IN CONTEXT

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Unemployment Rate Reaches All-Time Low

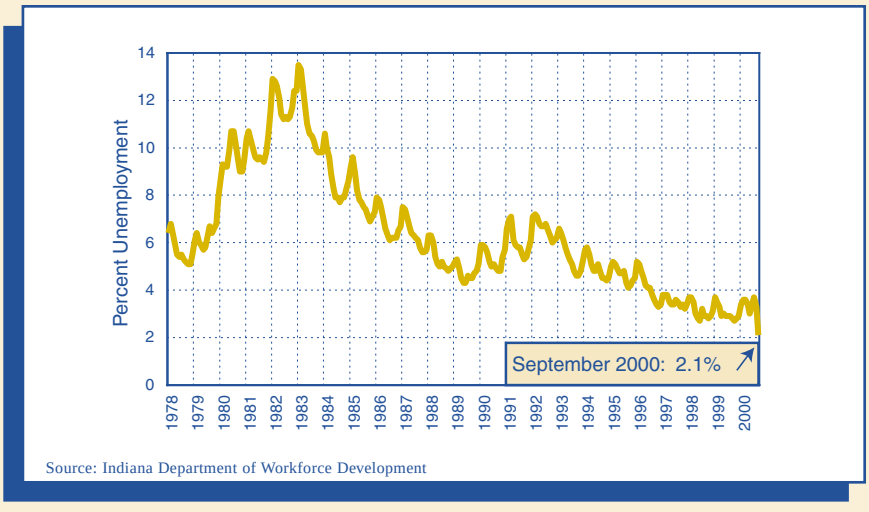
The unemployment rate in Indiana for September came in at 2.1%, the lowest rate ever recorded. The state rate, on a non-seasonally adjusted basis, had been in the neighborhood of 3% throughout the year 2000 to date. August's rate was 3.3%.

The magnitude of September's drop has focused increased attention on the normal margin of error in the unemployment rate numbers. The unemployment rate, after all, is not the result of a count of unemployed people. The rate is estimated every month from a survey of a small number of Hoosier households. And it turns out that there is a reasonable possibility the rate was still around 3% in September: an estimate of 2.1% is within an expected range for the calculation based on the survey. In this month's *IN Context*, the "IN Local Areas" section beginning on page 5 provides further discussion of this record low unemployment rate.

In this season when turkey dinners are in the spotlight, *IN Context* takes a look at the food-processing industry in Indiana. At the state level, the food-processing industry accounts for about 1.2% of all nonfarm employment in Indiana (see "IN the Spotlight" on page 2). Grain milling is an especially big part of the industry in Indiana, placing the Hoosier state sixth in a national ranking of total payroll in that sector.

Indiana has the third-lowest poverty rate in the nation, according to figures analyzed for this month's *IN Context*. Details and other state comparisons begin on page 8, in the section titled "IN the News."

Record low unemployment rate:
See 'IN Local Areas' on page 5 for more details



Source: Indiana Department of Workforce Development

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Indiana Unemployment Rate for September 2000: 2.1% Down from 3.3% in August

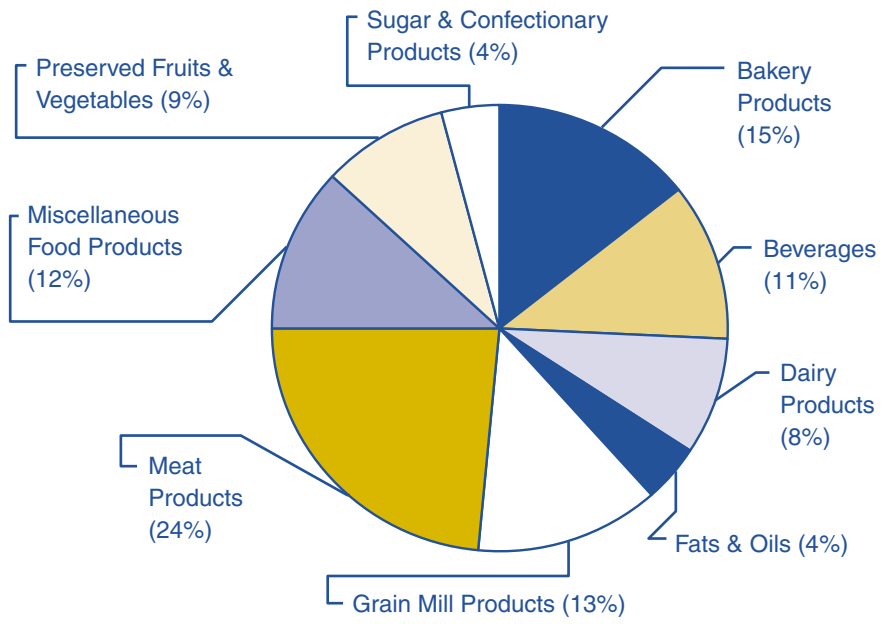
The Food-Processing Industry in Indiana

From your Thanksgiving turkey to your favorite pop, the food-processing industry includes an eclectic variety of products. The general groupings within food processing, and their relative size in terms of employment, are shown in Figure 1. According to the most recent Covered Employment and Wages Survey data from the U.S. Bureau of Labor Statistics, Indiana's food-processing industry consists of 439 establishments employing more than 34,000 people (see Table 1). This represents 5% of Indiana's manufacturing employment in 1999 and only 1.2% of the state's total non-farm employment.

