

# A Appendix

**Table A1: Probability of Minority Buyers Purchasing Condo and Co-ops**

	Minority	Black	Hispanic	Asian
	(1)	(2)	(3)	(4)
HOA Screening	-0.060*** (0.016)	-0.021** (0.010)	-0.045*** (0.011)	-0.045** (0.018)
log(Sale Price)	0.005 (0.007)	0.001 (0.004)	-0.002 (0.005)	0.020*** (0.007)
log(Income)	-0.004 (0.004)	-0.019*** (0.004)	0.001 (0.004)	0.005 (0.004)
log(Household Wealth)	-0.042*** (0.010)	-0.028*** (0.008)	-0.032*** (0.009)	-0.026*** (0.009)
log(HOA Fee)	-0.080*** (0.008)	-0.004 (0.004)	-0.014*** (0.005)	-0.092*** (0.009)
Household Size	-0.003 (0.003)	0.012*** (0.002)	-0.007*** (0.002)	-0.005* (0.003)
Household Head Age	-0.002*** (0.000)	-0.000*** (0.000)	-0.000 (0.000)	-0.003*** (0.000)
Elevator	0.003 (0.011)	-0.020 (0.015)	-0.000 (0.010)	-0.011 (0.013)
Doorman	-0.009 (0.011)	-0.021** (0.010)	-0.032*** (0.008)	-0.009 (0.010)
Number of Bedrooms	0.009*** (0.003)	0.001 (0.002)	0.003* (0.002)	0.008*** (0.003)
Pool	0.061*** (0.013)	0.002 (0.006)	0.007 (0.006)	0.064*** (0.015)
Gym	0.013* (0.007)	0.002 (0.004)	0.000 (0.005)	0.009 (0.008)
log(Property Age)	-0.038*** (0.005)	0.003 (0.003)	-0.005* (0.003)	-0.042*** (0.005)
Constant	1.390*** (0.087)	0.439*** (0.072)	0.527*** (0.072)	1.083*** (0.098)
School District FE	Yes	Yes	Yes	Yes
Sale Year × Tract FE	Yes	Yes	Yes	Yes
Observations	65,950	32,330	42,792	55,015
Dep. Var Mean	0.294	0.083	0.094	0.230
Adjusted R-squared	0.137	0.364	0.086	0.123

*Notes:* This table reports the full set of coefficient estimates in Panel A of Table 3. Standard errors are clustered at the tract level in parentheses. \*p<0.10; \*\*p<0.05; \*\*\*p<0.01.

**Table A2: Probability of Cash Purchase**

	Minority	Black Probability of Cash Purchase	Hispanic	Asian
	(1)	(2)	(3)	(4)
Minority	-0.054*** (0.007)	-0.051*** (0.013)	-0.060*** (0.011)	-0.054*** (0.009)
HOA Screening	0.299*** (0.038)	0.323*** (0.065)	0.297*** (0.044)	0.320*** (0.043)
Minority × HOA Screening	0.144*** (0.030)	0.099** (0.047)	0.139*** (0.039)	0.141*** (0.032)
log(Sale Price)	-0.214*** (0.012)	-0.184*** (0.018)	-0.207*** (0.015)	-0.215*** (0.013)
log(Income)	-0.040*** (0.004)	-0.040*** (0.005)	-0.042*** (0.005)	-0.045*** (0.005)
log(Household Wealth)	0.008 (0.007)	0.002 (0.009)	0.009 (0.009)	0.011 (0.008)
log(HOA Fee)	0.244*** (0.014)	0.228*** (0.021)	0.248*** (0.017)	0.248*** (0.015)
Household Size	0.008*** (0.002)	0.010*** (0.002)	0.009*** (0.002)	0.008*** (0.002)
Household Head Age	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)	0.001*** (0.000)
Elevator	0.037** (0.016)	0.047* (0.026)	0.040** (0.020)	0.034* (0.019)
Doorman	-0.027** (0.013)	-0.050** (0.024)	-0.017 (0.013)	-0.025* (0.014)
Number of Bedrooms	-0.013*** (0.003)	-0.016*** (0.005)	-0.014*** (0.004)	-0.015*** (0.003)
Pool	-0.059** (0.026)	-0.078** (0.039)	-0.058* (0.031)	-0.055** (0.026)
Gym	-0.033** (0.013)	-0.026 (0.018)	-0.031** (0.014)	-0.034** (0.014)
log(Property Age)	0.071*** (0.008)	0.066*** (0.014)	0.073*** (0.010)	0.069*** (0.009)
Constant	1.746*** (0.133)	1.517*** (0.178)	1.609*** (0.158)	1.742*** (0.142)
School District FE	Yes	Yes	Yes	Yes
Sale Year × Tract FE	Yes	Yes	Yes	Yes
Observations	65,950	32,330	42,792	55,015
Dep. Var Mean	0.737	0.764	0.770	0.738
Adjusted R-squared	0.521	0.573	0.541	0.512

