INCONTEXT

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Kelley School Forecasts Growth, Notes Risks

Strong economic growth is likely to continue in both Indiana and in the United States as a whole, according to the latest quarterly forecast from the Kelley School of Business at Indiana University.

The Kelley School's Center for Econometric Model Research in Bloomington notes that the U.S. gross domestic product grew at an annual rate of 6.9% in fourth quarter 1999. For the year 2000, the Center's forecast released at the end of February predicts slightly slower but still healthy growth. U.S. growth will ease to 2.8% during 2000. Exports should expand, while both consumption and equipment investment are forecast to grow more slowly than in 1999.

The Fed will continue to raise interest rates this year, and inflation will remain low, only moderately above 1999's 2% rate.

Construction activity, however, will decline compared to 1999—due mainly to higher interest rates. Residential investment nationwide rose last year. This year it is forecast to fall 2% from 1999 levels.

Indiana will enjoy the continuing expansion, though growth rates here are likely to be just under those in the nation as a whole. The model predicts real personal income will increase by 3.7% in the U.S. this year and 3.2% in Indiana. Non-farm establishment employment is forecast to be up 1.8% in the U.S. and 1.2% in Indiana. Non-manufacturing employment will grow in the state, but that will be offset by flat or declining employment in Hoosier manufacturing.

What could derail this happy picture? Oil prices have jumped in recent weeks, but those increases shouldn't hurt the overall conditions. Dr. Jeffery Green is professor of business economics and public policy and associate dean

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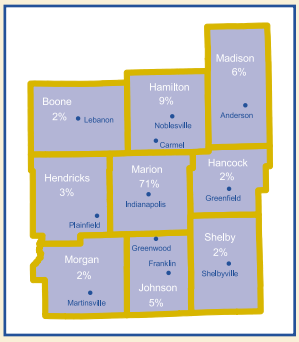
Metropolitan Areas are Highlighted in This Issue.

What is an MSA? A metropolitan statistical area (MSA) is a city along with the surrounding area that has close economic ties to the city. Boundary lines for MSAs usually are county lines. An MSA can be one county or a cluster of counties, such as the nine counties that make up the Indianapolis MSA.

Also known as "metro areas," MSAs are defined by the federal Office of Management and Budget. Many kinds of data are categorized and tracked by MSA.



INSIDE *this issue:*

Indiana Unemployment Rate in January 2000: 3.4%

No Significant Change from January 1999.

Personal Income Increases, But at a Slower Rate than the Nation

The latest earnings data from the U.S. Bureau of Economic Analysis show Indiana's total personal income at $150 billion, the 16th largest economy in the nation. Between the third quarter of 1998 and the same quarter in 1999, Indiana's personal income grew by 4.3%. During the same period, the Great Lakes states grew by 5.2% and the nation by 5.6%.

Indiana's current rate of personal income growth is consistent with recent and long-term trends for the state and the region. The five-state Great Lakes region has seen a decline in its share of the nation's income in each of the past three decades (see figure 1). The intense global competition beginning in the 1970s within the manufacturing sector has hit both the Great Lakes and Mideast regions particularly hard. Prior to this period, the Great Lakes contributed 21% to the nation's personal income, exceeded only by the Mideast region at 24%. Today, the Great Lakes contribute 16%, less than the Southeast, Mideast and Far West regions. Indiana's share of the nation's personal income has similarly moved from 2.47% in the third quarter of 1969 to 1.97% in the same quarter of 1999 (see figure 2).

Figure 1: Change in Share of U.S. Personal Income 3Q 1969 - 3Q 1999

Source: Bureau of Economic Analysis

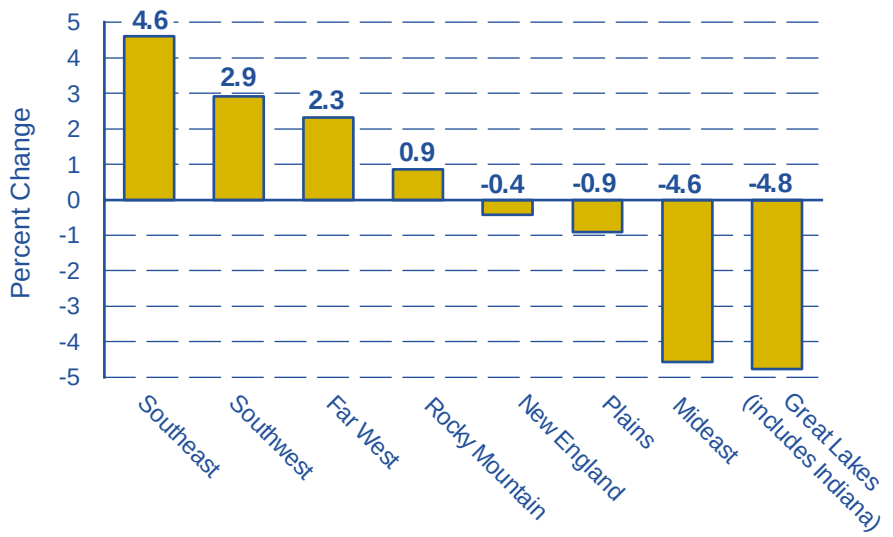
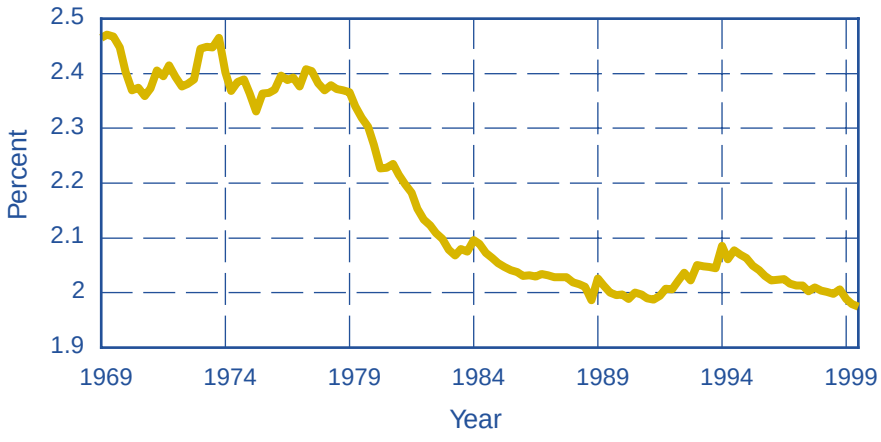