The majority of food processing takes place either at the point of agriculture production or at the place of food consumption. Therefore, most production will either be in states like California, Illinois, Ohio, Pennsylvania and Texas (consumption by population) or Arkansas, Georgia, Illinois, Iowa and Nebraska (agriculture production). To mitigate the effect of population, it is possible, using the 1997 Economic Census, to rank the top five food-processing states

Figure 1: 1999 Food-Processing Industry Employment

Meat Products sector employs the largest percentage



Source: U.S. Bureau of Labor Statistics

Table 1: Food-Processing Industry, Relative to Manufacturing & All Industries

Industry Sector	Establishments	Employment	Average Annual Wages	Wages as a % of Manfacturing Wages	Wages as a % of Total Private Wages
All Industries	153,890	2,905,306	$30,035		
Manufacturing Industries	9,847	690,031	$41,532		
Food-Processing Industry Totals	439	34,363	$32,837	79%	109%
Bakery Products	83	4,930	$30,681	74%	102%
Beverages	45	3,923	$40,079	97%	133%
Dairy Products	38	2,911	$33,992	82%	113%
Fats & Oils	22	1,436	$44,875	108%	149%
Grain Mill Products	72	4,498	$44,515	107%	148%
Meat Products	74	8,070	$24,004	58%	80%
Miscellaneous Food Products	58	4,090	$29,871	72%	99%
Preserved Fruits & Vegetables	35	3,093	$33,625	81%	112%
Sugar & Confectionary Products	14	1,412	$25,759	62%	86%

Source: U.S. Bureau of Labor Statistics, Covered Employment and Wages

by value of shipments per capita (see Table 2).

Certainly due to Indiana's renowned agricultural tradition, the perception exists that it is also a major food-processing state. Indiana does rank among the top 10 producers of dairy products, processed grain and soft drinks in terms of employment, payroll and value of shipments (see Table 3). Although Coke or 7-Up cannot really be considered food, a major ingredient of soft drinks is the corn syrup produced by wet corn milling facilities in Indiana. Nevertheless, food-processing enterprises by no means dominate the state's economy. Within manufacturing alone, the industry is relatively small compared to motor vehicle production, metals, electronics and industrial machinery.

Wages within the food-processing industry vary significantly depending on the product area (see Figure 2 on page 4). Wage differences can be explained, at least in part, by the variation in production methods and in the accompanying skill requirements. For example, wet corn milling involves high-skill, complex manufacturing processes and produces high-demand goods such as corn syrup, fructose, gluten and others. Wages in this area are significantly higher than in the meat-processing industry, where employees are not required to be highly skilled.

Given the advanced nature of Indiana's manufacturing sector as a whole, it is not surprising to find that food-processing wages are below the

(continued on page 4)

Table 2: Top Food-Processing States Ranked by Industry Value of Shipments Per Capita, 1997

Rank	Animal Feeds	Bakeries & Tortillas	Dairy Products	Fruit & Vegetable Preserving & Specialty Food	Grain & Oilseed Milling	Meat Products	Other Food Products	Soft Drinks & Ice	Sugar & Confectionary Products
1	Iowa	Tennessee	Wisconsin	Idaho	Iowa	Nebraska	Maryland	**INDIANA**	Pennsylvania
2	Delaware	Illinois	Vermont	Oregon	Nebraska	Kansas	Georgia	Georgia	Illinois
3	Arkansas	North Dakota	Idaho	Wisconsin	North Dakota	Iowa	Illinois	Iowa	Louisiana
4	Nebraska	Pennsylvania	Iowa	Arkansas	Illinois	Arkansas	Louisiana	Oklahoma	Tennessee
5	Kansas	Georgia	South Dakota	Washington	Arkansas	South Dakota	Missouri	Texas	Minnesota

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

Table 3: Worker Productivity in Indiana's Food-Processing Industry, 1997

Industry	Establish-ments	National Rank	Employees	National Rank	Annual Payroll ($1,000)	National Rank	Shipments/ Sales/ Receipts ($1,000)	National Rank
Animal Food	51	**15**	1,677	11	48,664	13	840,106	15
Bakeries and Tortillas	155	**18**	7,645	13	219,461	12	1,269,983	12
Dairy Products	33	**16**	4,750	8	180,022	7	2,197,874	9
Fruit/Vegetable & Specialty Food	25	**18**	2,033	21	52,469	20	547,337	22
Grain & Oilseed Milling	26	**14**	2,868	8	122,023	6	2,493,907	6
Meat Products	63	**24**	7,742	20	166,800	20	1,795,820	20
Other Food Products	50	**20**	4,820	8	144,795	8	1,197,930	14
Soft Drinks & Ice	27	**12**	2,244	9	76,635	9	1,483,137	6
Sugar & Confectionary	43	**14**	1,527	18	33,953	20	277,545	18

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

IN the Spotlight

(continued from page 3)

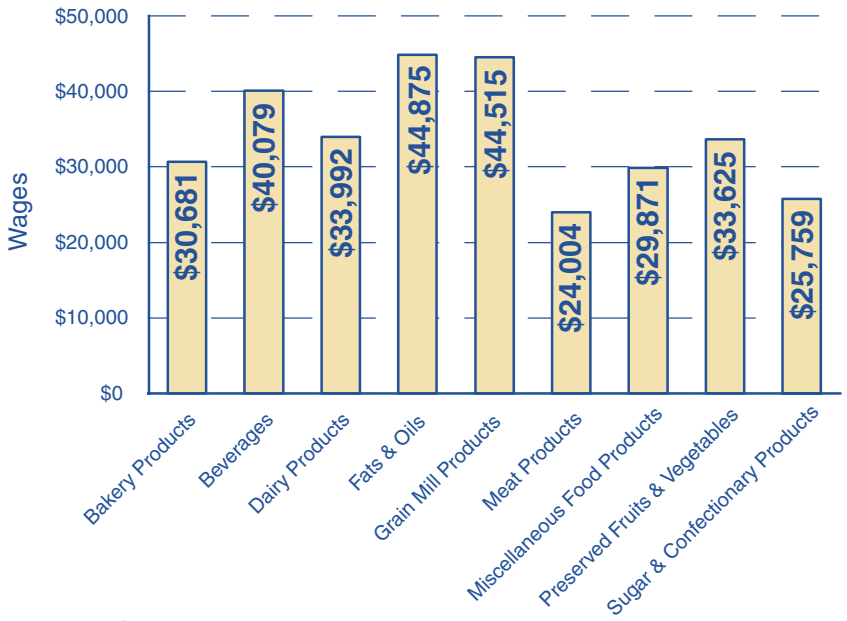
state average (see Table 1). On average, a manufacturing worker in Indiana will earn just over $41,000 per year, while those within food processing will average around $33,000 annually. Nevertheless, the average food-processing wage is approximately 9% higher than Indiana's overall average wage of approximately $30,000. Again, the variation in wages is not surprising given the variation in skill requirements across industries.

