



MIDWESTERN HIGHER EDUCATION COMPACT

The Selection of Peer States for Performance Benchmarking in Higher Education

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Interstate comparisons are central to performance benchmarking in postsecondary education. Interstate contexts assist policymakers in evaluating the adequacy of their state's performance on such indicators as postsecondary funding, academic preparation, enrollment, and degree completion. However, the validity of such comparisons assumes a certain degree of similarity in state characteristics that are correlated with higher education performance. States with many at-risk students and few taxable resources, for instance, face different policy constraints than states with more favorable demographic and economic circumstances. Comparisons of dissimilar states in this regard preclude an accurate assessment of the strengths and weaknesses of a state's postsecondary system, thereby rendering the observer susceptible to delusions of both grandeur and deficiency. This working paper thus seeks to inform the selection of peer states by estimating the degree of similarity among states along three important dimensions: population characteristics, capital advantage, and market conditions.

The State Context of Postsecondary Education

Various factors in the state context of postsecondary education shape policy demands, possibilities, and effectiveness. Of particular interest are factors that generally cannot be directly subjected to educational policy and yet limit or facilitate state performance. For example, this criterion excludes direct system inputs that are typically examined and ideally influenced in the context of higher education performance, such as National Assessment of Educational Progress (NAEP) proficiency levels and high school graduation rates. Following past research on higher education and the states, relevant indicators can be classified under population characteristics, capital advantage, and market conditions (e.g., Nettles & Cole, 2001).

Population characteristics include the total population, population density, the percentage of at-risk minorities, and the age dependency ratio. The size and density of a state's population partly shapes the nature and cost of public administration and postsecondary services. The size of the state's population has been positively associated with state appropriations for higher education (Toutkoushian & Hollis, 1998), affordability measures (Volkwein & Tandberg, 2008), and the adoption of policy innovations (Hearn, McLendon, & Mokher, 2008). Population density at the county level has been positively correlated with the college-going rate (Braun, 1983). The state's ethnic composition reflects potential equity challenges in postsecondary preparation, access, and completion. For instance, students of Hispanic, African American, or Native American ethnicity have exhibited lower rates of educational attainment than their White and Asian counterparts (NCES, 2011). Regarding the age dependency ratio, a high proportion of very young and retired people in the population can reduce a state's capacity to fund higher education due to lower tax revenues and greater spending needs in K-12 education and Medicaid (see McLendon, Hearn, & Mokher, 2006).

The state's capital advantage forms a second dimension in the state context associated with higher education performance, including taxable resources per capita, median family income, per capita income, the proportion of children in low-income families, and the young adult poverty rate. A state's capital advantage largely determines the availability of collective resources for educational funding and influences both academic and financial access to college. Per capita income, for example, has been positively associated with academic preparation and postsecondary enrollment (Volkwein & Tandberg, 2008) as well as state appropriations to higher education (Toutkoushian & Hollis, 1998; Rizzo, 2006).

Market conditions, the third dimension, are depicted by the unemployment rate and the strength of the state's knowledge economy. The unemployment rate arguably influences the perceived opportunity cost of postsecondary enrollment and resources available to both families and the state. Indeed, the unemployment rate has been positively associated with postsecondary enrollment (Corman & Davidson, 1984; Stratton, O'Toole, & Wetzel, 2005) and negatively associated with state appropriations (Toutkoushian & Hollis, 1998). Also relevant is the degree to which a state's economy utilizes the competencies and credentials gained through postsecondary education. States with larger knowledge industries will likely have a greater demand for postsecondary education, more partnerships with postsecondary institutions, and more salient market incentives for degree completion. Accordingly, Volkwein & Tandberg (2008) found that higher scores on the State New Economy Index were associated with higher levels of postsecondary enrollment.

Current Study

This study employs a simple solution to the problem of identifying comparable states along each of the aforementioned dimensions. Specifically, a proximity matrix is generated containing squared Euclidean distance values for each state. It will be recalled that this distance is calculated with the following formula: $d^2(B, C) = (B_x - C_x)^2 + (B_y - C_y)^2$. This formula gives the squared distance between state 'B' and state 'C' for variables 'x' and 'y,' wherein larger values will reflect a higher degree of dissimilarity. Given the overwhelming importance of economic considerations in state policy, an attempt is made to weight the capital advantage dimension by including several relevant and highly intercorrelated variables. Once the proximity matrix has been computed, comparable peer states can be easily identified for any particular target state.

