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INDIANA BUSINESS REVIEW

Indiana Jobs: Recession, Recovery

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From the Editor

Work, work, work—and workforce. That's what our fall issue is all about and it is great stuff! Matt Kinghorn, state demographer and workforce analyst, gives us all plenty to think on with his insights on the ups and downs of jobs and industries. His focus, though, rests on giving us critical insights into specific Indiana industries that have a competitive advantage—the ones that rebounded faster or have come from behind to take the lead in job growth. Be certain to read through to the end and pay special attention to the gems embedded in those tables and graphs. It could be the next best thing to getting stock tips.

The next article puts the spotlight on licensing and certification data collected year after year, day in and day out by a relatively new data agency in Indiana government: the Public Licensing Agency. Through collaboration with another great data agency, the Department of Workforce Development, a new set of data has been constructed out of what is already collected, with no additional burden on anyone. You have to love this most pragmatic of Hoosier approaches—let's use what we've got and learn from it. Can you tell we love data? Enjoy the fall and our Fall issue!

Indiana Jobs: Recession, Recovery

Matt R. Kinghorn: Demographer, Indiana Business Research Center, Kelley School of Business, Indiana University

Indiana reached an important milestone in July 2014. Nearly seven years from the start of the Great Recession, the state finally has more private sector jobs than it did in June 2007—the employment peak of the previous business cycle (see Figure 1). Similarly, the U.S. eclipsed its pre-recession peak in March 2014. Nationally, the private sector job count is now at an all-time high, but Indiana is still below its high watermark set in the spring of 2000.

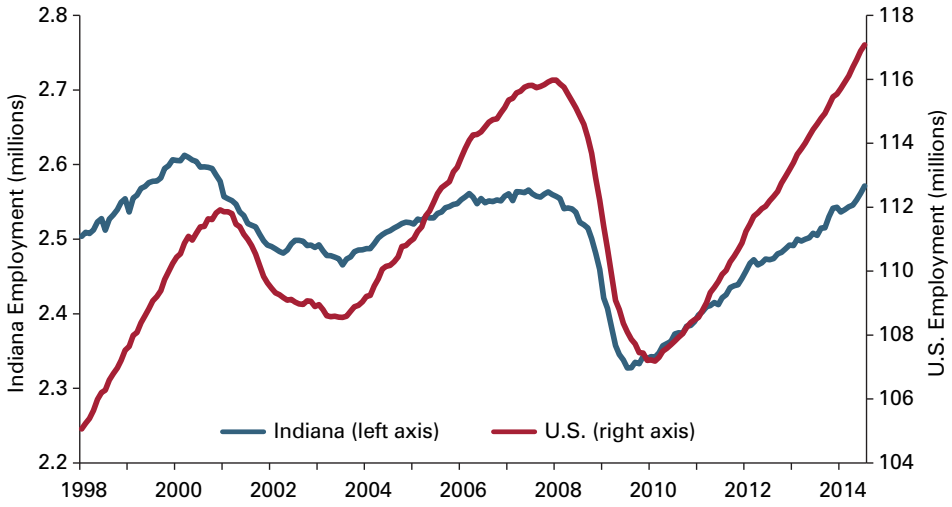
While Indiana has now recovered all the private sector jobs it lost during the recession, the structure of the state's economy has shifted over the last six years. Not surprisingly, industries like health care, hospitality and food service are on the rise, while goods-producing industries like manufacturing and construction are down.

This article takes stock of employment changes by industry since 2007 and places those changes within the context of the Midwest and nation. Then, we consider how these shifts impact the wages of Hoosier workers. Finally, we'll take a deeper dive into the employment data to identify the detailed industries where the state is building a competitive advantage and those where it is falling behind.

Employment Change Overview

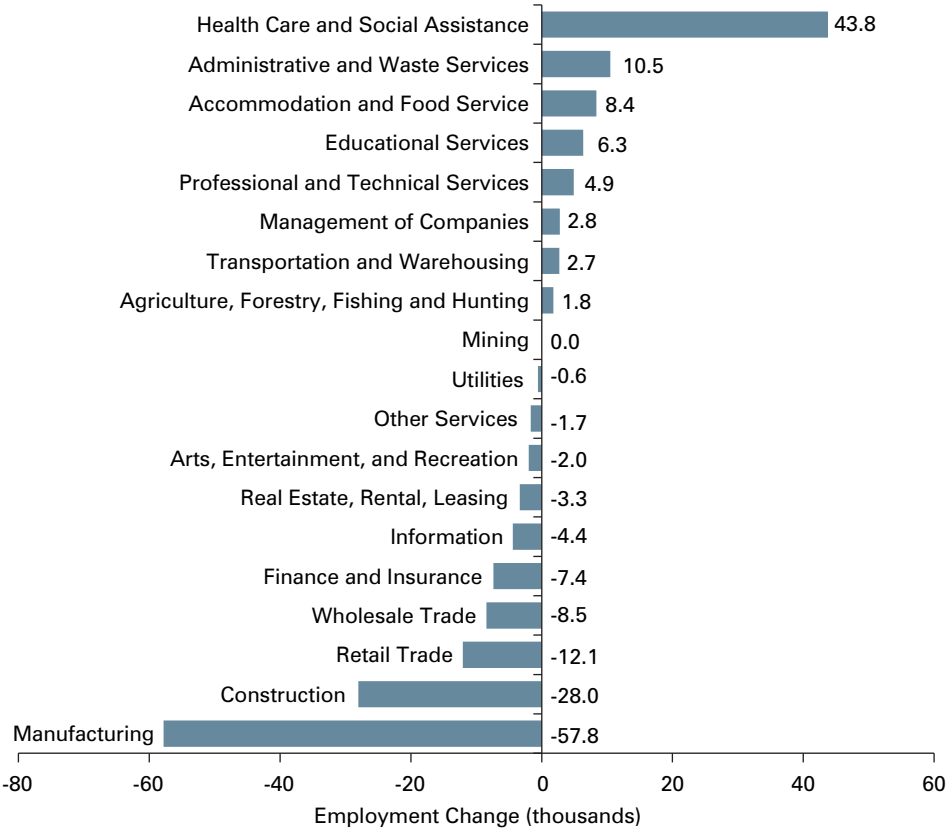
As **Figure 2** highlights, employers in the health care and social assistance industries were far and away the drivers of private job growth in the state between 2007 and 2013. Over this period, Indiana's hospitals accounted for one-quarter of new jobs in this sector, while home health care providers added more than 7,600 jobs and employment at doctor's offices increased by nearly 5,000. In terms of growth rate, this sector has expanded at a 2.1 percent annual rate since

Figure 1: Total Private Sector Employment, January 1998 to July 2014



Source: U.S. Bureau of Labor Statistics, data are seasonally adjusted

Figure 2: Indiana Private Employment Change by Sector, 2007 to 2013



Source: U.S. Bureau of Labor Statistics

2007, which is slightly slower than the U.S. average but outpaces the rest of the Midwest (see **Figure 3**).[1]

