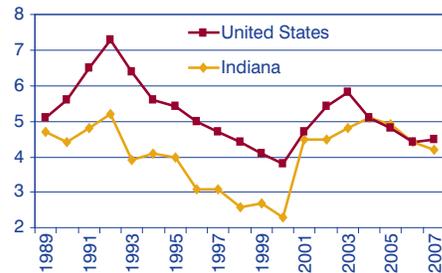


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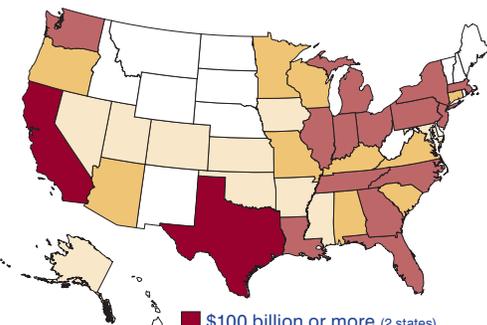
October Unemployment

Indiana's October unemployment rate fell 0.3 percentage points below the U.S. rate, coming in at 4.2 percent.



*seasonally adjusted

Value of Exports in 2006



Learn more about Indiana's exports on page 3

- \$100 billion or more (2 states)
- \$20 billion to \$99 billion (14 states)
- \$10 billion to \$19 billion (10 states)
- \$4 billion to \$9 billion (10 states)
- Less than \$4 billion (15 states)

*in current dollars
Source: IBRC, using WISER Trade data

Hoosier Engines of Job Growth

One of Indiana's engines of job growth and job creation actually has engines: the auto industry. Despite widespread contraction in this industry, concentrated among domestic auto makers, Indiana's employment in the automobile manufacturing industry (NAICS 3361, manufacturing entire vehicle, not auto parts) grew 53 percent between 1997 and 2006, according to annual averages from Current Employment Statistics (CES).

Based on September CES not-seasonally adjusted estimates, national employment in this industry sector declined 3.6 percent since September 2006, while Indiana employment grew 4.6 percent during that same period; that's 600 new jobs. Texas was the only other state reflecting employment growth over the year (see **Table 1**, which is ranked by 2006 share of U.S. employment).

Indiana's auto manufacturing growth has been largely fueled by the addition of non-domestic auto

makers to the mix, including Toyota, Honda and Subaru. Greensburg's Honda plant, set to open in 2008,¹ will bring an additional 2,000 jobs to this industry. In addition, a Toyota/Subaru collaborative venture announced last year² is expected to add 1,000 jobs in the Lafayette area during 2007.

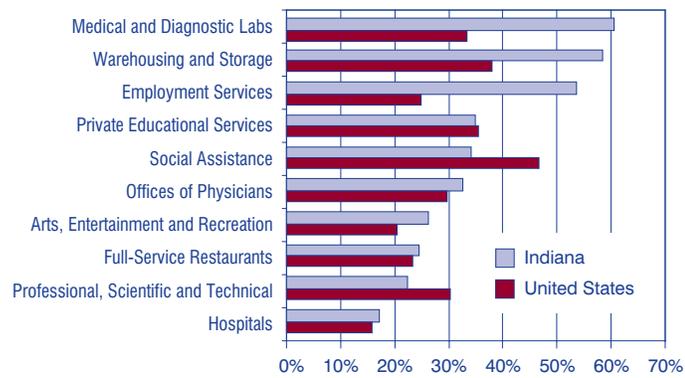
Another industry segment in the transportation sector, motor vehicle body and trailer manufacturing (NAICS 3362)—which includes motor vehicle bodies, truck trailers, motor homes, travel trailers and campers—has grown by 49.6 percent (13,100 jobs) between 1997 and 2006 in Indiana, compared to U.S. growth of 13.9 percent (22,000 jobs). Employment in this industry surged in 2006 in response to emergency housing demands in the wake of Hurricane Katrina and has been shedding jobs over the last 12 months, both nationally and in Indiana. However, Indiana employment appears to be stabilizing, with August 2007 employment of 37,500 matching that of August 2005.

TABLE 1: AUTOMOBILE MANUFACTURING FOR STATES THAT PUBLISH MONTHLY BREAK-OUTS OF AUTO MANUFACTURING

State	Employment			Percent of United States			Percent Change	
	1997*	2006*	September 2007	1997	2006	Change	1997-2006	September 2006-2007
Michigan	84,700	56,800	51,200	29.5	24.1	-5.5	-32.9	-10.8
Ohio	36,800	28,000	26,000	12.8	11.9	-1.0	-23.9	-5.1
Kentucky	17,000	16,400	17,100	5.9	6.9	1.0	-3.5	-2.8
Missouri	18,600	12,800	11,000	6.5	5.4	-1.1	-31.2	-3.5
Indiana	8,100	12,400	13,700	2.8	5.3	2.4	53.1	4.6
Alabama	1,600	12,300	12,100	0.6	5.2	4.7	668.8	-0.8
Texas	5,600	8,900	10,000	2.0	3.8	1.8	58.9	6.4
California	7,000	8,700	8,400	2.4	3.7	1.2	24.3	-2.3
Oklahoma	4,300	3,100	2,600	1.5	1.3	-0.2	-27.9	-3.7
United States	286,800	236,100	228,800				-17.7	-3.6

*Average annual
Note: Data are not seasonally adjusted
Source: Indiana Department of Workforce Development, using Current Employment Statistics data

FIGURE 1: PERCENT CHANGE IN EMPLOYMENT FOR SELECTED INDUSTRIES IN INDIANA AND THE UNITED STATES, 1997 TO 2006



Source: Current Employment Statistics

Another strong growth segment within the manufacturing sector is medical equipment and supplies manufacturing (NAICS 3391), tucked away in the miscellaneous manufacturing sector and concentrated around Warsaw in Kosciusko County. This industry includes manufacturers who produce surgical supplies and appliances such as prosthetic joints or vascular stents. It grew 28.5 percent from 1996–2007 and had 18,200 employees as of September 2007.

During the last decade, Indiana's total nonfarm employment grew by 115,000 (4 percent). While employment in manufacturing declined during this period (-13.2 percent compared to -18.5 percent for the nation), other sectors and subsectors exhibited substantial growth (three or more times Indiana's overall growth rate)—a fact sometimes obscured by countering movements among other industry components. These high growth subsectors are shown in **Figure 1**.

Employment in the warehousing and storage (NAICS 493) sector of trade, transportation and utilities grew by 58.5 percent over the decade, adding 8,600 jobs (see **Table 2**). Thanks to Indiana's central location and deliberate efforts to attract and support employers in this industry segment, Indiana's employment growth since 1997 has surpassed the strong national trend of

37.9 percent. Growth in this sector is masked by a 4.9 percent decrease in retail trade employment over the 10-year span.

The 27 percent growth in professional and business services (NAICS 54) resulted in 59,700 employees and has come primarily from two subsectors: professional, scientific and technical services, which added 17,000 jobs and grew 22.3 percent; and employment services, which expanded by 53.7 percent, adding 29,000 employees during the period (see **Table 2**). Employment services jobs have exploded as labor leasing and other innovations aimed at creating a flexible workforce have increased the use of temporary help and other types of employment services. In many cases, professional, scientific and technical services jobs have benefited from outsourcing non-core business functions, such as accounting, and increasing use of various types of consultants.

Education and health services, which grew by 21.6 percent overall and added 68,600 jobs, has four sectors with growth of more than 30 percent: private educational services (34.9 percent, 17,000 jobs); offices of physicians (32.6 percent, 11,600 jobs); social assistance (34.2 percent, 10,400 jobs); and the small but fast-growing medical and diagnostic labs (60.6 percent, 2,000

TABLE 2: INDIANA'S HOT INDUSTRIES—EMPLOYMENT IN INDIANA AND THE UNITED STATES, 1997 TO 2006

Industry Segment/Sector	Indiana			U.S.	
	1997	2006	Change	Percent Change	
Medical and Diagnostic Labs	3,300	5,300	2,000	60.6	33.4
Warehousing and Storage	14,700	23,300	8,600	58.5	37.9
Employment Services	54,000	83,000	29,000	53.7	24.9
Private Educational Services	48,700	65,700	17,000	34.9	35.4
Social Assistance	30,400	40,800	10,400	34.2	46.7
Offices of Physicians	35,600	47,200	11,600	32.6	29.7
Arts, Entertainment and Recreation	34,300	43,300	9,000	26.2	20.4
Full-Service Restaurants	76,500	95,200	18,700	24.4	23.3
Professional, Scientific and Technical	76,200	93,200	17,000	22.3	30.3
Hospitals	87,700	102,800	15,100	17.2	15.8

Source: Current Employment Statistics

jobs). In addition, employment at Indiana's private/non-public hospitals grew 17.2 percent (15,100 jobs).