Figure 2: Indiana's Share of U.S. Personal Income

Source: Bureau of Economic Analysis



Personal income is made up of earnings, returns to wealth, and transfer payments. Earnings (what we make as the result of working for ourselves or for someone else) in Indiana are not rising as rapidly as in the rest of the nation (see figure 3). Because earnings constitute approximately 70% of all personal income, this 1.8% differential (Indiana 4.8% vs. the nation at 6.6%) dominates the offsetting effects of other income components. Hoosiers are doing better than the nation in returns to wealth (dividends, interest and rent) but not as well in transfer payments (largely Social Security). But each of these components accounts for just 15% of personal income and is less subject to state and individual policy decisions.

To understand Indiana's earnings growth, consider figure 4, where the various sectors of the economy are shown in descending order of importance to the state. Manufacturing leads the list, accounting for 31% of all earnings, followed by services with

22% of Hoosier earnings. In terms of growth, Indiana earnings have increased faster than the nation in two of the eight sectors shown. Together, these two sectors account for 40% of Indiana's economy, but their combined advantage did not offset slower growth in the service and construction sectors. Indiana also grew more slowly in finance, insurance and real estate and in transportation and public utilities. As manufacturing continues to be restructured by global competition, our personal income growth will be linked to Indiana's (and the region's) ability to continue its shift to advanced manufacturing and other major sectors not historically centered in the Midwest.

Figure 3: Sources of Personal Income in Indiana and the U.S. 3Q 1999

Source: Bureau of Economic Analysis

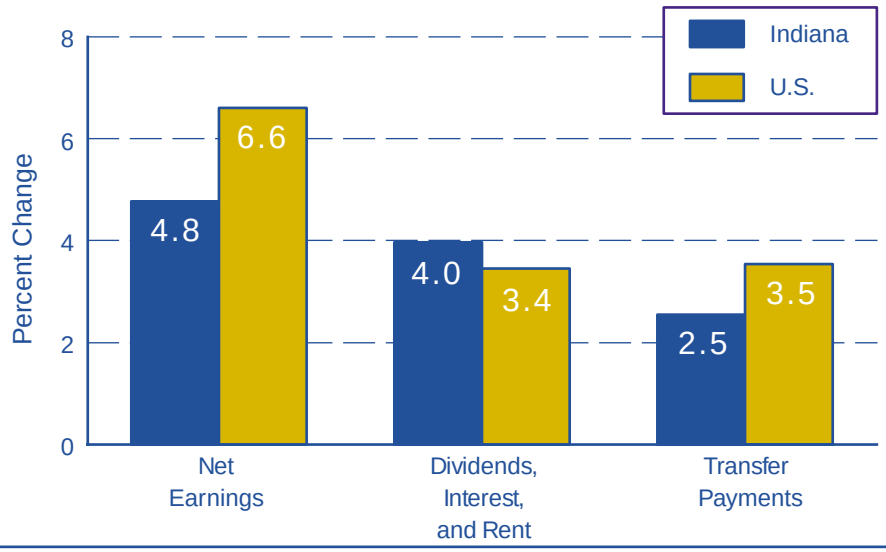
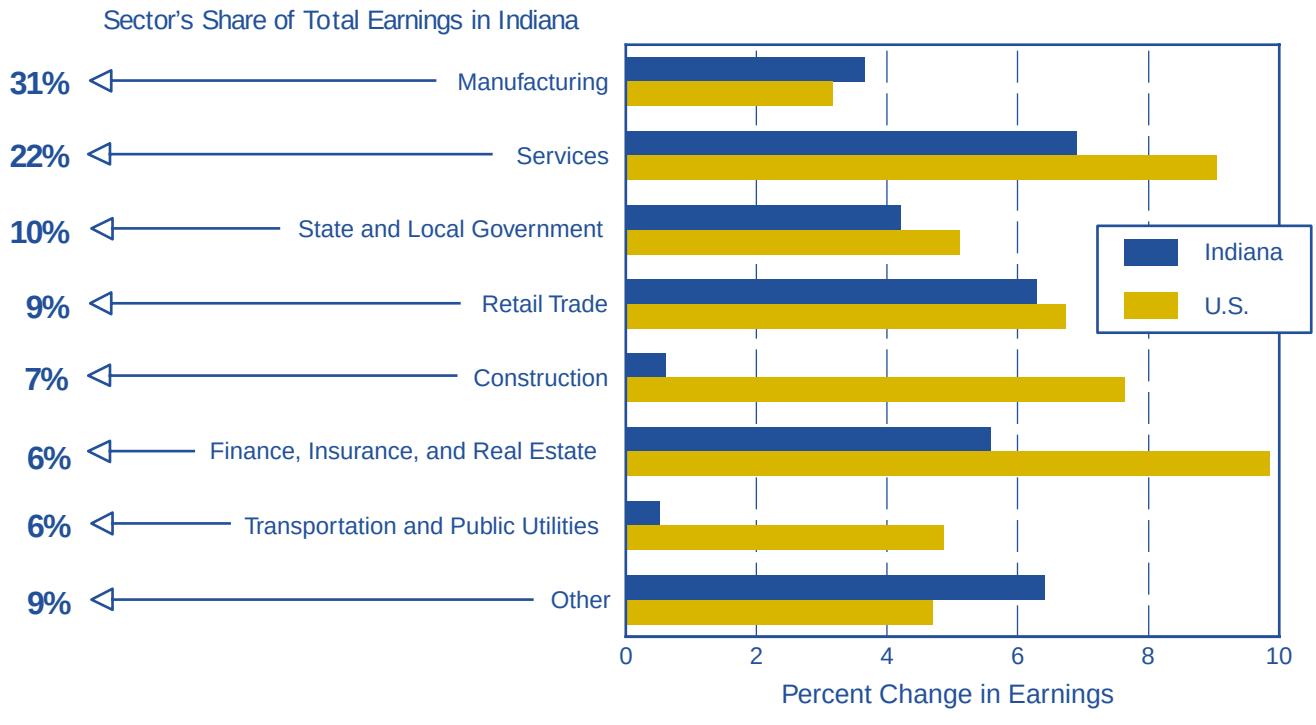


