

Southern Illinois Income and Employment

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This report briefly describes income, employment (with specific attention to the mining and manufacturing sectors), and commuting patterns 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.

This description is based primarily on data from the Census Bureau, the Bureau of Economic Analysis, the Bureau of Labor Statistics, and the County Business Patterns. Analysis is predominantly at the county level for this descriptive analysis.

Key Findings:

- Regardless of the measure used, incomes in Southern Illinois are substantially lower than incomes across Illinois. The median household income for all households in the region in 2000 was nearly twice the median household income among the region's black or African American households.
- After accounting for inflation, the real per capita personal income in the region increased by \$8,801 between 1969 and 2004. The service sector has been the largest source of employment growth (133% employment growth) in the region, but its real incomes (inflation-adjusted) fell by almost one-quarter between 1969 and 2000.
- Exaggerating a national trend, earnings in Southern Illinois accounted for a significantly larger share of per capita income in 1969 (74%) than in 2004 (60%). In turn, transfer payments constituted a much larger share of per capita income in 2004 than in 1969.
- Recent employment data by mining sub-sector shows a distinct spatial pattern. Most counties suffered significant mining employment loss during the 1990s. Regardless, coal mining remains one of the top industries in Southern Illinois for industry output, total value added, and worker compensation.
- Manufacturing employment did not change significantly in size between 1975 and 2000. It did, however, decrease as a percent of total employment, in tandem with manufacturing across the U.S.

- The composition of manufacturing has changed over time. Available data shows that some counties grew and others declined in manufacturing dramatically, while the region as a whole remained stable. The industrial composition also changed, though a lack of complete data prevents a clear quantification of these trends.
- Commuting patterns are complex in the Southern Illinois region. Four counties have positive in-commuting rates (Edwards, Jackson, Jefferson, Randolph). There is a (untested) spatial pattern to the county commuting classifications. Regional Centers (counties with positive net in-commute rates with no clearly exclusive source county) lie along the northern border of the region. Disperser Counties (counties with negative net in-commute rates which send workers to several counties, rather than to an identifiably dominant county) are situated in the eastern and southern portions of Southern Illinois. Jackson and Williamson Counties have unique commuting relationships not found anywhere else in the region.

Income

The 2000 Census reports a median household income of \$30,846 and a median family income of \$39,260 in Southern Illinois for 1999. A discrepancy of this scale between household and family income is not unusual. By comparison, the Illinois statewide median household income was \$46,590 in 1999 (US Census 2000).

Comparing Southern Illinois to Illinois using any population-based measure may be inappropriate due to Chicago's immense influence and Southern Illinois's distance from Chicago. Chicago's influence is easily demonstrated; in 2000, 98 of Illinois's 102 counties had Bureau of Economic Analysis per capita personal income (PCPI) levels below the statewide PCPI (\$32,185). Using a measure that does not discriminate based on county population (thus not skewing state data toward Chicago) allows a county-to-county comparison. Statewide, the median county PCPI in 2000 was \$23,789. In Southern Illinois, the median county PCPI was \$20,359. Using both the population-discriminatory income measure (statewide PCPI) and the population-non-discriminatory measure (median county PCPI), Southern Illinois had an income level roughly 15% lower than the state. In other words, regardless of the measure, Southern Illinois had a lower income level than other parts of the state.

Poverty within the region was 15.8% in 2000; statewide poverty was 10.7%. Among African Americans the rate was 39%; the statewide rate was 26.0%. Across the region, the calculated median household income was \$30,846; the state's was \$46,590. Among African American households, the calculated median was \$16,659; statewide the median African American household earned \$31,699. Regionally, 34% of African American households earned less than \$10,000, while among all households, only 15% fell into this income bracket. Among African American households, 56% earned less than \$20,000. Only 33% of total households earned less than \$20,000. Among African American households, 2.6% earned over \$100,000 regionally. Among all households in the region, 4.5% earned over \$100,000.

Of the region’s total personal income in 2004, a full 60% came from net earnings by place of residence. One-sixth (16.5%) of total personal income stemmed from dividends, interest, and rent in both Southern Illinois and Illinois—the percentages match exactly. The remaining 23.3% in the region came from personal current transfer receipts.

After accounting for inflation, regional per capita personal incomes increased by \$8,801 (from \$14,952 to \$23,753) between 1969 and 2004 (Table 1). The composition of income by the three general sources of income (personal current transfer receipts; dividends, interest, and rent; net earnings by place of residence) also changed substantially. The percent of personal income deriving from personal current transfer receipts increased the most, by \$3,569 (constant dollars), or from 13.1% of personal income in 1969 to 23.3% in 2004. Net earnings by place of residence accounted for far less of the total personal income in 2004 than it did in 1969—about 14% less. The contrast to the nation in this regard is striking. Nationwide in 1969, 84% of income derived from net earnings by place of residence. In 2004, this figure had decreased to 78%. Not only was the national decline in percent of PCPI from net earnings far less than the regional decline, but the difference between the nation and the region in 2004 is substantial—60% versus 78%. Nationally and regionally, dividends, interest, and rent constituted about 16% of total PCPI in 2004. These changes reflect an aging population, a stronger reliance on transfer payments, and a substantial decline in the real wage of the region’s fastest-growing sector, services (detailed below). Further research indicates that medical payments account for a considerable portion of the increase in transfer payments. The population grew 8.3% over this period, from 388,666 in 1969 to 420,972 in 2004.

