Letting It Ride on Indiana’s TECHNOLOGY BELT
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For the Record:
I-69 is in the news and we provide a one-page glimpse of the corridor and the counties it will directly affect. But within these pages, we are also looking at the existing I-69 corridor. Thanks to an insightful and informative piece by Jennifer Kurtz, who headed up Indiana’s Interconnect study, we can learn about the innovation cluster that has grown up along this corridor and is now gaining recognition and 21st Century Research and Technology funds.

When will Hoosiers move back to the central cities? Not right now, if the latest county population estimates are any indication. The continuation of movement to the suburbs is something long reported in these pages and our new economic and demographic analyst, Vince Thompson, tackles these new numbers with the analytical gusto befitting a member of the IBRC staff.

Getting inside the mind of Indiana CEOs may seem a daunting task, but one that has been tackled head-on by faculty at Purdue. This is a must-read summary of their results and we also provide a web link to the complete study.

Looking for the latest job numbers or other economic data? Be sure to turn to the many publications and websites of the Indiana Business Research Center at www.ibrc.indiana.edu, the web portal to our research and data.

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A ccording to Louis Pasteur, “Chance favors the prepared mind.” Similarly, economic development success favors prepared communities. In a rapid response economy, choices are determined by paths of least resistance. States or regions that build infrastructure capacity proactively improve their odds of reaping financial rewards, although those rewards cannot be predicted. In Indiana, the high-speed Interstate 69 thoroughfare is morphing into an elongated technology belt, connecting clusters of innovative activity.

Even with all the hype about meetings in cyberspace and working in hermitic isolation, the dissemination of ideas still tends to be a social infection. Studies of technology clusters by the Miliken Institute and others show that innovation thrives in areas where new ideas are pitched like salmon in Seattle’s Pike Place Market. People gather to innovate. The I-69 technology belt facilitates intercommunity collaboration. This is beginning to create a counterbalance to the dominant Indianapolis metro area. Indiana and its people will benefit from the decentralization of its economy and the development of multiple innovation clusters. Other clusters are developing around Bloomington/Crane and along I-65, from Lebanon to Greater Lafayette to Gary/ Hammond.

Regional Overview
The counties bordering I-69 (with the additions of Kosciusko County, connected via State Road 30, and Jay County) accounted for 21.7 percent of the state’s 2002 population and 18.5 percent of its geographic area (see Figure 1). At 13.7 percent, its population growth rate between 1990 and 2000 exceeded Indiana’s (9.7 percent). This growth is expected to slow somewhat, to 11.5 percent by 2010, according to projections from the Indiana Business Research Center. Per capita income in 2001 was 104.2 percent of the state average. The 5.7 percent unemployment rate for the region in January 2004 was 101.8 percent of the state average. Top-paying industries for the region in 2001 are shown in Table 1.

Table 1
Top-Paying Industries in the I-69 Region, 2001

<table>
<thead>
<tr>
<th>Industry</th>
<th>Employment</th>
<th>Percent Distribution in Region</th>
<th>Average Earnings per Job</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>13,335</td>
<td>1.8%</td>
<td>$46,565</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>141,299</td>
<td>18.6%</td>
<td>$45,740</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>26,950</td>
<td>3.5%</td>
<td>$45,696</td>
</tr>
<tr>
<td>Professional, Scientific, and Technical Services</td>
<td>28,532</td>
<td>3.8%</td>
<td>$38,470</td>
</tr>
<tr>
<td>Government</td>
<td>76,037</td>
<td>10.0%</td>
<td>$36,721</td>
</tr>
<tr>
<td>Construction</td>
<td>44,170</td>
<td>5.8%</td>
<td>$36,159</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>65,689</td>
<td>8.6%</td>
<td>$33,863</td>
</tr>
</tbody>
</table>

Table 1
Top-Paying Industries in the I-69 Region, 2001

Certified Technology Parks
As part of the Energize Indiana initiative, the Indiana Department of Commerce began accepting applications in early 2003 for special tax districts to encourage high-tech business development. Two of the state’s seven certified technology parks are located within...
the I-69 belt. In addition, Muncie has received preliminary approval of its application for a certified technology park designation.

