship between listing price and marketing time and conclude that time on the market is a decreasing function of the ratio of selling price to listing price. In other words, sellers may be able to reduce the time it takes to sell their properties by setting a lower listing price relative to the value (selling price) of the properties. Yavas and Yang (1995) consider the strategic role of housing listing prices in a way that, unlike the earlier studies, recognizes that time on the market and transaction price are simultaneously determined.

Yavas and Yang (1995) present a rigorous search-theoretic model of broker-assisted residential property transactions in which the seller's asking price serves as a signal about the seller's reservation price and also influences the broker's optimal search intensity level. In their model, higher listing prices result in higher transaction prices if a buyer can be located who is willing to pay a higher price, but the probability of meeting such a buyer becomes smaller as the listing price increases. To the extent that higher listing prices increase the expected payoff to the broker (whose compensation is a percentage of the transaction price), higher listing prices increase the amount of effort the broker exerts in the search process. On the other hand, higher listing prices reduce the probability of a buyer being identified, which reduces the broker's incentive to search more. Their model implies that if the seller's listing price results in a net decrease in the broker's search effort, the relationship between listing price and time on the market is positive. But, if an increase in listing price increases the broker's search efforts, then the expected relationship between listing price and time on the market is ambiguous.

In the empirical portion of their paper, Yavas and Yang (1995) test the implications of their search theory model using a two-stage regression model, with the first stage consisting of a hedonic model for transaction prices and the second stage consisting of a regression of time on the market (and other control variables) on the ratio of the predicted selling price to the listing price. Their results indicate that lower listing prices, relative to predicted prices, are negatively related to time on the market for mid-priced houses in their sample from State College, Pennsylvania. They find no significant relationship between listing price and time on the market for low- and high-priced houses in their sample. Previous studies have reported a negative relationship between listing price to predicted price and marketing time over all price ranges.

Knight (2002) examines the impact of changes to the list price during the marketing period. Using two-stage least squares, he evaluates how changes in the list price impact the time on the market and the selling price. His results indicate that houses that are listed at too high of a price and are later marked down take longer to sell and sell for lower prices than houses that were initially priced "correctly."

Anglin et al. (2003) use a duration model to examine price setting in the housing market and find that setting the list price too high increases the time on the market of the property. Although existing research in the housing economics literature addresses the relationship between sales listing price and time on the market, no prior study evaluates whether asking rents for leasehold interests are significantly related to marketing time for residential rental properties. This paper extends the empirical evidence to single family leasehold interests and finds similar results.

While we did not uncover any papers addressing the rental rates for single family houses, there exists a large literature on apartment rents. Sirmans and Benjamin (1991) reviewed the existing literature on apartment rents and find that age, amenities, services, physical attributes and location affect rental rates. In a more recent review article Zietz (2003) surveys more than one hundred studies to summarize a number of strands of multifamily housing research. Several of her common conclusions have some relevance to the topic at hand such as; (1) Rents and rental adjustments are inversely related to vacancy rates, (2) amenities are influential in explaining vacancy rates and rent, and iii) single family housing is the preferred type of housing at all income levels. Valente et al. (2005) is a recent example of a paper addressing apartment rents. Their innovation is to more carefully model the spatial aspects of rents as previous research on apartment rents shows the importance of location.

Another concern for rental properties is tenant turnover and vacancy rates. Goodman (2003) studies the length of stay of renters and owners using American Housing Survey data for the Detroit area. In his sample about 30% of owners, and 62% of renters moved in the 4 years period 1981–1985. For the next 4 years, 60% renters moved while 26% of owners moved illustrating that renters move at about twice the rate of owners. Gabriel and Nothaft (2001) study the duration of vacancies and the natural vacancy rate, primarily using BLS data collected for estimating the CPI. The rent and vacancy data, thus, represent a combination of multi and single family dwellings. They report average vacancy rates for the 1987–1993 period to be as high as 11.5% in the Tampa area to as low as 3.1% in New York. For 6-month intervals, they report that about 70% of units will be experience no vacancy, while for a 24-month period, only about 40% will experience no vacancy. The vacancy rate over this period was about 7%. The natural vacancy rate was estimated at about 4% with little variation among MSA's. They study both the incidences of vacancy (the proportion of units that experience a vacancy in a given period) and the duration of vacancies. They note, "Estimation results further indicate that changes in residential rents are more responsive to incidence than to duration. This suggests landlords in determining rent are more sensitive to tenant outflow (i.e. incidence) than to lease-up time (i.e. duration)." The impact of atypicality and apartments rents has been studied by Jud and Frew (1990) and Frew et al. (1990) who find that atypical units have a higher natural vacancy rate and that rental concessions are a way to deal with atypical units.

