

Southern Illinois Agriculture

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This report examines the agricultural land use, agricultural production, and farm employment in Southern Illinois. The Southern Illinois region includes the southernmost 20 counties in Illinois: Alexander, Edwards, Franklin, Gallatin, Hamilton, Hardin, Jackson, Jefferson, Johnson, Massac, Perry, Pope, Pulaski, Randolph, Saline, Union, Wabash, Wayne, White and Williamson.

Agriculture holds a significant role crossing the social, economic, and environmental dimensions in the Southern Illinois region. Cropland (corn, soybeans, and small grains), rural grassland, and other agricultural land (orchards, vineyards, etc.) make up the uses of agricultural land, which together account for approximately 65% of the total area of the region. Agriculture is a key employment industry and an important source of income for local people in Southern Illinois counties.

A summary of key findings is presented below followed by more details and data tables.

Key Findings:

The key findings of this report on Southern Illinois agriculture are as follows:

- Row crops (corn and soybeans) dominate Southern Illinois' agricultural land, accounting for nearly 80% of the total (although row crops do not account for as high of a percentage of farms). Some spatial patterns emerge among counties specialized in different kinds of crops. The row crop counties are mainly concentrated along the Wabash River in eastern Southern Illinois, while the major small grain counties are clustered along the Mississippi River in the southwest of Southern Illinois. Based on the available data, specialty agriculture takes up a small share of the agricultural land in the region in terms of acreage, though it is a very important part of the region's farming practice in other ways.
- Farmland soil erosion is a serious problem for agricultural production in Southern Illinois. The extent of erosion seems to be most severe in the two most forested counties (Hardin and Pope) because of the tendency for erosion to increase with greater slope in topography. This was a major reason for the development of national forests in this area. Leading row crop counties (e.g. Wabash and Gallatin) generally have better soil erosion conditions.
- Crop sales account for a large proportion of the total value of agricultural production in all Southern Illinois counties except for Hardin. Apart from Johnson

and Union, agricultural production sales declined in all counties over the period from 1997 to 2002. Main livestock counties are clustered in the mid-south region. Cattle and hogs are the primary livestock industries in Southern Illinois.

- Along with the rising scale and mechanization of farm operations, a continuous decrease of agricultural employment has occurred. However, the share of farm jobs in total employment has remained stable. Both the absolute farming income and its proportion in total earnings increased considerably during the early years of this decade. Compared with the state and the whole country, the Southern Illinois region is more agriculturally dependent, and hence may be more socially and economically vulnerable to the consolidation of agricultural production.

Agricultural Land Use

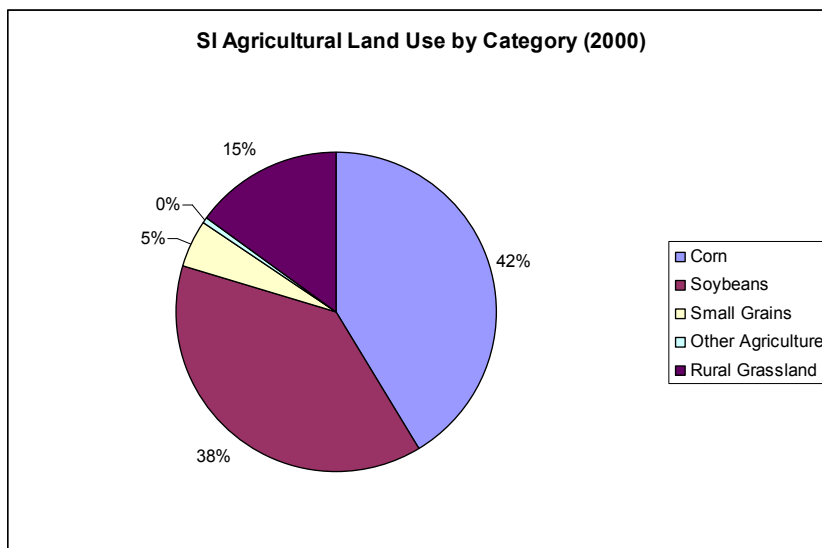


Figure 1: Agricultural Land Use in Southern Illinois

Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

The figure above shows that row crops (corn and soybeans) dominate agricultural land in Southern Illinois, accounting for about 80 % of the total. Small grains and rural grassland respectively constitute 4.8 % and 15.1 % of the total agricultural land. A small share of the total is used for orchards, vineyards and other crops (approximately 0.5%).

