

SAMPLE of "A" Assignment
Economic Geog 213
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11/1/02

Exercise #1: Changing Structure of the Indiana Economy

METHOD

In order to map the changing structure of the Indiana economy, manufacturing and employment data for all Indiana counties (1986 and 1996), was obtained from the US Census Bureau. The location quotient for each county was calculated using the percent manufacturing labor force per total employed (full and part time) for each county, versus percent manufacturing labor force per total employed (full and part time) for the State of Indiana (see attached spreadsheet). Data was then entered into ArcView™, and plotted on two maps, 1986 and 1996, using a graduated color scheme to display the results. Location quotients are classified by four categories:

< 0.50	Highly Under-Represented
0.51 – 0.99	Under-Represented
1.00 – 1.50	Over-Represented
> 1.50	Highly Over-Represented

DISCUSSION

From the 1986 map, the majority of the counties in the northern half of the State are over to highly over-represented, with a more noticeable cluster of highly over-represented counties in the northeastern region of the State. The southern half of the state contains a strong concentration of under and highly under-represented counties. The 1996 map shows the same basic dispersion, with the southern half showing a movement towards over-representation. The overall trend of the State is in the direction of manufacturing employment with a change in the mean location quotient value from 0.98 to 1.08. Table 1 shows the net change in the number of counties in each category, and the movement from under representation to over representation of the manufacturing industry.

Table 1

LQ values	# of counties 1986	# of counties 1996	Gain or loss
< .50	15	10	-5
0.51 – 0.99	37	35	-2
1.00 – 1.50	25	27	+2
> 1.50	15	20	+5

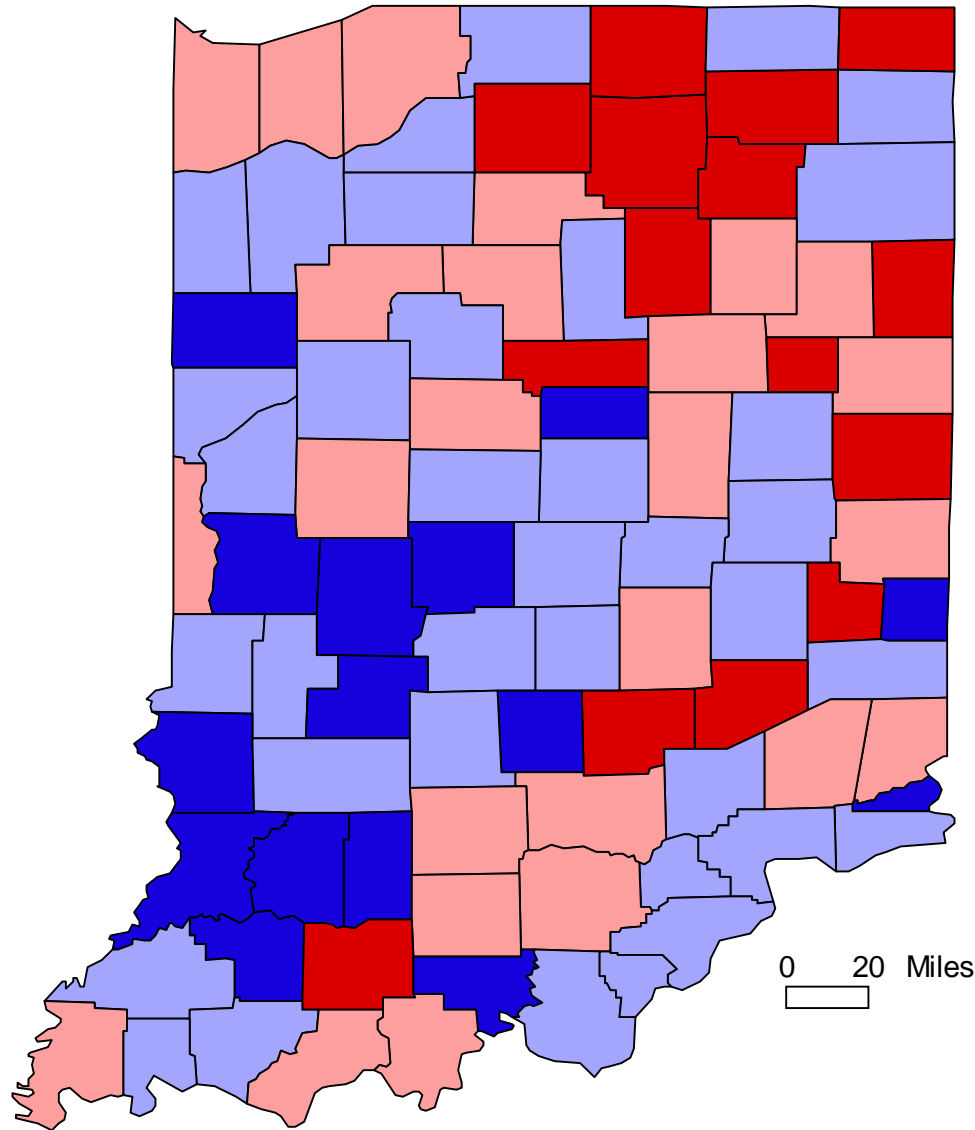
The location quotient itself does not explain why there is either under or over representation of the manufacturing industry in each county or why the dispersion has changed over this ten year period, however, some possible reasons for this change could be: an increase in the amount of manufacturing based industries in Indiana, or a decrease in the amount of service type, agricultural, or other industries. Further research into the dispersion of other Indiana industries over the same ten-year period would be needed to actually define a reason(s).

