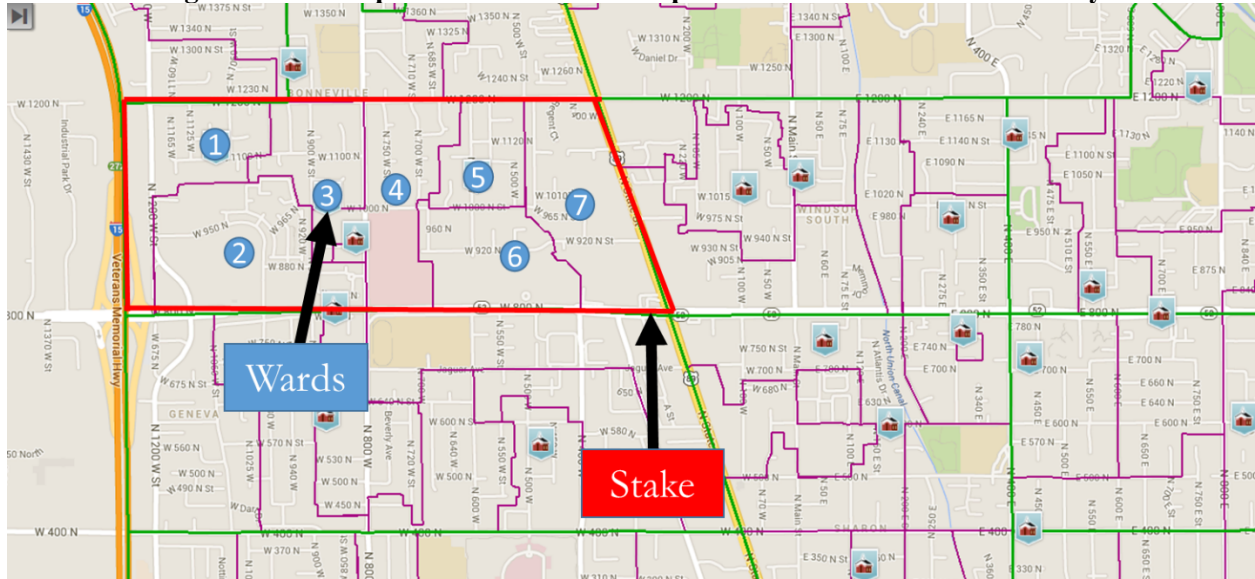


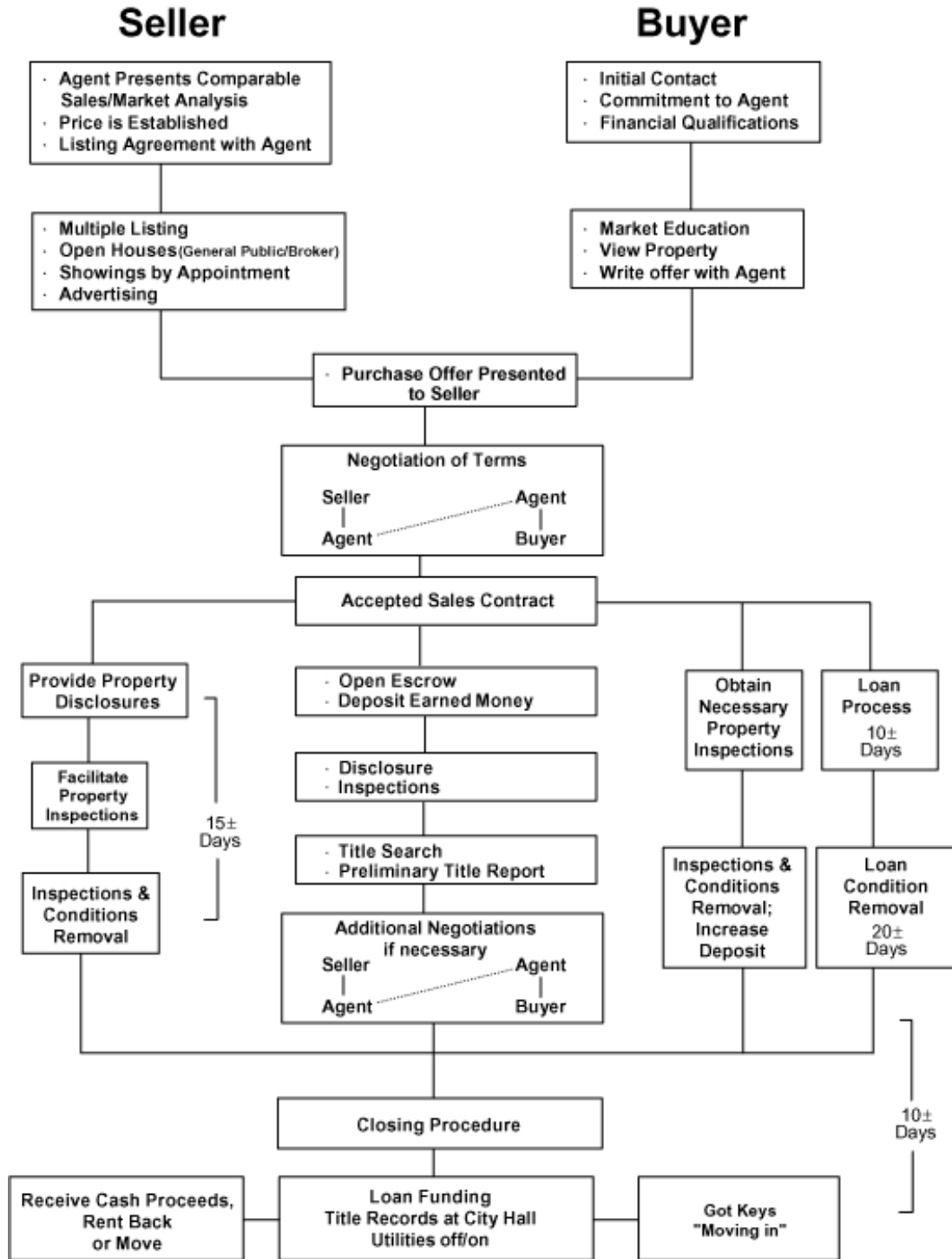
# APPENDIX

**Figure A1: Example Boundaries for a Representative Stake in Utah County**



Note: This figure shows a representative stake in Utah County with seven wards. The green boundaries (including the highlighted red boundary) represent