*Notes:* This table reports the full set of coefficient estimates in Panel B of Table 3. Standard errors are clustered at tract level in parentheses. \*p<0.10; \*\*p<0.05; \*\*\*p<0.01.

**Table A3: “Income Premium” on Minorities**

	Minority	Black	Hispanic	Asian
	(1)	(2)	log(Income) (3)	(4)
Minority	-0.015** (0.006)	-0.088*** (0.023)	-0.018 (0.013)	-0.004 (0.008)
HOA Screening	-0.061* (0.033)	-0.043 (0.047)	-0.071* (0.040)	-0.057 (0.037)
Minority × HOA Screening	0.063** (0.025)	0.066 (0.102)	0.121** (0.049)	0.058* (0.031)
log(Sale Price)	0.051*** (0.010)	0.049*** (0.013)	0.055*** (0.011)	0.049*** (0.011)
log(Household Wealth)	1.342*** (0.016)	1.325*** (0.022)	1.314*** (0.020)	1.344*** (0.017)
log(HOA Fee)	-0.011 (0.008)	-0.022* (0.012)	-0.014 (0.010)	-0.012 (0.009)
Household Size	0.029*** (0.003)	0.035*** (0.005)	0.037*** (0.004)	0.034*** (0.003)
Household Head Age	-0.003*** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
Elevator	-0.007 (0.018)	-0.009 (0.031)	-0.013 (0.028)	-0.011 (0.021)
Doorman	0.009 (0.016)	0.028 (0.028)	0.010 (0.020)	0.010 (0.017)
Number of Bedrooms	0.012*** (0.004)	0.021*** (0.005)	0.014*** (0.005)	0.013*** (0.004)
Pool	0.083*** (0.022)	0.067*** (0.019)	0.090*** (0.022)	0.087*** (0.023)
Gym	-0.008 (0.012)	-0.012 (0.018)	-0.004 (0.014)	-0.011 (0.013)
log(Property Age)	-0.013* (0.007)	-0.023** (0.010)	-0.015* (0.009)	-0.013* (0.007)
Constant	-6.233*** (0.161)	-6.137*** (0.203)	-6.065*** (0.190)	-6.211*** (0.166)
School District FE	Yes	Yes	Yes	Yes
Sale Year × Tract FE	Yes	Yes	Yes	Yes
Observations	65,950	32,330	42,792	55,015
Dep. Var Mean	5.171	5.135	5.204	5.216
Adjusted R-squared	0.714	0.707	0.680	0.686

*Notes:* This table reports the full set of coefficient estimates in Panel C of Table 3. Standard errors are clustered at tract level in parentheses. \*p<0.10; \*\*p<0.05; \*\*\*p<0.01.

