

#### IN the Spotlight:

# If the Future is Here, Where is Indiana?

ichael Dunn, dean of the IU School of Informatics, has astutely observed, "The future is here... it's just distributed unevenly." This is true for economic development—and for technology adoption.

Indiana Interconnect, a study being done by the Indiana Economic Development Council, with assistance from the Indiana Department of Commerce, is assessing Indiana's readiness to compete in a digital economy. As part of that study, Stone Research Services conducted surveys of Indiana businesses and citizens (see inset on page 2). The survey instruments were based on the guidelines recommended by the Computer Systems Policy Project (www.cspp.org), a coalition of CEOs from U.S. hardware and systems companies.

This article reviews results from surveys of the general public and compares them with responses obtained by the Technology Policy Group in a study conducted for the State of Ohio. The surveys explore the demand side of technology deployment and adoption. Customer demand, or "take rate," is a key factor when service providers make broadband deployment decisions.

So, how do Indiana citizens compare to others on the questions posed?

#### Do You Have Access to a Computer and the Internet?

The number of Hoosiers who have ever accessed the Internet compares favorably with the rest of the U.S. (see Figure 1). More granular analysis shows that 81 percent of central Indiana residents report some Internet access, which is significantly ahead of the national average and also ahead of the northern (74 percent) and southern (69 percent) regions of the state.

Most adult Hoosiers interviewed (52 percent) access the Internet at least several

times a week. Such frequent use is especially prevalent among those in the central region (60 percent) and less in the northern (47 percent) and southern (40 percent) regions. Indiana citizen access to the Internet from home is, however, behind the national average (see Figure 2).

As indicated by the number of households with computers,

(continued on page 2)

# **INSIDE** this issue:

• **IN THE SPOTLIGHT** If the Future is Here, Where is Indiana? 1

4

8

- IN BUSINESS Business is Big in Indiana
- IN THE DETAILS 6 Indiana's Educational Attainment: Real Progress or Illusion?
- IN THE NEWS
  The Latest News on Indiana
  Personal Income
- IN LOCAL AREAS 9 March's Unemployment Snapshot
- IN THE WORKFORCE 10 Commerce Region 9: Southeastern Indiana
- IN CLOSING 12 Indiana Incomes Across the State

## Unemployment Rates for March 2003

**Indiana** 5.1%

United States 6.2%



#### **IN the Spotlight**

(continued from page 1)

the central region has adopted technology more aggressively (73 percent) than the north (63 percent) and south (57 percent), as have more youthful and affluent households.

The survey results suggest the need for a program to put more computers in homes. Not having a computer at home is the barrier cited most frequently by respondents in the state, particularly in central Indiana (see Table 1). For citizens in the north and south, lack of Internet access is more of a restraint than it is in the central region. Both constraints contribute to Indiana trailing the U.S. average in Internet access from home.

Thirty-eight percent of survey respondents in central Indiana report that their children under the age of 18 do not have Internet access at school, compared to only 25 percent of those from the northern and southern regions.

#### How Do You Access the Internet from Home?

The most common method of Internet access from home is over dial-up telephone lines, averaging 78 percent statewide. One in 10 households use a second phone line for Internet access. DSL service is used at about half the rate (6 percent) as cable (12 percent), with a slightly stronger cable presence in the central and southern regions.

Considerable fragmentation exists in the Internet Service Provider (ISP) marketplace. AOL dominates with a 26 percent market share. The closest statewide competitor is MSN with 7 percent of the market share. About 115 additional ISPs were named by respondents as their provider.

Even with the heavy dependence on dial-up service, less than 20 percent of Hoosiers express dissatisfaction with the speed of their Internet access. Perhaps even more surprising is the level of satisfaction with ISP responsiveness. Service is rated as "excellent" or "good" by 77 percent, in spite of at least monthly service interruptions experienced by 56 percent of users. Weekly service interruptions are reported by 25 percent.