Total Full and Part Time Employment			Total Manufacturing Labor Force								
						1986	1996	1986	1986	1996	1996
						State	State	County		County	
name	1986	1996	name	1986	1996	% Manu	% Manu	% Manu	LQ	% Manu	LQ
Indiana	2,769,652	3,449,908	Indiana	613,339	687,854	22.14	19.94				
Adams County	15,885	19,799	Adams County	5,745	6,546			36.17	1.63	33.06	1.66
Allen County	182,510	220,840	Allen County	36,857	40,581			20.19	0.91	18.38	0.92
Bartholomew County	37,830	50,516	Bartholomew County	13,897	17,151			36.74	1.66	33.95	1.70
Benton County	3,866	4,408	Benton County	260	609			6.73	0.30	13.82	0.69
Blackford County	6,180	6,088	Blackford County	2,202	2,016			35.63	1.61	33.11	1.66
Boone County	15,232	18,948	Boone County	1,740	2,021			11.42	0.52	10.67	0.53
Brown County	4,099	5,077	Brown County	171	167			4.17	0.19	3.29	0.16
Carroll County	6,973	8,320	Carroll County	1,180	2,119			16.92	0.76	25.47	1.28
Cass County	18,459	20,904	Cass County	5,028	5,585			27.24	1.23	26.72	1.34
Clark County	39,712	52,166	Clark County	7,660	7,478			19.29	0.87	14.34	0.72
Clay County	8,532	10,501	Clay County	1,289	2,313			15.11	0.68	22.03	1.10
Clinton County	12,519	16,118	Clinton County	3,064	5,253			24.47	1.11	32.59	1.63
Crawford County	2,903	3,243	Crawford County	175	189			6.03	0.27	5.83	0.29
Daviess County	11,853	14,494	Daviess County	1,316	2,133			11.10	0.50	14.72	0.74
Dearborn County	12,762	16,602	Dearborn County	2,750	2,299			21.55	0.97	13.85	0.69
Decatur County	10,426	15,709	Decatur County	2,857	5,471			27.40	1.24	34.83	1.75
De Kalb County	18,831	24,533	De Kalb County	8,189	10,611			43.49	1.96	43.25	2.17
Delaware County	57,872	69,199	Delaware County	11,047	11,280			19.09	0.86	16.30	0.82
Dubois County	25,018	32,910	Dubois County	9,525	13,040			38.07	1.72	39.62	1.99
Elkhart County	106,562	134,329	Elkhart County	49,471	59,325			46.42	2.10	44.16	2.21
Fayette County	13,541	14,228	Fayette County	5,765	5,075			42.57	1.92	35.67	1.79
Floyd County	24,165	33,647	Floyd County	4,692	7,231			19.42	0.88	21.49	1.08
Fountain County	6,522	7,501	Fountain County	1,331	1,905			20.41	0.92	25.40	1.27
Franklin County	5,073	6,681	Franklin County	669	417			13.19	0.60	6.24	0.31
Fulton County	9,103	10,997	Fulton County	2,698	3,196			29.64	1.34	29.06	1.46
Gibson County	13,552	14,358	Gibson County	2,673	2,452			19.72	0.89	17.08	0.86
Grant County	36,504	39,457	Grant County	11,591	9,840			31.75	1.43	24.94	1.25
Greene County	10,404	12,489	Greene County	1,177	1,401			11.31	0.51	11.22	0.56
Hamilton County	43,224	86,150	Hamilton County	5,237	9,749			12.12	0.55	11.32	0.57
Hancock County	14,844	20,988	Hancock County	2,325	3,218			15.66	0.71	15.33	0.77