Table 1: Components of Per Capita Personal Income (PCPI), 1969 and 2004, Southern Illinois

<i>Source</i>	<i>1969 (in 2004 dollars)</i>		<i>2004</i>	
	<i>Per Capita Income Amount</i>	<i>Percent of Total PCPI</i>	<i>Per Capita Income Amount</i>	<i>Percent of Total PCPI</i>
Personal current transfer receipts	\$1,956	13.1%	\$ 5,525	23.3%
Dividends, interest, and rent	\$1,868	12.5%	\$ 3,916	16.5%
Net earnings by place of residence	\$11,133	74.4%	\$ 14,312	60.3%
Total Per Capita Income	\$14,952	100.0%	\$ 23,753	100.0%

Source: BEA-REIS Table CA05

Employment

Regionally, employment grew by 44.8% between 1969 and 2000 (Table 2). During this period, the region’s population grew by 9.0%, from 388,666 to 423,670. By a wide margin, the service sector contributed the most to employment growth (30,216 jobs). Certainly, 45 percent job growth sounds good, but policymakers must consider the pay,

health risks, and quality of life associated with the job growth. In 1969 the average service sector employee¹ in Southern Illinois earned \$5,077. Had that income kept up with inflation, each of those workers would have earned \$23,822 in 2000. But the BEA data from 2000 shows that the average service sector worker in the region earned \$19,368—a 19% decrease in the real wage. In Pope County, the decrease in service workers' real wages was much more significant, at 41%.

Increasing by 14,100 jobs, retail trade growth comes in as a distant second to the service sector. The agricultural and financial sectors also grew notably over the three decades. While most sectors grew, two conspicuously did not. Mining employment fell by roughly 3,300 jobs (in contrast to Pope County), while manufacturing lost about two thousand jobs. On-the-ground reconnaissance indicates that post-2000 manufacturing has likely continued its decline, with the closures of the Maytag (in Williamson County) and other manufacturing centers. Finally, government employment has kept pace with total employment change, at about 45%.

As shown in Table 3, regional unemployment (5.6%) hovers around the state rate (5.7% in 2005). Alexander and Pulaski Counties, which consistently rate poorly on measures of socioeconomic standing, and which neighbor each other, have exceptionally high unemployment rates (8.8% and 8.0%, respectively).

These findings might be used in the formation of a regional economic development plan, or in the development of targeted development plans. A more detailed evaluation of key industries, industry linkages, and emerging clusters or industries (potential sources of development) might be useful. Some of that work has been done at Western Illinois University. Additionally, population and employment projections for counties or the region may prove useful in expanding the portrait of economic change in Southern Illinois.

¹ The average service sector worker wage was computed for 1969 and 2000 without Alexander, Hardin, or Massac Counties, due to data non-disclosure.

Table 2: Regional Employment by Sector, 1969 and 2000

<i>LineTitle</i>	<i>1969</i>		<i>2000</i>	
<i>Total full-time and part-time employment</i>	150,251		211,210	
Wage and salary employment	114,849		161,202	
Proprietors employment	35,402		50,008	
Farm proprietors employment	12,262		11,006	
Nonfarm proprietors employment	23,140		39,002	
Farm employment	14,282		12,739	
Nonfarm employment	135,969		198,471	
<i>Private employment</i>	107,294	<i>Percent</i>	157,057	<i>Percent</i>
Agricultural services, forestry, fishing and other	611	0.6%	2,088	1.3%
Mining	8,823	8.2%	5,538	3.5%
Construction	7,841	7.3%	10,587	6.7%
Manufacturing	24,218	22.6%	22,166	14.1%
Transportation and public utilities	8,387	7.8%	8,868	5.6%
Wholesale trade	4,366	4.1%	5,499	3.5%
Retail trade	23,361	21.8%	37,461	23.9%
Finance, insurance, and real estate	6,888	6.4%	11,783	7.5%
Services	22,806	21.3%	53,022	33.8%
<i>Government and government enterprises</i>	28,675		41,414	
Federal, civilian	2,044		3,264	
Military	1,317		938	
State and local	25,314		37,212	
State government	N/A		15,975	
Local government	N/A		21,237	

Source: Bureau of Economic Analysis, REIS Table CA25. Some missing values estimated.

Table 3: Annual Unemployment, 2005

	<i>Labor Force</i>	<i>Employment</i>	<i>Unemployment</i>	<i>Unemployment Rate</i>
Alexander	3,432	3,131	301	8.8
Edwards	3,566	3,401	165	4.6
Franklin	17,757	16,509	1,248	7.0
Gallatin	2,788	2,617	171	6.1
Hamilton	4,147	3,929	218	5.3
Hardin	1,892	1,760	132	7.0
Jackson	32,664	31,198	1,466	4.5
Jefferson	20,400	19,348	1,052	5.2
Johnson	5,163	4,845	318	6.2
Massac	7,413	7,021	392	5.3
Perry	10,842	10,150	692	6.4
Pope	2,066	1,937	129	6.2
Pulaski	3,067	2,822	245	8.0
Randolph	15,472	14,627	845	5.5
Saline	12,425	11,693	732	5.9
Union	8,412	7,870	542	6.4
Wabash	6,740	6,358	382	5.7
Wayne	8,468	8,049	419	4.9
White	8,205	7,815	390	4.8
Williamson	32,782	31,070	1,712	5.2
Region	207,701	196,150	11,551	5.6
Illinois	6,483,791	6,112,981	370,810	5.7

Source: Bureau of Labor Statistics, Local Area Unemployment Statistics (LAUS)

Mining

This section focuses on recent (2002-2003) mining industry output, employment, and value added, and estimated employment changes between 1990 and 2002.