Figure 4: Earnings Growth in Indiana and the U.S. 3Q 1998 - 3Q 1999

Source: Bureau of Economic Analysis



Indiana Metro Areas Take Three of the Top 15 Spots

Employment growth figures just released by the Bureau of Labor Statistics show three Indiana metropolitan areas among the top 15 growth leaders in the nation thus far in 2000.

The Elkhart-Goshen, Kokomo and Muncie areas led the state's 11 metro areas to a 3.0% increase in non-farm jobs over January 1999, while the 273 metro areas of the nation recorded a 2.6% advance. Only Kentucky, of Indiana's four neighboring states, also exceeded the national figure. The metro areas of Illinois, Michigan and Ohio fell below 2% in employment growth (see figure 1).

The higher growth rate for Indiana metropolitan statistical areas (MSAs) was most pronounced in construction, government and retail trade (see figure 2). In the manufacturing sector, Indiana advanced in employment while the nation saw a contraction. The United States metro areas exceeded Indiana only in two sectors: transportation and public utilities and in services. For the nation's 273 metro areas, services dominated employment growth, accounting for nearly 50% of all added jobs. In Indiana, growth was more balanced with 26% in services and 24% in retail trade.

The 11 Indiana MSAs tracked by the Bureau of Labor Statistics (excluding New Albany) ranged in growth rates from 5.5% in Elkhart-Goshen to 0.4% next door in South Bend. Nearly half of all the jobs added in Indiana, between January of 1999 and the same month in 2000, were in the Indianapolis MSA. The Gary and the Ft. Wayne metro areas together added fewer jobs than did Elkhart-Goshen.

