

APPENDIX B

Results Using Forty Spatial Weight Matrices

APPENDIX B.1  Moran's I statistics of explanatory variables in 2000 by forty spatial weight matrices

Spatial Weight Matrix	Previous Growth	Old	Unemployment	Airport	Forest	Land Developability
Queen's contiguity, order 1	0.193***	0.296***	0.265***	0.489***	0.785***	0.435***
Queen's contiguity, order 2	0.122***	0.236***	0.214***	0.245***	0.666***	0.214***
Rook's contiguity, order 1	0.199***	0.299***	0.263***	0.502***	0.798***	0.435***
Rook's contiguity, order 2	0.138***	0.252***	0.219***	0.269***	0.689***	0.241***
3-nearest neighbors	0.198***	0.263***	0.264***	0.581***	0.760***	0.380***
4-nearest neighbors	0.214***	0.279***	0.264***	0.539***	0.760***	0.393***
5-nearest neighbors	0.212***	0.282***	0.268***	0.508***	0.753***	0.390***
6-nearest neighbors	0.199***	0.281***	0.261***	0.477***	0.746***	0.380***
7-nearest neighbors	0.199***	0.281***	0.259***	0.457***	0.739***	0.365***
8-nearest neighbors	0.193***	0.284***	0.254***	0.439***	0.730***	0.357***
General distance, 10 miles	0.191***	0.288***	0.247***	0.419***	0.728***	0.364***
General distance, 20 miles	0.119***	0.239***	0.219***	0.232***	0.649***	0.228***
General distance, 30 miles	0.081***	0.192***	0.191***	0.136***	0.589***	0.159***
General distance, 40 miles	0.056***	0.156***	0.168***	0.075***	0.536***	0.114***
General distance, 50 miles	0.042***	0.126***	0.144***	0.037***	0.490***	0.086***
General distance, 60 miles	0.031***	0.100***	0.124***	0.021***	0.451***	0.066***
General distance, 70 miles	0.024***	0.078***	0.106***	0.016***	0.409***	0.050***
General distance, 80 miles	0.018***	0.061***	0.092***	0.019***	0.366***	0.036***
General distance, 90 miles	0.013***	0.050***	0.079***	0.020***	0.324***	0.024***
General distance, 100 miles	0.010***	0.043***	0.070***	0.019***	0.285***	0.011***
Inverse distance, 10 miles, power 1	0.184***	0.280***	0.255***	0.469***	0.731***	0.371***
Inverse distance, 10 miles, power 2	0.177***	0.270***	0.259***	0.526***	0.733***	0.371***
Inverse distance, 20 miles, power 1	0.136***	0.252***	0.233***	0.309***	0.671***	0.269***

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APPENDIX B.1 (Continued)

Spatial Weight Matrix	Previous Growth	Old	Unemployment	Airport	Forest	Land Developability
Inverse distance, 20 miles, power 2	0.149***	0.258***	0.248***	0.422***	0.697***	0.311***
Inverse distance, 30 miles, power 1	0.107***	0.219***	0.210***	0.223***	0.625***	0.211***
Inverse distance, 30 miles, power 2	0.134***	0.242***	0.235***	0.370***	0.670***	0.278***
Inverse distance, 40 miles, power 1	0.087***	0.192***	0.191***	0.166***	0.584***	0.172***
Inverse distance, 40 miles, power 2	0.124***	0.230***	0.226***	0.336***	0.649***	0.256***
Inverse distance, 50 miles, power 1	0.074***	0.168***	0.173***	0.129***	0.548***	0.145***
Inverse distance, 50 miles, power 2	0.117***	0.219***	0.218***	0.315***	0.631***	0.242***
Inverse distance, 60 miles, power 1	0.064***	0.147***	0.158***	0.107***	0.518***	0.126***
Inverse distance, 60 miles, power 2	0.112***	0.210***	0.211***	0.301***	0.617***	0.231***
Inverse distance, 70 miles, power 1	0.056***	0.130***	0.144***	0.095***	0.487***	0.110***
Inverse distance, 70 miles, power 2	0.108***	0.203***	0.205***	0.292***	0.603***	0.223***
Inverse distance, 80 miles, power 1	0.050***	0.115***	0.132***	0.089***	0.457***	0.096***
Inverse distance, 80 miles, power 2	0.106***	0.196***	0.201***	0.286***	0.591***	0.216***
Inverse distance, 90 miles, power 1	0.045***	0.104***	0.122***	0.083***	0.428***	0.084***
Inverse distance, 90 miles, power 2	0.103***	0.191***	0.196***	0.281***	0.580***	0.209***
Inverse distance, 100 miles, power 1	0.041***	0.096***	0.114***	0.078***	0.401***	0.072***
Inverse distance, 100 miles, power 2	0.101***	0.187***	0.193***	0.276***	0.570***	0.203***

Note: The bold numbers represent the highest Moran's I values for each variable based on all forty spatial weight matrices.