When an owner sells a property, that event is presumably his or her last interaction with that property. When an owner rents a property, there will be an ongoing relationship. A prime concern for landlords is vacancy, both incidence and duration. The asking and contract rents may influence both. If the owner asks a high rent, there is the potential for a longer duration of vacancy, and possibly a higher incidence if a tenant perceives he or she is over paying and thus has an incentive to relocate. Given the importance of turnover in rental properties, it's very important that landlords set the rent in such a way as to minimize the turnover costs. This paper specifically addresses the rent setting mechanism including the effects of the level of asking rent compared to modeled rent and the effect of reducing the asking rent relative to the original amount that was asked.

Data

The data used in this study is a unique sample consisting of two years of single family residential rental listings with transactions or withdrawals during 2003 and

2004. The data are from the Dallas–Fort Worth (DFW) metropolitan area in north Texas. The variables for each observation in the sample include original asking rent, current asking rent, contract rent (\$/month), time on the market (days since the current asking rent was set), various physical characteristics, location identifiers defined by the MLS, listing quarter, sold or withdrawn quarter, and number of months of inventory during the month listed. We compute the Haurin (1988) measure of atypicality, and include indicator variables measuring the percent change in asking rent compared to the original asking rent. The data set records the original asking rent as well as the current asking rent. We compute the percent change in asking rent (PCAR) as:

$$\text{Original asking rent} - \text{current asking rent} \times 100\%$$

We use these figures to create a set of six indicator variables as described in Table 1. Unfortunately, we do not have the time period over which this change occurred and thus do not have the total time from the original asking rent to the currently listed asking rent. However, we still can examine the effect of initially overpricing or under pricing the asking rent and then at a later date lowering the asking rent on both contract rent and TOM. These measures allow us to examine how the listing rent and changes in the listing rent effects time on the market in the rental market.

The sample includes 20,131 listings with 11,434 lease transactions and 8,697 withdrawn or canceled during the 24 month period or still active at the end of the period. Definitions of the variables and descriptive statistics for the data are provided in Exhibits 1 and 2, respectively.[1]

Methods

The primary focus of this paper is to assess the tradeoff between asking rent and time on the market. To correctly model this, however, requires a multi-step approach. This is accomplished through the following four-step procedure.

Estimate a Hedonic Model of Asking Rents

We first estimate a fairly standard hedonic model of asking rent. We estimate the expected asking rent for a single family house with characteristics X under market conditions M. The asking rent model is:

$$\mathrm{E}(\log(\mathrm{AskRent})) = \beta_0 + X_{\alpha_X} + M_{\alpha_M} \tag{1}$$

Specification testing of this model indicated the presence of heteroskedasticity; thus, we estimate this model using Generalized Least Squares (GLS). The predicted rent model is used to compare the predicted asking rent to the actual predicted rent.

[1] As a point of interest, in this data set, for the limited observations that listed subagent or buyers commissions, the most common commission offer to the subagent or buyers agent is 50% of the first months rent with a range of 25% to 100% of the first month's rent.

Table 1 Variable definitions for single family residential rentals, January 2003 to December 2004