Typically it is difficult to discuss employment by industry at the county level for a region because data suppression limits the availability of parallel data for counties. Using the Isserman-Westervelt Algorithm² for County Business Patterns data to estimate employment at the county level to the six-digit NAICS code level, it is possible to distinguish specializations within the Mining sector at the county level. When data pertaining to Southern Illinois is investigated in this manner, obvious spatial patterns

² 1.5 Million Missing Numbers: Overcoming Employment Suppression In County Business Patterns Data. By: Isserman, Andrew M.; Westervelt, James. International Regional Science Review, Jul2006, Vol. 29 Issue 3, p311-335, 25p

emerge among the specializations. Figure 1 roughly illustrates the spatial pattern of the data.

Figure 1 shows that in 2002 there was very little mining employment in the southern portion of Southern Illinois. Alexander and Pulaski Counties have employment in industrial sand and clay and ceramics mining, respectively. They are the only regional counties working in those two specific industries. The remainder of the southern counties that have any mining employment (Johnson, Hardin, and Union) focus on quarrying. The mid-region counties (Gallatin, Saline, White, Franklin, Jackson, Randolph, and Perry) focus on bituminous coal mining. Jackson County specializes in both quarrying and bituminous coal mining. The northern counties (Wabash, Wayne, and Jefferson) specialize in gas extraction. Gas extraction is a secondary focus in White County, which borders Wayne County to the south. County names, codes for industrial specialization, and total mining employment, are given in Figure 1. Specializations are generally absolute; there is very little employment across industries within a county.

Most counties suffered employment loss in mining in the 1990s. County Business Patterns data from 1990³ paints a different broad-scale picture of the mining industry in Southern Illinois. Consider the employment by year, as shown in Table 4. Ranges are given where data is suppressed (see footnote 3).

³ 1990 CBP data relies on the Standard Industrial Classification scheme rather than NAICS codes. The 1990 data is not eligible for the Isserman-Westervelt algorithm. Should the SICAP team decide that more accurate estimates of employment are required, they can be generated at the expense of time. Please also note that in the case of the mining sector, the SIC codes translate fairly easily to NAICS codes, so the data is nearly if not perfectly parallel.

Table 4: Mining Employment among the Southern Illinois Counties, 1990 and 2002

<i>County</i>	<i>1990 Mining Employment</i>	<i>2002 Mining Employment</i>	<i>1990-2002 Employment Change</i>
Alexander =	20-99	59	-40 - +39
Edwards -	95	12	-83
Franklin -	1,000-2,499	479	-2,020 - -421
Gallatin -	650	433	-217
Hamilton -	54	5	-49
Hardin -	233	116	-117
Jackson -	250-499	109	-390 - -141
Jefferson -	527	134	-393
Johnson +	0-19	58	+39 - +58
Massac =	0	0	0
Perry -	1,000-2,499	179	-2,320 - -821
Pope -	20-99	0	-99 - -20
Pulaski =	20-99	64	-35 - +44
Randolph =	250-499	323	-176 - +73
Saline -	1,394	756	-638
Union =	20-99	48	-51 - +28
Wabash -	1,006	397	-609
Wayne -	229	79	-150
White -	528	319	-209
Williamson -	250-499	0	-499 - -250

Source: US Census Bureau, County Business Patterns, 1990 and 2002; Isserman-Westervelt (2006).

Of the twenty counties in the region, fourteen have certainly lost mining employment. These are marked with a minus sign (-) in Table 4. One county (Johnson) has gained mining employment, and is marked with a plus sign (+). The remaining five counties (Alexander, Massac, Pulaski, Randolph, and Union) have either remained stable or change cannot be detected due to the data suppression. These counties are marked with an equal sign (=). Massac County has been stable at zero employment and does not warrant discussion. Alexander, Pulaski, Johnson, and Union specialized in Nonmetallic Mineral Mining and Quarrying (under NAICS 2123), and therefore were not subject to the same market forces as affected the coal counties. The coal counties were affected by environmental regulation changes. Randolph County is a coal county, but somehow has not suffered the same way other counties have. Randolph's endurance is somewhat mysterious, especially considering that Randolph's immediate neighbor and fellow coal-producer, Perry County, lost at least 82% of its mining employment between 1990 and 2002.

Changes in mining employment between 1990 and 2002 by sub-sector or industry have not been evaluated. Any changes that did occur may have had significant impacts on the fate of mining in any given county within that twelve-year period.

Regardless of regulations and employment decline, coal mining remains one of the top industries in Southern Illinois for industrial output, total value added, and worker compensation. According to 2003 IMPLAN data (Table 5), coal mining ranked third in terms of industry output (meaning value of production of the industry for a year). As one might expect, coal mining also appears in the top ten for total value added (defined as all income to workers paid by employers, including self-employed income; interests, rents, royalties, dividends, and profit payments; and excise and sales taxes paid by individuals to businesses).⁴ In contrast, coal mining does not appear on the top ten industries list for employment.

That coal mining contributes so strongly to the economy without employing a large share of workers is not surprising. Incomes in mining and related sectors are quite high in the region. Furthermore, coal mining is also highly mechanized, which makes it more competitive and less dependent on human labor.⁵ Table 6 lists the top ten industries for average per worker compensation⁶ in 2003. Power generation and supply, support services for mining, and coal mining all appear in the top ten industries for employee compensation. Specialized manufacturing industries are also prominent in Table 6. Rail transportation, though a historic driver of development in Southern Illinois, is nonetheless surprising, if only for its very high income. Although it has nothing to do with coal mining, it bears noting that 215 of the 509 IMPLAN industries have no employment in Southern Illinois.

⁴ <http://aimag.ag.utk.edu/popup/multipliers.html>

⁵ Command and Control. (2006). *E&MJ: Engineering & Mining Journal*, 207(5), 58-59; DeGaspari, J. (2003). Armchair mining. *Mechanical Engineering*, 125(5), 42.