**Table A4: Probability of Buyers to be Minorities using predicted HOA Screening**

	Minority	Black	Hispanic	Asian
	(1)	Probability of Purchase (2)	(3)	(4)
Predicted HOA Screening	-0.113*** (0.011)	-0.030*** (0.007)	-0.042*** (0.008)	-0.107*** (0.012)
log(Sale Price)	-0.019*** (0.006)	-0.006 (0.005)	-0.008 (0.006)	-0.004 (0.006)
log(Income)	-0.003 (0.004)	-0.018*** (0.004)	0.003 (0.004)	0.005 (0.004)
log(Household Wealth)	-0.047*** (0.010)	-0.027*** (0.007)	-0.034*** (0.009)	-0.031*** (0.010)
log(HOA Fee)	-0.050*** (0.008)	0.005 (0.004)	-0.006 (0.006)	-0.061*** (0.009)
Household Size	-0.003 (0.003)	0.012*** (0.002)	-0.007*** (0.002)	-0.005* (0.003)
Household Head Age	-0.002*** (0.000)	-0.000** (0.000)	0.000 (0.000)	-0.003*** (0.000)
Elevator	0.009 (0.011)	-0.022 (0.015)	0.003 (0.011)	-0.004 (0.013)
Doorman	-0.014 (0.011)	-0.019* (0.011)	-0.031*** (0.008)	-0.014 (0.010)
Number of Bedrooms	0.008*** (0.003)	0.000 (0.002)	0.003 (0.002)	0.007** (0.003)
Pool	0.050*** (0.012)	0.001 (0.006)	0.003 (0.006)	0.054*** (0.013)
Gym	0.004 (0.007)	-0.000 (0.003)	-0.002 (0.004)	0.002 (0.007)
log(Property Age)	-0.047*** (0.009)	0.010** (0.005)	0.002 (0.005)	-0.056*** (0.009)
Constant	1.675*** (0.094)	0.452*** (0.073)	0.563*** (0.076)	1.386*** (0.105)
School District FE	Yes	Yes	Yes	Yes
Sale Year × Tract FE	Yes	Yes	Yes	Yes
Observations	63,097	31,106	41,427	52,901
Dep. Var Mean	0.285	0.075	0.092	0.223
Adjusted R-squared	0.129	0.334	0.077	0.119
First-stage F-statistics		20.15		

*Notes:* This table reports coefficient estimates using predicted HOA Screening Stringency Index from historical factors as an instrumental variable. Sample construction of each column follows Table 3. Standard errors are clustered at tract level in parentheses. \*p<0.10; \*\*p<0.05; \*\*\*p<0.01.

**Table A5: Alternative Measure: Financial Document Requirement**

	Minority	Black	Hispanic	Asian
<i>Panel A: Probability of Minority Buyers Purchasing Condo and Co-ops</i>				
	Probability of Purchase			
Financial Document	-0.012** (0.006)	-0.005 (0.004)	-0.012*** (0.004)	-0.008 (0.007)
Dep. Var Mean	0.294	0.083	0.094	0.230
Adjusted R-squared	0.137	0.364	0.086	0.123
<i>Panel B: Probability of Cash Purchase</i>				
	Probability of Cash Purchase			
Min Down Payment	0.105*** (0.012)	0.118*** (0.021)	0.100*** (0.014)	0.108*** (0.013)
Minority	-0.030*** (0.004)	-0.035*** (0.008)	-0.037*** (0.006)	-0.031*** (0.005)
Minority × Financial Document	0.042*** (0.007)	0.023 (0.015)	0.051*** (0.010)	0.042*** (0.009)
Dep. Var Mean	0.737	0.764	0.770	0.738
Adjusted R-squared	0.521	0.573	0.541	0.511
<i>Panel C: “Income Premium” on Minorities</i>				
	log(Income)			
Financial Document	-0.018 (0.012)	-0.011 (0.017)	-0.020 (0.014)	-0.017 (0.013)
Minority	-0.005 (0.004)	-0.077*** (0.015)	0.003 (0.009)	0.006 (0.005)
Minority × Financial Document	0.023*** (0.009)	0.029 (0.032)	0.041** (0.016)	0.020* (0.011)
Dep. Var Mean	5.172	5.135	5.204	5.216
Adjusted R-squared	0.715	0.708	0.681	0.686
Household Controls	Yes	Yes	Yes	Yes
Property Controls	Yes	Yes	Yes	Yes
School District FE	Yes	Yes	Yes	Yes
Sale Year × Tract FE	Yes	Yes	Yes	Yes
Observations	65,950	32,330	42,792	55,015

