INDIANA BUSINESS REVIEW UPDATE

A MONTHLY OVERVIEW OF ECONOMIC TRENDS

INDIANA BUSINESS RESEARCH CENTER
INDIANA UNIVERSITY SCHOOL OF BUSINESS

JULY 1999, VOLUME 74, NUMBER 7

HOW DOES YOUR GARDEN GROW?

Whether you are watching employment, population, income, or other indicators of a community's well-being, the *direction* and *magnitude* of change is important. Most people want to see rising population, more retail trade, more houses built. Others, however, see the costs of such growth in more traffic, more expenses, more noise, more confusion.

Decline is most often perceived as a negative change. We accept cycles in nature, the seasons of growth, harvest, and dormancy. But we do not see beauty in empty stores or unemployed people.

Indiana is growing and prospering. Our real per capita personal income (PCPI), for example, advanced from $14,815 in 1969 to $23,388 in 1997. (The numbers are in constant or real 1998 dollars.) Our growth was $8,573, or 58%. For the nation as a whole, however, PCPI grew by 66%. Had Indiana kept pace with the nation, our PCPI in 1997 would have been $24,568, or 5% greater than it was. That would have been nearly $1,200 more in 1997 for each Hoosier (see figure 1).

Once we know the direction of change, and how our change compares with others, we look at the *rate* of change. While some would prefer rapid growth, others believe that the costs of such change are too high. A slower pace, it is believed, is less stressful to the psyche and the pocketbook. For some, a slow rate of decline might be preferred to a rapid rate of growth.

How fast did Indiana's PCPI grow from 1969 to 1997? The figure was above 58% for the full period. The *compound annual rate of growth* tells us the uniform rate of change needed each year to move from the starting point (1969) to the end point (1997). For Indiana that rate was 1.64% and for the nation it was 1.82%. These smooth paths, applied to Indiana, are also seen in figure 1.

But change is never so smooth. Figure 2 presents the annual percent changes for Indiana and the U.S. over the same period. The *average annual rate of growth* in per capita personal income for Indiana was 1.68%. The nation enjoyed a 1.84% rate.

(continued on page 4)

Figure 1. Indiana's Real Per Capita Income

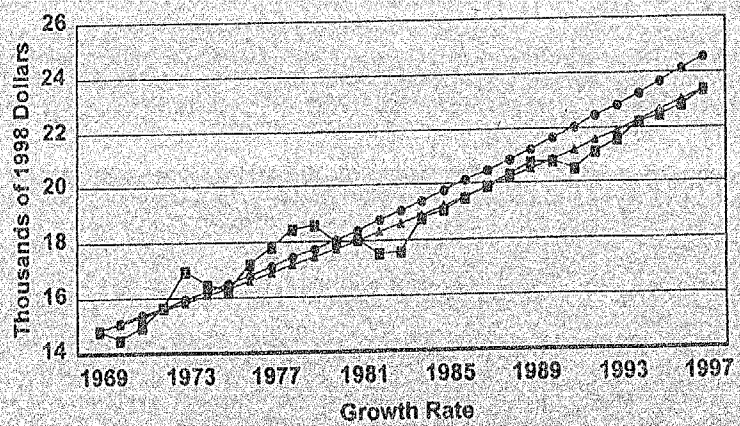
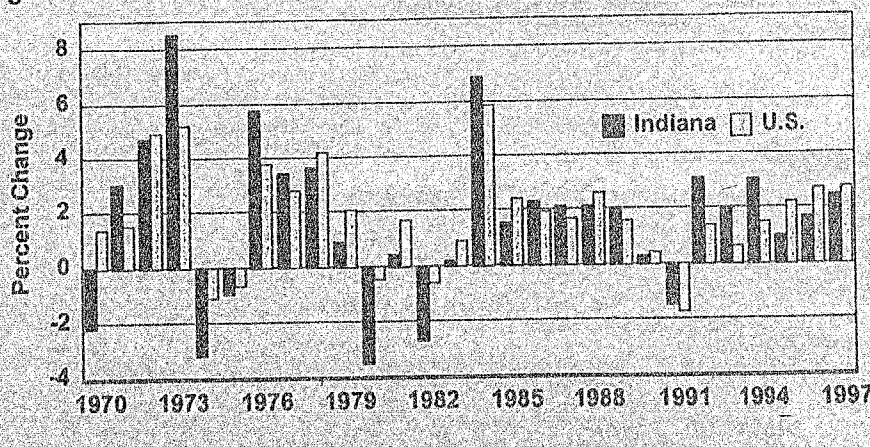
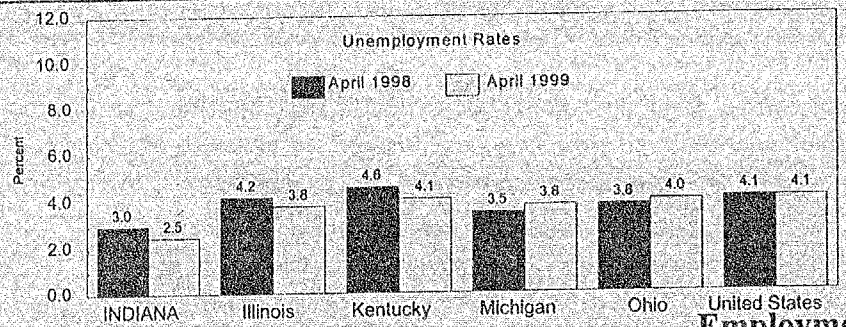