Variables	Definition
Rent and market variables	
TOM	Number of days between the MLS stated listing date and lease contract date or off the market date
OrigAskRent	Original asking rent (monthly) reported in the MLS data
AskRent	Asking rent (monthly) reported in MLS data
ConRent	Contract rent (monthly) reported in MLS data
AskRentRatio	Log of predicted rent divided by asking rent: ln((Predicted Rent/AskRent)
PCAR	A set of Indicator Variables of percentage change in asking rent from OrigAskRent to AskRent, computed as (AskRent* OrigAskRent)/OrigAskRent*100. PCAR < −20, −20 to −10, −9.99 to −6, −5.99 to −1, −0.99 to +0.99%, and ≥+ 1%. −0.99 to + 0.99% is held out of the models
MthsInv	Number of months' inventory during a given month, calculated by the MLS
Property description variables	
Square feet	Square feet of the houses divided by 100
Age	Age of the house in years divided by 10
Bedrooms	Number of bedrooms in the house
FullBaths	Number of full bathrooms in the house
HalfBaths	Number of half bathrooms in the house
Pool	Dummy variable equal to 1 if property has a swimming pool, 0 otherwise
Stories	Number of floors in the house
Fireplace	Dummy variable equal to 1 if property has a fireplace, 0 otherwise
Pets allowed	Dummy variable equal to 1 if pets are permitted on the property, 0 otherwise
SecuritySys	Dummy variable equal to 1 if house has a security system, 0 otherwise
No smoking	Dummy variable equal to 1 if smoking is prohibited, 0 otherwise
Brick	Dummy variable equal to 1 if property exterior is primarily brick, 0 otherwise
Wood	Dummy variable equal to 1 if property exterior is primarily wood, 0 otherwise
Siding	Dummy variable equal to 1 if property exterior is primarily siding, 0 otherwise
FencedYard	Dummy variable equal to 1 if property has a fenced yard, 0 otherwise
CentralAir	Dummy variable equal to 1 if the house is cooled primarily by an electric central air unit, 0 otherwise
CentralHeat	Dummy variable equal to 1 if the house is heated primarily by a gas central heat unit, 0 otherwise
Atypical	Haurin's measure of atypicality for a house divided by 1,000
Listing and leased variables	
LQI	Dummy variable equal to 1 if the house was listed in January, February, or March, 0 otherwise
LQII	Dummy variable equal to 1 if the house was listing in April, May, or June, 0 otherwise
LQIII	Dummy variable equal to 1 if the house was listing in July, August, or September, 0 otherwise
LQIV	Dummy variable equal to 1 if the house was listing in October, November, or December, 0 otherwise
LTrend	Trend variable indicating month listed, increasing by 1 per month (1 = October, 2002)
SQI	Dummy variable equal to 1 if the house was leased or off the market in January, February, or March, 0 otherwise
SQII	Dummy variable equal to 1 if the house was leased or off the market in April, May, or June, 0 otherwise
SQIII	Dummy variable equal to 1 if the house was leased or off the market in July, August, or September, 0 otherwise
SQIV	Dummy variable equal to 1 if the house was leased or off the market in October, November, or December, 0 otherwise. Otherwise
STrend	Trend variable indicating month leased or off the market, increasing by 1 per month (1 = January, 2003)
Leased	Dummy variable equal to 1 if the listing was leased, 0 otherwise

Table 1 (continued)

Variables	Definition
OffMarket	Dummy variable equal to 1 if the listing went off the market during the sample period, 0 otherwise
Active	Dummy variable equal to 1 if the listing was active at the end of the sample period, 0 otherwise

That is, AskRentRatio=E(log(AskRent); X, M)—log(AskRent) estimates the accuracy of the asking rent pricing relative to the market as a whole. AskRentRatio is conjectured to be an important variable in determining the Time On Market ["Estimate a Duration Model of the Time On Market (TOM)"]. We do not report these results, except that Table 2 presents the descriptive statistics for AskRentRatio.

Estimate a Probit Model of Whether the House Rents During the Study Period

Using the same covariate data noted above for asking rents, except that we include the log of TOM as an additional independent variable, we estimate a Probit model where the dependent variable *Leased* takes the value 1 if the unit rents during the data period and zero otherwise. We use this model to estimate the Inverse Mills Ratio (IMR) to determine whether we need to use a Heckman model for estimating the contract rent that is used in step 3.

Estimate a Hedonic Model of Contract Rents

We next estimate a contract rental price model corrected for sample selection bias following the labor economics literature for wage equations where one has information on the characteristics of the individual but no wage data for those individuals who are not employed. For our model we have housing characteristics for all the properties, but no rental price for the 8,697 single family houses that were listed but not leased during the sample period.The contract rental price model is:

$$\log(\mathrm{ConRent}) = \beta_0 + \mathrm{X}\beta_{\mathrm{X}} + M\beta_{\mathrm{M}} + Z\beta_{\mathrm{X}} + \mathrm{IMR} + \varepsilon_{\mathrm{i}} \tag{2}$$

where the vector X and M are as above and Z is a set of indicator variables describing the change in asking rent from when the unit was first listed. The contract rent model also includes the inverse Mills ratio (IMR) which was computed in the previous step. For housing studies and many other applications, the Heckman model (Heckman 1976) is an appropriate method when one suspects sample selection bias.[2] In general, sample selection bias refers to the case where a dependent variable is only observed for a restricted, non-random sample. In this study, we only observe a rental price if the house is actually leased.

