

Autoworker Re-Employment in Indiana, Michigan and Ohio

The auto industry has experienced significant change and reorganization, with the workforce absorbing much of the change through displacement and shifting migration patterns of employees. This article examines a cohort of workers across Indiana, Michigan and Ohio in the transportation equipment manufacturing (TEM) sector from the first quarter of 2005 to 2010.

Of particular interest to the study was whether these workers remained in the TEM industry, and whether they stayed with the same employer or a different employer within the TEM realm. Finally, comparable wages (inflation-adjusted) were examined for these workers over the time interval.

The Indiana Department of Workforce Development, the Michigan Department of Technology, Management and Budget, and the Ohio Department of Job and Family Services provided data for this research.¹

Employment Findings by Three-Digit NAICS

There were 354,915 autoworkers in the first quarter of 2005 for which wage records could be obtained five years later (2010). **Table 1** provides a listing of the top 15 industries by three-digit NAICS code where these workers were employed. Due to compiling issues with the data, it was not possible to assess the number of employees for which no wage records existed due to those leaving the state, retiring or having not found employment.

Table 1: Where TEM Workers in 2005 Were Employed in 2010

NAICS	Title	Count	Percent
336	Transportation Equipment Manufacturing	252,299	71.1%
561	Administrative and Support Services	14,676	4.1%
541	Professional, Scientific, and Technical Services	6,730	1.9%
423	Merchant Wholesalers, Durable Goods	5,010	1.4%
326	Plastics and Rubber Products Manufacturing	5,000	1.4%
332	Fabricated Metal Product Manufacturing	4,814	1.4%
333	Machinery Manufacturing	4,365	1.2%
611	Educational Services	3,755	1.1%
722	Food Services and Drinking Places	2,913	0.8%
452	General Merchandise Stores	2,842	0.8%
623	Nursing and Residential Care Facilities	2,455	0.7%
311	Food Manufacturing	2,303	0.6%
622	Hospitals	2,145	0.6%
238	Specialty Trade Contractors	2,076	0.6%
621	Ambulatory Health Care Services	2,002	0.6%

Source: Indiana Department of Workforce Development

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Of the pool of 2005 TEM autoworkers remaining in their respective states and for whom a wage record could be matched, 71 percent were still employed within TEM in 2010.

The next largest industry for the 2005 cohort of TEM autoworkers employed in 2010 was in administrative and support services, which employed 4.1 percent of these autoworkers. Over three-quarters of the people employed in this industry were found in employment services, which includes employment placement agencies, temporary help services and professional employer organizations. The manufacturing sector, including TEM, makes extensive use of temporary and leased employees. The implication is that some of these workers may be doing similar work but on a temporary basis.

A Closer Look at Transportation Equipment Manufacturing

Table 2 shows a four-digit breakout of workers remaining in the TEM industry. The total from TEM sub-sectors does not sum exactly to the three-digit sector total in **Table 1**. The discrepancy is due to re-coding and classification issues which became apparent in combining the data.

Table 2: TEM Sub-Sectors Where TEM Workers in 2005 Were Employed in 2010

NAICS	Title	Number	Percent
3361	Motor Vehicle Manufacturing	122,260	50.2%
3362	Motor Vehicle Body and Trailer Manufacturing	22,345	9.2%
3363	Motor Vehicle Parts Manufacturing	97,893	40.2%
3364	Aerospace Product and Parts Manufacturing	695	0.3%
3365	Railroad Rolling Stock Manufacturing	4	0.0%
3366	Ship and Boat Building	110	0.0%
3369	Other Transportation Equipment Manufacturing	245	0.1%
Total		243,552	100.0%

Note: The totals in this table do not exactly match the totals in Table 1 due to coding and classification issues.

Source: Indiana Department of Workforce Development

Of the workers from the original 2005 autoworkers cohort who were also employed in the TEM industry in 2010, 99.6 percent of these workers were concentrated in some aspect of motor vehicle manufacturing. Minor movements to other sub-sectors of the industry were observed, but those specialized industries did not appear to offer significant re-employment opportunities for ex-autoworkers.²

How Many Workers Switched Employers?

Of the workers for whom wage records were available, **Table 3** illustrates where these workers re-emerged in 2010 with respect to their 2005 employer.

