



2013 MANUFACTURING + LOGISTICS

Indiana Report

The **2013 Manufacturing and Logistics Indiana Report** shows how the state ranks among its peers in several areas of the economy that underlie the success of manufacturing and logistics.

These specific measures include: manufacturing and logistics industry health, human capital, cost of worker benefits, diversification of the industries, state-level productivity and innovation, expected fiscal liability, tax climate, and global reach.

About Ball State CBER

The Center for Business and Economic Research (CBER) is an economic policy and forecasting research center at Ball State University. CBER research includes public finance, regional economics, manufacturing, transportation, and energy sector studies.

The Center produces the CBER Data Center—a suite of web-based data tools—and the Indiana Business Bulletin—a weekly newsletter with commentary on current issues and regularly updated data on dozens of economic indicators.

In addition to research and data delivery, CBER serves as a business forecasting authority in Indiana's east-central region—holding the annual Indiana Economic Outlook luncheon and quarterly meetings of the Ball State University Business Roundtable.

About Conexus Indiana

Conexus Indiana is a private sector-led initiative focused on the advanced manufacturing and logistics sectors—two industries that combined employ more than one of every five Hoosiers. Conexus Indiana is focused on making Indiana a global manufacturing and logistics leader by strengthening the state's human capital, building industry partnerships to capitalize on new opportunities and address key challenges, and promoting a better understanding of the importance of these industries to our economic future.

Conexus Indiana's most urgent mission is building tomorrow's manufacturing and logistics workforce, preparing Hoosiers to take advantage of high-tech careers in these exciting fields. Conexus Indiana is also focused on developing a unified strategy to enhance logistics capabilities, linking manufacturers with in-state suppliers to streamline supply chains and spur investment in Indiana, and undertaking other strategic projects that will help the manufacturing and logistics sectors thrive here at the Crossroads of America.

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Grades for Indiana

State Overview

Since the end of the Great Recession, Indiana's manufacturing sector has recovered faster than the national average, with a 4.6 percent growth in employment between 2009 and 2011, and a ranking of 3rd in the nation in terms of recovery. This recovery is remarkable because only six states saw manufacturing growth of more than 1.0 percent since the end of the recession. Moreover, 36 states continued to see manufacturing employment declines since the end of the Great Recession.

The 2013 Manufacturing and Logistics Report for Indiana reflects the state's continuing dominance in manufacturing and logistics. However, the effects of the Great Recession have introduced a temporary distortion into the rankings for human capital and productivity, which we outline in more detail in those sections. This sort of variability is inevitable in a scorecard designed to speak to the long-run health of an industry, but, in this case, a closer examination is warranted. What remains clear is that as the deep recession of 2007 to 2009 continues to affect the nation and state, Indiana's manufacturing and logistics industries continue to do well and enjoy a very robust economic climate for their operations.



State Grade History and Comparison with Other Midwestern States

| SUBJECT | INDIANA GRADES BY YEAR | | | | | OTHER MIDWESTERN STATES IN 2013 | | | | | | | | SUBJECT |
|-------------------------------|------------------------|------|------|------|------|---------------------------------|----|----|----|----|----|----|----|-------------------------------|
| | 2009 | 2010 | 2011 | 2012 | 2013 | IL | IA | KY | MI | MN | MO | OH | WI | |
| MANUFACTURING INDUSTRY HEALTH | A | A | A | A | A | C | A | B | A | B | C | A | A | MANUFACTURING INDUSTRY HEALTH |
| LOGISTICS INDUSTRY HEALTH | B- | B+ | A | A | A | A | B | B | B- | B | B | A | B- | LOGISTICS INDUSTRY HEALTH |
| HUMAN CAPITAL | D+ | C- | C | C- | D | C | A | D | C- | A | C | C- | B | HUMAN CAPITAL |
| WORKER BENEFIT COSTS | C | C | C | D+ | C- | F | C | C | C | C | A | D | D- | WORKER BENEFIT COSTS |
| TAX CLIMATE | A | A | A | A | A | F | D- | C | B- | F | A | C- | D+ | TAX CLIMATE |
| EXPECTED LIABILITY GAP | NEW CATEGORY | | | B | C+ | F | C+ | F | D | B | B | C | A | EXPECTED LIABILITY GAP |
| GLOBAL REACH | A | A | A | A | A | B | C- | A | A | C- | B- | A | C | GLOBAL REACH |
| SECTOR DIVERSIFICATION | - | C- | C | C+ | C | C | C | B- | D- | C | A | C+ | C+ | SECTOR DIVERSIFICATION |
| PRODUCTIVITY and INNOVATION | C | C | C+ | B+ | C+ | B+ | C | D | C | A | D+ | C | C | PRODUCTIVITY and INNOVATION |

Quick Facts

- » Indiana has received straight As in manufacturing, tax climate, and global reach since 2008, the first year of this publication.
- » Indiana has consistently improved its grades in logistics.
- » Indiana exports manufactured goods to every continent except Antarctica.
- » Manufacturing workers earn roughly 50 percent more than non-manufacturing workers who have the same level of education.