Figure 1: Employment Growth in Metro Areas January 1999 - January 2000

Source: Bureau of Labor Statistics

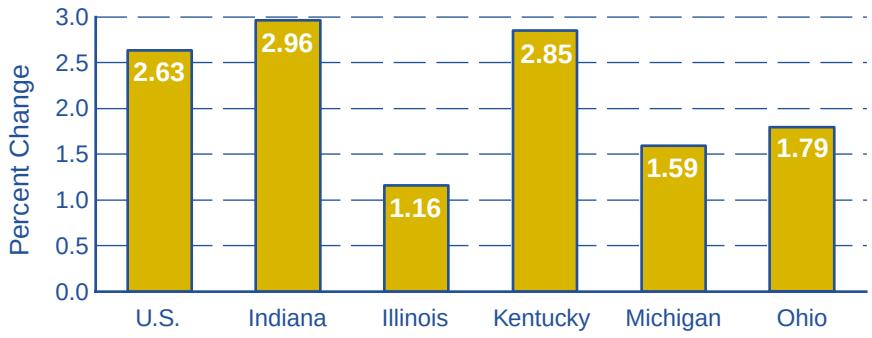


Figure 2: Employment Growth by Sector January 1999 - January 2000

Source: Bureau of Labor Statistics

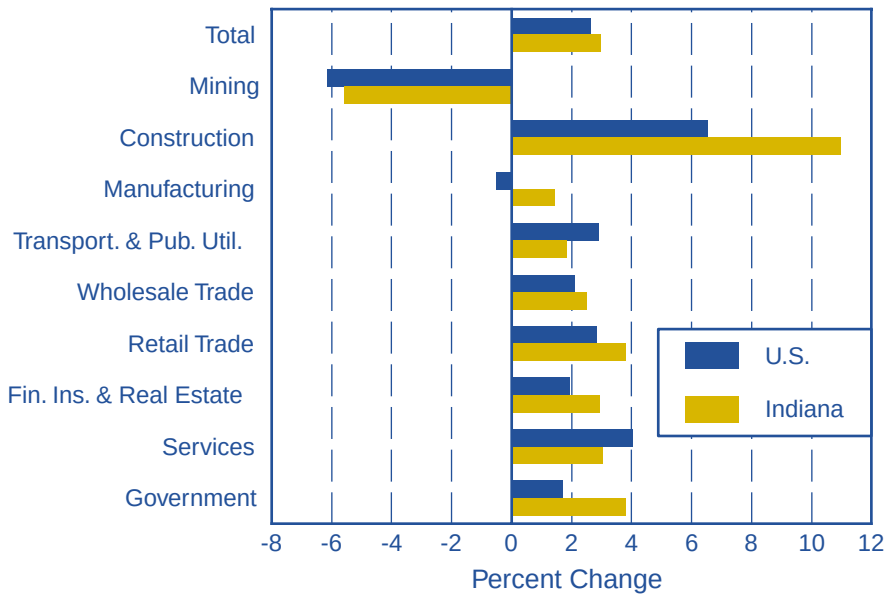
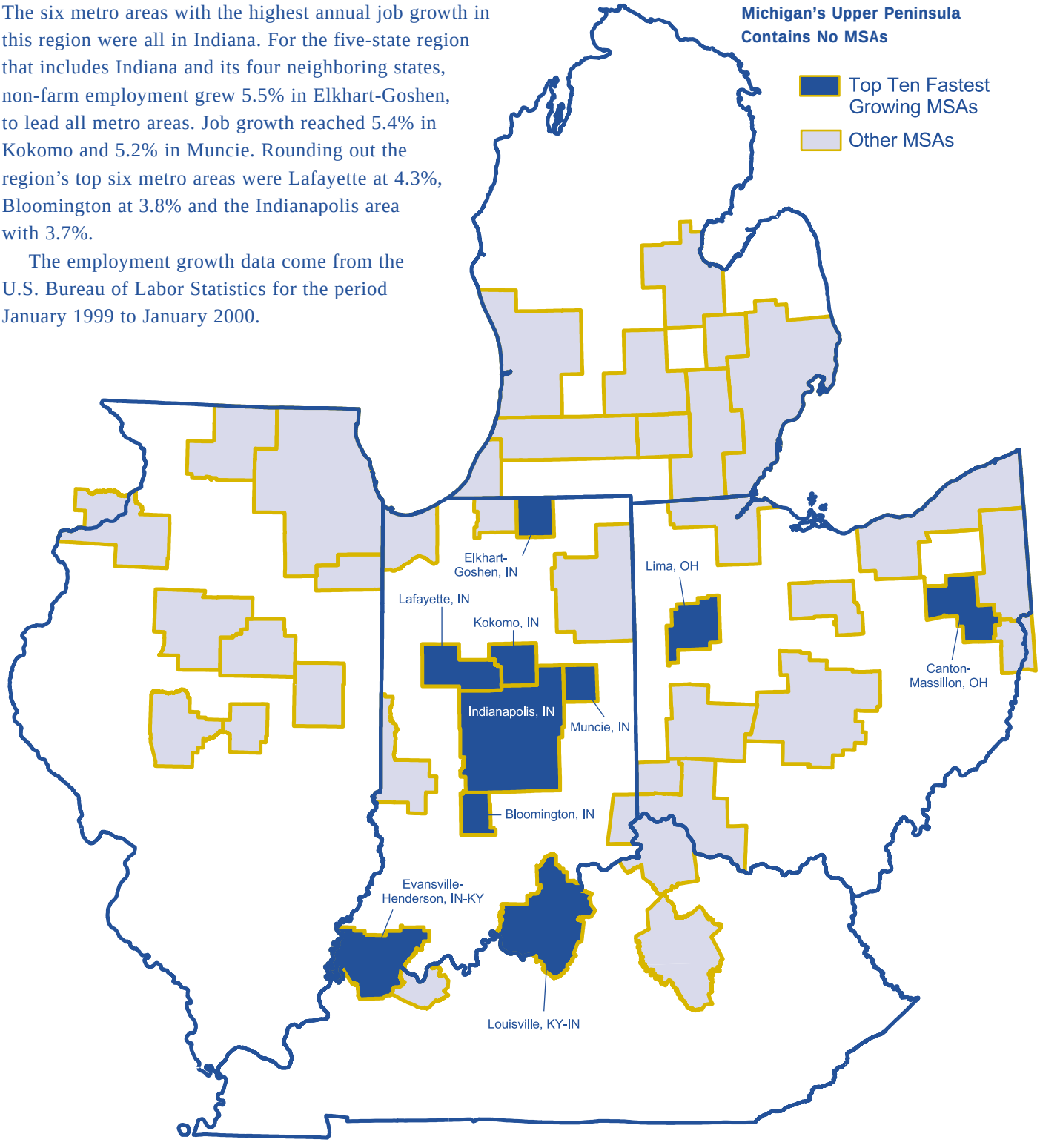


Figure 3: Metro Areas with Highest Employment Growth Rates

Source: Bureau of Labor Statistics

The six metro areas with the highest annual job growth in this region were all in Indiana. For the five-state region that includes Indiana and its four neighboring states, non-farm employment grew 5.5% in Elkhart-Goshen, to lead all metro areas. Job growth reached 5.4% in Kokomo and 5.2% in Muncie. Rounding out the region's top six metro areas were Lafayette at 4.3%, Bloomington at 3.8% and the Indianapolis area with 3.7%.

The employment growth data come from the U.S. Bureau of Labor Statistics for the period January 1999 to January 2000.



People, Jobs and Money: A Snapshot of the Indianapolis MSA

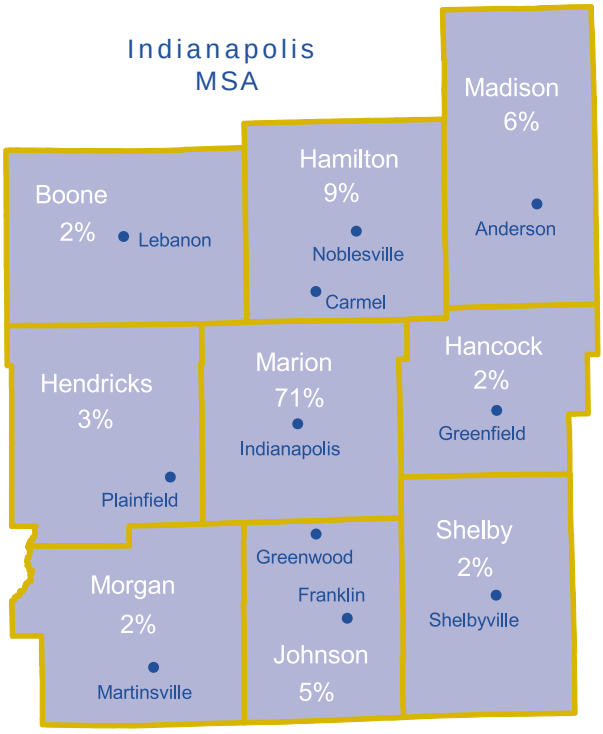
The Indianapolis metro area is made up of nine counties with very different economic structures. The nine Indiana counties that comprise the Indianapolis metropolitan statistical area (MSA) are Boone, Hamilton, Madison, Hendricks, Marion, Hancock, Morgan, Johnson and Shelby counties. The most current population estimates from the U.S. Bureau of the Census show that on July 1, 1998, the Indianapolis MSA accounted for 26% of the state's population. Looking at covered employment and wage data (data based on place of work, not residence) for third quarter 1998 shows that the MSA accounted for 29% of the state's employment and 32% of the wages paid in the state.