stake boundaries, and the purple boundaries ward boundaries. This map covers approximately 2.5 square miles of Utah County.

Figure A2: Flow Chart of a Typical Real Estate Transaction

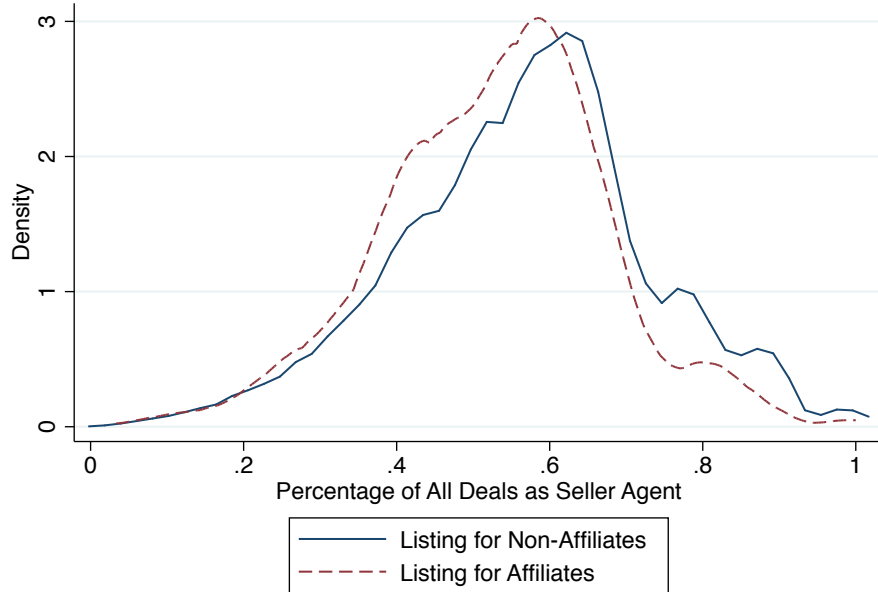


Source: Andrew Roth Real Estate, <http://www.rothrealestate.com/transaction-flow-chart/>