⁶ Employee compensation includes wages, salary, and non-cash compensation such as benefits

Type of Mining Employment by County, Southern Illinois, 2002



Figure 1: Employment by Industry within the Mining Sector and Number of Employees, Southern Illinois, 2002

Table 5: Industry Output, Employment, and Value Added in Southern Illinois, 2003

Rank	Industry Output		Industry Employment		Total Value Added	
	Industry	Value*	Industry	Employment	Industry	Value*
1	State & Local Education	962.449	State & Local Education	23,382	State & Local Education	962.449
2	Owner-occupied dwellings	860.944	Food services and drinking places	12,424	Owner-occupied dwellings	688.254
3	Coal mining	761.594	State & Local Non-Education	9,922	State & Local Non-Education	443.157
4	Motor vehicle parts manufacturing	750.128	Hospitals	5,631	Power generation and supply	402.259
5	Mixes and dough made from purchased inputs	609.811	Nursing and residential care facilities	5,322	Coal mining	372.143
6	Household laundry equipment manufacturing	576.693	General merchandise stores	4,879	Wholesale trade	296.87
7	Power generation and supply	559.629	Grain farming	4,499	Offices of physicians, dentists, an	271.524
8	Hospitals	496.74	Offices of physicians, dentists, an	4,282	Monetary authorities and depositor	241.325
9	Tire manufacturing	495.813	Wholesale trade	4,106	Hospitals	222.574
10	Food services and drinking places	488.818	Food and beverage stores	3,676	Food services and drinking places	200.751

Source: MIG IMPLAN, Illinois Data 2003

*Value in millions of dollars

Table 6: Top 10 Industries in Average Compensation in Southern Illinois, 2003

Rank	Industry	Employment	Average Compensation
1	Rail transportation	182	\$138,209
2	Power generation and supply	1,181	\$97,659
3	Pipeline transportation	67	\$91,761
4	Industrial gas manufacturing	236	\$91,377
5	Paint and coating manufacturing	7	\$85,000
6	Specialized design services	34	\$82,617
7	Support activities for other mining	40	\$77,275
8	Other basic organic chemical manufacturing	148	\$77,121
9	Federal Non-Military	2,311	\$73,233
10	Coal mining	2,528	\$71,676

Source: MIG IMPLAN, Illinois Data 2003

Manufacturing

This section briefly describes the manufacturing sector in Southern Illinois between 1975 and 2000. Due to data non-continuity between 2000 and post-2000 years⁷, data is reported here only through 2000.

Between 1975 and 2000, both regionally and nationally, absolute manufacturing employment remained stable. Nationally, manufacturing saw a 0.2% increase in employment; regionally, the change was probably similar. Nationally, the Bureau of Labor Statistic supplies employment figures for the manufacturing sector and its constituent industries. At the county level, however, employment in even the broadly defined manufacturing sector is sometimes suppressed for anonymity reasons. Where county-level manufacturing employment is known it is shown in Table 7. This table shows that while total manufacturing employment has remained stable over time, levels within counties have varied drastically. Alexander County, for instance, lost about two-thirds of manufacturing employment. Franklin County's manufacturing presence more than tripled. In Gallatin, Hamilton, and Johnson, none of which were ever manufacturing giants, employment practically disappeared by 2000. Union and Wabash also lost about half of their 1975 manufacturing employment over the period. In contrast, Perry, Randolph, Wayne, and Williamson Counties remained remarkably stable. Franklin and Jefferson Counties grew substantially in manufacturing employment.

The zeros shown in bold on Table 7 are false zeros; the data have been suppressed and cannot be informally estimated (formal means of estimation exist but are not undertaken here). Considering the consistent, if not increasing, manufacturing employment in Edwards County in previous years, it is probably conservative to estimate 2000 manufacturing employment at 1,000 workers. Given that estimate, manufacturing employment from 1975-2000 appears to be fairly stable; employment has fluctuated by less than 1,000 workers. It bears noting that manufacturing employment is known to have changed since 2000, with the closing of the Maytag in Williamson County and other industrial plants.

Like the nation, the percent of total employment in manufacturing (rather than absolute manufacturing employment) narrowed considerably from 1975-2000. In fact, the region and the nation nearly matched each other in percent of employment in manufacturing in 1975 and 2000 (see Table 8). Manufacturing was slightly stronger nationally than in Southern Illinois in both 1975 and 2000.

Occasionally employment in the entire manufacturing sector is suppressed for a given county in a given year. More frequently, employment within manufacturing industries (industries make up the sector) is suppressed to safeguard employer anonymity. Between 1975 and 2000, anywhere from 22% (in 2000) to 61% (1985) of the region's

⁷ From 1975-2000 the Bureau of Labor Statistics reports employment by industries defined using the SIC system. Beginning in 2001, industries were defined using NAICS classifications. Industries are not always equal in the two systems. Using algorithms to estimate suppressed data, continuity can be constructed, though the process can be quite time consuming.

manufacturing employment can be organized according to industry from published data (meaning that 39-78% is suppressed from year to year). The publicly available data cannot reveal the entire composition of the manufacturing sector for Southern Illinois. It can, however, indicate some industries that had particularly strong employment over the 25-year period.

The Printing and Publishing industry was strong in Southern Illinois from 1975 (and probably earlier) through 1995. In 1985 the industry had employment of at least 3,630, or at least 17% of total 1985 regional manufacturing employment. Food and Kindred Products manufacturing had a regional presence through most of the study period. Transportation Equipment Manufacturing employed at least 2,800 in 1995 and 1,400 in 2000.