Companion Report

Get the whole story on Indiana's industrial growth during the recession by reading the in-depth companion report, "Manufacturing Productivity Through the Great Recession", by Michael J. Hicks. The study examines four types of manufacturing productivity growth and discusses its implications for Indiana, the Midwest, and the nation. View it online at the Manufacturing and Logistics Report website: conexus.cberdata.org

More Online

Visit the Manufacturing and Logistics Report website to find a methodology for grade calculation, a glossary of terms, national grades for each category, and a full performance history for each state: conexus.cberdata.org

Examining Indiana's Performance

Manufacturing Industry Health: **A**

Indiana continued to remain strong in this year's report, retaining its A grade in the manufacturing industry. This category measures the size of each sector and its compensation of workers.

Logistics Industry Health: **A**

Indiana held on to its A in the logistics industry as a whole. The category measurements include the relative sizes, earnings, and transportation flows as well as the investments in infrastructure.

Human Capital: **D**

In this report, Indiana's human capital grade dropped from a C- to a D. This decline was fueled by a large relative decline in graduation rates of associate degree programs in 2010. However, this is a rare statistical anomaly associated with the Great Recession. Enrollment in Indiana's associate degree programs prior to the recession (2006 to 2007) rose by a respectable 2.48 percent, ranking Indiana 25th in the nation. However, the Great Recession saw enrollment spikes. From 2007 to 2008, enrollment grew by an overwhelming 17.55 percent, and Indiana leaped to 1st in the nation. Between 2008 and 2009, enrollment growth continued its remarkable spike to 21.64 percent, with Indiana retaining the top growth position nationally. As the recession eased, enrollment growth slowed to 6.11 percent (ranking 17th in the 2009 to 2010 period). By the period of 2010 to 2011, enrollment growth dropped to 2.17 percent, with Indiana again ranking 25th nationally.

Indiana led the nation with highest enrollment growth in associate degree programs between 2007 and 2010. It should be unsurprising that graduation rates for associate degree programs dropped slightly during this period, as overall enrollment grew by an astonishing 51.73 percent (ranked 1st nationally). In the 2013 report, we capture the associate degree graduation rates of 2007, entering cohort graduation in 2010. Even with understandably lower graduation rates among these students, the huge enrollment growth bodes well for overall degree completion rates. However, these data have yet to become available, and so the decline in human capital grade for Indiana this year is a transitory phenomenon.

Worker Benefit Costs: **C-**

Indiana moved from a D+ to a C- in worker benefit rankings. The health care premiums declined modestly, relative to other states. Long-term health care costs and fringe benefit costs increased marginally. This category also measures workers' compensation rates and federal expenditures in the state.

Tax Climate: **A**

Indiana maintained an A in tax climate in fiscal year 2013, which depicts an important consideration in expansion and relocation considerations for firms. This ranking does not yet take into account the reductions in corporate income taxes, which were passed by the legislature in 2013, nor does it include the cuts to personal income taxes, which were passed by the legislature in 2013.



Expected Liability Gap: **C+**

Indiana saw a slight decline in its expected liability gap rankings, going from a B to a C+. The average benefits and unfunded liability as a percentage of GDP increased relatively in 2010. Other measures in this category include bond ratings (still a tie for 1st place) and unfunded liability on a per capita basis. This highlights the continued need to closely consider unfunded liabilities for the state.

Global Reach: **A**

Indiana retained its supremacy in global reach with an A. There has been an improvement in relative export growth compared to last year. This category also measures the reach of foreign direct investment, demand adaptability index, and per capita income derived from foreign-owned manufacturers.

