

IN the Spotlight:

A View from Purdue: Indiana Manufacturing

Manufacturing has traditionally been an important source of employment and income in the Indiana economy. In 1999, following a long-term trend, Indiana held the distinction of having the highest percentage in the nation of its gross state product from manufacturing (31%). Kentucky was second with 28 percent (see Figure 1).

Our five largest manufacturing industries accounted for 63 percent of manufacturing gross state product in 1999. Four of these industries have shown growth since 1995. Motor vehicles and equipment showed the highest rate of growth (see Figure 2).

Indiana also had the largest percent in the nation of its workforce involved in manufacturing (see Figure 3). In 2000, 19 percent—697,610 of the state's 3,691,768 jobs—were in the manufacturing sector.

Although dominant in the state economy, manufacturing has not been Indiana's most rapidly growing sector. Indiana's services sector has followed a national trend of high growth since the 1980s. All other Indiana sectors demonstrated more moderate growth. During the 1990s, manufacturing employment was relatively stable, adding 68,276 jobs; the service and retail sectors

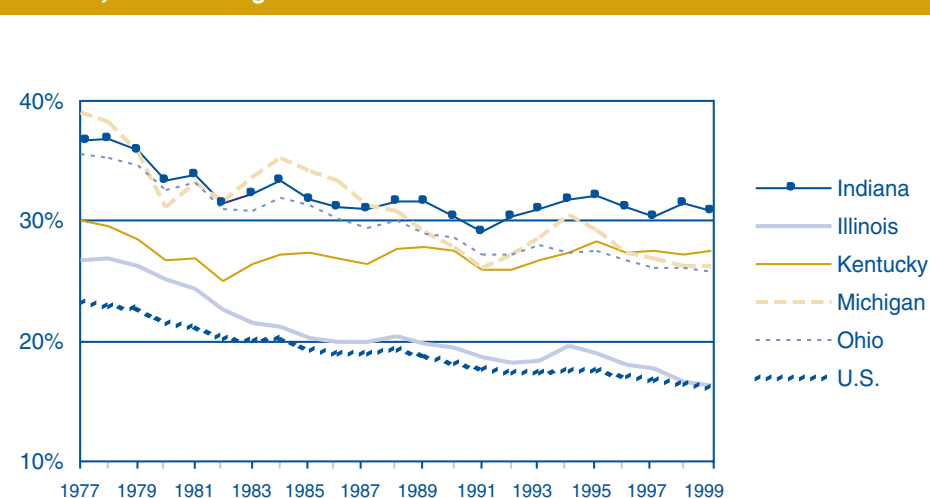
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Indiana Employment Snapshot

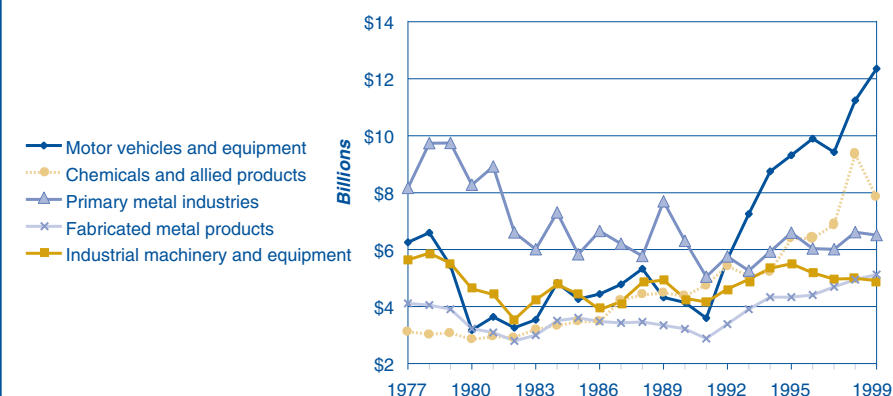
Figure 1: Manufacturing as a Percent of Gross State Product, 1977-1999

Indiana, Surrounding States and the U.S.



Source: U.S. Bureau of Economic Analysis, Regional Accounts Data, Gross State Product
U.S. Bureau of Labor Statistics, Consumer Price Index, Year 2000=0

**Indiana
Unemployment
Rate for
May 2002:
4.8%**

IN the Spotlight*(continued from page 1)***Figure 2: Indiana Manufacturing Sectors by Contribution to Gross State Product****Motor vehicles and equipment showed the largest growth rate**

Source: U.S. Bureau of Economic Analysis, Regional Accounts Data, Gross State Product
 U.S. Bureau of Labor Statistics, Consumer Price Index, Year 2000=0

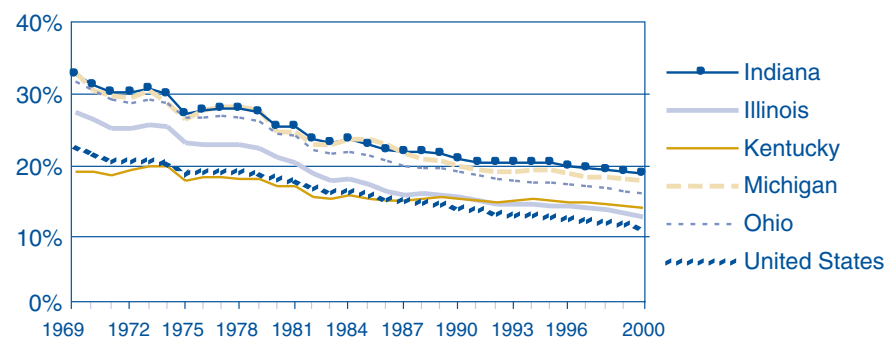
age, Indiana has maintained its share of U.S. manufacturing wages and per capita disposable income.