Table 3: Outcomes of TEM Worker Migration, 2005 to 2010

Migration Outcome	Number	Percent
Same Employer	137,086	37.8%
Same Employer, Industry Change*	4,084	1.1%
New Employer, TEM**	105,108	29.0%
New Employer, not TEM**	116,147	32.0%
Total	362,425	100.0%

* Four-digit industry segment

** Within three-digit industry subsector 336

Source: Indiana Department of Workforce Development

Of the original workers with wage records, 39 percent remained with the same employer. One percent of those original 2005 workers remained with the same employer but the company was now classified outside of TEM. Another 29 percent of the workers remained within TEM, but with a different employer. Finally, 32.1 percent found employment with other employers outside TEM

industries.³

Wage Findings by Three-Digit NAICS

The wage comparison utilized wages for autoworkers, using the same scope definition as above, averaged and then annualized for the second and third quarters of 2005.⁴ These 2005 average wages were adjusted for inflation to permit comparison to 2010 wages. Matches to 2010 wage records underwent a similar process of averaging and annualization. The criteria for determining the dominant employer was the same as for the employment analysis. Industry assignments were based on the dominant employer for the two-quarter time frame of the years in question, based on the wage earned while working for those employers.

Average wages were computed as a simple average of the three states' data. Consideration was given to employing a weighted average, but this option provided over-consideration of one state versus the other two and skewed the results. Additionally, using a weighted average measure would require coupling wage and employment data which proved problematic. Given the concern with the data, and the results being skewed one direction, a simple average was preferable.

Table 4 compares the three-state average wages across time for the five years using the top 15 migration industries of TEM workers presented in **Table 1**. Average wages of actual employees in the industries were calculated and compared. It should be noted that the wages do not account for the hours of employment. A drop in earnings can be either the result of pay decrease (worker concessions or a decrease in pay level) or a decrease in the hours of employment. For those industries experiencing significant decreases, the use of temporary or part-time employment should first be considered as a rationale.

Table 4: Three-State Average Wages for Top TEM Worker Migration Industries, 2005 to 2010

NAICS	NAICS Title New Industry	2005 Three-State Average TEM Wage	2010 Three-State Average New Wage	Percent Change
336	Transportation Equipment Manufacturing	\$61,067	\$65,443	7.2%
561	Administrative and Support Services	\$36,416	\$23,782	-34.7%
541	Professional, Scientific, and Technical Services	\$59,739	\$53,590	-10.3%
423	Merchant Wholesalers, Durable Goods	\$56,665	\$58,920	4.0%
326	Plastics and Rubber Products Manufacturing	\$34,460	\$39,004	13.2%
332	Fabricated Metal Product Manufacturing	\$43,849	\$47,687	8.8%
333	Machinery Manufacturing	\$48,820	\$49,338	1.1%
611	Educational Services	\$46,785	\$21,931	-53.1%
722	Food Services and Drinking Places	\$27,766	\$13,870	-50.0%
452	General Merchandise Stores	\$33,619	\$16,546	-50.8%
623	Nursing and Residential Care Facilities	\$30,355	\$26,086	-14.1%
311	Food Manufacturing	\$37,039	\$38,078	2.8%
622	Hospitals	\$39,655	\$29,766	-24.9%
238	Specialty Trade Contractors	\$40,893	\$34,122	-16.6%
621	Ambulatory Health Care Services	\$37,752	\$23,667	-37.3%

Source: Indiana Department of Workforce Development

Wages within the Transportation Equipment Manufacturing

Industry

Table 5 shows a four-digit breakout of worker wages for those remaining in the TEM industry.

Table 5: Average Annual wage Comparison, 2005 Q2 to 2010 Q2 to Q3

Code	NAICS Title	2005 Three-State Average	2010 Three-State Average	Percentage Change
3361	Motor Vehicle Manufacturing	\$79,096	\$76,034	-3.9%
3362	Motor Vehicle Body and Trailer Manufacturing	\$48,902	\$51,941	6.2%
3363	Motor Vehicle Parts Manufacturing	\$53,206	\$55,847	5.0%
3364	Aerospace Product and Parts Manufacturing	\$54,882	\$58,489	6.6%
3365	Railroad Rolling Stock Manufacturing	\$14,623	\$14,620	-0.0%
3366	Ship and Boat Building	\$23,928	\$35,500	48.4%
3369	Other Transportation Equipment Manufacturing	\$46,627	\$50,693	8.7%

Source: Indiana Department of Workforce Development

Of the TEM sub-sectors, only motor vehicle (3361) and railroad (3365) manufacturing witnessed slight declines. The other subsectors showed modest increases over the five years.