Anderson's Flagship Enterprise Center was the second park to be certified under the state program and represents the successful partnership of the city, Anderson University (Falls School of Business), the Purdue School of Technology, and Ivy Tech. The Northeast Indiana Innovation Center in Fort Wayne was the fifth park certified under the state program. It represents the partnership of the city, Indiana University—Purdue University Fort Wayne (IPFW), and Ivy Tech.

The Indiana 21st Century Research and Technology Fund

The Indiana General Assembly created the 21st Century Research and Technology Fund to promote economic diversity through the commercialization of technological innovation. Money is awarded to project teams comprised of one principal investigator (often a university) and multiple partners. The fund encourages, indeed requires, participation by a mix of academic and private sector entities. Groups in the I-69 technology belt are involved as either project principal investigators or partners in all five rounds of awards as seen in Table 2.

Innovation Clusters

The I-69 technology belt is home to companies representative of Indiana's four high-tech areas: advanced manufacturing, twenty-first century distribution/logistics, information technology, and life sciences. Many of these companies have been around for decades and have adapted to new market opportunities.

The region is home to the largest software development company in the state (Ontario Systems®) as well as the largest orthopaedic device company (Zimmer®). The medical device industry, rather than the pharmaceutical industry, is the life sciences subsector that is especially significant to communities in Allen and Kosciusko counties. The big three device companies (Zimmer, Biomet, and DePuy Orthopaedics) employ approximately 25 percent of the full-time workforce in Kosciusko County. Many other residents work for suppliers to biotechnical companies in the region, such as Fort Wayne Metals. The presence of these biotech companies helps traditional companies transfer their precision manufacturing expertise to production for an expanding marketplace.

I-69 was conceived in the 1950s as part of a national transportation solution and, fittingly, Indiana communities along this technology belt continue to devise innovative transportation solutions. A global supplier of alternators for automotive, marine, and trucking applications, Delco Remy International has redefined its product as mobile power generation. Along the way, it formed a partnership to establish iPower Technologies and “pursue emerging opportunities in distributed generation for full-time, on-site power generation that integrates with existing public power grids or operates independently if there is a blackout or in emerging areas or countries with inadequate infrastructures.”

Allen County lost the International Harvester truck production facility to Ohio in the early 1980s—but its international truck engineering and design facility remains in Fort Wayne and employs more than 1,200 engineers. Do It Best Hardware, a global cooperative for hardware and lumber dealers, was praised by management guru Tom Peters as early as 1992 for its innovative use of state-of-the-art communications systems, including monthly video training meetings. It continues to use technology to streamline costs for its members.

Table 2

<table>
<thead>
<tr>
<th>Awards</th>
<th>Principal Investigators</th>
<th>Partners</th>
<th>Proposals Submitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round 1</td>
<td>Ball State University Muncie</td>
<td>Fort Wayne Panoramic Corp. Muncie Ontario Systems Performance Dynamics Warsaw Zimmer</td>
<td>Carmel: 1 Fort Wayne: 6 Muncie: 3 Warsaw: 2</td>
</tr>
<tr>
<td>Round 2</td>
<td>FluorRx Carmel Logikos Fort Wayne</td>
<td>Elwood Red Gold Fort Wayne Adaptive Microwave Artemis International Central Soya Global Systems IPFW Northeast Indiana Innovation Center Spectrum Radiopharmacy Muncie Ball State University (2 projects) Roanoke Intricut Tool Company Warsaw Zimmer</td>
<td>Carmel: 1 Fishers: 1 Fort Wayne: 8 Muncie: 3</td>
</tr>
<tr>
<td>Round 3</td>
<td>Ball State University Muncie Innovative Controls Fort Wayne</td>
<td>Carmel Baker Hill Bitwise Solutions ONEX Fort Wayne BMT Microelectronics Center IPFW Karl Schmidt Unisia Vantage Tool &amp; Engineering</td>
<td>Angola: 1 Carmel: 3 Fishers: 1 Fort Wayne: 9 Muncie: 2</td>
</tr>
<tr>
<td>Round 4</td>
<td>Ball State University Muncie DePuy Orthopaedics Warsaw</td>
<td>Anderson Tool &amp; Engineering Angola Tri-State University Fishers Safety Technologies Fort Wayne Cirrus ABS GT Automation IIT Industries WeToolIT Warsaw DePuy Orthopaedics</td>
<td>Carmel: 5 Fort Wayne: 6 Muncie: 4 Upland: 1 Warsaw: 1 Westfield: 1</td>
</tr>
<tr>
<td>Round 5</td>
<td>Dahlgren, LLC Fort Wayne iPower Technologies Anderson</td>
<td>Angela Tri-State University Fort Wayne IPFW Northeast Indiana Innovation Center Proteum Muncie Ball State University Warsaw Zimmer</td>
<td>Carmel: 3 Fort Wayne: 3 Muncie: 2</td>
</tr>
</tbody>
</table>