[2] The Heckman selection model corrects for selectivity bias by adjusting the conditional error terms using the inverse Mills ratio so that the conditional error terms will have zero means.

Table 2 Descriptive statistics for single family residential rental houses in the Dallas–Fort worth metropolitan area, Texas, between January, 2003 and December, 2004

Variable	Mean full sample	Standard deviation	Mean, bottom 25% of the full sample $395 ≤ AskRent ≤ $1,095	Mean, middle 50% of the full sample $1,096 ≤ AskRent ≤ $1,594	Mean, top 25% of the full sample, $1,595 ≤ AskRent ≤ $4,500
TOM	71.806	65.854	66.973	69.507	81.175
OrigAskRent	1,436.447	513.093	954.313	1,353.686	2,100.791
AskRent	1,392.042	494.161	920.122	1,312.654	2,039.321
ConRent	1,301.719	427.961	911.661	1,290.949	1,948.404
AskRentRatio	−0.003	0.160	0.078	−0.001	−0.092
PCAR <−20%	0.017	0.129	0.021	0.013	0.022
PCAR −20 to −10%	0.098	0.297	0.110	0.089	0.099
PCAR −9.99 to −6%	0.108	0.311	0.099	0.136	0.068
PCAR −5.99 to −1%	0.103	0.304	0.118	0.095	0.101
PCAR −0.99 to + 0.99%	0.655	0.475	0.631	0.650	0.690
PCAR ≥ + 1%	0.019	0.137	0.022	0.017	0.021
MthsInv	4.615	0.420	4.635	4.618	4.588
Square feet	19.720	6.653	13.621	18.930	27.650
Age	2.060	1.720	3.142	1.735	1.513
Bedrooms	3.324	0.648	2.918	3.283	3.827
FullBaths	2.075	0.528	1.734	2.022	2.534
HalfBaths	0.271	0.454	0.115	0.226	0.520
Pool	0.078	0.267	0.012	0.051	0.195
Stories	1.244	0.430	1.075	1.191	1.541
Fireplace	0.725	0.446	0.499	0.786	0.853
Pets allowed	0.371	0.483	0.369	0.380	0.357
SecuritySys	0.275	0.447	0.081	0.273	0.484
No smoking	0.351	0.477	0.243	0.375	0.421
Brick	0.630	0.483	0.506	0.666	0.693
Wood	0.049	0.215	0.071	0.042	0.037
Siding	0.099	0.298	0.122	0.094	0.082
FencedYard	0.796	0.403	0.760	0.807	0.813
CentralAir	0.600	0.490	0.505	0.624	0.658
CentralHeat	0.334	0.472	0.178	0.338	0.494
Atypical	0.189	0.316	0.158	0.051	0.478
LQI	0.201	0.401	0.197	0.200	0.208
LQII	0.235	0.424	0.223	0.239	0.237
LQIII	0.276	0.447	0.283	0.275	0.268
LQIV	0.289	0.453	0.296	0.285	0.287
LTrend	15.110	7.543	15.580	15.313	14.237
SQI	0.195	0.396	0.199	0.199	0.196
SQII	0.230	0.421	0.212	0.233	0.244
SQIII	0.257	0.437	0.254	0.257	0.261
SQIV	0.317	0.465	0.335	0.318	0.298
STrend	14.204	7.160	14.493	14.340	13.647
Leased	0.568	0.495	0.663	0.581	0.442
Withdrawn	0.316	0.465	0.220	0.300	0.448
Active	0.116	0.320	0.117	0.119	0.110
N	20,131		5,468	9,510	5,153
N for leased	14,434		3,624	5,532	2,278

Estimate a Duration Model of the Time on Market (TOM)

We specify a TOM model as a function of the characteristics of the house (*X*), market conditions (*M*), and uniqueness (*Z*), where Atypical, AskRentRatio and PCAR dummies are represented by *Z* in Eq. 3 below. Many researchers have used ordinary least squares (OLS) to estimate TOM models. While this method provides unbiased estimates, it wastes information. In a "single risk" model, Lancaster (1990, ch. 8.8) claims that using a semi-log OLS model to estimate the determinants of TOM is equivalent to discarding 39% of the data if the true model is exponentially distributed and 43% of the data if a Weibull distribution is more appropriate. Consequently we estimate TOM using a hazard model with a Weibull specification of the baseline hazard function:

$$\mathrm{f}(\mathrm{t}|X,M,Z)=\varphi\,\lambda(X,M,Z)^{\varphi}t^{\varphi-1}\exp(-(\lambda(X,M,Z)^{*}t)^{\varphi}) \tag{3}$$

where φ is a duration dependency parameter, λ is a scaling parameter, t is TOM, and other variables are as previously described. We use a proportional hazards specification to explain the contribution of the independent variables and modify the likelihood function to deal with withdrawn rental units. The observed TOM is the minimum of two random variables: the time until lease or the time until withdrawal. Whether a landlord is observed renting the house or withdrawing from the market depends on which of these events occurs first. Because a landlord can withdraw without leasing causes "censoring" of the duration data which misleadingly shortens the average TOM. The variable, Leased, is a binary variable indicating whether a property was leased (Leased=1). For those single family houses which were withdrawn from the rental market at time t, the probability that the time until lease exceeds t is

$$1-\mathrm{F}(\mathrm{t}|\mathrm{X},\mathrm{M},\mathrm{Z})=\exp(-(\lambda(\mathrm{X},\mathrm{M},\mathrm{Z})^{*}t)^{\varphi}) \tag{4}$$

The maximum likelihood estimates of β, φ and θ correct for this random and frequent censoring (see Lancaster 1990 for further discussion).

Results

The results of the contract rental price model and time on the market model are presented in Tables 3 and 4, respectively. Four sets of results are shown in each table. Column A of each table shows the results for the full sample and columns B through D show the results for three groups, bottom 25%, middle 50% and top 25% (based on asking rents). Though not shown in the tables (but available upon request), the contract rent models also include coefficient estimates for up to 48 dummy variables (depending on the sub-sample) that correspond to MLS-defined geographic areas that indicate locations of the properties within the DFW Metroplex.

Table 3 shows results similar to apartment rent studies that larger, newer units with more bathrooms, a pool, a security system, and a fireplace rent for more. Of particular interest to this study, however, is the effect of changing the asking rent (*PCAR*). For the full sample, Table 3 indicate 20% decrease in the asking rent

Table 3 Contract rent regressions

	Column A: full Sample $395 ≤ AskRent ≤ $4,500	Column B: Bottom 25% $395 ≤ AskRent ≤ $1,095	Column C: Middle 50% $1,096 ≤ AskRent ≤ $1,594	Column D: Top 25% $1,595 ≤ AskRent ≤ $4,500
PCAR <−20%	−0.085	−0.032	−0.059	−0.074
	−(8.79)[a]	−(2.16)[b]	−(6.30)[a]	−(4.46)[a]
PCAR −20 to −10%	−0.052	−0.024	−0.028	−0.056
	−(12.57)[a]	−(4.27)[a]	−(7.32)[a]	−(5.83)[a]
PCAR −9.99 to −6%	−0.018	0.01	−0.015	−0.027
	−(5.14)[a]	(1.93)	−(4.68)[a]	−(2.70)[a]
PCAR −5.99 to −1%	−0.009	0.002	−0.002	−0.045
	−(2.52)[b]	(0.52)	−(0.54)	−(5.93)[a]
PCAR ≥ + 1%	−0.000	0.008	−0.003	−0.010
	−(0.04)	(0.72)	−(0.31)	−(0.53)
Square feet	0.029	0.022	0.015	0.020
	(63.29)[a]	(25.05)[a]	(33.36)[a]	(22.52)[a]
Age	−0.033	−0.02	−0.017	−0.012
	−(22.72)[a]	−(10.69)[a]	−(12.37)[a]	−(2.86)[a]
Bedrooms	0.002	0.019	0.009	−0.023
	(0.75)	(3.90)[a]	(3.33)[a]	−(3.66)[a]
FullBaths	0.066	0.083	0.002	0.061
	(14.45)[a]	(12.71)[a]	(0.28)	(8.42)[a]
HalfBaths	0.019	0.035	0.001	0.009
	(4.68)[a]	(5.65)[a]	(0.29)	(1.36)
Pool	0.103	0.059	0.035	0.092
	(18.31)[a]	(3.90)[a]	(6.41)[a]	(11.46)[a]
Stories	−0.037	−0.02	−0.001	−0.025
	−(8.67)[a]	−(2.83)[a]	−(0.17)	−(3.05)[a]
Fireplace	0.043	0.013	0.004	0.013
	(10.39)[a]	(2.92)[a]	(0.82)	(0.84)
Pets allowed	−0.002	0.012	−0.008	0.003
	−(0.75)	(3.42)[a]	−(3.28)[a]	(0.46)
SecuritySys	0.036	0.027	0.026	0.018
	(11.05)[a]	(4.99)[a]	(9.51)[a]	(2.89)[a]
No Smoking	0.013	0.022	0.001	−0.004
	(4.82)[a]	(5.85)[a]	(0.58)	− (0.61)
Brick	−0.002	−0.001	−0.003	−0.013
	−(0.46)	−(0.21)	−(0.88)	−(1.28)
Wood	−0.01	0.000	−0.002	−0.027
	−(1.72)	−(0.04)	−(0.42)	−(1.73)
Siding	−0.012	0.000	−0.008	−0.02
	−(2.99)[a]	(0.04)	−(1.91)	−(1.91)
FencedYard	−0.025	−0.007	−0.005	0.001
	−(5.18)[a]	−(1.20)	−(1.01)	(0.07)
CentralAir	0.006	0.003	−0.001	0.007
	(1.51)	(0.75)	−(0.29)	(0.73)
CentralHeat	0.026	0.02	0.02	0.015
	(8.29)[a]	(4.18)[a]	(6.95)[a]	(1.93)
SQII	0.021	0.01	0.009	0.021
	(5.48)[a]	(2.11)[b]	(2.53)[b]	(2.40)[b]
SQIII	0.023	0.019	0.009	0.006
	(5.88)[a]	(3.64)[a]	(2.44)[b]	(0.63)
SQIV	0.007	−0.000	0.005	−0.012
	(1.48)	−(0.02)	(1.20)	−(0.97)
STrend	−0.002	−0.001	−0.002	−0.001
	−(9.17)[a]	−(2.77)[a]	−(7.42)[a]	−(1.85)