Table 9 lists the industries with at least 500 *published* employees in 1975, 1980, 1985, 1990, 1995, and 2000. This table does not list all industries with 500 employees, since a great deal of the industry-level employment (anywhere between 39-78%) is suppressed (not published). Table 3 does, however, provide a sense of what and where some of the key industries were in the region over time. Table 3 specifically names only the top two counties for employment in each industry. In a minority of cases these pairs of counties account for all of an industry's employment in the region. Randolph and Williamson Counties appear frequently in Table 3, while counties like Alexander and Pope do not appear at all.

Due to data limitations, findings cannot be taken as absolute. An enormous amount of industrial employment data has been suppressed. The available data only suggests general trends in the region. Southern Illinois manufacturing, in absolute employment numbers, remained stable between 1975 and 2000. As a percent of total employment, manufacturing fell from about 25% to around 13% in the region, which mirrored national trends. Early in the study period Southern Illinois seems to have specialized in industries like Printing and Publishing, as well as Foods. Nearer to the millennium, Southern Illinois produced in more traditional heavy manufacturing industries, like transportation equipment, machinery, and metals. Finally, manufacturing employment fluctuated significantly on a county-by-county basis. While a few counties maintained a stable employment base, many more lost one-half to two-thirds to nearly all manufacturing employment between 1975 and 2000. A few gained manufacturing employment, one by as much as 1,500.

Table 7: Manufacturing Employment by County, 1975-2000

<i>County</i>	<i>1975</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>1995</i>	<i>2000</i>
Alexander	1,032	643	575	445	370	343
Edwards	1,128	1,348	1,496	1,680	1,990	0
Franklin	516	519	640	619	1,390	1,861
Gallatin	258	146	179	0	68	77
Hamilton	225	102	65	37	83	77
Hardin	22	0	47	44	66	0
Jackson	1,710	1,659	1,263	1,189	1,195	1,354
Jefferson	1,568	1,248	4,049	3,345	3,048	3,018
Johnson	144	59	23	22	33	35
Massac	955	887	762	573	557	648
Perry	1,709	1,533	1,118	1,475	1,324	1,702
Pope	0	0	0	18	21	23
Pulaski	198	111	128	170	205	81
Randolph	3,159	3,700	3,834	2,906	3,634	3,377
Saline	306	231	236	125	387	450
Union	1,189	1,046	950	1,149	672	565
Wabash	1,326	1,702	1,308	1,486	861	689
Wayne	1,197	1,069	877	883	1,292	1,241
White	388	252	210	188	258	319
n	3,261	3,378	3,020	2,724	2,406	2,986
TOTAL	20,291	19,633	20,780	19,078	19,860	18,846

Source: Bureau of Labor Statistics, QCEW Flat Files, SIC basis

Table 8: National and Regional Percent Manufacturing Employment

	<i>1975 Manufacturing %</i>	<i>2000 Manufacturing %</i>
United States	27.2%	14.2%
Southern Illinois	25.2%	13.1%

Table 9: Manufacturing Industries with at least 500 Employees and the Leading Counties for Employment, 1975-2000

	<i>Primary County</i>		<i>Secondary County</i>		<i>Total Known Industrial Employment</i>
	<i>Name</i>	<i>Employment</i>	<i>Name</i>	<i>Employment</i>	
<u>1975</u>					
Printing and Publishing	Randolph	1,584	Jackson	369	2,312
Food and Kindred Products	Randolph	681	Perry	355	1,821
Electronic & Other Electric Equipment	Williamson	1,338			1,338
Transportation Equipment	Williamson	537	Jefferson	396	933
Apparel and Other Textile Products	Jackson	413	Massac	361	774
Industrial Machinery and Equipment	Jefferson	278	Wabash	250	620
<u>1980</u>					
Printing and Publishing	Randolph	1,596	Jackson	289	2,369
Food and Kindred Products	Randolph	981	Perry	330	2,047
Industrial Machinery and Equipment	Randolph	701	Wabash	377	1,623
Electronic & Other Equipment	Williamson	1,361			1,361
<u>1985</u>					
Printing and Publishing	Randolph	2,175	Jefferson	914	3,633
Rubber and Miscellaneous Plastics Products	Jefferson	2,434			2,434
Industrial Machinery and Equipment	Randolph	862	Jefferson	187	1,488
Food and Kindred Products	Randolph	385	Williamson	313	1,333
Electronic & Other Electric Equipment	Williamson	968	Jefferson	57	1,025
Transportation Equipment	Jefferson	264	Franklin	263	527
<u>1990</u>					
Printing and Publishing	Randolph	1,211	Jefferson	525	2,298
Fabricated Metal Products	Wabash	826	Williamson	587	1,820
Industrial Machinery and Equipment	Randolph	744	Jefferson	302	1,256
Electronic & Other Electric Equipment	Perry	490	Jefferson	441	1,000
Food and Kindred Products	Randolph	446	Union	255	826
Lumber and Wood Products	Wayne	151	Perry	130	525
<u>1995</u>					
Transportation Equipment	Edwards	1,931	Franklin	928	2,859
Food and Kindred Products	Randolph	1,792	Perry	189	2,081
Printing and Publishing	Randolph	938	Jackson	228	1,643
Industrial Machinery and Equipment	Jefferson	432	Franklin	162	1,201
Fabricated Metal Products	Wabash	522	Williamson	463	1,071
Lumber and Wood Products	Wayne	186	Perry	83	653
Electronic & Other Electric Equipment	Perry	422	Jefferson	143	645
<u>2000</u>					
Transportation Equipment	Franklin	1,383			1,383
Industrial Machinery and Equipment	Jefferson	422	Randolph	207	1,286