Leisure and hospitality employment expanded 12.2 percent over the decade, adding 30,500 workers to their payrolls. Arts, entertainment and recreation services added 9,000 workers (26.2 percent), with more than half of the increase (5,000 jobs) coming from gambling/gaming employment across the state. Food services employment growth was dominated by full-service restaurants, growing at 24.4 percent—almost four times the 6.2 percent rate of limited-service eating places—and adding 18,700 workers to their payrolls.

The Hoosier economy is rife with hot spots—sectors that have far outperformed the overall state, and often national, rate of growth. The evidence presented confirms that Indiana's economy continues to diversify and is resilient to economic downturns in vulnerable sectors, such as manufacturing. These economic engines serve as Indiana's main vehicles for future employment growth.

Notes

1. Indiana Economic Development Corporation (IEDC) News Release, "Honda selects Indiana for new North American plant," 6/28/2006.
2. IEDC News Release, "Governor announces Toyota to add Camry line in Lafayette," 3/13/2006.

—Vicki Seegert, *Advanced Economic and Market Analysis, Indiana Department of Workforce Development*

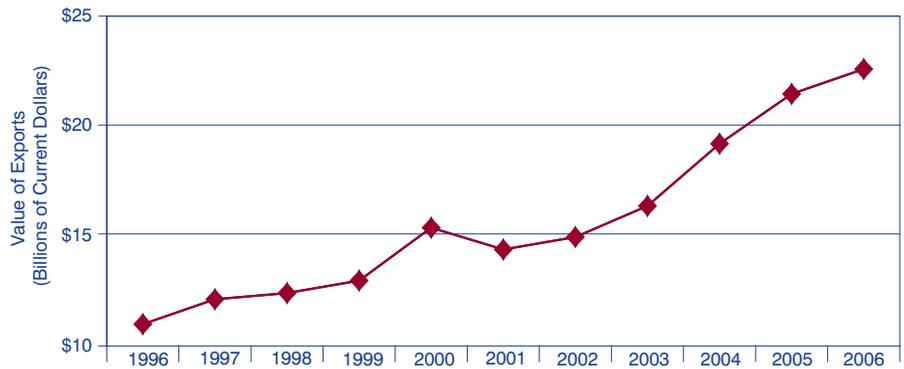
Indiana Exports on Pace for Record Year in 2007

Exports from Indiana to foreign countries reached a record \$22.6 billion in 2006, though the rate of growth moderated to 5.3 percent over the previous year (see **Figure 1**). However, recent data indicate that Indiana exports have picked up pace and will register another record year in 2007.

In the first six months of 2007, Indiana exported \$12.9 billion worth of goods, for a year-over-year increase of 10.6 percent. This seems to indicate that the growth rate for exports from Indiana may have rebounded. If the second half of 2007 matches the performance of the first half, 2007 will prove to be another banner year for Indiana exports. At the current rate, the value of exports in 2007 will exceed last year's value by about \$3 billion.

Indiana's rate of export growth has greatly exceeded its overall economic growth rate since 2001. Indiana's economy is inextricably linked to the globe—increasing sales have propelled our state's economic growth over the past several years.

FIGURE 1: INDIANA EXPORTS, 1996 TO 2006



Source: IBRC, using WISER Trade data

The weakened U.S. dollar should help Indiana exporters, but it may also be an impediment to robust business profitability. The buoyant world economy, led largely by China's feverish growth, has dramatically increased the cost of inputs. Except for raw agricultural materials, raw material prices from oil to copper have more than doubled since the economic downturn in 2001 and 2002. While a weakening dollar makes U.S. goods cheaper in world markets, the rising

cost of inputs will tend to put a profit squeeze on producers.

Where Do Hoosier Goods Go?

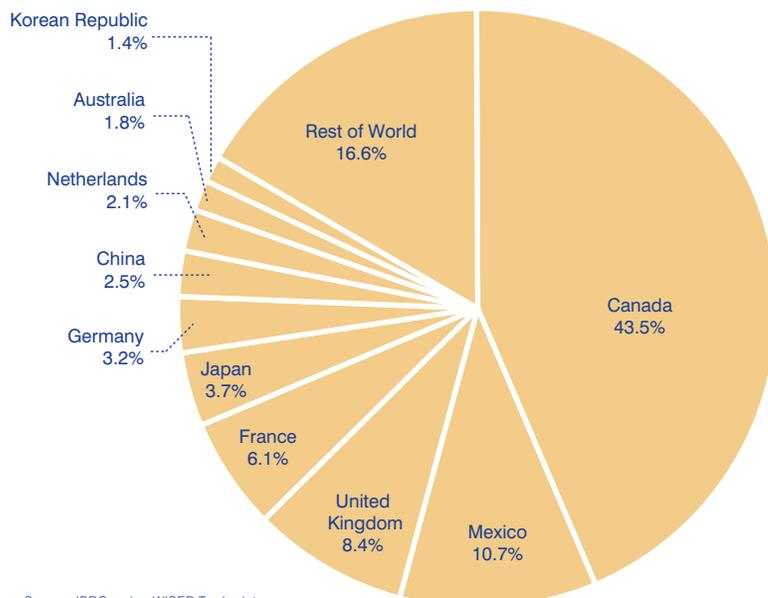
In 2006, exports to Indiana's top 10 trading partners grew in all but two countries. Canada was the state's top export destination by far, buying nearly \$10 billion in goods and services from Indiana companies, for a gain of 5.2 percent compared to a year earlier. Mexico held on to second place at \$2.4 billion, but sales to Mexico were down 7.5 percent.

Exports to the United Kingdom grew at a fast 22 percent pace in 2006 to retain third place on Indiana's list of trading partners, while exports to fourth-place France slipped by 6.2 percent.

Rounding out the top 10 destinations for Hoosier products were Japan, with exports of \$830.9 million; Germany, \$733.5 million; China, \$559.2 million; the Netherlands, \$472.9 million; Australia, \$397.4 million; and the Korean Republic, \$325.8 million (see **Figure 2**).

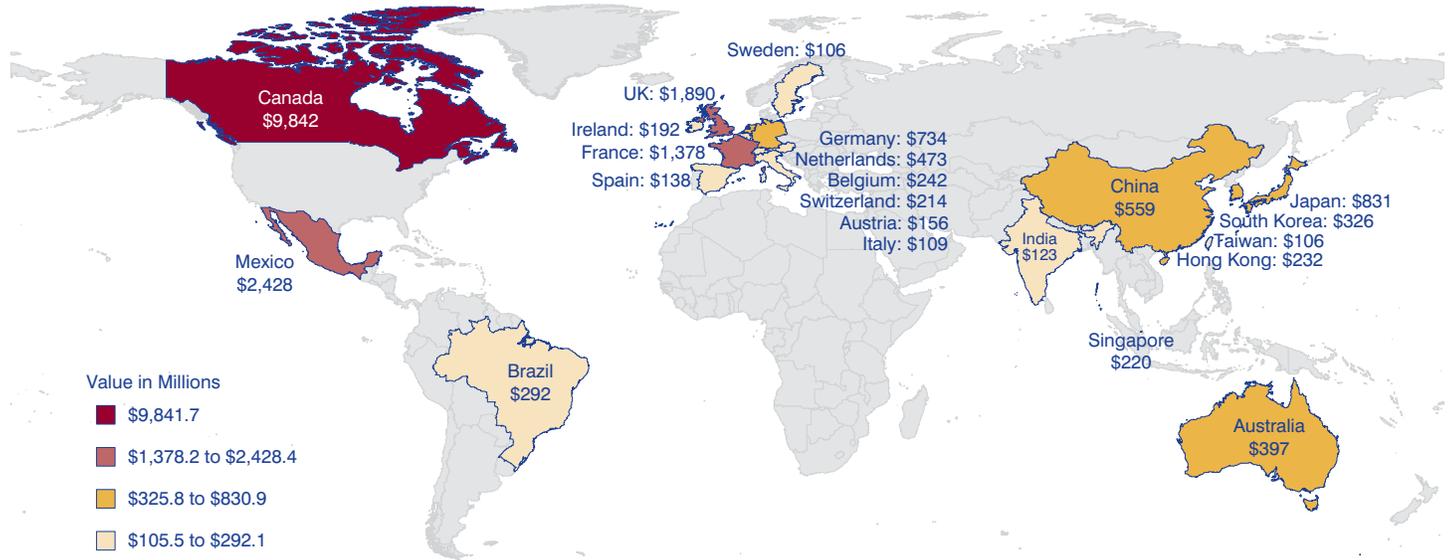
Indiana exported goods to 196 countries in 2006. Export sales exceeded \$100 million for 22 nations (see **Figure 3**), which together

FIGURE 2: TOP 10 INDIANA EXPORT DESTINATIONS, 2006



Source: IBRC, using WISER Trade data

FIGURE 3: DESTINATIONS FOR INDIANA EXPORTS EXCEEDING \$100 MILLION, 2006



Source: IBRC, using WISER Trade data

accounted for 92.8 percent of Hoosier exports.