Table 3 (continued)

	Column A: full Sample $395 ≤ AskRent ≤ $4,500	Column B: Bottom 25% $395 ≤ AskRent ≤ $1,095	Column C: Middle 50% $1,096 ≤ AskRent ≤ $1,594	Column D: Top 25% $1,595 ≤ AskRent ≤ $4,500
Constant	6.503	6.38	6.89	6.935
	(527.80)[a]	(289.56)[a]	(524.35)[a]	(264.66)[a]
Number listed	20,131	5,468	9,510	5,153
Number leased	11,434	3,624	5,532	2,278
Log likelihood	−4,667.536	358.699	476.207	−1,619.691
AIC	9,641.072	−411.398	−646.414	3,541.381
BIC	10,851.300	599.423	499.081	4,530.029
Inverse mills ratio	0.009	0.004	−0.013[b]	0.010

Regression models of contract rents corrected for possible sample selection bias based on the probability of sale using Heckman's selection model, based on the full sample during 2003–2004 of 20,131 single family houses listed on the Multiple Listing Service (MLS) for rent of which 11,434 are leased and 8,697 are withdrawn or not rented by the end of the sample period. The dependent variable is the log of the contract rent. All models include dummy variables for MLS specified areas (not reported for brevity) to control for location. The ML estimates of the coefficients are presented in the table, with t-statistics reported in parentheses using heteroskedasticity-robust Huebner/White standard errors

[a] Statistics with significance at the 1% level

[b] Statistics with significance at the 5% level

(PCAR < −20%), though it occurs only 1.7% of the time (see Table 2) is associated with an 8.5% lower contract rent than would have otherwise resulted given the characteristics of the house and market. A −20 to −10% asking rent reduction is associated with a 5.2% contract rent decrease. However, once the repricing drops into the 10% or lower range, the negative impact is between 1 and 2% on contract rent. There is no significant impact if rents are increased, but this group is only 1.9% of the sample. As shown in columns B, C, and D, somewhat similar results are obtained for each of the sub-samples though at varying magnitudes and statistical significance levels. The net effect is that asking a high rent initially and then lowering the asking rent results in lower contract rents than when listing at a rate that will not be adjusted downwards. The seasonality covariates show that rents are somewhat higher in the second and third quarter of the year. Overall there was a downward pressure in rents over the study period. In this sample of single family rental houses, we found limited evidence of sample selection bias regarding to the leased versus available for lease but not leased, as indicated by the mostly statistically insignificant IMR (only limited significance is for the middle 50% model).