*Notes:* This table reports coefficient estimates using financial document requirements as a proxy for HOA screening stringency. Household controls include log of household income (except in Panel C), log(household wealth), household size, and age of the household head. Property controls include log(sale price), log(HOA fee), number of bedrooms, whether the building has an elevator, doorman, pool, gym, and log(property age). Sample construction of each column follows Table 3. Panel A examines the impacts on the probability of minority buyers purchasing condo and co-ops. Panel B examines the impacts on the probability of cash purchase. Panel C examines the “income premium” on minority buyers. Standard errors are clustered at tract level in parentheses. \*p<0.10; \*\*p<0.05; \*\*\*p<0.01.

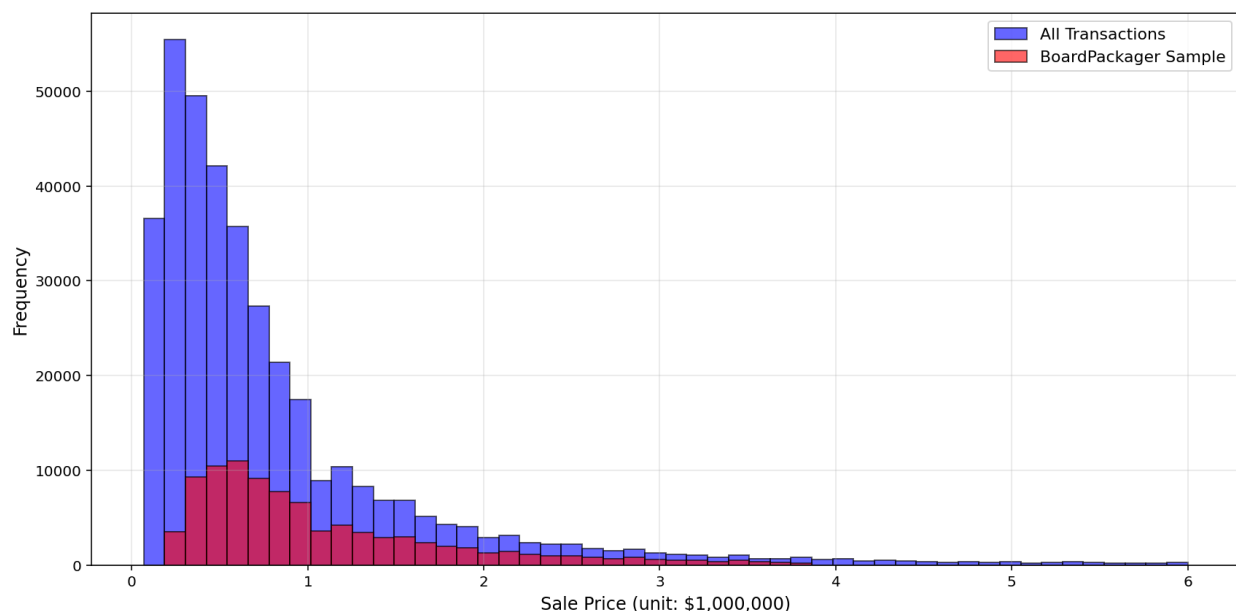
**Table A6: Model Estimation**

Coefficient			Parameter	MLE Estimate	S.E.
<i>Panel A: Parameters of Heterogeneous Preference</i>					
log(Income)	×	HOA Screening Index	$\alpha_1^{\text{HOA}}$	0.719	0.193
log(Household Wealth)	×	HOA Screening Index	$\alpha_2^{\text{HOA}}$	0.125	0.051
Black Buyer	×	HOA Screening Index	$\alpha_3^{\text{HOA}}$	-0.280	0.555
Hispanic Buyer	×	HOA Screening Index	$\alpha_4^{\text{HOA}}$	-0.685	0.389
Asian Buyer	×	HOA Screening Index	$\alpha_5^{\text{HOA}}$	-1.342	0.229
Black Buyer	×	Tract Black Share	$\alpha_1^{\text{Hom}}$	7.306	0.431