Leading Export Industries

Vehicles and parts, along with industrial and electrical machinery, remain Indiana’s top exporting industries, accounting for 45 percent of all exports from the state. Export growth in these industries from 2005 to 2006 was relatively slow, in the 2 percent to 3 percent range.

Indiana’s pharmaceutical industry, however, raced ahead in 2006, exporting 16.9 percent more goods than in 2005. Indiana ranks third among all states in the value of pharmaceutical exports. The exports of optical and medical instruments also have registered a healthy annual average growth rate of 10.3 percent between 2001 and 2006 (see **Figure 4**).

By all appearances, there is great strength in the European market for Indiana pharmaceuticals. From 2001 to 2006, the United Kingdom, France and Germany accounted for

an \$852 million increase in Indiana pharmaceutical exports alone.

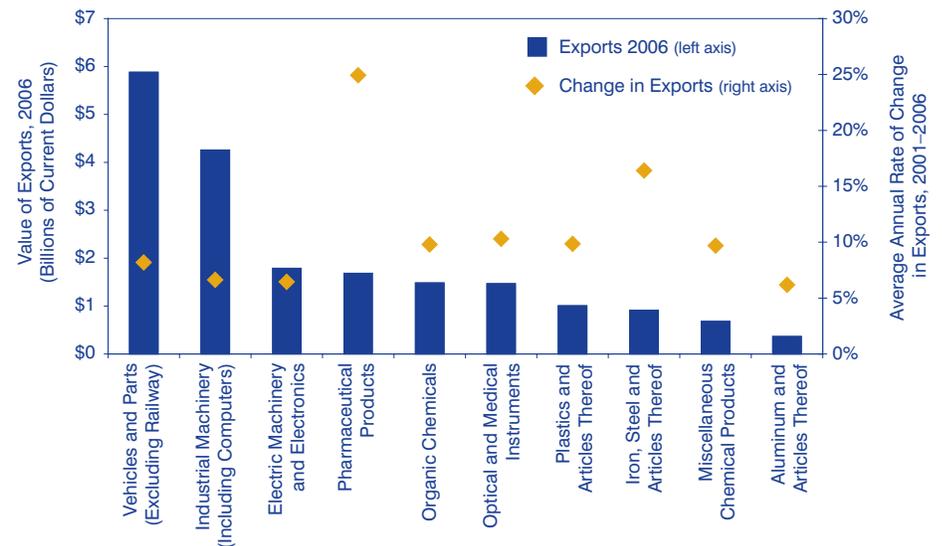
However, there is a note of caution: the demand and sales for these products can drop almost as quickly as they surge. Spain, for example, imported \$13 million worth of Indiana pharmaceutical products in 2001. By 2004, that total had surged up to \$159

million but then returned to \$13 million in 2006.

The full report, titled *Indiana’s Global Exports: Report for 2007*, is available online at www.ibrc.indiana.edu/international/pdf/exports_2007.pdf.

—Timothy Slaper, Director of Economic Analysis, Indiana Business Research Center, Kelley School of Business, Indiana University

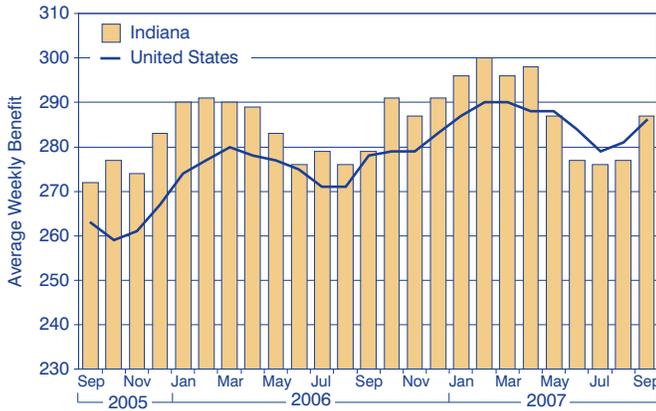
FIGURE 4: INDIANA’S TOP 10 EXPORT INDUSTRIES



Source: IBRC, using WISER Trade data

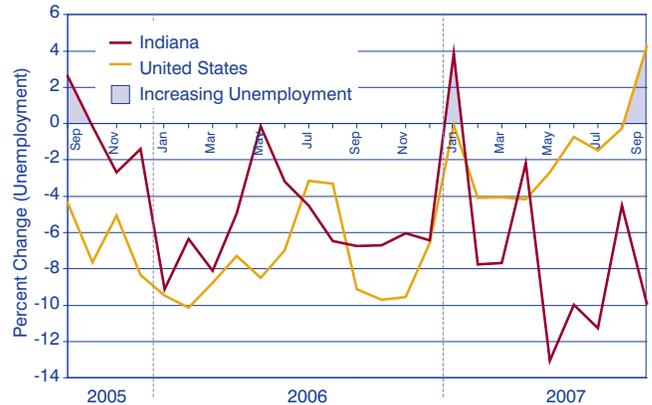
Monthly Metrics: Indiana's Economic Dashboard

AVERAGE BENEFITS PAID FOR UNEMPLOYMENT INSURANCE CLAIMS



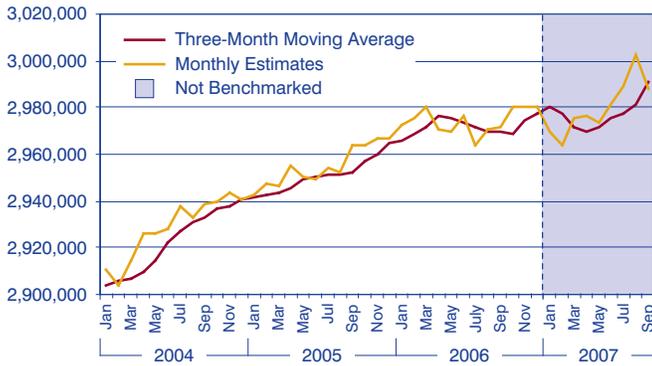
Source: IBRC, using U.S. Department of Labor data

PERCENT CHANGE IN PERSONS UNEMPLOYED FROM THE PREVIOUS YEAR*



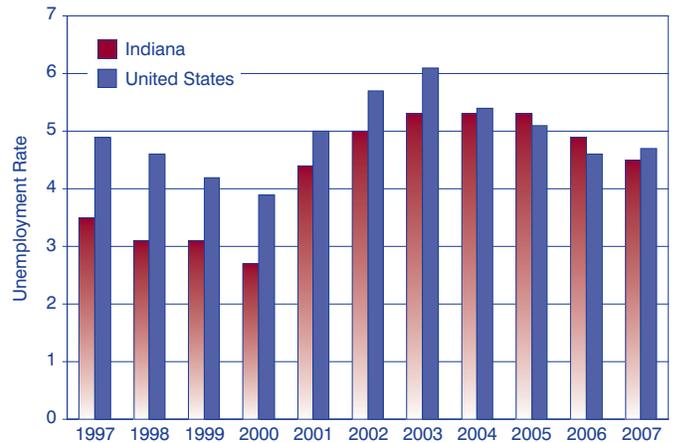
*seasonally adjusted
Source: IBRC, using Bureau of Labor Statistics data

CURRENT EMPLOYMENT AND MOVING THREE-MONTH AVERAGE



Note: Even seasonally adjusted estimates can show artificial changes if there are shifts in the timing of events. For example, the school year may start earlier than in the past, creating an employment surge in August that the estimates model was expecting in September. To help understand the data, it can be useful to average three months of estimates. The average is calculated for the current three months and then repeated for each prior month so that each data point represents the average of three months' estimates. Also note the difference in volatility between the benchmarked data (prior to January 2007) and the monthly estimates. Benchmark data have been revised using data elements not available at the time of the original estimates. Source: Current Employment Statistics

SEPTEMBER UNEMPLOYMENT RATES



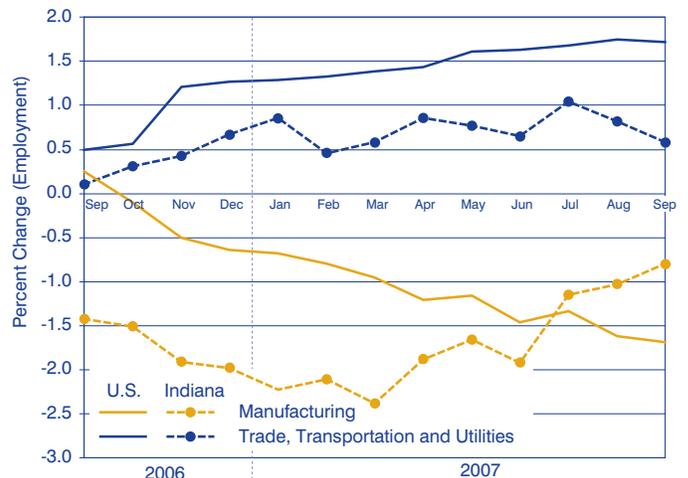
*seasonally adjusted
Source: IBRC, using Bureau of Labor Statistics data

