

No County Left Behind?

The Persistence of Educational Deprivation in Indiana

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To the Point

Indiana has persistently lagged behind the nation's educational levels, and the gap between Indiana and the rest of the nation is actually widening. Tracing the educational status of Indiana counties since the 1970s shows that only five counties have a well-educated workforce able to compete in the emerging knowledge economy of the 21st century. This is not the case in the remaining 87 counties, which have been persistently lagging behind the nation and seem to have become trapped in a state of educational deprivation. The severity of the problem suggests that Indiana will face an uphill battle as it combats educational deprivation. To improve educational levels of Indiana's lagging counties, this report recommends two-pronged strategies focused on higher education and employment creation for a highly educated workforce.

Introduction

Over the last decades, we have seen drastic changes in the educational composition of the U.S. labor force. These changes are part of a long-term trend in which management and professional jobs, with their reliance on a creative and highly educated workforce, become increasingly important. To compete successfully, knowledge and human capital have become the most important factors.

For Indiana, this transition toward a knowledge-based workforce takes on added significance. In the face of ever-stronger competition from places around the globe, Indiana's previously strong competitive advantages—such as an experienced workforce in manufacturing and agriculture—continue to erode. To become an active player in the new economy, Indiana needs to invest in the creation of a strong, knowledge-based workforce.

Occupational Shifts

Occupations that traditionally contributed strongly to the Indiana economy are losing their importance in the U.S. economy (Table 1, p. 2). The share of farming, fishing, and forestry occupations declined from an already low share of 1.3% in 1990 to 0.8% in the year 2000. The share of production, transportation, and material-moving occupations decreased by 2.2 percentage points, from 17.0% in 1990 to 14.8% in 2000. In the year 2000, even sales and office occupations, as well as construction, extraction, and maintenance occupations, made up a smaller share of the total labor force than in 1990, although they increased in absolute numbers.

Table 1. Occupational Composition of the U.S. Labor Force, 1990 and 2000

Occupation	1990		2000		Change: 1990-2000	
	Size	Share	Size	Share	Size	Share [% pts]
Management, professional, & related occupations	35,544,766	28.8%	44,701,424	32.5%	+25.8%	+3.7
Service occupations	18,060,164	14.6%	20,822,687	15.1%	+15.3%	+0.5
Sales and office occupations	34,447,117	27.9%	36,578,404	26.6%	+6.2%	-1.3
Farming, fishing, and forestry occupations	1,568,101	1.3%	1,094,801	0.8%	-30.2%	-0.5
Construction, extraction, and maintenance occupations	11,864,871	9.6%	13,086,906	9.5%	+10.3%	-0.1
Production, transportation, and material-moving occupations	20,988,480	17.0%	20,303,953	14.8%	-3.3%	-2.2
Total Civilian Labor Force	123,473,450	100%	137,668,798	100%	11.5%	

Source: Compiled using online information of the 1990 and 2000 Special Equal Employment Opportunity (EEO) Tabulations (www.census.gov)



The winners of the occupational shifts in the U.S. labor force are management and professional occupations and—to a lesser extent—service occupations. Both sectors have gained in absolute numbers and increased their shares in the labor force over the last decade. Management and professional occupations were already the dominant sector in 1990. During the 1990s, the dominance of management and professional occupations grew substantially. This sector alone added over nine million employees and is thus responsible for 65% of the increase in the total civilian labor force during the 1990s. Moreover, it now makes up almost a third (32.5%) of the total U.S. labor force.

The growing managerial and professional employment sector requires a highly educated work force. It is thus not surprising that we have witnessed an unprecedented education boom in the United States over the last three decades.

The Education Boom

Parallel to the growth of the managerial and professional employment sector in the United States, we observe a steep rise in the educational attainment level of the population. In 1970, not having completed high school or at most having earned a high school diploma was almost the norm. Together, these two categories accounted for almost 80% of American adults (age 25+).¹ At the other end of the educational scale, the percentage of persons age 25 or older with at least a four-year college degree was only 10.7%. Thus, in 1970, the population composition by educational attainment level was heavily weighted towards the bottom of the scale. During the subsequent

¹ Unless otherwise noted, the data analysis presented in this report is based on the compilation of U.S. census data by the USDA Economic Research Service <http://www.ers.usda.gov/StateFacts/>

decades, the distribution shrank at the bottom and heavily gained at the top. By the year 2000, the top educational attainment level—at least a four-year college degree—had more than doubled in size, from 10.7% to 24.4% (Figure 1). Most recent estimates from the U.S. Census Bureau suggest that today more than a quarter (27% in 2004) of the adult population in America has earned at least a four-year college degree.