*** $p \leq .001$.

APPENDIX B.2  **Standard linear regression residual diagnostics**

Spatial Weight Matrix	Moran's I	LM Test (Lag)	LM Test (Error)	Robust LM Test (Lag)	Robust LM Test (Error)
Queen's contiguity, order 1	0.117***	77.295***	55.438***	60.254***	38.396***
Queen's contiguity, order 2	0.074***	95.514***	65.918***	41.809***	12.213***
Rook's contiguity, order 1	0.115***	64.134***	44.769***	62.817***	43.453***
Rook's contiguity, order 2	0.087***	94.858***	67.784***	42.391***	15.316***
3-nearest neighbors	0.102***	46.810***	32.445***	42.388***	28.023***
4-nearest neighbors	0.119***	76.189***	57.038***	43.806***	24.655***
5-nearest neighbors	0.118***	92.448***	68.671***	50.618***	26.841***
6-nearest neighbors	0.117***	105.959***	80.032***	49.622***	23.695***
7-nearest neighbors	0.115***	120.628***	90.297***	54.697***	24.366***
8-nearest neighbors	0.113***	132.192***	99.594***	53.663***	21.065***
General distance, 10 miles	0.105***	116.247***	85.012***	53.407***	22.172***
General distance, 20 miles	0.078***	229.825***	198.743***	32.363***	1.282
General distance, 30 miles	0.052***	180.827***	190.262***	14.651***	24.086***
General distance, 40 miles	0.035***	110.259***	148.861***	5.220*	43.822***
General distance, 50 miles	0.024***	60.442***	104.551***	1.683	45.793***
General distance, 60 miles	0.015***	27.313***	58.661***	0.385	31.733***
General distance, 70 miles	0.011***	14.836***	43.378***	0.001	28.542***
General distance, 80 miles	0.009***	9.317**	37.424***	0.182	28.290***
General distance, 90 miles	0.010***	10.145**	47.222***	0.381	37.459***
General distance, 100 miles	0.009***	9.693**	50.319***	0.558	41.184***
Inverse distance, 10 miles, power 1	0.095***	83.482***	57.212***	56.186***	29.917***
Inverse distance, 10 miles, power 2	0.094***	51.096***	33.936***	49.642***	32.481***
Inverse distance, 20 miles, power 1	0.079***	178.233***	136.748***	45.022***	3.537***
Inverse distance, 20 miles, power 2	0.084***	70.787***	48.120***	48.580***	25.913***
Inverse distance, 30 miles, power 1	0.062***	190.853***	160.936***	31.049***	1.132
Inverse distance, 30 miles, power 2	0.075***	71.019***	47.779***	46.109***	22.868***
Inverse distance, 40 miles, power 1	0.050***	173.467***	163.656***	20.229***	10.417**

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APPENDIX B.2 (Continued)

Spatial Weight Matrix	Moran's I	LM Test (Lag)	LM Test (Error)	Robust LM Test (Lag)	Robust LM Test (Error)
Inverse distance, 40 miles, power 2	0.069***	67.789***	45.266***	43.126***	20.603***
Inverse distance, 50 miles, power 1	0.041***	149.240***	156.643***	13.718***	21.122***
Inverse distance, 50 miles, power 2	0.064***	64.685***	42.935***	40.964***	19.213***
Inverse distance, 60 miles, power 1	0.034***	123.749***	140.973***	9.887***	27.112***
Inverse distance, 60 miles, power 2	0.061***	61.826***	40.775***	39.542***	18.491***
Inverse distance, 70 miles, power 1	0.030***	108.960***	135.687***	7.139**	33.866***
Inverse distance, 70 miles, power 2	0.058***	59.877***	39.372***	38.462***	17.957***
Inverse distance, 80 miles, power 1	0.027***	99.227***	133.470***	5.310*	39.554***
Inverse distance, 80 miles, power 2	0.056***	58.422***	38.360***	37.673***	17.612***
Inverse distance, 90 miles, power 1	0.025***	98.324***	140.881***	4.368*	46.925***
Inverse distance, 90 miles, power 2	0.055***	57.576***	37.769***	37.286***	17.479***
Inverse distance, 100 miles, power 1	0.024***	95.778***	143.384***	3.721	51.328***
Inverse distance, 100 miles, power 2	0.054***	56.635***	37.107***	36.905***	17.377***

Note: LM = Lagrange multiplier.

*Significant at the $\alpha = 0.05$ level. **Significant at the $\alpha = 0.01$ level. ***Significant at the $\alpha = 0.001$ level.