Ranking of Counties by Percentage and Acreage of Land Dedicated to Row Crops

Since row crop land accounts for a large proportion of the agricultural land, there is a strong correlation between rankings of counties by the percentage of row crops and the agricultural acreage percentage (Table 1). Counties with a larger share of land devoted to agricultural use generally have higher percentages of agricultural land in row crops. The

leading counties in row crop percentage are mainly concentrated along the Wabash River in eastern Southern Illinois.

Table 1. Ranking of Counties by percentage and Acreage of Land Dedicated to Row Crops (2000)

<i>County</i>	<i>Row Crop Acres</i>	<i>Row Crops as a</i>		<i>Rank by Acreage</i>
		<i>% of Total Agricultural Land</i>	<i>Rank by %</i>	
Wabash	99,924	84.7	1	11
Gallatin	129,150	83.7	2	6
White	200,669	77.7	3	2
Edwards	87,456	76.3	4	12
Wayne	265,750	73.6	5	1
Alexander	60,170	70.7	6	13
Hamilton	145,143	66.6	7	4
Saline	109,669	65.2	8	10
Pulaski	58,171	61.8	9	15
Franklin	110,594	58.6	10	9
Jefferson	135,321	57.5	11	5
Perry	119,513	56.3	12	8
Randolph	156,761	54.7	13	3
Jackson	122,159	53.9	14	7
Massac	50,352	48.1	15	17
Williamson	58,749	39.2	16	14
Union	53,738	36.5	17	16
Pope	20,448	28.0	18	19
Johnson	31,557	27.4	19	18
Hardin	7,945	22.1	20	20

Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Change in Row Crop Acreage (1995-2000)

From 1995 to 2000, row crop acreage increased in most counties except Massac and Pope, where there were slight declines. Edwards, Randolph and Union gained more than 30% in row crop land during this period (Table 2).

Table 2: Change in Row Crop Acreage by County (1995-2000)

<i>County</i>	<i>1995</i>	<i>2000</i>	<i>Acreage Change</i>	<i>% Change</i>
Alexander	54,113	60,170	6,057	11.2
Edwards	63,021	87,456	24,435	38.8
Franklin	97,667	110,594	12,927	13.2
Gallatin	125,634	129,150	3,516	2.8
Hamilton	133,071	145,143	12,072	9.1
Hardin	7,546	7,945	399	5.3
Jackson	103,146	122,159	19,013	18.4
Jefferson	117,337	135,321	17,984	15.3
Johnson	*	31,557	*	*
Massac	50,593	50,352	-241	-0.5
Perry	107,700	119,513	11,813	11.0
Pope	20,518	20,448	-70	-0.3
Pulaski	49,967	58,171	8,204	16.4
Randolph	116,512	156,761	40,249	34.5
Saline	108,076	109,669	1,593	1.5
Union	41,115	53,738	12,623	30.7
Wabash	84,650	99,924	15,274	18.0
Wayne	228,408	265,750	37,342	16.3
White	183,217	200,669	17,452	9.5
Williamson	51,185	58,749	7,564	14.8

Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Note: * indicates missing data.

Ranking Counties by Small Grain Land percentage and Acreage

Small grain land is comprised of areas cultivated for winter wheat, double-cropped winter wheat, and soybeans. The leading counties for small grains production (in terms of percentage of agricultural land) are clustered along the Mississippi River in southwestern Southern Illinois, while the southeastern counties (Pope, Hardin, Gallatin, and Saline) rank at the bottom in both small grain percentage and acreage (Table 3).

Table 3: Ranking of Counties by Small Grain Land percentage and Acreage (2000)

<i>County</i>	<i>Acres</i>	<i>% of Agri. Land</i>	<i>Rank by %</i>	<i>Rank by Acreage</i>
Randolph	55,794	19.5%	1	1
Perry	34,353	16.2%	2	3
Jefferson	34,352	14.6%	3	4
Edwards	15,106	13.2%	4	10
Union	18,360	12.4%	5	9
Jackson	27,250	12.0%	6	5
Wayne	42,378	11.7%	7	2
Franklin	21,941	11.6%	8	8
Hamilton	25,245	11.6%	9	6
Pulaski	10,366	11.0%	10	14
Johnson	12,489	10.8%	11	12
Wabash	12,719	10.8%	12	11
White	23,455	9.1%	13	7
Alexander	7,335	8.6%	14	16
Massac	8,865	8.5%	15	15
Williamson	11,667	7.8%	16	13
Saline	6,692	4.0%	17	17
Hardin	1,232	3.4%	18	20
Pope	2,125	2.9%	19	19
Gallatin	3,628	2.4%	20	18

Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Rural Grassland and Other Agricultural Land

Rural grassland includes permanent pastureland, prairies, and other grassland cover located in rural areas (Table 4). The two most forested counties (Hardin and Pope) have the highest percentages of agricultural land in rural grassland. Counties with significant rural grassland acreage are concentrated in central Southern Illinois and along the Mississippi River in the west.

“Other Agricultural” land includes orchards, vineyards, sod fields, snap beans, green peas, and other crops. Few Southern Illinois counties have significant acreage in this category¹. The only exception is Alexander County, with 20% of agricultural land and 17,041 acres in the “Other” category.

¹ This could be due to a limited function of reporting of smaller specialty agricultural operations, which usually do not compare well using acreage as a measure.

Table 4: Ranking of Counties by Rural Grassland percentage and Acreage (2000)

<i>County</i>	<i>Acres</i>	<i>% of Agri. Land</i>	<i>Rank by %</i>	<i>Rank by Acreage</i>
Hardin	25,970	72.2%	1	15
Pope	48,194	66.0%	2	11
Johnson	70,856	61.5%	3	5
Williamson	79,100	52.8%	4	1
Union	74,992	50.9%	5	3
Massac	42,824	40.9%	6	13
Jackson	76,935	33.9%	7	2
Saline	49,339	29.3%	8	10
Franklin	54,942	29.1%	9	8
Perry	57,629	27.1%	10	7
Pulaski	25,027	26.6%	11	16
Randolph	73,589	25.7%	12	4
Jefferson	59,546	25.3%	13	6
Hamilton	45,504	20.9%	14	12
Wayne	52,359	14.5%	15	9
Gallatin	20,056	13.0%	16	17
White	33,487	13.0%	17	14
Edwards	11,907	10.4%	18	18
Wabash	5,268	4.5%	19	19
Alexander	587	0.7%	20	20

Source: USDA, IDA and IDNR, Illinois Interagency Landscape Classification Project, 2002

Ranking Counties by Farmland Soil Erosion

Soil erosion is a natural process that is usually increased by human interaction with the land. Erosion is a serious problem for agricultural production in Southern Illinois. More than half of the counties in this region have a percentage of eroded farmland exceeding 20% (Table 5).² The two most forested counties (Hardin and Pope) have the highest percentages of eroded farmland soils, at around 50%. Incidentally, the national forests were created because of the sloping topography and severe erosion in this area. Most of the leading row crop counties tend to have lower shares of eroded farmland.

² Note that most of the latest county soil survey reports are from the 1960s and 1970s. The current soil erosion situation may be different.

Table 5: Ranking of Counties based on Eroded Farmland Soils

<i>County</i>	<i>Prime Farmland Soils -Not Eroded (acres)</i>	<i>Total Farmland Soils (acres)</i>	<i>% of Eroded Farmland Soils</i>	<i>Rank</i>
Hardin	22,829	44,016	51.9	1
Pope	67,415	143,147	47.1	2
Union	79,934	180,158	44.4	3
Johnson	52,165	126,878	41.1	4
Hamilton	75,684	249,850	30.3	5
Franklin	64,821	243,085	26.7	6
Jefferson	83,461	313,873	26.6	7
Randolph	61,986	268,098	23.1	8
Massac	25,123	111,940	22.4	9
Jackson	54,902	253,651	21.6	10
Wayne	90,050	435,080	20.7	11
White	57,930	294,715	19.7	12
Williamson	35,151	182,713	19.2	13
Edwards	22,334	118,612	18.8	14
Perry	41,058	218,304	18.8	15
Saline	30,499	180,364	16.9	16
Pulaski	12,228	93,960	13.0	17
Wabash	16,218	126,259	12.8	18
Gallatin	18,304	175,124	10.5	19
Alexander	3,872	47,200	8.2	20

Source: National Resources Conservation Service (NRCS), Web Soil Survey; county soil survey reports.