**Figure A3: Kernel Density Distributions for Human Capital Variables, by Affiliation**

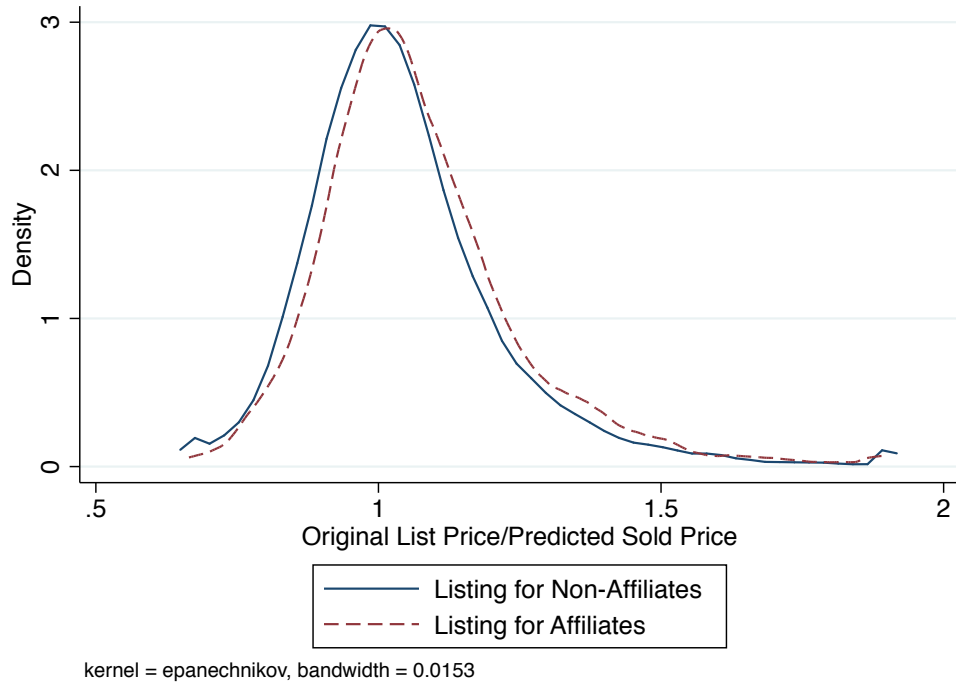


kernel = epanechnikov, bandwidth = 0.1566

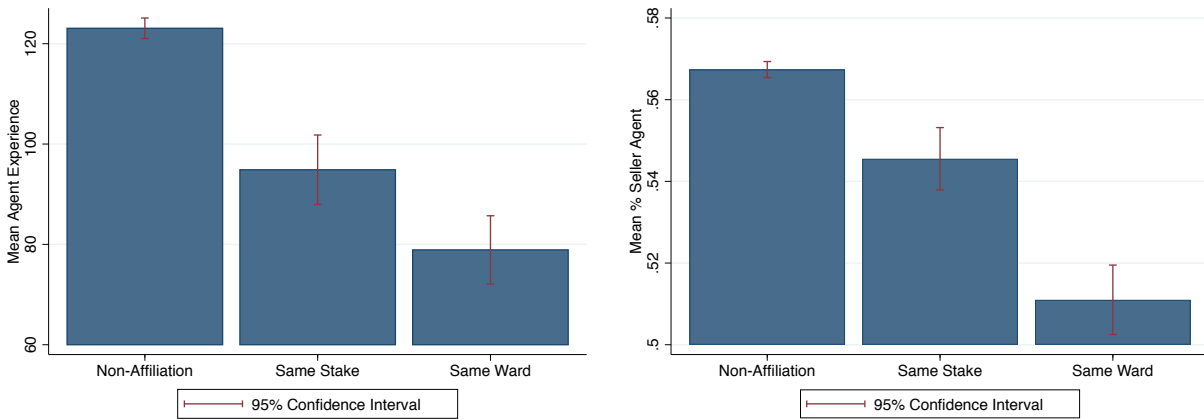


kernel = epanechnikov, bandwidth = 0.0168

**Figure A4: Agents List Homes at Higher Prices for Affiliates**

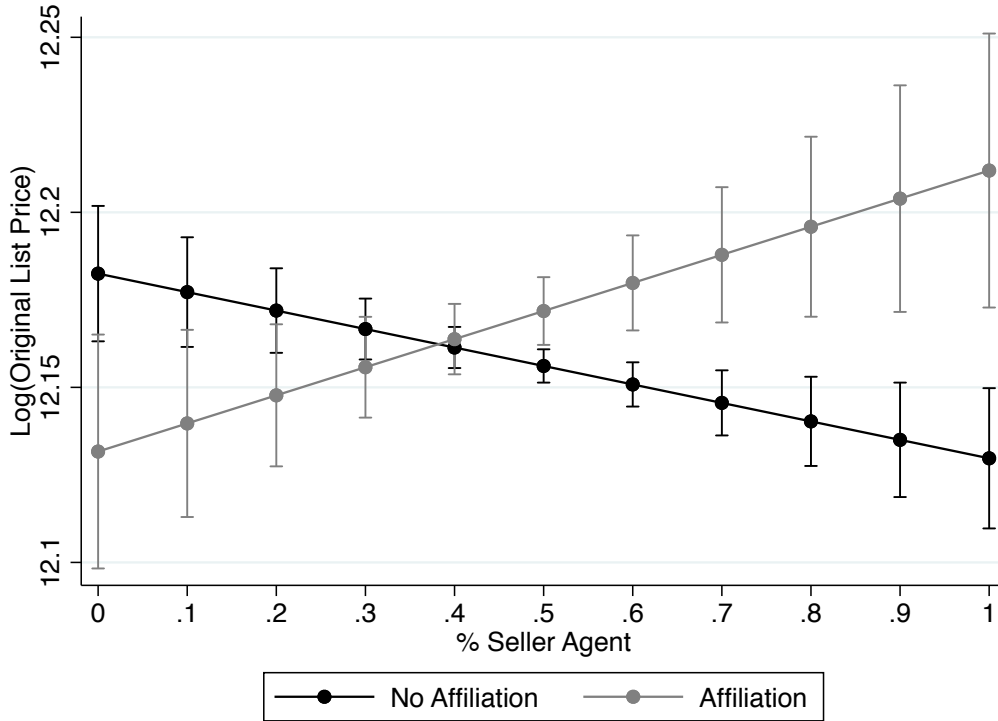


**Figure A5: Agent Experience and Seller Agent Expertise, by Ward/Stake**



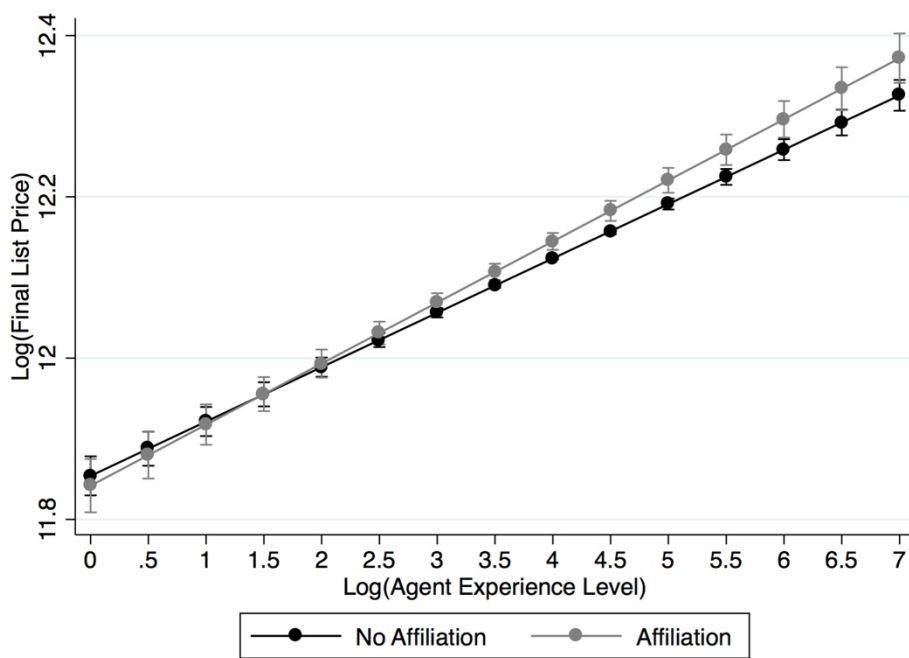
Note: Means presented using the raw data. Median values for experience are 57 homes for non-affiliation, 51 for same stake affiliation, and 36 for same ward. Median value for % seller agent are 0.575, 0.560, and 0.510 respectively.

**Figure A6: Between Model, Original Listing Prices by Affiliation**



Note: Figure graphically presents results from a model similar to those in Table 7, but with the log of Original List Price as the dependent variable. 95% confidence intervals are presented.

**Figure A7: Within Models, Final Listing Prices by Affiliation**



Note: Figure graphically presents results from a model similar to those in Table 7, but with the log of final list price as the dependent variable. 95% confidence intervals are presented.

**Table A1: Typical Interactions in LDS Church Wards and Stakes**

Ward Level – (~450 individuals, 188 families, 154 housing units)

<u>Weekly Interactions</u>	<u>Other Interactions</u>
<ul style="list-style-type: none"> <li>-Church services: 3 hours</li> <li>-Two hours of interactive classes</li> <li>-Responsibilities associated with lay ministry (e.g., teaching, library, clerk, etc.)</li> <li>-Multiple leadership meetings for approximately 30 members</li> <li>-Weekday youth activities (youth and leaders)</li> </ul>	<ul style="list-style-type: none"> <li>-Bi-monthly social activities</li> <li>-Monthly women’s organization gatherings</li> <li>-Monthly assigned visits to 2-4 families</li> <li>-Monthly temple days – members invited to come same day/time</li> <li>-Interactions in responsibilities</li> <li>-Sports league</li> </ul>

Stake Level– (~3150 individuals, 826 families, 1081 housing units)