Conclusion

The results suggest that workers able to remain in TEM industries accommodated only modest adjustments to wages. The largest adjustment was shouldered by those unable to find work or those finding employment outside the TEM sector. Further work on those for which wage records are not found would significantly add to the analysis.

This analysis was part of the Driving Workforce Change project collaboration of Indiana, Michigan and Ohio funded through a grant from the U.S. Department of Labor's Employment & Training Administration. For information on that project, visit the website at www.drivingworkforcechange.org.

Notes

1. An initial cohort of autoworkers was established by extracting wage records from the first quarter of 2005 for employers in the following NAICS industry sectors: 3361 (motor vehicle manufacturing), 3362 (motor vehicle body and trailer manufacturing) and 3363 (motor vehicle parts manufacturing). Ohio used an average of second and third quarters to determine autoworker counts, and it is assumed this is a proxy for first quarter. Some of these workers were employed in more than one four-digit NAICS industry during the base reference quarter in 2005. In that event, the NAICS was assigned on the basis of the wage record with the greatest wage. Once this initial cohort of workers was established, the wage records were matched against all employer wage records for the first quarter of 2010. Again, some multiples matches for the same worker were discovered, and the employer record with the highest wage was used to determine the worker's 2010 industry employment. Efforts were taken to seamlessly combine the states. However, some of the collection methods and reporting standards between states differed. Rather than potentially corrupt the results, the non-matching data were discarded in the combined report. These efforts resulted in only a few minor discrepancies which should not deflect from the analysis.
2. There is a slight discrepancy between the three-digit count of TEM workers in Table 1 and the sum of four-digit sub-categories within TEM across the three states. The discrepancy is due to coding and classification issues which became apparent in combining the data. The difference is relatively minor and does not significantly alter the results.
3. The four-digit sum of the category is slightly different from the three-digit total. Therefore the percentage of TEM workers in Table 1 is slightly different from the percentage sum of TEM workers in Table 3.

4. Second and third quarter wages are generally considered less volatile than either first or fourth quarter wages due to the timing of annual bonuses.

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Health Insurance Coverage

Insuring ourselves against the costs of health care has become increasingly important to Americans. While the majority of Hoosiers have some sort of health insurance, 13 percent of Indiana's residents (855,000 people) lacked health insurance coverage in 2010. That figure compares favorably to the higher 16 percent nationally who lacked health insurance, according to the U.S. Census Bureau (see **Figure 1**).¹

Indiana has slightly higher coverage rates (87 percent) than the nation overall (84 percent) and ranks 21st among the 50 states and the District of Columbia. Coverage rates range from a high of 94 percent in Massachusetts to a low of 75 percent in Texas.