Method

Data Source

Data were obtained for state population characteristics, capital advantage, and market conditions. As depicted in Table 1, variables were derived from several public data sources for either 2010 or 2011. Data were obtained for all 50 states. Table 2 provides descriptive statistics for the variables, and Table 3 provides a correlation matrix.

Population characteristics.

Four variables reflected attributes of the state's population. Total population and population density variables included all residents within the state during 2010. The at-risk minority population was calculated as the percentage of the total population that is not non-Hispanic White alone or non-Hispanic Asian alone. In line with the U.S. Census methodology, the age dependency ratio is calculated as the ratio of (a) the number of persons aged less than 18 or greater than 64 and (b) the number of persons aged 18 to 64.

Capital advantage.

Five variables indexed the state's capital advantage. A measure of the state's taxable resources was calculated as the per capita gross state product. Median family income was defined as the median annual income for families with children under 18 living in the household. Data were also collected for personal income per capita. The low-income child rate was defined as the proportion of children under age 18 living in families with incomes that are less than 200 percent of the federal poverty level (e.g., \$22,350 for a family of four with two children). The young adult poverty rate was defined as the proportion of adults aged 18-24 who live in families with an income below the federal poverty level.

Market conditions.

Two variables reflected market conditions. The size of a state's knowledge labor market was measured from a subset of indicators in the State New Economy Index (Atkinson & Andes, 2010), including the percentage of the workforce employed in managerial, professional, and technical occupations; high-wage traded services; high-tech jobs; and the sciences and engineering. These indicators were standardized and summed to produce a single index of the knowledge labor market. Data were also obtained for the average annual unemployment rate during 2011.

Results

A proximity matrix was generated with standardized variables using the squared Euclidean distance. Table 4 summarizes the results by presenting the ten lowest distance values for each state. In the case of Minnesota, for instance, the ten most similar states are Washington, Pennsylvania, Wisconsin, Colorado, Virginia, Nebraska, Kansas, Iowa, Vermont, and Illinois, in order of increasing dissimilarity. (Interested readers can contact the author to obtain the full proximity matrix).

A general sense of the validity of this procedure can be obtained by comparing indicator values among target and peer states. Table 5 portrays indicator values for five of Illinois' and Minnesota's nearest and furthest neighbors, that is, states with the lowest and highest distance values (the latter are not shown in Table 4). An examination of Minnesota's nearest neighbors readily reveals that the proximity computation does not by any means guarantee perfect matches on all indicators. However, it is also clear that correspondence on any given measure among Minnesota and its furthest neighbors is overshadowed by extreme dissimilarity on other measures. Minnesota and Mississippi are indeed similar in their population density, but their

dissimilarities in every other respect make higher education performance in Mississippi most incomparable to that of Minnesota.

Final Remarks

This study sought to estimate the degree of similarity among states in order to inform the selection of peers for performance benchmarking in higher education. Eleven indicators in three dimensions- population characteristics, capital advantage, and market conditions- were used to identify each state's nearest neighbors. The results allow policymakers to identify their nearest neighbors with respect to each dimension, thereby increasing the likelihood that comparisons of higher education performance will reflect differences in policy rather than circumstance. Nonetheless, it should be emphasized that the importance of any particular indicator or dimension will partly depend on the performance outcome in question. Capital advantage indicators, for example, will clearly be more important in comparisons of postsecondary educational expenditures than of college graduation rates. The current multidimensional approach, then, yields some degree of precision to the need for practicality. Moreover, this study is limited insofar as important variables were excluded or undervalued. Future versions of this report may thus include additional, alternative, or differentially weighted indicators.