Harrison County	10,028	13,412	Harrison County	1,314	2,360			13.10	0.59	17.60	0.88
Hendricks County	23,569	35,458	Hendricks County	1,266	1,585			5.37	0.24	4.47	0.22
Henry County	17,890	20,145	Henry County	3,610	3,655			20.18	0.91	18.14	0.91
Howard County	47,869	57,308	Howard County	19,214	20,889			40.14	1.81	36.45	1.83
Huntington County	16,916	22,567	Huntington County	5,378	7,819			31.79	1.44	34.65	1.74
Jackson County	17,833	24,457	Jackson County	4,845	6,561			27.17	1.23	26.83	1.35
Jasper County	10,815	14,038	Jasper County	1,234	1,456			11.41	0.52	10.37	0.52
Jay County	9,082	11,392	Jay County	2,616	3,691			28.80	1.30	32.40	1.62
Jefferson County	14,010	17,494	Jefferson County	3,000	4,091			21.41	0.97	23.39	1.17
Jennings County	7,949	11,461	Jennings County	1,382	2,264			17.39	0.79	19.75	0.99
Johnson County	32,450	48,748	Johnson County	4,794	6,569			14.77	0.67	13.48	0.68
Knox County	20,118	24,008	Knox County	1,855	1,943			9.22	0.42	8.09	0.41
Kosciusko County	33,044	43,151	Kosciusko County	12,046	16,285			36.45	1.65	37.74	1.89
Lagrange County	12,405	17,635	Lagrange County	3,385	6,134			27.29	1.23	34.78	1.74
Lake County	201,435	237,762	Lake County	43,045	39,665			21.37	0.97	16.68	0.84
La Porte County	48,339	57,324	La Porte County	12,481	12,098			25.82	1.17	21.10	1.06
Lawrence County	16,450	22,248	Lawrence County	4,294	5,544			26.10	1.18	24.92	1.25
Madison County	59,295	62,506	Madison County	18,847	13,477			31.79	1.44	21.56	1.08
Marion County	540,485	665,578	Marion County	86,267	82,508			15.96	0.72	12.40	0.62
Marshall County	20,198	26,314	Marshall County	6,741	8,906			33.37	1.51	33.85	1.70
Martin County	8,686	8,892	Martin County	654	776			7.53	0.34	8.73	0.44
Miami County	16,391	14,005	Miami County	3,102	2,973			18.93	0.85	21.23	1.06
Monroe County	57,638	74,799	Monroe County	8,287	10,258			14.38	0.65	13.71	0.69
Montgomery County	18,224	23,651	Montgomery County	5,685	8,383			31.20	1.41	35.44	1.78
Morgan County	15,507	20,761	Morgan County	2,364	2,499			15.24	0.69	12.04	0.60
Newton County	5,462	5,629	Newton County	1,106	1,347			20.25	0.91	23.93	1.20
Noble County	17,578	25,516	Noble County	7,077	11,712			40.26	1.82	45.90	2.30
Ohio County	1,430	1,760	Ohio County	49	24			3.43	0.15	1.36	0.07
Orange County	8,341	9,579	Orange County	2,329	2,665			27.92	1.26	27.82	1.40
Owen County	4,560	6,469	Owen County	475	1,226			10.42	0.47	18.95	0.95
Parke County	4,876	5,534	Parke County	501	633			10.27	0.46	11.44	0.57
Perry County	7,284	7,929	Perry County	1,794	1,537			24.63	1.11	19.38	0.97
Pike County	5,105	4,286	Pike County	146	241			2.86	0.13	5.62	0.28
Porter County	48,663	68,601	Porter County	11,063	12,229			22.73	1.03	17.83	0.89
Posey County	11,445	12,213	Posey County	2,845	3,160			24.86	1.12	25.87	1.30
Pulaski County	5,886	6,780	Pulaski County	1,181	1,474			20.06	0.91	21.74	1.09
Putnam County	12,819	16,516	Putnam County	1,103	2,757			8.60	0.39	16.69	0.84