*Table is based on data in the original project proposals; see www.21fund.org for additional information.
The engineering focus of companies like Raytheon, General Dynamics, ITT, and Northrup Grumman has encouraged development of communications applications. For example, advances in radio frequency technology led to product development opportunities for companies, ranging from Logikos’ interface for police squad cars to Movielink’s video-on-demand service, has formed a research development products. Movielink, the video-on-demand infrastructure necessary to accommodate deployment of the communications

Communications Infrastructure Initiatives
Grassroots initiatives are driving the deployment of the communications infrastructure necessary to accommodate twenty-first century businesses in this region. In the three cases cited, progress is being driven by commitments from local government, economic development organizations, academic institutions, and commercial consumers of telecommunications services.

Fort Wayne released its iConnect proposal request (RFP) in late 2001 and awarded the multi-phase contract to the Indiana Data Center (INDDC) in March 2002. At present, the unlicensed wireless spectrum system offered by the INDDC reaches roughly 80 percent of Fort Wayne businesses, including a number of businesses which could not be served by other fiber- or copper-based providers. Taking advantage of existing water towers and other city-owned structures for locating equipment, the system was 10 percent to 50 percent less expensive than wired broadband. The estimated installation fee of $500 is about one-third the cost of the typical connection fee for a T-1 line. Motorola did a case study of this Phase I wireless project, which is posted on the INDDC website (www.inddc.com). Building on the Fort Wayne broadband initiative, the INDDC is now extending coverage into other cities, including Angola, Auburn, and Huntington.

The Muncie/Delaware County Vision 2006 broadband initiative has attracted $600,000 in funding for the development of an ultra-broadband wireless testbed. Speeds of up to 30 megabits per second (Mbps) have been attained at test locations near the Ball State University campus. The initiative also includes planning for the deployment of more affordable broadband in the 3 Mbps to 4 Mbps range for those with more modest performance requirements. Related activities at Ball State include the proposed establishment of a telecommunications carrier “hotel” in Muncie and the formation of the Rural Broadband Research Center. The latter would benefit from ongoing student/faculty projects conducted under the aegis of the iCommunications Media Design Initiative.

Other initiatives include Jay County’s microwave network that connects its ten schools, implemented at a cost of about $160,000, and the Anderson Power and Light project to send broadband over power lines. On the commercial side, Indiana Fiber Works is completing its fiber rings. The “end points” will be prepared for the 1-Light 2 buildout.

Of course, expanding broadband supply is just one side of these community-based technology initiatives. Stimulating consumer demand is imperative for attracting investment from telecommunications carriers and for ensuring an acceptable payback period for local government investment.