References

- Braun, T. G. (1983). An analysis of the effects of geographic-demographic factors on college attendance. *Research in Higher Education, 19*(2), 131-152.
- Corman, H., & Davidson, P. K. (1984). Economic aspects of post-secondary schooling decisions. *Economics of Education Review, 3*(2), 131-139.
- Hearn, J. C., McLendon, M. K., & Mokher, C. G. (2008). Accounting for student success: An empirical analysis of the origins and spread of state student unit-record systems. *Research in Higher Education, 49*(8), 665-683.
- McLendon, M. K., Hearn, J. C., & Mokher, C. (2006). Partisans, professionals, and power: The role of political factors in state higher education funding. *The Journal of Higher Education, 80*(6), 686-713.
- NCES. (2011). *Digest of education statistics, Table 345*. Retrieved from http://nces.ed.gov/programs/digest/d11/tables/dt11_345.asp
- Nettles, M., & Cole, J. (2001). A study in tension: State assessment and public colleges and universities. In D. E. Heller (Ed.), *The states and public higher education policy: Affordability, access, and accountability* (pp. 198-218). The Johns Hopkins Press: Baltimore.
- Rizzo, Michael J. (2006). State preferences for higher education spending: A panel data analysis, 1977-2001. In Ehrenberg, R. G. (Eds.) *What's Happening to Public Higher Education?* (pp. 3-36) Westport, CT: Praeger.
- Stratton, L. S., O'Toole, D. M., & Wetzels, J. N. (2005). *A multinomial logit model of college stopout and dropout behavior*. Retrieved from <http://anon-ftp.iza.org/dp1634.pdf>
- Toutkoushian, R. K., & Hollis, P. (1998). Using panel data to examine legislative demand in

higher education. *Education Economics*, 6(2), 141-157.

Volkwein, J. F., & Tandberg, D. A. (2008). Measuring up: Examining the connections among state structural characteristics, regulatory practices, and performance. *Research in Higher Education*, 49(2), 180-197.

Table 1. Variable Descriptions.

Indicator	Definition
<i>Population Characteristics</i>	
Total population	Total population in 2010 (US Census, 2011)
Population density	Population per square mile of land area in 2010 (US Census, 2011)
Population of at-risk minorities	Percentage of total population that is not non-Hispanic White alone or non-Hispanic Asian alone (Kids Count, 2012)
Age dependency ratio	(Age less than 18 + age 65 and over)/18-64 population (US Census Bureau, 2010)
<i>Capital Advantage</i>	
Taxable resources per capita	(GSP + out-of-state income)/state population (SHEEO, 2011)
Median family income	Median annual income for families with children under 18 living in the household (Kids Count, 2010)
Per capita income	Personal income per capita (NCHEMS, 2011)
Children in low-income families	Proportion of children under age 18 living in families with incomes that are less than 200 percent of the federal poverty level (e.g., \$22,350 for a family of four with two children) (National Center for Children in Poverty, 2012)
Young adult poverty rate	Proportion of adults aged 18-24 who live in families with income below the federal poverty level (Kids Count, 2010)
<i>Market Conditions</i>	
Knowledge labor market index	Sum of standardized scores: IT professionals in non-IT sectors; managerial, professional, and technical occupations; high value-added manufacturing sectors; and high-wage traded services (ITIF, 2010)
Unemployment rate	Percentage of working age persons who were unemployed in 2011 (U.S. Census)

Table 2. Descriptive Statistics

Variable	M	SD
<i>Population Characteristics</i>		
Total population	6162876.30	6848235.35
Population density	194.96	261.09
Population of at-risk minorities	.25	.13
Age dependency ratio	59.23	3.30
<i>Capital Advantage</i>		
Taxable resources per capita	49862.08	9658.33
Median family income	57170.00	11115.10
Per capita income	40724.84	5831.50
Low-income child rate	.60	.07
Young adult poverty rate	.74	.04
<i>Market Conditions</i>		
Knowledge labor market index	0	4.00
Unemployment rate	8.12	1.97

Table 3. Correlation Matrix.

