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Indiana-U.S. Location Quotients

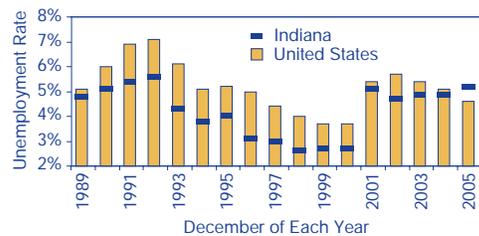
According to 2004 data from the Bureau of Labor Statistics, Indiana has proportionally more workers in four of the nineteen major industry classifications when compared to the nation. Of those four, only manufacturing can potentially be classified as an exporter. For more details about location quotients and Indiana's workforce regions, see the adjoining article.

| Industry                           | Location Quotients |
|------------------------------------|--------------------|
| Manufacturing                      | 1.77               |
| Utilities                          | 1.14               |
| Transportation and Warehousing     | 1.12               |
| Arts, Entertainment and Recreation | 1.06               |

Source: Bureau of Labor Statistics

December Unemployment

Indiana's December 2005 unemployment rate reached its highest point since the beginning of the 2001 recession; peaking at 5.3 percent and surpassing the December 2001 level by 0.1 percentage points. Meanwhile, the nation's December unemployment rate dropped 0.8 percentage points from 2001 to 2005, down to 4.6 percent.



\*Not seasonally adjusted

## Location Quotients

### A Tool for Comparing Regional Industry Compositions

Ask the average person on the street to name the Motor City and most will respond “Detroit”—except maybe in Indianapolis. Silicon Valley is recognized as a leader in the production of computer hardware, software and information technology services, while New York City is home to large financial markets. Specializations or concentrations of related industries are a widely recognized economic phenomenon and play an important role in “branding” cities, regions and states. Location quotients (LQ) are used in research to quantify and compare concentrations of industries in a particular area and are critical to understanding an area’s economic strengths and weaknesses.

### Location Quotients

Location quotients compare an area’s business composition to that of a larger area (i.e., nation or state). In order to determine an LQ, a formula similar to the one shown in **Table 1** is used.

An LQ can be calculated for any industry where comparable data exist for both areas. This article discusses regional economies within Indiana and compares the Indiana Department

of Workforce Development economic growth regions (EGRs) to Indiana’s statewide industry composition.

Location quotients identify export industries in an area (those industries producing more of a good or service than is needed to meet area demand) and import industries (those producing less than enough to meet area demand).

Following accepted economic theory, an LQ greater than 1.0 indicates that an area has proportionately more workers than the larger comparison area employed in a specific industry sector. This implies that an area is producing more of a product or service than is consumed by area residents. The excess is available for export outside the area.

An LQ of at least 1.25 is required to consider classifying an area industry as an exporter. Still, an LQ greater than 1.25 does not necessarily mean that an area industry is exporting; there may simply be excessive local demand.

Identifying area export industries (LQ > 1.25) is useful, as it provides a measure of the degree of industry specialization within an area. A high location quotient in a specific industry may translate into a competitive advantage in that industry for the local economy. Economic development

TABLE 1: LOCATION QUOTIENT EQUATION AND RULES

|  | Value     | Implication   |
|--|-----------|---|
| $LQ = \frac{\left( \frac{\text{Regional Industry Employment}}{\text{Regional Total Employment}} \right)}{\left( \frac{\text{State Industry Employment}}{\text{State Total Employment}} \right)}$ | LQ > 1    | Area has proportionally more workers employed in a specific industry sector than the larger comparison area |
|  | LQ ≥ 1.25 | Area industry has potential to be classified as exporter  |
|  | LQ < 1    | May indicate opportunity to develop businesses in the local area  |

opportunities may exist for additional growth of the exporting or related industries because of the presence of an existing skilled labor pool or other resources such as suppliers, facilities or transportation hubs in the region.

An LQ significantly less than 1.0 may indicate an opportunity to develop

businesses in the local area to meet area demand.

## Indiana's Regional Industries

Location quotients represent a good starting point for understanding the regional economy and providing

information to support regional planning efforts. As expected, different regions of the state have different characteristic industries; but the statewide economy has long been dependent on manufacturing. Despite job losses in this sector in recent years, manufacturing industries appear among

TABLE 2: TOP 3 JOBS LOCATION QUOTIENTS (INDIANA BASE) BY ECONOMIC GROWTH REGION, 2004

| Economic Growth Region   | NAICS | Industry  | 2004 Annual Average Jobs* | Jobs LQ (Indiana base) | Percent Job Gain/Loss Since 2001 |
|--|-------|---|---------------------------|------------------------|----------------------------------|
|  1    | 324   | Petroleum and Coal Products Manufacturing                   | 1,817                     | 5.11                   | -7.7%                            |
|  | 331   | Primary Metal Manufacturing                                 | 20,445                    | 3.83                   | -26.1%                           |
|  | 713   | Amusement, Gambling and Recreation                          | 10,101                    | 2.65                   | 0.8%                             |
|  2    | 321   | Wood Product Manufacturing                                  | 7,895                     | 3.66                   | -9.0%                            |
|  | 336   | Transportation Equipment Manufacturing                      | 38,573                    | 2.56                   | 28.0%                            |
|  | 339   | Miscellaneous Manufacturing                                 | 7,937                     | 2.55                   | 1.8%                             |
|  3    | 334   | Computer and Electronic Product Manufacturing               | 7,159                     | 2.82                   | -29.1%                           |
|  | 335   | Electrical Equipment, Appliance and Component Manufacturing | 3,208                     | 1.86                   | -25.8%                           |
|  | 326   | Plastics and Rubber Products Manufacturing                  | 9,529                     | 1.81                   | -10.4%                           |
|  4   | 311   | Food Manufacturing  | 7,085                     | 3.19                   | 1.0%                             |
|  | 111   | Crop Production   | 1,104                     | 2.59                   | -2.0%                            |
|  | 336   | Transportation Equipment Manufacturing                      | 22,422                    | 2.31                   | -11.8%                           |
|  5  | 711   | Performing Arts, Spectator Sports and Related Industries    | 6,285                     | 2.66                   | 1.8%                             |
|  | 481   | Air Transportation  | 5,013                     | 2.59                   | -39.0%                           |
|  | 492   | Couriers and Messengers                                     | 8,955                     | 2.07                   | -19.0%                           |
|  6  | 322   | Paper Manufacturing   | 1,178                     | 2.22                   | -14.0%                           |
|  | 327   | Nonmetallic Mineral Product Manufacturing                   | 1,441                     | 2.03                   | -27.8%                           |
|  | 333   | Machinery Manufacturing                                     | 3,416                     | 1.72                   | -12.0%                           |
|  7  | 922   | Justice, Public Order and Safety Activities                 | 2,442                     | 5.8                    | 1.6%                             |
|  | 326   | Plastics and Rubber Products Manufacturing                  | 3,003                     | 2.27                   | 2.1%                             |
|  | 221   | Utilities   | 832                       | 1.91                   | -9.9%                            |
|  8  | 928   | National Security and International Affairs                 | 2,953                     | 9.58                   | -3.3%                            |
|  | 212   | Mining (Except Oil and Gas)                                 | 1,325                     | 5.22                   | -0.4%                            |
|  | 924   | Administration of Environmental Quality Programs            | 612                       | 3.38                   | 1.7%                             |
|  9  | 312   | Beverage and Tobacco Product Manufacturing                  | 730                       | 4.25                   | -3.3%                            |
|  | 333   | Machinery Manufacturing                                     | 7,743                     | 3.82                   | -12.7%                           |
|  | 112   | Animal Production   | 733                       | 3.49                   | 11.4%                            |
|  10 | 323   | Printing and Related Support Activities                     | 1,482                     | 2.14                   | -7.5%                            |
|  | 311   | Food Manufacturing  | 2,054                     | 1.83                   | -7.2%                            |
|  | 484   | Truck Transportation  | 3,044                     | 1.77                   | 1.7%                             |
|  11 | 337   | Furniture and Related Product Manufacturing                 | 8,187                     | 4.12                   | -10.8%                           |
|  | 212   | Mining (Except Oil and Gas)                                 | 1,766                     | 3.83                   | 1.2%                             |
|  | 335   | Electrical Equipment, Appliance and Component Manufacturing | 3,320                     | 3.16                   | -4.3%                            |

\*Employment of at least 500  
Source: STATS Indiana and the Indiana Department of Workforce Development

the three highest location quotients in 9 of the 11 regions (see **Table 2**). However, manufacturing industries do not appear among the top three LQs for the Indianapolis area (Region 5). Manufacturing jobs remain a core sector of the region's total employment, but the presence of other industries is significant and diverse when compared to Indiana as a whole.

Two of Region 5's highest location quotients fall into transportation and warehousing (NAICS industry sector 48-49). The region has a high LQ in air transportation (NAICS 481) and couriers and messengers (NAICS 492); air transportation maintains a high LQ of 2.59 despite major job losses in this industry. Both of these industries reflect the region's emphasis on being a distribution hub as the "Crossroads of America."

Another example of a distinguishing industry is arts, entertainment and recreation (NAICS sector 71) for Region 1. The Region 5 economy also exhibits a marked employment concentration in this industry, but these are the only two regions in the state with high LQs for this sector. Region 1 includes Lake and Porter counties, among others, and is partially within the Chicago metro area. Some major cities include Gary, East Chicago and Portage. While the primary metals industry (NAICS 331) is still very important to the region, the concentration in arts, entertainment and recreation reflects the diversification of this economy away from its traditional employment base.

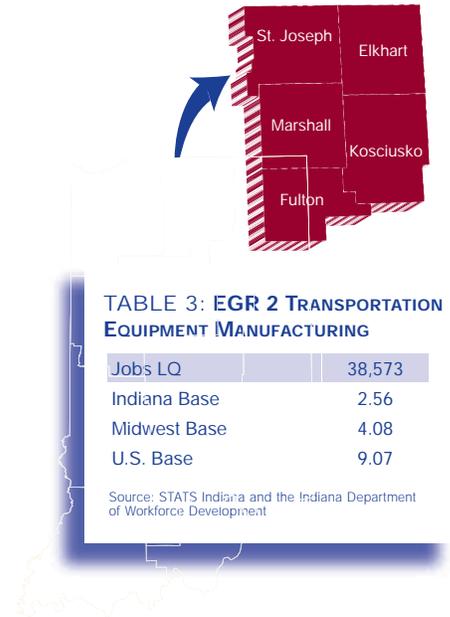
Approximately half of the industries in Indiana's 11 economic growth regions have LQs less than one when compared to the state as a whole. Industries with high LQs do not always employ large numbers of workers,

nor do they necessarily display net employment growth. Overall, most regions have not realized positive employment growth within their top three LQ industries. The most significant exception to this is the transportation equipment manufacturing industry in EGR 2 (see **Table 3**).