Figure 2. Annual Rates of Change in Per Capita Income



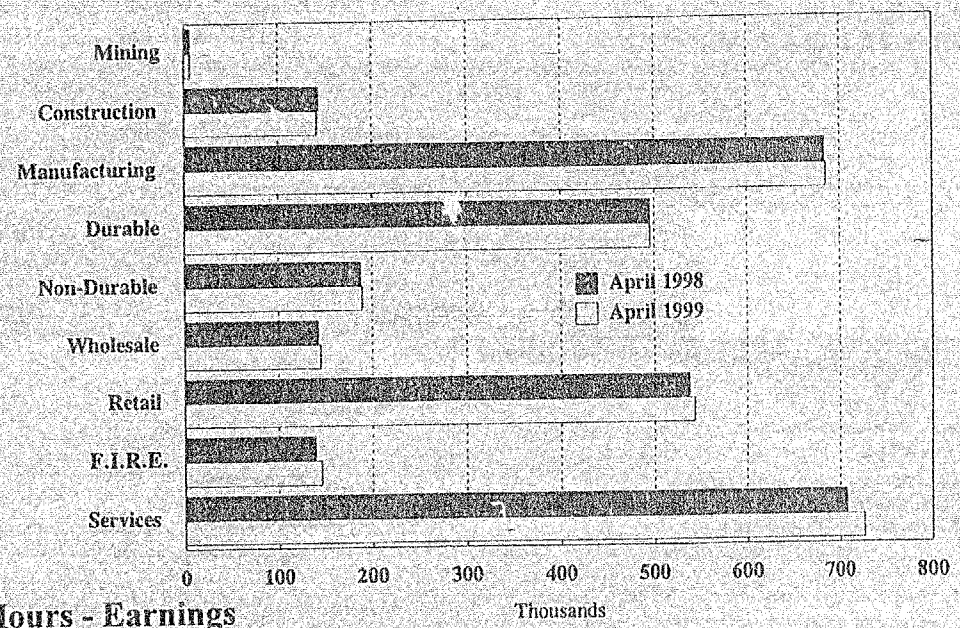
The Regional Employment Situation

TOTAL PERSONS EMPLOYED	APRIL 1998	APRIL 1999	NUMBER CHANGE	% CHANGE	RANK IN US
INDIANA	2,977,625	3,029,314	51,689	1.7%	34
Illinois	5,895,966	6,028,726	132,760	2.3%	24
Kentucky	1,818,568	1,853,750	35,182	1.9%	30
Michigan	4,772,157	4,817,083	44,926	0.9%	43
Ohio	5,347,044	5,533,122	186,078	3.5%	13
United States	130,735,000	132,552,000	1,817,000	1.4%	N/A



Indiana's Non-Ag Employment

Total Non-Ag Employment in April 1999 was 2,958,700, up 1.5% from the same month a year ago.