The productivity of the food-processing industry can be estimated using the dollar value of shipments per worker. Using the 1997 Economic Census for Indiana, three areas — grain processing, soft drinks and animal food, respectively — have the highest levels of productivity in the industry (see Figure 3). Generally, the level of value added during the production process will increase the value of shipments per worker — a trend that is reflected in these productivity results.

Technical Note: *The 1999 food-processing data available through the Bureau of Labor Statistics are organized by Standard Industrial Codes (SIC). The 1997 Economic Census data, however, are organized by the new North American Industry Classification System. Therefore, the categories seen in Table 1 and Figures 1 and 2 will be different than those in Tables 2 and 3.*

Figure 2: 1999 Food-Processing Industry Wages in Indiana

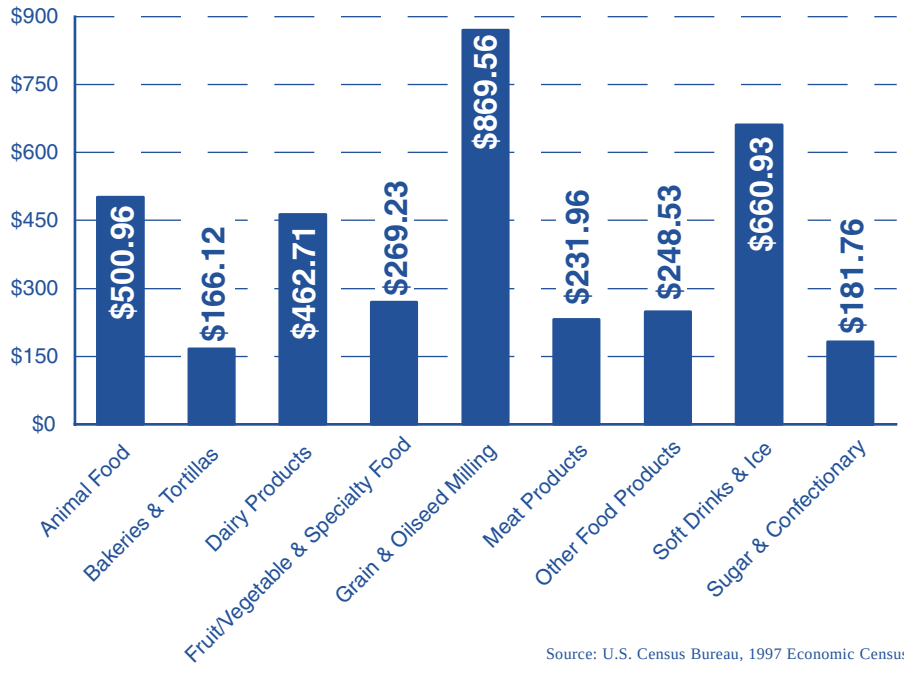
Complex processes result in highest wages



Source: U.S. Bureau of Labor Statistics, Covered Employment and Wages

Figure 3: Worker Productivity in Indiana's Food-Processing Industry, 1997

Productivity is measured by value of shipment per worker



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

Record Low Unemployment Rate: How the Numbers Work

The unemployment rate in Indiana dropped to 2.1% for September, according to statistics released by the Indiana Department of Workforce Development. That's the lowest unemployment rate ever recorded in Indiana since the government began keeping track during World War II (see Figure 1).

But was unemployment actually that low? Or are we merely seeing some normal variation in the statistics, with no real change in unemployment? The question arises because the unemployment rate does not come from a physical count of unemployed people. Nor does it come from a count of all unemployment claims.

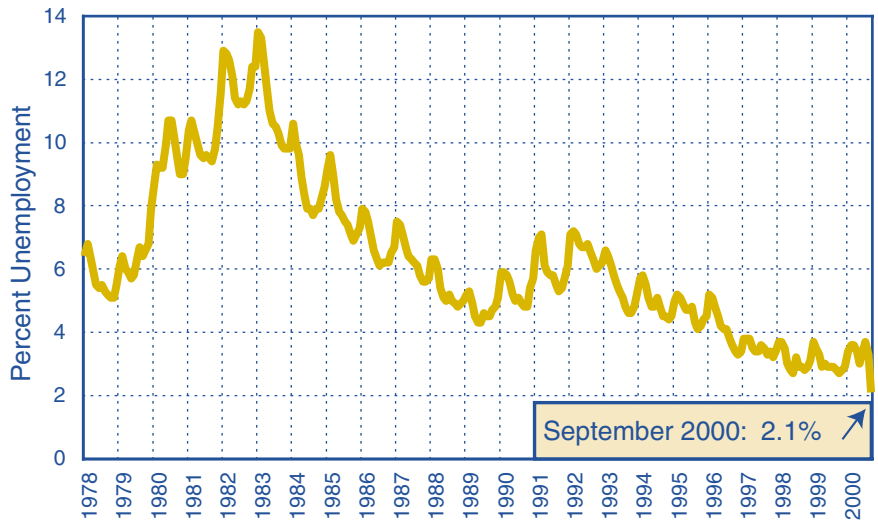
The percentage figure for the state unemployment rate is derived from advanced statistical formulas developed by the U.S. Bureau of Labor Statistics. The formulas take several factors into account, but they rely mainly on a monthly survey of a small sample of Hoosiers, conducted by BLS and the U.S. Census Bureau.