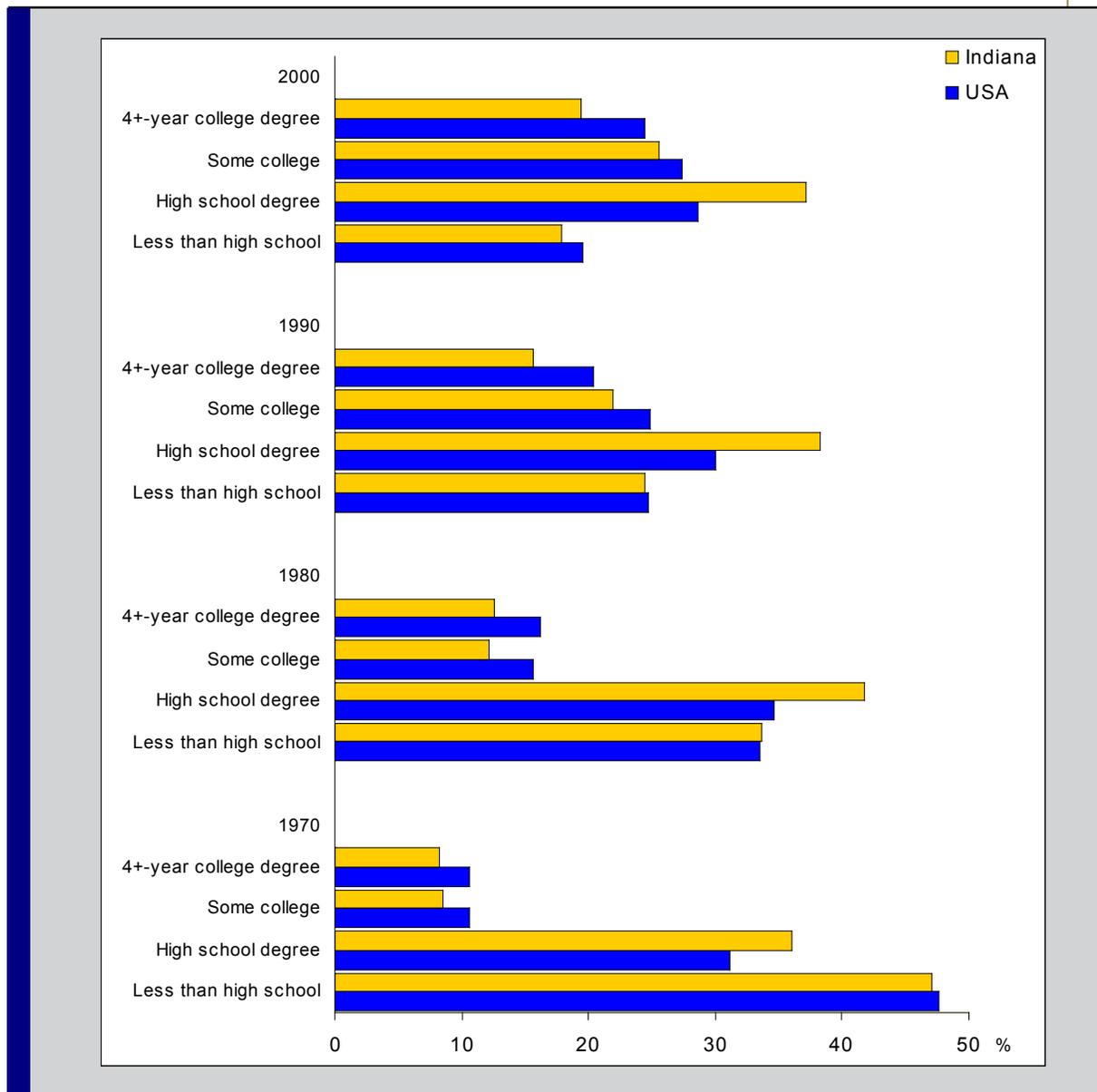


Figure 1. Population Composition by Educational Attainment Level, U.S. and Indiana, 1970 to 2000

Indiana by and large followed the national trend. It, too, started with a bottom-heavy education distribution in 1970 and experienced gains in the upper educational attainment levels during the next three decades. Interestingly, compared to the nation, the high school-educated population segment in Indiana is substantially more dominant. However, in the pursuit of creating a knowledge-based workforce that can compete in the growing managerial and professional sector, it is most important to assess Indiana’s performance in the top segment of the educational scale. It is here where some disturbing deviations from the national trend occur (Figure 2, p. 4).