Randolph County	13,310	11,976	Randolph County	4,681	3,464			35.17	1.59	28.92	1.45
Ripley County	12,150	15,600	Ripley County	3,882	5,000			31.95	1.44	32.05	1.61
Rush County	7,199	8,618	Rush County	1,232	1,652			17.11	0.77	19.17	0.96
St. Joseph County	128,089	155,448	St. Joseph County	24,157	22,867			18.86	0.85	14.71	0.74
Scott County	6,811	9,274	Scott County	1,611	2,445			23.65	1.07	26.36	1.32
Shelby County	17,477	21,272	Shelby County	5,179	6,323			29.63	1.34	29.72	1.49
Spencer County	8,337	10,108	Spencer County	1,184	1,543			14.20	0.64	15.27	0.77
Starke County	6,197	7,218	Starke County	934	1,316			15.07	0.68	18.23	0.91
Steuben County	14,421	21,158	Steuben County	4,891	7,358			33.92	1.53	34.78	1.74
Sullivan County	6,939	8,367	Sullivan County	511	630			7.36	0.33	7.53	0.38
Switzerland County	2,725	2,933	Switzerland County	563	542			20.66	0.93	18.48	0.93
Tippecanoe County	69,868	91,482	Tippecanoe County	11,545	17,063			16.52	0.75	18.65	0.94
Tipton County	5,723	6,182	Tipton County	504	757			8.81	0.40	12.25	0.61
Union County	2,163	2,460	Union County	82	135			3.79	0.17	5.49	0.28
Vanderburgh County	104,109	125,187	Vanderburgh County	20,193	19,093			19.40	0.88	15.25	0.76
Vermillion County	6,298	6,923	Vermillion County	1,608	1,407			25.53	1.15	20.32	1.02
Vigo County	55,030	65,833	Vigo County	9,559	8,702			17.37	0.78	13.22	0.66
Wabash County	17,939	20,274	Wabash County	5,979	5,762			33.33	1.51	28.42	1.43
Warren County	3,206	3,056	Warren County	592	626			18.47	0.83	20.48	1.03
Warrick County	16,003	18,276	Warrick County	3,463	3,381			21.64	0.98	18.50	0.93
Washington County	8,755	10,182	Washington County	2,252	2,641			25.72	1.16	25.94	1.30
Wayne County	37,135	45,192	Wayne County	9,463	10,076			25.48	1.15	22.30	1.12
Wells County	11,737	14,985	Wells County	2,735	3,398			23.30	1.05	22.68	1.14
White County	10,775	14,207	White County	2,506	4,090			23.26	1.05	28.79	1.44
Whitley County	12,225	16,571	Whitley County	4,077	5,518			33.35	1.51	33.30	1.67
								Mean LQ = 0.98			1.08