Marion County held more than half of the MSA's population (54%), accounted for 71% of the MSA's employment and 75% of the wages paid in the MSA in third quarter 1998. Not surprisingly, this indicates that while Marion County is indeed a center of population in the MSA and the state, it has an even higher concentration of employment (see figure 1).

Employment and wages in the eight counties that surround Marion County were led by Hamilton County, Marion County's neighbor to the north, with employment of 70,500 followed by Madison (45,900), Johnson (37,800) and Hendricks (26,200) counties. The remaining counties in the MSA each recorded employment between 14,000 and 17,000.

Figure 1: Share of Employment by County

Source: Bureau of the Census



These eight suburban counties have larger shares of the MSA's population than of its employment or wages. Morgan County's share of the MSA's population was twice its share of the MSA's employment.

Average quarterly wages paid in third quarter 1998 were highest in Marion County ($8,263) and Hamilton County ($7,850), both well above the state figure of $7,038. Average quarterly wages were lowest in Johnson County ($5,691), where the county's portion of employment in retail trade is high.

Economic Structure: Notable Features in Each County

Three industry sectors together accounted for almost three-fourths of the employment in the state in first quarter 1999. These dominant industries were services (31%), manufacturing (24%) and retail trade (19%).

Figure 2 shows the contributions to total employment by these three industries for each county in the Indianapolis MSA in first quarter 1999. Some notable features of the composition of employment in each county include:

- **Boone County**: The manufacturing industry's share of employment in Boone County was lower than for the state, while the construction industry's share of employment was higher than for the state.
- **Hamilton County:** The finance, insurance, real estate sector's share of employment in Hamilton County was the highest in the MSA (16%), while the manufacturing industry's share was lower than for the state.
- **Hancock County:** The three industries that comprised the majority of employment in Hancock County, along with their shares of employment were almost identical to the state: services (30%), manufacturing (25%) and retail trade (19%).
- **Hendricks County:** Retail trade's share of employment was high (28%) while manufacturing's share was lowest in the MSA (8%).

· **Johnson County:** Retail trade's share of employment was the highest in the MSA (34%).
· **Madison County:** Similar to the state, with average wages ($7,252) closest to the state's average wage of $7,406.
· **Marion County:** The service sector's share of the employment in the county was highest in the MSA, 36%.
· **Morgan County:** The service sector's share was the same as for the state (31%), but unlike the state, employment in retail trade exceeded employment in manufacturing.
· **Shelby County:** Manufacturing's share of employment was highest in the state (40%), while the service sector's share of employment was lowest in the state (22%).

Figure 2: Share of MSA Employment in Three Largest Sectors 1Q 1999

Source: Indiana Department of Workforce Development

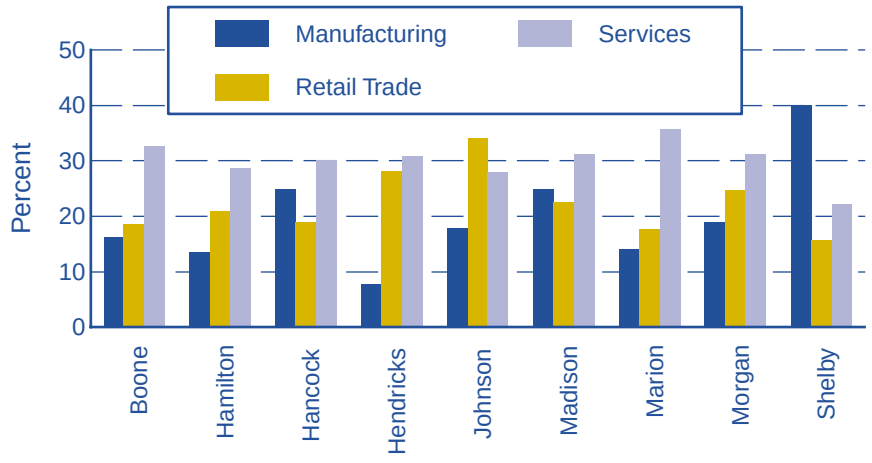
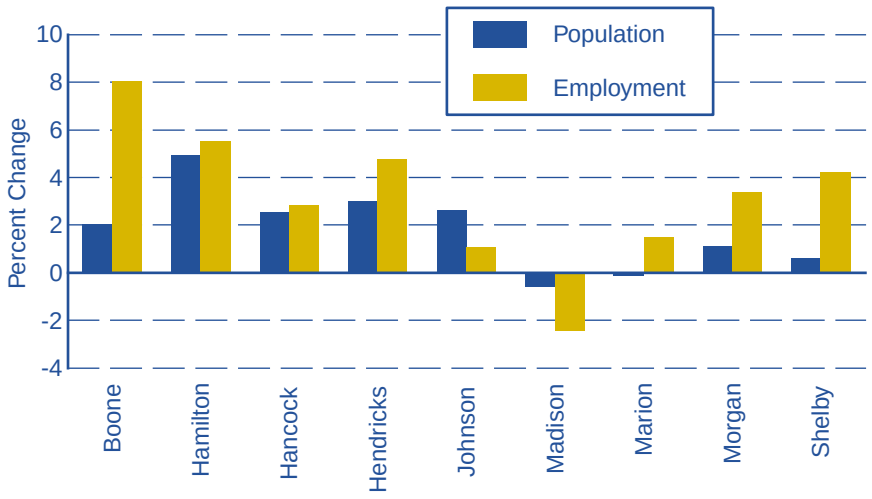