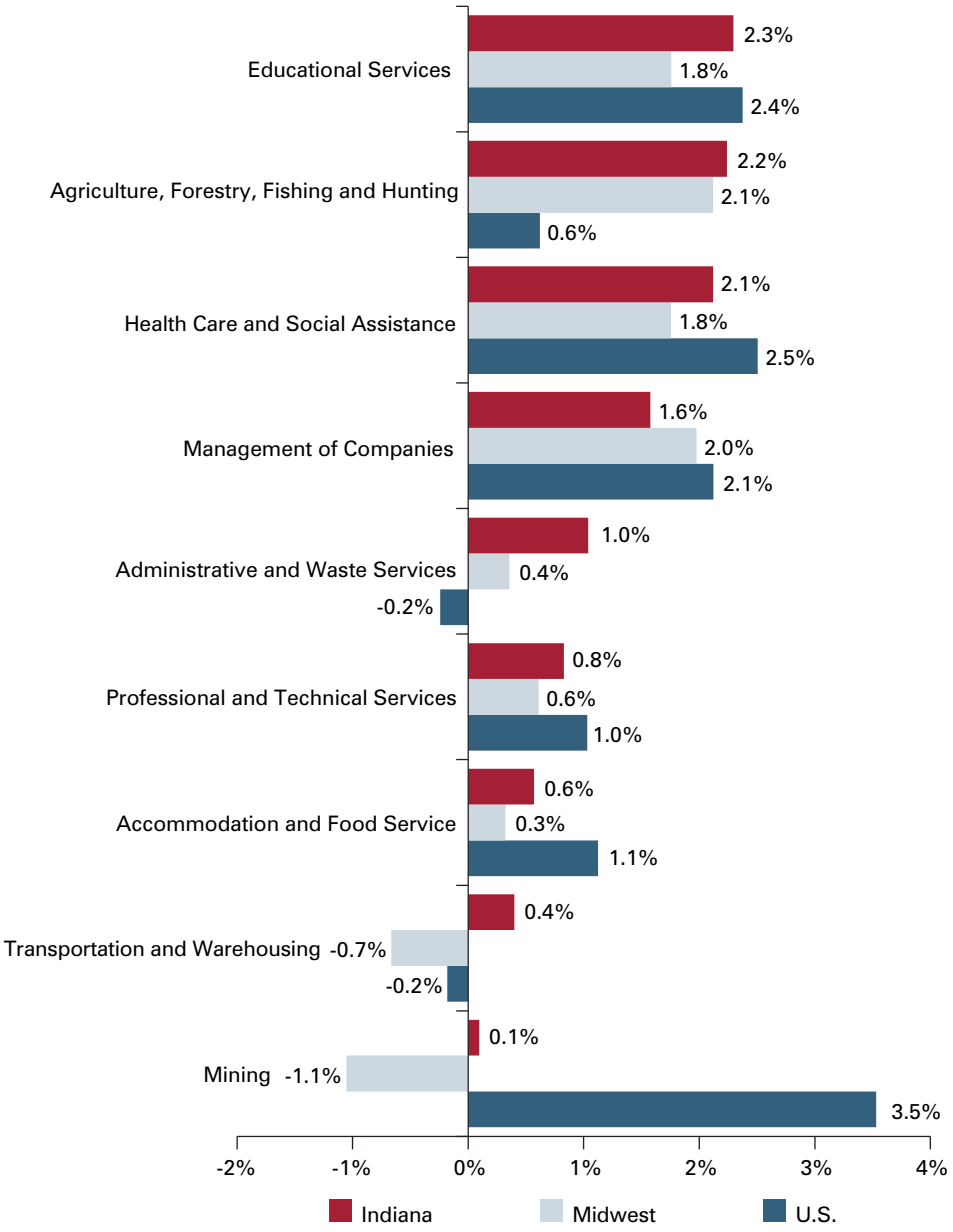
The administrative and waste management services sector ran a distant second place with 10,500 new jobs over the past six years. This surge is difficult to interpret, however, since the temporary employment services subsector—which places workers in a variety of industries—accounted for much of this growth (i.e., nearly 14,300 new jobs in this industry between 2007 and 2013). Occupation data at the national level provides some clues as to the type of industries that may be utilizing these services in Indiana. In 2013, production, transportation and material moving occupations and administrative support occupations each accounted for an identical 21 percent of all jobs in the employment services industry at the national level. The next closest occupation grouping was business and financial operations with 4 percent of the jobs in this industry.

The growth in Indiana's administrative and waste management services sector translates to a 1 percent annual increase between 2007 and 2013—a mark that far outpaces the Midwest region (0.4 percent annual growth) and the U.S. (-0.2 percent). The only other sectors where Indiana is growing more rapidly than both of these benchmarks are agriculture and transportation and warehousing.

Looking to the other end of the spectrum, Indiana's manufacturing sector has been the largest source of job loss over the past six years with a decline of nearly 60,000 jobs. Not surprisingly, the auto industry has had the largest losses within this sector, with employment at parts manufacturers down by nearly 10,500 jobs over this period and vehicle body and trailer makers losing nearly 6,400 jobs. Unfortunately, the

"Indiana employers in the health care and social assistance industries were far and away the drivers of private job growth in the state between 2007 and 2013."

FIGURE 3: Average Annual Growth Rates for Indiana Sectors on the Rise, 2007 to 2013



Source: U.S. Bureau of Labor Statistics

Midwest and the U.S. have experienced even sharper declines in manufacturing employment than Indiana (see **Figure 4**).

The same can be said for construction employment. Indiana has lost 28,000 jobs in this sector between 2007 and 2013, which works out to a 3.4 percent annual slide. However, the U.S. (-4.3 percent per year) and the Midwest (-3.9 percent) have lost construction jobs at an even faster clip.