Region 2—comprised of Elkhart, Fulton, Kosciusko, Marshall and St. Joseph counties—has an LQ of 2.56 in transportation equipment manufacturing (NAICS 336). This subsector has been driven mainly by the recreational vehicle manufacturing boom in Elkhart County. This concentration is even more pronounced when compared to the Midwest or United States. Region 2 has a 4.08 LQ for this industry compared to the Midwest and an astounding 9.07 when compared to the country as a whole. Other industries that have grown at relatively strong rates include animal production in EGR 9 (11.4 percent) and plastics and rubber manufacturing in EGR 7 (2.1 percent).

In six of the state's EGRs, manufacturing subsectors were listed in the top three LQs twice and captured all three of the top LQs in 3 EGRs. In Economic Growth Regions 2, 3 and 6 the top three industry location quotients were all in manufacturing. In EGR 2, this includes an impressive location quotient of 3.66 for wood product manufacturing (NAICS 321). Only two EGRs had agricultural industries among their top three location quotients: crop production in EGR 4 and animal production in EGR 9. These regions are geographically large and contain significant rural areas.

Geography and available resources may also explain why an industry is prevalent in a given area. Mining (NAICS 212) has a high LQ in both EGRs 8 and 11. These



regions are in the southwestern part of Indiana with significant deposits of coal. Coal mining is considered an export industry, meeting the demands of an area beyond the borders of these regions.

Location quotients are especially useful identifying both the distinguishing industries and also the commonalities between regional economies. They confirm the intuitively obvious (e.g. southwest Indiana's coal mining concentration) and help tease out emerging trends as economies change, grow and diversify (such as the development of the arts, entertainment and recreation industry in northwest Indiana). Location quotients are an excellent tool for economic and workforce development planners to use in recruiting prospective employers to areas that have concentrations of workers with transferable skills and other key resources, or in directing them to areas where local demand is exceeding current supply of a product or service.

—Charles Baer and Terry Brown, *Advanced Economic and Market Analysis Group, Strategic Research and Development, Indiana Department of Workforce Development*

# Manufacturing Counties—The Fallen

Last month, we looked at Indiana’s 11 manufacturing powerhouses—those counties where “making stuff” constitutes more than 40 percent of their total employment. This month, we look at those counties whose manufacturing sectors have been hardest hit since the recession.

In 15 counties, manufacturing as a share of total employment dropped more than 5 percentage points between the second quarters of 2001 and 2005. Twenty-two counties lost more than 1,000 manufacturing jobs; meanwhile, 19 counties lost more than 20 percent of their manufacturing jobs. Six counties (Fayette, Grant, Johnson, Madison, Wabash and White) had the dismal distinction of being included in all three categories and will be the focus of this article (see **Figure 1**).

Geographically, they are fairly dispersed, though none are in the southern part of the state. Two of these counties are in Economic Growth Region (EGR) 3, two are in EGR 5, with one each in EGRs 4 and 6. Johnson County is part of the Indianapolis metropolitan area, while Madison County comprises the Anderson metro. Wabash, Grant and Fayette counties are each considered micropolitan statistical areas (the Wabash, Marion, and Connersville micros, respectively).

## Manufacturing Jobs Since 2001

Combined, the six counties had roughly 26,200 manufacturing jobs in the second quarter of 2005, down from over 37,600 jobs four years earlier—a drop of 31 percent. The number of manufacturing jobs in each county ranges from 1,959 in White County to 6,526 in Madison County.

Manufacturing’s share of total employment ranges from 12.5 percent in Johnson County to 33.5 percent in Fayette County. All but two counties (Johnson and Madison) rely more heavily on manufacturing employment than Indiana as a whole. Grant and White counties have a little over 20 percent of all jobs in manufacturing, while Wabash and Fayette counties still top 30 percent.

In the four years since the second quarter of 2001, Grant, White and

Madison counties lost over 30 percent of their manufacturing employment (see **Figure 2**). Grant and Madison also had the largest losses numerically, with respective declines of 2,875 and 3,119.

## A Common Thread

Part of the problem in Grant and Madison counties can be traced to the crisis engulfing America’s auto companies and their dependence on that industry. Indeed, this impacts five of the six counties, where companies

FIGURE 1: THE FALLEN MANUFACTURING COUNTIES, 2005:2

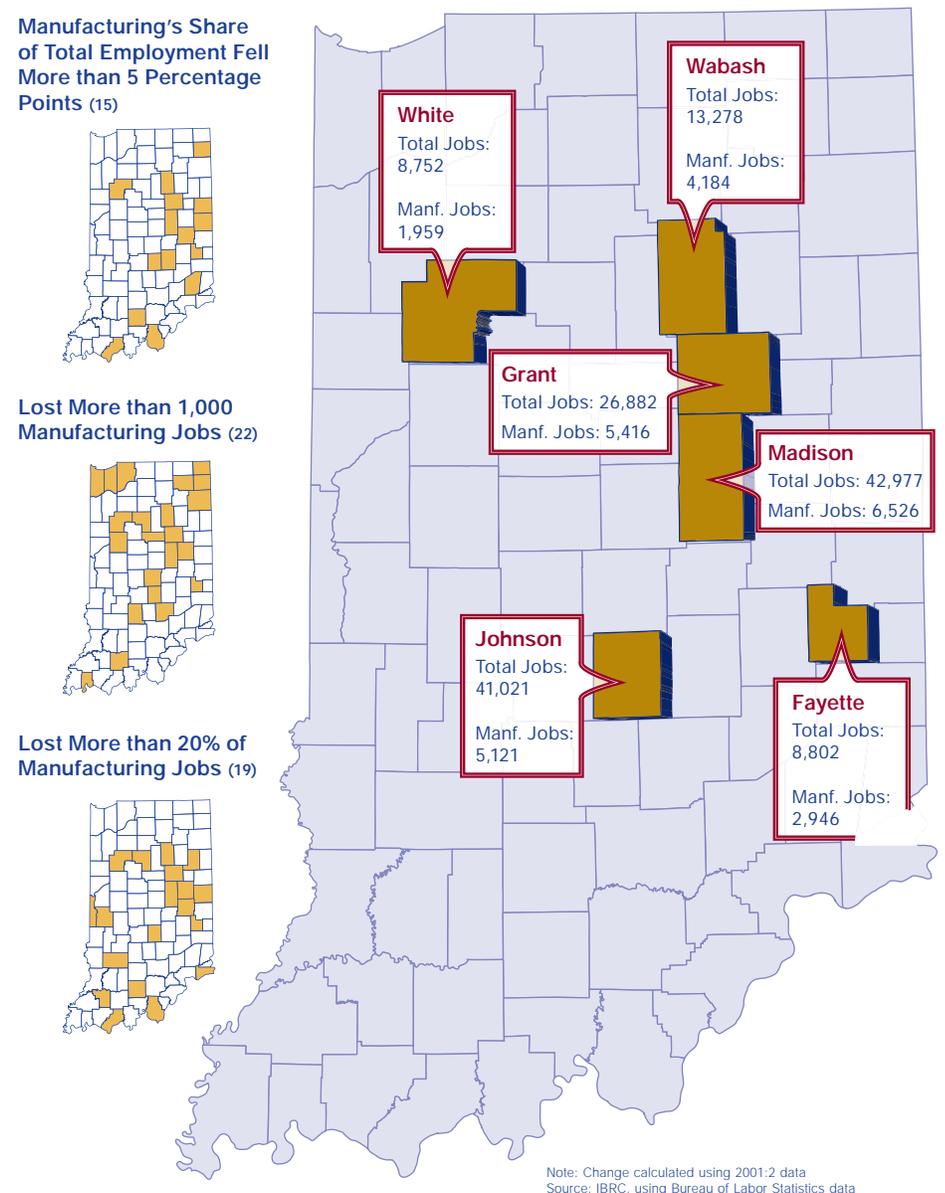
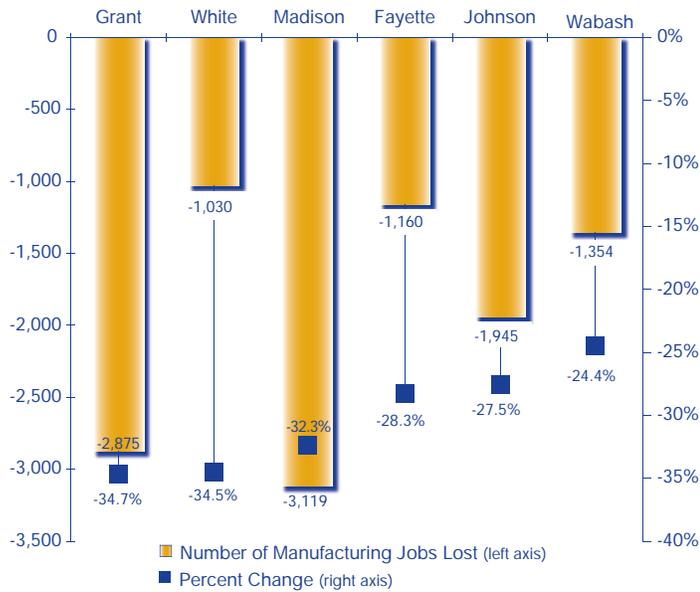


FIGURE 2: CHANGE IN MANUFACTURING JOBS, 2001:2 TO 2005:2



Source: IBRC, using Bureau of Labor Statistics data

FIGURE 3: CHANGE IN TOTAL EMPLOYMENT, 2001:2 TO 2005:2



Source: IBRC, using Bureau of Labor Statistics data

somewhere in the automotive supply chain are among the largest employers (see **Table 1**).

Consider that both Grant and Madison County—the hardest of the hardest-hit in terms of manufacturing losses—are particularly reliant on the health of General Motors.

The city of Marion, in Grant County, is home to a GM stamping plant that employs about 1,700. Then there’s Amcast Automotive in Gas City, a company supplying GM with aluminum wheels—at least until this spring. GM announced plans to ultimately find another supplier as part of its cost-cutting measures. Amcast

filed for bankruptcy in December, just four months after emerging from its first one.<sup>1</sup> The company’s future also impacts Johnson County because of the Casting Technology Co. plant in Franklin, an Amcast subsidiary.

Meanwhile, Madison County is still dominated by GM spin-off companies, despite tremendous cutbacks over the past decade. Guide Corp. remains the county’s largest employer with 2,100 workers, according to the Anderson Chamber of Commerce. The now-bankrupt Delphi ranks sixth. In 2003, Remy International closed its manufacturing facility in the city, but kept its headquarters there, which

leaves it in the top 15 employers. In all, these three former GM companies, plus the ELSA Corp. (which produces exhaust systems and fuel tanks for Mitsubishi and Subaru), employ around 3,900 workers.

The data for the transportation equipment manufacturing subsector is only disclosable for four of the six counties. Of those, Wabash County had a net gain of 29 jobs between 2001:2 and 2005:2. Madison County had the largest decrease, both numerically and on a percentage basis (-2,274 or -39 percent). Johnson County dropped 31 percent (-654 jobs) while Grant County fell 15 percent (-409 jobs).