APPENDIX B.3  **Spatial lag model results based on forty spatial weight matrices**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Intercept	0.059**	0.046*	0.062**	0.048*	0.064***	0.060**	0.056**
Previous growth	0.054**	0.058**	0.055**	0.059**	0.059**	0.053**	0.051*
Old	-0.263***	-0.239***	-0.270***	-0.243***	-0.278***	-0.262***	-0.252***
Unemployment	-0.251*	-0.257*	-0.256*	-0.239*	-0.259*	-0.245*	-0.249*
Airport	0.108	0.108	0.118	0.104	0.129	0.113	0.102
Forest	-0.067***	-0.053***	-0.069***	-0.056***	-0.070***	-0.064***	-0.060***
Land developability	0.039*	0.040*	0.040*	0.040*	0.039*	0.036*	0.037*
Spatial lag	0.259***	0.390***	0.224***	0.357***	0.179***	0.248***	0.286***
<i>Measures of fit</i>							
Log-likelihood	1,143.36	1,143.64	1,138.35	1,145.25	1,129.97	1,142.03	1,147.23
AIC	-2,270.73	-2,271.29	-2,260.70	-2,274.50	-2,243.93	-2,268.05	-2,278.46
BIC	-2,226.60	-2,227.16	-2,216.57	-2,230.37	-2,199.81	-2,223.92	-2,234.33
Spatial weight matrix	Queen's contiguity, order 1	Queen's contiguity, order 2	Rook's contiguity, order 1	Rook's contiguity, order 2	3-nearest neighbors	4-nearest neighbors	5-nearest neighbors

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APPENDIX B.3 (Continued)

	Model 8	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14
Intercept	0.054**	0.050**	0.046*	0.045*	0.024	0.019	0.021
Previous growth	0.047*	0.048*	0.046*	0.049*	0.047*	0.057**	0.066*
Old	-0.244***	-0.234***	-0.223***	-0.227***	-0.186**	-0.205***	-0.234***
Unemployment	-0.248*	-0.247*	-0.237*	-0.226*	-0.236*	-0.241*	-0.243*
Airport	0.100	0.094	0.093	0.097	0.086	0.123	0.166*
Forest	-0.056***	-0.053***	-0.052***	-0.052***	-0.028	-0.025	-0.029
Land developability	0.037*	0.037*	0.038*	0.039*	0.039*	0.042*	0.043*
Spatial lag	0.315***	0.344***	0.372***	0.363***	0.617***	0.673***	0.682***
<i>Measures of fit</i>							
Log-likelihood	1,150.55	1,154.33	1,157.34	1,153.37	1,167.01	1,150.94	1,136.71
AIC	-2,285.10	-2,292.66	-2,298.69	-2,290.74	-2,318.02	-2,285.88	-2,257.42
BIC	-2,240.97	-2,248.53	-2,254.56	-2,246.61	-2,273.89	-2,241.76	-2,213.30
Spatial weight matrix	6-nearest neighbors	7-nearest neighbors	8-nearest neighbors	General distance, 10 miles	General distance, 20 miles	General distance, 30 miles	General distance, 40 miles

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APPENDIX B.3 (Continued)

	Model 15	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21
Intercept	0.027	0.039	0.046*	0.050*	0.046*	0.042	0.053**
Previous growth	0.070***	0.070***	0.069***	0.069***	0.069***	0.069***	0.051*
Old	-0.261***	-0.285***	-0.302***	-0.311***	-0.311***	-0.309***	-0.249***
Unemployment	-0.247*	-0.256*	-0.260*	-0.262*	-0.259*	-0.257*	-0.232*
Airport	0.191*	0.190*	0.184*	0.180*	0.179*	0.177*	0.109
Forest	-0.036*	-0.050**	-0.059**	-0.064***	-0.063***	-0.062***	-0.060***
Land developability	0.043*	0.045**	0.047**	0.048**	0.049**	0.049**	0.040*
Spatial lag	0.645***	0.523***	0.444**	0.404**	0.476**	0.545***	0.282***
<i>Measures of fit</i>							
Log-likelihood	1,126.09	1,117.29	1,113.75	1,112.16	1,112.67	1,112.90	1,140.52
AIC	-2,236.17	-2,218.58	-2,211.50	-2,208.33	-2,209.34	-2,209.80	-2,265.03
BIC	-2,192.04	-2,174.46	-2,167.38	-2,164.20	-2,165.22	-2,165.67	-2,220.91
Spatial weight matrix	General distance, 50 miles	General distance, 60 miles	General distance, 70 miles	General distance, 80 miles	General distance, 90 miles	General distance, 100 miles	Inverse distance, 10 miles, power 1

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APPENDIX B.3 (Continued)