Total Indiana manufacturing wage and salary payments comprised 29 percent (\$33.2 billion of \$116 billion) of Indiana earnings by place of work in 2000. The highest average manufacturing pay was in the chemicals and allied products sector which includes pharmaceuticals (see Table 1). The lowest wage was in apparel and other textile products.

Sustaining the Sector

High wages and employment make sustaining the manufacturing sector a key issue for the economic future of Indiana. As Indiana emerges from recession, the manufacturing sector remains challenged by the demands of international competition and an evolving economy. Regardless of these challenges, the Bureau of Labor Statistics forecasts that manufacturing will maintain its dominance on the Indiana economy through the end of the decade.

In preparing for the future, Indiana needs to find ways to build on traditional strengths in manufacturing, and stimulate high value-added activity in more industries. Recent studies by the Battelle Memorial Institute and DRI/McGraw Hill¹ recommend encouraging the growth of "clusters" (agglomerations of related industries) and establishing policies that encourage value-added employment. The studies also suggest improvements in the quality of primary education, the business environment, vocational training, retention of high-tech graduates and

Figure 3: Manufacturing Employment as a Percent of Total Employment**Indiana, Surrounding States and the U.S., 1969-2000**

Source: U.S. Bureau of Economic Analysis, Regional Accounts Data, SA-25

added 352,730 jobs during the same time period (see Figure 4).

Wages and Earnings

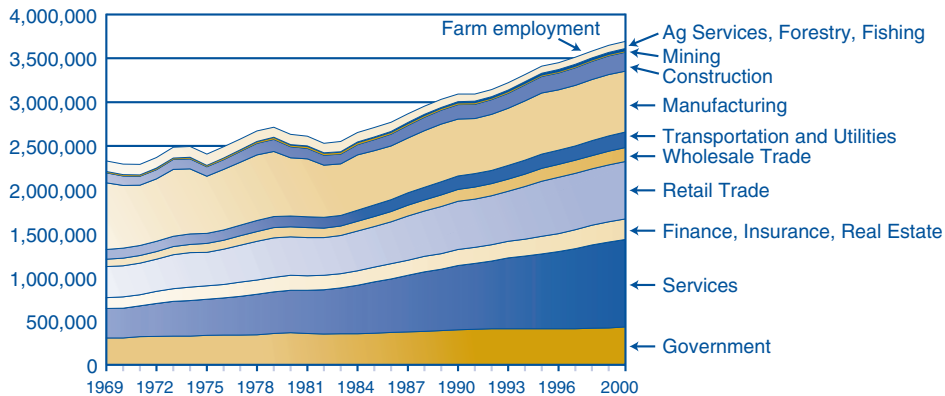
Economic well-being can be reflected in terms of wages. While the services sector added a substantial number of new jobs in the last two decades, it was not among the five highest paying employment sectors of Indiana in 2000 (see Figure 5).

The historical importance of manufacturing can be seen in wages: the average wage in manufacturing in 2000 was \$42,371, or 157 percent of the average non-manufacturing wage of \$26,900 (see Figure 6).

Manufacturing's higher average pay is reflected in per capita disposable income. A standard of living index based upon per capita disposable income is shown in Figure 7. On aver-

Figure 4: Indiana Employment Proportions by Industry, 1969-2000

The services sector followed a national trend of high growth



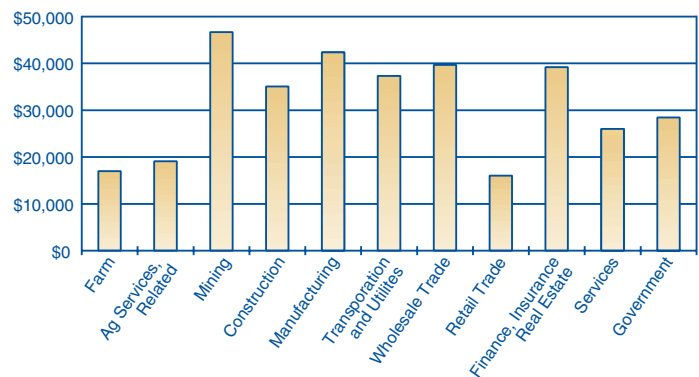
**During the 1990s,
manufacturing
employment was
relatively stable**

Source: U.S. Bureau of Economic Analysis, Regional Accounts Data, SA-25

**Total manufacturing
wage and salary
payments comprised
29% of Indiana
earnings by place of
work in 2000**

Figure 5: Indiana Average Annual Wage by Industry Sector, 2000

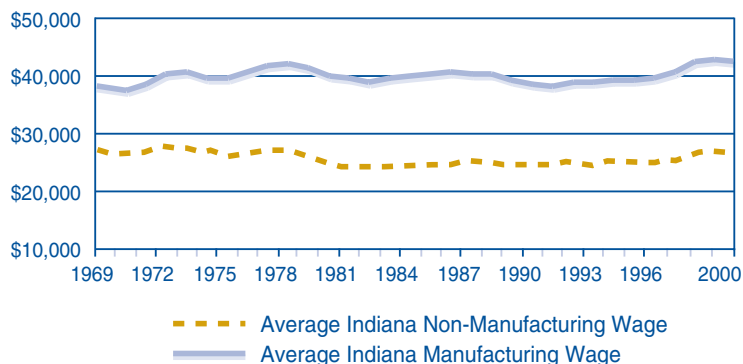
The average manufacturing wage was \$42,371 in 2000