TABLE 1: MANUFACTURING COMPANIES IN THE AUTOMOTIVE SUPPLY CHAIN WHO ARE AMONG THE COUNTY’S LARGEST EMPLOYERS

| Company                     | City             | County  | Business Status | Product   |
|-----------------------------|------------------|---------|-----------------|---|
| Visteon Corp                | Connersville     | Fayette | Branch          | Compressors, climate controls, condensers, evaporators and radiators  |
| Stant Manufacturing         | Connersville     | Fayette | Headquarter     | Fuel, radiator and oil filler caps, automotive thermostats, onboard refueling vapor recovery (ORVR) valves, water outlets and testers for fuel and cooling systems, and automotive pressure testers |
| General Motors              | Marion           | Grant   | Branch          | Metal body parts  |
| Dana                        | Marion           | Grant   | Branch          | Axle, driveshaft, engine, frame chassis and transmission technologies   |
| Amcast Automotive           | Gas City         | Grant   | Branch          | Wheels  |
| KYB Manufacturing           | Franklin         | Johnson | Single Location | Shocks and struts   |
| Mitsubishi Heavy Industries | Franklin         | Johnson | Branch          | Climate control systems   |
| Delphi Energy & Chassis     | Anderson         | Madison | Branch          | Ignition and generators   |
| ELSA                        | Elwood           | Madison | Single Location | Auto exhaust systems and fuel tanks   |
| Remy International          | Anderson         | Madison | Headquarter     | Starters and generators   |
| Guide                       | Pendleton        | Madison | Headquarter     | Auto lighting equipment, mirrors and lighting controls  |
| Dexter Axle                 | North Manchester | Wabash  | Branch          | Axles for trailer running gear  |
| GDx Automotive              | Wabash           | Wabash  | Branch          | Vehicle sealing, glass encapsulation and antivibration components   |

Source: infoUSA and company websites

## Is It All That Bad?

A recent article in *The Economist* takes the perspective that the disappearance of manufacturing jobs is a sign of economic health in developed economies for two reasons:<sup>2</sup>

1. Households only need so much “stuff,” so as incomes go up, a larger share is spent on services, such as vacations and education.
2. Automating manufacturing requires fewer workers, but raises productivity. This allows workers to move into other industries, boosting output and living standards as a result.

Unfortunately, in five of these six counties (Johnson County is the exception), total employment decreased more than 6 percent, meaning that other industries aren’t picking up the slack. The drop in total employment ranged from -1,127 in Wabash County to -2,979 in Madison County (see **Figure 3**).

Of course, layoffs and shutdowns don’t just affect the manufacturer itself, but ripple through the economy, negatively impacting the restaurant across from the plant, local retailers, etc. This can be seen particularly in Fayette, Grant and White counties, where manufacturing losses were lower than total job losses.

**Table 2** shows the biggest gainers and losers at the industry level for each county. For comparison, Indiana’s largest percentage losses were in manufacturing (8 percent) and information (8.4 percent); the biggest percentage gains were in education (7.2 percent), health care and social services (8.7 percent) and administrative and support services (14.7 percent). Health care and administrative and support services showed strong growth in most of the six counties; education

TABLE 2: INDUSTRIES WITH A DECLINE OR GAIN OF 10 PERCENT OR MORE

| DECLINE   |        |                | GROWTH  |        |                |
|---|--------|----------------|---|--------|----------------|
| Industry  | Change | Percent Change | Industry  | Change | Percent Change |
| <b>Fayette County</b>                           |        |                |   |        |                |
| Other Services (Except Public Administration)   | -62    | -18%           | Transportation and Warehousing                  | 17     | 10%            |
| Wholesale Trade                                 | -37    | -23%           | Information                                     | 16     | 12%            |
| Professional, Scientific and Technical Services | -37    | -26%           | Arts, Entertainment and Recreation              | 8      | 16%            |
| Manufacturing                                   | -1,160 | -28%           | Administrative, Support and Waste Management    | 41     | 62%            |
| <b>Grant County</b>                             |        |                |   |        |                |
| Professional, Scientific and Technical Services | -63    | -15%           | Arts, Entertainment and Recreation              | 24     | 13%            |
| Information                                     | -92    | -17%           | Management of Companies and Enterprises         | 14     | 25%            |
| Utilities                                       | -11    | -20%           | Administrative, Support and Waste Management    | 297    | 41%            |
| Real Estate, Rental and Leasing                 | -92    | -27%           |   |        |                |
| Manufacturing                                   | -2,875 | -35%           |   |        |                |
| <b>Johnson County</b>                           |        |                |   |        |                |
| Manufacturing                                   | -1,945 | -28%           | Construction                                    | 281    | 10%            |
| Management of Companies and Enterprises         | -46    | -29%           | Professional, Scientific and Technical Services | 137    | 12%            |
|   |        |                | Accommodation and Food Services                 | 588    | 13%            |
|   |        |                | Educational Services                            | 498    | 16%            |
|   |        |                | Finance and Insurance                           | 156    | 19%            |
|   |        |                | Other Services (Except Public Administration)   | 258    | 21%            |
|   |        |                | Health Care and Social Services                 | 866    | 22%            |
|   |        |                | Wholesale Trade                                 | 228    | 24%            |
|   |        |                | Information                                     | 171    | 31%            |
|   |        |                | Administrative, Support and Waste Management    | 378    | 38%            |
| <b>Madison County</b>                           |        |                |   |        |                |
| Retail Trade                                    | -774   | -12%           | Wholesale Trade                                 | 162    | 14%            |
| Manufacturing                                   | -3,119 | -32%           | Health Care and Social Services                 | 949    | 16%            |
|   |        |                | Transportation and Warehousing                  | 306    | 20%            |
|   |        |                | Management of Companies and Enterprises         | 159    | 137%           |
| <b>Wabash County</b>                            |        |                |   |        |                |
| Retail Trade                                    | -154   | -10%           | Health Care and Social Services                 | 194    | 11%            |
| Transportation and Warehousing                  | -28    | -12%           | Wholesale Trade                                 | 48     | 13%            |
| Educational Services                            | -197   | -13%           | Agriculture, Forestry, Fishing and Hunting      | 34     | 13%            |
| Information                                     | -26    | -13%           | Construction                                    | 115    | 29%            |
| Management of Companies and Enterprises         | -8     | -19%           | Utilities                                       | 16     | 33%            |
| Manufacturing                                   | -1,354 | -24%           | Administrative, Support and Waste Management    | 62     | 44%            |
|   |        |                | Real Estate, Rental and Leasing                 | 86     | 83%            |
| <b>White County</b>                             |        |                |   |        |                |
| Retail Trade                                    | -181   | -13%           | Public Administration                           | 44     | 10%            |
| Manufacturing                                   | -1,030 | -34%           | Health Care and Social Services                 | 83     | 13%            |
| Accommodation and Food Services                 | -395   | -38%           | Transportation and Warehousing                  | 43     | 15%            |
|   |        |                | Agriculture, Forestry, Fishing and Hunting      | 38     | 25%            |
|   |        |                | Real Estate, Rental and Leasing                 | 15     | 39%            |

“Indiana’s largest percentage losses were in manufacturing (8 percent) and information (8.4 percent); the biggest percentage gains were in education (7.2 percent), health care and social services (8.7 percent) and administrative and support services (14.7 percent).”

Source: IBRC, using Bureau of Labor Statistics data

employment, however, declined in four of the five counties (data were nondisclosable for Fayette County).

## Population

As a group, the counties have nearly 412,000 residents. With fewer jobs, are residents leaving or just commuting farther? Census Bureau population estimates show that, with the exception of Johnson County, each of these counties lost population between 2000 and 2004. Whereas the state grew 2.4 percent, Fayette, Grant and Wabash declined by roughly that same amount. White and Madison declined slightly less, at -1.6 percent and -2 percent, respectively.

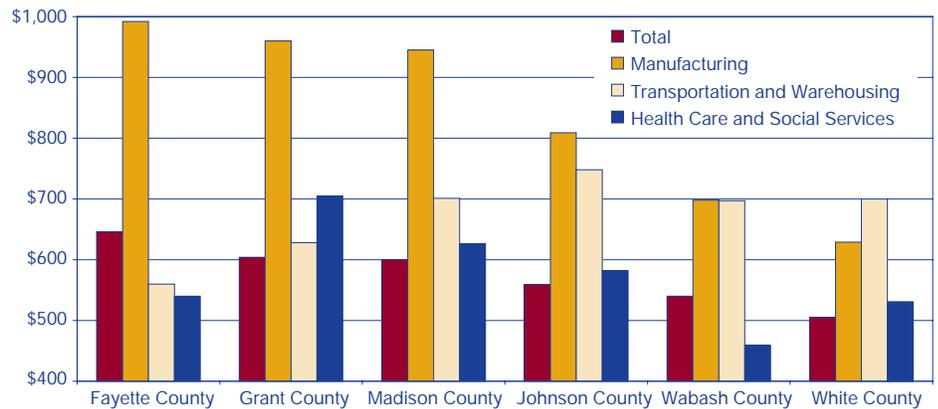
Meanwhile, Johnson County benefits from the suburbanization surrounding Indianapolis. Its population grew by 9,869 people (8.5 percent), making it the third fastest growing county in the state numerically and fifth fastest on a percentage basis. Three of its cities—Greenwood, Bargersville and Trafalgar—were among the 20 fastest growing cities in the state. Interestingly, while Madison County also benefits from a close geographic proximity to the Indianapolis metro (and was actually part of the metro prior to the 2003 redefinition), it has not seen the growth experienced by the other ‘donut’ counties.

## Wages

*The Economist* also makes the claim that societies cling to manufacturing jobs out of a misplaced belief that manufacturing is “better:”

“There is a residual belief that making things you can drop on your toe is superior to working in accounting or hairdressing. Manufacturing jobs, it is often said, are better than the Mcjobs typical in the service sector.

FIGURE 4: AVERAGE WEEKLY WAGE COMPARISON, 2005:2



Source: IBRC, using Bureau of Labor Statistics data

Yet working conditions in services are often pleasanter and safer than on an assembly line, and average wages in the fastest-growing sectors, such as finance, professional and business services, education and health, are higher than in manufacturing.”<sup>3</sup>

How does that play out for these six counties? The total average weekly wage for the second quarter of 2005 ranged from just over \$500 in White County to almost \$650 in Fayette County. **Figure 4** looks at total and manufacturing wages in relationship to two of the fastest growing (numerically) service sectors: transportation and warehousing and health care and social services. In White County, transportation and warehousing wages actually surpass those of manufacturing by \$71, while there’s just a \$1 difference between the two in Wabash County.

However, things are drastically different in Madison, Grant, and Fayette counties, where the average manufacturing wage is ranked in the top 12 in the state, and exceeds that of transportation and warehousing by \$240 to \$430. Numbers like that make it hard to dismiss the fact that high-paying manufacturing jobs are being replaced with ones that pay considerably less.

Nevertheless, the overall average weekly wage increased between 2001:2 and 2005:2 for all six counties, ranging from a \$12 increase in Fayette County to a \$67 increase in Johnson County.

At the industry level, five of the six counties had at least two industries with declining wages. (Johnson County is once again the exception because all of its industries posted gains.) Industries where at least two counties had a declining wage include administrative and support services; arts and entertainment; construction; management of companies; and real estate, rental and leasing. Meanwhile, manufacturing wages were stable in Madison County, but increased by at least \$45 among the other five counties; both Grant and Johnson counties saw gains exceeding \$100.