CHANGE IN EMPLOYMENT BY INDUSTRY SUPER-SECTOR, 2006 TO 2007*

Industry	Indiana		United States
	Change in Jobs	Percent Change	Percent Change
Total Nonfarm	18,200	0.6	1.8
Natural Resources & Mining	200	2.9	6.3
Leisure and Hospitality	5,700	2.0	3.7
Government	4,800	1.1	1.0
Other Services	1,100	1.0	1.2
Trade, Transportation & Utilities	3,400	0.6	1.7
Financial Activities	700	0.5	1.1
Professional & Business Services	1,100	0.4	3.1
Educational & Health Services	1,300	0.3	3.7
Information	0	0.0	1.3
Manufacturing	-4,500	-0.8	-1.7

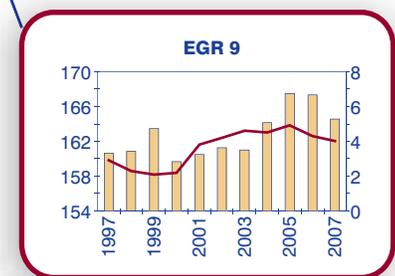
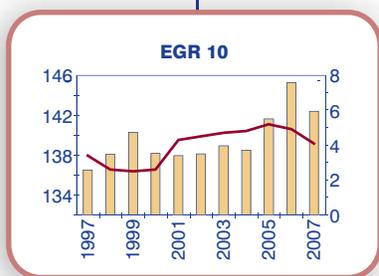
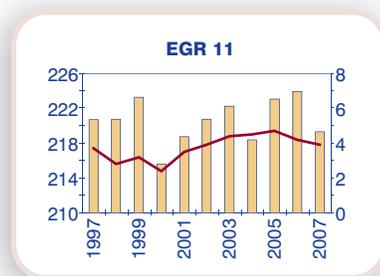
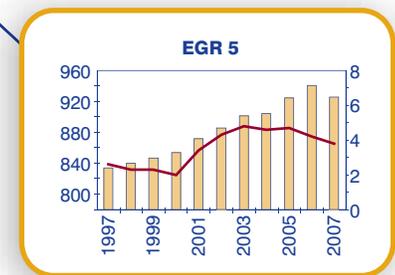
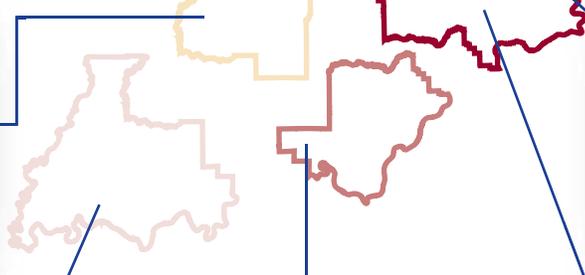
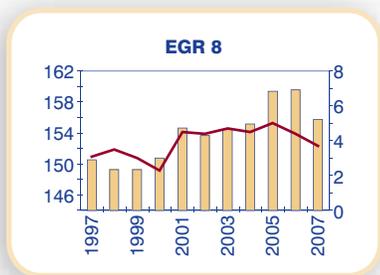
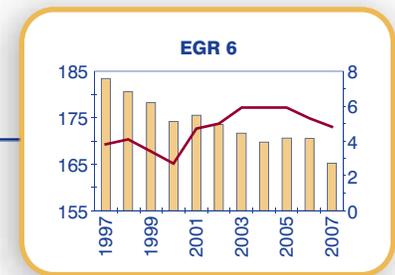
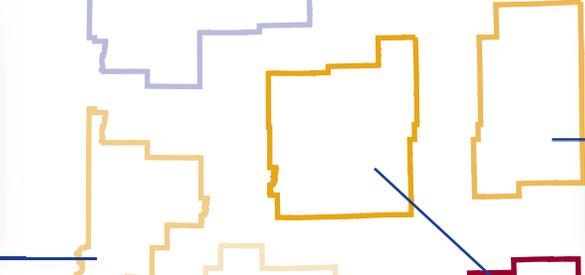
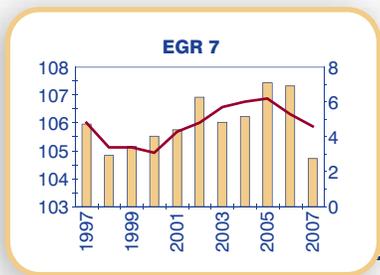
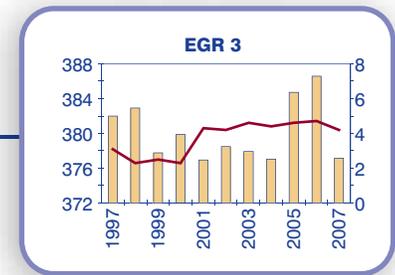
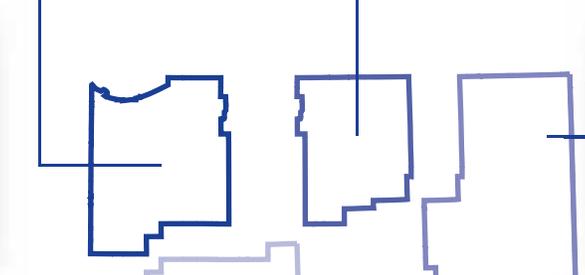
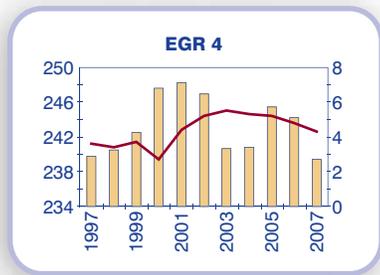
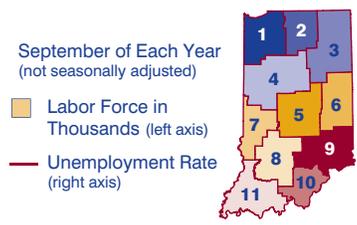
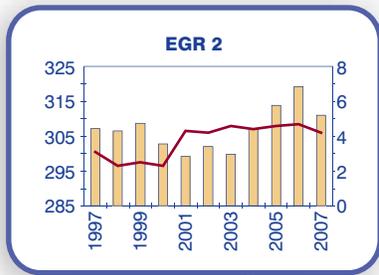
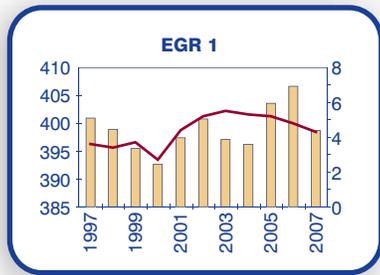
*September of each year, seasonally adjusted
Source: IBRC, using Bureau of Labor Statistics data

OVER-THE-YEAR PERCENT CHANGE IN EMPLOYMENT BY SUPER-SECTOR*



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

Regional Labor Force and Unemployment Rates



Moving “Up One Level:” Improving Job Prospects by Developing Basic Skills

The motto “learn more, earn more” is hardly a cliché—it’s a fact. Indiana’s regional “up one level” reports¹ highlight the importance of developing basic skills to move from “frequently listed jobs” to better-paying careers in high-demand fields. Analysis of all 255 job transitions listed in these reports shows that moving “up one level” leads to an average wage increase from \$21,931 per year to \$33,029 per year across Indiana’s economic growth regions, but not without an average increase of 10 percent or more in required levels of key basic skills. While this salary increase may appear modest, these job transitions are important first steps up the career ladder that do not require extensive formal training.

This article explores the increases in six basic skill levels for workers to successfully make these job transitions. Next month, we will continue this two-part series by focusing on improvements expected for key cross-functional skills.

This research analyzes the occupations in the “up one level” reports with O*NET skill level scores² to measure the extent to which workers

“While every job entails a unique mix of skill requirements, higher paying jobs overwhelmingly expect workers to improve competence in basic skills like reading, writing and arithmetic, as well as active listening, speaking and critical thinking.”

in widely available low-wage jobs may need to improve their basic skills to successfully move to higher-paying occupations. The Indiana Department of Workforce Development (IDWD) examined the frequently listed jobs for all 11 economic growth regions and determined “up one level” job transitions that Hoosiers could pursue without much additional training or experience.³ The O*NET database allows us to calculate the changes in skill requirements for each transition through its skill level scores. These scores indicate the required levels (ranging from 1 to 7) for 35 skills in more than 700 occupations.⁴ **Table 1** portrays the level scale anchors for each skill (visit <http://online.onetcenter.org/skills> for more information).