In Fort Wayne, the city government has implemented eGovernment applications that have earned national recognition. The Center for Digital Government rated Fort Wayne number one among midsize U.S. cities. Online services for citizens include utility bill payment, pothole reporting, and GIS mapping to explore desirable neighborhood amenities. Online services also improve productivity for government officials. According to a feature article in the April 2004 issue of Kiplinger’s, “police officers can pull up to ‘hot spots’ near fire stations and get wireless downloads.” Wireless fingerprint identification at the point of suspect apprehension is coming soon.
The Vision 2006 Technology Committee recently completed a survey of businesses in four neighboring counties (Blackford, Delaware, Grant, and Jay) that indicates a high level of acceptance for broadband and other Internet-related technologies. In fact, 75 percent of the 114 survey respondents connect to the Internet via DSL, cable, or T-1 (and higher) circuits. By contrast, the survey results from the 2003 Indiana Interconnect study indicated only 34 percent of Indiana businesses using the Internet connect over broadband. Greater sophistication in the usage of Internet applications, as also noted in survey responses, quite possibly drives this demand for broadband.

Riding the Technology Belt
The communities that border the I-69 technology belt are preparing conscientiously for taking a chance on the twenty-first century. They are blessed with most of the necessary ingredients to create clusters of innovation: easy access to respected academic institutions, committed companies and civic leaders, and technological expertise. Venture capital funds have been established, in recognition that it is difficult to find “out-of-town” investors. The infrastructure for physical transportation—by air, rail, or road—works well. Cooperative efforts across county lines to deploy cyber infrastructure are attracting interest from telecommunications carriers. Discussion is underway to establish a Rural Broadband Research Center as a resource for communities that are still “digitally challenged.” A chain of certified technology parks offers the hope of successful commercialization projects. Perhaps this will be a road well traveled.

Endnotes
1. Software products include medical billing applications.
2. Zimmer is now the largest orthopaedic device manufacturer in the world due to its recent acquisition of a Swiss company.
4. Taylor University was the only undergraduate university to win in the 2002 national United States Air Force Office of Space Research competition for university nanosatellite grants. Taylor will be the lead institution with eleven others, including Stanford University. More information is available at www.css.taylor.edu/~physics/picosat.
5. This initiative was funded by a four-year $20 million grant from the Lilly Endowment.
6. This network will connect communities including Anderson, Muncie, Marion, Sweetser, and Swayzee.
Exodus to Suburbia Continues, but a Little Slower

The strong population growth in the counties surrounding Marion County continues. This is corroborated by the Census Bureau’s recent county-level population estimates for 2003. If we look at growth from the April 1, 2000 census to the July 1, 2003 estimates, the five fastest-growing counties in Indiana surround Marion County (see Figure 1). As evidence of urban flight, those five counties are also among the top seven in total net in-migration (see Figure 2 and Table 1), while Marion County has the highest total net out-migration at 18,989. Hamilton County leads the pack with a total net in-migration of 26,286 over the three-and-one-quarter year period.

Although Marion County (Indianapolis) takes the greatest loss from out-migration, it achieves a total population increase of 2,797 after taking births and deaths in consideration. It is the only county in Indiana with an estimate after taking births and deaths in consideration. The strong population growth in the counties surrounding Marion County remains strong, it has slowed down recently. Let’s take another look at the top five growth counties, but this time focus on year-over-year changes in the estimates (see Figure 3). All five of these counties have experienced a slight drop-off in percent growth, whereas the state of Indiana as a whole has experienced a slight increase. With the exception of Hamilton County, the greatest growth for these counties occurred during the 2001–02 period. This is interesting in light of the 2001 recession, which did not end until November of that year. What can we make of the drop-off? Maybe it is a lagged effect from the recession. Thanks in part to Indiana’s relatively large reliance on the manufacturing sector for employment, we have had a harder time recovering from the 2001 recession than many other states. The so-called jobless recovery seems to have had an impact on some people’s willingness and/or ability to become residents of one of the “doughnut” counties. Perhaps these counties are also reaching some limits as they struggle to create the additional infrastructure necessary for accommodating the ongoing influx. In short, it can be challenging to keep up with the growth.