In other words, the rate is an estimate — a carefully calculated one, done by labor force experts, but it's an estimate. And it's an estimate based on a small sample size. So every month, there's a normal margin of error.

The Indiana Business Research Center in the Kelley School of Business at Indiana University analyzed these numbers, in cooperation with the Labor Market Information division at the Department of Workforce Development and with BLS. The results of this analysis indicate that the estimate for September may be farther off the true unemployment rate than usual. Several facts support this suspicion.

Figure 1: Indiana Unemployment Rate by Month

January 1978 – September 2000, not seasonally adjusted



Source: Indiana Department of Workforce Development

Small sample size

The federal government's monthly survey of Indiana contacts only about 800 households. In a typical month this year, about 25 people reported themselves as unemployed in this survey. In September, only 12 people said they were unemployed. Based on those 12 responses, the formulas came up with an estimated statewide unemployment rate of 2.1% (not seasonally adjusted).

In other words, just a tiny handful of people was the basis for the big drop in the unemployment rate.

Abnormal one-month drop

Not only was Indiana's unemployment rate at a record low in September, but it also showed a record one-month drop. August's rate was 3.3% (not seasonally adjusted), which was about average for the year 2000 so far (see Table 1 on page 6). That means in September, Indiana's unemployment rate dropped 36% — in one month. During the last 10 years, there have been only a few instances of double-digit monthly change in the rate. The largest one up to now was just 19%, the rise in the rate from December 1998 to January 1999.

Where did the people go?

After the formulas calculate the unemployment rate percentage for the month, that percentage is used to estimate the number of people who were unemployed. In every month so far this year, the estimated number of unemployed has been around 100,000 people (Table 1). August's estimate was a little more than 104,000. In

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IN Local Areas

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September, though, the number fell below 66,000. Is it likely that about 35,000 people suddenly found work in one month, after being unemployed all year?

Within normal variation

At first glance, it seems unlikely that the state's unemployment rate would change so much over the course of one month. It is possible, though, to judge how likely it is that the calculated rate would change that much while the actual number of unemployed people did *not* change. Maybe even with an unemployment rate around 3% the survey has a good chance of estimating it at 2.1%.

One way to look at this possibility would be to use the normal margin of error calculated by BLS for its unemployment survey. The survey must use a small sample size in Indiana partly because of federal budget cuts. Even so, experts at BLS and DWD have designed the calculation so that it is accurate to within a commendably narrow range.

There is, however, no published margin of error for the monthly survey. The *annual* average unemployment number is said by BLS to be accurate to within plus or minus about 16,000 people. (That range represents about a 10% confidence interval.)

A margin of plus or minus 16,000 people applies to the annual average, though, which exhibits far less variability than the monthly numbers. We don't know what the normal margin of error would be for the monthly numbers. Presumably it would be at least two or three times larger than the annual interval, so a difference of 35,000 people in one month is within the expected range.

Seen another way, suppose the *true*, statewide unemployment rate in September was 3%, no different from the average so far this year. That means there should be 24 unemployed people in the federal survey's sample of 800 people in Indiana. But it's such a small sample. What are the chances of finding only 12 unemployed people in that small sample?

There are more than 3 million people in the labor force in our state. About 100,000 are unemployed, so how many unemployed will show up if we pick a sample of just 800 out of the 3 million? Obviously, sometimes we'll get 24 unemployed people in the sample. But by picking a sample of only 800, sometimes we won't find 24 unemployed people in one particular sample. Sometimes we might get 26, or 20, or 29, or 16. We might even get only 12. According to normal probabilities, the chances of getting only 12 are somewhere between one in 10 and one in 20. Once every couple of years, then, the monthly survey easily could be that far off. It would be considered normal variation. Therefore, it's safe to say that September's unemployment level *could* have been unchanged from August.

Was September's unemployment rate really a record low 2.1%? We don't know. The true rate could have stayed at this year's average of 3%, and an estimate of 2.1% would be within the normal margin of error.

