

TABLE A-2

Results for simultaneous equations model excluding regional controls—urban commuting zones

(Estimated regression coefficients on patents and population subset)

Variable	Population subset											
	Inventive class (IC)			Science, engineering, and technical (SET) employment			Creative class (CC)			At least 4-year college degree (BA)		
	Coefficient estimate		p-value	Coefficient estimate		p-value	Coefficient estimate		p-value	Coefficient estimate	p-value	
Patents dependent variable												
IC	0.036	-	0.107	-	-	-	-	-	-	-	-	
SET	-	-	-	0.048	*	0.091	-	-	-	-	-	
CC	-	-	-	-	-	-	0.009	-	0.310	-	-	
BA	-	-	-	-	-	-	-	-	-	0.008	-	0.256
1975–80 patent stock (PatStock)	0.652		0.153	0.669	*	0.087	0.816		0.128	0.611		0.320
Population density (PopDens)	-0.110		0.638	-0.135		0.507	0.044		0.944	-0.097		0.923
Wage-rental ratio (WageRentR)	-97.622		0.783	-72.204		0.838	-49.050		0.898	-10.511		0.978
Natural amenity rank (NatAmen)	844.033	***	<0.001	860.586	***	<0.001	896.446	***	<0.001	868.456	***	<0.001
University research expenditures (UniResExp)	4.231	*	0.090	4.790	*	0.059	5.361	**	0.029	4.616		0.114
Location quotient for patent-intensive industries (LQPatInd)	1,303.392	***	<0.001	1,377.616	***	<0.001	1,415.633	***	<0.001	1,492.213	***	<0.001
Root mean square error (RMSE)	2,551.155			2,522.494			2,772.561			2,827.890		
Chi-squared	1,018.295			1,005.776			906.521			932.065		
p-value	<0.0001			<0.0001			<0.0001			<0.0001		
Mean variance inflation factor (VIF)	3.377			3.059			3.343			3.710		
Population subset equation												
Patents	14.505	***	<0.001	10.076	***	<0.001	45.228	***	<0.001	63.518	***	<0.001
Unemployment rate (UR)	-1,340.357		0.284	-1,202.309		0.171	-4,121.518		0.354	-3,519.910		0.591
WageRentR	1497.594		0.784	664.515		0.860	253.342		0.990	-2,317.912		0.937
NatAmen	-9,701.234	***	<0.001	-6,767.009	***	<0.001	-30,302.539	***	0.002	-45,703.148	***	0.001
Crime	142.448		0.194	105.163		0.143	572.835		0.247	473.930		0.503
Proximity to urban center (ProxUrbCen)	-30.093		0.176	-24.103		0.121	-107.654		0.208	-123.718		0.300
LQPatInd	-19,031.969	***	<0.001	-14,707.899	***	<0.001	-68,930.02	***	<0.001	-103,473.93	***	<0.001
RMSE	37,414.982			25,825.715			139,000.000			199,000.000		
Chi-squared	721.383			731.342			505.796			480.232		
p-value	<0.0001			<0.0001			<0.0001			<0.0001		
Mean VIF	1.424			1.424			1.424			1.424		

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.**Note(s):**

Structural equation estimates are based on 358 observations.

Source(s):

Authors' estimation using U.S. Patent and Trademark Office; Census Bureau, Special Tabulation (2000), 2000 Census of Population and Housing, Summary File 1 and Summary File 4, and Shapefile; Integrated Postsecondary Data System, 2000; Department of Agriculture, Economic Research Service, 1999, 2000; Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 1998.