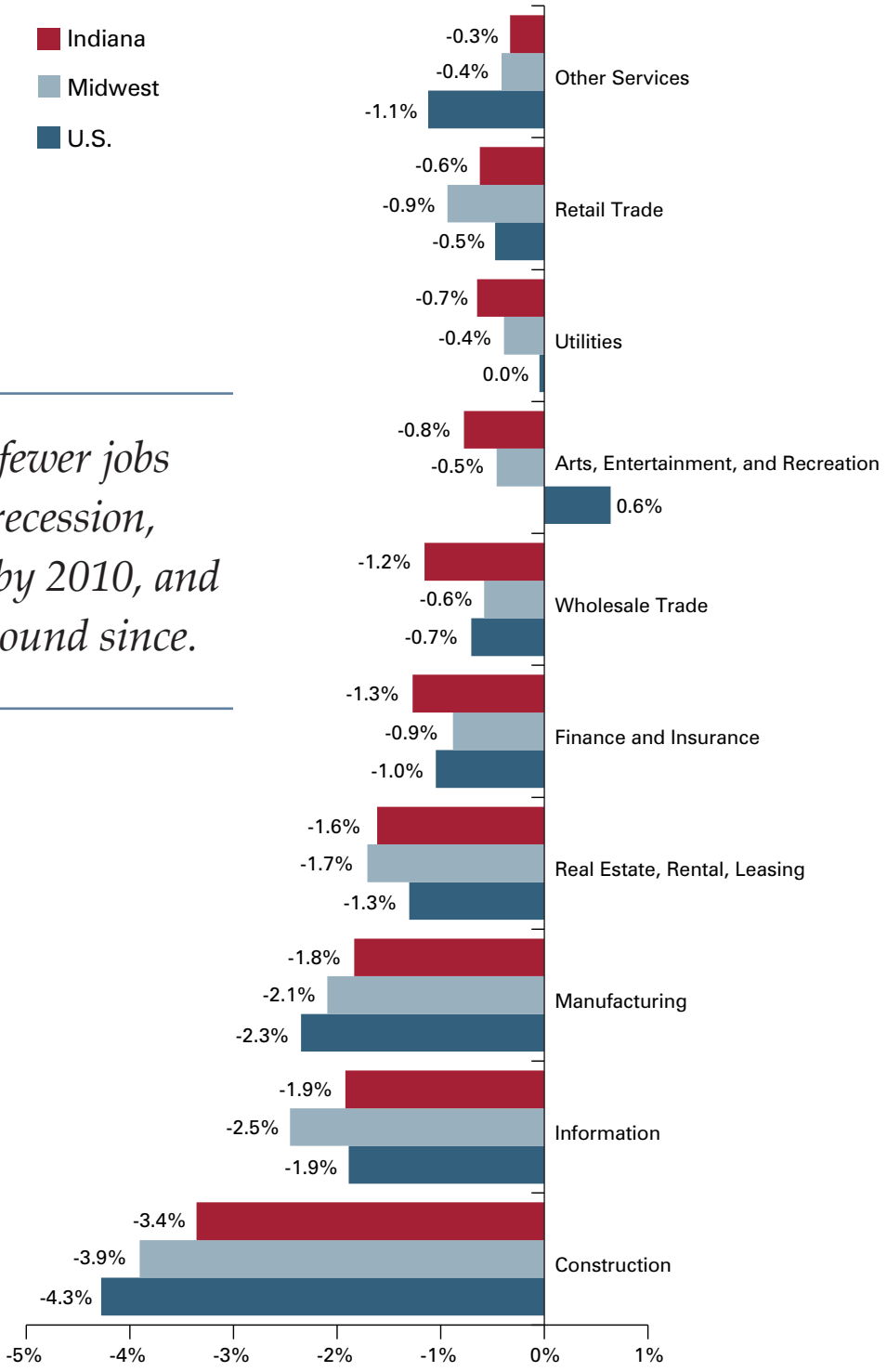
> *For most sectors with fewer jobs now than before the recession, all the damage was done by 2010, and each has been on the rebound since.*

It is important to note that comparisons between 2007 and 2013 alone can make the situation in many sectors look worse than it really is. For most sectors with fewer jobs now than before the recession, all the damage was done by 2010, and each has been on the rebound since. Manufacturing employment in Indiana, for instance, fell by more than 125,000 over a 24-month period beginning in June 2007—a 23 percent decline (see **Figure 5**). This sector has been climbing back steadily ever since, adding more than 86,000 jobs between June 2009 and July 2014.

The construction sector had a similar drop through the recession, and while its rebound has not been as strong as manufacturing's, the sector has reclaimed 38 percent of the jobs lost between June 2007 and February 2010.

Outside of government employment, the information sector and the real estate, rental, and leasing sector have had the weakest rebounds in recent years. Information has added back 17 percent of the 5,400 jobs it lost in the recession, and real estate, rental, and leasing has recovered 21 percent of its losses.

FIGURE 4: Average Annual Growth Rates for Indiana Sectors in Decline, 2007 to 2013



Source: U.S. Bureau of Labor Statistics

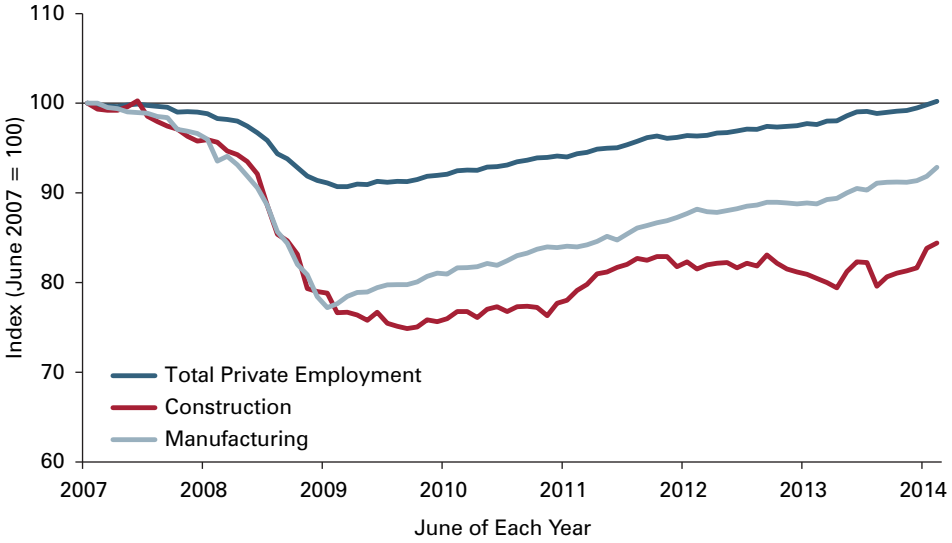
The Impact of Industry Shifts on Wages

One of the key consequences of this shifting employment landscape is that it is placing downward pressure on wages for Hoosier workers. The average wage for struggling sectors like manufacturing, construction and wholesale trade is well above the average for all jobs in the state. The ever-growing health care sector has above average wages, too, but they are well below those seen in the aforementioned sectors. Meanwhile, some of the other industries with large gains tend to offer wages that are below the state average.

To quantify the effects of industry change on wages, we borrow some approaches used by the National Employment Law Project to monitor the recovery at the national level.[2] In this analysis, we look at annual private employment change and median hourly wage data for 2013 at the national-level for 88 different industries (i.e., all three-digit industries in the NAICS scheme).[3] Industries were sorted from those with the highest median wage to those with the lowest, and then separated into three roughly equal groupings based on U.S. employment in 2013. The three groupings are meant to represent higher-wage, mid-wage and lower-wage industry classes.[4]