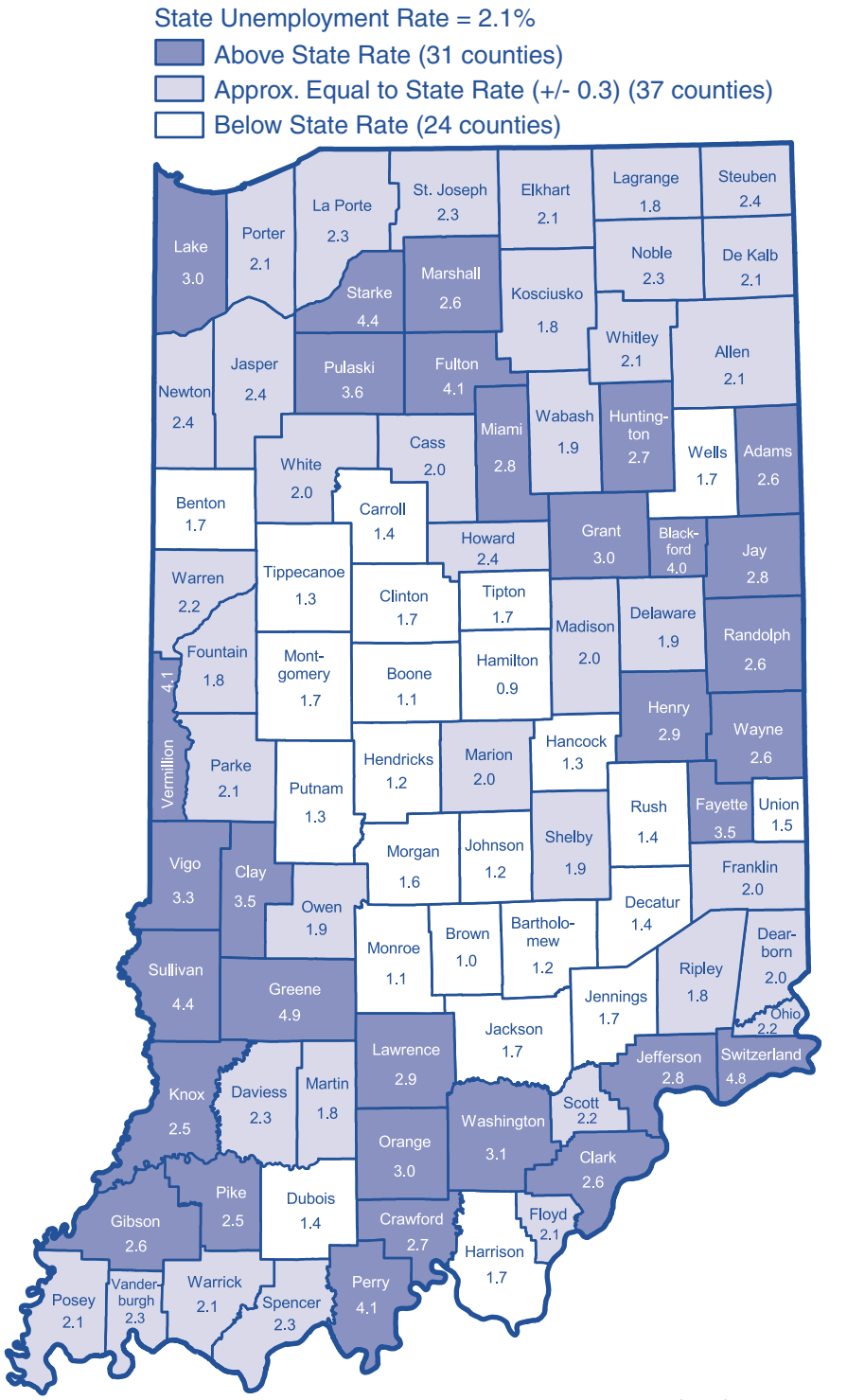
Table 1: Indiana Unemployment and Jobs Data for 2000
September's big change could be normal statistical variation

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Unemployment Rate	3.4	3.6	3.6	3.4	3.0	3.4	3.7	3.3	2.1
Number Unemployed	105.0	111.2	109.7	105.6	94.5	105.8	115.7	104.3	65.9
Change in Number of Jobs	104,977	111,240	109,689	105,557	94,530	105,773	115,656	104,322	65,933

Source: Indiana Department of Workforce Development — Data are not seasonally adjusted

Figure 2: September Unemployment Rates by County

The national unemployment rate for September was 3.8%



Source: Indiana Department of Workforce Development

So did Indiana's unemployment rate really take a major drop in September? Or did normal variation in the sample throw off the estimating formulas? We don't know. All we know is that the formulas came up with an estimate of 2.1% for September, but that estimate is within the expected variation around a 3% average.

October's results will not help us decide, either: Most of the 800 people contacted for the federal survey in October were the same people contacted in September.

County unemployment rates are calculated from the statewide estimate. September's low estimate for the state drove many county rates down to record low numbers.

Poverty in the United States

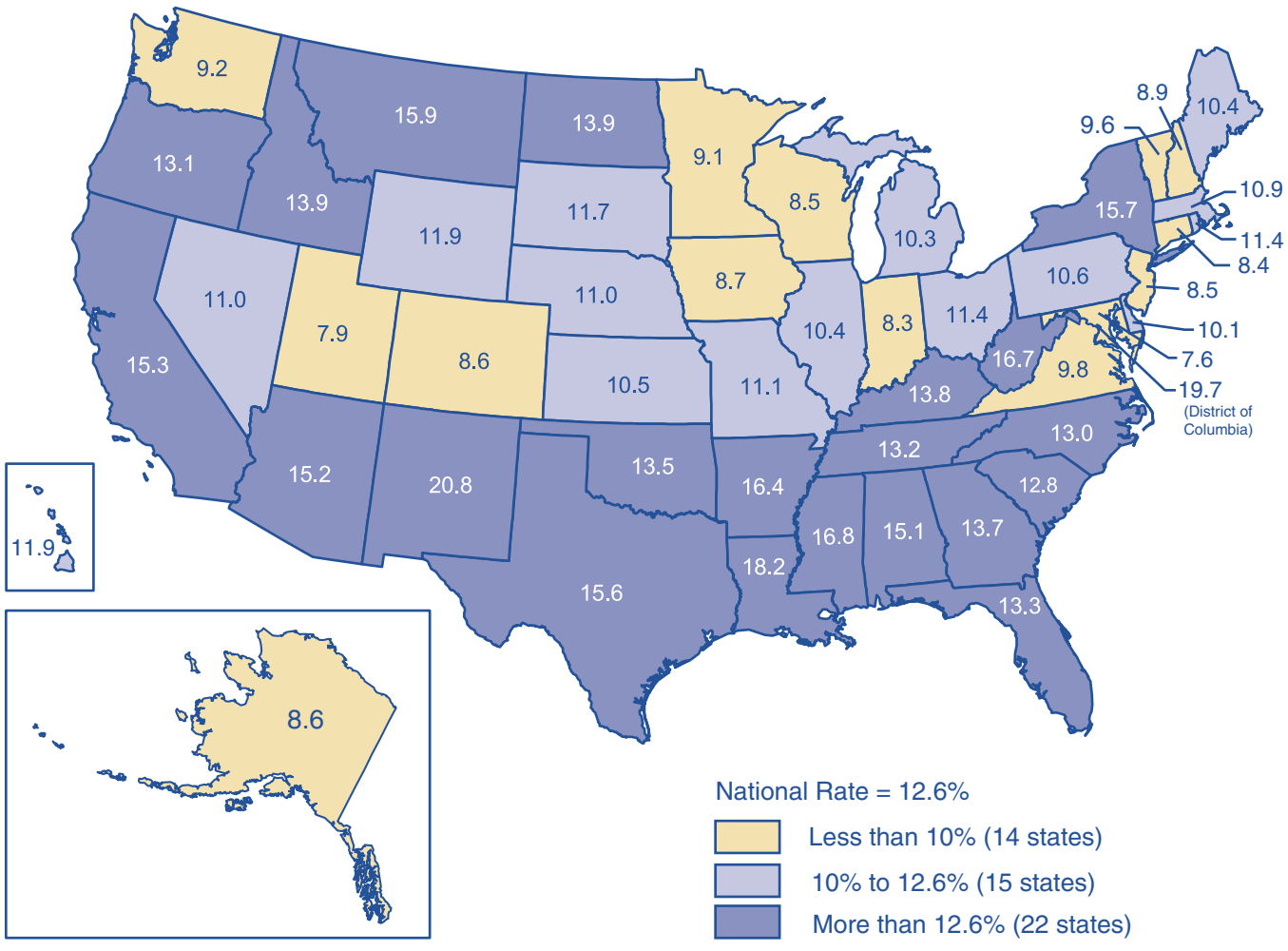
Indiana has the third-lowest poverty rate in the nation, according to the U.S. Census Bureau (see Figure 1). On average, 8.3% of Indiana residents lived in poverty between 1997 and 1999. Nationally, poverty afflicts 12.6% of the population, or 34.4 million people. Imagine — 34.4 million equals the entire population of Indiana times six, and they all live in poverty. Yet current poverty rates are the lowest since the late 1970s, even when broken down by age or race and ethnicity.