Commuting Patterns

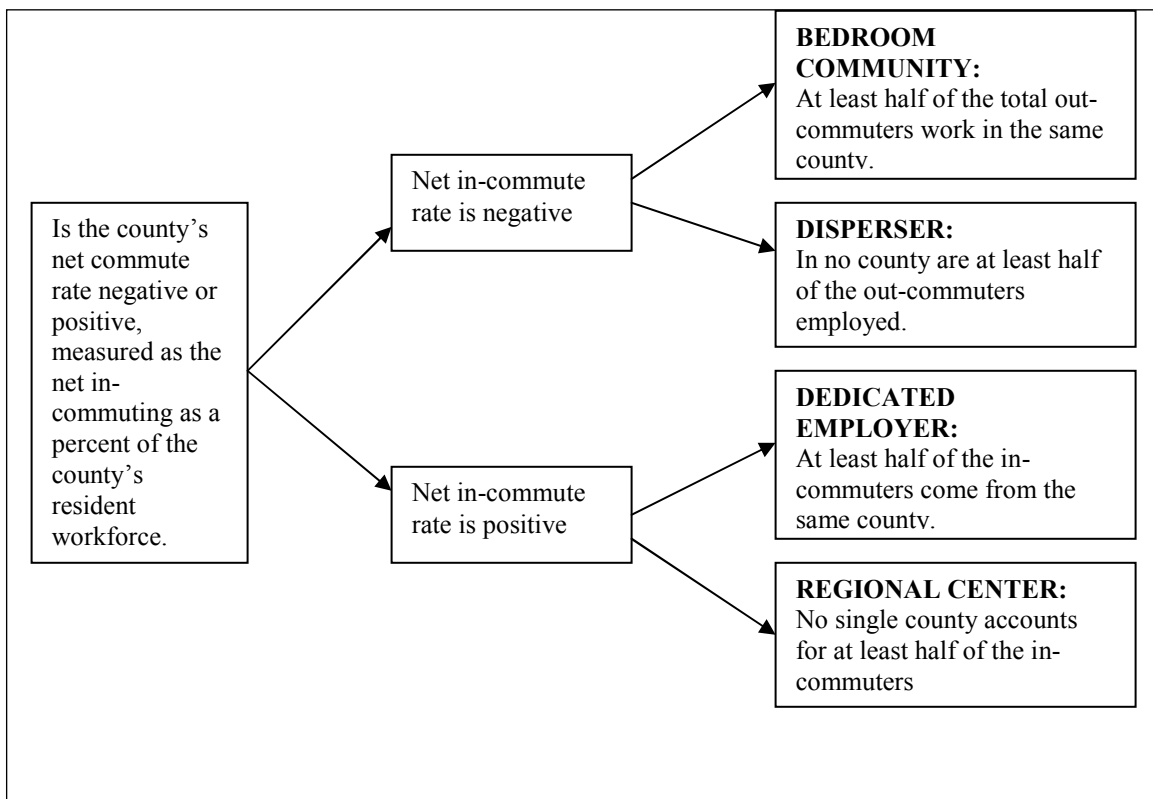
A typology matrix for commuting patterns in Southern Illinois was developed in late 2006 using two large-scale variables, net in-commute rate and percent of in- or out-commuters from or to each sending or receiving county. The types created from these variables are shown in Figure 2. These variables were selected because they easily specify how the residents of any given county likely view the movement of labor in and out of their communities. For instance, if a person lives in a county where nearly all employed residents also worked in the county, and residents of other counties in-commuted, the person would likely feel that the home county supported their neighbors. This is known as a regional center. In a county where more workers leave every day than commute in, and in which workers travel to a variety of work counties, the home county plays the role of a disperser. The term “dedicated employer” is meant to infer that a county employs commuters from predominantly one other county, as opposed to employing an equal numbers of workers from various counties. Finally, a bedroom community is a county in which more residents out-commute than in-commute, and the majority of out-commuters work in the same county.

Figure 2: Commuting Typology Matrix

	Net out-commuting county	Net in-commuting county
Majority of net in- or out-commuting from one other county	Bedroom County	Dedicated Employer
Majority of net in- or out-commuting from multiple other counties	Disperser	Regional Center

Figure 3 shows the straightforward methodology. We begin by calculating the net in-commute rate for a county.⁸ If that rate is negative, we next consider the counties to which the county's residents commute. If at least half of the county's out-commuters work in the same county, say County Y, then we say that County X is a bedroom community to County Y. If County X's out-commuters drive in equal numbers to Counties Y, Z, and A to work, we say that County X is a Disperser. A similar method is followed for counties with net positive in-commute rates. The inverse of a Bedroom Community is a Dedicated Employer; in this case County X gets at least half of its in-commuters from County Y. Regional Centers are the inverse of Dispersers; in this case County X gets its commuters from several other counties, none of which send more than 49% of X's in-commuters.

Figure 3: Methodological Flowchart



The application of this matrix and flowchart to regional commuting data yields the typology of counties found in Table 1. The first column gives the county for which the calculations were performed. The second column, "Type," gives an acronym representing the type to which the county was determined to belong, given the above method. Bedroom Communities are represented as "BC," Dispersers as "D" counties, Dedicated

⁸ Net in-commute rate is calculated as [(Number of in-commuters – Number of out-commuters)/(Total employment among residents of the home county)]. For instance, for County X, the net in-commute rate would be calculated as [(Number of commuters into County X – County X residents who work in other counties)/(Total number of County X residents who are employed)]. Worker flows, in numbers into and out of the regional counties, can be found on page two of the county Fact Sheets produced by SICAP.

Employers as “DE,” and Regional Centers as “RC” counties. An explanation of destination and source counties is given below Table 1.