The general level of satisfaction with available service might indicate lower standards, less familiarity with advanced services or usage that is

more casual and social in nature. For example, only 18

## **Survey Specs**

Surveys were conducted over the telephone, using a random selection of telephone numbers prepared by Survey Sampling, Inc. The sample size of 384 interviews per Indiana region (see map) provided a margin of error of plus or minus five percentage points at the 95 percent



confidence level. All telephone households within a region had an equal probability of selection for the study. Survey respondents were chosen only from household

members age 18 and over. Age and gender bias were neutralized by requesting responses from the household member (18 years of age or older) who most recently had a birthday.

percent of Hoosiers use the Internet for course work, even though the Indiana College Network offers nearly 1,500 courses and more than 100 certificate and degree programs online each year.

#### Why Do You Use the Internet?

Hoosiers tend to use the Internet for socialization, general surfing and



Table 1: Reasons Hoosiers Do Not Use the Internet at Home

Reason	Indiana	North	Central	South
No computer available	61%	58%	66%	60%
Not interested	16%	17%	17%	14%
No Internet access	8%	11%	4%	10%
Too expensive	5%	4%	4%	7%
Don't use computer/	3%	3%	2%	2%
Don't know how to use				
Other reasons	3%	2%	4%	3%
Don't know	4%	5%	3%	4%
Source: Stone Research Services Note: Respondents were not prompted	with a response list	st.		



purchases. These activities do not require significant bandwidth to be enjoyed. As use tends more toward work-related activities and distance learning, the demand for higher speed access will likely increase.

Indiana is ahead of the 2002 national average for household e-commerce (see Figure 3), with 22 percent of those now shopping online anticipating increased use. This is especially marked among those in higher income brackets.

Convenience (34 percent) and the ability to shop from home (16 percent) are the top reasons cited for shopping over the Internet. Lower prices were mentioned by only 6 percent of Internet shoppers.

Clothing (31 percent), books (24 percent) and entertainment media (17 percent) top the list of merchandise most frequently purchased over the Internet.

#### What Would You Change?

Nearly all households (91 percent) express some level of concern about improper usage of personal information gathered over the Internet. Respondents are split 50/50 between high and low levels of concern. In fact, the major constraint against shopping over the Internet (36 percent) is concern about the security of financial information. Such concerns might explain Hoosier reluctance to use online government services, even though Indiana's services rank among the top 10 of U.S. state governments. Although 60 percent of Internet users

have visited local or state government web sites for information and 64 percent declared their willingness to obtain online government services, only 27 percent actually have.

#### Conclusions

The usage patterns indicated by survey responses suggest a willingness to participate in the digital economy once the case for its benefits are effectively made. Indiana citizens are not very demanding with respect to technology. For example, their computer equipment is somewhat older than the national average.

They also exhibit modest Internet performance expectations with respect to both access speed and service reliability. This represents a marketing opportunity for those who provide advanced telecommunications, online content and applications services.

Home-based Internet technology adoption in Indiana (outside the central region) is slightly less than the national average, although Hoosiers have tried the Internet at a higher rate. Availability of computer equipment at home (followed by Internet access) appears to be the significant barrier, rather than lack of education or technical knowledge. Once the computer is purchased and the online connection from home is made, however, Hoosiers include Internet use as part of their daily routine. Once engaged, they participate in e-commerce activities at a higher rate than the national average. Once Hoosiers recognize the future, they embrace it.

*—Jennifer Kurtz, eCommerce Director, Indiana Department of Commerce* 

## **Defining the Future**

Defining the future is risky. Some will recall Thomas Watson Sr.'s prediction in 1943, "I think there is a world market for maybe five computers," or Bill Gates' question in the early 1990s about the need for a PC processor faster than 486 megahertz. Indeed, the Internet's expansion is astounding. In 1992, only 50 web sites existed in the world. It has taken only 10 years for Internet access to reach 50 percent of U.S. households. According to the Electronics Industry Alliance, that is faster than VCRs (12 years), radios (28 years) and telephones (71 years).

National studies prepared by Technology Futures Inc. over the past couple of years suggest that consumer use of the Internet will continue to expand steadily, driving Internet customers to switch from dial-up access to broadband at a 19 percent rate per year, leading to a 60 percent broadband subscription rate achieved in 2005.

## **Business is Big in Indiana**

ndiana is characterized by large working establishments. The 2001 edition of County Business Patterns recently released by the U.S. Bureau of the Census indicates that Indiana ranks fourth in the nation in the average number of workers per establishment (see Figure 1). Nevada (18.8), Tennessee and Ohio exceed Indiana's 17.9 employees per establishment. The national average is 16.2 with the lowest levels found in Alaska, Wyoming and Montana (9.3).





each store is an establishment of its own for these statistical purposes.