Rewards for the ‘Three Rs’

Reading, writing and arithmetic remain critical requirements since the vast majority of “up one level” job transitions require higher proficiency in these key basic skills. Two-thirds of these transitions have higher requirements for reading comprehension and writing, and 75 percent of these transitions expect higher levels in mathematics.

There are many good examples where higher basic skill requirements accompany successful job transitions and relatively few where little or no skill improvement is required. In Region 9, the “up one level” report suggests that landscaping and groundskeeping laborers—who are in high demand but receive relatively low annual wages (\$17,680

TABLE 1: DESCRIPTION OF SKILL LEVELS

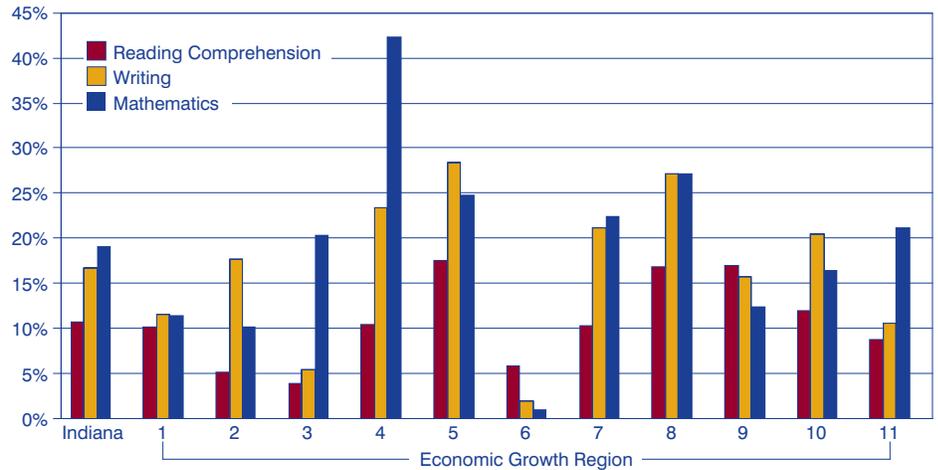
Skill	Lower Level (Score: 2)	Moderate Level (Score: 4)	Higher Level (Score: 6)
Reading Comprehension	Reading step-by-step instructions for completing a form	Reading a memo from management describing new personnel policies	Reading a scientific journal article describing surgical procedures
Writing	Taking a telephone message	Writing a memo to staff outlining new directives	Writing a novel for publication
Mathematics	Count the amount of change to be given to a customer	Calculate the square footage of a new home under construction	Develop a mathematical model to simulate and resolve an engineering problem
Active Listening	Taking a customer’s order	Answering inquiries regarding credit references	Presiding as judge in a complex legal disagreement
Speaking	Greeting tourists and explaining tourist attractions	Interviewing applicants to obtain personal and work history	Arguing a legal case before the supreme court
Critical Thinking	Determining whether a subordinate has a good excuse for being late	Evaluating customer complaints and determining appropriate responses	Writing a legal brief challenging a federal law

Source: O*NET 12.0 Database and Data Dictionary, available at www.onetcenter.org/database.html

per year)—can make the transition to become maintenance and repair workers (\$32,170 per year). While extensive training or certification may not be necessary for this transition, skill level requirements are 27 percent higher for reading comprehension, 15 percent higher for writing and 39 percent higher for mathematics. In Region 7, telemarketers and door-to-door sales workers (\$14,105 per year) can become customer service representatives (\$25,355 per year) through moderate on-the-job training. However, skill level requirements for customer service representatives are considerably higher—43 percent in reading comprehension, 31 percent in writing and 29 percent in mathematics.

One of the few “up one level” job transitions that does not require higher levels of these three basic skills is the transition from forklift/industrial truck operator (\$21,320 per year) to heavy and tractor-trailer truck driver

FIGURE 1: AVERAGE “UP ONE LEVEL” SKILL INCREASES IN READING, WRITING AND MATHEMATICS



Source: IBRC, using data from the Indiana Department of Workforce Development and O*NET

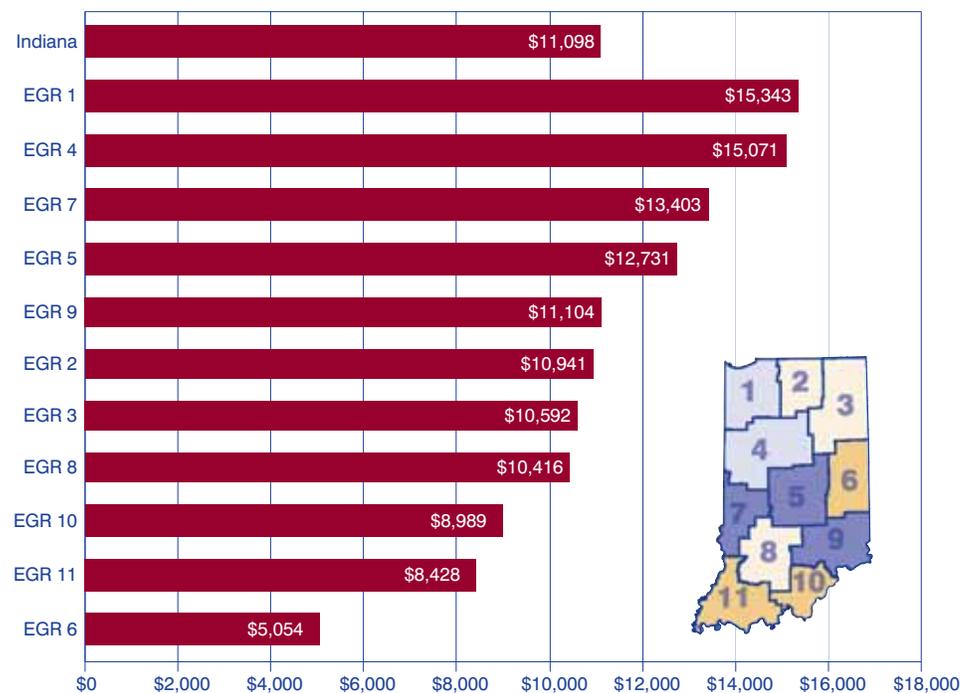
(\$36,406 per year) in Region 3. In such rare cases, there may be external labor market forces specific to these occupations that greatly affect the link between skills and wages.

Comparing regions in **Figure 1**, we see that the basic skill requirements of “up one level” occupations are substantially higher than frequently

listed jobs in all regions. On average, skill level requirements for reading comprehension increased by 11 percent across all regions with a high of 18 percent in Region 5 and a low of 4 percent in Region 3. Increases in writing and mathematics skill requirements across all regions are even higher at 17 percent and 19 percent, respectively. Overall, required skill level increases are highest in Region 8 where moving up one level required a 17 percent increase in reading comprehension, as well as 27 percent increases in both writing and mathematics.

In most cases, increases in skill requirements are accompanied with comparably high salary increases (see **Figure 2**). The exception is Region 1 where job transitions involving small basic skill increases are still rewarded with high salary increases, possibly due to effects of the nearby Chicago labor market. However, it comes as no surprise that job transitions in Region 6, which expect the smallest increases in basic skills, have the lowest average salary increase of only \$5,054—just half of the \$11,098 average increase across all regions.