Source: U.S. Bureau of Economic Analysis, Regional Accounts Data, SA-27 and SA-07

Figure 6: Manufacturing and Non-Manufacturing Wages

On average, manufacturing earnings are 157% higher



Source: U.S. Bureau of Economic Analysis, Regional Accounts Data, SA-27 and SA-07
U.S. Bureau of Labor Statistics, Consumer Price Index, Year 2000=0

**The importance of
manufacturing
employment can be
seen in consistently
higher wages**

interaction between higher education and industry. A stronger link to higher education's research innovations and expertise would benefit Indiana industries and, perhaps, increase career opportunities in the state.

To increase the synergy and growth of industry clusters, collaboration could be encouraged by organizing trade groups, local and cooperative purchasing arrangements, and tracking the availability of related support services such as data processing, programming and other computer support resources.

As the new economy emerges and work activities become increasingly automated, industry and elected leaders will need to decide whether Indiana should continue to be a powerhouse of manufacturing only or strive to add other high value-added endeavors. The key to success depends upon improving the quality of education, increasing the interaction between educational institutions and industry, a shift in business thinking to collaboration and co-opetition and encouraging the growth and liquidity of industrial clusters.

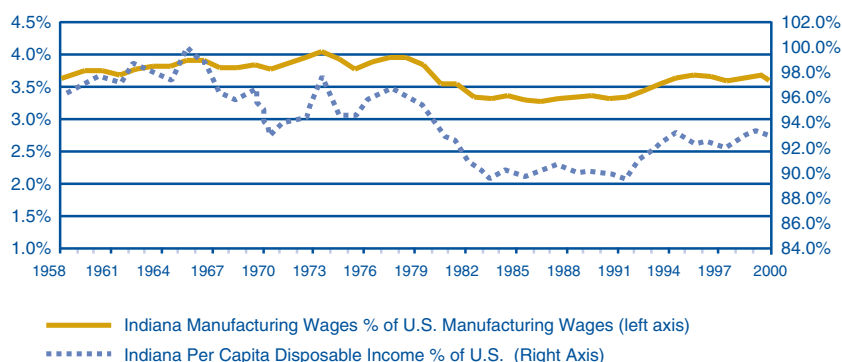
—Kevin T. McNamara and David L. Brown,
Department of Agricultural Economics,
Purdue University

Footnote

1. Battelle Memorial Institute: Indiana's Pillar Industries for 21st Century Midwestern Pre-Eminence (2000), a study prepared for the Central Indiana Corporate Partnership. DRI/McGraw-Hill: Blueprint for Economic Growth for Indiana (BEGIN), (1996), prepared for the Indiana Chamber of Commerce.

Figure 7: Manufacturing Wages and Per Capita Disposable Income, 1958-2000

On average, Indiana has maintained its share of manufacturing wages



Source: U.S. Bureau of Economic Analysis, Regional Accounts Data, SA-27 and SA-07

Table 1: Indiana Average Annual Wage

Industry Sector	Average Wage
Chemicals and allied products	\$79,966
Petroleum and coal products	\$55,967
Motor vehicles and equipment	\$51,303
Primary metal industries	\$50,683
Instruments and related products	\$47,774
Other transportation equipment	\$43,837
Industrial machinery and equipment	\$42,621
Electronic and other electric equipment	\$41,248
Stone, clay, and glass products	\$38,980
Paper and allied products	\$37,685
Fabricated metal products	\$35,833
Miscellaneous manufacturing industries	\$34,130
Food and kindred products	\$33,603
Printing and publishing	\$33,568
Rubber and misc. plastics products	\$31,830
Lumber and wood products	\$29,991
Furniture and fixtures	\$29,941
Textile mill products	\$26,906
Apparel and other textile products	\$25,985

Source: U.S. Bureau of Economic Analysis, Regional Accounts Data SA-27 and SA-07

How Do You Say “Hoosier” in Spanish?

Between 1990 and 2000, Indiana's Hispanic population increased by 117 percent, from 98,788 to 214,536. The infusion of Hispanics into the state raises some issues involving language incompatibilities, such as the need for bilingual K-12 education or government forms in Spanish. Recently released profiles from Census 2000 are a major source of new data for needs assessment in the area of language.

The census long-form questionnaire included questions about language spoken at home and English-speaking ability for all persons who were age five or older. Statewide, 362,082 persons age five and over spoke a language other than English at home. A majority of these people have mastered English, with 60 percent having been judged to speak English “very well.” That still left 143,427 Indiana residents with limited English-speaking ability in 2000.

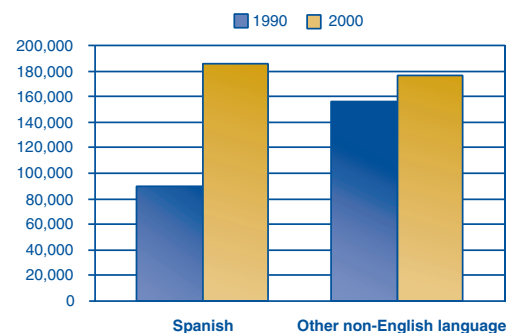
Persons speaking Spanish in their Indiana homes more than doubled

between 1990 and 2000, reaching 185,576. Indiana is also home to a large number of people who speak other non-English languages, but this population segment grew slowly in the 1990s. With the rapid increase in the state's Hispanic population over the previous decade, Spanish speakers now outnumber all other non-English speakers in Indiana (see Figure 1). Spanish speakers comprised 51 percent of all Indiana residents who spoke a language other than English at home in 2000, compared to 37 percent in 1990.