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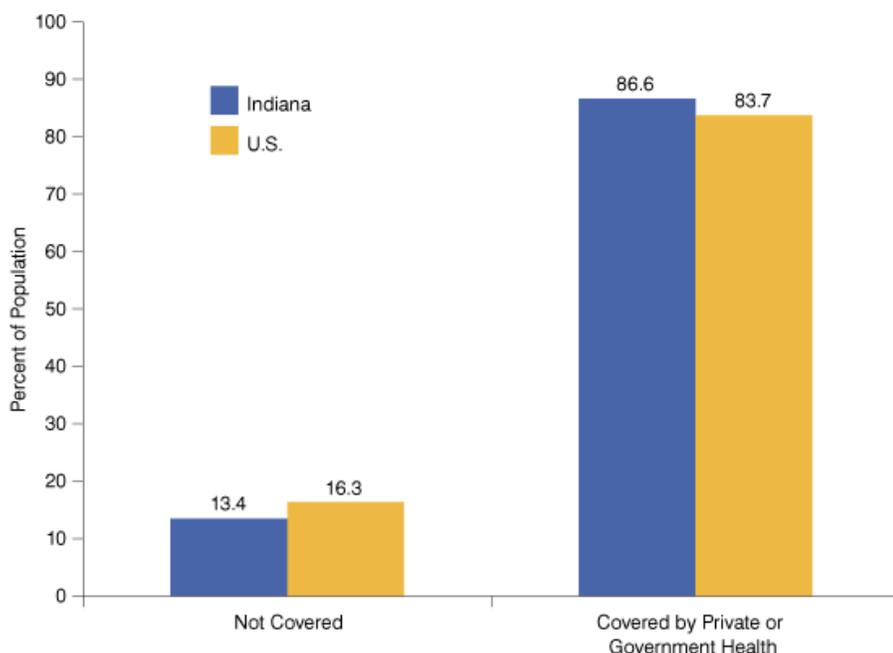
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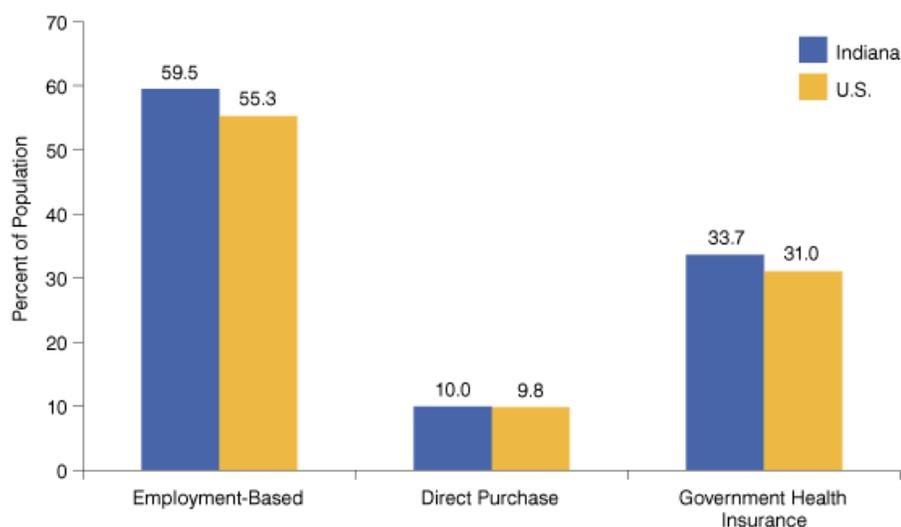
Figure 1: Health Insurance Coverage in Indiana and the United States, 2010



Source: IBRC, using Current Population Survey data

As shown in **Figure 2**, the majority of Hoosiers (60 percent) have health insurance through their employer, while 34 percent have government-based health insurance (Medicare, Medicaid or military health care). Note that the categories are not mutually exclusive (e.g., an individual may have both employment-based insurance alongside directly purchased supplemental coverage).

Figure 2: Types of Insurance Coverage, 2010

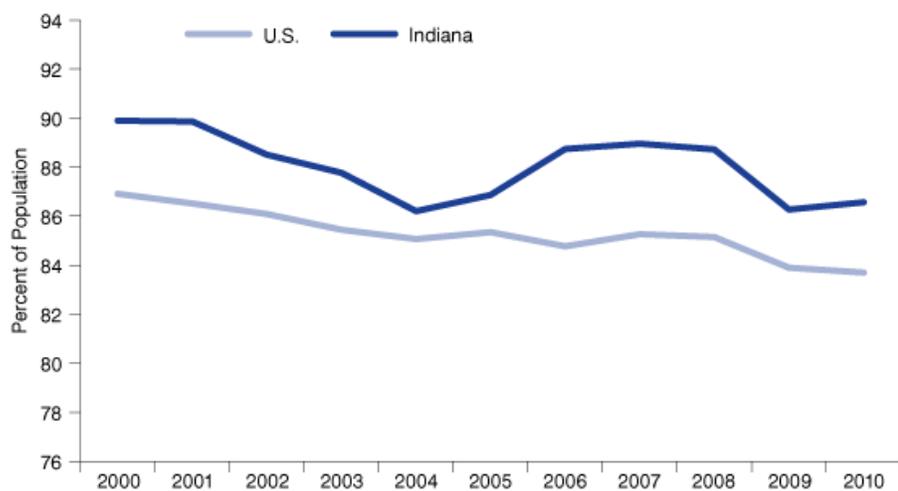


Note: Numbers do not sum to 100 because the categories are not mutually exclusive. The difference between the U.S. and Indiana direct purchases is not statistically significant.

Source: IBRC, using Current Population Survey data

The percentage of insured individuals in Indiana has declined by 3.3 percentage points over the decade, although there was a slight uptick in 2010 (see **Figure 3**).