	Model 22	Model 23	Model 24	Model 25	Model 26	Model 27	Model 28
Intercept	0.062**	0.034	0.056**	0.025	0.054**	0.019	0.053**
Previous growth	0.056**	0.044*	0.052**	0.047*	0.053**	0.052**	0.054**
Old	-0.275***	-0.202***	-0.260***	-0.195***	-0.258***	-0.200***	-0.259***
Unemployment	-0.244*	-0.228*	-0.239*	-0.231*	-0.241*	-0.230*	-0.241*
Airport	0.123	0.089	0.115	0.104	0.120	0.130	0.125
Forest	-0.069***	-0.041**	-0.063***	-0.032*	-0.062***	-0.028	-0.062***
Land developability	0.040*	0.038*	0.040*	0.040*	0.040*	0.041*	0.041*
Spatial lag	0.192***	0.501***	0.260***	0.603***	0.280***	0.676***	0.288***
<i>Measures of fit</i>							
Log-likelihood	1,130.04	1,156.50	1,134.65	1,154.43	1,133.92	1,149.91	1,132.51
AIC	-2,244.09	-2,297.00	-2,253.29	-2,292.87	-2,251.84	-2,283.81	-2,249.01
BIC	-2,199.96	-2,252.87	-2,209.17	-2,248.74	-2,207.72	-2,239.69	-2,204.88
Spatial weight matrix	Inverse distance, 10 miles, power 2	Inverse distance, 20 miles, power 1	Inverse distance, 20 miles, power 2	Inverse distance, 30 miles, power 1	Inverse distance, 30 miles, power 2	Inverse distance, 40 miles, power 1	Inverse distance, 40 miles, power 2

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APPENDIX B.3  (Continued)

	Model.29	Model.30	Model.31	Model.32	Model.33	Model.34	Model.35
Intercept	0.017	0.053**	0.016	0.053**	0.015	0.053**	0.014
Previous growth	0.055**	0.054**	0.056**	0.054**	0.056**	0.054**	0.056**
Old	-0.209***	-0.261***	-0.217***	-0.263***	-0.226***	-0.265***	-0.233***
Unemployment	-0.231*	-0.242*	-0.234*	-0.243*	-0.233*	-0.243*	-0.233*
Airport	0.151*	0.129	0.161*	0.132	0.165*	0.133	0.168*
Forest	-0.027	-0.062***	-0.028	-0.062***	-0.029	-0.062***	-0.031
Land developability	0.041*	0.041*	0.042*	0.042*	0.044*	0.042*	0.045**
Spatial lag	0.727***	0.292***	0.757***	0.294***	0.793***	0.296***	0.828***
<i>Measures of fit</i>							
Log-likelihood	1,145.18	1,131.33	1,140.25	1,130.32	1,137.57	1,129.62	1,135.87
AIC	-2,274.37	-2,246.65	-2,264.50	-2,244.63	-2,259.15	-2,243.25	-2,255.73
BIC	-2,230.24	-2,202.53	-2,220.37	-2,200.50	-2,215.02	-2,199.12	-2,211.61
Spatial weight matrix	Inverse distance, 50 miles, power 1	Inverse distance, 50 miles, power 2	Inverse distance, 60 miles, power 1	Inverse distance, 60 miles, power 2	Inverse distance, 70 miles, power 1	Inverse distance, 70 miles, power 2	Inverse distance, 80 miles, power 1

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APPENDIX B.3 (Continued)

	Model 36	Model 37	Model 38	Model 39	Model 40
Intercept	0.053**	0.048	0.053**	0.012	0.053**
Previous growth	0.054**	0.059**	0.054**	0.056**	0.055**
Old	-0.266***	-0.243***	-0.267***	-0.241***	-0.268***
Unemployment	-0.244*	-0.239*	-0.244*	-0.232*	-0.244*
Airport	0.134	0.104*	0.134	0.165*	0.134
Forest	-0.063***	-0.056	-0.063***	-0.034*	-0.063***
Land developability	0.042*	0.040**	0.042*	0.047**	0.043*
Spatial lag	0.297***	0.357***	0.299***	0.894***	0.300***
<i>Measures of fit</i>					
Log-likelihood	1,129.11	1,135.99	1,128.80	1,135.67	1,128.46
AIC	-2,242.22	-2,255.97	-2,241.59	-2,255.34	-2,240.91
BIC	-2,198.09	-2,211.85	-2,197.46	-2,211.21	-2,196.79
Spatial weight matrix	Inverse distance, 80 miles, power 2	Inverse distance, 90 miles, power 1	Inverse distance, 90 miles, power 2	Inverse distance, 100 miles, power 1	Inverse distance, 100 miles, power 2

Note: AIC = Akaike's information criterion; BIC = Schwartz's Bayesian information criterion.

*Significant at the $\alpha = 0.05$ level. **Significant at the $\alpha = 0.01$ level. ***Significant at the $\alpha = 0.001$ level.