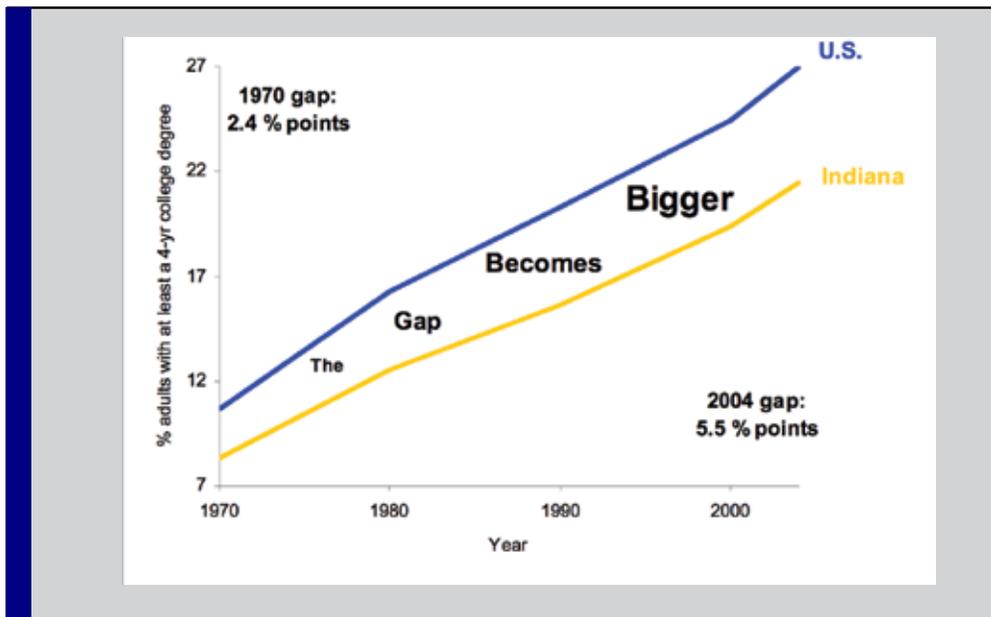


Figure 2. Percent of Adults (Age 25+) with at Least a Four-Year College Degree

- In 1970, Indiana started at a lower level than the nation as a whole. In 1970, 8.3% of Indiana’s population had earned at least a four-year college degree, compared to 10.7% for the nation.
- As of the year 2000, Indiana had not yet caught up with the nation. Indiana had 19.4% college-educated residents, compared to the national percentage of 24.4%.
- The gap between Indiana and the nation has been widening. In 1970, the gap only amounted to 2.4 percentage points but grew to five percentage points in the year 2000.
- Most recent estimates of the U.S. Census Bureau suggest that the widening of the gap continued during the beginning of the 21st century. For 2004, it is estimated that the percentage of adults with at least a four-year college degree is 5.5 percentage points below the national percentage.

When looking at the top end of the educational scale, Indiana not only lags behind the national percentage, it is actually one of the lowest ranked states. Since 1970, Indiana has consistently ranked in the bottom 10th percentile of the distribution. Only Louisiana, Nevada, Kentucky, Mississippi, Arkansas, and West Virginia—all of which are traditionally known for their poor educational attainment levels—rank below Indiana. This situation puts Indiana in a difficult position as it tries to build a knowledge-based workforce.

One of the factors contributing to the slow growth of the college-educated population in Indiana is most certainly the migration of this highly valued population segment to other states, a process commonly referred to as “brain drain.” A recent report by the U.S. Census reveals that 17 U.S. states have gained such intellectual power through the net in-migration of young, single, and college-educated persons (Franklin 2003). Indiana, however, is among the thirty-three states that have a negative net balance. It even ranks among the bottom 10 in its ability to attract this population segment. For every young, single, college-educated person migrating into Indiana, Indiana loses nearly two to other states.

Indiana is not alone in its struggle against the brain drain. With the exception of Illinois, all states in Indiana’s immediate neighborhood lose their young college-educated single population (Table 2). Iowa tops the list, with a loss of 22% of its single, young, college-educated population within the five-year period from 1995 to 2000. Indiana ranks second, losing about 14% of its young, single, college-educated population every five years, or 2.84% annually. Put another way, if this population segment continues its migration behavior at the same alarmingly high rates, then it will only take about 22.6 years—or less than one generation—before its size is cut in half. This half-life—as it is commonly referred to—is only shorter in Iowa, where the exodus of the young college-educated population occurs even faster, with a half-life of less than 14 years.