Vincent B. Thompson
Economic Analyst, Indiana Business Research Center, Kelley School of Business, Indiana University

Figure 1
Population Change, April 2000 to July 2003

Percent Change
- More than 5% (5 counties)
- 2.1% to 5% (22 counties)
- 0.1 to 2% (34 counties)
- 0% or less (31 counties)

Labels show numeric change in population

Growing 1.9 percent since Census 2000, Indiana’s total population is almost 6.2 million.

A “Hiccup” in Suburban Growth?
Although the suburban growth in areas surrounding Marion County remains strong, it has slowed down recently. Let’s take another look at the top five growth counties, but this time focus on year-over-year changes in the estimates (see Figure 3). All five of these counties have experienced a slight drop-off in percent growth, whereas the state of Indiana as a whole has experienced a slight increase. With the exception of Hamilton County, the greatest growth for these counties occurred during the 2001–02 period. This is interesting in light of the 2001 recession, which did not end until November of that year.

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Flight to the Suburbs Elsewhere in Indiana

So as not to ignore the suburban growth taking place in other areas of the state, let’s have another look at Table 1. Of the five counties in the list that we haven’t already discussed, four are near large urban areas. The exception, Tippecanoe County, makes the list due to its high international migration, courtesy of Purdue University.

Porter County, ranked fourth in migration, is directly to the east of Lake County and not far from Chicago. Lake County’s total net out-migration is 3,574, and is only surpassed by Marion County’s. Also note that the two counties to the east of Porter County, namely La Porte County and St. Joseph County, have incurred out-migration losses as well. Among Indiana’s ninety-two counties, they are ranked eighty-fifth and ninetieth in total migration, respectively.

Clark County, just across the river from Louisville, ranked eighth in migration. Next is Warrick County, a county that seems to attract migrants from neighboring Vanderburgh County (ranked eighty-fourth in total migration), as well as nearby Henderson County, Kentucky. At number ten, we have Dearborn County, which is across the state line from Cincinnati. Just one shy of making the top ten is Morgan County, which is on the southwest corner of the ring of counties surrounding Marion County. Number twelve is Harrison County, also near Louisville.

The Big Picture

When Indiana’s ninety-two counties are compared among all U.S. counties, we make a few showings in the Census Bureau’s top one hundred lists. Marion County is ranked number fifty-two in estimated population for July of 2003, which is down from a rank of fifty for April 2000. In terms of percent change since Census 2000, two Indiana counties make the top one hundred. Hamilton County thunders ahead at number twenty-one with 18.7 percent growth, and Hendricks County ranks sixty-second, registering a 14.2 percent increase. Therefore, when it comes to suburbanization, the Hoosier state certainly brings something to the table.
The Mind of the Indiana CEO: Views on Emerging Business Issues

Jeffery Garten, dean of the School of Management at Yale University, has extensive exposure to the domestic and international business scene. The opinions expressed in his book, The Mind of the CEO, were shaped by his contacts with executives of forty world-leading firms, people with a sharp eye on the changing world environment and possessing thoughtful insights about emerging trends.

A reading of this book reveals a number of interesting yet controversial statements. Garten believes that CEOs must take a more active role in shaping public policy. CEOs should abandon narrow corporate and industry agendas and assist governments in developing appropriate national economic policies and forming international economic institutions to guide economic development. His proposals for a more proactive business community in economic policy development appear throughout The Mind of the CEO.

Do Indiana CEOs agree or disagree with Garten’s position on these emerging business issues? To answer this question, we administered a survey of Indiana CEOs to find out (see sidebar).

Views on Emerging Business Issues
But why should Garten’s viewpoints on emerging business issues be important to CEOs in Indiana? While Garten is respected for his background, he holds a distinct East Coast perspective when defining issues and proposing solutions. He favors an intense and necessary public-private partnership approach when outlining possible solutions. Thus, if Indiana executives share his views, how far does agreement with Garten also imply accepting his remedies? One inference from an agreeing position is tacit acceptance of Garten’s solutions and, thus, accepting whatever economic impact these remedies may have on Indiana’s economy. The exact impact on Indiana of a particular issue is difficult to say without knowing the specific nature of the proposed solution. But using previous experience with Washington-based economic policies, perhaps Indiana has reason for guarded concern.