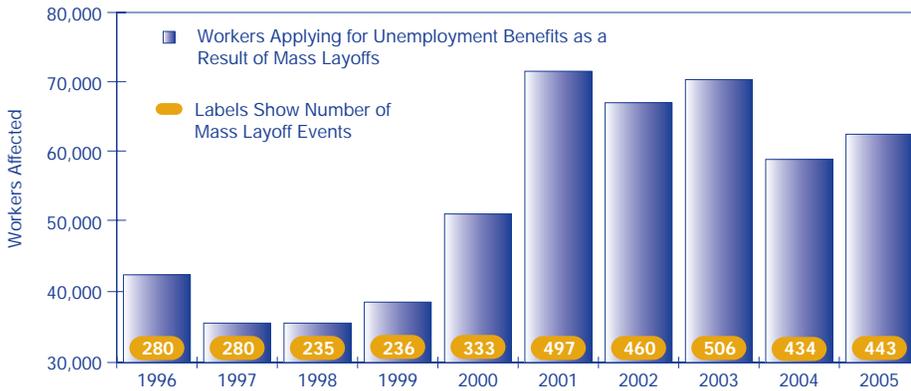
## Notes

1. Arundhati Parmar, “Amcast Latest Auto Calamity,” *Fort Wayne Journal Gazette*, December 18, 2005.
2. “Industrial Metamorphosis,” *The Economist*, October 1, 2005.
3. “The Great Jobs Switch,” *The Economist*, October 1, 2005.

—Rachel Justis, Managing Editor, Indiana Business Research Center, Kelley School of Business, Indiana University

# Monthly Metrics: Indiana's Economic Indicators

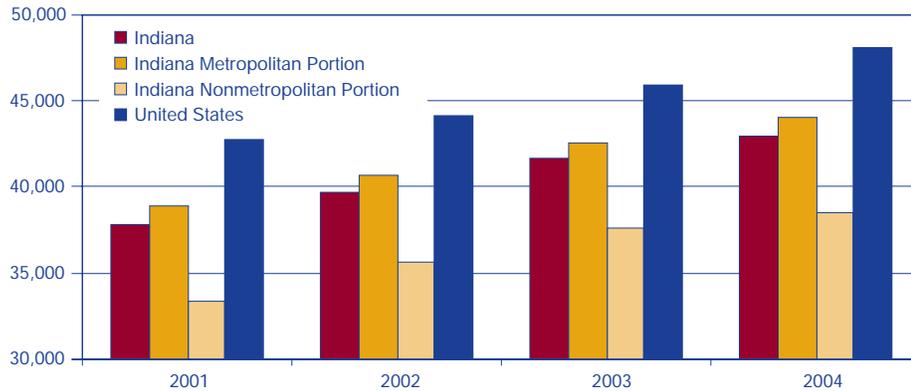
## MASS LAYOFFS, 1996 TO 2005



Source: IBRC, using Bureau of Labor Statistics data

Slightly more Hoosiers were impacted in 2005 by mass layoffs than in 2004, according to preliminary figures from the Bureau of Labor Statistics. A mass layoff occurs when at least 50 initial claims for unemployment insurance are filed against an establishment during a consecutive five-week period. Over 440 mass layoff events were recorded in 2005, with 62,574 people applying for unemployment benefits as a result—an increase of 6.3 percent from 2004. However, this compares to an 11.7 percent increase in claimants nationwide.

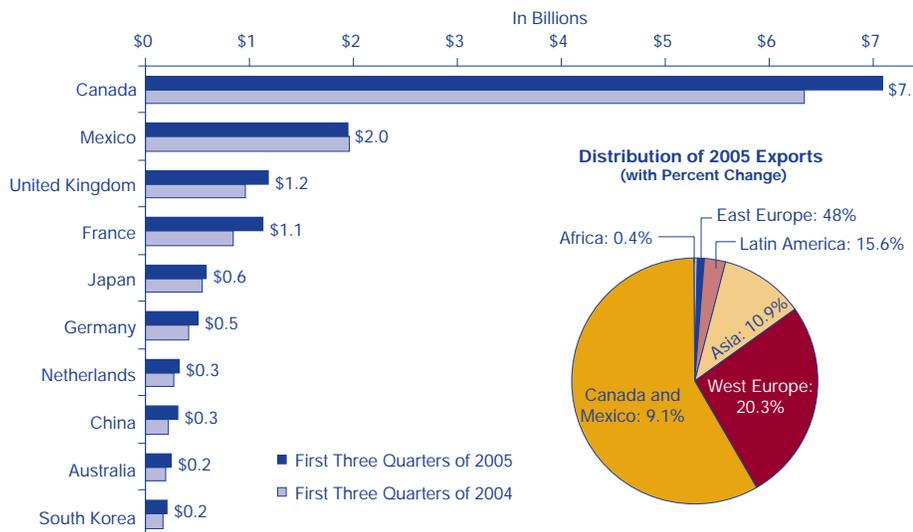
## TOTAL AVERAGE COMPENSATION PER JOB, 2001 TO 2004



Source: IBRC, using U.S. Department of Commerce data

Indiana's average compensation per job increased to \$42,964 in 2004. Compensation figures include wages plus benefits, such as employer-paid pension and insurance funds. Not surprisingly, compensation in Indiana's metro areas (\$44,036) is higher than in the nonmetro areas (\$38,475), while both measures lag the U.S. average (\$48,096).

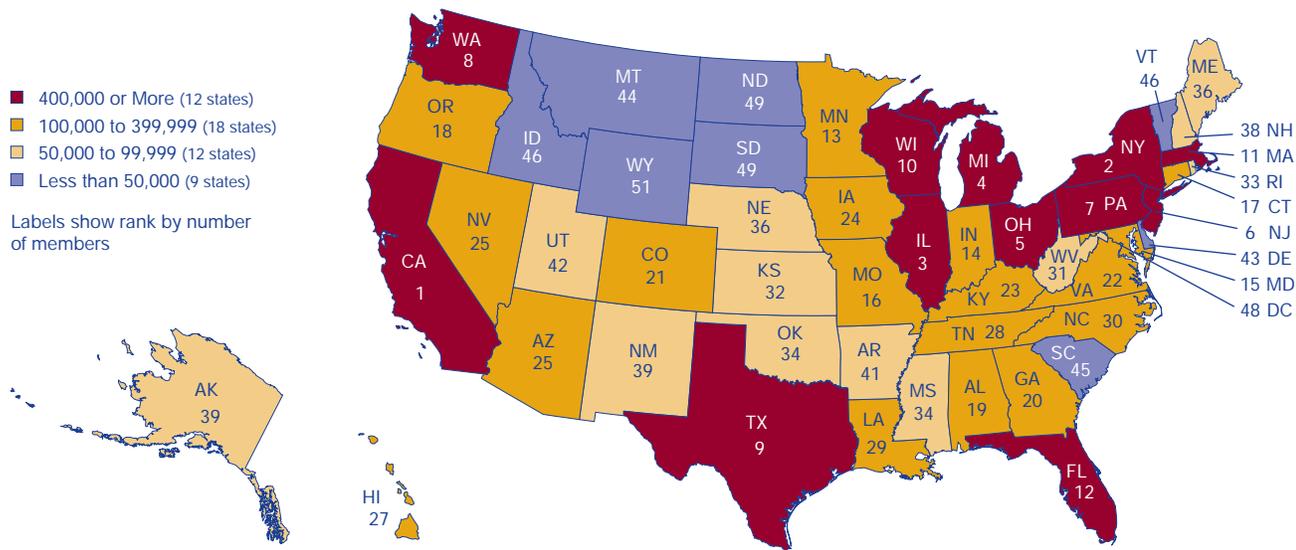
## INDIANA'S EXPORTS TO THE WORLD



Source: IBRC, using U.S. Department of Commerce data

Indiana exported \$16 billion worth of products to 187 countries during the first three quarters of 2005, a 12.7 percent increase (\$1.8 billion) over the first three quarters in 2004. While exports more than doubled in 35 of our smaller trading partners, over 70 percent of Indiana exports go to just four countries (Canada, Mexico, the United Kingdom and France), each receiving over \$1 billion in exports.

**MEMBERS OF UNIONS, 2005**



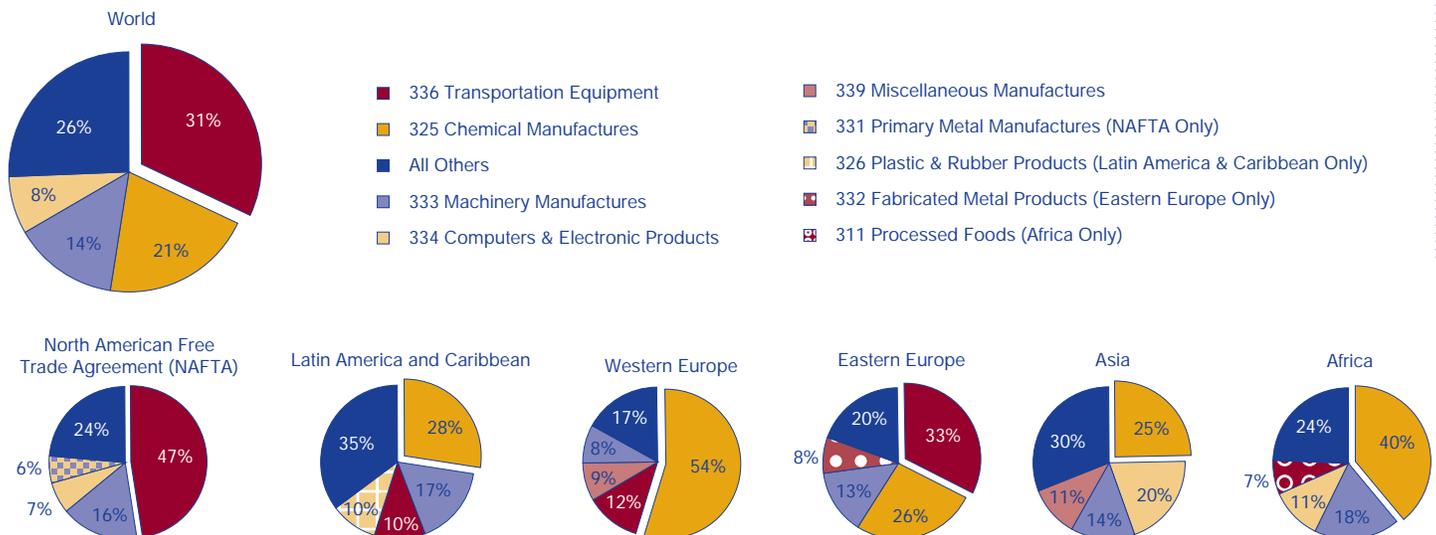
Source: IBRC, using U.S. Bureau of Labor Statistics data

Indiana's union membership totaled 346,000 workers in 2005, or 12.4 percent of the workforce. An additional 22,000 workers were represented by a union but were not members. Nationwide, public sector employees are more than four times more likely to be unionized than the private sector. Local government workers (which include teachers, police and firefighters) had the highest membership rate (41.9 percent). Transportation and utilities (24 percent), information industries (13.6 percent), construction (13.1 percent) and manufacturing (13 percent) led the private sector in union membership rates.