FIGURE 2: AVERAGE “UP ONE LEVEL” SALARY INCREASES BY ECONOMIC GROWTH REGION



Source: IBRC, using Indiana Department of Workforce Development data

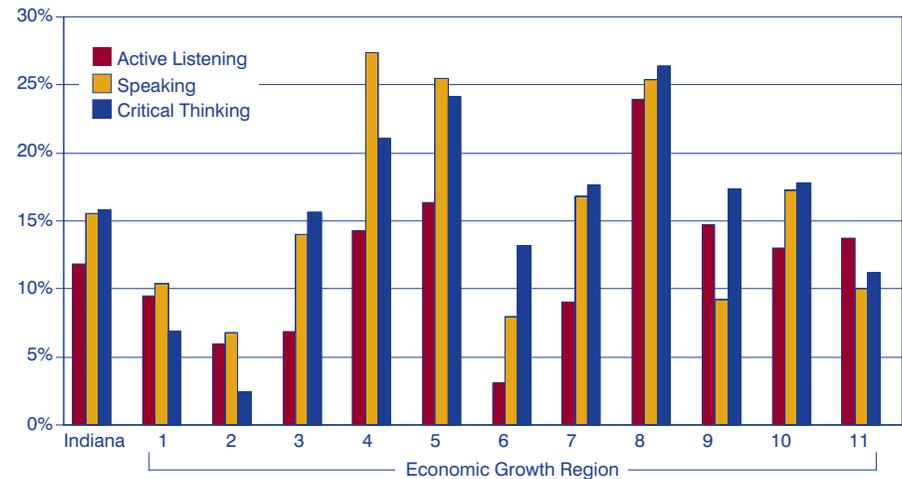
Listening Actively, Speaking Eloquent and Thinking Critically

Although less discussed, active listening, speaking and critical thinking are other basic skills that are essential for moving “up one level,” especially since they are among the top four skill demands for Indiana’s growing occupations through 2014.⁵ According to O*NET, active listening involves “listening to what other people are saying and asking questions as appropriate;” speaking involves “talking to others to effectively convey information;” and critical thinking requires “using logic and analysis to identify the strengths and weaknesses of different approaches.”⁶ As basic as these skills may sound, many frequently listed jobs require relatively low levels of proficiency for these skills—scores near 3 on a scale from 1 to 7. However, “up one level” occupations typically require moderate skill levels with a score closer to 4. In all, more than 70 percent of all job transitions require higher skill levels in these basic skills.

The “up one level” report for Region 4 provides a good example of a job transition that requires substantially higher skill levels in active listening, speaking and critical thinking. Here, assemblers in factory settings (this occupation has frequent openings for an average salary of \$21,840 per year) can make the transition to machinist, which has an average wage of \$35,780. While such a move can occur without formal schooling, the minimal skill levels for machinists are 31 percent higher for active listening, 26 percent higher for speaking and 32 percent higher for critical thinking.

Similar to the regional trends associated with reading, writing

FIGURE 3: AVERAGE “UP ONE LEVEL” SKILL INCREASES IN ACTIVE LISTENING, SPEAKING AND CRITICAL THINKING BY ECONOMIC GROWTH REGION



Source: IBRC, using data from the Indiana Department of Workforce Development and O*NET

and arithmetic, **Figure 3** shows that transitions to higher paying jobs across all regions are associated with substantially higher skill requirements—12 percent for active listening, 16 percent for speaking and 16 percent for critical thinking. Compared with **Figure 2**, meeting the higher skill requirements of “up one level” jobs appears to be best rewarded in Regions 4, 5 and 7, which all have average salary increases exceeding \$12,000. Again, Region 1 is the surprising exception by having the highest wage increases (\$15,343) despite relatively low skill requirements. Skill increases seem least rewarded in Region 8, where, despite expecting very high skill improvements, wage increases for “up one level” jobs average \$10,416—less than the \$11,098 average across all regions.

From Improving Basic Skills to Advancing Your Career

While every job entails a unique mix of skill requirements, higher paying jobs overwhelmingly expect workers to improve competence in basic skills like

reading, writing and arithmetic, as well as active listening, speaking and critical thinking. Developing these skills is a crucial first step to building advanced skills needed to move even further up the career ladder. Next month, we will examine the higher skill requirements for key cross-functional skills that are suited for the increased service and supervisory roles of many “up one level” occupations.

Notes

1. “Up one level” reports are available for all 11 Economic Growth Regions in the ‘Publications’ section of the Indiana Department of Workforce Development website: www.hoosierdata.in.gov/nav.asp?id=29.
2. This data is from the O*NET database, a public resource developed by the U.S. Department of Labor, Employment and Training Administration at www.onetcenter.org/database.html.
3. Allison Leeuw and Vicki Seegert, “Putting Feet on Research: Applying Skill Pathway Analysis to Workforce Development,” *InContext* (May 2007): 1-3.
4. O*NET determined these required skill levels through surveys of incumbent workers and occupational experts.
5. Michael F. Thompson, “The Demand for Soft Skills: Key Skills for Indiana’s Growing Occupations through 2014” *InContext* (September 2007): 1-2.
6. More information on these skills is available on the O*NET website: www.onetcenter.org.

—Michael F. Thompson, Economic Research Analyst, Indiana Business Research Center, Kelley School of Business, Indiana University

The Economic Impact of Libraries in Indiana

What is a library worth? This article highlights findings from a recent study designed to help Indiana libraries identify and quantify their benefits in a systematic and objective manner. The project was conducted by the Indiana Business Research Center on behalf of the Indiana State Library to determine the economic impact of libraries and their role in supporting business and economic development in their communities.

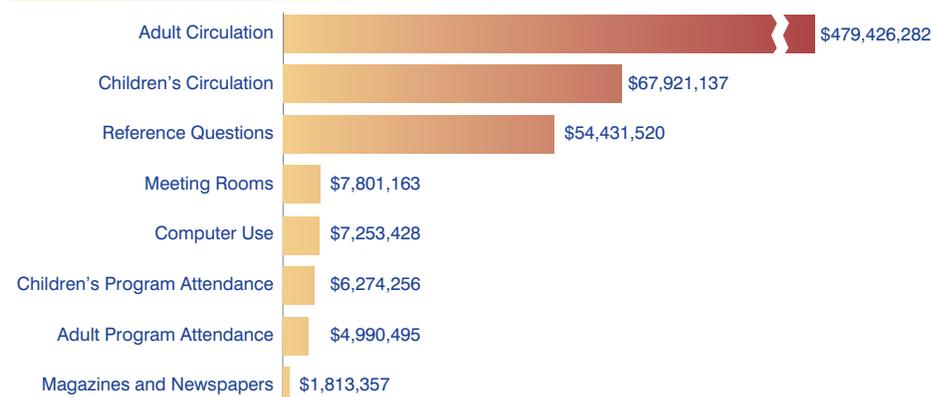
The research employed three main tools: (1) economic impact and benefit-cost analyses of libraries, (2) surveys of public libraries, businesses, public school officials, Chambers of Commerce and local development officials, and (3) case studies of 12 local libraries.

Measurable Economic Benefits of Libraries

The latest available data show that public libraries employ nearly 7,000 people (full- and part-time) and contribute nearly \$263 million to Indiana's economy through payrolls and expenditures on goods and services.¹ Library spending has a ripple effect throughout the local and state economy, accounting for an additional 2,000 jobs and \$216 million in economic activity in Indiana.

In addition, Indiana's academic (college and university) libraries have a combined staff of more than 2,200 full-time equivalent employees.² These libraries also circulate \$136 million throughout the state economy in the form of wages and expenditures on goods and services. The economic ripple effects of academic library spending support 640 additional jobs and create approximately \$112 million

FIGURE 1: MARKET VALUE OF INDIANA'S PUBLIC LIBRARY CIRCULATION AND SERVICES, 2005



Source: IBRC, using Indiana State Library data

in incremental economic activity in the state.

Excluding the intangible benefits of libraries, as well as the benefits stemming from use of the INSPIRE database portal,³ the total market value of the goods and services provided by the state's public libraries is estimated at \$629.9 million (see Figure 1).

Approximately 6.05 million Hoosiers live within a library district, making the per capita market benefits for library services roughly \$104 while the per capita costs are just shy of \$44. As a result, for each dollar of public library expenditures, the average Indiana community receives \$2.38 in direct benefits. This 2.38-to-1 benefit-to-cost ratio represents a conservative and defensible estimate of the value Hoosiers derive from their libraries.

Economic Development

Many business and community leaders are enthusiastic about the role that their library plays in economic and business development; however, the performance across libraries is uneven.

Many communities consider their libraries to be a social and economic anchor. This sentiment—that libraries contribute more broadly than to just economic prosperity—is shared both

by patrons and local leaders. In many of the case study locations, business and civic leaders are proud of their library. In several communities, a visit to the library is an important stop on the area tour when local leaders are trying to lure a firm to locate in their community. In some cases, all the local leaders surveyed were convinced that their public library helps attract new business. In other communities, however, local leaders strongly disagree with the statement that the library attracts new business.

Academic libraries tend to view themselves as having a more important role in economic and business development than do public libraries. This isn't surprising, given that businesses fortunate to be within close proximity to academic libraries—especially those close to public universities—would probably consider academic collections and resources to be broader and deeper than the offerings of local public libraries.

Even though patrons are almost as likely to use a library for enhancing their business or workplace skills as for researching their ancestry, a significantly higher proportion of library staff have special qualifications in genealogy research than in business

support. This is just one of the observations that point to significant shortcomings in the resources libraries provide for business and economic development.

Recommendations

As a result of this study, the Indiana Business Research Center identified six ways in which Indiana libraries can develop more active economic development and business growth strategies:

1. Implement a strategic program to expand the focus on business and economic development. The Indiana State Library should commit itself to a strategic program to help public libraries support the needs of business and economic development. This program would encourage an entrepreneurial focus and mindset among library directors. Ideally, each library would designate a “business point person” to lead efforts to bolster the library’s role in economic development in the community.