Figure 3: Change in Population and Employment, 1997 to 1998

Source: Indiana Department of Workforce Development



Population and Employment: Percent Change from Third Quarter 1997 to Third Quarter 1998

Six of the nine counties in the Indianapolis MSA experienced positive growth rates in both employment and population with growth rates for employment exceeding population growth rates during the same period: Boone, Hamilton, Hancock, Hendricks, Morgan and Shelby counties. In Boone County, the employment growth rate was four times the population growth rate, while in Shelby County the employment growth rate was seven times the population growth rate.

Johnson County grew in both population and employment, but with a population growth rate more than twice the employment growth rate.

Madison County experienced declines in both population and employment between third quarter 1997 and third quarter 1998.

Marion County experienced a slight decline in population with an increase in employment during the same period.

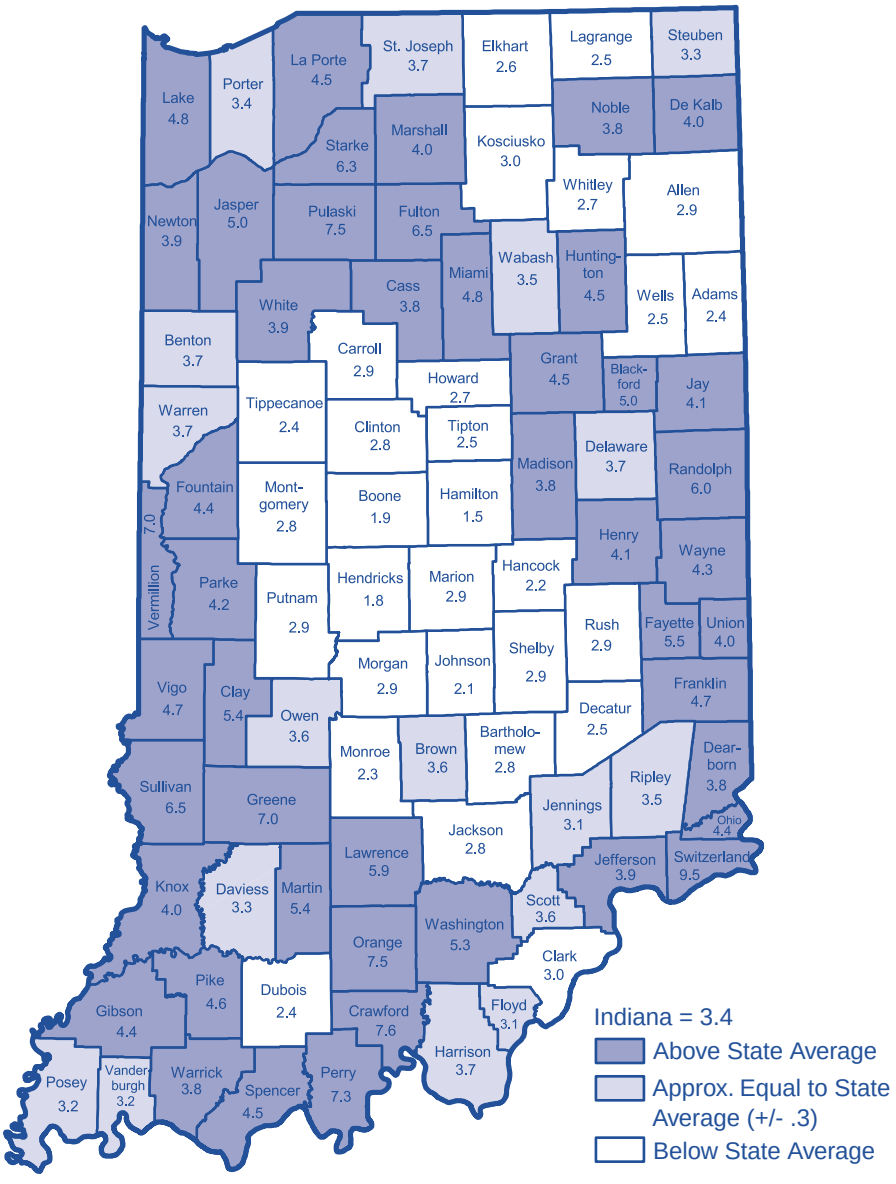
State Unemployment Rate Takes Normal Jump

Indiana's unemployment rate jumped to 3.4% in January, from 2.9% in December 1999. But that's normal. Nearly every year, unemployment in the state peaks in January, as Christmas retail jobs get cut back and other seasonal employment ends. Last year, the rate rose from 2.9% in December 1998 to 3.5% in January 1999.

By March the statewide unemployment rate normally returns to a level closer to its annual average.

Figure 1: January Unemployment Rates by County

Source: Indiana Department of Workforce Development



Metro Area Labor Force

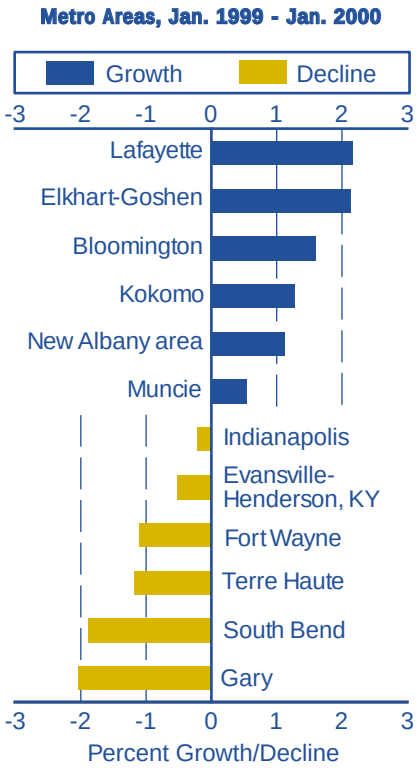
Labor force growth rates in Indiana's metropolitan areas varied widely over the past year. Lafayette's labor force grew fastest, up 2.2% from January 1999 to January 2000 (see figure 2). Growth in the Elkhart-Goshen metro area came in at 2.1%. South Bend and Gary each dropped about 2%.