APPENDIX B.4  Residual diagnostics of the spatial cross-regressive model

Spatial Weight Matrix	Moran's I	LM Test (Lag)	LM Test (Error)	Robust LM Test (Lag)	Robust LM Test (Error)	Kelejian-Robinson (Error)	LM Test (Lag and Error)
Queen's contiguity, order 1	0.102***	49.828***	41.751***	20.856***	12.779***	57.478***	62.607***
Queen's contiguity, order 2	0.050***	50.042***	30.948***	32.030***	12.937***	150.019***	62.979***
Rook's contiguity, order 1	0.102***	41.660***	35.236***	19.069***	12.645***	63.020***	54.305***
Rook's contiguity, order 2	0.062***	52.034***	35.043***	30.837***	13.846***	73.717***	65.880***
3-nearest neighbors	0.084***	25.905***	22.092***	8.197**	4.384*	46.746***	30.289***
4-nearest neighbors	0.100***	45.894***	40.484***	9.319**	3.909*	68.306***	49.803***
5-nearest neighbors	0.099***	56.176***	48.385***	13.686***	5.896*	72.394***	62.071***
6-nearest neighbors	0.095***	62.349***	52.677***	16.400***	6.728**	66.195***	69.077***
7-nearest neighbors	0.092***	70.804***	57.448***	23.218***	9.862**	67.654***	80.666***
8-nearest neighbors	0.090***	77.909***	62.808***	24.185***	9.084**	80.159***	86.994***
General distance, 10 miles	0.084***	66.422***	54.154***	18.081***	5.813*	56.242***	72.235***
General distance, 20 miles	0.056***	123.413***	101.402***	22.183***	0.172	175.195***	123.586***
General distance, 30 miles	0.036***	91.722***	88.967***	10.785***	8.030**	186.373***	99.752***
General distance, 40 miles	0.025***	58.588***	77.553***	2.840	21.805***	132.805***	80.393***
General distance, 50 miles	0.017***	31.682***	53.544***	0.796	22.658***	109.719***	54.340***
General distance, 60 miles	0.009***	11.665***	21.453***	0.369	10.156**	66.606***	21.821***
General distance, 70 miles	0.006***	5.672*	12.468***	0.107	6.904**	40.007***	12.575**
General distance, 80 miles	0.005***	3.673	10.597**	0.003	6.928**	34.036**	10.600**
General distance, 90 miles	0.006***	5.351*	18.469***	0.009	13.127***	62.864***	18.478***
General distance, 100 miles	0.006***	5.776*	22.181***	0.049	16.454***	60.391***	22.230***

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APPENDIX B.4 (Continued)

Spatial Weight Matrix	Moran's I	LM Test (Lag)	LM Test (Error)	Robust LM Test (Lag)	Robust LM Test (Error)	Kelejian-Robinson (Error)	LM Test (Lag and Error)
Inverse distance, 10 miles, power 1	0.080***	47.000***	40.674***	9.076**	2.750	56.242***	49.750***
Inverse distance, 10 miles, power 2	0.081***	28.238***	25.362***	4.586*	1.710	56.242***	29.948***
Inverse distance, 20 miles, power 1	0.062***	98.514***	83.452***	15.206***	0.144	175.195***	98.659***
Inverse distance, 20 miles, power 2	0.071***	39.279***	34.603***	6.259*	1.583	175.195***	40.862***
Inverse distance, 30 miles, power 1	0.047***	102.851***	93.312***	11.349***	1.810	186.373***	104.661***
Inverse distance, 30 miles, power 2	0.064***	39.013***	34.487***	5.562*	1.037	186.373***	40.049***
Inverse distance, 40 miles, power 1	0.038***	95.782***	97.586***	6.624*	8.428**	132.805***	104.211***
Inverse distance, 40 miles, power 2	0.059***	37.141***	33.307***	4.361*	0.527	132.805***	37.668***
Inverse distance, 50 miles, power 1	0.032***	83.466***	93.130***	4.358*	14.022***	109.719***	97.488***
Inverse distance, 50 miles, power 2	0.055***	35.374***	31.982***	3.715	0.323	109.719***	35.697***
Inverse distance, 60 miles, power 1	0.025***	67.945***	78.636***	3.631	14.322***	66.606***	82.267***
Inverse distance, 60 miles, power 2	0.052***	33.648***	30.455***	3.469	0.277	66.606***	33.924***
Inverse distance, 70 miles, power 1	0.022***	60.302***	72.995***	3.007	15.700***	40.007***	76.002***
Inverse distance, 70 miles, power 2	0.050***	32.566***	29.536***	3.269	0.239	40.007***	32.805***
Inverse distance, 80 miles, power 1	0.020***	56.052***	71.338***	2.402	17.688***	34.036**	73.739***
Inverse distance, 80 miles, power 2	0.049***	31.823***	28.945***	3.080	0.202	34.036**	32.025***
Inverse distance, 90 miles, power 1	0.019***	57.958***	77.169***	2.092	21.303***	62.864***	79.261***
Inverse distance, 90 miles, power 2	0.048***	31.468***	28.673***	2.976	0.181	62.864***	31.650***
Inverse distance, 100 miles, power 1	0.018***	57.909***	79.580***	1.797	23.468***	60.391***	81.377***
Inverse distance, 100 miles, power 2	0.047***	30.986***	28.330***	2.804	0.147	60.391***	31.134***

Note: AIC = Akaike's information criterion; BIC = Schwarz's Bayesian information criterion; LM = Lagrange multiplier.