<u>Regular Interactions</u>	<u>Weekly Interactions</u>
<ul style="list-style-type: none"> <li>-Bi-annual church conference, all members</li> <li>-Bi-annual training meetings for leadership</li> <li>-Monthly scheduled temple days—members invited to come same day</li> <li>-Youth activities (youth, leaders, and parents) <ul style="list-style-type: none"> <li>*Multi-day annual event</li> <li>*Full day events (~2/year)</li> <li>*Youth dances (~6/year)</li> <li>*Annual week long boys and girls camps for youth, leaders, and parents</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>-Leadership meetings (5-15 people)</li> </ul> <p style="text-align: center;"><u>Other Interactions</u></p> <ul style="list-style-type: none"> <li>-Monthly meetings between Stake and Ward clergy</li> <li>-Stake leadership visits to ward (~6X/year)</li> <li>-Stake-wide social activities (~2/year)</li> <li>-Service activities</li> <li>-Interactions in responsibilities</li> <li>-Sports league</li> </ul>

**Table A2: House Description and Quality Indicator Dummies from Public Remarks**

Quality Indicators	Mean	Std. Dev.	Quality Indicators	Mean	Std. Dev.
TLC	0.01	0.09	Custom	0.06	0.24
Needs Updating	0.002	0.04	Unique	0.01	0.08
Estate Sale	0.002	0.04	Maple	0.02	0.14
Foreclosure	0.002	0.05	Newer	0.06	0.23
Handyman	0.001	0.03	Hurry/Will Not Last	0.03	0.17
As-Is	0.01	0.11	Pride	0.002	0.05
Rehabber	0.0002	0.01	Clean	0.07	0.25
Bank-Owned	0.01	0.08	Quiet	0.08	0.27
Priced to Sell	0.02	0.14	Dream	0.01	0.09
Motivated	0.02	0.14	Block	0.02	0.13
Potential	0.01	0.12	Huge	0.09	0.28
Close	0.19	0.39	Deck	0.06	0.24
!	0.40	0.49	Mint	0.002	0.04
New	0.33	0.47	Hardwood	0.07	0.26
Spacious	0.07	0.25	Views	0.10	0.30
Elegance	0.01	0.08	New Roof/New Shingles	0.02	0.13
Beautiful	0.19	0.39	Upgraded/Updated	0.09	0.29
Remodeled/Renovated	0.05	0.22	Vaulted	0.11	0.31
Historic/Vintage	0.003	0.06	Floor plan	0.09	0.28
Maintained/Well-Cared	0.03	0.17	Award	0.001	0.04
Wonderful	0.05	0.22	Hot Tub	0.02	0.14
Fantastic	0.03	0.17	Tile	0.12	0.33
Charming	0.01	0.12	Cul-de-sac	0.05	0.21
Stunning	0.01	0.10	Jetted Tub	0.05	0.22
Amazing	0.02	0.15	Park	0.14	0.35
Granite	0.06	0.24	Brick	0.05	0.21
Immaculate	0.04	0.19	Value	0.03	0.16
Breathtaking	0.01	0.05	Windows	0.05	0.22
Neighborhood	0.14	0.34	Mother-in-law	0.02	0.15
Spectacular	0.01	0.10	Stainless	0.02	0.15
Landscaped	0.09	0.29	Theater	0.01	0.12
Stained Glass/Art Glass	0.001	0.02	Surround Sound	0.01	0.10
Built-in	0.03	0.17	Pickiest	0.01	0.07
Tasteful	0.003	0.05	Rare	0.01	0.08
Must See	0.07	0.26	Starter	0.04	0.20
Fabulous	0.01	0.12	Master	0.15	0.36
Leaded	0.001	0.04	Cute	0.02	0.16
Delightful	0.001	0.04	Warranty	0.03	0.16
Move-In	0.03	0.17	Temple	0.01	0.07
Gourmet	0.01	0.08	Fenced	0.10	0.30
Corian	0.01	0.07			

Note: These house characteristic and quality dummies take the value of 1 if they (or their common derivatives) are referenced in the public comments section of the listing, 0 otherwise.