Table 4 presents the time on the market duration model. An important variable of interest is the degree to which the asking price compares to the predicted asking price, as measured by AskRentRatio. The coefficients for this covariate are negative with high statistical significance. In words this says that the lower one sets asking rent relative to the predicted asking rent, the shorter the marketing period. In addition, the coefficients on the PCAR dummies indicate that the more dramatically the asking rent has been reduced, the longer it takes to rent the property relative to units that are not repriced. These results indicate that the rental market is sensitive to both asking price and repricing.

Table 4 Time on the market models

	Column A: full sample $395 ≤ AskRent ≤ $4,500	Column B: bottom 25% $395 ≤ AskRent ≤ $1,095	Column C: middle 50% $1,096 ≤ AskRent ≤ $1,594	Column D: top 25% $1,595 ≤ AskRent ≤ $4,500
AskRentRatio	−0.444	−0.296	−0.491	−0.481
	−(19.51)[a]	−(6.86)[a]	−(8.93)[a]	−(10.42)[a]
MthsInv	0.08	0.013	0.108	0.095
	(4.86)[a]	(0.45)	(5.44)[a]	(3.24)[a]
Atypical	0.028	−0.119	0.017	−0.094
	(1.70)	−(1.34)	(0.64)	−(1.43)
PCAR <−20%	0.172	0.233	0.15	0.138
	(10.02)[a]	(8.19)[a]	(6.13)[a]	(4.10)[a]
PCAR −20 to −10%	0.132	0.141	0.141	0.12
	(19.04)[a]	(10.40)[a]	(11.56)[a]	(6.96)[a]
PCAR −9.99 to −6%	0.094	0.145	0.092	0.06
	(14.53)[a]	(11.68)[a]	(9.09)[a]	(3.01)[a]
PCAR −5.99 to −1%	0.069	0.119	0.051	0.03
	(10.84)[a]	(8.65)[a]	(5.15)[a]	(1.79)
PCAR ≥ + 1%	0.064	0.100	0.061	−0.005
	(4.01)[a]	(3.29)[a]	(1.76)	−(0.11)
Square feet	0.006	−0.008	0.006	0.011
	(6.24)[a]	−(1.98)[b]	(3.50)[a]	(2.80)[a]
Age	0.012	0.017	0.012	0.022
	(4.40)[a]	(3.60)[a]	(3.39)[a]	(2.71)[a]
Bedrooms	−0.012	−0.003	−0.024	−0.01
	−(1.90)	−(0.22)	−(2.49)[b]	−(0.82)
FullBaths	−0.004	−0.001	0.053	−0.011
	−(0.46)	−(0.05)	(2.95)[a]	−(0.59)
HalfBaths	0.004	0.015	0.000	0.008
	(0.50)	(0.88)	(0.03)	(0.57)
Pool	−0.009	0.139	−0.008	−0.02
	−(0.81)	(2.30)[b]	−(0.40)	−(0.99)
Stories	0.033	0.008	0.024	0.04
	(3.99)[a]	(0.41)	(1.79)	(2.65)[a]
Fireplace	0.03	0.037	0.041	0.079
	(4.22)[a]	(3.16)[a]	(3.21)[a]	(2.38)[b]
Pets Allowed	−0.023	0.009	−0.035	−0.042
	−(3.85)[a]	(0.73)	−(3.59)[a]	−(3.04)[a]
SecuritySys	0.027	0.044	0.02	0.017
	(4.28)[a]	(2.10)[b]	(2.15)[b]	(1.25)
No smoking	−0.004	0.014	−0.011	−0.002
	−(0.83)	(1.31)	−(1.33)	−(0.18)
Brick	0.031	0.019	0.038	0.025
	(4.34)[a]	(1.51)	(3.23)[a]	(1.48)
Wood	0.049	0.063	0.051	−0.028
	(3.51)[a]	(2.71)[a]	(3.11)[a]	−(0.83)
Siding	0.016	0.019	0.013	0.013
	(1.68)	(1.12)	(1.11)	(0.59)
FencedYard	0.055	0.043	0.058	0.026
	(6.72)[a]	(2.84)[a]	(4.78)[a]	(1.05)
CentralAir	0.006	0.014	0.001	−0.002
	(0.68)	(1.04)	(0.10)	−(0.11)
CentralHeat	−0.011	−0.007	−0.024	0.019
	−(1.58)	−(0.58)	−(2.71)[a]	(1.03)
LQII	−0.011	−0.006	−0.007	−0.018
	−(1.69)	−(0.48)	−(0.64)	−(1.14)