	Total population	Population density	Population of at-risk minorities	Age dependency ratio	Taxable resources per capita	Median family income	Per capita income	Low income family (inverse)	Young adult poverty rate (inverse)	Knowledge labor market index
Total population										
Population density	.17									
Population of at-risk minorities	.47**	.14								
Age dependency ratio	-.07	-.28*	.01							
Taxable resources per capita	.01	.46*	.06	-.45**						
Median family income	-.10	.54*	-.18	-.48**	.75**					
Per capita income	.14	.44*	-.02	-.53**	.85**	.87**				
Low income family (inverse)	-.14	.62*	-.34*	-.49**	.72**	.97**	.83**			
Young adult poverty rate (inverse)	.14	.52*	.22	-.45**	.73**	.75**	.71**	.68**		
Knowledge labor market index	.37**	.53*	.15	-.23	.51**	.56**	.62**	.50**	.57**	
Unemployment rate	.40**	.25	.44**	-.07	-.22	-.33*	-.24	-.40**	-.01	.00

Table 4. Peer States Ordered by Euclidean Distance for each Target State.

<i>Target state</i>	<i>Peer States (ordered from most to least similar to target state)</i>									
Alabama	South Carolina	Tennessee	North Carolina	Louisiana	Indiana	Georgia	Kentucky	Arkansas	Oklahoma	Missouri
	.771	1.216	2.358	2.607	2.793	2.899	2.904	2.992	3.499	3.547
Alaska	Hawaii	Virginia	Colorado	New Hampshire	Wyoming	Maryland	Washington	Minnesota	Delaware	Illinois
	8.552	8.950	9.765	10.058	12.285	13.002	13.385	13.578	14.877	15.131
Arizona	Alabama	North Carolina	New Mexico	South Carolina	Michigan	Georgia	Missouri	Oklahoma	Arkansas	Indiana
	3.873	5.164	5.199	5.537	5.784	5.938	5.974	6.026	6.093	6.419
Arkansas	Idaho	Alabama	Oklahoma	Mississippi	Kentucky	Tennessee	South Carolina	West Virginia	Indiana	Arizona
	2.843	2.992	3.654	4.489	4.695	4.757	4.917	5.384	5.962	6.093
California	Texas	New York	Florida	Illinois	Georgia	Pennsylvania	North Carolina	Ohio	Washington	Michigan
	11.606	13.826	14.930	16.099	23.434	24.563	24.776	28.002	28.398	28.679
Colorado	Washington	Minnesota	Virginia	Illinois	Wisconsin	Pennsylvania	Oregon	Missouri	New York	Alaska
	.922	5.022	5.045	5.106	6.037	6.077	6.079	8.910	9.653	9.765
Connecticut	New Jersey	Maryland	Massachusetts	Delaware	Virginia	New York	New Hampshire	Alaska	Minnesota	Illinois
	6.197	6.715	7.127	14.003	16.675	19.536	22.083	22.160	23.187	23.872
Delaware	Virginia	Maryland	Illinois	Washington	Connecticut	Minnesota	Colorado	New York	Alaska	Pennsylvania

	9.712	11.592	12.708	13.997	14.003	14.031	14.369	14.725	14.877	16.561
Florida	Texas	North Carolina	Georgia	Arizona	Ohio	Illinois	Michigan	Tennessee	Indiana	Alabama
	5.649	5.706	6.524	6.803	6.851	7.458	7.714	8.884	9.170	9.423
Georgia	North Carolina	South Carolina	Alabama	Louisiana	Tennessee	Michigan	Oregon	Ohio	Indiana	Missouri
	.917	2.589	2.899	3.563	3.719	3.811	4.758	5.486	5.580	5.836
Hawaii	Alaska	Minnesota	Illinois	Colorado	Wisconsin	Wyoming	Virginia	New Hampshire	Kansas	Pennsylvania
	8.552	12.693	13.572	13.865	13.939	14.024	14.147	14.178	14.520	14.796
Idaho	Arkansas	Indiana	Kentucky	West Virginia	Alabama	Missouri	Montana	Oklahoma	Arizona	Kansas
	2.843	5.621	5.948	6.087	6.570	6.691	6.885	7.438	7.662	7.818
Illinois	Pennsylvania	Washington	New York	Colorado	Ohio	Florida	Missouri	Georgia	Wisconsin	North Carolina
	3.208	4.262	4.742	5.106	6.915	7.458	7.533	7.600	7.649	7.923
Indiana	Missouri	Ohio	Tennessee	Michigan	Oregon	Kentucky	Wisconsin	Alabama	North Carolina	Kansas
	.621	1.246	1.593	1.799	2.231	2.385	2.477	2.793	3.506	3.923
Iowa	Nebraska	Kansas	South Dakota	Wisconsin	North Dakota	Missouri	Utah	Montana	Indiana	Pennsylvania
	1.707	2.183	2.205	3.206	5.652	5.685	6.560	6.705	6.833	7.544
Kansas	Nebraska	Iowa	Wisconsin	Missouri	South Dakota	Indiana	Oklahoma	Utah	Ohio	Pennsylvania
	1.822	2.183	2.195	2.361	3.301	3.923	4.265	4.989	5.044	5.202
Kentucky	West Virginia	Tennessee	Indiana	Alabama	South Carolina	Oregon	Michigan	Missouri	Arkansas	Montana
	1.263	1.992	2.385	2.904	3.255	3.370	3.690	3.909	4.695	4.884