Employment - Hours - Earnings

(Not seasonally adjusted)

Metropolitan Statistical Areas (MSAs) in Indiana

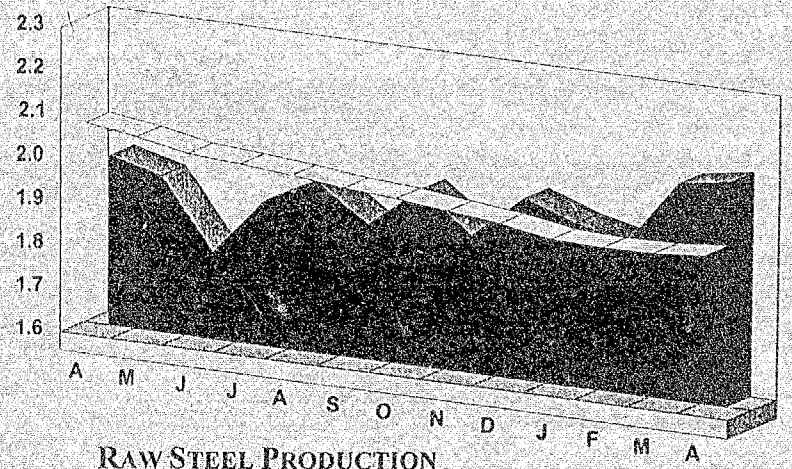
NON-AG WAGE & SALARIED EMPLOYMENT	APRIL 1998	APRIL 1999	CHANGE NUMBER	CHANGE PERCENT
Bloomington MSA	65,400	65,100	-300	-0.5%
Elkhart-Goshen MSA	120,400	123,900	3,500	2.9%
Evansville MSA	154,500	159,200	4,700	3.0%
Fort Wayne MSA	272,900	275,700	2,800	1.0%
Gary MSA	268,100	271,600	3,500	1.3%
Indianapolis MSA	843,600	862,400	18,800	2.2%
Kokomo MSA	52,200	52,600	400	0.8%
Lafayette MSA	95,500	97,300	1,800	1.9%
Muncie MSA	60,500	61,600	1,100	1.8%
New Albany Area*	89,300	90,000	700	0.8%
South Bend MSA	135,200	137,900	2,700	2.0%
Terre Haute MSA	67,300	68,000	700	1.0%

MANUFACTURING APRIL 1999	EMPLOYMENT	AVERAGE WEEKLY HOURS	AVERAGE HOURLY EARNINGS	AVERAGE WEEKLY EARNINGS
Bloomington MSA	9,100	40	$12.61	$509.44
Elkhart-Goshen MSA	63,200	40	$12.80	$508.16
Evansville MSA	33,500	45	$14.24	$636.53
Fort Wayne MSA	74,800	41	$15.56	$642.63
Gary MSA	50,000	44	$19.29	$842.97
Indianapolis MSA	129,600	44	$15.55	$688.87
Kokomo MSA	20,400	48	$22.32	$1,082.52
Lafayette MSA	22,300	43	$15.79	$680.55
Muncie MSA	10,800	46	$15.06	$686.74
New Albany Area*	19,200	43	$12.97	$561.60
South Bend MSA	22,500	41	$12.18	$499.38
Terre Haute MSA	12,000	44	$14.58	$641.52

*The New Albany Area (Clark, Floyd, Harrison, Scott counties) is part of the larger Louisville MSA. Employment and earnings data based on preliminary and revised series provided by the Indiana Department of Workforce Development.