*Significant at the $\alpha = 0.05$ level. **Significant at the $\alpha = 0.01$ level. ***Significant at the $\alpha = 0.001$ level.

APPENDIX B.5  **Diagnostics for the spatial regime standard linear regression model residuals**

Spatial Weight Matrix	Moran's I	LM Test (Lag)	LM Test (Error)	Robust LM Test (Lag)	Robust LM Test (Error)	LM Test (Lag and Error)
Queen's contiguity, order 1	0.114***	67.991***	52.718***	29.294***	14.020***	82.012***
Queen's contiguity, order 2	0.077***	85.677***	71.267***	15.034***	0.623	86.301***
Rook's contiguity, order 1	0.113***	56.986***	43.698***	28.596***	15.308***	72.294***
Rook's contiguity, order 2	0.089***	85.433***	71.675***	14.998***	1.239	86.673***
3-nearest neighbors	0.101***	39.516***	31.389***	13.456***	5.329*	44.845***
4-nearest neighbors	0.118***	65.616***	55.598***	13.399***	3.381	68.997***
5-nearest neighbors	0.116***	79.516***	66.630***	16.904***	4.017*	83.533***
6-nearest neighbors	0.116***	91.437***	79.663***	13.449***	1.674	93.112***
7-nearest neighbors	0.116***	105.464***	92.740***	13.795***	1.071	106.535***
8-nearest neighbors	0.115***	116.109***	102.779***	13.924***	0.594	116.702***
General distance, 10 miles	0.108***	106.060***	90.906***	17.095***	1.940	108.001***
General distance, 20 miles	0.076***	198.468***	184.825***	18.917***	5.274*	203.742***
General distance, 30 miles	0.052***	162.721***	187.488***	9.142**	33.909***	196.631***
General distance, 40 miles	0.038***	108.688***	171.660***	2.250	65.222***	173.910***
General distance, 50 miles	0.028***	66.532***	141.523***	0.283	75.274***	141.806***
General distance, 60 miles	0.019***	34.233***	89.449***	0.008	55.224***	89.457***
General distance, 70 miles	0.014***	21.144***	67.212***	0.048	46.115***	67.259***
General distance, 80 miles	0.011***	14.382***	54.090***	0.191	39.900***	54.282***
General distance, 90 miles	0.011***	14.622***	58.229***	0.210	43.817***	58.439***
General distance, 100 miles	0.010***	13.774***	60.177***	0.353	46.756***	60.531***

(Continued)

APPENDIX B.5 (Continued)

Spatial Weight Matrix	Moran's I	LM Test (Lag)	LM Test (Error)	Robust LM Test (Lag)	Robust LM Test (Error)	LM Test (Lag and Error)
Inverse distance, 10 miles, power 1	0.097***	74.149***	60.411***	18.540***	4.803*	78.952***
Inverse distance, 10 miles, power 2	0.094***	43.941***	34.502***	16.165***	6.726**	50.667***
Inverse distance, 20 miles, power 1	0.077***	152.929***	130.776***	22.155***	0.001	152.930***
Inverse distance, 20 miles, power 2	0.082***	59.554***	46.228***	19.603***	6.277*	65.831***
Inverse distance, 30 miles, power 1	0.061***	168.553***	157.678***	16.882***	6.008*	174.561***
Inverse distance, 30 miles, power 2	0.074***	60.225***	46.150***	20.010***	5.935*	66.160***
Inverse distance, 40 miles, power 1	0.051***	158.582***	169.451***	10.281**	21.149***	179.731***
Inverse distance, 40 miles, power 2	0.068***	57.823***	44.119***	19.024***	5.320*	63.143***
Inverse distance, 50 miles, power 1	0.043***	140.721***	170.191***	6.339*	35.809***	176.530***
Inverse distance, 50 miles, power 2	0.063***	55.324***	42.115***	18.093***	4.884*	60.208***
Inverse distance, 60 miles, power 1	0.036***	119.350***	155.711***	4.669*	41.030***	160.380***
Inverse distance, 60 miles, power 2	0.060***	52.857***	39.967***	17.742***	4.852*	57.709***
Inverse distance, 70 miles, power 1	0.031***	107.634***	149.114***	3.722	45.202***	152.836***
Inverse distance, 70 miles, power 2	0.057***	51.180***	38.460***	17.678***	4.958*	56.138***
Inverse distance, 80 miles, power 1	0.028***	99.582***	144.364***	3.061	47.843***	147.425***
Inverse distance, 80 miles, power 2	0.056***	49.888***	37.338***	17.596***	5.047*	54.934***
Inverse distance, 90 miles, power 1	0.026***	99.133***	148.868***	2.766	52.501***	151.639***
Inverse distance, 90 miles, power 2	0.054***	49.084***	36.626***	17.610***	5.152*	54.236***
Inverse distance, 100 miles, power 1	0.025***	96.958***	151.170***	2.296	56.508***	153.466***
Inverse distance, 100 miles, power 2	0.053***	48.207***	35.936***	17.422***	5.151*	53.358***