Two adjacent counties in northern Indiana illustrate very different patterns in language spoken at home. Both Elkhart County and LaGrange County have substantial Amish communities in which Pennsylvania Dutch or some other Germanic language is used. Elkhart County's population composition changed substantially in

Figure 1: Language Spoken at Home in Indiana

143,427 residents speak limited English

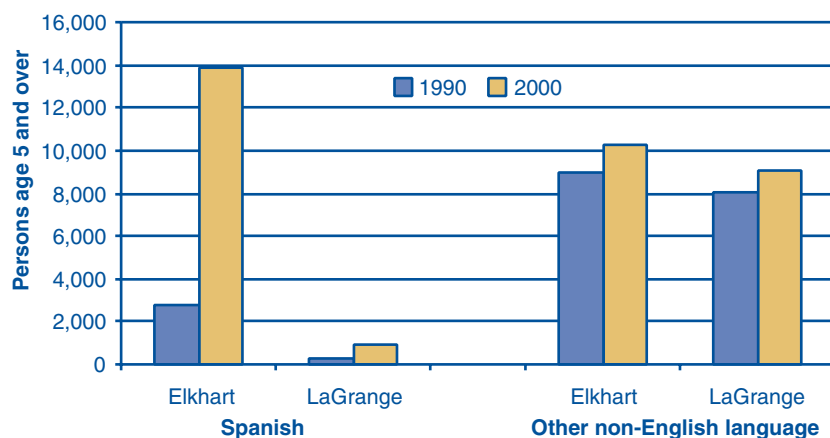


Source: U.S. Census Bureau

the 1990s, however, as the county experienced a fivefold increase in its Hispanic population and the number of Spanish speakers skyrocketed (see Figure 2). In neighboring LaGrange County, the number of persons speaking Spanish grew by about 650 from 1990 to 2000, a large percentage increase (250%), but only a small fraction of the 11,000-person growth in Spanish speakers in Elkhart County. Both Elkhart and LaGrange showed much more modest increases among people speaking any other non-English language. The phenomenal growth in people speaking Spanish in Elkhart County means that Spanish is now the dominant non-English language being used in that county, accounting for 57 percent of all those who do not use English exclusively. Ten years earlier, the comparable Spanish share was 24 percent. In LaGrange County, where the Amish presence is very strong, Spanish speakers constitute only 9 percent of people using a language other than English at home, up from 3 percent in 1990.

Figure 2: Language Spoken at Home in Elkhart and LaGrange Counties

Spanish is now the dominant non-English language in Elkhart County



Source: U.S. Census Bureau

Where Did Hoosiers Live in 1995?

In 2000, 90.7 percent of Indiana's citizens age five and older had also lived in the Hoosier state in 1995. This finding from Census 2000 suggests very little in-migration to the state during the last five years of the 20th century.

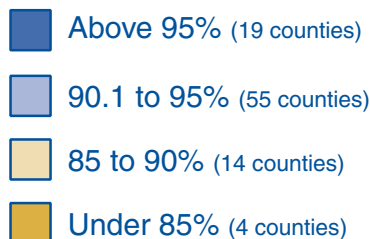
Before we look at the numbers in detail, remember that the Census question looked at two points in time. It is common to treat these data as if we were dealing with continuous residence. But we are not. The data fail to consider that Hoosiers may have been out of state in other years. For example, we do not know if someone left Indiana in 1996 and returned in 1999 after four years of college or military service. In that respect, this statistic can understate in-migration and the return of former residents.

Accepting this possible misinterpretation, Rush, Blackford and Martin led the 71 Indiana counties that exceeded the state figure for having "long-term" (i.e. five-year) residents. At the other end of the distribution, attracting residents from outside Indiana were Monroe and Tippecanoe counties with fewer than 82 percent of their citizens in residence for five years. Fast growing suburban counties of Hamilton and Dearborn also had fewer than 85 percent of these "long-term" residents (see Figure 1).

Which counties are attracting residents from other parts of Indiana? Figure 2 shows that Hendricks, Monroe and Owen are the leaders, more than double the state figure of 10.2 percent. Trailing the list in attracting other Hoosiers are Lake, Wayne, Dearborn, St. Joseph and Allen counties.