Unfortunately, lower poverty rates do not necessarily mean that fewer people are in poverty relative to the past. The rate is only a percentage of the total population, which has grown since the 1970s. For example, in 1980, 12.6% of the population would have equaled 28.5 million people compared to today's 34.4 million because the U.S. population has grown by 46.2 million since 1980. So while the proportion of the population in poverty may be the same, 5.9 million more people — approximately the population of Indiana — live in poverty today than in 1980 had the rate then been 12.6%.

Looking closer to home, Indiana has the fewest number of people in poverty

Figure 1: Percent of People in Poverty by State, 1997–99 Three-Year Average

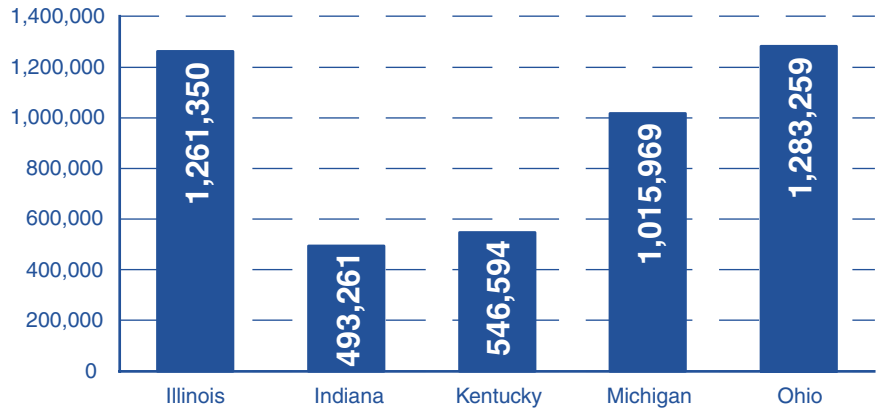
50 states and District of Columbia



Source: U.S. Census Bureau

Figure 2: Number of People Living in Poverty, 1997–99 3-Yr. Average

Large-population states have largest number of people in poverty



Source: U.S. Census Bureau, Current Population Survey

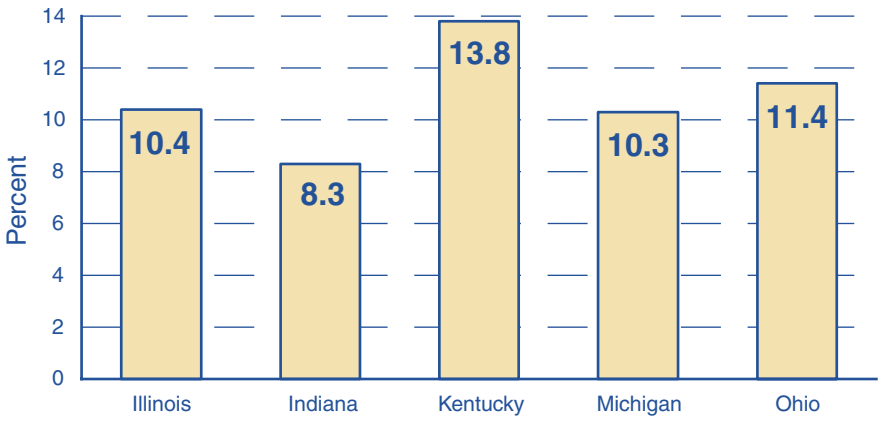
Table 1: Poverty in Indiana and Surrounding States, 1997–99 3-Yr. Average

State	Population Estimate 1999	Three-Year Average Poverty Rate	Number of People in Poverty
Illinois	12,128,370	10.4	1,261,350
Indiana	5,942,901	8.3	493,261
Kentucky	3,960,825	13.8	546,594
Michigan	9,863,775	10.3	1,015,969
Ohio	11,256,654	11.4	1,283,259

Source: U.S. Census Bureau, Current Population Survey, March 1998, 1999 and 2000

Figure 3: Regional Poverty Rates, 1997–99 3-Yr. Average

Indiana's poverty rate was lower than the surrounding states



Source: U.S. Census Bureau, Current Population Survey

compared to its surrounding states (see Figure 2). With a poverty rate of 8.3%, there are 490,000 Hoosiers living in poverty (see Table 1 and Figure 3). Kentucky has the largest percentage of impoverished residents (13.8%), while Ohio has the highest number of individuals living in poverty (1.2 million). Poverty levels by state are often used to distribute federal funding for programs such as the Children's Health Insurance Program (CHIP), Head Start and the National School Lunch Program. Workforce-development funding and Community Development Block Grant allocations are also influenced by state poverty rates. These programs are far more effective at redistributing our nation's wealth than changes to our tax structure, according to the Census Bureau's June report on income distribution.