Over half of Indiana's exports are either transportation equipment (31 percent) or chemical products (21 percent).<sup>1</sup> Exports vary significantly by region, with transportation equipment consisting of nearly half Indiana's exports to NAFTA partners and chemical products exceeding 50 percent of Indiana's exports to Western Europe. Overall, transportation equipment accounts for \$5.1 billion of Hoosier exports, as of the first three quarters of 2005 and has grown 8 percent since 2004; meanwhile, chemical product exports grew a strong 22 percent to reach \$3.3 billion.

1. The transportation equipment classification includes vehicles and vehicle parts; chemical manufacturing includes a wide variety of products, from pharmaceuticals to paint to pesticide.

**EXPORTS FROM INDIANA, FIRST THREE QUARTERS OF 2005**



Source: IBRC, using U.S. Department of Commerce data

# Regional Perspective: Economic Growth Region 3

The 11 counties that make up Indiana's Economic Growth Region (EGR) 3 include Adams, Allen, De Kalb, Grant, Huntington, Lagrange, Noble, Steuben, Wabash, Wells and Whitley counties. The region covers nearly 4,375 square miles of land and boasts a 2004 population of 738,795. While that number was only 11.8 percent of Indiana's population and a miniscule 0.3 percent of the U.S. population, it is larger than 66 of the world's countries. **Table 1** shows the 5 countries with the closest population to EGR 3.

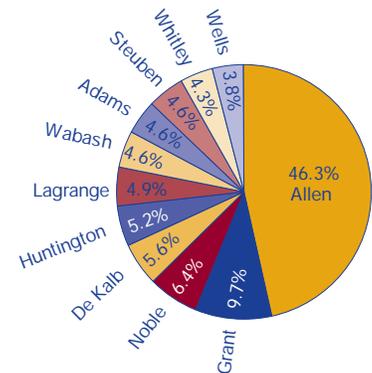
At a more local level, Allen County makes up 46.3 percent of the region's population with 342,168 people. Grant County is next in line with 9.7 percent (71,543 people) of the region's population, while all other counties range from 6.4 percent to 3.8 percent

(see **Figure 1**). From 2000 to 2004, Grant and Wabash counties were the only two to lose residents. All other counties gained anywhere from 24 people (Huntington County) to 9,427 (Allen County). Perhaps one of the most interesting population statistics for the region is that 37 percent of the Lagrange County population is Amish,<sup>1</sup> making it the third largest Amish community in the nation, behind Lancaster County, Pa. (second largest), and Holmes County, Ohio (largest).<sup>2</sup>

## Jobs

In the second quarter of 2005, the manufacturing industry made up 26.1 percent of all jobs in the region, down from its 2001 level of 28.7 percent. EGR 3 experienced a loss of nearly 11,800 manufacturing jobs in those four years. Major increases in the

FIGURE 1: EGR 3 POPULATION DISTRIBUTION



Source: IBRC, using U.S. Census Bureau 2004 estimates

health care and social services, administrative support and waste management, and accommodation and food services industries would have helped offset manufacturing losses if it hadn't been for additional declines in the retail trade, finance and insurance, and information industries (see **Table 2**). As a result of those dramatic decreases, EGR 3 lost over 1,000 more jobs than Indiana lost.

It is important to note that the mining and management of companies and enterprises industries lost 55 percent and 20 percent of jobs, respectively. However, even before these recent losses, they only made up a combined 0.7 percent of all jobs in the industry, meaning that while losses were significant at the individual industry level, they were not as noteworthy in terms of the number of jobs.

## Income and Wages

EGR 3 has not fared as well as the state in terms of average weekly wages paid, neither across all industries nor by individual industry sector. Among all major industry classifications, only educational services paid more (by an average of \$16 more per week) in Region 3 than at the state level (see **Figure 2**). Across all industries, Indiana paid \$37 more per week.

TABLE 1: COUNTRIES WITH THE NEAREST POPULATION TO INDIANA'S EGR 3, 2004

| Country | Population | Square Miles | Location  |
|---------|------------|--------------|---|
| Cyprus  | 775,927    | 3,571        | Off the southern coast of Turkey                                    |
| Reunion | 766,153    | 2,510        | 407 miles off the east coast of Madagascar in the Indian Ocean      |
| Guyana  | 763,251    | 83,000       | Northern coast of South America. East of Venezuela, North of Brazil |
| Bahrain | 677,886    | 257          | Archipelago in the Persian Gulf                                     |
| Comoros | 651,901    | 838          | 190 miles off the coast of Mozambique in the Indian Ocean           |

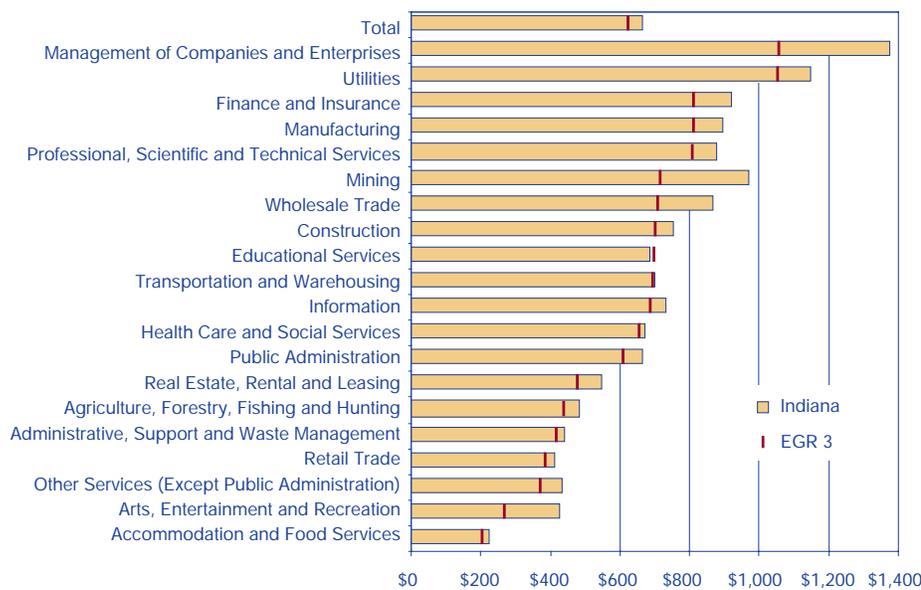
Sources: Population data from the U.S. Census Bureau International Database; square miles and location from InfoPlease.com

TABLE 2: CHANGE IN JOBS IN EGR 3 AND INDIANA, 2001:2 TO 2005:2

| Industry  | EGR 3   |                   |                | Indiana   |                   |                |
|---|---------|-------------------|----------------|-----------|-------------------|----------------|
|   | 2005:2  | Change Since 2001 | Percent Change | 2005:2    | Change Since 2001 | Percent Change |
| Total   | 342,315 | -9,932            | -2.8           | 2,892,130 | -8,900            | -0.3           |
| Agriculture, Forestry, Fishing and Hunting      | 1,329   | -82               | -5.8           | 12,014    | 140               | 1.2            |
| Mining  | 116     | -142              | -55.0          | 6,577     | -255              | -3.7           |
| Utilities                                       | 822     | 126               | 18.1           | 16,369    | -136              | -0.8           |
| Construction                                    | 15,769  | -450              | -2.8           | 150,668   | -749              | -0.5           |
| Manufacturing                                   | 89,419  | -11,787           | -11.6          | 574,457   | -50,156           | -8.0           |
| Wholesale Trade                                 | 15,753  | -307              | -1.9           | 122,007   | -2,049            | -1.7           |
| Retail Trade                                    | 36,953  | -2,431            | -6.2           | 330,856   | -18,482           | -5.3           |
| Transportation and Warehousing                  | 14,473  | 277               | 2.0            | 127,501   | -2,888            | -2.2           |
| Information                                     | 5,932   | -1,120            | -15.9          | 47,482    | -4,364            | -8.4           |
| Finance and Insurance                           | 11,771  | -2,464            | -17.3          | 99,986    | -5,787            | -5.5           |
| Real Estate, Rental and Leasing                 | 3,150   | -155              | -4.7           | 38,254    | -198              | -0.5           |
| Professional, Scientific and Technical Services | 8,067   | -516              | -6.0           | 90,233    | 2,767             | 3.2            |
| Management of Companies and Enterprises         | 1,723   | -432              | -20.0          | 26,353    | -255              | -1.0           |
| Administrative, Support and Waste Management    | 15,738  | 2,759             | 21.3           | 158,953   | 20,379            | 14.7           |
| Educational Services                            | 23,446  | -663              | -2.8           | 241,265   | 16,309            | 7.2            |
| Health Care and Social Services                 | 43,640  | 4,547             | 11.6           | 346,169   | 27,749            | 8.7            |
| Arts, Entertainment and Recreation              | 3,197   | -38               | -1.2           | 47,848    | -99               | -0.2           |
| Accommodation and Food Services                 | 27,996  | 1,788             | 6.8            | 239,483   | 10,123            | 4.4            |
| Other Services (Except Public Administration)   | 9,476   | -538              | -5.4           | 84,923    | -2,902            | -3.3           |
| Public Administration                           | 11,592  | 511               | 4.6            | 129,909   | 1,822             | 1.4            |

Source: IBRC, using Bureau of Labor Statistics data

FIGURE 2: EGR 3 AVERAGE WEEKLY WAGES BY INDUSTRY, 2005:2



Source: IBRC, using Bureau of Labor Statistics data

The good news is that Region 3 is improving. The not-so-good news is that EGR 3 hasn't improved as much as the state. From 2001:2 to 2005:2, regional wages increased across every industry except mining and management of companies and enterprises. Meanwhile, these two industries were among the fastest growing in terms of average weekly wages paid at the state level. Region 3 decreased wages paid in the mining industry by \$153 per week and wages paid in the management of companies and enterprises industry by \$9 per week. At the same time, Indiana's average weekly wages paid in mining and management of companies and enterprises increased by \$108 and \$197, respectively.

### Commuting

Of the 350,582 people that work in the region, 95.8 percent also reside in EGR 3 according to Census data. In other words, only 4.2 percent of the regional workforce lives outside the region. At a more local level, Allen County preceded all the other counties in terms of number of workers who both live and work in the same county, with

nearly 150,000 people falling into that category. The next in line was Grant County, with just under 27,000 people who live and work in the same county, a difference between first and second place of about 123,000 people.

Of the eleven counties, only Allen, Huntington and Whitley provided workers for every county in the region. Meanwhile, more people leave their county of residence for work in a fellow EGR county than for work outside the region altogether, except for Grant and Lagrange counties. Grant County has 3,480 people leaving the region entirely and only 1,958 commuting to fellow EGR counties (see Figure 3). Lagrange County shows similar results, with over 3,700 commuters leaving the region and not quite 2,300 commuting within the region.