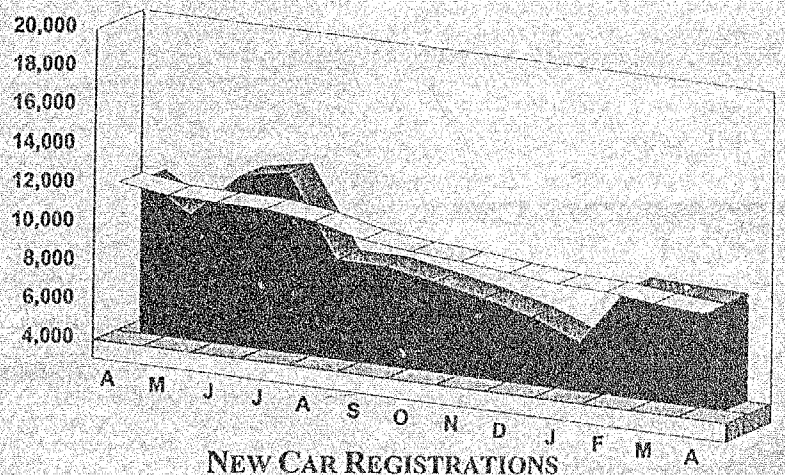
Current Trends in Indiana's Economy

April 1998 — April 1999



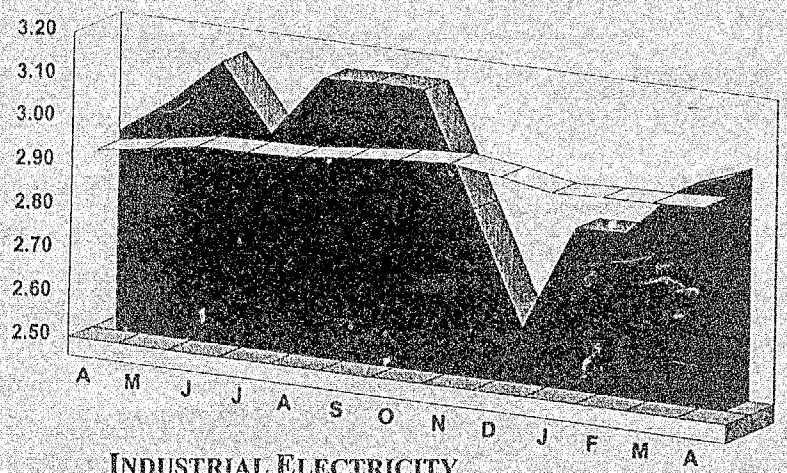
Raw Steel Production

American Iron and Steel Institute
Year to date: 8.1 million net tons
12-month total: 23.7 million net tons
Peak month: January 1998



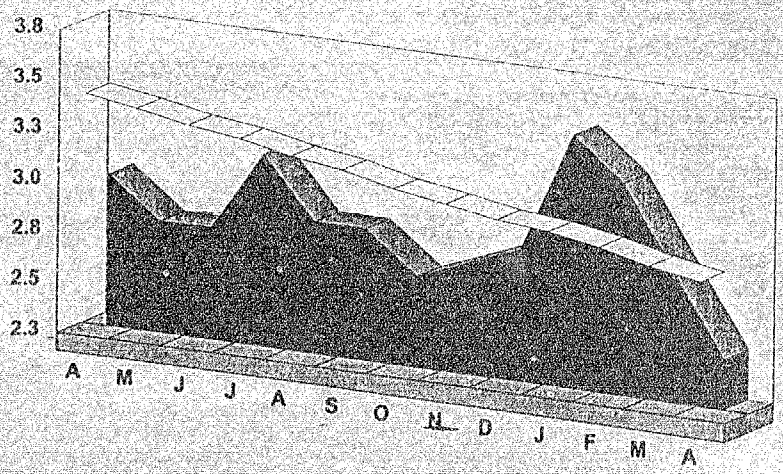
New Car Registrations

R.L. Polk and Company
Year to date: 35,432
12-month total: 114,325
Peak month: May 1996



Industrial Electricity Sales (Billions)

The 5 investor owned utilities
Year to date: 11.8 billion kwh
12-month total: 35.9 billion kwh
Peak month: June 1998



Unemployment Rate

Indiana Department of Workforce Dev.
Peak month: February 1994

Moving Average

Peak = since 1994

Monthly

(Continued from page 1)

Both the compound growth rate and the average growth rate are summary statistics that describe the past and may be used to project future values. If we expect Indiana's PCPI to stay on the same path, then we could use the compound annual rate and project a PCPI of $24,558[1] for the year 2000. But the average rate gives us not only the average (or the mean) value, but also the distribution around that mean.

In figure 2 it is clear that Indiana's annual rate of change in PCPI varies considerably from its average. Just look at 1973 when our growth rate was more than 6 percentage points above average.

The standard deviation measures the dispersion around the mean value. For Indiana's PCPI percent changes it was 2.81 around the 1.68 average. That means we can expect the percent change in Indiana's PCPI to fall between 4.5% and -1.1% in most years. PCPI in the year 2000 would be in a range from $22,625 to $26,690. Although policy makers may prefer a single point projection, they would be well-advised to consider the range of values as well.

We might expect that high levels of variability in change would be more disruptive to a community than high levels of stability. Variability makes planning difficult. If one year a community is growing by 10% and the next year it sees virtually no growth, how can it figure out what size sewage system to build? Volatility in population growth leads to hair loss among school superintendents. How can they plan for tomorrow's enrollment?

Just as we want to know which counties are growing fastest and which slowest, we may wish to know which counties have the greatest variability and which the most stability in growth[2]. Figure 3 shows those Indiana counties with the greatest stability in their growth of PCPI and those with the greatest variability.