**Table A3: Agent Performance and Transaction Outcomes from Ward/Stake Affiliations**

Dependent Variable:	(1) Log(Sold Price)	(2) Sale Price to Predicted Sale Price	(3) Days on Market	(4) Pr(Sold)	(5) Log(Sold Price)	(6) Days on Market
	---- <i>Within Models</i> ----				---- <i>Between Models</i> ----	
Affiliation—Same Ward	0.025*** (0.006)	0.025*** (0.006)	-6.610*** (2.322)	0.017* (0.010)	0.021*** (0.006)	-5.645** (2.232)
Affiliation—Same Stake	0.015** (0.006)	0.014** (0.006)	-0.441 (2.434)	0.011 (0.011)	0.017** (0.007)	-1.230 (2.563)
Constant	3.667*** (0.184)	1.944*** (0.179)	-320.32*** (67.381)	3.785*** (0.277)	3.327*** (0.188)	-407.42*** (68.260)
House Controls	Y	Y	Y	Y	Y	Y
Transaction Controls	Y	Y	Y	Y	Y	Y
Time Controls	Y	Y	Y	Y	Y	Y
Experience Controls	Y	Y	Y	Y	Y	Y
Quality Dummies	Y	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y	Y
Listing Agent FE	Y	Y	Y	Y	N	N
Listing Brokerage FE	Y	Y	Y	Y	N	N
R <sup>2</sup>	0.898	0.222	0.311	0.221	0.874	0.158
Observations	38678	38678	38678	76325	38678	38678

Note: Robust standard errors presented in parentheses are clustered by listing agent. Models and controls are the same as Table 4. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Table A4: Agent Selection Given Level of Experience and Expertise**

(4)	
Dependent Variable:	Pr(Chosen)
<i>Conditional Logit</i>	
% Seller agent	8.928*** (0.373)
Log(Total experience)	1.736*** (0.011)
Distance	1.080*** (0.003)
Distance squared	0.998*** (0.0001)
# Agents in brokerage	1.001*** (0.0002)
Same ward	7.330*** (1.336)
Same stake	0.421*** (0.072)
Same ward X % Seller agent	0.183*** (0.044)
Same ward X Log(Total exper.)	0.743*** (0.027)
Same stake X % Seller agent	0.441*** (0.102)
Same stake X Log(Total exper.)	0.822*** (0.026)
Constant	-- --
House Controls	N
Transaction Controls	N
Time Controls	N
Quality Dummies	N
Geographic Controls	N
R <sup>2</sup>	0.115
Observations	1061353

Note: Robust standard errors presented in parentheses, with errors clustered by listing. Time controls include year and month dummies, as well as their interaction, for when the house was listed. Odds ratios reported. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Table A5: Additional Evidence of Mechanisms Driving Effects**

Dependent Variable:	(1) Pr(Dual Agent)	(2) Log(Sold Price)	(3) Days on Mkt	(4) Pr(Key Box Only)	(5) Pr(Agent Appointment)
Affiliation	0.039*** (0.010)	0.024*** (0.005)	-2.731 (2.037)	-0.016* (0.009)	0.021** (0.010)
Dual agent		0.003 (0.003)	7.789*** (1.257)		
Affiliation X Dual agent		-0.012 (0.008)	-5.597 (3.751)		
Vacant				0.407*** (0.014)	-0.328*** (0.014)
Log(Original list price)				-0.045** (0.018)	0.087*** (0.016)
Constant	0.631** (0.316)	3.609*** (0.187)	-158.556** (68.520)	1.297*** (0.270)	0.178 (0.348)
House Controls	Y	Y	Y	Y	Y
Transaction Controls	Y	Y	Y	Y	Y
Time Controls	Y	Y	Y	Y	Y
Experience Controls	Y	Y	Y	Y	Y
Quality Dummies	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y
Listing Agent FE	Y	Y	Y	Y	Y
Listing Brokerage FE	Y	Y	Y	Y	Y
R <sup>2</sup>	0.197	0.900	0.232	0.427	0.419
Observations	40151	40151	40151	40151	40151

Note: Robust standard errors presented in parentheses are clustered by listing agent. House and transaction controls noted in Table 3, and column 3 includes control for original listing price. Time controls include year and month dummies, as well as their interaction, for when the house was sold for models 1 and 2, and when the house was listed for models 3, 4, and 5. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Table A6: Selection Results with Market Uncertainty Controls or Stake Fixed Effects**

Dependent Variable:	(1)	(2)
	Pr(Affiliation)	Pr(Affiliation)
	<i>LOGIT</i>	<i>LOGIT</i>
% Seller agent	0.316*** (0.040)	0.299*** (0.090)
Log(Total experience)	0.849*** (0.015)	0.842*** (0.049)
Distance	0.815*** (0.008)	0.812*** (0.024)
Distance squared	1.007*** (0.0003)	1.007*** (0.001)
# Agents in brokerage	0.994*** (0.001)	0.994*** (0.002)
Std dev. stake sale to list price	0.496 (0.512)	
Std dev. stake days on market	0.999 (0.001)	
Constant	0.020 (0.049)	21.137 (76.904)
House Controls	Y	Y
Transaction Controls	Y	Y
Time Controls	Y	Y
Quality Dummies	Y	Y
Geographic Controls	Y	Y
Stake Dummies	N	Y
R <sup>2</sup>	0.120	0.179
Observations	36740	30176