Table 2. Net Migration of Single, College-Educated Adults Age 25 to 39, 1995-2000

U.S. State	Single, College-Educated Population, Age 25-39, 2000	Five-Year (1995 to 2000) Net Migration of Single, College-Educated Population, age 25 to 39		
		Absolute	Rate (%) ^a	Half-Life ^b
Iowa	43,206	-11,691	-22.0	13.9
Indiana	90,632	-14,334	-14.2	22.6
Wisconsin	96,008	-11,224	-10.8	30.4
Ohio	198,126	-18,409	-8.8	37.5
Michigan	178,216	-16,018	-8.7	38.2
Kentucky	53,485	-3,411	-6.2	54.2
Illinois	331,521	3,834	+1.24	NA

Source: Compiled using special tabulations of the U.S. Census Bureau, 2004

^a per 100 persons of the 1995 population

^b years before college-educated population is halved, assuming constant migration rates

Inside Indiana: An Educational Profile of Indiana Counties

The statewide figures described above hide important differences across the state. Looking inside Indiana, we see a varied landscape of intellectual capital. There are counties that have a remarkably large segment of college-educated residents. These counties show up as peaks in the landscape of intellectual capital and can serve as catalysts of economic growth. There are, however, also counties that have barely participated in the education boom. In these counties, only a very small segment of the population is college educated. They are thus at risk of being left behind as the economy shifts ever further and faster towards a knowledge economy.

Indiana’s 92 counties show a wide variety in their population composition by educational attainment level (Table 3, p. 6). In 1970, the percentage of county residents with less than a high school education ranged from a minimum of 32.3% to a maximum of 66.6%. Half of the counties had more than 48.8% of residents lacking a completed high school education.

Table 3. Educational Attainment Levels of Indiana County Populations (Age 25+), 1970 to 2000

% persons with:		1970	1980	1990	2000
less than high school	Minimum	32.3	19.4	11.3	5.8
	Median	48.8	35.9	26.4	19.3
	Maximum	66.6	51.4	43.3	39.8
high school diploma	Minimum	24.9	29.7	26.5	19.8
	Median	36.9	43.9	43.5	44.3
	Maximum	46.0	52.4	50.2	50.9
some college	Minimum	3.6	4.9	13.9	17.0
	Median	7.3	10.2	19.4	24.0
	Maximum	11.9	17.5	28.7	31.0
at least a 4-year college degree	Minimum	3.1	5.3	5.6	7.6
	Median	5.6	8.7	10.0	12.9
	Maximum	27.4	31.3	36.2	48.9

By the year 2000, the percentage of poorly educated residents had dropped substantially. But in half the counties, more than one in five residents had not completed high school. In the extreme, in Lagrange County, nearly 40% of the residents had not completed high school.

The variation in the percentage of the adult population having less than a high school education is shown in Figure 3. Each county is represented by a circle. The bigger the circle, the higher the percent of adult residents who have not completed high school. High percentages of poorly educated residents are concentrated in the southern portions of Indiana, such as in Switzerland and Crawford counties, where more than a quarter of adult residents have not completed high school. But the northern part of Indiana also shows a concentration of poorly educated residents, most notably in Lagrange and its neighboring counties. The center of the state stands out by its absence of high percentages of poorly educated residents.

At the other end of the educational scale—residents who have completed a four-year college education or even more—Table 3 suggests substantial increases over the last 30 years. Hamilton County, for example, had nearly quadrupled its percent of college-educated residents, from 11.4% in 1970 to 48.9% in the year 2000. However, as Figure 4 shows, in the year 2000 a large number of Indiana counties still had a disturbingly low share of well-educated residents (as indicated by small circle sizes). In fact, there are only five counties for which the percent of college-educated residents is higher than the national percentage: Hamilton, Monroe, Tippecanoe, Boone, and Marion counties. These five counties form a cluster in the center of the state, and they are surrounded by counties with substantially lower percentages of highly educated residents.

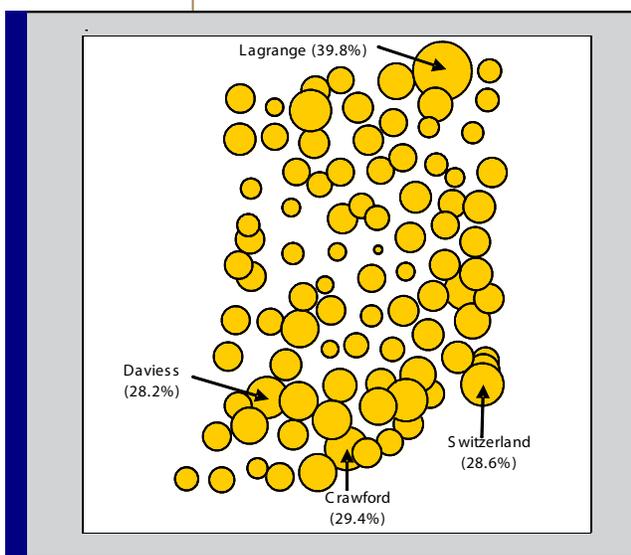


Figure 3. Percent of County Residents Without a High School Degree in 2000 (Circle size is proportional to the percentage.)