Figure 1: Percent of Long-term (5-year) Residents

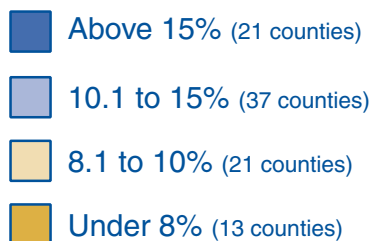
Fast growing suburban counties typically have fewer long-term residents



Source: U.S. Census Bureau

Figure 2: Out-of-County Residents from Indiana

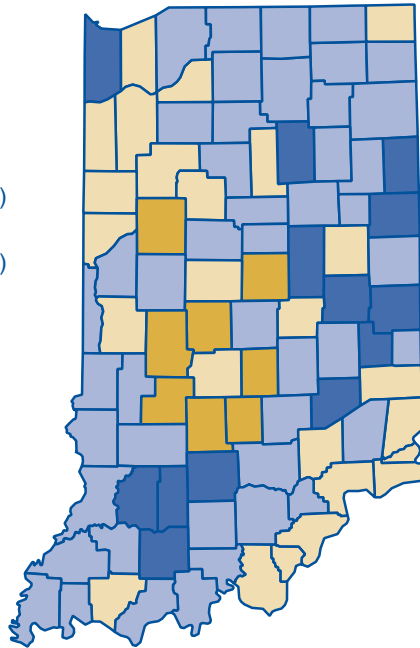
Hendricks, Monroe and Owen attracted the most out-of-county residents



Source: U.S. Census Bureau

Figure 3: Percent Over Age 5 Living in the Same County**80.5% of Hoosiers did not change county between 1995 and 2000**

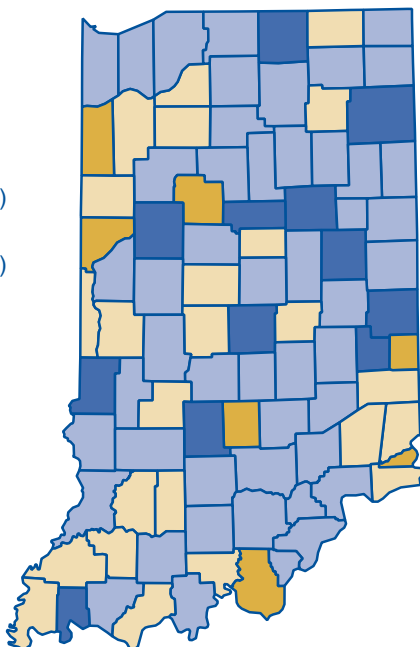
- Above 85% (13 counties)
- 80.1 to 85% (46 counties)
- 75.1 to 80% (25 counties)
- Under 75% (8 counties)



Source: U.S. Census Bureau

Figure 4: Percent of Residents Moving within County**Indiana had a 31.7% rate of residential churning**

- Above 33% (12 counties)
- 25.1 to 33% (49 counties)
- 20.1 to 25% (24 counties)
- Under 20% (7 counties)



Source: U.S. Census Bureau

The picture changes when we look at the counties that had high (and low) percentages of persons age five and older living in the same county in both 1995 and 2000. Statewide, 80.5 percent of Hoosiers did not change county, with Adams, Daviess and Dubois leading the list—all above 88 percent. A careful examination of Figure 3 will show that most of the counties below 78.1 percent were suburban or developing ex-urban counties.

People can live in the same county as five years earlier, but nonetheless move within the county. We can call this “residential churning” and it was found to be greatest in Marion County where 42.1 percent of the “long-term” residents changed houses in the five years between 1995 and 2000. The lowest rate of such “residential churning” was in Warren, Brown, Newton, and Ohio counties (see Figure 4).

Statewide, Indiana had a 31.7 percent rate of “residential churning.”

These data give us some insight into the dynamics of the housing markets in our different counties. They may provide us with more understanding of the political stability of some counties as well as of the attractiveness of opportunities available in different parts of the state.

**Detailed data
and rankings can
be found at:**

www.stats.indiana.edu

Region Four: West Central Indiana

The Area

Region 4 borders Illinois, is slightly northwest of Indianapolis and is almost due south of the Chicago/Gary CMSA. It is comprised of eight counties: Benton, Carroll, Clinton, Fountain, Montgomery, Tippecanoe, Warren and White. The hub and driving influence of this region is the Lafayette Metropolitan Statistical Area (MSA), comprised of Clinton and Tippecanoe counties.

Population

By 2000, the population of Region 4 had grown to 301,676—a 10.3 percent

increase from 1990. Growth during that time was centered in Tippecanoe County (14.1%). At the other end of the spectrum, Benton County declined in population by 0.2 percent (20 people) between 1990 and 2000.

The Lafayette MSA had a total of 182,821 people, accounting for 60.1 percent of the region's population in 2000 (see Figure 1). The MSA accounted for 75.4 percent of all the population growth in Region 4, increasing by 13.2 percent during the 1990s. As the arrows in Figure 1 indicate, commuting patterns show that Tippecanoe County is also a job hub.

Workforce Planning Region 4:

Benton, Carroll, Clinton, Fountain, Montgomery, Tippecanoe, Warren and White counties