Table 10: County Classifications for Commuting Patterns

<i>County</i>	<i>Type</i>	<i>Destination counties, if DE or BC*</i>	<i>Source counties, if D or RC**</i>
Alexander	BC	Cape Girardeau, MO	
Edwards	RC		Wabash, Wayne, White
Franklin	D		Williamson, Gallatin, White
Gallatin	D		Saline, White, Posey (IN)
Hamilton	BC	Jefferson County	
Hardin	D		Saline, Gallatin, Pope
Jackson	DE	Williamson County	
Jefferson	RC		Franklin, Marion, Hamilton
Johnson	D		Williamson, Massac, McCracken (KY)
Massac	BC	McCracken County, KY	
Perry	D		Randolph, Jackson, Washington
Pope	D		McCracken (KY), Massac, Saline
Pulaski	D		Alexander, Union, Massac
Randolph	RC		Perry, St. Clair, Jackson
Saline	D		Williamson, Gallatin, White
Union	D		Jackson, Cape Girardeau (MO), Alexander
Wabash	D		Gibson (IN), Edwards, Vanderburgh (IN)
Wayne	D		Clay, Jefferson, Edwards
White	D		Posey (IN), Vanderburgh (IN), Edwards
Williamson	BC	Jackson County	

* DE=Dedicated Employer, BC=Bedroom Community. Counties of these types have only one “source” or “sink” county listed due to the nature of the commute pattern.

** D=Disperser, RC=Regional Center. Counties of these types each have three “source” or “destination” counties listed. The three are meant to highlight the most important partner counties for worker flows.

**Figure 4: Net In-Commuting Rate, as
Percent of Employed County Labor Force,
Southern Illinois Counties, 2000**

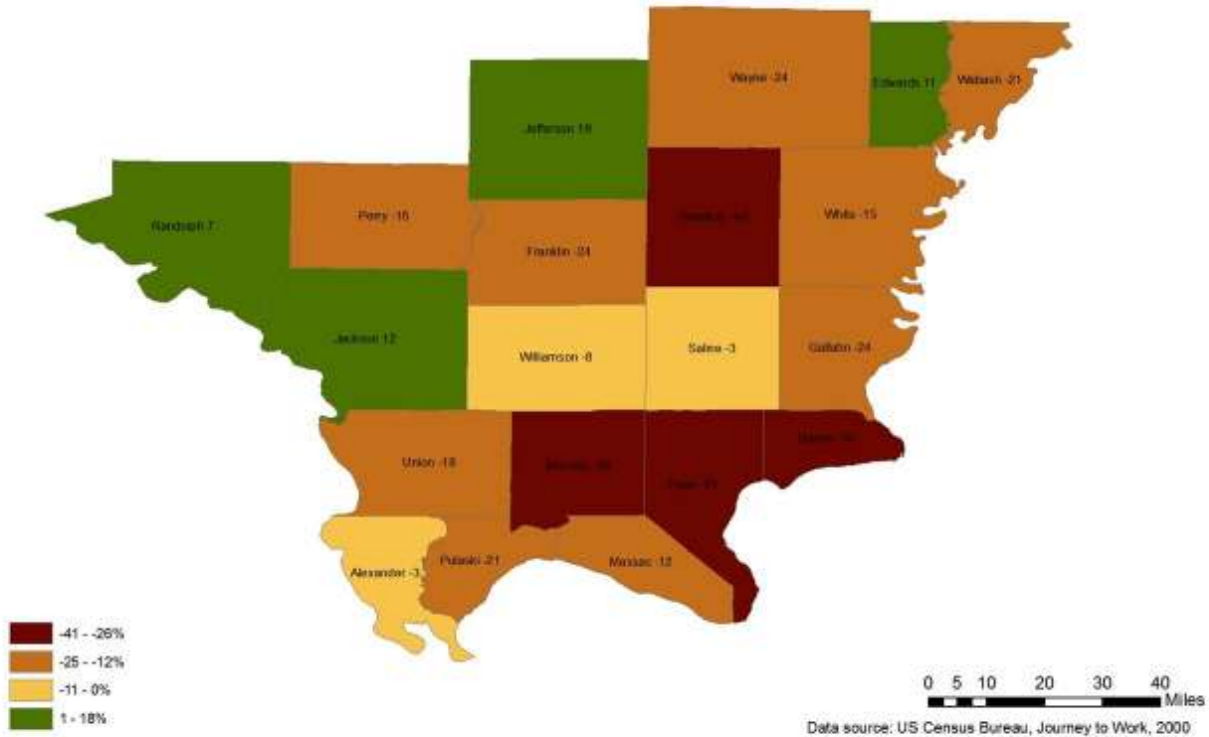


Figure 4: Net In-commuting Rate, as Percent of Employed County Labor Force, Southern Illinois, 2000