Hispanic Buyer	×	Tract Hispanic Share	$\alpha_2^{\text{Hom}}$	4.132	0.337
Asian Buyer	×	Tract Asian Share	$\alpha_3^{\text{Hom}}$	5.010	0.556
Household Size	×	Number of Bedrooms	$\alpha_1^{\text{Bed}}$	0.115	0.022
log(Income)	×	Sale Price	$\beta_3$	1.359	0.066
log(Income)	×	log(HOA Fee)	$\beta_4$	0.430	0.044
Coefficient			Parameter	OLS	2SLS
<i>Panel B: Parameters of Mean Utility</i>					
HOA Screening			$\alpha_0^{\text{HOA}}$	-4.462 (0.043)	-4.425 (0.243)
log(Property Age)			$\alpha_1$	-0.018 (0.011)	0.040 (0.021)
Bed			$\alpha_2$	-0.096 (0.009)	-0.116 (0.187)
Pool			$\alpha_3$	0.053 (0.044)	0.131 (0.091)
Gym			$\alpha_4$	0.006 (0.012)	-0.019 (0.047)
Elevator			$\alpha_5$	0.013 (0.030)	-0.075 (0.322)
Doorman			$\alpha_6$	0.051 (0.143)	0.176 (0.080)
Sale Price (unit: \$1,000,000)			$\beta_1$	-7.935 (0.033)	-7.977 (0.902)
log(HOA Fee)			$\beta_2$	-2.265 (0.025)	-2.102 (0.447)
Tract Fixed Effects				Yes	Yes
Cluster				Tract	Tract
Observations				4,539	4,539
Adjusted R-squared				0.998	0.992
First-stage F-statistics					51.000

*Notes:* This table reports the model estimation using condo and co-op transactions in 2010 in New York City.

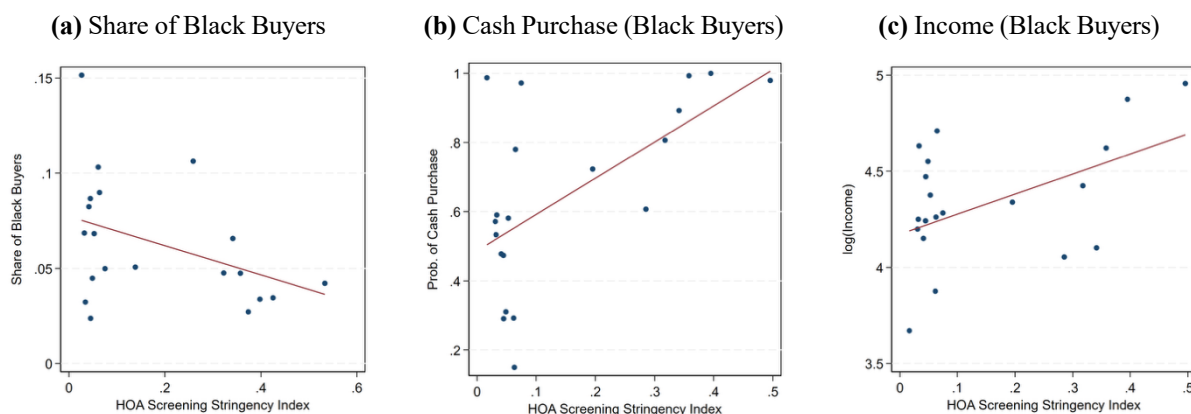
Standard errors of MLE Estimation in Panel A are computed from the inverse Hessian of the log-likelihood from the Maximum Likelihood Estimation. Standard errors of OLS and 2SLS regression in Panel B are clustered at tract level in parentheses.