From January 1999 to January 2000, Indiana's statewide labor force remained nearly unchanged, at about 3.1 million persons. In fact, during 1994 the state's labor force inched up from 2.9 million to nearly 3.1 million and it has stayed there, with only minor fluctuations, ever since.

The total U.S. labor force expanded by about 1.1% over the same period, so four Indiana MSAs beat that average.

Figure 2: Labor Force Growth Rate

Source: IN Dept. of Workforce Development



Indiana's Biomedical Industry Today (Part II)

In the second quarter of 1999, Indiana had 140 establishments that were primary producers of medical—and biotech-related products, with a combined employment of 27,117 workers. Employment in this industry accounts for less than 4% of Indiana's manufacturing workforce. Industry payrolls, however, amount to nearly 7% of total Indiana manufacturing payroll, with average weekly wages of $1,304. These wages exceed the state average for all private employment by 135% and the state average for manufacturing by 68%.

The Indiana Biomedical Industry, Second Quarter, 1999

Sectors	Establishments	Employment	Weekly Wage*
Pharmaceuticals	27	15,873	$1,611
Other Medicinal	13	380	557
Surgical Instruments	32	5,376	845
Surgical Appliances	43	4,920	938
Other Medical Equipment	17	459	809
Ophthalmic Goods	8	109	490
INDUSTRY TOTALS	**140**	**27,117**	**$1,304**
All Indiana Private Industries	148,123	2,543,636	$554
All Indiana Manufacturing Industries	9,879	690,261	$774

Source: Indiana Dept. of Workforce Development, Covered Employment and Wages; data collected and sorted by SIC Codes.

** Wages reflect second quarter only. Annual wages may actually be higher as they will include wages for all quarters. First- and fourth-quarter wages often include one-time annual bonuses.*

The Medical Device Sector in Detail:

The 1997 U.S. Economic Census permits a detailed look at the medical device sector of the medical and biotech industry. Unfortunately, data on the pharmaceutical sector is not available at this time due to confidentiality restrictions. The medical device sector is broken down under the new NAICS coding system (see sidebar description of NAICS) into eight product-related categories.

On first glance, the medical device sector may look weak in the high-skill, high-wage areas, but a closer look at the data suggests that medical devices is anything but a low-tech or low-wage sector. Surgical and medical instruments and surgical appliances and supplies dominate the sector. While instruments manufacturing is generally high-tech, the appliances and supplies sub-sector is often (but mistakenly) considered a low-technology, low-skill area in Indiana. In employment, the appliances and supplies sub-sector ranks fourth in the United States and in shipments/sales/receipts second nationally. Indiana also ranks second in average pay ($42,448) and is among the leading states in productivity in this sub-sector. The data indicate, therefore, that rather than being low-tech, surgical appliances and supplies are high-value products produced by a highly skilled workforce. The electromedical sub-sector is another high-skill, high-wage element of medical devices. Unfortunately, the number of workers employed by the electromedical devices manufacturers is difficult to isolate. Most manufacturers of electromedical devices are primarily electronics manufacturers and classified as such. Given Indiana's large electrical and electronics industry, there is a considerable amount of hidden electromedical-related employment.

NAICS

The North American Industry Classification System (NAICS) is replacing the U.S. Standard Industrial Classification (SIC) system. NAICS was developed jointly by the U.S., Canada, and Mexico to provide new comparability in statistics about business activity across North America. NAICS reflects the enormous changes in technology and in the growth and diversification of services that have marked recent decades.

Indiana's combined medical device sector, led by surgical appliances and supplies, is a major player in the national scene. Indiana surgical appliances and supplies ranks 15th in the total number of establishments nationally but ranks 11th in employment. In annual average wages, Indiana ranks ninth at $36,563, which is just under the national wage of $36,839. Most importantly, Indiana ranks seventh in total shipments/sales/receipts.

Trends in the Industry

Overall, employment in Indiana's medical and biotech industry has declined by 1.1% between 1989 and 1998. However, in the two largest medical device sectors, employment has increased at twice the rate of the nation. Growth in these sectors began to slow in 1998 and into 1999 in Indiana. U.S. employment figures do not clearly indicate if this is a local or national trend. Employment in the pharmaceutical sector in Indiana has declined while U.S. employment has risen; this trend should reverse as Eli Lilly and Company begins its major expansion over the next decade. The aging of the U.S. population is a factor that leads most industry analysts to anticipate continuing growth in each sector of this industry.