Market Value of Agricultural Production

Crop sales account for a large proportion of the total value of agricultural sales in Southern Illinois. Only in Hardin County is this not the case.⁴ Nearly two-thirds of the agricultural revenue in Hardin County comes from sales of livestock, poultry and their products. Other major livestock counties include Johnson, Williamson, Franklin, Saline, Pope, and Massac, which are concentrated in the mid-south region.

⁴ Based on the 1997 Hardin County figures.

Table 6: Market Value of Agricultural Production by Categories in thousands of dollars (2002)

<i>County</i>	<i>Crop Sales</i>	<i>% of Total Agri. Sales</i>	<i>Livestock & Poultry Sales</i>	<i>% of Total Agri. Sales</i>	<i>Total Agri. Sales</i>
Alexander	9,854	96	379	4	10,233
Edwards	15,099	69	6,907	31	22,006
Franklin	16,438	61	10,457	39	26,894
Gallatin	27,183	93	1,922	7	29,105
Hamilton	26,307	89	3,214	11	29,521
Hardin	D	34*	D	66*	2,908
Jackson	21,223	74	7,616	26	28,839
Jefferson	23,694	74	8,369	26	32,063
Johnson	5,665	52	5,175	48	10,841
Massac	11,460	68	5,442	32	16,903
Perry	19,121	79	4,949	21	24,070
Pope	2,908	68	1,399	32	4,307
Pulaski	12,760	87	1,924	13	14,684
Randolph	27,950	71	11,261	29	39,211
Saline	13,299	66	6,981	34	20,280
Union	18,125	81	4,378	19	22,503
Wabash	19,762	88	2,763	12	22,525
Wayne	39,270	69	17,389	31	56,659
White	38,742	88	5,145	12	43,887
Williamson	5,856	60	3,919	40	9,775

Source: USDA,, 2002 Census of Agriculture

Note: "D" indicates this information was not disclosed; * indicates that percentages of Hardin County are from 1997 census figures.

Change in Market Value of Agricultural Production

With the exception of Johnson and Union counties, agricultural production value declined in all counties from 1997 to 2002 (Table 7). Only Union County had an increase in agricultural production value from 1997-2002. Saline and Gallatin counties had the steepest decline (more than 35%) in agricultural sales. The average percentage change for the whole region -21% from 1997 to 2002.

Table 7: Change in Market Value of Agricultural Production in thousands of dollars (1997-2002)

<i>County</i>	<i>1997</i>	<i>2002</i>	<i>1997-2002 Sales Change</i>	<i>1997-2002 Sales % Change</i>
Alexander	13,213	10,233	-2,980	-22.6
Edwards	27,708	22,006	-5,702	-20.6
Franklin	31,638	26,894	-4,744	-15.0
Gallatin	45,212	29,105	-16,107	-35.6
Hamilton	38,810	29,521	-9,289	-23.9
Hardin	3,160	2,908	-252	-8.0
Jackson	37,015	28,839	-8,176	-22.1
Jefferson	35,217	32,063	-3,154	-9.0
Johnson	10,720	10,841	121	1.1
Massac	19,919	16,903	-3,016	-15.1
Perry	28,517	24,070	-4,447	-15.6
Pope	4,720	4,307	-413	-8.8
Pulaski	15,328	14,684	-644	-4.2
Randolph	50,239	39,211	-11,028	-22.0
Saline	33,115	20,280	-12,835	-38.8
Union	20,720	22,503	1,783	8.6
Wabash	30,784	22,525	-8,259	-26.8
Wayne	70,920	56,659	-14,261	-20.1
White	61,272	43,887	-17,385	-28.4
Williamson	11,422	9,775	-1,647	-14.4

Source: USDA, 1997 and 2002 Census of Agriculture

Livestock Inventory (2002)

Cattle are the most common livestock in Southern Illinois (Table 8). Hogs account for a larger proportion of livestock in major agricultural counties such as Wayne, Hamilton, Edwards and White. Horses and sheep make up only a small proportion of the total inventory.