The data from *County Business Patterns* are for establishments with paid employees in the private non-farm sector. Hence, government and farming are left out. In addition, businesses are



excluded in which a proprietor operates without paid employees.

Figure 2 shows that Indiana has a lower percent of firms in the very smallest size class (under five paid employees), but exceeds the nation in all other size classes. Of Indiana's 145,580 establishments, 71,714 (49.3 percent) are in the smallest size class while the nation has 53.8 percent of its establishments in that group. By contrast, 2.8 percent of all Indiana establishments employ 100 or more workers while the national figure is 2.5 percent.

Figure 3 is ranked by the importance of each business activity in the nation. Retail leads in both the U.S. and in Indiana with a greater concentration in the Hoosier state (16.7 percent) than in the nation (15.8 percent). Indiana lags the nation more in professional, scientific, and technical services than in any other activity (the U.S. is at 10.4 percent versus Indiana at 7.9 percent). We lead the nation in manufacturing, as well as in transportation and warehousing.

These numbers reflect only the number of establishments. They do not necessarily represent the number of employees or the payroll derived from various activities. Nevertheless, they do give a picture of how the Hoosier state is organized for business.

-Morton J. Marcus, Executive Director, Indiana Business Research Center, Kelley School of Business, Indiana University At 17.9, Indiana ranks fourth in the nation in average number of workers per establishment



Source: County Business Patterns, 2001

# Indiana's Educational Attainment: Real Progress or Illusion?

Indiana's progress in retaining individuals with college degrees within its workforce jumped dramatically over the past two years, according to an *Indianapolis Star* article on March 21, 2003. State policymakers starved for good news about the Hoosier state were understandably delighted. Policy analysts familiar with the relevant statistics were more wary, and reasonably so.

Educational attainment is defined as the percentage of a state or region's population holding a specific degree or set of degrees. In the recent past, the most quoted educational attainment statistic is the proportion of people of working age with a bachelor's degree or more. The U.S. Census Bureau defines the working age population as age 25 and above and measures this ratio:

• In the decennial census

- In a somewhat new annual survey called the American Community Survey (ACS)
- In the March version of the annual Current Population Survey (CPS) It was the March 2002 results from the Current Population Survey that prompted the *Star's* article.

The old adage, "If it sounds too good to be true, it probably is," holds for statistical miracles even more solidly than for other kinds of phenomena. Few things change rapidly in a state's demographic profile vis-àvis other states. The reason is that the numbers of people are very large, and the forces acting on one state are usually acting on all states concurrently.

#### **The Decennial Census**

Figure 1 shows the proportion of Indiana's population age 25 and above with a bachelor's degree or more.



Figure 1: Indiana's Working Age Population with a Bachelor's and Above Unlike the decennial census, the CPS has a significant margin of error Using the decennial census, Indiana increased from 15.6 percent in 1990 to 19.4 percent in the 2000 census. This increase was in itself a substantial improvement. Although all states increased in this statistic during the decade, Indiana's rate of change was the 12th greatest. In fact, only eight other states increased in rank more than Indiana did from 1990 to 2000. Indiana went from 46th in 1990 (for all states and the District of Columbia) to 44th in 2000.

The decennial census numbers are the most helpful yardstick for this measure of a state's educational attainment because there is essentially no margin for error on a state level measurement. The decennial census (long-form) counts approximately one in six households, which works out to more than 360,000 in Indiana. As a result, we can be confident that for both Indiana and the other states being measured against us, the percentages are accurate and the rankings are valid.

## The Current Population Survey

The CPS is much different in design and purpose from the decennial census. The CPS is a monthly survey, designed to yield labor force data on a national basis using a highly stratified (754 strata) sampling process. The annual March CPS is an enhanced survey designed to produce some specific broader population estimates.

In the past two years, there have been a few changes to the CPS, which may affect its accuracy in measuring educational attainment (see inset). According to census staff, these changes also "bumped" the entire U.S. population upward by about 3.5 million people.