### Conclusion

EGR 3 lags the state on numerous economic levels. Population growth in the region was 0.6 percentage

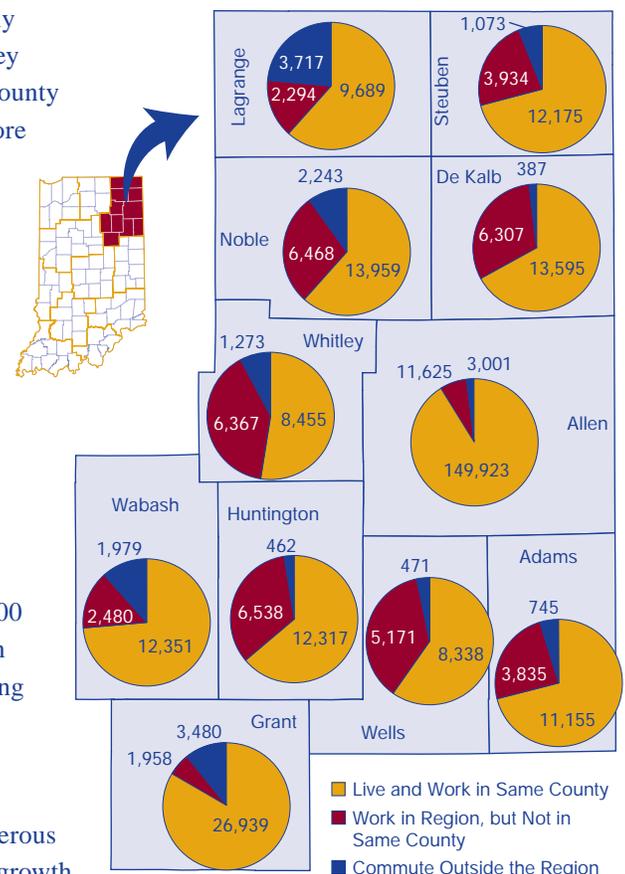
points lower than the state; EGR 3 lost 9,932 jobs compared to 8,900 lost in Indiana; and average weekly wages were less in Region 3 than they were in Indiana overall. Only time will tell how EGR 3 and the rest of Indiana will emerge from economic pressures that seem to weigh heavily on transformations in the manufacturing industry.

### Notes

1. Lagrange County, Indiana, Chamber of Commerce ([www.lagrangechamber.org/](http://www.lagrangechamber.org/))
2. The two largest Amish communities in the United States are in Lancaster County, Pennsylvania and Holmes County, Ohio (<http://en.wikipedia.org/wiki/Amish>). Holmes County, Ohio claims to be the largest (according to the Holmes County Chamber of Commerce at [www.visitamishcountry.com/](http://www.visitamishcountry.com/)), making Lancaster County, Pa. the second largest.

—Molly Marlatt, Research Associate, Indiana Business Research Center, Kelley School of Business, Indiana University

FIGURE 3: EGR 3 COMMUTING PATTERNS



Source: IBRC, using U.S. Census Bureau data

# Midwest Business, Employment and Pay Landscape

In November, the biggest U.S. automaker, General Motors, announced it was cutting 9 percent of its global workforce and closing nine North American assembly, stamping and powertrain plants by 2008.<sup>1</sup> This was sobering news for the entire Midwest and the rest of the nation. Before the GM plans had completely soaked in, Ford Motor Company announced a similar trimming of its workforce—a 20 to 25 percent reduction of its North American

workforce by 2012.<sup>2</sup> Change is in the air and only time will tell how this all plays out. But in the meantime, there are good data being produced that Indiana and the Midwest can use to better understand its economic foundations and assess its strengths and weaknesses.

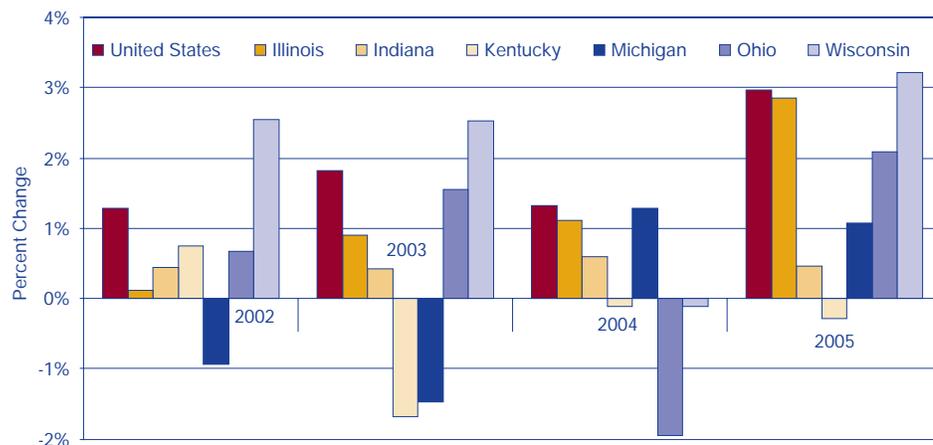
The Bureau of Labor Statistics Quarterly Census of Employment and Wages recently released data for the second quarter of 2005. While a little dated, the dataset is more

comprehensive than the monthly surveys (and the surveys use it to benchmark against).

## Business Trends across the Midwest

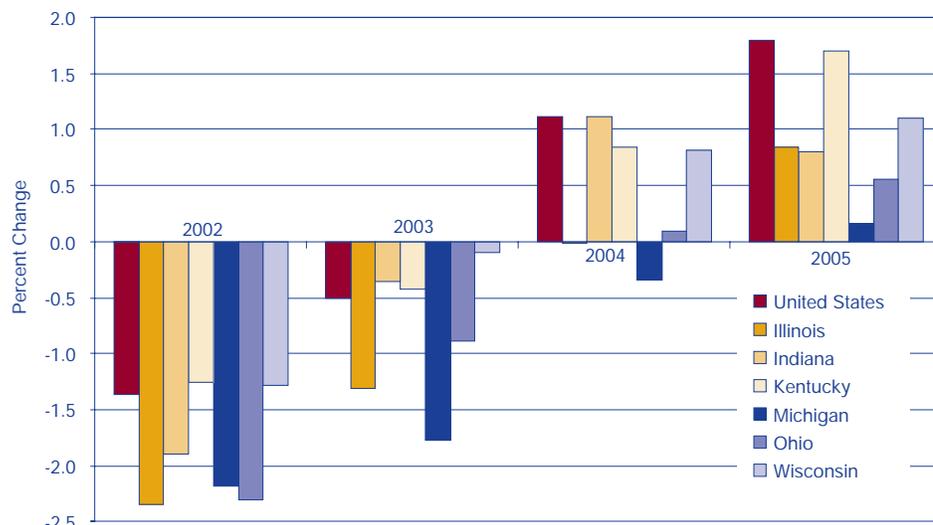
Since 2001, Indiana has added businesses each year, and in 2005, the addition of a little over 700 businesses brought the total close to 153,400. Over the four-year period, the state had a net increase of 2,250 businesses or 1.9 percent. Over this same time period, Michigan and Kentucky lost businesses, 169 and 1,438, respectively. Ohio had a 2.3 percent increase, while Illinois (5.1 percent increase) and Wisconsin (8.4 percent increase) were more in line with the nation's growth of 7.6 percent. **Figure 1** looks at the over-the-year percent change in the number of businesses, showing that Indiana had growth rates below the nation for the four-year time period. Although Indiana's growth rate in 2005 was slower than most of its Midwestern neighbors, the state shares a positive distinction with Illinois for no net declines in businesses. Wisconsin, which is certainly one of Indiana's peers in terms of population, added 9,500 more businesses than Indiana and had a growth rate that was 6.5 percentage points greater than the state. Maybe this is indicative that Indiana's business environment needs improvement. Cfed, a Washington, D.C., nonprofit organization, gave Indiana's business climate grades of Cs and Ds, while Wisconsin's lowest grade was a B.<sup>3</sup>

FIGURE 1: OVER-THE-YEAR PERCENT CHANGE IN BUSINESSES, 2005:2



Source: IBRC, using Bureau of Labor Statistics data

FIGURE 2: OVER-THE-YEAR PERCENT CHANGE IN EMPLOYMENT, 2005:2



Source: IBRC, using Bureau of Labor Statistics data

## Employment Trends across the Midwest

For a recession that didn't officially kick off until March 2001, according to the National Bureau of Economic

TABLE 1: OVER-THE-YEAR JOB CHANGE

| Super Sector                                    | United States    |                | Indiana        |                | Illinois       |                | Kentucky       |                | Michigan       |                | Ohio           |                | Wisconsin      |                |
|---|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   | Change in Jobs   | Percent Change | Change in Jobs | Percent Change | Change in Jobs | Percent Change | Change in Jobs | Percent Change | Change in Jobs | Percent Change | Change in Jobs | Percent Change | Change in Jobs | Percent Change |
| <b>Total</b>                                    | <b>2,323,870</b> | <b>1.8</b>     | <b>22,946</b>  | <b>0.8</b>     | <b>48,474</b>  | <b>0.8</b>     | <b>29,547</b>  | <b>1.7</b>     | <b>7,006</b>   | <b>0.2</b>     | <b>29,564</b>  | <b>0.6</b>     | <b>29,926</b>  | <b>1.1</b>     |
| Mining  | 36,982           | 7.1            | -356           | -5.1           | 339            | 3.6            | 1,615          | 8.5            | 393            | 5.8            | -237           | -2.1           | 65             | 2.1            |
| Construction                                    | 331,069          | 4.6            | -1,020         | -0.7           | 574            | 0.2            | 608            | 0.7            | -1,140         | -0.6           | -1,602         | -0.7           | 2              | 0.0            |
| Professional, Scientific and Technical Services | 273,079          | 4.0            | 1,654          | 1.9            | 12,921         | 3.9            | 3,211          | 5.5            | 4,031          | 1.6            | 7,543          | 3.3            | 1,963          | 2.2            |
| Administrative, Support and Waste Management    | 232,679          | 2.9            | 6,361          | 4.2            | 4,856          | 1.3            | 6,454          | 7.3            | 7,667          | 2.8            | 6,545          | 2.1            | 5,845          | 4.7            |
| Accommodation and Food Services                 | 314,976          | 2.9            | 4,109          | 1.7            | 7,749          | 1.8            | 4,160          | 2.9            | 3,702          | 1.1            | 8,142          | 1.9            | 4,244          | 1.9            |
| Management of Companies and Enterprises         | 44,196           | 2.6            | -232           | -0.9           | 5,399          | 6.3            | 523            | 3.4            | -3,062         | -4.5           | 4,938          | 5.3            | 1,283          | 3.2            |
| Health Care and Social Services                 | 365,139          | 2.3            | 6,783          | 2.0            | 13,367         | 2.1            | 4,616          | 2.1            | 11,475         | 2.2            | 17,403         | 2.4            | 5,237          | 1.5            |
| Real Estate, Rental and Leasing                 | 47,418           | 2.2            | 555            | 1.5            | 442            | 0.5            | 433            | 2.2            | -97            | -0.2           | -185           | -0.3           | 256            | 0.9            |
| Wholesale Trade                                 | 110,082          | 2.0            | 2,252          | 1.9            | 2,097          | 0.7            | 670            | 0.9            | -388           | -0.2           | 4,792          | 2.1            | 3,612          | 3.2            |
| Transportation and Warehousing                  | 81,780           | 1.6            | 4,081          | 3.3            | 2,436          | 0.9            | 2,346          | 2.7            | 2,071          | 1.6            | 6,575          | 3.3            | 1,234          | 1.1            |
| Educational Services                            | 172,169          | 1.5            | 3,686          | 1.6            | 5,524          | 1.1            | 4,425          | 2.7            | 709            | 0.2            | -2,586         | -0.6           | 1,449          | 0.7            |
| Finance and Insurance                           | 79,825           | 1.4            | -2,346         | -2.3           | 1,305          | 0.4            | 736            | 1.1            | 921            | 0.6            | -2,309         | -1.0           | 715            | 0.6            |
| Arts, Entertainment and Recreation              | 29,167           | 1.3            | -933           | -1.9           | -34            | 0.0            | 40             | 0.2            | 227            | 0.3            | -395           | -0.5           | 45             | 0.1            |
| Retail Trade                                    | 183,688          | 1.2            | -613           | -0.2           | 967            | 0.2            | 1,218          | 0.6            | -7,644         | -1.5           | -4,506         | -0.7           | -2,807         | -0.9           |
| Other Services (Except Public Administration)   | 41,256           | 0.9            | 87             | 0.1            | -157           | -0.1           | -484           | -1.1           | 1,612          | 1.2            | -2,934         | -1.7           | 435            | 0.5            |
| Public Administration                           | 28,021           | 0.4            | -1,115         | -0.9           | 201            | 0.1            | 563            | 0.6            | 43,477         | 28.3           | -541           | -0.2           | -995           | -0.7           |
| Manufacturing                                   | -58,162          | -0.4           | -310           | -0.1           | -6,148         | -0.9           | -765           | -0.3           | -18,656        | -2.7           | -9,970         | -1.2           | 3,571          | 0.7            |
| Agriculture, Forestry, Fishing and Hunting      | -15,750          | -1.3           | -47            | -0.4           | -262           | -1.6           | 113            | 1.5            | 117            | 0.5            | -290           | -1.9           | 484            | 2.7            |
| Information                                     | -47,328          | -1.5           | -707           | -1.5           | -2,528         | -1.9           | 317            | 1.0            | -342           | -0.5           | -2,137         | -2.0           | -95            | -0.2           |
| Utilities                                       | -14,186          | -1.7           | 200            | 1.4            | -653           | -2.7           | 44             | 0.4            | 1,545          | 7.5            | -217           | -0.7           | -84            | -0.6           |