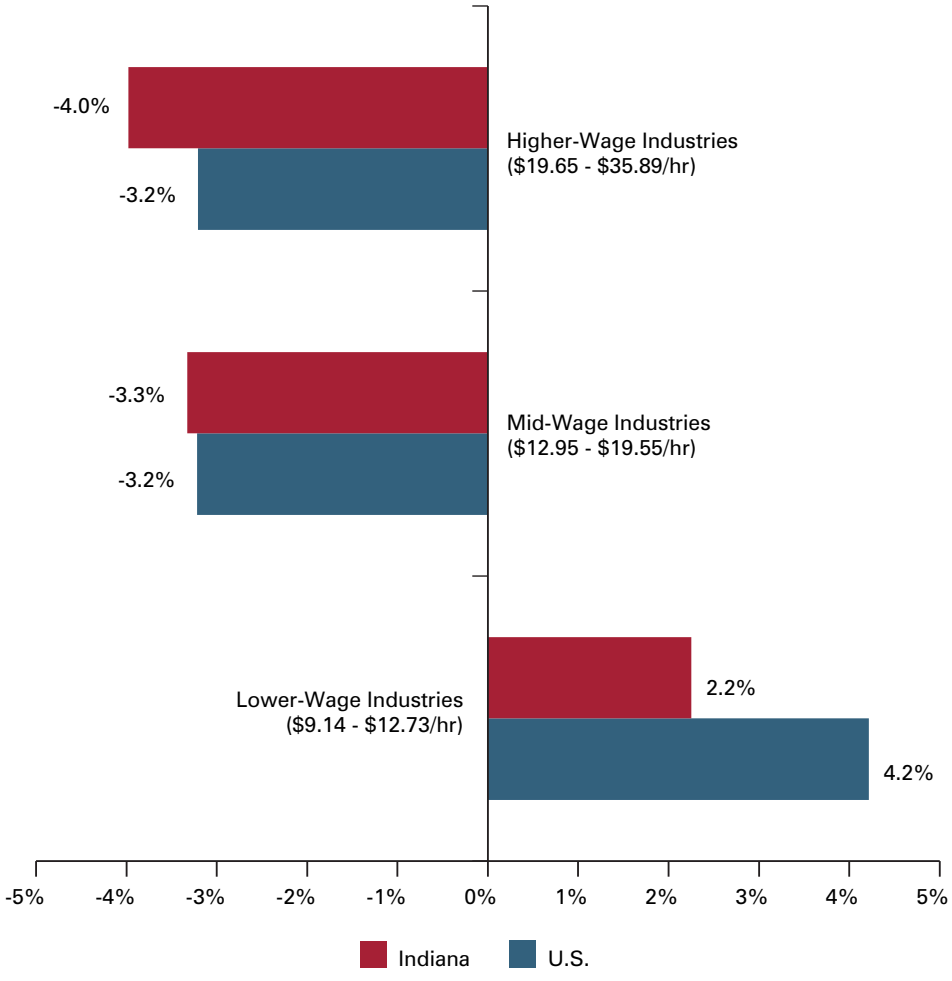
As **Figure 6** shows, the higher and mid-wage groups, taken as a whole, accounted for all the net employment losses in Indiana and the nation between 2007 and 2013. Meanwhile, the lower-wage industries class managed to grow over this period. In Indiana, the largest sources of growth among lower-wage industries were administrative services, nursing care facilities and food service. By far, the largest contributors to the decline in higher and mid-wage jobs in the state were transportation equipment manufacturing and specialty trade construction contractors.

FIGURE 5: Relative Monthly Employment Change in Indiana for Select Sectors, June 2007 to July 2014



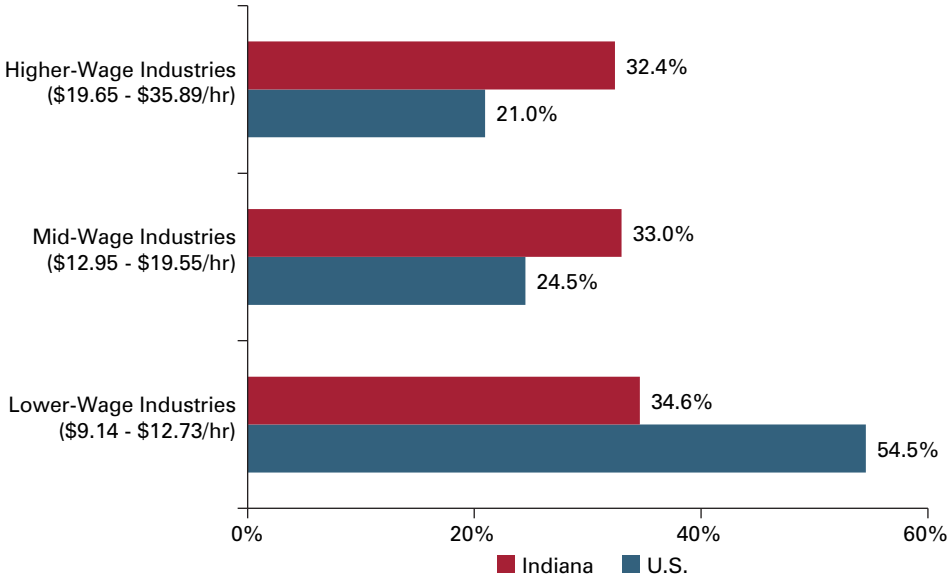
Source: U.S. Bureau of Labor Statistics, data are seasonally adjusted

FIGURE 6: Employment Change by Wage Class, 2007 to 2013



Source: U.S. Bureau of Labor Statistics

FIGURE 7: Share of Private Employment Growth for Each Wage Class, 2009 to 2013



Source: U.S. Bureau of Labor Statistics

The picture for Indiana looks much better when we change the reference period to 2009 to 2013, however. Through the recovery, Indiana's private sector growth has been remarkably balanced between the wage classes, while U.S. growth remains concentrated much more heavily in lower-wage industries (see **Figure 7**).

Indiana's strong manufacturing rebound has been the catalyst behind this balanced comeback. Among higher-wage industries, transportation equipment manufacturing was by far the largest source of job gains. Professional and scientific services and hospitals also added a lot of jobs within the higher-wage class over this period. For mid-wage industries, ambulatory health care services led the way, but the fabricated metal manufacturing and plastic and rubber products manufacturing industries have also been important contributors of growth since 2009.

Indiana's Industry Strengths and Weaknesses

So far, this article has focused primarily on employment changes for high-level, fairly nondescript sectors. In this section, we will focus on changes for more detailed industries (i.e., four-digit NAICS level) to see precisely where the state is outperforming the nation and where it is falling behind.

Due to the large number of four-digit NAICS industries, this section will focus only on those that meet several criteria. First, these are industries that tend to sell their goods

Indiana's Competitive Advantages

What do motor vehicle manufacturing, poultry/egg production and express delivery services have in common? They are just three of the 20 industries where Indiana has a competitive advantage and is growing faster than the nation (thus, increasing its advantage).

These 20 industries employ 157,700 workers in Indiana. Warehousing and storage employs the most workers (24,743), followed by iron/steel mills and ferroalloy manufacturing (19,448). Sugar and confectionery product manufacturing is the smallest industry to make this list, employing just 1,866 people in 2013.

Since the recession, poultry and egg production employment has grown the fastest (3.6 percent at an annual average rate), followed by coal mining (3.4 percent annual average) and other nonmetallic mineral product manufacturing (2.8 percent annual average).* While the manufacturing sector as a whole has experienced losses since the beginning of the recession, it is important to note that about half of the growing industries on this list are in some form of manufacturing.

Explore the full list of the industries with a Hoosier competitive advantage in **Table 1** and **Figure 8**.

* The "other nonmetallic mineral product manufacturing category" includes abrasive products; cut stone and stone products; ground or treated mineral and earth; mineral wool; and other miscellaneous nonmetallic mineral products.