The CPS measurement of educational attainment increased for Indiana from 17.1 percent in 2000 to 23.7 percent in 2002. This was a 38.6 percent increase, the largest in the nation. Delaware was the next closest state, increasing from 24 percent in 2000 to 29.5 percent in 2002.

Unlike the decennial census measure, the CPS has a significant margin of error. A sample survey like the CPS exhibits two types of error—sampling error and nonsampling error.

Sampling error is related to the design of the survey and could be affected by the changes in the CPS that have taken place in the last two years. The error rates and resulting confidence interval calculations make state-to-state comparisons even more problematic. When standard errors are not taken into account, Indiana's 23.7 percent statistic in 2002 for the proportion of the population with bachelor's degrees and above ranks the state 34th among the 50 states and D.C. If standard errors are used, then there is no significant difference in rank between Indiana and 16 other states. This should make policy

## **Changes to the CPS Calculation**

First, the number of households for reporting purposes was expanded in 2002 from 50,000 to approximately 80,000 to produce more reliable estimates of the Hispanic population and the low-income population, in part directed to reliably estimating the number of children without health insurance (the State Children's Health Insurance Program or SCHIP).

In addition to the above expansion, the CPS was reweighted to account for the now more accurate 2000 census population numbers (in census terms, "introducing the 2000 population controls"). These changes have increased the educational attainment statistics by significant percentages.

#### According to the U.S. Census Bureau web site, *Sample Expansion and Introduction of Census 2000-Based Population Controls*:

"There were, however, several statistically significant differences between the 2001 and 2002 expanded samples using the 2000 population controls... Statistically significant differences occurred for the proportions of the population 25 years and over with the following levels of educational attainment: 1.) some college, no degree, 2.) bachelor's degree, 3.) master's degree, 4.) bachelor's degree or higher. All of these proportions increased from 2001 to 2002, except for the proportion of the populations with some college, no degree, which declined by 0.4 percentage points."

analysts cautious when using the CPS as an indicator of miraculous progress in educational attainment.

#### The American Community Survey

There is one other measure, an annual one, that collects data on educational attainment. The American Community Survey samples approximately 700,000 households across the nation. It has exhibited statistics closer to those of the decennial census when measuring educational attainment. The 2002 results for the ACS should be available in July of this year. Until that time, Indiana's progress on educational attainment should be discussed in relation to the decennial census ranking, where we have demonstrated good, but not miraculous, advancement compared with our neighbors (see Table 1). Miracles belong to another realm outside of public policy. Indiana policymakers need to remember that our progress will only continue if the requisite leadership and investment continue apace.

State	Percent in 1990	Rank	Percent in 2000	Rank
Indiana	15.6%	46	19.4%	44
Illinois	21.0%	20	26.1%	15
Kentucky	13.6%	49	17.1%	48
Michigan	17.4%	37	21.8%	35

-Bill Sheldrake, Senior Vice President for Research and Policy Analysis, Thomas P. Miller and Associates

# **The Latest News on Indiana Personal Income**

Indiana's per capita personal income (PCPI) increased by 2.6 percent between 2001 and 2002, ranking 23rd among the 50 states and the District of Columbia. Only one of our neighboring states surpassed Indiana with a higher percent change—Kentucky, at a one year rate of change of 2.8 percent.

Such gains could be attributable to increases in jobs, but also due to slowing population growth. For example, North Dakota ranks first in percent change in per capita income, but also had a population loss of more than 2,400 people during the same time period. Conversely, Nevada's PCPI growth was low, but it had the nation's fastest rate of population growth at 3.6 percent between 2001 and 2002.

Indiana's per capita income continues to be lower than the national average, but has increased slightly.

-Carol O. Rogers, Associate Director, Indiana Business Research Center, Kelley School of Business, Indiana University







Table 1: PCPI for the Region				
Area	PCPI 2002	Change 2001-02		
U.S.	\$30,941	\$528		
Illinois	\$33,404	\$414		
Indiana	\$28,240	\$718		
Kentucky	\$25,579	\$701		
Michigan	\$30,296	\$667		
Ohio	\$29,405	\$706		
Wisconsin	\$29,923	\$727		
Great Lakes States	\$30,609	\$623		
Source: U.S. Bureau of Economic Analysis				

# **March's Unemployment Snapshot**



Indiana's unemployment rate remains lower than the nation's (6.2), but continues to inch upward, arriving at 5.1 percent in March. An increasing number of Indiana counties experienced rates of unemployment higher than the state average.