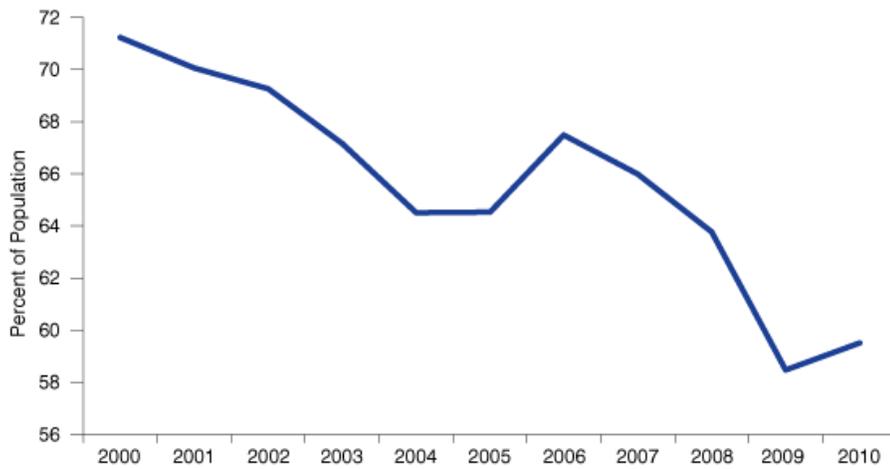
Figure 3: Percent of the Population Covered by Health Insurance, 2000 to 2010



Source: IBRC, using Current Population Survey data

Change in coverage has been primarily due to a drop in the share of population with employment-based coverage, which fell 14 percentage points over the decade (see **Figure 4**).

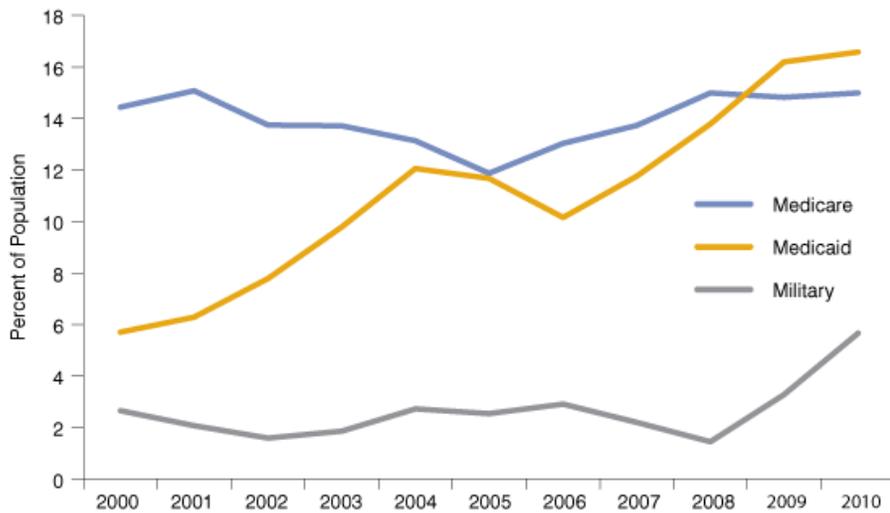
Figure 4: Employment-Based Health Insurance in Indiana, 2000 to 2010



Source: IBRC, using Current Population Survey data

Meanwhile the percent of people with government-based insurance has been on the rise (see **Figure 5**). Since these figures are released annually, we can continue to track the number and percent of Hoosiers with health insurance and how the nature of that coverage may be changing.

Figure 5: Government Health Insurance in Indiana, 2000 to 2010



Source: IBRC, using Current Population Survey data

Learn More

This article explored just one data set on health insurance coverage. For more data on insurance coverage and health care costs, visit the [STATS Indiana Health topic page](#).

Notes

1. Data in this article come from the Current Population Survey (CPS) data available at www.census.gov/newsroom/releases/archives/news_conferences/2011-09-13_ipnews_conf.html. The American Community Survey (ACS) is now another source for health insurance data and is based on a larger sample size, but the time series is limited and only goes back to 2008. The 2010 ACS data indicate that 14.8 percent of Hoosiers are uninsured, compared to 15.5 percent for the United States. View the [health insurance fact sheet](#) for more information about the variety of data sources available.