Table 1: Indiana's Competitive Advantage, 2013

Industry	Average Annual Growth Rates, 2007 to 2013			Indiana Location Quotient	Indiana Employment, 2013	Indiana Growth Rate Advantage
	Indiana	Midwest	U.S.			
Other Nonmetallic Mineral Product Manufacturing	2.8%	-1.0%	-2.6%	2.2	3,306	5.4
Motor Vehicle Manufacturing	1.3%	-4.4%	-3.1%	3.6	14,368	4.4
Poultry and Egg Production	3.6%	2.9%	-0.6%	2.7	2,276	4.2
Electric Lighting Equipment Manufacturing	0.0%	-2.2%	-4.0%	2.4	2,405	4.0
Other Textile Product Mills	0.8%	-3.7%	-3.0%	1.6	2,162	3.8
Coal Mining	3.4%	-3.0%	0.2%	2.1	3,531	3.2
Sugar and Confectionery Product Manufacturing	1.8%	0.5%	-1.5%	1.3	1,866	3.2
Couriers and Express Delivery Services	0.5%	-2.6%	-1.7%	1.4	14,248	2.2
Pesticide, Fertilizer, and Other Agricultural Chemical Manufacturing	2.1%	0.7%	0.1%	2.9	2,370	2.0
Iron and Steel Mills and Ferroalloy Manufacturing	0.2%	-2.8%	-1.4%	9.8	19,448	1.7
Motor Vehicle and Motor Vehicle Parts and Supplies Merchant Wholesalers	0.4%	-1.1%	-1.1%	1.7	11,749	1.5
Other Fabricated Metal Product Manufacturing	0.7%	-2.0%	-0.7%	1.6	9,581	1.5
Steel Product Manufacturing from Purchased Steel	0.6%	-2.9%	-0.8%	3.3	4,149	1.4
Coating, Engraving, Heat Treating, and Allied Activities	0.1%	-2.0%	-1.3%	2.4	6,985	1.4
Engine, Turbine, and Power Transmission Equipment Manufacturing	0.6%	-1.3%	-0.3%	5.7	12,295	0.9
Other Food Manufacturing	2.5%	2.7%	1.6%	1.3	5,033	0.9
Grain and Oilseed Milling	0.4%	-0.8%	-0.4%	2.2	2,842	0.8
Petroleum and Coal Products Manufacturing	0.2%	0.4%	-0.5%	1.4	3,493	0.7
Warehousing and Storage	1.6%	0.7%	1.2%	1.6	24,743	0.4
Electric Power Generation, Transmission and Distribution	0.2%	-0.3%	-0.2%	1.3	10,853	0.4

Source: U.S. Bureau of Labor Statistics

or services to markets outside of their local area.[5] Second, employment in an industry must be growing in Indiana or the nation. Finally, an industry must support at least 1,000 jobs in Indiana in 2013.

Table 1 presents industries in which Indiana both already has a competitive advantage, as indicated by a location quotient (LQ) greater than 1,[6] and is continuing to build on that advantage with employment growth rates since 2007 that outpace the nation (see **Figure 8**). The industries in this table are sorted on the column labeled "Indiana Growth Rate Advantage," which is simply the difference between Indiana's growth rate between 2007 and 2013 and that of the nation. Four of the top five spots are held by manufacturing industries—including motor vehicle manufacturing, which has expanded in Indiana despite declining sharply elsewhere.

Table 2 focuses on industries where Indiana does not currently hold a competitive advantage, based on LQs equal to or less than 1, but where it is gaining ground with growth rates that are greater than the nation (see **Figure 9**).

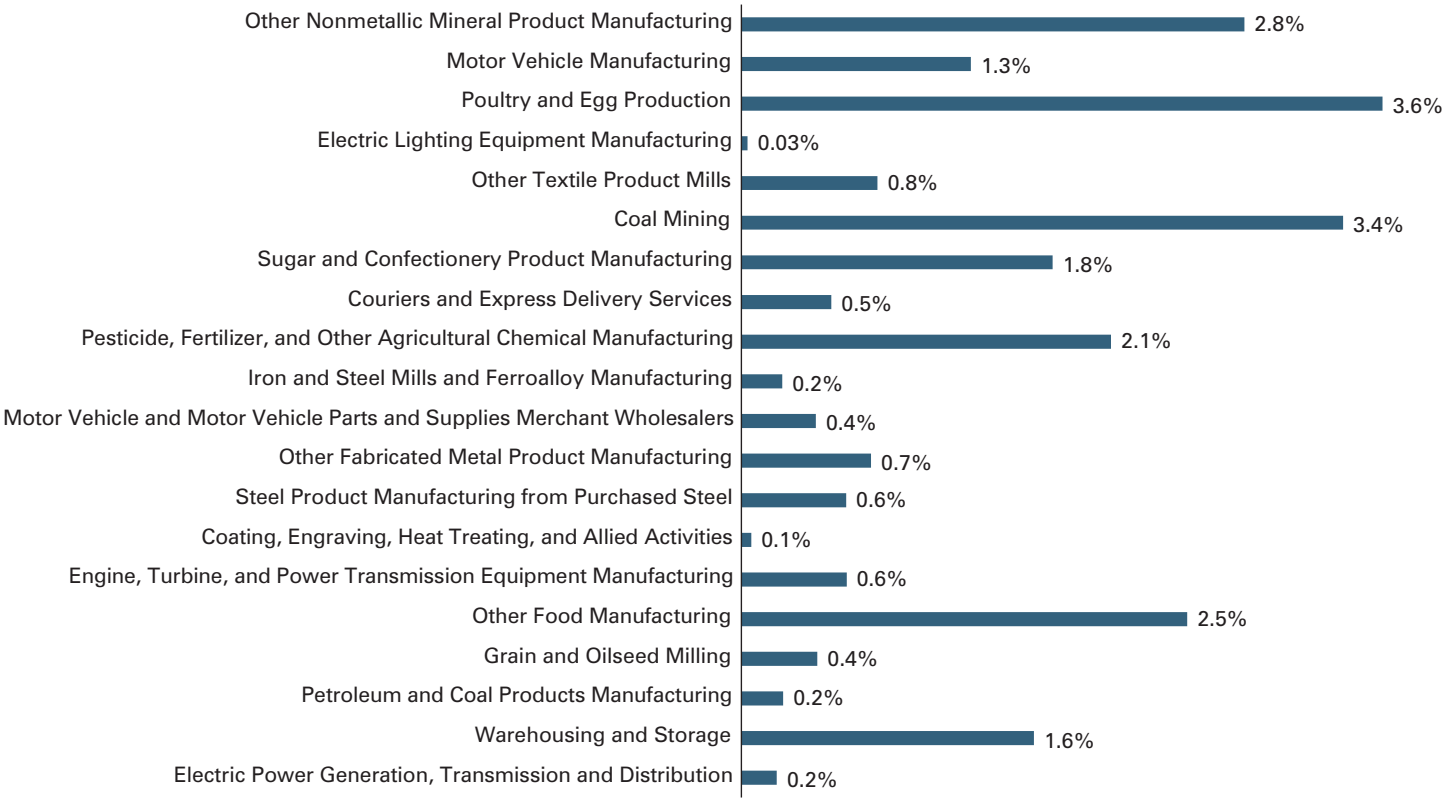
Table 3 lists industries in which national growth is outpacing Indiana. These include some industries where Indiana has a comparative advantage based on LQ and some where they do not.