Note: LM = Lagrange multiplier.

*Significant at the $\alpha = 0.05$ level. **Significant at the $\alpha = 0.01$ level. ***Significant at the $\alpha = 0.001$ level.

APPENDIX B.6  Residual diagnostics of the spatial regime lag model

Spatial Weight Matrix	LM Test on Remaining Spatial Error	Spatial Weight Matrix	LM Test on Remaining Spatial Error
Queen's contiguity, order 1	0.909	Inverse distance, 10 miles, power 1	0.024
Queen's contiguity, order 2	19.425***	Inverse distance, 10 miles, power 2	3.400
Rook's contiguity, order 1	0.002	Inverse distance, 20 miles, power 1	16.348***
Rook's contiguity, order 2	19.644***	Inverse distance, 20 miles, power 2	0.635
3-nearest neighbors	20.187***	Inverse distance, 30 miles, power 1	23.695***
4-nearest neighbors	11.997***	Inverse distance, 30 miles, power 2	0.606
5-nearest neighbors	0.002	Inverse distance, 40 miles, power 1	27.161***
6-nearest neighbors	3.272	Inverse distance, 40 miles, power 2	0.823
7-nearest neighbors	8.818**	Inverse distance, 50 miles, power 1	26.368***
8-nearest neighbors	14.728***	Inverse distance, 50 miles, power 2	1.094
General distance, 10 miles	13.760***	Inverse distance, 60 miles, power 1	20.934***
General distance, 20 miles	58.094***	Inverse distance, 60 miles, power 2	1.429
General distance, 30 miles	59.717***	Inverse distance, 70 miles, power 1	18.965***
General distance, 40 miles	56.576***	Inverse distance, 70 miles, power 2	1.685
General distance, 50 miles	45.660***	Inverse distance, 80 miles, power 1	17.348***
General distance, 60 miles	25.900***	Inverse distance, 80 miles, power 2	1.888
General distance, 70 miles	19.272***	Inverse distance, 90 miles, power 1	18.403***
General distance, 80 miles	14.997***	Inverse distance, 90 miles, power 2	2.026
General distance, 90 miles	16.046***	Inverse distance, 100 miles, power 1	18.936***
General distance, 100 miles	16.996***	Inverse distance, 100 miles, power 2	2.171

Note: LM = Lagrange multiplier.

Significant at the $\alpha = 0.01$ level. *Significant at the $\alpha = 0.001$ level.

APPENDIX B.7  Moran's I statistics for residuals of a standard linear regression model

Spatial Weight Matrix	Moran's I	Spatial Weight Matrix	Moran's I
Queen's contiguity, order 1	0.128***	Inverse distance, 10 miles, power 1	0.112***
Queen's contiguity, order 2	0.089***	Inverse distance, 10 miles, power 2	0.110***
Rook's contiguity, order 1	0.126***	Inverse distance, 20 miles, power 1	0.095***
Rook's contiguity, order 2	0.102***	Inverse distance, 20 miles, power 2	0.099***
3-nearest neighbors	0.119***	Inverse distance, 30 miles, power 1	0.078***
4-nearest neighbors	0.136***	Inverse distance, 30 miles, power 2	0.090***
5-nearest neighbors	0.135***	Inverse distance, 40 miles, power 1	0.065***
6-nearest neighbors	0.133***	Inverse distance, 40 miles, power 2	0.083***
7-nearest neighbors	0.132***	Inverse distance, 50 miles, power 1	0.055***
8-nearest neighbors	0.129***	Inverse distance, 50 miles, power 2	0.078***
General distance, 10 miles	0.123***	Inverse distance, 60 miles, power 1	0.046***
General distance, 20 miles	0.096***	Inverse distance, 60 miles, power 2	0.074***
General distance, 30 miles	0.069***	Inverse distance, 70 miles, power 1	0.041***
General distance, 40 miles	0.050***	Inverse distance, 70 miles, power 2	0.071***
General distance, 50 miles	0.037***	Inverse distance, 80 miles, power 1	0.037***
General distance, 60 miles	0.026***	Inverse distance, 80 miles, power 2	0.069***
General distance, 70 miles	0.020***	Inverse distance, 90 miles, power 1	0.035***
General distance, 80 miles	0.016***	Inverse distance, 90 miles, power 2	0.067***
General distance, 90 miles	0.015***	Inverse distance, 100 miles, power 1	0.032***
General distance, 100 miles	0.014***	Inverse distance, 100 miles, power 2	0.066***