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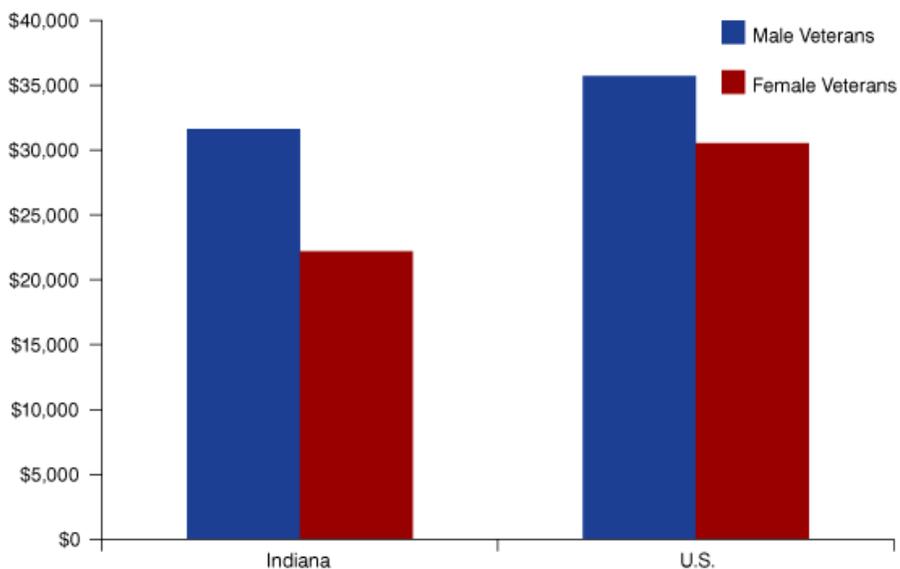
The U.S. has been at war for more than 10 years now, first in Afghanistan and then Iraq. The media is filled with periodic stories of our soldiers coming home. Here we will focus on soldiers who have served in one of the branches of the U.S. armed services and upon discharge or retirement, become veterans. Indiana is home to about 2 percent of the nation's veterans, or 493,551 men and women. Most of Indiana's veterans served during the Vietnam era (34 percent), with 23 percent serving in Korea or World War II. Thirteen percent served during the period of August 1990 through August 2001, which included the Persian Gulf War. Six percent of our Hoosier veterans served during the Gulf War period which began in September 2001.

The vast majority of our veterans are male—95 percent compared to 5 percent female. Those percentages are very similar to the national averages of 93 percent and 7 percent, respectively.

Such similarities to national averages don't apply to the percent of veterans by race or Hispanic origin. For Indiana, the vast majority of veterans (91 percent) are white, compared to an 84 percent U.S. average; 8 percent of Indiana's vets are black or African-American (11 percent for the U.S.), and 2 percent in Indiana are Hispanic (compared to 5 percent nationwide).

Interestingly, veterans tend to have larger median incomes than non-veterans. In Indiana, the median income for veterans was \$31,211 (U.S. was at \$35,367). Indiana's female veterans, however, didn't do so well, coming in with a median of \$22,207 compared to the national average for women vets of \$30,540 (see **Figure 1**).

Figure 1: Median Income by Sex, 2010



Source: IBRC, using American Community Survey data

The poverty rate for veterans in both Indiana and nationally was 7 percent—well below that of the population overall. However, veterans experience unemployment at higher rates, with a 12 percent rate in Indiana for 2010 and 10 percent nationally.

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Veterans tend to complete high school and go to college. Thirty-three percent of Indiana veterans have at least some college or an associate's degree and another 18 percent have at least a bachelor's degree. Like other Hoosiers, however, Indiana doesn't keep up with the national average of 26 percent of veterans with a bachelor's or higher.

Measuring Indiana is a series of articles we are writing to reveal data from the Census 2010 and the American Community Survey (ACS). The data on veterans is from the 2010 ACS and more information about this data set can be found on STATS Indiana:

www.stats.indiana.edu/topic/acs.asp.

The IBRC at Indiana University's Kelley School of Business is the State Census Liaison, state partner in the Indiana Data Center Program, the State Representative in the Federal State Cooperative on Population, a member of the Bureau of Economic Analysis Working Group and a founding member of the national Association for University Business and Economic Research. The IBRC has been part of Indiana University since 1925, serving Hoosiers through research and data.

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