2. Enhance outreach to the business community. Based on the survey responses and in-depth case studies from this research, many libraries have forged strong relationships with the business community (see **Table 1**). However, even those business and community leaders that are satisfied with their libraries think public libraries can do more to promote their business-related services. In some cases, local libraries need to start reaching out to business leaders, many of whom do not think of libraries as a primary source of information.

3. Expand business and economic development services. Libraries can augment services to the business community in the following ways:

providing access to business reference librarians and those trained to serve the needs of economic development; expanding database offerings (such as Dun & Bradstreet); enhancing web-based applications that allow patrons to access or request resources through the local library’s website; sponsoring seminars and workshops that are related to economic, business or career development; and promoting use of library meeting room space.

4. Refine and expand library-use data collection. Small improvements in library-use data collection would allow for a richer understanding of libraries’ economic impacts and could prove helpful when supporting libraries’ value. Recommended changes include reporting disaggregated library circulation data, collecting data on non-circulation library uses (such as meeting rooms and electronic databases), and tracking use by businesses separately from use by other patrons.

5. Develop their own cost-benefit analysis. Local public libraries should be encouraged to produce their own annual benefit-to-cost analysis. An Excel-based library value calculator is available at www.stats.indiana.edu/topic/libraries.asp. By comparing its total market value to its annual operating expenses, a local library can estimate its benefit-to-cost ratio. This would allow libraries to include any specialized services they offer, such as

TABLE 1: PERCENT OF COMMUNITY LEADERS SURVEYED INDICATING THE FOLLOWING SERVICES ARE BENEFICIAL, 2007

How beneficial to business and economic growth in your community are the following library services or resources?	Percent of Respondents Indicating	
	Moderately Beneficial	Very Beneficial
High-speed Internet access for public use	15	69
Business periodicals	21	58
Space and facilities for holding business meetings	17	52
Economic and/or demographic data and statistics	32	44
Books or other information on starting or managing a business	37	41
Government documents and/or databases	33	37
Directories of businesses (local, state or national)	41	31
Resources for nonprofit planning	33	28
Resources for real-estate related research	33	23
Business-related programs or workshops	33	23
Legal information or resources	48	21
Small-business tax information	43	20
Other specific business-related databases	45	19
Local job postings	26	17
Information on patents and/or trademarks	35	10

Source: IBRC, using 2007 Community Leaders Survey

educational programs or tax preparation services.

6. Aggressively promote their economic significance. With a solid cost-benefit analysis in hand, local libraries should proactively share information about the economic contribution they make to the community. A well-orchestrated campaign can include press releases, postings on library property and websites, and mailings to local politicians and community leaders. Steps like these should help raise awareness of the economic benefits of libraries.

To read the full report online, visit www.stats.indiana.edu/topic/libraries.asp.

Notes

1. At the time the report was written, the latest public library data were from 2005.
2. At the time the report was written, the latest academic library data were from 2004.
3. At the time the report was written, INSPIRE data from the Indiana Cooperative Library Services Authority (INCOLSA) were unavailable.

—Indiana Business Research Center, Kelley School of Business, Indiana University

Indiana Population Projections, 2005 to 2040

Over the next 35 years, the number of Hoosiers age 65 and older will increase by 90 percent. That means that in 2040, one in five Hoosiers will be of traditional retirement age. Meanwhile, the number of people in the 25–54 age group—a key labor force demographic—will decline.

These are just a few of the insights from the recently released state and county population projections by the Indiana Business Research Center.

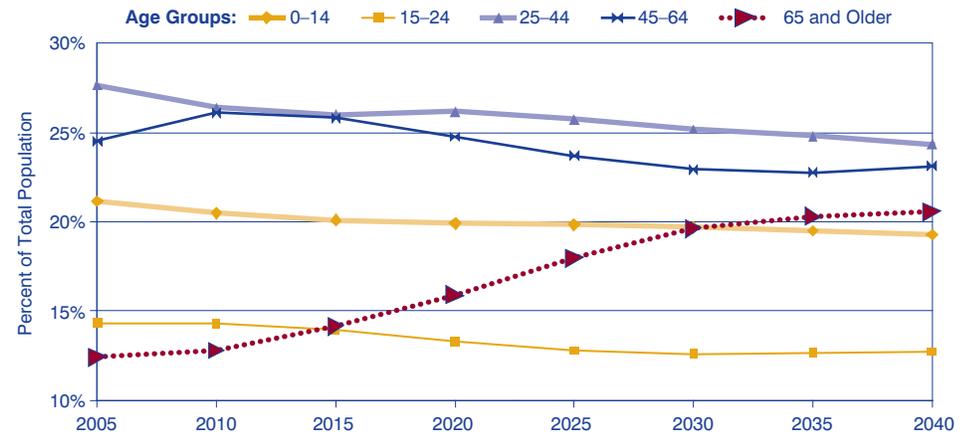
Other highlights include:

- Indiana will add roughly 940,000 residents by 2040—a 15 percent increase from 2005.
- Indiana’s population will surpass 7 million in 2030.
- Sixty-five of Indiana’s 92 counties will increase in population.
- The 10-county Indianapolis metro area will account for 54 percent of Indiana’s growth.

Indiana’s Aging Population

The primary force behind Indiana’s changing population dynamics is the inevitable aging of the baby boom generation. At present, this group is

FIGURE 1: PROJECTED SHARE OF TOTAL POPULATION BY AGE GROUP, 2005 TO 2040



Source: Indiana Business Research Center

between the ages of 44 and 61 and, by 2030, this entire cohort will be of traditional retirement age. This fact promises to transform the state.

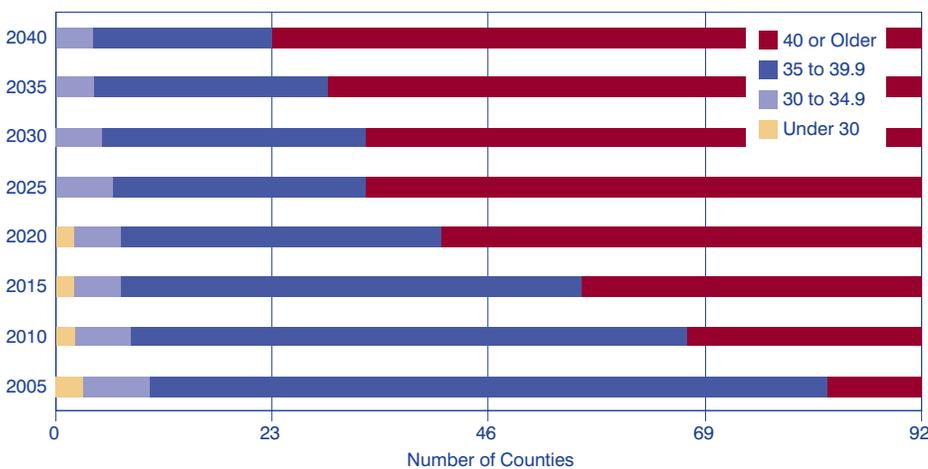
Figure 1 illustrates the share of total population that several age groups will hold over the next 35 years. The share of population age 65 and older will increase from roughly 12 percent of the total to nearly 21 percent. During this period, the 65 and older population will surpass the 0–14 and 15–24 age groups on its way from the smallest to the third largest of these segments. Each of the other age groups will see its share of total population decline by 2040.

An aging population is not unique to Indiana, of course, but is a national trend. In fact, when compared to the rest of the nation, Indiana is relatively young with a 2006 median age of 36.3, which ranks in the bottom third of all states according to the U.S. Census Bureau. The state’s median age is expected to increase to 39.8 years by 2040.

There is a wide disparity in aging patterns among Indiana counties. In 2005, the youngest counties exhibit one of two primary characteristics. There are major college student populations in Delaware (33.5 percent), Monroe (27.9 percent), and Tippecanoe (27.7 percent) counties. Meanwhile, there are sizable Amish and Mennonite populations that tend to have higher fertility rates in Adams (33.4 percent), Elkhart (33.4 percent), and LaGrange (29.8 percent) counties. Each of these counties will age modestly over the next 35 years, with the exception of Adams County, which will be one of six counties to get younger over the next three decades.