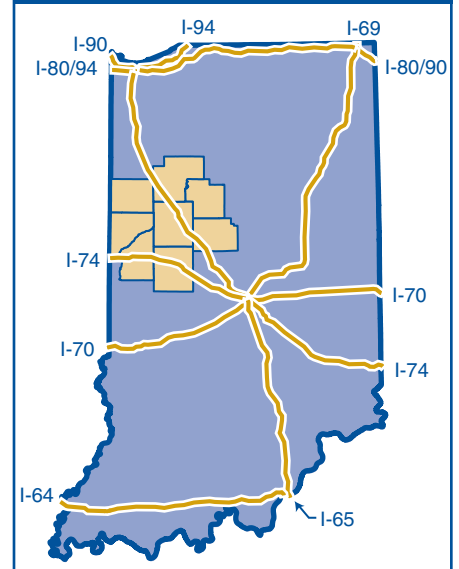
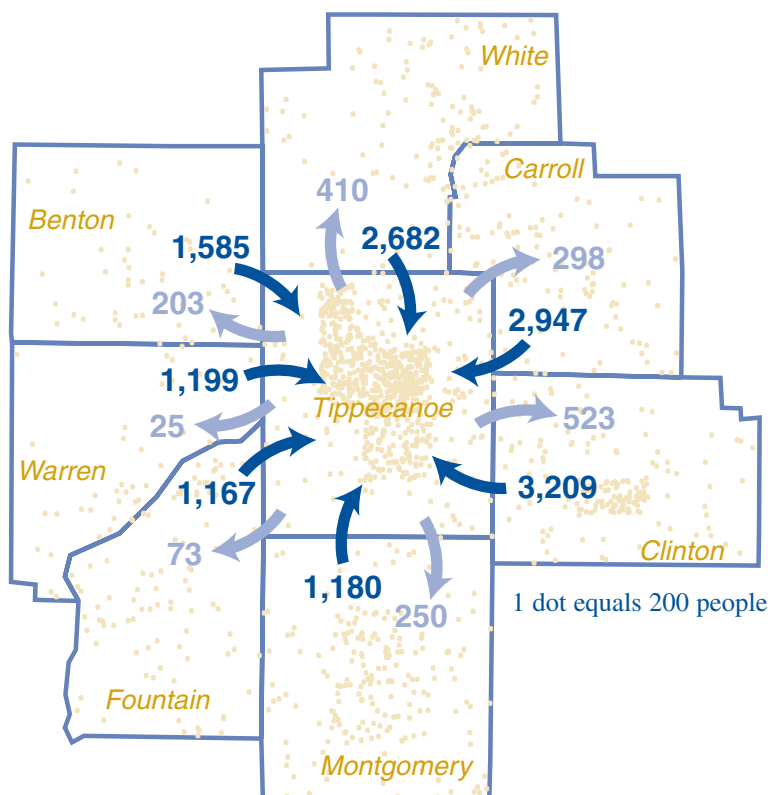


Figure 1: Population Density and Commuting Patterns, 2000

Tippecanoe County is the region's population and employment hub



Sources: U.S. Census Bureau (Census 2000 population) and STATS Indiana (2000 tax year commuting)

Industrial Mix, Jobs and Wages

This region is closely associated with Purdue University, which exerts a positive influence on the area as one of the state's largest universities and part of the Big Ten. In the 1980s, the arrival of the Subaru-Isuzu Automotive plant strengthened this region's manufacturing base. Today, a large number of well-known manufacturing businesses are in the area, including: Aluminum Co. of America; Bioanalytical Systems; Caterpillar Inc.; Eli Lilly; Fairfield Manufacturing; Great Lakes Chemical Corp; Lafayette Venetian Blind; Perry Chemical; Rohn Industries, Inc.; Staley Manufacturing; and Wabash National.

Table 1 contains data from the third quarter of 2001, comparing

Table 1: Average Employment and Earnings for Third Quarter 2001

Industry	Employment		% of Employment		Avg. Quarterly Wage/Job	
	Indiana	Region 4	Indiana	Region 4	Indiana	Region 4
TOTAL NONFARM	2,871,974	128,850			\$7,727	\$7,165
AGRICULTURE, FORESTRY & FISHING	34,062	1,928	1.2%	1.5%	5,116	4,641
MINING*	6,743	D	0.2%	0.0%	11,583	D
CONSTRUCTION	155,098	5,480	5.4%	4.3%	9,059	7,490
MANUFACTURING	634,994	32,794	22.1%	25.5%	10,247	9,524
TRANSPORTATION AND PUBLIC UTILITIES	162,972	4,246	5.7%	3.3%	9,310	8,627
WHOLESALE TRADE	140,523	4,023	4.9%	3.1%	9,805	8,412
RETAIL TRADE	555,452	24,091	19.3%	18.7%	4,073	3,653
FINANCE, INSURANCE & REAL ESTATE	140,653	4,839	4.9%	3.8%	9,746	7,813
SERVICES	908,867	40,446	31.6%	31.4%	7,145	7,201
PUBLIC ADMINISTRATION	131,872	5,179	4.6%	4.0%	7,581	6,234
NONCLASSIFIABLE*	738	D	0.0%	0.0%	7,231	D

*Data for Mining and Nonclassifiable establishments were nondisclosable in Region 4.

Source: Indiana Business Research Center, Indiana Industry Employment and Wages, based on ES-202 data from the Indiana Department of Workforce Development

employment and wages by industry for both the state and the region. The balance of industries in Region 4 closely mirrors the industrial mix of the entire state, resulting in a fairly stable regional economy.

Services employment accounted for 31.4 percent of all non-farm

employment in this region, followed by manufacturing (25.5%) and retail trade (18.7%). These three industries accounted for 97,331 jobs or 75.5 percent of the total employment (see Figure 2).

The number of jobs in Region 4 grew throughout the 1990s. In fact, the

Lafayette MSA has outperformed Indiana in the percent of employment growth since 1996.