Orange County in south central Indiana continues to experience the highest unemployment rate (10 percent), with 830 residents looking for work. In terms of sheer numbers, though, our most populous county, Marion, also has the largest number of jobless, with 24,240 residents unemployed in March.

Regionally, Commerce Region 8's counties each have rates higher than the state, with Randolph and Jay counties averaging unemployment rates of 8.5 percent during this latest month.

Central Indiana is suffering less from unemployment than other parts of the state—seven of the nine counties in the Indianapolis Metro area have rates lower than the state rate of 5.1.

Overall, 161,299 Hoosiers were seeking work in March 2003. On the positive side, 2.98 million residents of Indiana had jobs in March. Whether full- or part-time, low or high paying we don't know, as the labor force estimates do not yield that information.

#### **For More Details**

Visit STATS Indiana on the Web at www.stats.indiana.edu

# **Commerce Region 9: Southeastern Indiana**

#### **The Area**

Comprised of nine counties in southeastern Indiana: Dearborn, Fayette, Franklin, Jefferson, Ohio, Ripley, Rush, Switzerland and Union. Dearborn and Ohio counties form the Indiana portion of the Cincinnati, Ohio, Metropolitan Statistical Area (MSA). Cities in the area include Connersville, Madison, Batesville and Rushville.

With 192,374 residents according to Census 2000, Region 9 is the least populated and most racially



homogenous Commerce region in the state. The area grew 8.7 percent since 1990, ranking its growth seventh out of the 12 Commerce regions. Benefiting from suburbanization trends, Dearborn County led the way with 18.7 percent growth and accounted for 24 percent of the regional population. An additional 16.5 percent lived in Jefferson County. Fayette County was the only area to lose residents, exhibiting a 1.6 percent decline.

The Census Bureau estimates that from Census 2000 to July 1, 2002, the

regional population grew to 195,377. The largest growth occurred in Dearborn and Ripley counties, while Rush and Fayette counties both experienced a decline (see Figure 1).

#### Industrial Mix and Jobs

Major employers in the area include Anchor Glass Container, Argosy Casino and Hotel, Aurora Casket Company, Belterra Casino Resort, Fujitsu Ten, Grote Industries, Hillenbrand Industries, INTAT Precision and Visteon Automotive Systems.

In 2000, one-fourth of Region 9's employment was in the services industry, representing a 96.7 percent growth from the previous decade. This can primarily be traced to

#### Commerce Region 9: Dearborn, Fayette, Franklin, Jefferson, Ohio, Ripley, Rush, Switzerland and Union counties



an increase in tourism with the opening of three riverboat casinos in the mid-1990s: Argosy Casino and Hotel in Lawrenceburg, Belterra Casino Resort in Vevay and the Grand Victoria Casino in Rising Sun.

In addition, the transportation and public utilities sector and the finance, insurance and real estate sector both experienced growth rates of more than 50 percent between 1990 and 2000. On the other end of the spectrum, employment in agricultural services, forestry and fishing declined 50.4 percent, followed by large declines in federal civilian and military employment.

In 2001, nearly 15 percent of the regional labor force commuted into adjoining Ohio or Kentucky. In Dearborn, 28.4 percent of the county's labor force commuted into Ohio, while Switzerland County saw 10.6 percent of its labor force commute to

Kentucky. In addition, because of its close proximity to Indianapolis, a sizable portion of Rush County's labor force (23 percent) found work within the Indianapolis MSA.

#### **Income and Wages**

In Region 9, per capita personal income was \$23,926 in 2000. Only Commerce Region 6 in west central Indiana had lower income per capita at just \$22,426.

As seen in Table 1, the average weekly wage for the second quarter of 2002 ranged from \$1,045 in the utilities industry to \$177 in accommodation and food services. Wages were lower for Region 9 in all industries when compared to the state, with the largest difference in

professional, scientific, and technical services.

Additional data is available at: www.stats.indiana.edu/profiles/ prcomm9.html.