In Figure 5, different types of counties are distinguished by educational status. Knowledge counties form the aforementioned cluster of counties in the center of the state, namely Hamilton, Monroe, Tippecanoe, Boone, and Marion counties. These five counties have a very well-educated population, as indicated by a high percentage of residents with at least a four-year college degree and very low percentages of residents without a high school degree. They also have a low share of residents who have not completed high school.

The educational status of the remaining 87 counties lags behind the national standard. In 58 of these 87 counties, the below national percentage of highly educated residents is combined with an abundance of residents with medium educational attainment levels, that is, with a high school diploma or at least some college. As a result, some counties have a good chance of advancing to knowledge-county status. For example, in Hendricks County, 37% of the residents have completed high school, and almost 30% have at least some college education. Thus, there is a good chance that Hendricks County will improve its educational status and become a knowledge county in the near future.

The situation is worse for the remaining 29 counties. They have the most worrisome population composition: less than one in four residents has a college degree, and more than one in five residents have not complete high school. This abundance of very poorly educated residents puts these counties at great risk of being left behind at the margins of the knowledge-based economy.

Several issues are noteworthy about the 87 counties lagging behind the national education standard. On the positive side, while 55 counties were classified as severely lagging behind the national standard in 1970, almost half of them could improve their status over the next 30 years. On the negative side, with the exception of Boone County, all counties that lagged behind the national standard in 1970, also did so in 2000. Moreover, of the 29 counties classified as severely lagging behind the national education levels in 2000, 26 or almost 90%, also did so 30 years ago. This persistence, when extrapolated into the future, suggests that the severely lagging counties are trapped in a state of educational deprivation. It will make it extremely difficult for these counties to attract employers who rely on a highly educated workforce.

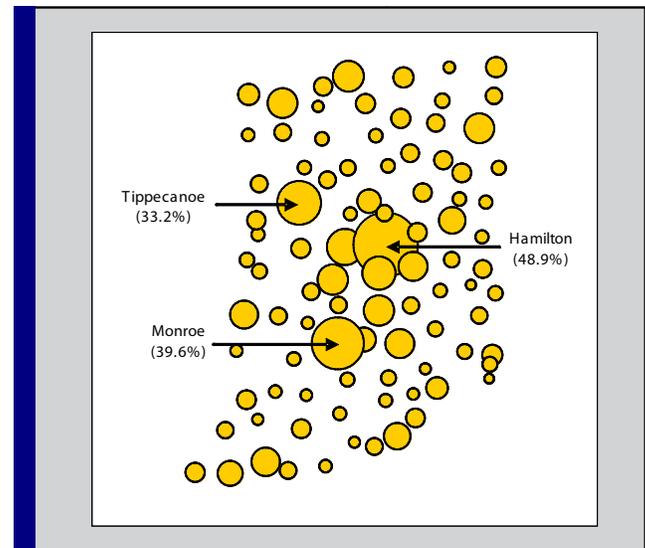


Figure 4. Percent of County Residents with at Least a Four-Year College Degree in 2000 (Circle size is proportional to the percentage.)