**Figure A1: Price Distribution: All Transactions vs BoardPackager Sample**



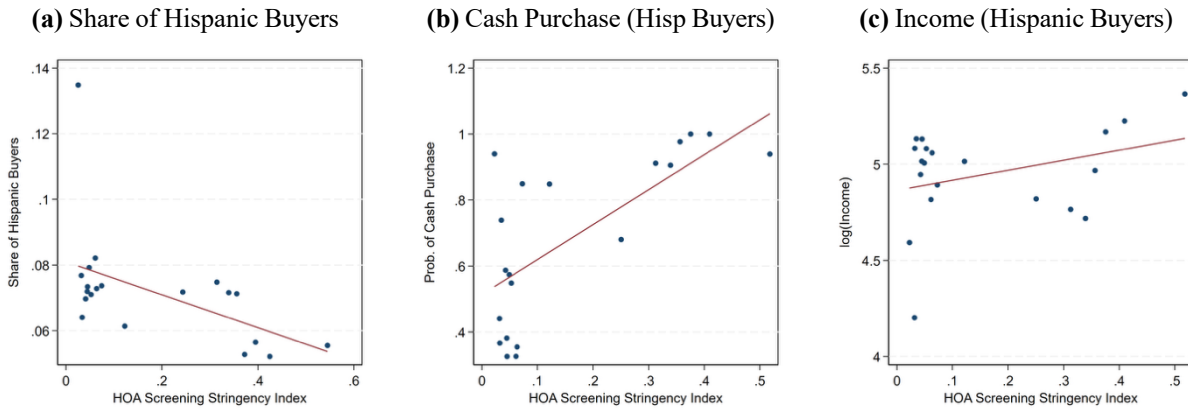
*Notes:* This figure compares the sale price distribution in the BoardPackager sample against the full population of condo and co-op transactions in New York City between 2006 and 2022 (with prices trimmed at the 1% level).

**Figure A2: Correlations between HOA Stringency Index and Outcome Variables**



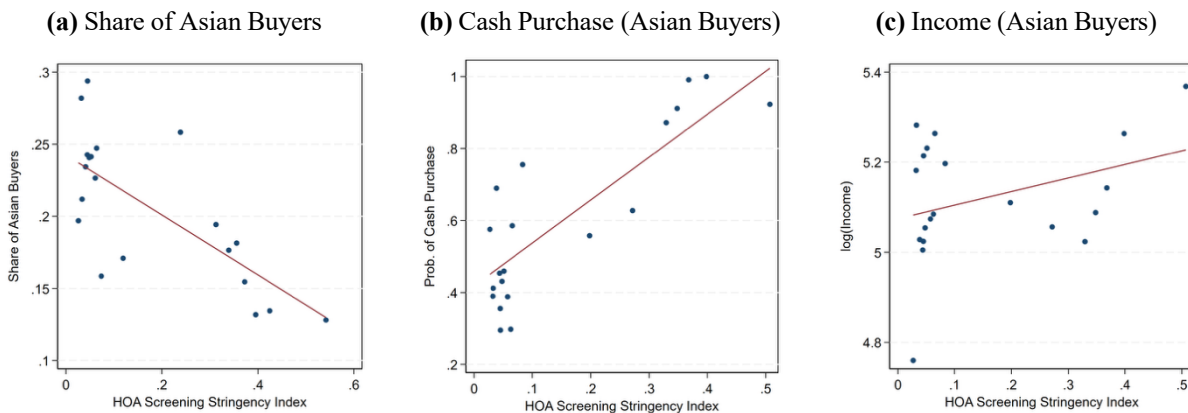
*Notes:* This figure shows correlations between the HOA Screening Stringency Index and buyer outcomes. Panel (a) shows that more stringent HOA screening is correlated with a lower share of Black buyers. Panels (b) and (c) show a positive relationship between screening stringency and probability of cash purchases and income among Black buyers, respectively.

**Figure A3: Correlations between HOA Stringency Index and Outcome Variables**



*Notes:* This figure shows correlations between the HOA Screening Stringency Index and buyer outcomes. Panel (a) shows that more stringent HOA screening is correlated with a lower share of Hispanic buyers. Panels (b) and (c) show a positive relationship between screening stringency and probability of cash purchases and income among Hispanic buyers, respectively.

**Figure A4: Correlations between HOA Stringency Index and Outcome Variables**



*Notes:* This figure shows correlations between the HOA Screening Stringency Index and buyer outcomes. Panel (a) shows that more stringent HOA screening is correlated with a lower share of Asian buyers. Panels (b) and (c) show a positive relationship between screening stringency and probability of cash purchases and income among Asian buyers, respectively.