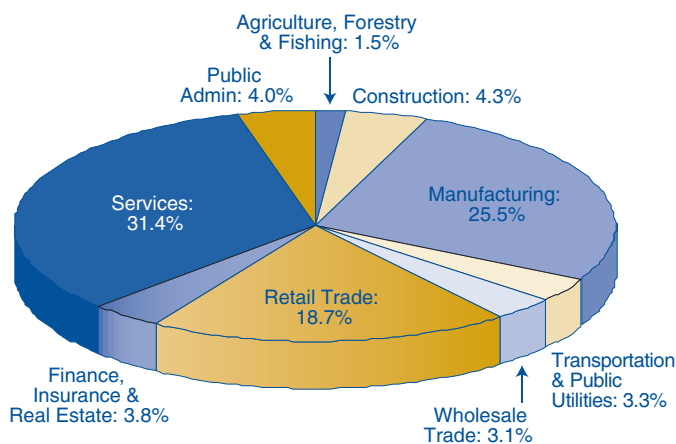
From April 1996 to April 2002, Indiana's total industry employment increased 3.5 percent. In contrast, the Lafayette MSA experienced a 6.6 percent increase in employment—nearly twice the state's gain.

Throughout Indiana, the most significant job gains were in the services industry, where employment jumped 16.1 percent. But in the Lafayette MSA, the largest gain was an 18.1 percent increase in government employment (public administration). Employment growth also occurred in Service Producing (8.1%) and Finance, Insurance and Real Estate (5.4%). Opposite to most cited trends, manufacturing employment in the Lafayette MSA grew 0.5 percent while the state encountered an 8.3 percent decline overall.

(continued on page 12)

Figure 2: Region 4's Industry Breakdown Based on 3rd Quarter 2001*

The balance of industries in the region closely mirrors the state



*Data for Mining and Nonclassifiable establishments were nondisclosable.

Source: Indiana Business Research Center, Indiana Industry Employment and Wages, based on ES-202 data from the Indiana Department of Workforce Development

NAICS Tres: A Look at Auxiliary Establishments

Third in the NAICS Series

The Great Depression of the 1930s spawned many new federal mechanisms for tracking the economy. One of those was the Standard Industrial Classification (SIC) system, developed when manufacturing was the dominant industry. While there were many modifications to the SIC over the years, by the 1990s it was clear that the major shifts in the American economy mandated major change in how its industries were classified. The result: NAICS, the North American Industry Classification System.

The changes in establishment classification were big, creating twenty industry groups under NAICS where there were eleven under the SIC system. The previous two issues of *IN Context* covered the major changes. This time we take a brief look at how the classification of auxiliaries and corporate offices has changed between the two systems.

What is an auxiliary establishment, anyway? It is an establishment that primarily provides support services for an enterprise or company that has multiple establishments under common ownership or control. Under SIC, such auxiliary establishments were classified according to the primary activity of the enterprise they served. With NAICS, auxiliary establishments are classified according to the primary activity of the auxiliary itself. So, if an auxiliary is providing data processing for an auto manufacturer, that auxiliary establishment will be classified under data processing (NAICS 51421). Another significant change in NAICS is that of establishments that are the head offices of an enterprise. These are now classified in the new NAICS industry 551114, Corporate, Subsidiary and Regional Managing Offices.

Such changes will result in significant shifts in industry-based employment data. In 1992, economic census data showed more than 1,000,000 auxiliary employees assigned to manufacturing and over 840,000 auxiliary employees assigned to retail trade. These employees are most likely to move to one or more of the following sectors or sub-sectors:

- Management of Companies and Enterprises
- Administrative Support, Waste Management and Remediation Services
- Warehousing and Storage
- Computer Systems Design and Related Services
- Accounting, Tax Preparation, Bookkeeping and Payroll Services

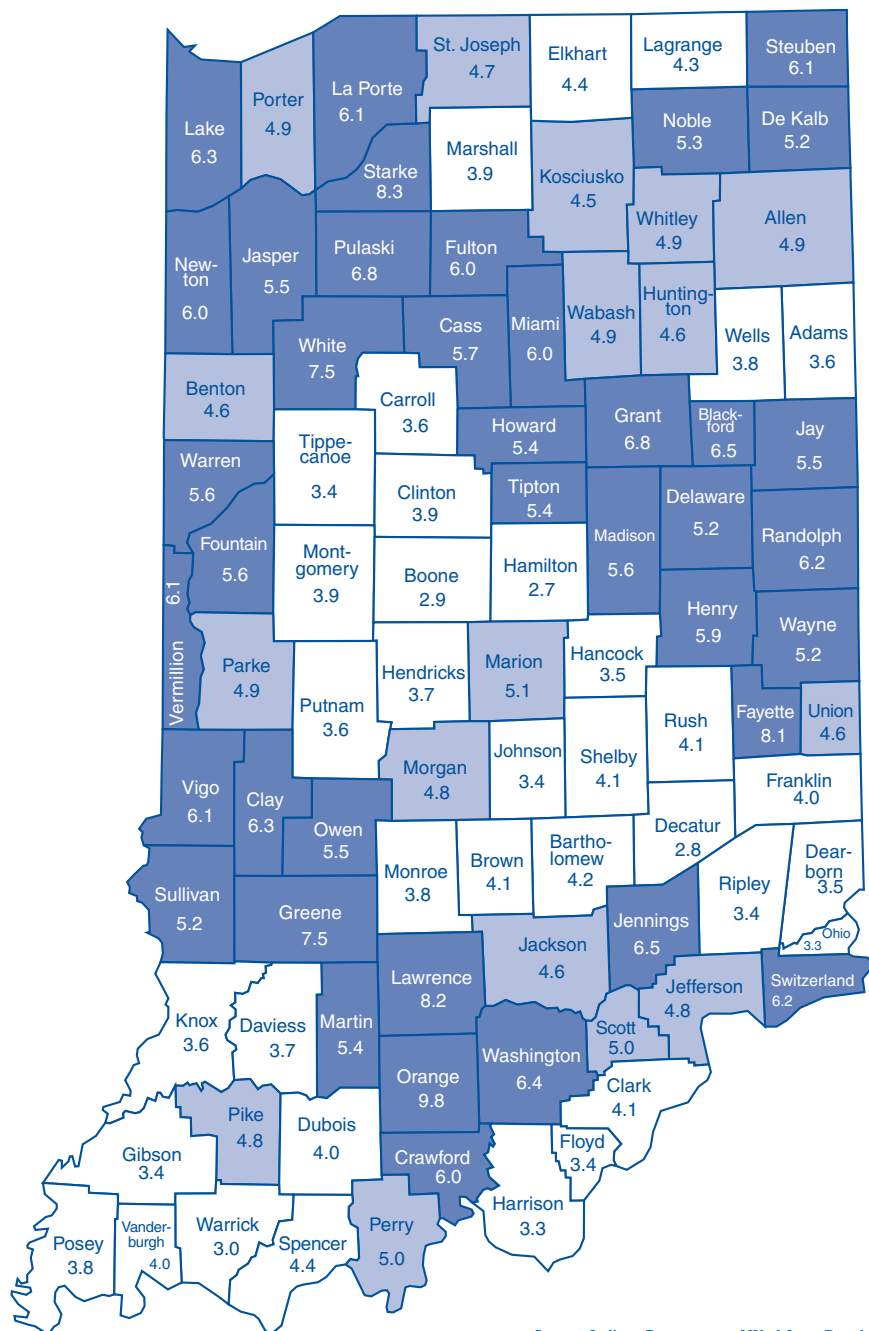
For further information, go to:
www.census.gov/epcd/www/econ97.html.