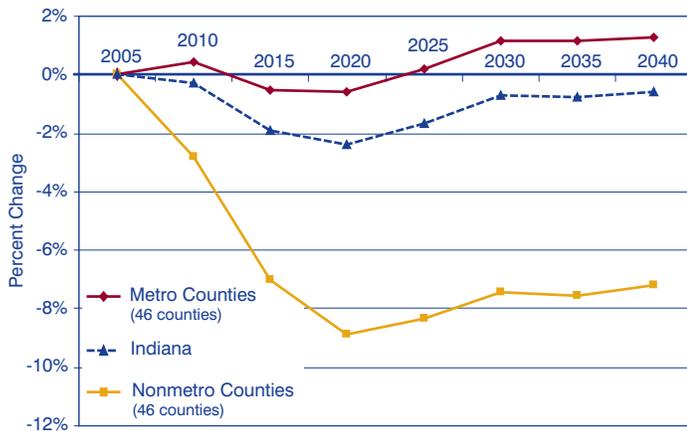
At the other end of the spectrum, 10 counties had a median age of 40 or older in 2005. These counties are largely rural. As Figure 2 shows, many

FIGURE 2: PROJECTED DISTRIBUTION OF COUNTIES BY MEDIAN AGE, 2005 TO 2040



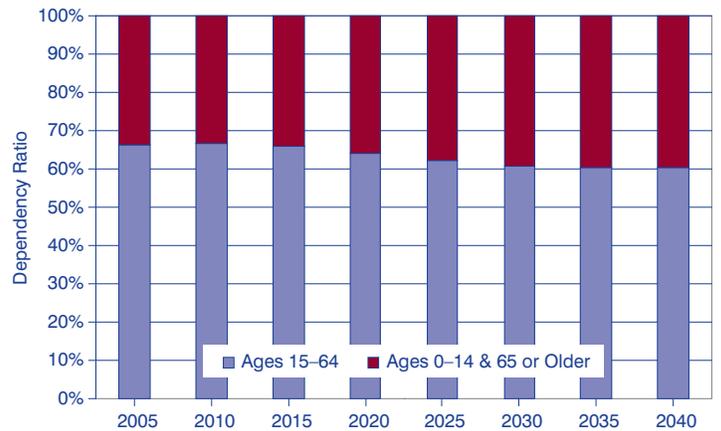
Source: Indiana Business Research Center

FIGURE 3: PROJECTED CHANGE IN THE 25–54 AGE GROUP, 2005 TO 2040



Source: Indiana Business Research Center

FIGURE 4: PROJECTED DEPENDENCY RATIOS, 2005 TO 2040



Source: Indiana Business Research Center

Hoosier counties will age significantly. The number of counties with a median age of 40 or above will increase from 10 in 2005 to 69 in 2040.

With 75 percent of Indiana’s counties exhibiting a median age of 40 or above in 2040, how is it that the state’s median age will remain below 40? Aging in Indiana over the next three decades will be more pronounced in rural areas of the state. Marion County, which is home to one of every seven Hoosiers, will have a median age of 37 in 2040. Other urban counties such as Allen, St. Joseph, Vigo and Hamilton will also be below 40.

Implications of an Aging Population

This inevitable aging trend could have some serious impacts on Indiana and its economy. First, will Indiana have the labor force to grow, or even maintain, its current level of economic activity?

Figure 3 highlights the percent change from 2005 to 2040 in the 25–54 age group for Indiana as a whole as well as for counties in metropolitan statistical areas and those that are not. Indiana will see a steady decline in this important labor force demographic over

the next 15 years before it rebounds from 2020 to 2040.

Metropolitan areas of the state will experience a similar, less drastic trend. Urban areas will see the 25–54 age group decline slightly between 2010 and 2020 before it begins to exceed current levels in 2025 and beyond. The most alarming development is the likelihood of a 9 percent decline in this age group in rural Indiana by 2020. These labor force realities, which will be faced by much of the United States, could hinder prospects for Indiana’s economic growth over the next 20 years, particularly in rural areas of the state.

Decreased economic activity as a result of a shrinking labor force is by no means a certainty for our state. This decline could be offset by increased migration (both domestic and international), reduced out-migration (brain drain) or increased productivity. Additionally, there is a growing belief that many baby boomers will continue to work—whether by choice or necessity—into their retirement years.

There are other implications of an aging population. For instance, the 15–64 age group traditionally bears

the financial burden of supporting the non-working residents through costs associated with raising children or supporting pension funds, social security and health care programs. **Figure 4** describes the growth of the 0–14 and 65 and over age groups relative to the working age population. This relationship is often referred to as the dependency ratio. In 2005, there were roughly two working aged Hoosiers for every dependent (a 2-1 ratio). This ratio will drop to approximately 1.5-1 by 2040 and will place increased pressure on the labor force.

Patterns in Population Change

More than half of Indiana’s growth by 2040 will take place within the 10 counties that constitute the Indianapolis metro. In fact, five Indianapolis suburban counties can expect to grow by more than 30 percent, led by Hamilton County with an astounding projected increase of 85 percent. **Figure 5** illustrates the anticipated population change for all Indiana counties over the next 35 years. Northeast Indiana is another region

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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.

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which can expect to see significant growth with LaGrange, Elkhart, Adams and Allen counties each projected to increase by more than 20 percent. Meanwhile, 27 counties are likely to have fewer residents by 2040.

About the Projections

It is important to keep in mind that these projections are purely demographic, meaning that they rely exclusively on recent birth, death and migration trends. Therefore, these figures are a reflection of what Indiana and its communities will look like if past conditions persist. No assumptions

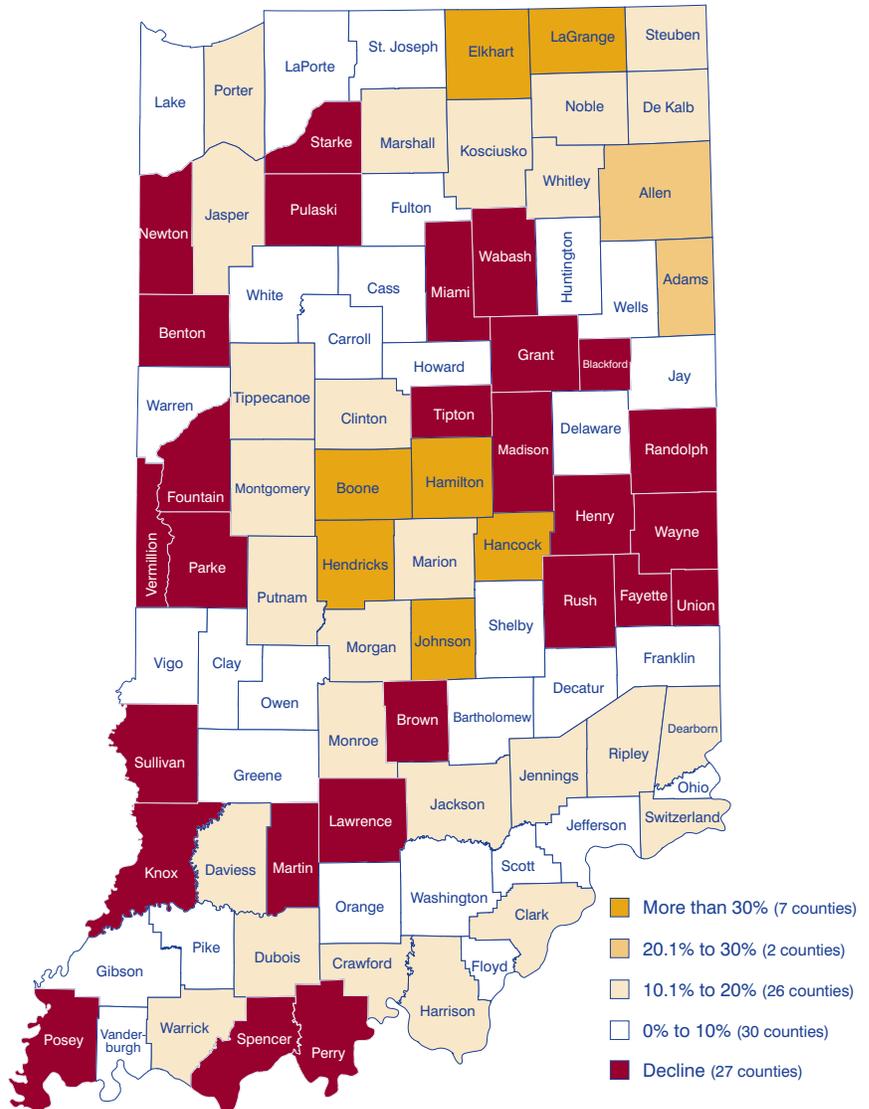
have been made about future economic or environmental conditions.

Also, population dynamics, particularly migration, can be difficult to predict. Long-range projections can be subject to significant error. Therefore, it is often useful to pay greater attention to trends during the next 15 to 20 years.

To access the entire population projection dataset, please visit www.stats.indiana.edu/topic/projections.asp.

—Matt Kinghorn, Demographer, Indiana Business Research Center, Kelley School of Business, Indiana University

FIGURE 5: PROJECTED PERCENT CHANGE IN POPULATION, 2005 TO 2040



Source: Indiana Business Research Center