Indiana's Biomedical Future

Indiana, with its existing manufacturing base, research and educational facilities, and current public policy emphasis on high-technology business,

Indiana's Medical Device Sector

Classifications & Industry Data	Establishments	Employment	Payroll ($000)	Shipments/ Sales/Receipts ($000)
Electromedical & Electrotherapeutic	5	202	6,981	20,737
Irradiation Apparatus	6	157	4,837	26,916
Laboratory Apparatus & Furniture	8	135	4,376	16,727
Surgical & Medical Instruments	43	3,330	106,794	495,463
Surgical Appliances & Supplies	33	6,384	270,989	1,683,598
Dental Equipment & Supplies	17	692	19,115	55,319
Ophthalmic Goods	7	118	2,485	10,358
Dental Labs	150	949	21,971	67,748
Medical Devices Total	269	11,967	437,548	2,376,866

Indiana's Share of the U.S. Medical Device Sector

Industry Classifications	Establishments	Employment	Payroll	Shipments/ Sales/Receipts
Electromedical & Electrotherapeutic	0.9%	0.4%	0.3%	0.2%
Irradiation Apparatus	3.9%	1.1%	0.8%	0.7%
Laboratory Apparatus & Furniture	2.1%	0.8%	0.7%	0.8%
Surgical & Medical Instruments	2.7%	3.2%	2.7%	2.7%
Surgical Appliances & Supplies	2.0%	7.5%	9.1%	11.0%
Dental Equipment & Supplies	1.9%	3.9%	3.2%	2.1%
Ophthalmic Goods	1.2%	0.4%	0.3%	0.3%
Dental Labs	2.0%	2.4%	2.2%	2.3%
Medical Devices Total	2.0%	3.4%	3.3%	4.0%

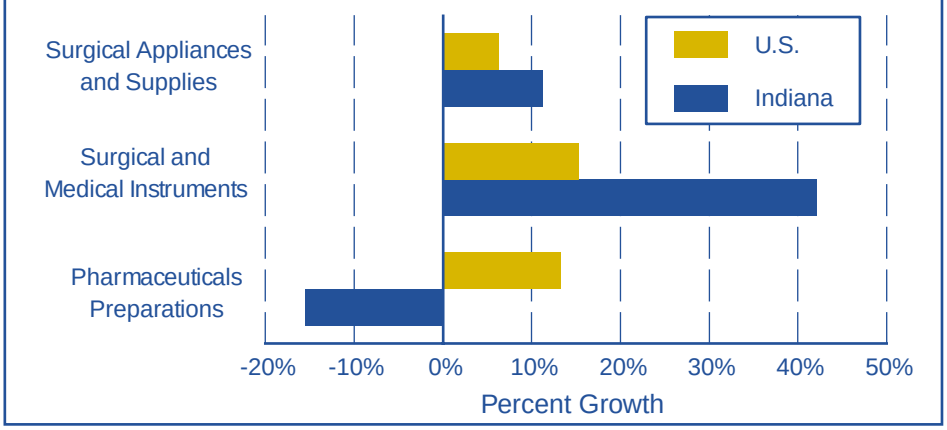
is in a position to see further growth in the medical and biotech industry. In addition to the well-broadcast expansion of Eli Lilly and other similar companies, efforts are underway to stimulate new ventures and entrepreneurialism in this industry. These efforts include the 21st Century Research and Technology Fund established by the State of Indiana to leverage federal research dollars, support technology transfer and stimulate new private-sector research. The state legislature has appropriated $50 million to the Fund for the 1999-2001 biennium. The state's two major research universities, Indiana University and Purdue University, also attract approximately $350 million in federal research grants each year. Of that amount, $200 million goes to research related to the biomedical and medical industry. Industry leaders including Clarian Health, Eli Lilly, Roche Diagnostics and Dow AgroSciences joined with the state's research universities and the City of Indianapolis to form the MedAmerica Research Corridor. The purpose of this statewide collaboration is to attract and nurture new biomedical companies interested in locating in central Indiana.

Nevertheless, risks to the industry's future growth also exist in Indiana. Because this is a targeted industry, heavy competition between states for new operations and expansions will be intense. At the same time, rising medical costs may place pressure on producers to reduce costs through employment cutbacks or relocations outside the U.S., where labor is less expensive. Even positive situations might cause short-term difficulties as companies compete for labor in a tight market.

By Ted Jockel and Leslie Richardson, Indiana Department of Commerce.

Figure 1: Employment Growth in Largest Biomedical Sectors

Source: Bureau of Labor Statistics



Changes in the Biomedical Industry, Indiana & U.S., 1989-1998

	Establishments		Employment		Payroll		Wages	
	Indiana	U.S.	Indiana	U.S.	Indiana	U.S.	Indiana	U.S.
Pharmaceuticals Preparations	-22.6%	26.5%	-15.5%	13.3%	96.0%	100.5%	131.8%	77.0%
Other Medicinal	7.7%	79.0%	247.1%	53.4%	348.8%	130.8%	29.3%	50.5%
Surgical & Medical Instruments	0.0%	36.3%	42.1%	15.2%	102.7%	85.5%	42.6%	61.0%
Surgical Appliances & Supplies	46.2%	25.9%	11.2%	6.2%	112.9%	66.8%	91.5%	57.0%
Other Medical Equipment	-36.4%	53.2%	14.7%	42.5%	123.3%	140.2%	94.7%	89.3%
Ophthalmic Goods	0.0%	-10.2%	50.0%	-12.5%	95.2%	36.2%	30.1%	55.6%
INDUSTRY TOTAL	1.4%	31.4%	-1.1%	16.4%	96.3%	99.6%	65.4%	78.1%

Source: U.S. Bureau of Labor Statistics, Current Employment Survey; data collected and sorted by SIC Codes.

INCONTEXT

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for research and operations in the Kelley School at IU. He heads the econometric modeling center. He believes current oil prices won't slow things much.

"Certain industries, like airlines, get hit when oil prices go up," said Dr. Green. "But in general, the number of barrels of oil per dollar of GDP has been falling. So the economy isn't as sensitive to higher oil prices. If prices continue to rise, though, beyond $30 per barrel, that may well put a damper on consumer spending."

A bigger factor in the outlook may be the unpredictable stock market. Said Dr. Green, "Our research shows a wealth effect from rising equity prices to be a factor in consumer spending. If the stock market takes a big drop and stays down, we'd expect to see much slower growth."

IN Depth:

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

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