APPENDIX 8B

Tests of Misspecification for the Rent Gradient Model

Tests of misspecification were performed on the linear regression model used to estimate the rent gradient. A Bera-Jarque test of normality using sample skewness and kurtosis indicates that the models does not have a normal distribution (see Table 8B.1). Consequently, all hypothesis tests are asymptotic. Interpreting the results asymptotically is justified given the large number of observations in the sample.[1]

Table 8B.1 Tests of Normality for the Rent Gradient Model

Skewness	-4.668
Kurtosis	36.487
Chi-statistic	36457.50
P-value	.000

Second order reset tests of linearity, homoskedasticity and autocorrelation were conducted on each model as well as Chow tests of structural change in the conditional mean and variance (see, McGuirk, Driscoll and Alwang, 1993). The results of these tests appear in Table 8B.2. Tests of linearity, heteroskedasticity and autocorrelation with respect to distance from the central business district indicate correct specification of the model. Tests of homoskedasticity indicate that the conditional variance is heteroskedastic in all models. The tests of structural change of the mean by distance to the central business district supports the assumption of parameter stability. The test results, however, indicate that the assumption of stability of the conditional variance should be rejected. Therefore, asymptotically consistent estimates of the variances of the parameter estimates were generated and used for all hypothesis tests.

In conclusion, misspecification tests support the model as specified. All hypothesis testing, however, must be interpreted asymptotically due to the rejection of normality and the use of asympototic consistent estimates of the parameter variances.

[1] The model has 723 observations.

Table 8B.2 Tests of Misspecification for the Rent Gradient Model

Test Type	***F-statistic***	***P-value***
Linearity	2.929	0.289
Homoskedasticity	.829	0.716
Autocorrelation	.963	0.591
Tests of Structural Change		
Travel time to CBD for Chow Test		
Test of Mean		
Travel time to CBD	1.666	0.203
Test of Variance		
Travel time to CBD	1.801	0.000