Conclusion

The structure of Indiana's economy is constantly evolving. Often, this evolution occurs slowly, and sometimes an event like the Great Recession triggers abrupt changes. Some key industries in Indiana were certainly hit hard by the downturn, which led to the loss of many high-paying jobs.

Indiana has been adding jobs at a steady clip over the past four-and-a half years, however, and that growth has been surprisingly balanced between higher-wage and lower-wage industries. This could be the product of a natural, but limited, rebound after some employers cut back too deeply during the depths of the recession. But the trend does provide reason for optimism looking ahead. If Indiana can sustain this steady and balanced growth, the state can continue to chip-away at its wide per capita income gap with the U.S., as it has done in recent years, and raise the standard of living for many Hoosiers. ■

FIGURE 8: Indiana's Competitive Industries with a Growth Rate Advantage: Average Annual Growth Rate, 2007 to 2013



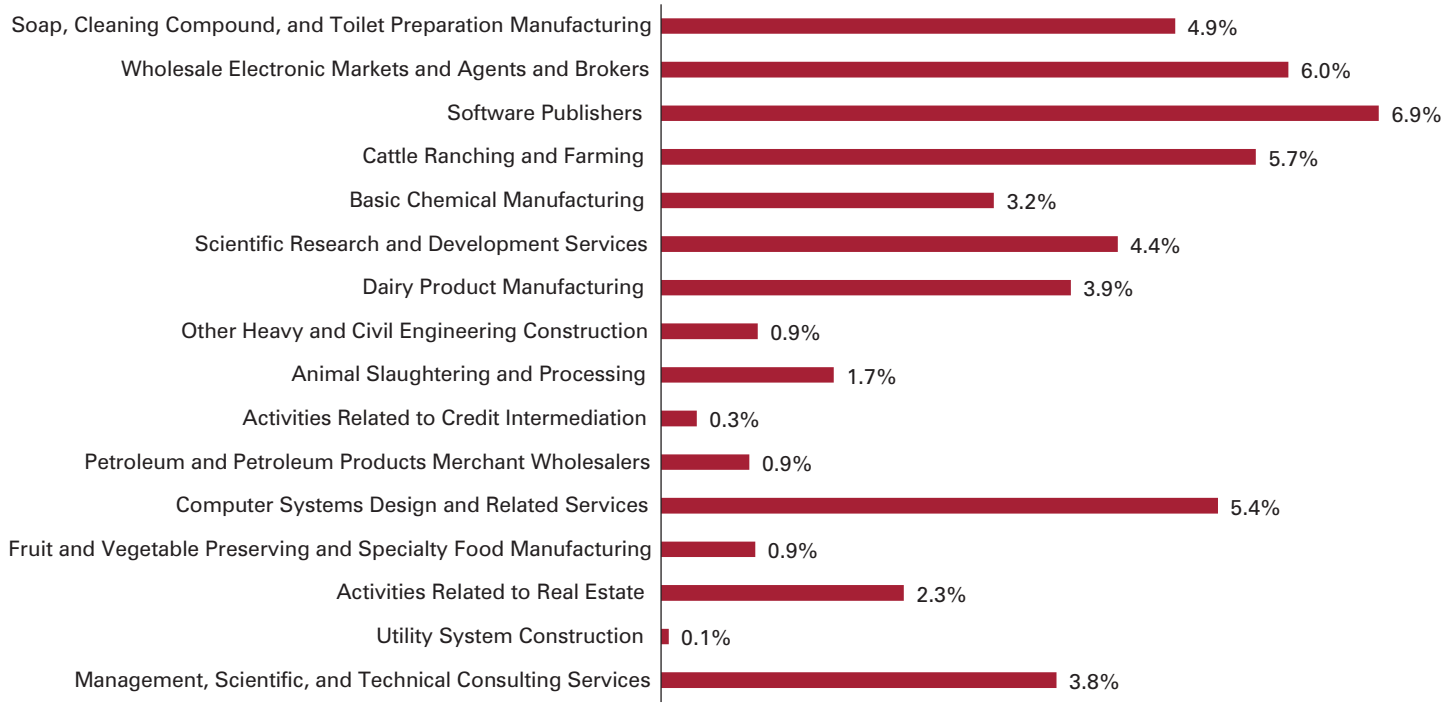
Note: Data are sorted by the Indiana Growth Rate Advantage.
Source: U.S. Bureau of Labor Statistics

TABLE 2: Industries Gaining Ground Where Indiana Does Not Have a Competitive Advantage, 2013

Industry	Average Annual Growth Rates, 2007 to 2013			Indiana Location Quotient	Indiana Employment, 2013	Indiana Growth Rate Advantage
	Indiana	Midwest	U.S.			
Soap, Cleaning Compound, and Toilet Preparation Manufacturing	4.9%	-0.6%	-0.8%	0.9	2,095	5.7
Wholesale Electronic Markets and Agents and Brokers	6.0%	3.0%	1.1%	0.6	10,852	4.9
Software Publishers	6.9%	3.1%	2.7%	0.3	2,041	4.2
Cattle Ranching and Farming	5.7%	5.7%	1.8%	0.6	1,891	3.9
Basic Chemical Manufacturing	3.2%	0.0%	-0.7%	0.9	2,923	3.9
Scientific Research and Development Services	4.4%	-0.4%	0.9%	0.3	4,698	3.5
Dairy Product Manufacturing	3.9%	0.0%	0.5%	1.0	2,974	3.5
Other Heavy and Civil Engineering Construction	0.9%	-2.3%	-1.8%	0.7	1,608	2.7
Animal Slaughtering and Processing	1.7%	0.2%	-0.8%	0.9	9,643	2.4
Activities Related to Credit Intermediation	0.3%	-2.3%	-2.0%	0.6	3,618	2.3
Petroleum and Petroleum Products Merchant Wholesalers	0.9%	-2.2%	-1.0%	1.0	2,177	1.8
Computer Systems Design and Related Services	5.4%	3.3%	3.7%	0.6	20,743	1.7
Fruit and Vegetable Preserving and Specialty Food Manufacturing	0.9%	0.7%	-0.5%	0.9	3,430	1.4
Activities Related to Real Estate	2.3%	1.8%	2.1%	0.8	10,592	0.3
Utility System Construction	0.1%	0.8%	-0.1%	0.8	7,475	0.2
Management, Scientific, and Technical Consulting Services	3.8%	3.4%	3.7%	0.5	13,290	0.1

Source: U.S. Bureau of Labor Statistics

FIGURE 9: Indiana Industries Gaining Ground: Average Annual Growth Rate, 2007 to 2013



Note: Data are sorted by the Indiana Growth Rate Advantage.
Source: U.S. Bureau of Labor Statistics

