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E

The Effect of Weighting on Attribute Prices

In Appendix D, we presented estimates of simple expenditure models, where the sample observations are weighted by the inverse of the sample proportions. A similar procedure has been applied to the rent and value models, and as the estimates shown in Table E-1 indicate, weighting has slight effects upon several of the parameter estimates. Table E-1 shows weighted and unweighted estimates of attribute prices for rental units and for single detached, owner-occupied units for ghetto and for non-ghetto properties.

As the comparison indicates, there are no substantial differences between attribute prices estimated for owner and renter units in the ghetto for weighted and unweighted regressions. This largely reflects the more uniform sampling rate for ghetto properties which results from stratification. Estimated coefficients for owners and renters are well within their sampling errors for comparisons of weighted and unweighted regressions. The only sign reversal for ghetto properties caused by weighting observations by their sampling rates changes the number-of-rooms variable to the correct sign, but it is still insignificant.

For nonghetto properties, where the sampling rates have more variation, especially between central city and suburban observations, there are slight differences between estimated coefficients for weighted and unweighted regressions. For both owner-occupied and rental units, the coefficient of determination is marginally higher when observations are weighted. For owner-occupied units, the coefficient of the exterior-quality measure has the right sign and is larger than its standard error in the weighted regression. The coefficient of the measured distance from the CBD is larger than in unweighted estimates and exceeds its standard error in the weighted specification. The coefficients of the measures of the quality of adjacent units and neighborhood prestige (median schooling) are less reliable.

Weighting has the greatest effect upon the R^2 for renter-occupied units outside the ghetto. The most pronounced differences between coefficients are noted for the structure-type dummies; their magnitudes are considerably larger, and they have smaller standard errors in the weighted regressions.

For owner and renter properties both inside and outside the ghetto, the weighted regressions increase the magnitude of the coefficient of the number of rooms. For nonghetto rental properties, the difference is most substantial; weighting increases the magnitude of the estimated coefficient by more than 60 percent.

In general, differences between coefficient estimates based on weighted and unweighted regressions are rather small. Although the weighted estimates would be preferred a priori if there were no errors in specification, the differences between results, especially when we expect that specification errors exist, are small enough to justify our use of simple unweighted regression estimates throughout the main text as a convenience.

Structure type													
Single detached	29.32 ¹	-.60 ²	4.72 ⁴	4.37 ⁴									
Duplex	40.98 ¹	18.24 ¹	.01	1.14									
Row house	16.96 ²	6.54 ⁴	4.54 ⁴	2.87									
Apartment	29.29 ¹	2.33	8.33 ²	7.65 ¹									
Flat	26.00 ¹	7.36 ⁴	5.42 ³	5.05 ³									
Rooming house	-3.97	-28.70 ³	7.48 ⁴	7.61									
Tenancy terms													
No heat	-3.05 ⁴	-7.54 ¹	-8.14 ¹	-8.19 ¹									
No water	-4.25 ⁴	-2.77 ⁴	-1.29	-.97									
No furniture	-14.40 ¹	-9.94 ¹	-7.17 ²	-7.34 ²									
No appliances	-9.17 ¹	-16.17 ¹	-8.11 ¹	-6.97 ¹									
Owner in building	-5.10 ³	6.55 ¹	-1.44	-1.79									
Years of occupancy	-.24 ¹	-.23 ¹	-.13 ⁴	-.16 ²									
Constant	44.30 ⁴	7.32	-21.13	-11.87	1.46	3.74	-138.1 ¹	-102.00	.893	.715			
R ²	.865	.781	.718	.7243	.754	.718							

NOTE: Table notes indicate significance of *t* ratios for coefficients (two-tailed test).

¹> .01.

²> .05.

³> .10.

⁴*t* ratio greater than 1.0.