Louisiana	Oklahoma	Alabama	Tennessee	Georgia	North Carolina	South Carolina	Missouri	Oregon	Indiana	Kansas
	2.561	2.607	3.200	3.563	4.181	4.443	4.796	5.042	5.099	6.041
Maine	Wisconsin	Missouri	Indiana	Montana	Oregon	Vermont	Tennessee	Kansas	West Virginia	Kentucky
	3.165	3.673	4.552	4.767	5.000	5.304	5.614	5.794	5.943	6.290
Maryland	Virginia	Massachusetts	Connecticut	New Jersey	Delaware	New York	Alaska	New Hampshire	Hawaii	Illinois
	5.861	5.956	6.715	8.909	11.592	12.090	13.002	14.118	15.101	15.291
Massachusetts	Maryland	Connecticut	New Jersey	Virginia	New York	Minnesota	New Hampshire	Washington	Delaware	Colorado
	5.956	7.127	9.636	10.456	16.328	16.823	17.841	17.918	18.799	19.791
Michigan	Ohio	Indiana	North Carolina	Missouri	Oregon	Tennessee	Alabama	Kentucky	Georgia	South Carolina
	1.486	1.799	2.051	2.171	2.584	3.336	3.623	3.690	3.811	4.040
Minnesota	Washington	Pennsylvania	Wisconsin	Colorado	Virginia	Nebraska	Kansas	Iowa	Vermont	Illinois
	4.600	4.720	4.956	5.022	5.431	6.606	7.101	7.621	8.241	8.577
Mississippi	South Carolina	Arkansas	Alabama	Tennessee	New Mexico	Arizona	Kentucky	North Carolina	Idaho	Louisiana
	4.017	4.489	5.173	8.503	8.657	8.741	9.295	9.527	9.870	10.792
Missouri	Indiana	Ohio	Wisconsin	Oregon	Michigan	Tennessee	Kansas	Alabama	Pennsylvania	Maine
	.621	1.326	1.449	1.784	2.171	2.342	2.361	3.547	3.642	3.673
Montana	West Virginia	Maine	Kentucky	Indiana	Wisconsin	Tennessee	Missouri	South Dakota	Kansas	Oklahoma
	2.574	4.767	4.884	5.403	5.797	6.005	6.143	6.486	6.520	6.550

Nebraska	Iowa	Kansas	South Dakota	Wisconsin	North Dakota	Minnesota	Missouri	Utah	Oklahoma	Pennsylvania
	1.707	1.822	2.194	4.614	5.198	6.606	7.138	7.141	7.909	8.326
Nevada	North Carolina	Georgia	Tennessee	South Carolina	Oregon	Illinois	Alabama	Indiana	Louisiana	Missouri
	9.267	9.747	10.542	10.571	11.656	11.789	12.348	12.964	13.357	13.366
New Hampshire	Minnesota	Virginia	Alaska	Maryland	Hawaii	Vermont	Colorado	Washington	Massachusetts	Maine
	8.617	9.943	10.058	14.118	14.178	15.109	16.361	17.430	17.841	18.512
New Jersey	Connecticut	Maryland	Massachusetts	Delaware	New York	Rhode Island	Virginia	Illinois	Hawaii	New Hampshire
	6.197	8.909	9.636	21.110	21.527	23.071	24.086	26.213	29.635	30.759
New Mexico	Arizona	Louisiana	Alabama	Oklahoma	South Carolina	Mississippi	Arkansas	Georgia	North Carolina	Tennessee
	5.199	6.467	6.977	7.411	8.639	8.657	8.866	9.118	10.987	12.442
New York	Illinois	Virginia	Pennsylvania	Washington	Colorado	Maryland	California	Minnesota	Delaware	Texas
	4.742	8.203	8.758	9.281	9.653	12.090	13.826	14.191	14.725	14.932
North Carolina	Georgia	South Carolina	Michigan	Alabama	Tennessee	Oregon	Indiana	Ohio	Louisiana	Missouri
	.917	1.963	2.051	2.358	2.475	3.150	3.506	3.742	4.181	4.255
North Dakota	Vermont	Nebraska	Iowa	South Dakota	Wisconsin	Wyoming	Minnesota	Kansas	Montana	Maine
	4.210	5.198	5.652	6.555	8.201	8.575	9.066	9.207	10.792	12.057