\*Highlighted categories indicate where Indiana had larger percent declines than the nation or the Midwest.  
 Note: Unallocated industries are not shown.  
 Source: Bureau of Labor Statistics

Research,<sup>4</sup> **Figure 2** shows that Indiana and its Midwestern neighbors were still in the midst of job losses in the second quarter of 2002. Indiana suffered greater percentage declines during this timeframe but then pulled out of the recession a little quicker than the rest of the nation. In 2004, Indiana saw a 1.1 percent expansion in jobs—tying with the nation. However, the state lost ground in 2005 with an employment growth rate that was 1 percentage point below the nation.

According to **Table 1**, Indiana gained almost 23,000 jobs over the year. Ohio, Wisconsin and Kentucky all gained about 29,000 jobs each, while Illinois gained more than twice as many jobs as Indiana. Michigan stood alone with only 7,000 jobs added, suffering heavy losses in its manufacturing industries. In fact, Indiana fared the best in manufacturing with only 300 lost jobs or -0.1 percent. Nine of Indiana’s sectors experienced job losses. Comparatively, Ohio lost jobs in 13

sectors and Kentucky only saw losses in two. Indiana saw larger percentage declines than the rest of the Midwest and the nation in mining, finance and insurance, arts, entertainment and recreation, and public administration.

Although overall job gains are good, it may not be a healthy scenario when the majority of the gain is reliant on 10 of the 20 sectors making up the state’s economy and five sectors in particular. Transportation and warehousing, administrative support, education, health care and social services, and accommodation and food services contributed 85 percent of the total number of jobs gained. Within the Midwest, only Ohio had a more uneven pattern of employment growth. The Federal Deposit Insurance Corp. (FDIC) found similar results for the third quarter of 2005.<sup>5</sup> The report found that, for many Hoosiers, “A combination of relatively slow population growth, steady housing starts, uneven employment conditions

and slow income growth ... produced conditions for added financial stress.”

### Industrial Mix of Jobs

Over the course of a year, the state’s job composition has changed. There has been a shift away from manufacturing (20 percent to 19.8 percent of jobs), construction, retail, finance and insurance, and public administration jobs. Meanwhile, other sectors of the economy, such as transportation and warehousing, administrative support, education, health care and social services, and accommodation and food services (the same five sectors mentioned above), have picked up and boosted their shares of total employment.

### Pay Levels for Indiana and the Nation

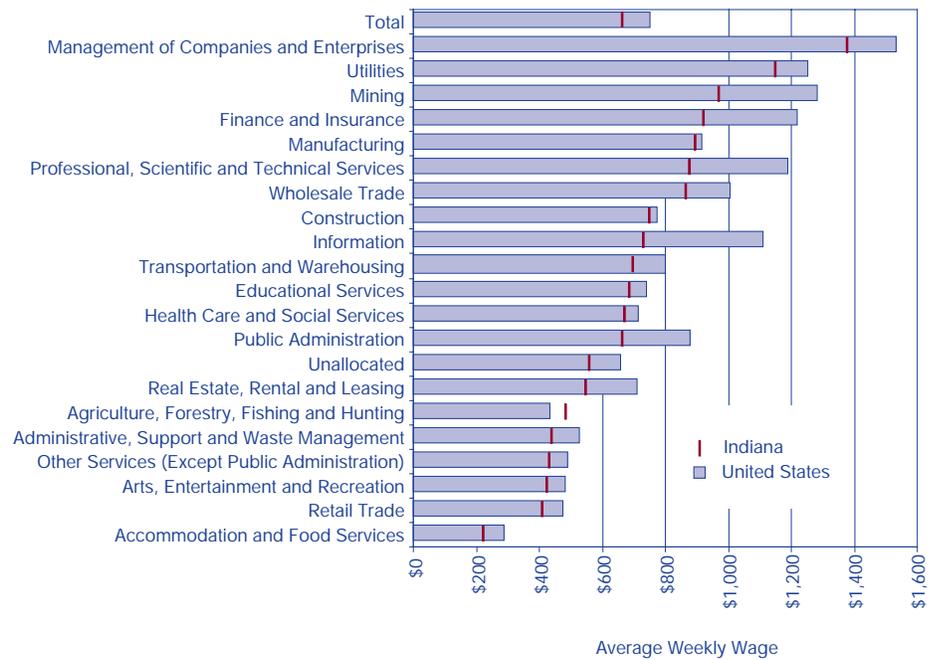
**Figure 3** illustrates a pay gap between Indiana and the nation for all industries. The average Hoosier brings home \$664 dollars a week—\$87 dollars less

than others across the nation. The only industry paying Hoosiers more is agriculture, fishing and hunting where Hoosiers earn \$484 a week—\$52 dollars more than the U.S. average. The gap continues to widen as the country’s average weekly wage advanced 3.8 percent—a full percentage point above the state. Only five industries in Indiana outpaced the nation’s growth rate: management of companies and enterprises, mining, education services, professional and technical services, and public administration.

### The Languid Manufacturing Sector

The manufacturing environment in Indiana and the rest of the nation is changing due to global competition, process improvements and increased productivity. **Table 2** looks at which manufacturing industries had the largest numeric increases and decreases in jobs in the United States and Indiana. Both Indiana and the nation experienced a decline in motor vehicle parts manufacturing but Indiana sustained a slightly greater percentage decline. The manufacturing industry with the largest job increase in the state was machine shops; turned product; and screw, nut and bolt manufacturing with 1,100 jobs

FIGURE 3: AVERAGE WEEKLY WAGES IN INDIANA AND THE UNITED STATES



Source: IBRC, using Indiana Department of Workforce Development and Bureau of Labor Statistics data

added or 8.2 percent. This was also the fastest growing at the national level, although Indiana added jobs at a faster rate.

Indiana has 585 businesses and 127,300 employees working in the manufacturing of automobiles and vehicle parts. That constitutes over one-fifth of all manufacturing jobs in the state or 14.4 percentage points greater than the number of jobs the United States has devoted to the

automobile industry (as a share of all manufacturing jobs). Only Michigan, where the automobile industry constitutes a little more than one-third of all manufacturing jobs, has more vested than Indiana in this industry.

### Notes

1. Associated Press, “GM Slashing 30,000 Jobs, Closing Plants,” *MSNBC Online*, November 21, 2005. Available at [www.msnbc.msn.com/id/10138507/](http://www.msnbc.msn.com/id/10138507/).
2. Associated Press, “Ford to Cut up to 30,000 Jobs, Idle 14 Plants,” *MSNBC Online*, January 23, 2006. Available at [www.msnbc.msn.com/id/10946664/](http://www.msnbc.msn.com/id/10946664/).
3. [www.cfed.org/focus.m?parentid=34&siteid=1581&id=1592](http://www.cfed.org/focus.m?parentid=34&siteid=1581&id=1592); and Norm Heikens, “Indiana’s Economic Grades Falling,” *Indystar.com*, January 28, 2006. Available at [www.indystar.com/apps/pbcs.dll/article?AID=/20060128/BUSINESS/601280418/1003](http://www.indystar.com/apps/pbcs.dll/article?AID=/20060128/BUSINESS/601280418/1003)
4. [www.nber.org/cycles.html](http://www.nber.org/cycles.html)
5. Bill Medley, “Hoosiers Feeling Economic Pinch, Says FDIC Report,” *Evansville Courier and Press*, January 11, 2006. Available at [www.indianaeconomicdigest.net/main.asp?SectionID=31&SubSectionID=116&ArticleID=24081](http://www.indianaeconomicdigest.net/main.asp?SectionID=31&SubSectionID=116&ArticleID=24081); and [www.fdic.gov/bank/analytical/stateprofile/Chicago/In/IN.xml.html](http://www.fdic.gov/bank/analytical/stateprofile/Chicago/In/IN.xml.html)

—Amber Kostelac, Data Manager, Indiana Business Research Center, Kelley School of Business, Indiana University

TABLE 2: LARGEST OVER-THE-YEAR NUMERIC CHANGE IN MANUFACTURING

|               | NAICS | Industry   | Change  | Percent Change |
|---------------|-------|--|---------|----------------|
| United States | 3152  | Cut and Sew Apparel Manufacturing                                    | -22,577 | -10.0          |
|               | 3231  | Printing and Related Support Activities                              | -13,931 | -2.1           |
|               | 3132  | Fabric Mills   | -11,133 | -9.6           |
|               | 3363  | Motor Vehicle Parts Manufacturing                                    | -10,381 | -1.5           |
|               | 3331  | Agriculture, Construction and Mining Machinery Manufacturing         | 14,483  | 7.5            |
|               | 3364  | Aerospace Product and Parts Manufacturing                            | 16,078  | 3.7            |
|               | 3327  | Machine Shops; Turned Product; and Screw, Nut and Bolt Manufacturing | 16,497  | 5.1            |
| Indiana       | 3363  | Motor Vehicle Parts Manufacturing                                    | -1,471  | -1.9           |
|               | 3344  | Semiconductor and Other Electronic Component Manufacturing           | -973    | -15.6          |
|               | 3352  | Household Appliance Manufacturing                                    | -849    | -19.1          |
|               | 3362  | Motor Vehicle Body and Trailer Manufacturing                         | 459     | 1.2            |
|               | 3336  | Engine, Turbine and Power Transmission Equipment Manufacturing       | 675     | 6.4            |
|               | 3391  | Medical Equipment and Supplies Manufacturing                         | 940     | 5.8            |
|               | 3327  | Machine Shops; Turned Product; and Screw, Nut and Bolt Manufacturing | 1,110   | 8.2            |

Source: Bureau of Labor Statistics

# Inside the Data Center

## Potential Economic Effect of a Flu Pandemic

Much is heard in the news these days about avian flu and the potential of a flu pandemic. By the middle of January 2006, the issue had pushed its way to the home pages of many prominent websites, including those of the White House, the U.S. Department of Health and Human Services, the Centers for Disease Control and Prevention (CDC), the World Health Organization (WHO) and the Indiana State Department of Health. The federal government has even created a website dedicated to the issue ([www.PandemicFlu.gov](http://www.PandemicFlu.gov)).