***Significant at the $\alpha = 0.001$ level.

APPENDIX B.8 ● The selection of appropriate spatial weight matrices for explanatory variables in 1990
(Moran's I by each spatial weight matrix)

Spatial Weight Matrix	Previous Growth	Old	Unemployment	Airport	Forest	Land Developability
Queen's contiguity, order 1	0.154	0.252	0.357	0.489	0.785	0.435
Queen's contiguity, order 2	0.138	0.201	0.291	0.245	0.666	0.214
Rook's contiguity, order 1	0.158	0.249	0.360	0.502	0.798	0.435
Rook's contiguity, order 2	0.155	0.220	0.302	0.269	0.689	0.241
3-nearest neighbors	0.172	0.229	0.330	0.581	0.760	0.380
4-nearest neighbors	0.179	0.251	0.326	0.539	0.760	0.393
5-nearest neighbors	0.187	0.259	0.322	0.508	0.753	0.390
6-nearest neighbors	0.181	0.258	0.327	0.477	0.746	0.380
7-nearest neighbors	0.183	0.252	0.323	0.457	0.739	0.365
8-nearest neighbors	0.180	0.255	0.317	0.439	0.730	0.357
General distance, 10 miles	0.175	0.264	0.332	0.419	0.728	0.364
General distance, 20 miles	0.126	0.219	0.271	0.232	0.649	0.228
General distance, 30 miles	0.087	0.172	0.239	0.136	0.589	0.159
General distance, 40 miles	0.063	0.136	0.206	0.075	0.536	0.114
General distance, 50 miles	0.046	0.109	0.183	0.037	0.490	0.086
General distance, 60 miles	0.035	0.088	0.164	0.021	0.451	0.066
General distance, 70 miles	0.028	0.071	0.146	0.016	0.409	0.050
General distance, 80 miles	0.022	0.059	0.132	0.019	0.366	0.036
General distance, 90 miles	0.016	0.049	0.118	0.020	0.324	0.024
General distance, 100 miles	0.012	0.043	0.107	0.019	0.285	0.011

(Continued)

APPENDIX B.8 (Continued)

Spatial Weight Matrix	Previous Growth	Old	Unemployment	Airport	Forest	Land Developability
Inverse distance, 10 miles, power 1	0.165	0.241	0.337	0.469	0.731	0.371
Inverse distance, 10 miles, power 2	0.147	0.210	0.341	0.526	0.733	0.371
Inverse distance, 20 miles, power 1	0.136	0.222	0.288	0.309	0.671	0.269
Inverse distance, 20 miles, power 2	0.137	0.204	0.308	0.422	0.697	0.311
Inverse distance, 30 miles, power 1	0.109	0.192	0.262	0.223	0.625	0.211
Inverse distance, 30 miles, power 2	0.125	0.191	0.293	0.370	0.670	0.278
Inverse distance, 40 miles, power 1	0.091	0.166	0.236	0.166	0.584	0.172
Inverse distance, 40 miles, power 2	0.117	0.180	0.280	0.336	0.649	0.256
Inverse distance, 50 miles, power 1	0.078	0.145	0.217	0.129	0.548	0.145
Inverse distance, 50 miles, power 2	0.112	0.171	0.270	0.315	0.631	0.242
Inverse distance, 60 miles, power 1	0.067	0.128	0.200	0.107	0.518	0.126
Inverse distance, 60 miles, power 2	0.108	0.164	0.262	0.301	0.617	0.231
Inverse distance, 70 miles, power 1	0.060	0.114	0.186	0.095	0.487	0.110
Inverse distance, 70 miles, power 2	0.105	0.158	0.255	0.292	0.603	0.223
Inverse distance, 80 miles, power 1	0.055	0.103	0.174	0.089	0.457	0.096
Inverse distance, 80 miles, power 2	0.103	0.153	0.250	0.286	0.591	0.216
Inverse distance, 90 miles, power 1	0.049	0.094	0.164	0.083	0.428	0.084
Inverse distance, 90 miles, power 2	0.101	0.149	0.245	0.281	0.580	0.209
Inverse distance, 100 miles, power 1	0.045	0.088	0.155	0.078	0.401	0.072
Inverse distance, 100 miles, power 2	0.099	0.146	0.242	0.276	0.570	0.203

Note: All significant at the $\alpha = 0.001$ level. The bold numbers correspond to the highest Moran's I values for each variable based on all forty spatial weight matrices.