Ohio	Indiana	Missouri	Michigan	Pennsylvania	Wisconsin	Tennessee	Oregon	North Carolina	Alabama	Kentucky
	1.246	1.326	1.486	2.382	2.735	3.314	3.495	3.742	4.847	5.018
Oklahoma	Louisiana	Alabama	Arkansas	Tennessee	Kansas	Missouri	Indiana	Arizona	Montana	Ohio
	2.561	3.499	3.654	4.043	4.265	4.497	5.084	6.026	6.550	6.883
Oregon	Missouri	Indiana	Michigan	Wisconsin	Tennessee	North Carolina	Kentucky	Ohio	Alabama	Georgia
	1.784	2.231	2.584	2.874	3.016	3.150	3.370	3.495	4.184	4.758
Pennsylvania	Ohio	Wisconsin	Illinois	Missouri	Minnesota	Washington	Indiana	Kansas	Michigan	Oregon
	2.382	2.436	3.208	3.642	4.720	4.829	5.048	5.202	5.472	6.075
Rhode Island	Pennsylvania	Illinois	Washington	Ohio	Colorado	Oregon	Wisconsin	North Carolina	Michigan	Indiana
	16.268	16.347	16.976	17.829	18.435	18.540	18.845	18.898	18.906	19.046
South Carolina	Alabama	North Carolina	Tennessee	Georgia	Kentucky	Mississippi	Michigan	Indiana	Louisiana	Arkansas
	.771	1.963	2.080	2.589	3.255	4.017	4.040	4.381	4.443	4.917
South Dakota	Nebraska	Iowa	Kansas	Montana	North Dakota	Wisconsin	Oklahoma	Missouri	Utah	Idaho
	2.194	2.205	3.301	6.486	6.555	7.390	7.762	9.062	9.199	9.364
Tennessee	Alabama	Indiana	Kentucky	South Carolina	Missouri	North Carolina	Oregon	Louisiana	Ohio	Michigan
	1.216	1.593	1.992	2.080	2.342	2.475	3.016	3.200	3.314	3.336

Texas	Florida	Georgia	North Carolina	Louisiana	California	Arizona	Illinois	Ohio	Alabama	Pennsylvania
	5.649	8.745	10.382	11.322	11.606	11.858	11.942	12.984	14.276	14.297
Utah	Kansas	Iowa	Nebraska	Idaho	Missouri	South Dakota	Indiana	Wisconsin	Arizona	Oklahoma
	4.989	6.560	7.141	7.907	8.100	9.199	9.374	9.608	10.167	10.388
Vermont	North Dakota	Wisconsin	Maine	Minnesota	Montana	Iowa	Nebraska	Colorado	Oregon	Kansas
	4.210	5.148	5.304	8.241	8.357	8.361	9.525	9.771	10.100	10.462
Virginia	Colorado	Minnesota	Maryland	Washington	New York	Illinois	Alaska	Delaware	New Hampshire	Pennsylvania
	5.045	5.431	5.861	5.966	8.203	8.723	8.950	9.712	9.943	10.433
Washington	Colorado	Illinois	Minnesota	Pennsylvania	Oregon	Virginia	Wisconsin	Missouri	Ohio	New York
	.922	4.262	4.600	4.829	5.771	5.966	6.082	8.280	9.000	9.281
West Virginia	Kentucky	Montana	Indiana	Tennessee	Arkansas	Alabama	Maine	Idaho	Missouri	Oregon
	1.263	2.574	4.526	4.556	5.384	5.706	5.943	6.087	6.118	6.260
Wisconsin	Missouri	Kansas	Pennsylvania	Indiana	Ohio	Oregon	Maine	Iowa	Nebraska	Michigan
	1.449	2.195	2.436	2.477	2.735	2.874	3.165	3.206	4.614	4.625
Wyoming	North Dakota	Alaska	Vermont	Nebraska	South Dakota	Kansas	Wisconsin	Hawaii	Iowa	Minnesota
	8.575	12.285	12.501	12.671	13.334	13.783	13.809	14.024	14.190	14.383