TABLE 3: Industries Where National Growth is Outpacing Indiana, 2013

Industry	Average Annual Growth Rates, 2007 to 2013			Indiana Location Quotient	Indiana Employment, 2013	Indiana Growth Rate Gap
	Indiana	Midwest	U.S.			
Commercial and Industrial Machinery and Equipment Rental and Leasing	-6.1%	-0.5%	1.3%	0.4	1,208	-7.4
Motion Picture and Video Industries	-4.0%	-2.1%	0.4%	0.4	3,018	-4.3
Agriculture, Construction, and Mining Machinery Manufacturing	-2.1%	0.9%	1.5%	0.5	2,558	-3.6
Oilseed and Grain Farming	5.0%	8.7%	7.9%	3.9	4,460	-3.0
Farm Product Raw Material Merchant Wholesalers	-2.4%	1.0%	0.2%	1.5	2,425	-2.6
Bakeries and Tortilla Manufacturing	-1.9%	-0.3%	0.3%	1.2	7,116	-2.2
Miscellaneous Durable Goods Merchant Wholesalers	-1.9%	0.6%	0.2%	1.0	6,329	-2.1
Natural Gas Distribution	-1.3%	-1.1%	0.6%	0.8	1,827	-1.8
Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	0.6%	1.8%	2.3%	0.8	3,055	-1.7
Accounting, Tax Preparation, Bookkeeping, and Payroll Services	-1.3%	-0.8%	0.2%	0.7	13,650	-1.5
Other Professional, Scientific, and Technical Services	0.4%	0.3%	1.3%	0.8	10,706	-0.9
Grocery and Related Product Merchant Wholesalers	-0.7%	-0.7%	0.2%	0.8	12,774	-0.9
Medical Equipment and Supplies Manufacturing	-0.6%	0.5%	0.1%	2.7	17,904	-0.7
Management of Companies and Enterprises	1.6%	2.0%	2.1%	0.7	31,054	-0.5
Agencies, Brokerages, and Other Insurance Related Activities	0.2%	0.9%	0.7%	0.8	17,295	-0.5
Aerospace Product and Parts Manufacturing	-0.1%	2.1%	0.4%	0.7	7,080	-0.4
Hog and Pig Farming	1.5%	1.1%	1.8%	2.3	1,525	-0.4

Source: U.S. Bureau of Labor Statistics

Notes

1. For the purposes of this analysis, the Midwest region includes Illinois, Iowa, Kentucky, Michigan, Minnesota, Missouri, Ohio and Wisconsin.
2. "The Low Wage Recovery," National Employment Law Project, April 2014, www.nelp.org/page/-/Reports/Low-Wage-Recovery-Industry-Employment-Wages-2014-Report.pdf.
3. The employment data come from the U.S. Bureau of Labor Statistics Census of Employment and Wages program and the hourly wage data come from their Occupational Employment Statistics program.
4. One caveat in this analysis is that the hourly wage data are for the U.S. only and are not Indiana-specific. An industry that is classified as mid-wage for the U.S., for instance, may actually fit into one of the other classes in Indiana.
5. This eliminates industries in utilities; construction; retail trade; administrative and waste management services; educational services; health care and social assistance; arts and entertainment; and accommodation and food services.
6. Location quotient (LQ) is an indicator of industry specialization that compares, in this instance, the share of Indiana employment accounted for by a particular industry to the share of total employment in that same industry nationally. An Indiana industry with an LQ of 1.0 would have a share of total employment identical to the national average. An Indiana industry with an LQ of 1.2 would have a 20 percent greater share of employment than its share nationally, which would indicate a degree of specialization.

The Power of Workforce Data Integration: Adding Credentials to the Mix

Carol O. Rogers: Deputy Director, Indiana Business Research Center, Kelley School of Business, Indiana University

Measuring the workforce outcomes of secondary and postsecondary education has been a leading focus in the establishment of state longitudinal data systems for many years. This work and the catalytic funding provided by the federal government to help build, strengthen and extend these systems has created a critical infrastructure that can help lead to better education and training decisions by students, parents, teachers, workers, policymakers and the funders of these programs and institutions.

But certain gaps exist in the types of workers and their education as measured by many of these systems—chief among them, credentials. Credentials can be obtained with specialized training available through colleges, proprietary training providers, apprenticeships and sometimes through self-learning. Such credentials, either licenses or certifications or permits, can span professional and occupational services from barbering to cremation specialists. Other credentials, such as licenses to practice medicine, law or teaching, are required in addition to college degrees in order to practice in a particular state.

There is a broad array of credentials required and regulated by states. Information is sometimes available through federal agencies and associations detailing which occupations are regulated and by which specific state agencies. Many states have or are moving toward a single, one-stop agency, but many still require individuals seeking an occupational license or certification to apply to a specific board or commission for that profession, of which there are often dozens.

According to the Council of State Governments, many states are considering compacts that can legally recognize another state's licenses, particularly relating to health care professions, as a way to create greater efficiencies for both the agency and the applicants. Such compacts have the potential to ease transferability of such licenses and allow for greater mobility among health care professionals.

The Indiana Experience

Nearly one in seven people working in Indiana have a professional or occupational license, according to the Indiana Professional Licensing Agency (PLA). That agency serves as an umbrella organization for more than 35 boards, commissions, committees and licensing bodies, such as the Medical Licensing Board and the Indiana Real Estate Commission. It regulates more than 70 professional licenses including physicians, pharmacists, nurses, accountants, dentists, veterinarians and cosmetologists.

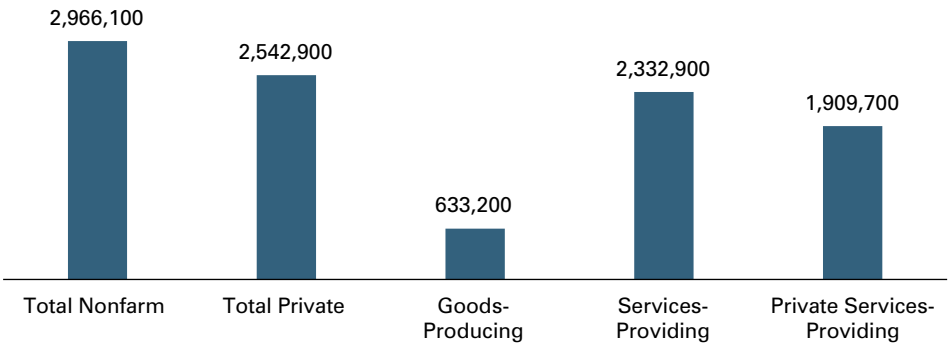
The PLA was created in 2005 by the Indiana legislature (IC 25-1-5) to reduce duplication, increase efficiency and better integrate licensing requirements. This centralized administration of the multiple boards and commissions makes it easier for people to apply for licenses through a single agency. It can also make it easier for consumers, clients and patients to check on the status of professionals from whom they are receiving services.

Most important, at least to those of us seeking to integrate education and workforce outcomes, is the combined database the agency has built that includes information on the majority of professionals issued a state license, certificate or permit. That database contains more than 1.5 million records, some of which go as far back as 1905 (the majority of licenses prior to 1925 were for registered nurses). Our focus, however, is that of the more current (1990s forward) licenses of individuals for the professions covered. It is not 100 percent comprehensive, as teacher licensing collected by the Indiana Department of Education is not currently included.

Indiana Department of Workforce Development research staff worked with the PLA to obtain the necessary permissions to access the database and have developed a process for obtaining updates on a continuous basis.