Note: Robust standard errors presented in parentheses, with errors clustered by listing in column 1, and by stake in column 2. Time controls include year and month dummies, as well as their interaction, for when the house was listed. Odds ratios reported. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Table A7: Impact of Human Capital Variables on Performance**

Dependent Variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Log(Sold Price)	Days on Market	Log(Sold Price)	Days on Market	Log(Sold Price)	Days on Market	Log(Sold Price)	Days on Market
	-----Between Models-----				-----Within Models-----			
% Seller agent			-0.034 (0.022)	-17.355** (7.248)			-0.026 (0.019)	-9.157 (14.331)
Log(Total experience)	-0.003 (0.002)	3.228** (1.276)	-0.003 (0.002)	3.351** (1.644)	0.005* (0.003)	46.181*** (2.774)	0.006 (0.004)	58.914*** (4.314)
Constant	3.264*** (0.188)	-379.606*** (67.962)	3.190*** (0.199)	-360.742*** (73.049)	3.602*** (0.183)	-289.890*** (66.877)	3.549*** (0.190)	-301.633*** (70.599)
House Controls	Y	Y	Y	Y	Y	Y	Y	Y
Transaction Controls	Y	Y	Y	Y	Y	Y	Y	Y
Time Controls	Y	Y	Y	Y	Y	Y	Y	Y
Experience Controls	Y	Y	Y	Y	Y	Y	Y	Y
Quality Dummies	Y	Y	Y	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y	Y	Y	Y
Listing Agent FE	N	N	N	N	Y	Y	Y	Y
Listing Brokerage FE	N	N	N	N	Y	Y	Y	Y
R <sup>2</sup>	0.874	0.155	0.873	0.156	0.898	0.307	0.896	0.305
Observations	40151	40151	36879	36879	40151	40151	36879	36879

Note: Robust standard errors presented in parentheses are clustered by listing agent. House and transaction controls noted in Table 3, and models 2, 4, 6, and 8 include a control for original list price. Time controls include year and month dummies, as well as their interaction, for when the house was sold for models 1, 3, 5, and 7 and for when the house was listed for the remaining models. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Table A8: Between Results for Sold Price Using Alternative Human Capital Measures**

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Log(Sold Price)	Log(Sold Price)	Log(Sold Price)	Log(Sold Price)	Log(Sold Price)	Log(Sold Price)
<i>Human Capital Variable</i>	<i>Log(total agent experience)</i>	<i>Part time</i>	<i>Log (days since last sale)</i>	<i>Log (# agent transaction/yr)</i>	<i>Log (# homes sold to date)</i>	<i># years as agent</i>
Affiliation	-0.035*** (0.011)	0.025*** (0.005)	0.050*** (0.011)	-0.022** (0.010)	-0.025*** (0.009)	-0.003 (0.006)
Human Capital Variable	-0.001 (0.002)	0.017*** (0.004)	0.004*** (0.002)	-0.008** (0.003)	-0.003 (0.002)	-0.002** (0.0001)
Affiliation x HC Variable	0.015*** (0.003)	-0.020** (0.008)	-0.009*** (0.003)	0.017*** (0.004)	0.014*** (0.003)	0.004*** (0.001)
Agent # of years	-0.002* (0.001)					
Constant	3.286*** (0.187)	3.278*** (0.186)	3.212*** (0.223)	3.225*** (0.194)	3.264*** (0.189)	3.282*** (0.187)
House Controls	Y	Y	Y	Y	Y	Y
Transaction Controls	Y	Y	Y	Y	Y	Y
Time Controls	Y	Y	Y	Y	Y	Y
Quality Dummies	Y	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y	Y
Listing Agent FE	N	N	N	N	N	N
Listing Brokerage FE	N	N	N	N	N	N
R <sup>2</sup>	0.874	0.874	0.873	0.874	0.874	0.874
Observations	40151	40151	39236	40151	40151	40151

Note: Robust standard errors presented in parentheses are clustered by listing agent. House and transaction controls noted in Table 3. Time controls include year and month dummies, as well as their interaction, for when the house was sold. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Table A9: Between Results for Days on Market Using Alternative Human Capital Measures**