Key Sectors That Would Include Auxiliary Establishments

NAICS Code		Indiana Establishments	Paid Employees
551	Management of companies & enterprises	878	39,100
551111	Offices of bank holding companies	48	761
551112	Offices of other holding companies	140	1,515
551114	Corporate, subsidiary & regional managing offices	690	36,824
56	Administrative & support & waste management & remediation services	5,279	133,178
561	Administrative & support services	4,904	126,127
562	Waste management & remediation services	375	7,051
493	Warehousing & storage	153	3,060
49311	General warehousing & storage	106	2,233
4931101	General warehousing & storage (except in foreign trade zones)	106	2,233
49312	Refrigerated warehousing & storage	17	391
4931201	Refrigerated products warehousing	17	391
49319	Other warehousing & storage	25	369
4931902	Specialized goods warehousing & storage	22	350

Source: U.S. Census Bureau, 1997 Economic Census

Unemployment continues to be higher in rural counties



Indiana County Rates

- Indiana's unemployment rate declined to 4.8 percent in May. That was the third monthly decline in a row, after the rate peaked at 5.7 percent in February.
- The estimated number of unemployed Hoosiers has dropped 14 percent since February, to 151,342 in May.
- Unemployment rates across the state continued to be higher in rural counties.
- Of the 12 counties with the best unemployment rates in May, all but 3 were in metropolitan areas.
- Of the 12 counties with the worst unemployment rates in May, all but 1 were outside metropolitan areas.
- For the fourth month in a row, Orange County posted the highest county unemployment rate in the state, at 9.8 percent. That's down, however, from 11.3 percent in February.
- Hamilton County in May retained its ranking as the county with the lowest unemployment rate in the state with a rate of 2.7 percent.
- Hamilton's rate has inched up this year, though. It's one of only four counties in the state with a higher unemployment rate in May than in February. The other three with increases were Dubois, Pike and Marion.
- The biggest improvements in unemployment rate in May came in Fulton, Fayette and Crawford counties.

IN CONTEXT

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IN the Workforce

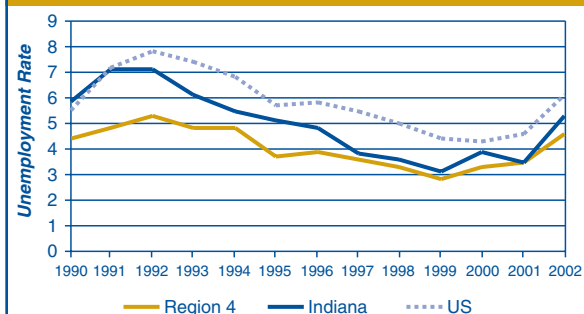
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Region 4 has consistently had unemployment rates below both the U.S. and the state (see Figure 3). During the last few years, employers in the region began actively recruiting workers from not only surrounding counties, but from other parts of the state because of the extremely low unemployment in the region.

The substantial presence of manufacturing firms in Region 4, combined with a balanced industrial mix, is a primary factor causing this area to out-perform other areas of the state and consistently have low unemployment rates.

Figure 3: Unemployment Comparisons

Region 4 consistently has low unemployment



Source: U.S. Bureau of Labor Statistics

On the Web

For all the latest state and county figures and complete time series data sets related to the Indiana economy, visit the following Internet sites:

Indiana IN Depth
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Commuting, building permits, industry mix, population trends, migration and much more for Indiana counties and regions. PLUS - build your own region functionality.

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