Table 5. Comparing Illinois and Minnesota with Nearest and Furthest Neighbors on Population, Capital, and Market Attributes

	<i>Total Population</i>	<i>Population Density</i>	<i>At risk population</i>	<i>Age Dependency Ratio</i>	<i>Taxable resource</i>	<i>Median Family Income</i>	<i>Personal Per Capita Income</i>	<i>Low- income family</i>	<i>Young adult poverty rate</i>	<i>Unemployment Rate</i>	<i>Knowledge Labor Market Index^a</i>
Illinois	12,830,632	231	32%	59	\$53,393	\$60,600	\$44,140	38%	23%	9.8%	3
IL Nearest Neighbors											
Pennsylvania	12,702,379	284	18%	60	\$48,535	\$59,900	\$42,478	37%	26%	7.9%	2
Washington	6,724,540	101	21%	56	\$54,401	\$61,400	\$44,294	36%	27%	9.2%	6
New York	19,378,102	411	34%	56	\$61,399	\$60,300	\$50,545	39%	23%	8.2%	4
Colorado	5,029,196	49	28%	55	\$54,077	\$62,000	\$44,088	36%	27%	8.3%	4
Ohio	11,536,504	282	17%	61	\$43,407	\$52,300	\$37,791	42%	28%	8.6%	1
IL Furthest Neighbors											
West Virginia	1,852,994	77	6%	59	\$38,599	\$46,100	\$33,513	46%	32%	8.0%	-5
Arkansas	2,915,918	56	25%	63	\$38,676	\$41,000	\$34,014	53%	31%	8.0%	-4
Idaho	1,567,582	19	15%	66	\$39,020	\$50,600	\$33,326	47%	32%	8.7%	-4
New Jersey	8,791,894	1,196	33%	59	\$64,277	\$81,900	\$53,181	28%	16%	9.3%	5
Mississippi	2,967,297	63	41%	62	\$36,070	\$38,700	\$32,176	56%	32%	10.7%	-6
Minnesota	5,303,925	66	13%	59	\$52,885	\$68,500	\$44,672	31%	25%	6.4%	4
MN Nearest Neighbors											
Washington	6,724,540	101	21%	56	\$54,401	\$61,400	\$44,294	36%	27%	9.2%	6
Pennsylvania	12,702,379	284	18%	60	\$48,535	\$59,900	\$42,478	37%	26%	7.9%	2
Wisconsin	5,686,986	105	15%	59	\$46,619	\$57,900	\$40,073	37%	28%	7.5%	-1
Colorado	5,029,196	49	28%	55	\$54,077	\$62,000	\$44,088	36%	27%	8.3%	4

Virginia	8,001,024	203	30%	55	\$58,641	\$70,800	\$45,920	32%	22%	6.2%	8
MN Furthest Neighbors											
Arkansas	2,915,918	56	25%	63	\$38,676	\$41,000	\$34,014	53%	31%	8.0%	-4
New Jersey	8,791,894	1,196	33%	59	\$64,277	\$81,900	\$53,181	28%	16%	9.3%	5
New Mexico	2,059,179	17	58%	62	\$41,271	\$42,100	\$34,575	53%	29%	7.4%	1
California	37,253,956	239	47%	57	\$53,385	\$55,600	\$44,481	43%	23%	11.7%	4
Mississippi	2,967,297	63	41%	62	\$36,070	\$38,700	\$32,176	56%	32%	10.7%	-6

^aThe scale for this indicator ranges from -8 to +9.