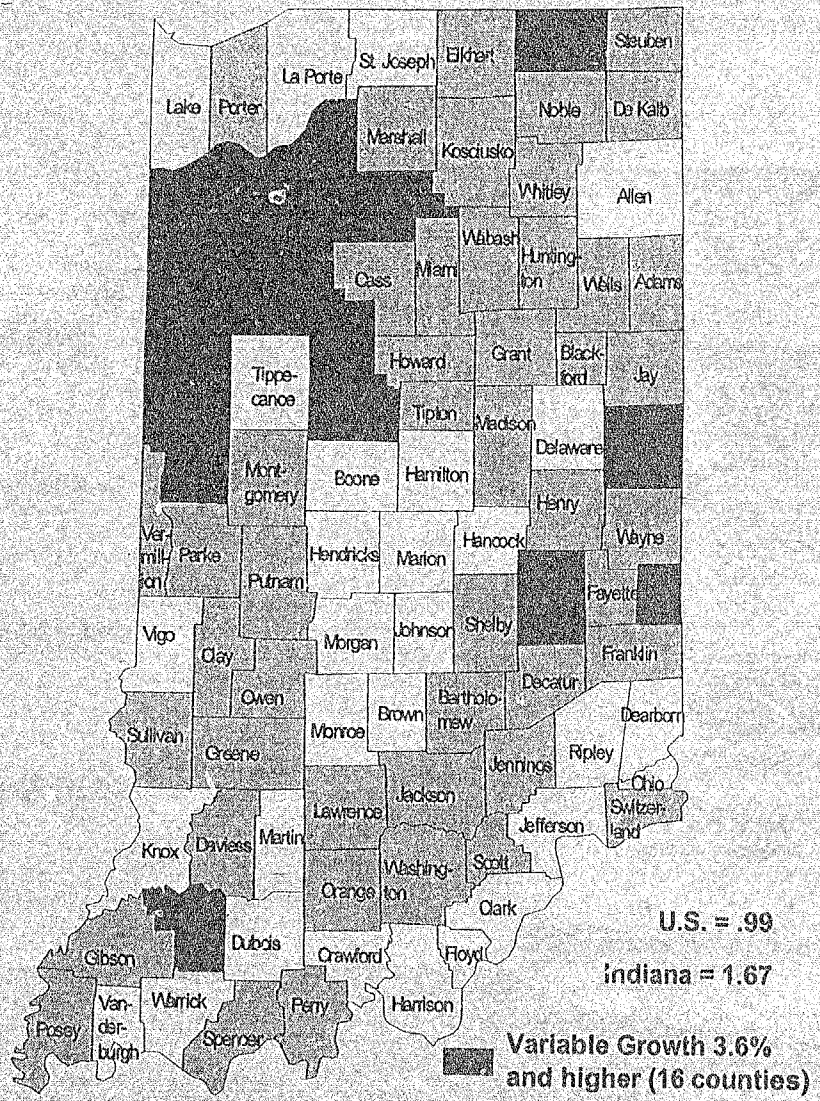
Hamilton County, the growth leader in PCPI, ranked fifth in stability behind Monroe, Floyd, Marion, and Vigo Counties. The most volatile counties (Newton, Benton, Warren, and Union) were all small, agricultural counties.

There seems to be no relationship between the rate of growth in PCPI and the stability of growth. For example, Marion County ranked 38th in growth rate and 3rd in stability; Lake 60th in growth and 26th in stability; Wayne 76th in growth but 38th in stability.

Until we know more about the costs and benefits of rapid versus slow growth, until we are able to evaluate the pluses and minuses of stable versus variable growth, these must remain subjective values. As in the garden, we are not able to analyze each mystery of growth, but we seem to have preferences, to call some things flowers and others weeds.

-mjm

Figure 3. Variability in the Growth of Real Per Capita Personal Income 1969 to 1997



[1] ($23,388 * (1.0614^3))

[2] Measured by the coefficient of variation (the standard deviation divided by the mean)

Support for this publication is provided by the Indiana Department of Commerce and the State of Indiana. WEB address: http://www.iupui.edu/it/ibrc The IBRC is a partner in the Indiana Data Center Program with the Indiana State Library, Dept. of Commerce and U.S. Census Bureau. UPDATE Staff: Terry Creeth, managing editor; Morton J. Marcus, contributor; and Michael Hollingsworth, graphic design.