-Rachel Justis, IN Context Managing Editor, Indiana Business Research Center, Kelley School of Business, Indiana University

Industry	Employment		0% of Employment		Aug. Weekly Wege/Jel	
•	Employment		% of Employment		Avg. Weekly Wage/Jo	
	Region 9	Indiana	Region 9	Indiana	Region 9	Indiana
Total Covered Employment	65,180	2,846,309	100.0%	100.0%	\$557	\$613
Agriculture, Forestry, Fishing and Hunting	284	11,763	0.4%	0.4%	\$369	\$453
Mining*	D	6,893	D	0.2%	D	\$872
Utilites	400	16,246	0.6%	0.6%	\$1,045	\$1,088
Construction	2,686	147,495	4.1%	5.2%	\$529	\$697
Manufacturing	14,590	590,595	22.4%	20.7%	\$811	\$830
Wholesale Trade	947	120,856	1.5%	4.2%	\$585	\$785
Retail Trade	7,465	340,052	11.5%	11.9%	\$346	\$384
Transportation and Warehousing	1,744	122,170	2.7%	4.3%	\$582	\$659
Information	767	49,606	1.2%	1.7%	\$459	\$667
Finance and Insurance	1,679	102,827	2.6%	3.6%	\$606	\$799
Real Estate and Rental and Leasing	375	36,658	0.6%	1.3%	\$322	\$499
Professional, Scientific, and Technical Serv	ices 819	85,805	1.3%	3.0%	\$472	\$806
Management of Companies and Enterprises	72	26,633	0.1%	0.9%	\$839	\$1,139
Administrative and Support and Waste Management and Remediation Services	864	143,338	1.3%	5.0%	\$325	\$405
Educational Services	4,001	229,503	6.1%	8.1%	\$595	\$644
Health Care and Social Assistance	7,861	325,259	12.1%	11.4%	\$533	\$612
Arts, Entertainment, and Recreation	298	47,415	0.5%	1.7%	\$266	\$413
Accommodation and Food Services	4,912	229,548	7.5%	8.1%	\$177	\$213
Other Services (except Public Administration	on) 1,752	85,658	2.7%	3.0%	\$304	\$401
Public Administration	3,283	127,149	5.0%	4.5%	\$449	\$597

\* Data for mining establishments were nondisclosable in Region 9. Source: Indiana Business Research Center, Indiana Industry Employment and Wages, based on ES-202 data from the Indiana Department of Workforce Development

# **IN** CONTEXT

Published six times per year by a partnership of:

## Indiana Business Research Center

Kelley School of Business Indiana University

Executive Director: Morton J. Marcus Editor: Carol O. Rogers

Managing Editor: Rachel Justis

Circulation: Nikki Livingston

Bloomington Campus 1275 E. Tenth Street, Suite 3110 Bloomington, IN 47405

IUPUI Campus 777 Indiana Avenue, Suite 210 Indianapolis, IN 46202

E-mail: context@indiana.edu

## Indiana Department of Commerce

Executive Director: Tim Monger Research Director: Dennis Paramore

One North Capitol Suite 700 Indianapolis, IN 46204

#### INDIANA UNIVERSITY





# **Indiana Incomes Across the State**

ounty-level income data for 2001 show that the highest per capita personal incomes (PCPI) are concentrated around Indianapolis (see Figure 1). Hamilton County led the pack at \$42,791, more than \$15,000 above the state average, followed by Boone County at \$37,008. Switzerland County had the lowest PCPI with \$17,495, followed by Starke County at \$17,805.

Annual growth in personal income averaged 7 percent each year between 1969 and 2001 (see Figure 2). The slowest growing area was Benton County at 5.3 percent, while Hamilton (11.9 percent) and Hendricks (9.3 percent) led the state.



For all the latest state and county figures and complete time series data sets related to the Indiana economy, visit the following Internet sites: www.incontext.indiana.edu www.stats.indiana.edu www.indianacommerce.com www.indianaeconomicdigest.net

Indiana Business Research Center Kelley School of Business Indiana University IUPUI Campus 777 Indiana Avenue, Suite 210 Indianapolis, IN 46202 Nonprofit Organization U.S. Postage PAID Permit No. 4245 Indianapolis, Indiana