Location Quotient Dispersion for Indiana Counties - 1986 Manufacturing Data

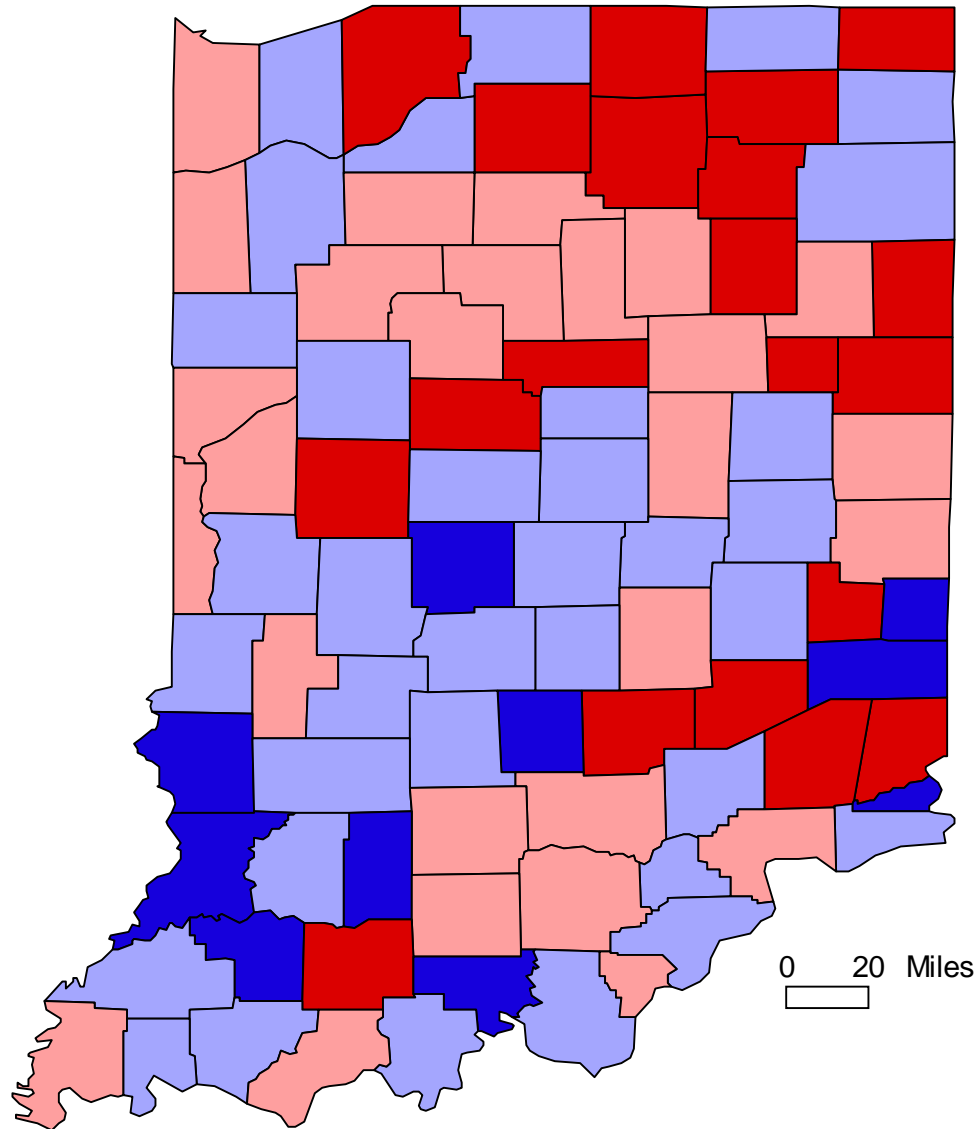


0 20 Miles
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Classifications of Location Quotients
by 1986 Employed Population

- Highly Under-Represented
- Under-Represented
- Over-Represented
- Highly Over-Represented

Location Quotient Dispersion for Indiana Counties - 1996 Manufacturing Data



Classifications of Location Quotients
by 1996 Employed Population

- Highly Under-Represented
- Under-Represented
- Over-Represented
- Highly Over-Represented



0 20 Miles