Defining poverty

Individuals and families are considered impoverished if their pre-tax income falls below the U.S. Census Bureau's poverty thresholds. The thresholds are based on two variables resulting from past research done by the U.S. Department of Agriculture:

• the cost of the "economy food plan," which provided a nutritionally adequate diet for the least amount of money, and

• evidence that a family of three or more persons spends approximately one-third of their income on food.

Thus, to survive, a family of three would need an income of at least three times the cost of the economy food plan. The result is then adjusted by

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Food-Product Workers Bring Home the Bacon

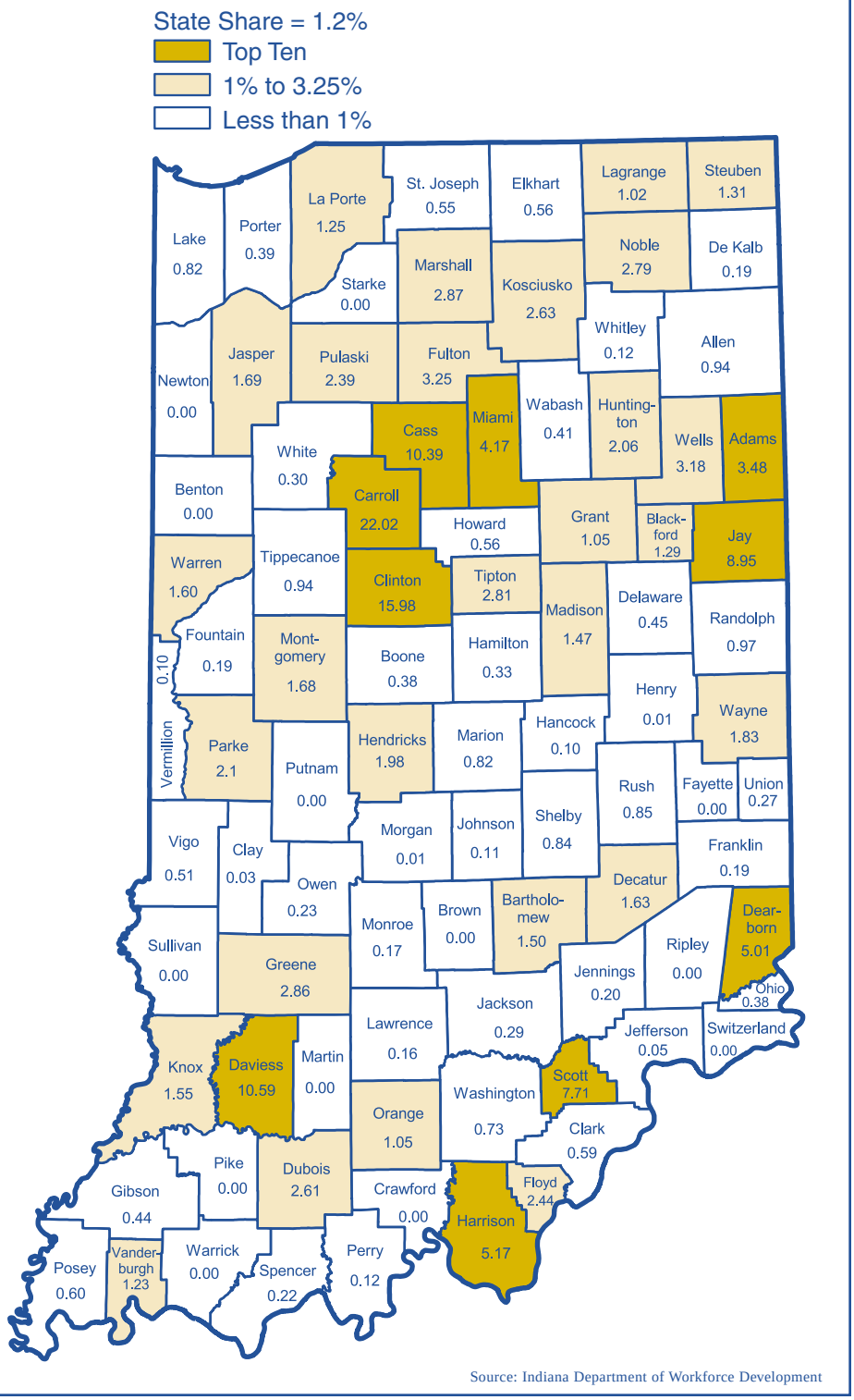
Recent tabulations of workers covered under Indiana's unemployment insurance laws indicate that employment in the food-product industry is distributed among many Hoosier counties and across a wide range of specific industry categories. This industry group includes meat-packing plants and poultry processing along with the production of sausages and other prepared meats, bread, cake, candy, bottled and canned soft drinks, and potato chips and similar snack items. Also included are prepared feeds for livestock and fowl. "IN the Spotlight" on page 2 presents detailed state-level information on Indiana's food-processing industry, while this section focuses on county data.

Less than 1% of the workforce was employed in the food industry in the majority of Hoosier counties.

Figure 1 depicts the share of covered employment in the food-processing industry for each Indiana county. The 10 counties with the highest share of workers in food processing are somewhat scattered around the state, with six in the north and four in the south. Food's employment share in these top 10 counties ranged from 22.0% in Carroll County to 3.5% in Adams County. Less than 1% of the

Figure 1: Food Industry's Share of Employment, by County, 1999:4

Few counties have a high concentration of food-processing employment



Source: Indiana Department of Workforce Development

workforce was employed in the food industry in the majority of Hoosier counties, including 13 counties that report no workers in this industry.