Sector Diversification: **C**

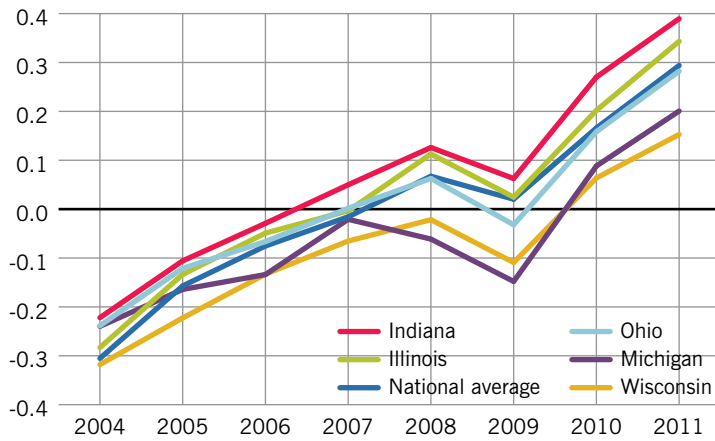
Indiana dropped its relative sector diversification rankings slightly, going from a C+ to a C. This is largely fueled by growth in the manufacturing of transportation equipment, which rebounded more steeply than other sectors.

Productivity and Innovation: **C+**

The Indiana grade dropped from a B+ to a C+ in the productivity and innovation category. The state saw a relative decline in manufacturing value added and average manufacturing productivity. Value added is a measure of the contribution of the production process in an individual state. As with the human capital ranking, this data point has been highly affected by the economic perturbations of the Great Recession. These data collected by the U.S. Census measure many things, including the industrial mix of the state, with higher value added industries typically reflecting much more technologically intense production processes. This report uses a five-year change in value added, which, this year, included the peak of automobile production through 2011. So, the steep decline in automobile production that accompanied the economic downturn appears as a one-time loss of value added production, which would have affected lower valued added production very little. It is certain this measure will rebound as newer data becomes available. However, this is a very incomplete story because more important measures of productivity among manufacturing firms demonstrate a very large period of growth during the recession and the recovery.

As we report in "Manufacturing Productivity Through the Great Recession", total factor productivity growth among Indiana's manufacturing firms saw steep growth from 2007 to 2011. This was a rebound from the midyears of the last decade, and Indiana continues to lead the Midwest in overall total factor productivity levels and growth rates in the post-recession period.

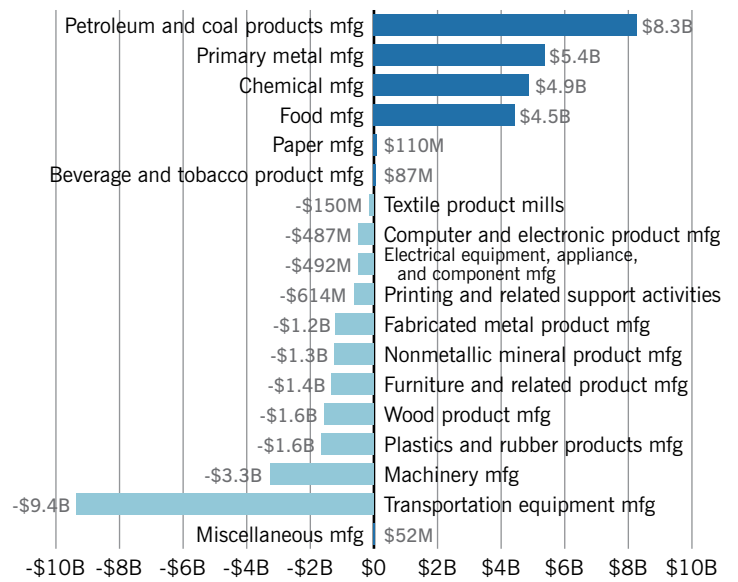
Figure 1. Total Factor Productivity in the U.S. and Midwest Manufacturing States, 2004-2011



Source: U.S. Department of the Census Annual Survey of Manufacturers.

Figure 1: Productivity levels in Indiana have exceeded both the U.S. average and the regional averages in surrounding Midwestern manufacturing states. Indiana's robust fiscal environment invites new investment, which allows firms to take advantage of productivity improving technology. See the companion report "Manufacturing Productivity Through the Great Recession" for details.

Figure 2. Change in Manufacturing Production by Sector in Indiana, 2005-2011



Note: Figures in 2012 inflation-adjusted dollars.

Source: U.S. Department of the Census Annual Survey of Manufacturers.

Figure 2: Production grew in food, petroleum and coal, chemical and primary metal manufacturing between 2005 and 2011. Production declines were concentrated in transportation equipment and machinery. Overall, the manufacturing output grew by \$1.8 billion from 2005 to 2011. See the companion report "Manufacturing Productivity Through the Great Recession" for details.



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