General Commuting Patterns of Southern Illinois Counties, 2000

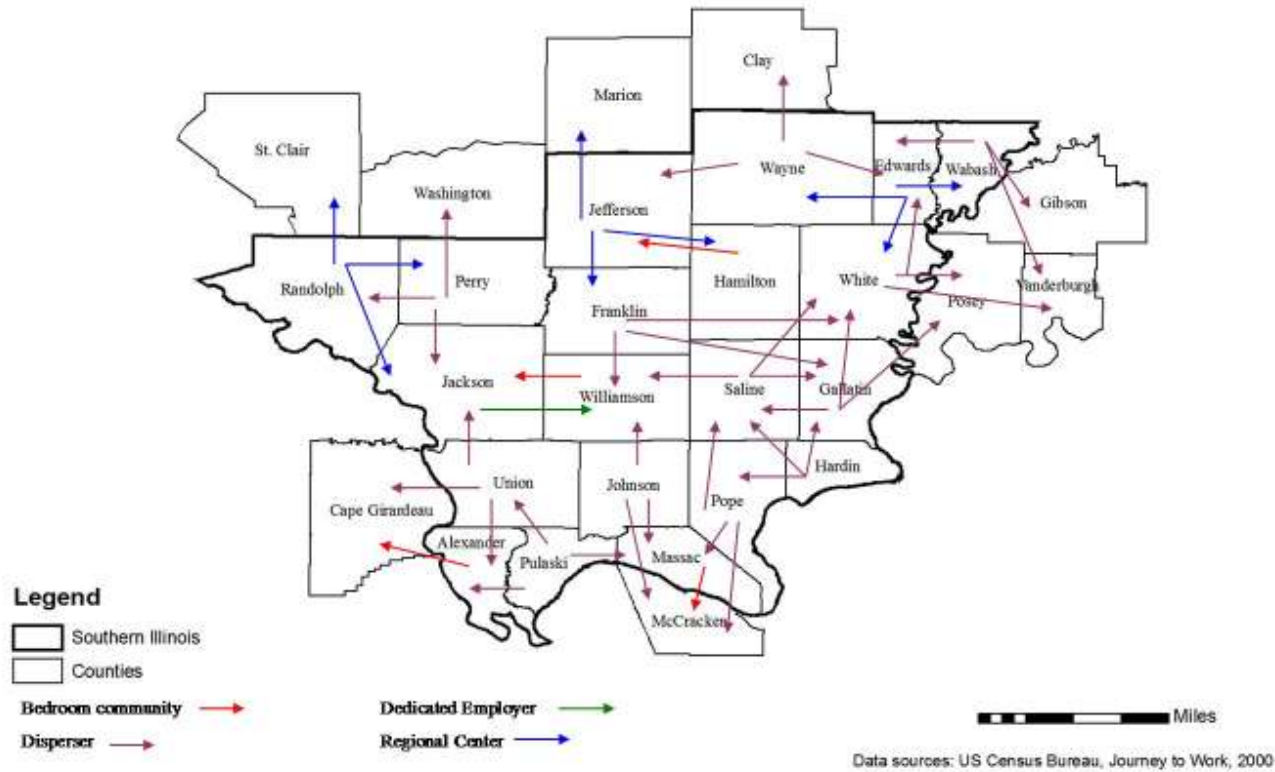


Figure 5: General Commuting Patterns of Southern Illinois, 2000

Of the four counties with a positive in-commuting rate shown in Figure 3, one is a Dedicated Employer (Jackson) and three are Regional Centers (Randolph, Jefferson, and Edwards). Of the sixteen counties with negative net in-commuting rates, four are Bedroom Communities (Hamilton, Williamson, Alexander, and Massac) and twelve are Dispersers. Figure 4 shows the spatial arrangement of the classified counties. Somewhat of a spatial pattern emerges. The Regional Centers lie along the northern border of the region. The Dispersers tend to sit on the eastern side of the region. Of the four counties with the most negative in-commute rates (Hamilton, Johnson, Pope, and Hardin, as shown in Figure 3), three of the four (all but Hamilton) are Disperser counties.

Particular pairs of counties become interesting (see Figure 4). For instance, Williamson and Jackson Counties have a special relationship. Williamson County is not the only Bedroom Community in the region, but it is the only Bedroom Community that provides the employees to a Dedicated Employer within the region. Hamilton County, for instance, sends the majority of its out-commuters to a county (Jefferson) which draws labor from a wider region. The other two Bedroom Communities send workers outside the region, to Cape Girardeau, MO and McCracken, KY Counties. Jackson County draws labor predominantly from Williamson County, and Williamson's out-commuters work predominantly in Jackson. No other pair of counties in the region has such an exclusive and reciprocal relationship.

Saline, Gallatin, and particularly Hardin Counties appear to be in a particularly challenging employment environment. These three counties send their workers to counties which are not Regional Centers or Dedicated Employers. In other words, Saline, Gallatin, and particularly Hardin tend to send their workers to counties which ship their employees elsewhere. While it is possible that this chain of worker movements is caused by differences in demands for skilled labor and housing costs, such an explanation seems unlikely. Such an explanation would seem more plausible in a suburban setting, where a group of low-income workers infiltrates a higher-income area in the morning to fill service-sector positions, while residents out-commute to professional employment. In Southern Illinois, it is more likely that the residents of Saline, Gallatin, and Hardin Counties are simply searching for any available employment opportunities.

Southern Illinois workers commute across state lines on every side of the region. Cape Girardeau draws workers into Missouri. McCracken County and likely its principal city of Paducah draw workers into Kentucky. Gibson, Posey, and Vanderburgh Counties in Indiana draw commuters. Additionally, Southern Illinois workers drive north within Illinois to work in Saint Clair, Washington, Marion, and Clay Counties. Certainly smaller flows of workers infiltrate other Illinois counties to the north as well. Fifteen of the twenty counties in the region border a county in another region. Of those 15 border counties, only Hardin, Pulaski, and Jackson Counties are particularly oriented toward the Southern Illinois region. Jackson County, as has been mentioned, is particularly oriented toward Williamson County. The other border counties integrate their workforce with extra-regional counties.

In most of the instances where commuters cross two county lines to get to work, they are commuting out of the region. For instance, Wabash and White workers cross two county lines to work in Vanderburgh County. Pope and Johnson County workers cross through Massac to get to McCracken County for work. Franklin County provides one exception, sending workers in significant numbers to both Gallatin and White Counties. The cause of this is not entirely clear, particularly since both Gallatin and White have negative in-commute rates in the double digits, unlike three of Franklin's immediate neighbors.

These findings, in conjunction with the maps presented above, might be used to distinguish sub-regions within Southern Illinois, or to explore relationships between workers and places, for instance within the Williamson-Jackson relationships. Paired with a deeper analysis of skills-housing-work balance studies, further trends may be uncovered.