While food-industry employment is relatively small on the state level, in a three-county region consisting of Clinton, Cass and Carroll counties (see Figure 2), the food industry is a major player in the local economy.

The three-county region accounts for only about 1% of the state's total employment and less than 2% of the state's population. However, the region accounts for 15% of the state's food-industry employment (see Figure 3), employing almost 5,000 workers.

Figure 4 indicates that growth in food-industry employment in this region has dramatically outpaced the state's growth in the food industry in the most recent 10-year period. Food-industry employment grew by 87% between 1989 and 1999 in the region, while the industry's growth rate for the state was only 3%. The growth rate for food-industry employment in Clinton, Cass and Carroll counties was three-and-a-half times the growth rate for total employment in the region.

From a state perspective, the food industry is a relatively small employer of Hoosier workers, and job growth in this industry has not kept pace with overall job growth rates for the state. However, for the three-county region consisting of Clinton, Cass and Carroll counties, the food industry employs a significant number of workers, and food employment in this region has grown rapidly since 1989.

Figure 2: Employment Share in the Food Industry Is Very High in Carroll, Cass and Clinton counties

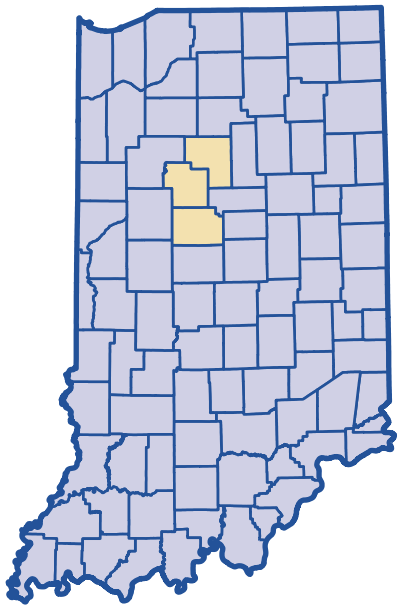
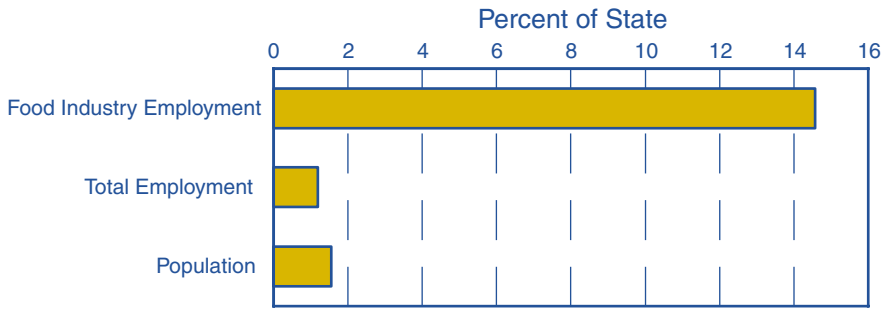


Figure 3: Three-County Region's Share of State Employment & Population

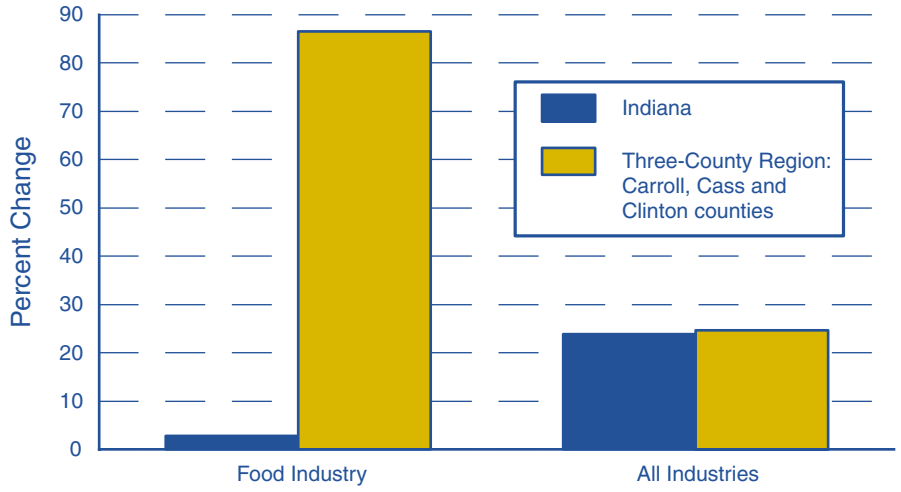
Carroll, Cass and Clinton claim almost 15% of state's food employment



Source: Indiana Department of Workforce Development / U.S. Census Bureau

Figure 4: Percent Change in Employment, 1989–99

Food industry employment in three-county region grew dramatically



Source: Indiana Department of Workforce Development

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INDIANA WORKFORCE DEVELOPMENT

IN the News

(continued from page 9)

household size and the number of children in the household. In 1963, when this poverty measure was developed, the threshold for a family of four was $3,128. Today, that same family would need an income of more than $17,029 to be considered above the poverty line (see Table 2).

It is generally accepted that this methodology underestimates the level of poverty in the United States. At the same time, it does not show the impact of taxes and public assistance on family income or regional differences in the cost of living. Although improvements of this measure are regularly under consideration, there is no hope that a new measure will make poverty vanish.

Table 2: Poverty Thresholds in 1999, by Size of Family

Size of Family Unit	Weighted Average Threshold
One person (unrelated individual)	$8,501
Under 65 years	$8,667
65 years and over	$7,990
Two people	$10,869
Householder under 65 years	$11,214
Householder 65 years and over	$10,075
Three people	$13,290
Four people	$17,029
Five people	$20,127
Six people	$22,727
Seven people	$25,912
Eight people	$28,967
Nine people or more	$34,417

Source: U.S. Census Bureau, Current Population Survey, March 1998, 1999 and 2000

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