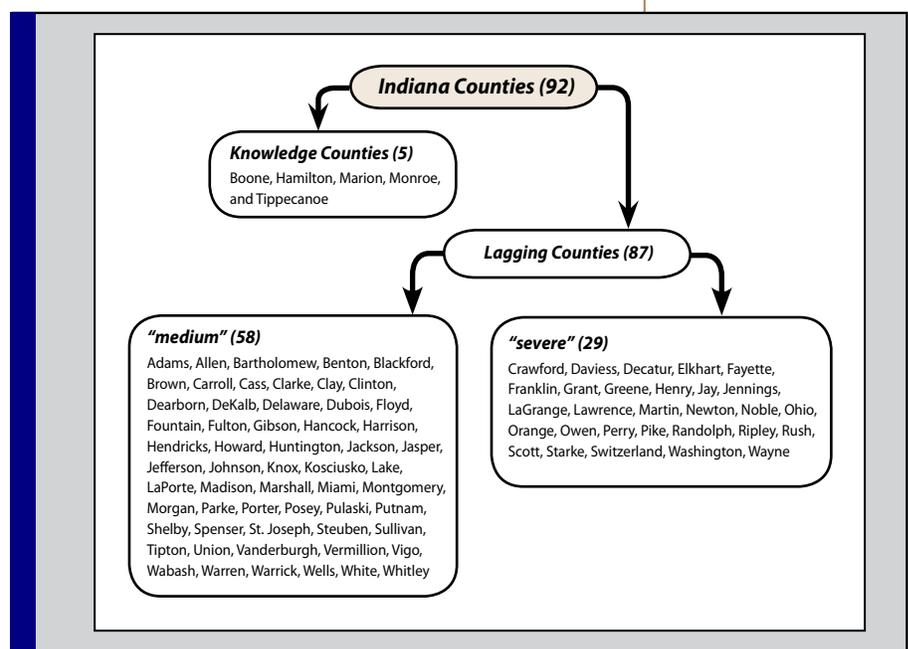


Figure 5. Classification of Indiana Counties by Educational Status, 2000

From a regional development perspective, it is important to stress that a majority of the severely lagging counties are located in southern Indiana (south of Indianapolis). Furthermore, non-metropolitan counties are highly over-represented among the severely lagging counties. Three-quarters of the 29 severely lagging counties are outside of metropolitan areas, compared to only 50% of all Indiana counties. Moreover, the urban population accounts for a small fraction of the total population in many of the severely lagging counties. However, metropolitan counties are neither immune to a poor educational status nor do they defy Indiana’s universal brain drain problem. As shown in Table 4, only one of the metropolitan areas that are entirely within state boundaries—Indianapolis—shows a gain of highly educated young people. Note, however, that the severe losses of highly-educated residents in the Lafayette and Bloomington metro areas are typical of small- and medium-sized college towns. They are likely inflated due to the very high turn-over rates and due to the counting of students who enter the area without a college degree but leave the area after having completed a college degree.

Table 4. Net Migration of Single, College-Educated Adults Age 25 to 39, Indiana Metropolitan Areas

Metropolitan Area	1995-2000				
	Single College-Educated Population, Age 25-39, 2000	Migrants 1995-2000 Into the Metro Area	Out of the Metro Area	Net	Five-Year Net Migration Rate (%)
Indianapolis	37,527	13,138	8,948	+4,190	+13.0
Elkhart-Goshen	1,693	601	638	-37	-2.3
Kokomo	1,121	432	552	-120	-10.2
South Bend	4,485	1,727	3,544	-1,817	-29.9
Lafayette	4,714	1,821	5,631	-3,810	-49.0
Bloomington	5,632	2,712	7,793	-5,081	-51.7
Muncie	1,773	649	2,674	-2,025	-53.9
<i>Multi-state Metro Areas</i>					
Chicago-Gary-Kenosha, IL-IN-WI	290,324	70,971	52,221	+18,750	+7.3
Louisville, KY-IN	19,470	5,664	4,722	+942	+5.3
Cincinnati-Hamilton, OH-KY-IN	40,070	11,493	13,319	-1,826	-4.5
Evansville-Henderson, IN-KY	3,616	1,183	1,605	-422	-10.6

Source: Compiled using special tabulations of the U.S. Census Bureau, 2004

The Future

How big a barrier do the counties at the bottom face? All 87 counties that are lagging behind the nation’s educational level in 2000 had a smaller share of the well-educated population than did the nation in 2000. Catching up with the nation will be a particularly challenging task for Indiana counties that are lagging many years behind the national percentages (Figure 6).

- Eleven counties are lagging by 1 to 10 years behind the national level; that is, their percentage of residents with at least a four-year college degree is below the 2000 national percentage (24.4%) but above the 1990 national percentage (20.3%).
- Five counties are lagging by 11 to 20 years: their percentage of well-educated residents is below the 1990 but above the 1980 national percentages.