The majority of people today work in the services-providing sector (see **Figure 1**). Knowing the number of

Figure 1: Indiana Employment by Sector, March 2014



Source: Current Employment Statistics, U.S. Bureau of Labor Statistics

> *The top 14 licenses account for 59 percent of licenses issued in the state.*

a particular type of professional, particularly for health professionals such as doctors, nurses, chiropractors and psychiatrists, can be used to determine access rates and shortages.

Many states, including Indiana, provide statistical summaries of the number of active licensed or certified professionals by type at the state and county levels. **Figure 2** shows the most common licenses in Indiana as of 2013. These 14 licenses account for 59 percent of licenses issued in the state.

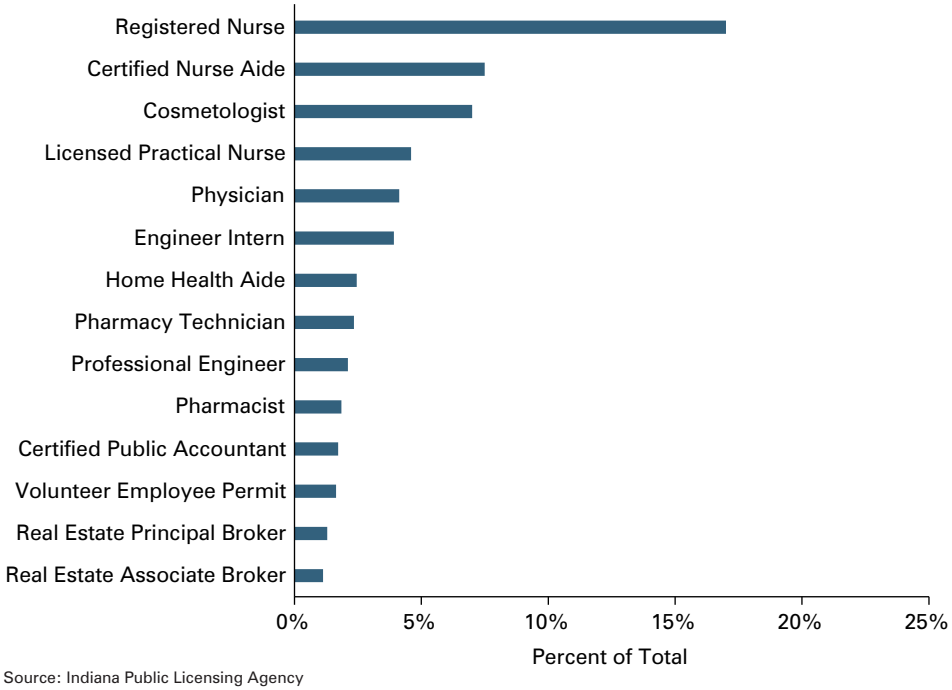
But a long-known issue with these counts is the address the professional puts on the application—it can be either a work or home address and isn't identified as one or the other. Plus, the data in their original form don't tell us whether the professional is actually working (since having an active license doesn't necessarily equate to actual practice).

Integration

The integration of the license information to workforce records adds important dimensions to the license and certification data. It allows us to match to place-of-work, thus obviating the problem of "home or work" address. It allows for better calculations of the potential shortages or surpluses of specific occupations and the impact of unemployment for these types of occupations. Analyzing access to these types of occupations can be enhanced based on labor shed and commuting shed analysis. And of course, results from this integration can provide critical information for training and education programs in our state and regions. Matching to employment also tells us how many professionals keep their licenses active, but aren't actually working in the state—something the license database by itself cannot do.

Integration also adds the dimensions of continuing education, as measured through the integration with public college and training programs and the range of wages earned. Ultimately, we want to get a more complete picture of the employment prospects for those seeking to enter the types of occupations covered by the licensure data. Career pathways information for students and workers is enhanced by having more robust near-real-time and location-based information on outcomes for people seeking careers that require licensing or certification, as well.

Figure 2: Top Licenses in Indiana, 2013



Source: Indiana Public Licensing Agency

Examples

Accountants (aka certified public accountants) are one of the many professional groups certified by the State of Indiana. Nearly 10,000 accountants were certified in 2013. A large proportion of those (35.1 percent) wind up working in the professional services industry (most likely for an accounting or legal firm). There is a significant spread of accountants across industries, though, including work in the executive and legislative branches of government; real estate; health care; manufacturing; and other industries where they are either occupied as accountants or have taken on other work.

Licensed practical nurses, on the other hand, are employed primarily in the health care industry (no surprise at 79 percent), but nearly 1,000 can be found in the administrative industry and educational services. Physicians are also predominantly in the health care industry, but there is a small but accelerating percentage of them in

the management of companies and enterprises category (2.6 percent in 2009 rose to 6 percent in 2013).

More Work Ahead

Thanks to a grant from the Employment and Training Administration for the Workforce Data Quality Initiative (WDQI), Indiana's Department of Workforce Development and the IBRC will be able to expand and enhance the integration of licensing with workforce data and begin to provide more information to a public that is anxious to see outcomes for these types of credentials. As the grant name indicates, the quality of the workforce data available will be improved.

For more information on Indiana's integration of licensing data, feel free to contact the author at rogersc@indiana.edu or the program director for the WDQI grant, Allison Leeuw (aleeuw@dwd.in.gov). For more information on the State of Indiana's statewide longitudinal data system, see the Indiana Network of Knowledge website at www.in.gov/ink. ■

References and Resources

- The Indiana Professional Licensing Agency maintains a database on all professionals that have been issued a license, certificate, registration or permit. All of the information in the database is public information and it does not contain any confidential information, such as Social Security numbers or examination results. Through the www.in.gov/pla website, you can search the entire database or select parameters for specific information.

- A nationwide study of professional and occupational licensing, registration and permits, using results of a Gallup survey, is available in a whitepaper. See Alan Krueger and Morris Kleiner, "The Prevalence and Effects of Occupational Licensing," CEPS Working Paper No. 174, August 2008, www.princeton.edu/ceps/workingpapers/174krueger.pdf.

- A first of its kind report from the U.S. Census Bureau measures alternative credentials—i.e., not a college degree but a license or certificate—based on the Survey of Income and Program Participation. See Stephanie Ewert and Robert Kominski, "Measuring Alternative Educational Credentials: 2012," January 2014, www.census.gov/prod/2014pubs/p70-138.pdf.

- The Council on Licensure, Enforcement and Regulation provides education for state licensing officials and has numerous blog posts and articles on nationwide issues relating to state licensure. One article reviews trends in such licensing: See Pam Brinegar, "Professional and Occupational Regulation," *The Book of the States 2006*, http://knowledgecenter.csg.org/kc/system/files/Brinegar_Article.pdf.

- Medical licensing compacts are gaining traction and the Council of State Governments is devoting considerable energy to providing information on this initiative. See Crady deGolian, " Medical Licensing Compacts Backgrounder, The Council of State Governments Knowledge Center, October 2013, http://knowledgecenter.csg.org/kc/content/medical-licensing-compacts-backgrounder.

- Indiana Regulated Occupations Evaluation Report, July 1, 2011, http://iga.in.gov/legislative/2014/publications/agency/reports/license/.

- Note: The Job Creation Committee was established by the 2014 Indiana General Assembly to assess the efficiency and effectiveness of all professional licenses regulated by the PLA, www.in.gov/pla/3144.htm.