Table 8: Livestock Inventory (2002)

<i>County</i>	<i>Cattle</i>	<i>Hogs</i>	<i>Horses</i>	<i>Sheep</i>
Alexander	2243	26	69	D
Edwards	7655	18708	196	675
Franklin	7746	30011	634	67
Gallatin	3401	D	173	0
Hamilton	4320	24167	443	207
Hardin	5402	D	252	D
Jackson	16566	6335	864	380
Jefferson	16120	9972	1119	781
Johnson	17190	8421	969	94
Massac	10913	12499	481	396
Perry	12384	4909	232	126
Pope	6983	1548	308	67
Pulaski	4811	3018	144	D
Randolph	17967	10034	708	660
Saline	6667	19520	557	D
Union	14002	710	741	379
Wabash	3237	2636	70	34
Wayne	15867	59970	858	306
White	6447	14021	457	D
Williamson	9774	8221	814	111

Source: USDA,, 2002 Census of Agriculture

Note: "D" indicates this information was not disclosed.

Farm Employment and Income

Number of Farms and Average Farm Size

The scale of farming in Southern Illinois has increased in recent years (Table 9). The phenomenon of fewer but larger farms mirrors the general development trend in American agriculture. In most counties the average farm size rose and the number of farms decreased from 1997 to 2002. Leading agricultural counties (Wabash, White, Gallatin, etc.) generally have larger farms. Counties having a larger loss of farm land also tended to see a higher decrease in agricultural production value. Gallatin County had the highest decrease in total farm land acreage (20%).⁶ Despite the reduction in the number of farms, the size of lands in farms actually increased in some counties (Massac, Perry, Alexander, and Williamson; data not shown). Overall, the total land in farms throughout the region remained stable, with a slight increase of 1.5%.

⁶ The total land in farms data are not shown in this report. It can be calculated by multiplying number of farms with average farm size.

Table 9: Number of Farms and Average Farm Size (1997-2002)

<i>County</i>	<i>Number of Farms</i>			<i>Average Farm Size (acres)</i>		
	<i>1997</i>	<i>2002</i>	<i>% Change</i>	<i>1997</i>	<i>2002</i>	<i>% Change</i>
Alexander	184	149	-19.0	400	526	31.5
Edwards	358	379	5.9	317	325	2.5
Franklin	774	727	-6.1	242	247	2.1
Gallatin	254	187	-26.4	758	826	9.0
Hamilton	644	694	7.8	345	338	-2.0
Hardin	196	179	-8.7	217	222	2.3
Jackson	770	740	-3.9	275	270	-1.8
Jefferson	1,100	1,168	6.2	216	222	2.8
Johnson	599	636	6.2	187	190	1.6
Massac	448	434	-3.1	244	287	17.6
Perry	610	549	-10.0	292	353	20.9
Pope	323	341	5.6	245	226	-7.8
Pulaski	270	253	-6.3	319	341	6.9
Randolph	917	823	-10.3	292	308	5.5
Saline	505	446	-11.7	268	291	8.6
Union	691	666	-3.6	218	229	5.0
Wabash	226	199	-11.9	544	556	2.2
Wayne	1,082	1,092	0.9	303	326	7.6
White	474	482	1.7	549	583	6.2
Williamson	693	631	-8.9	146	167	14.4

Source: USDA, 1997 and 2002 Census of Agriculture

Number of Jobs in Farming (2001-2004)

Table 10 shows changes in the number of jobs in farming from 2001 to 2004. Farm employment declined 6.4% in Southern Illinois during the period from 2001 to 2004 which was congruent with the general trend in Illinois. Gallatin County again had the highest decrease in percentage, about two times the regional average. Although the absolute number of farm jobs decreased in all counties, the share of farm jobs in total employment remained stable. Pope had the highest share of jobs in farming, nearly 25% of the total employment. Compared with the state (1.2%) and the United States (0.6%), Southern Illinois has a higher proportion of farm employment showing greater dependency on agricultural production.

Table10: Number of Jobs in Farming (2001-2004)