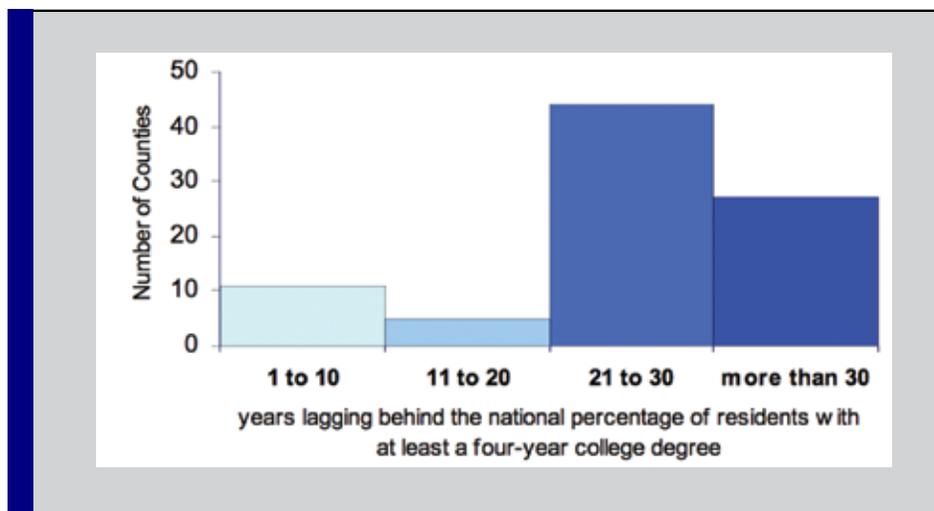


Figure 6. Indiana Counties by Years Lagging Behind the National Education Level

- Forty-four counties are lagging by 21 to 30 years: their percentage of well-educated residents is below the 1980 national average but above the 1970 national percentages.
- Twenty-seven counties, or almost 30% of all Indiana counties, are lagging by more than 30 years behind the national level: in these counties the percent of well-educated residents is even below the 1970 national percentage of college-educated residents (10.7%).

The counties lagging behind the nation by more than 30 years are the counties left far behind the education boom of the last decades. Improving the status quo will require a substantial increase in the speed of change. However, if the patterns of change observed for the 1990s persist into the first decade of the 21st century, drastic improvements are unlikely. At the most, we will see very slow improvements at the bottom of the education scale.

- There will be no change at the top of the educational scale: the same five counties that already topped the educational scale in 2000 will continue to do so in 2010.
- We will see a few counties that had a medium education level in 2000 drop into the category of severely lagging educational level by 2010.
- The number of counties with a severely lagging educational level will slightly decline.

Policy Implications

A well-educated population brings with it a wide array of benefits, including public and private benefits in a variety of social and economic areas such as increased lifetime earnings, reduced reliance on welfare, and lower crime rates (Institute of Education Policy 2005). The 2004 report card on higher education in Indiana (National Center for Public Policy and Higher Education 2005) stresses the state's improvements in preparing its young population for college. However, the report also reveals Indiana's less than satisfactory affordability of higher education and the persistent gaps in college enrollment between high- and low-income students and between whites and ethnic minorities.

The distinction between knowledge counties and lagging counties made in this report shows that educational deprivation is localized. Indiana is a state where almost 95% of the counties lag behind the national education level and one in four counties are identified as severely lagging. Thus, unless Indiana allocates special educational support to the lagging, and in particular the severely lagging, counties that were left behind in the education boom of the last decades, the state will face an uphill battle as it works toward its vision of creating “a state where learning drives a diverse economy” (Indiana Economic Development Council Inc., 2005)

A closer look at the performance of the severely lagging counties reveals that they have already made substantial progress in reducing high school dropout rates (Figure 7). While compared to the state overall, more than half of the severely lagging counties had higher dropout rates in both 1994 and 2004, 19 of the 29 counties lowered their dropout rates more substantially than the state. Remarkably, for example, Crawford County reduced the high school dropout rate from over 4% in 1994 to 0.75% in 2004.