Dependent Variable:	(1)	(2)	(3)	(4)	(5)	(6)
	Days on Market	Days on Market	Days on Market	Days on Market	Days on Market	Days on Market
<i>Human Capital Variable</i>	<i>Log(total agent experience)</i>	<i>Part time</i>	<i>Log (days since last sale)</i>	<i>Log (# agent transaction/yr)</i>	<i>Log (# homes sold to date)</i>	<i># years as agent</i>
Affiliation	-6.226 (4.879)	-3.375 (2.262)	-1.334 (4.351)	-6.228 (3.814)	-7.020* (3.869)	-6.804*** (2.466)
Human Capital Variable	2.494 (1.665)	5.328*** (1.757)	1.260* (0.723)	-1.196 (1.491)	1.563 (1.113)	0.890** (0.377)
Affiliation x HC Variable	0.770 (1.365)	-4.323 (3.335)	-0.942 (1.134)	0.744 (1.723)	1.060 (1.239)	0.512 (0.380)
Agent # of years	0.271 (0.388)					
Constant	-381.871*** (67.692)	-378.679*** (68.011)	-375.927*** (68.522)	-376.626*** (67.771)	-375.927*** (68.522)	-385.165*** (68.695)
House Controls	Y	Y	Y	Y	Y	Y
Transaction Controls	Y	Y	Y	Y	Y	Y
Time Controls	Y	Y	Y	Y	Y	Y
Quality Dummies	Y	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y	Y
Listing Agent FE	N	N	N	N	N	N
Listing Brokerage FE	N	N	N	N	N	N
R <sup>2</sup>	0.155	0.153	0.153	0.153	0.153	0.154
Observations	40151	40151	39236	40151	40151	40151

Note: Robust standard errors presented in parentheses are clustered by listing agent. House and transaction controls noted in Table 3. Control for original list price included. Time controls include year and month dummies, as well as their interaction, for when the house was listed. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Table A10: Results for Proximate, but not Affiliated Listings**

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	Log(Sold Price)	Days on Market	Log(Sold Price)	Days on Market	Log(Sold Price)	Days on Market
<i>Proximate Definition</i>	<0.25 mi.	<0.25 mi	<0.5 mi	<0.5 mi	<1 mi	<1 mi
Affiliation	0.020*** (0.005)	-3.504** (1.714)	0.020*** (0.005)	-3.475** (1.710)	0.020*** (0.005)	-3.400** (1.715)
Proximate	-0.007 (0.022)	3.147 (10.959)	0.006 (0.011)	2.523 (5.632)	0.002 (0.007)	2.362 (3.327)
Constant	3.611*** (0.183)	-291.885*** (66.932)	3.612*** (0.183)	-291.677*** (66.969)	3.611*** (0.183)	-292.070*** (66.940)
House Controls	Y	Y	Y	Y	Y	Y
Transaction Controls	Y	Y	Y	Y	Y	Y
Time Controls	Y	Y	Y	Y	Y	Y
Experience Controls	Y	Y	Y	Y	Y	Y
Quality Dummies	Y	Y	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y	Y	Y
Listing Agent FE	Y	Y	Y	Y	Y	Y
Listing Brokerage FE	Y	Y	Y	Y	Y	Y
R <sup>2</sup>	0.898	0.307	0.898	0.307	0.898	0.308
Observations	40151	40151	40151	40151	40151	40151

Note: Robust standard errors presented in parentheses are clustered by listing agent. House and transaction controls noted in Table 3. Columns 2, 4, and 6 include a control for original list price. Time controls include year and month dummies, as well as their interaction, for when the house was sold for models 1, 3, and 5, and when it was listed for models 2, 4, and 6. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.

**Table A11: Boundary Change Results for Main Table**

	(1)	(2)	(3)	(4)
Dependent Variable:	Log (Sold Price)	Days on Mkt	Sale Price to Predicted Sale Price	Pr(Sold)
Affiliation	0.020*** (0.005)	-3.382** (1.705)	0.020*** (0.005)	0.017** (0.008)
Previous affiliation	0.040* (0.022)	10.036 (6.235)	0.040* (0.022)	0.098** (0.039)
Constant	3.612*** (0.182)	-300.906*** (67.221)	1.903*** (0.176)	3.340*** (0.263)
House Controls	Y	Y	Y	Y
Transaction Controls	Y	Y	Y	Y
Time Controls	Y	Y	Y	Y
Listing Agent FE	Y	Y	Y	Y
Listing Brokerage FE	Y	Y	Y	Y
Experience Controls	Y	Y	Y	Y
Quality Dummies	Y	Y	Y	Y
Geographic Controls	Y	Y	Y	Y
R <sup>2</sup>	0.898	0.311	0.217	0.223
Observations	40151	40151	40151	80774

Note: Robust standard errors presented in parentheses are clustered by listing agent. House and transaction controls noted in Table 3. Models 2 and 4 include a control for original list price. Time controls include year and month dummies, as well as their interaction, for when the house was sold for models 1 and 3, and when the house was listed for models 2 and 4. Significance levels: \* p<0.10, \*\* p<0.05, \*\*\* p<0.01.