

TABLE A-1

Results for simultaneous equations model excluding regional controls—rural 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	0.115	***	0.009	-	-		-	-	-	-	-	
SET	-	-	-	0.290	**	0.036	-	-	-	-	-	
CC	-	-	-	-	-	-	0.034	-	0.347	-	-	
BA	-	-	-	-	-	-	-	-	-	0.020	-	
1975–80 patent stock (PatStock)	-0.183		0.215	-0.455		0.118	-0.176		0.580	-0.121	0.632	
Population density (PopDens)	-0.711		0.312	-1.415		0.229	-0.358		0.858	-0.263	0.863	
Wage-rental ratio (WageRentR)	32.690	**	0.016	56.380	**	0.044	46.289		0.321	37.906	0.312	
Natural amenity rank (NatAmen)	12.576	**	0.036	12.540		0.113	11.639		0.349	7.098	0.389	
University research expenditures (UniResExp)	-1.114		0.221	-3.311		0.158	-1.069		0.681	-0.759	0.741	
Location quotient for patent-intensive industries (LQPatInd)	-25.049	*	0.053	-21.815		0.159	-7.069		0.598	5.664	0.395	
Root mean square error (RMSE)	77.018			126.017			90.135			78.043		
Chi-squared	334.368			129.495			182.434			231.835		
p-value	<0.0001			<0.0001			<0.0001			<0.0001		
Mean variance inflation factor (VIF)	1.502			1.503			1.461			1.443		
Population subset equation												
Patents	16.081	***	<1.00E-08	10.944	***	<1.00E-08	51.457	***	<1.00E-08	76.473	***	<1.00E-08
Unemployment rate (UR)	18.444		0.156	19.478	**	0.034	56.134		(0.402)	69.059		0.482
WageRentR	-207.397	***	0.000	-108.358	***	0.002	-1,062.4	***	1.60E-07	-1,550.84	***	1.50E-07
NatAmen	-104.238	**	0.013	-33.729		0.208	-308.854	*	0.058	-314.597		0.195
Crime	2.655		0.232	2.293	*	0.086	8.958		0.107	10.478		0.199
Proximity to urban center (ProxUrbCen)	-0.309		0.127	-0.288		0.129	-1.306		0.125	-1.346		0.237
LQPatInd	148.822	**	0.012	-7.211		0.851	-76.130		0.744	-613.964	*	0.077
RMSE	679.917			432.517			2644.331			3949.441		
Chi-squared	334.368			129.495			182.434			231.835		
p-value	<0.0001			<0.0001			<0.0001			<0.0001		
Mean VIF	1.482			1.482			1.482			1.482		

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.**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.