Table 4 (continued)

	Column A: full sample $395 ≤ AskRent ≤ $4,500	Column B: bottom 25% $395 ≤ AskRent ≤ $1,095	Column C: middle 50% $1,096 ≤ AskRent ≤ $1,594	Column D: top 25% $1,595 ≤ AskRent ≤ $4,500
LQIII	0.047	0.078	0.023	0.075
	(4.47)[a]	(3.57)[a]	(1.53)	(2.85)[a]
LQIV	0.094	0.103	0.078	0.124
	(8.57)[a]	(4.59)[a]	(5.61)[a]	(5.28)[a]
LTrend	−0.006	−0.002	−0.006	−0.01
	−(9.73)[a]	−(2.15)[b]	−(7.83)[a]	−(8.46)[a]
Constant	0.995	1.375	0.831	0.883
	(14.04)[a]	(7.57)[a]	(9.53)[a]	(6.72)[a]
Number listed	20,131	5,468	9,510	5,153
Number leased	11,434	3,624	5,532	2,278
Log Likelihood	−11,109.672	−2,961.320	−5,092.678	−2,826.325
AIC	22,377.340	6,080.639	10,343.360	5,808.651
BIC	23,002.230	6,602.566	10,900.000	6,319.343
P	3.635	3.616	3.752	3.590

Parametric estimation of accelerated failure time Weibull duration models corrected for censoring based on the full sample during 2003–2004, where 11,434 of 20,131 single family rental houses listed were leased. The dependent variable is log of time on the market (TOM). All regressions include dummy variables for Multiple Listing Service specified areas (not reported for brevity) to control for location. The ML estimates of the coefficients are presented in the table, with *t* statistics reported in parentheses using bootstrapped standard errors

[a] Statistics with significance at the 1% level

[b] Statistics with significance at the 5% level

Table 4 also shows the greater the months of inventory available, the longer it takes to market a property (except for the lower priced units). Unlike the results reported in other housing studies, atypicality does not seem to affect marketing time. Atypical is marginally correlated with AskRentRatio (correlation coefficient=0.30). To determine what impact including AskRentRatio has on Atypical, we re-estimated the time on the market model excluding AskRentRatio and found that Atypical is positive and significant as has been found in other studies. It appears that controlling for mispricing of asking rents is related to controlling for atypicality in the single family housing rental market.

The results also indicate that the season (calendar quarter of listing) in which the property is listed affects the marketing time. In general marketing time is longer for properties listed in the second half of the year. The trend variable indicating the listing month, LTrend, indicates that markets times were decreasing over the sample period. As far as physical characteristics goes, the results show that in general larger, newer, single story, no fireplace, multiple story, fireplace, no pets, security system, and fenced houses spend a longer time on the market.

Conclusions

As discussed by Knight et al. (1998) and as well as others, the housing economics literature finds that offer prices perform an important market function from the perspective of both the seller and buyer. For the renter, the asking rent is a key factor for selecting the houses to be considered. For landlords, the asking rent price is perceived as a signal of his or her reservation rent and an indication of motivation to transact. By setting a lower asking rent, landlords may hope to reduce the time it takes to rent their properties.

This study examines whether asking rents for residential properties are related to marketing time. Our results find that underpricing of asking rents leads to shorter marketing times. For the average property, an asking rent that is 10% lower than predicted will lead to a TOM that is approximately 4.4% or 3 days shorter. For low valued property the result is 2.96% or 2 days, for medium priced property 4.9% or 3.4 days, and for high priced property 4.8% or 3.9 days. We also find that initially setting asking rent too high and later lowering it increases the time on the market and results in a lower contract rent. For example, if the landlord initially sets the rent 15% too high on the average property, the landlord can expect a rent that is 5.2% lower than the estimated rent and an extension of marketing time by approximately 9.5 days (not including the time the property was on the market before the rent reset). The results also indicate that time on the market is affected by the quarter of the year the property is placed on the market, though the effect varies in sign and magnitude across rental price ranges.

Overall, the findings reported here for the relationship between asking rents and time on the market are consistent with early studies of the relationship between listing prices and time on the market for houses by Belkin et al. (1976), Janssen and Jobson (1980), and Kang and Gardner (1989), Yavas and Yang (1995), Anglin, Rutherford and Springer (2003) and Knight (2002). The link between marketing time and rents may be more critical in the rental market where turnover and vacancies are very important to the overall cash flows a rental house generates.

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