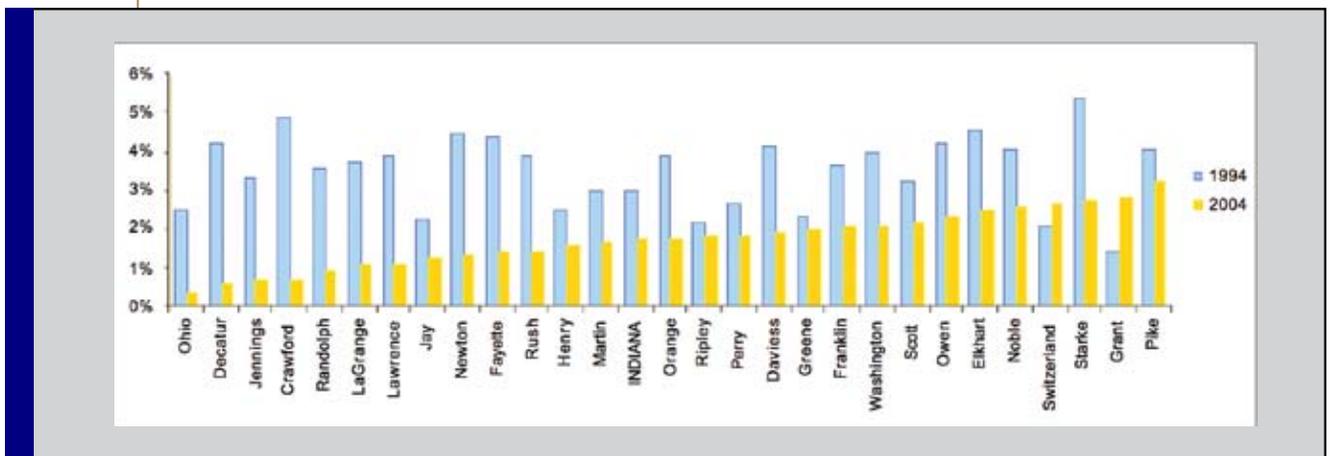


Figure 7. High School Dropout Rates in Indiana's Severely Lagging Counties, 1994 and 2004
 Source: data extracted from www.stats.indiana.edu

A closer look at the performance indicators for the severely lagging counties also highlights the necessity to focus support on increasing enrollment in higher education and, equally important, increasing the percentage of high school graduates who opt for a four-year college education. Overall, about 22% of Indiana high school graduates do not intend to continue their education. In the severely lagging counties, this percentage is substantially higher (Table 5). Even more unsettling is that—compared to the state overall and compared to the knowledge counties—a substantially smaller fraction of high school graduates in severely lagging counties opts for a four-year college education.

Table 5. Higher Education Intents of Indiana High School Graduates, 2002/2003

		No Further Education	Vocational / Technical Training	Two-Year Institution	Four-Year Institution
Knowledge Counties		18.1%	6.4%	12.2%	63.3%
Lagging Counties	Medium	22.1%	7.8%	12.0%	58.2%
	Severe	26.5%	7.3%	15.0%	50.9%
Indiana		22.1%	7.4%	12.5%	57.9%

Source: based on data provided at www.stats.Indiana.edu

However, strategies that exclusively focus on higher education for the young residents of severely lagging counties are not sufficient. In fact, it will likely prove to be counter-effective: education without employment will lead to further brain drain and perpetuate the educational deprivation of the counties left behind. Thus, any strategy to combat educational deprivation in Indiana’s lagging counties must simultaneously address two issues (Figure 8):

- Improving access to and affordability of higher education for high school graduates in severely lagging counties; and
- Creating a business environment that is conducive to entrepreneurship and business expansion, and ultimately increasing employment opportunities for the highly educated.

By adopting such a two-pronged strategy, Indiana has the opportunity to stem the brain drain and reap substantial benefits from increased investments in higher education, thus ensuring that no counties are left behind.

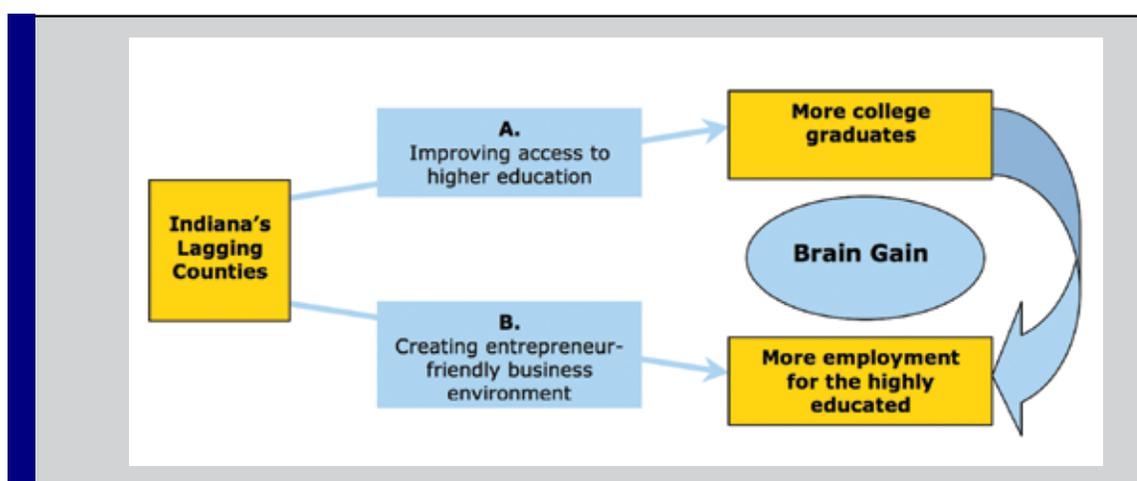


Figure 8. Two-Pronged Strategy to Combat Educational Deprivation in Indiana’s Lagging Counties

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