The October 7, 2005, issue of *Science* reported that researchers from the CDC and their colleagues were able to reconstruct the flu virus that caused the flu pandemic that killed upwards of 50 million people worldwide (an estimated 675,000 in the United States) in 1918–19. There were two other flu pandemics in the 20th century (1957 and 1968) but neither was as deadly as the 1918 pandemic (see **Figure 1** and **Table 1**).

The “Report of the State Board of Health For the Year Ending September

30, 1919,”<sup>1</sup> shows that the flu epidemic was first recognized about September 20, 1918, spreading to every corner of the state by October 20. The epidemic reached a maximum about October 25 and then declined until about November 15 when a second recurrence began, ending by January 1, 1919. On October 9, schools, churches and theaters were ordered closed and public gatherings were forbidden. This order was lifted on November 2 when officials realized that the closings had very little effect in controlling the spread of the flu. By the end of the epidemic, a total of \$8,269.09 was spent by the federal government in Indiana to help control the epidemic (or over \$90,000 when adjusted for inflation).

A 1999 CDC report estimated that a flu pandemic in the United States could result in 89,000 to 207,000 deaths; 314,000 to 734,000 hospitalizations; and 18 to 42 million outpatient visits. The authors estimated that the impact to the economy would be anywhere from \$71.3 to \$166.5 billion, excluding disruptions to commerce and society.

More recently, a December 2005 Congressional Budget Office report discusses two economic impact

TABLE 1: HOOSIER INFLUENZA DEATHS

| Influenza Deaths | 1917 | 1918  | 1919 | 1920  | 1921 |
|------------------|------|-------|------|-------|------|
| January          | 111  | 72    | 925  | 311   | 48   |
| February         | 182  | 71    | 554  | 1,284 | 54   |
| March            | 105  | 70    | 948  | 431   | 45   |
| April            | 59   | 127   | 269  | 105   | 22   |
| May              | 24   | 54    | 64   | 46    | 32   |
| June             | 13   | 6     | 26   | 24    | 6    |
| July             | 3    | 1     | 13   | 13    | 6    |
| August           | 3    | 7     | 17   | 6     | 11   |
| September        | 6    | 64    | 18   | 6     | 17   |
| October          | 5    | 2,092 | 30   | 15    | 22   |
| November         | 15   | 1,767 | 32   | 18    | 16   |
| December         | 39   | 1,970 | 33   | 31    | 32   |

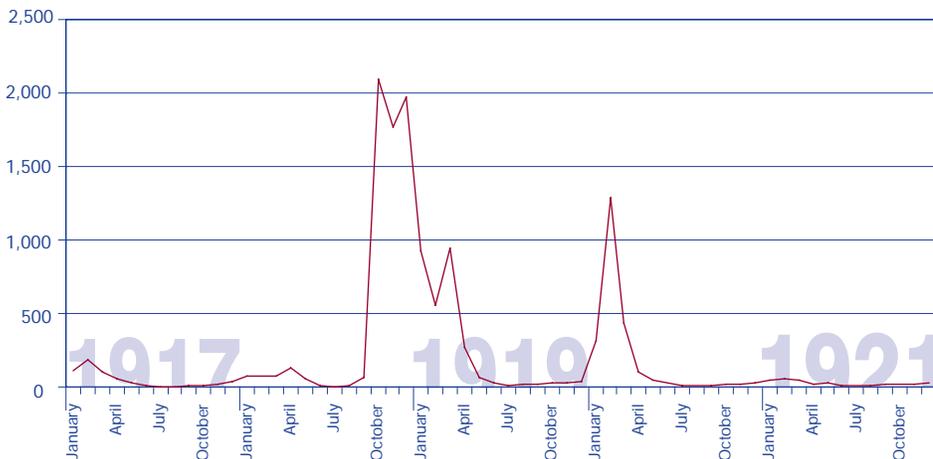
Source: Year Book of the State of Indiana for the Year 1922. <sup>1</sup>Annual Report of the Division of Vital Statistics Year 1921\*

scenarios of a potential avian flu pandemic. In the most severe scenario, one similar to the 1918–19 outbreak, about 90 million people would fall ill and 2 million would die in the United States. Real GDP would drop by about 5 percent over the next year, comparable to the effect of a typical business-cycle recession. In the second, milder scenario, one similar to the 1957 and 1968 pandemics, about 75 million would become sick in the United States and about 100,000 would die. GDP would drop by about 1.5 percent but would not cause a recession.

For more information on the avian flu, flu pandemics and preparedness or response plans, visit:

- The Center for Disease Control and Prevention: [www.cdc.gov](http://www.cdc.gov)
- FluPandemic.gov: [www.pandemicflu.gov/](http://www.pandemicflu.gov/)
- Indiana State Department of Health: [www.in.gov/isdh](http://www.in.gov/isdh)

FIGURE 1: HOOSIER DEATHS DUE TO INFLUENZA, 1917 TO 1921



Source: Year Book of the State of Indiana for the Year 1922. <sup>1</sup>Annual Report of the Division of Vital Statistics Year 1921\*

## Women-Owned Firms in Indiana: 2002

The Census Bureau recently released the 2002 *Survey of Business Owners: Women-Owned Firms* report. Nationally, women-owned businesses grew at twice the national average between 1997 and 2002. The 6.5 million firms brought in about \$950 in sales and receipts.

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## Digital Connections

### IN Context

Current workforce and economic news with searchable archives.

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### STATS Indiana

Award-winning economic and demographic site provides thousands of current indicators for Indiana and its communities in a national context.

[www.stats.indiana.edu](http://www.stats.indiana.edu)

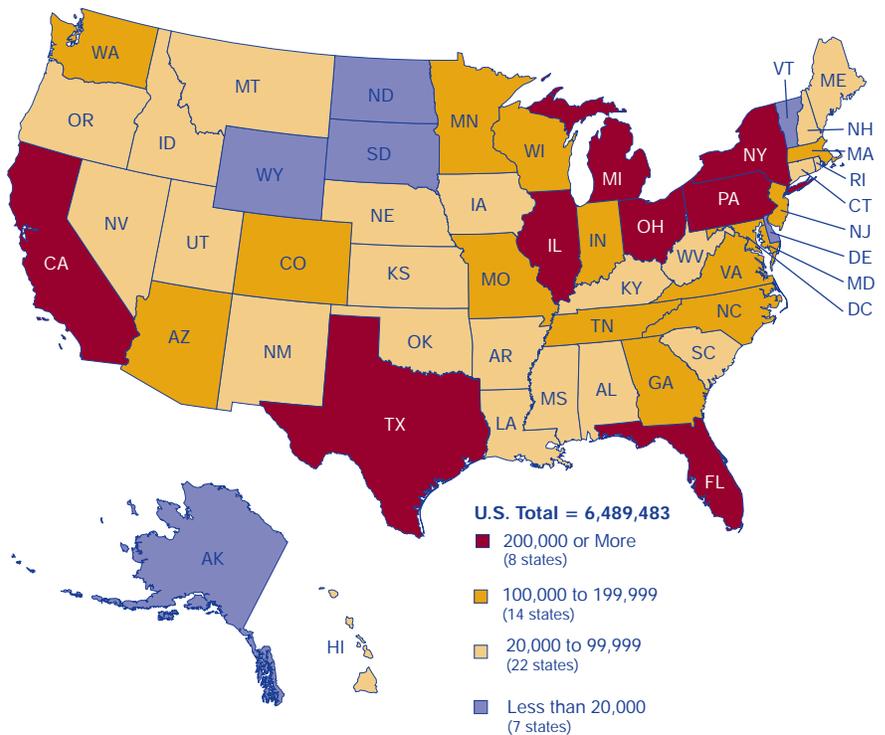
### Indiana Economic Digest

The news behind the numbers, the Digest is a unique partnership with daily newspapers throughout Indiana providing access to daily news reports on business and economic events.

[www.indianaeconomicdigest.net](http://www.indianaeconomicdigest.net)

(continued from page 11)

FIGURE 2: WOMEN-OWNED BUSINESSES BY STATE, 2002



Source: IBRC, using U.S. Census Bureau data

In Indiana, 118,857 women-owned firms, roughly 27.4 percent of all businesses in the state, generated almost \$16.5 billion in revenue. The 16,218 firms with paid employees employed 136,457 people.

To read the complete report, visit the Census website at [www.census.gov/prod/ec02/sb0200cswmn.pdf](http://www.census.gov/prod/ec02/sb0200cswmn.pdf). To view national and state-level data from the 2002 Survey of Business Owners, go to [www.census.gov/econ/www/index.html](http://www.census.gov/econ/www/index.html).

## Notes

1. Reports discussed in the article:

- “The Economic Impact of Pandemic Influenza in the United States: Priorities for Intervention” *Emerging Infectious Diseases*, 5:5 September–October 1999. [www.cdc.gov/ncidod/eid/vol5no5/meltzer.htm](http://www.cdc.gov/ncidod/eid/vol5no5/meltzer.htm)
- “A Potential Influenza Pandemic: Possible Macroeconomic Effects and Policy Issues.” *Congressional Budget Office* December 2005. [www.cbo.gov/ftpdocs/69xx/doc6946/12-08-BirdFlu.pdf](http://www.cbo.gov/ftpdocs/69xx/doc6946/12-08-BirdFlu.pdf)
- “Report of the State Board of Health For the Year Ending September 30, 1919”. Year Book of the State of Indiana for the Year 1919 (Indianapolis, IN: Legislative Reference Bureau, 1920).

—Frank Wilmot, State Data Coordinator, Indiana State Library

## REMINDER:

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