<i>County</i>	<i>2001</i>			<i>2004</i>			<i>2001-2004</i>
	<i>Farm Jobs</i>	<i>Total Jobs</i>	<i>% of Total</i>	<i>Farm Jobs</i>	<i>Total Jobs</i>	<i>% of Total</i>	<i>Farm Job Change %</i>
Alexander	228	3,193	7.1	208	2,813	7.4	-8.8
Edwards	419	4,934	8.5	392	5,012	7.8	-6.4
Franklin	730	14,986	4.9	698	15,128	4.6	-4.4
Gallatin	474	2,496	19.0	416	2,401	17.3	-12.2
Hamilton	626	3,361	18.6	597	3,348	17.8	-4.6
Hardin	189	2,031	9.3	182	2,010	9.1	-3.7
Jackson	957	38,709	2.5	874	37,645	2.3	-8.7
Jefferson	1,100	24,471	4.5	1,042	24,694	4.2	-5.3
Johnson	663	4,331	15.3	618	4,392	14.1	-6.8
Massac	483	6,879	7.0	455	6,659	6.8	-5.8
Perry	645	9,764	6.6	617	9,084	6.8	-4.3
Pope	329	1,284	25.6	313	1,277	24.5	-4.9
Pulaski	293	2,954	9.9	273	2,792	9.8	-6.8
Randolph	991	15,993	6.2	941	15,327	6.1	-5.0
Saline	584	12,522	4.7	539	12,867	4.2	-7.7
Union	857	7,913	10.8	785	7,661	10.2	-8.4
Wabash	301	6,078	5.0	275	5,908	4.7	-8.6
Wayne	1,158	7,724	15.0	1,093	7,660	14.3	-5.6
White	619	7,513	8.2	571	7,812	7.3	-7.8
Williamson	630	31,250	2.0	602	32,807	1.8	-4.4
Region	12,276	208,386	5.9	11,491	207,297	5.5	-6.4
State	97,702	7,371,122	1.3	90,181	7,299,903	1.2	-7.7
National	8.7*E5	1.38*E6	0.6	8.36*E3	1.38*E6	0.6	0

Source: BEA, National and Regional Economic Accounts 2001-2004

Note: BEA employment data include both full-time and part-time jobs.

Percentage of Personal Income from Farm Employment

There was a large increase in farming income in all Southern Illinois counties except Saline and Union from 2001 to 2004 (Table 11). Pope County had the highest increase in farm earnings, while Gallatin County had the least. The proportion of total earnings from farm employment also increased in most counties, especially Pope and Hardin. Compared to the state and the nation, the region has a higher share of personal income from farming and thus is more agriculturally dependent. This confirms our previous results from analysis on the farm employment data.

Table 11: percentage of Personal Income from Farm Employment (thousands of dollars) (2001-2004).

<i>County</i>	<i>2001</i>			<i>2004</i>			<i>Farm Earnings Change %</i>
	<i>Farm Earnings</i>	<i>Total Earnings</i>	<i>% of Total</i>	<i>Farm Earnings</i>	<i>Total Earnings</i>	<i>% of Total</i>	
Alexander	2,069	85,474	2.4	4,328	80,098	5.4	109.2
Edwards	2,232	119,141	1.9	8,128	154,352	5.3	264.2
Franklin	3,120	350,708	0.9	12,368	406,542	3.0	296.4
Gallatin	6,015	56,676	10.6	6,787	62,202	10.9	12.8
Hamilton	4,851	62,253	7.8	9,111	76,771	11.9	87.8
Hardin	1,508	38,140	4.0	6,560	45,363	14.5	335.0
Jackson	11,052	1,059,773	1.0	19,067	1,170,158	1.6	72.5
Jefferson	11,390	746,045	1.5	24,738	845,456	2.9	117.2
Johnson	3,425	85,031	4.0	14,150	104,401	13.6	313.1
Massac	4,155	202,147	2.1	11,480	231,813	5.0	176.3
Perry	4,833	232,903	2.1	16,359	260,205	6.3	238.5
Pope	498	26,220	1.9	5,600	33,668	16.6	1024.5
Pulaski	1,226	65,932	1.9	6,863	73,734	9.3	459.8
Randolph	13,995	473,366	3.0	36,586	535,721	6.8	161.4
Saline	8,921	348,786	2.6	8,647	404,902	2.1	-3.1
Union	8,487	182,203	4.7	7,337	209,328	3.5	-13.6
Wabash	1,448	157,401	0.9	4,907	168,964	2.9	238.9
Wayne	12,761	175,881	7.3	36,174	221,997	16.3	183.5
White	9,857	178,116	5.5	14,508	215,105	6.7	47.2
Williamson	3,570	864,705	0.4	9,244	1,047,095	0.9	158.9
Region	115,413	5,510,901	2.1	262,942	6,347,875	4.1	127.8
State	1,128,921	318,171,747	0.4	3,071,418	351,081,708	0.9	172.1
National	17.9*E6	49.42*E8	0.4	19.7*E6	53.9*E8	0.4	0

Source: BEA, National and Regional Economic Accounts 2001-2004

Note: BEA income data are computed by place of work.