For example, a primary concern is the income transfer out of Indiana. We calculate that about ninety-five cents is returned to Indiana for every dollar of taxes sent to Washington in 2001. At this rate of income transfer, in twenty years the equivalent of the entire state’s personal income disappears. And there is the loss of $1,662 of state taxes per average taxpayer, plus the local tax revenues forgone on this lost wealth. Such a slant from Washington-imposed policies could be at odds with the state’s long-term economic health. Thus, what might seem a suitable policy from an East Coast viewpoint may not be seen in the same favorable light from a Hoosier perspective.

Surveying CEOs
Indiana executives were asked their opinions on a series of statements about emerging business issues considered important for this decade. The forty statements are based on an interpretation of statements found in Jeffery Garten’s book, The Mind of the CEO. Respondents indicated the extent they agreed or disagreed with Garten. Possible answers ranged from 1 (strongly disagree) to 6 (strongly agree). A NR choice was available if the statement did not apply or if the CEO had no opinion. Using the survey scale, a critical value of 5 indicates agreement with Garten, a critical value of 4 signals somewhat agree, while a critical value of 3 means a somewhat disagree position.

The forty statements were condensed into six summary dimensions to facilitate data analysis and subsequent discussion. Each statement was classified into one of the summary dimensions using a thematic categorization scheme.

Results were reported at both the statewide level and at the group level for the forty statements. Only the six summary dimensions were analyzed at the business segment level. The authors would like to thank the seventy-three CEOs who responded to the survey.

Statewide Results
As seen in Table 1, only one statement with a 5.36 value indicates agreement with Garten’s position (knowing what value the firm brings to its customers is a key to successful business). Two more statements are within two standard errors below 5 (exceeding a 4.70 cutoff point), also indicating that respondents agree with Garten on these two issues.

Of the total forty statements examined (only the highest and lowest ten are reported here), twenty-six (65 percent) either exceed the critical value of 4 or are within two standard errors below (exceeding a 3.70 cutoff point). In addition to the three agree with statements, respondents tend to somewhat agree with Garten on twenty-three other statements, inferring that Indiana CEOs tend somewhat favorably toward his views.
Table 1
Top Ten Survey Statements at Both Ends of the Survey Spectrum

<table>
<thead>
<tr>
<th>Survey Statement</th>
<th>Most Agreement with Garten</th>
<th>Least Agreement with Garten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey Statement</td>
<td>Mean</td>
<td>Survey Statement</td>
</tr>
<tr>
<td>The communications revolution is about customers. These days a company has to</td>
<td>5.36</td>
<td>In the current environment,</td>
</tr>
<tr>
<td>ask: “What is the real value that we bring to the customer?”*</td>
<td></td>
<td>a company needs to reassess</td>
</tr>
<tr>
<td>While having a vision is a prerequisite for being a great CEO, it is the</td>
<td>4.77</td>
<td>With the range of challenges</td>
</tr>
<tr>
<td>failure to execute a strategy well that will get the chief executive into</td>
<td></td>
<td>faced by CEOs, today’s</td>
</tr>
<tr>
<td>trouble.</td>
<td></td>
<td>executive position is too</td>
</tr>
<tr>
<td>A core thing with people working for a company, if they are</td>
<td>4.72</td>
<td>much too much for one</td>
</tr>
<tr>
<td>proud, if they are respected, and if they are listened to, then the company</td>
<td></td>
<td>person to be effective.</td>
</tr>
<tr>
<td>will thrive.</td>
<td></td>
<td>Forming an “Office of the</td>
</tr>
<tr>
<td>Government regulation is one of the biggest potential problems on the horizon,</td>
<td>4.66</td>
<td>Chairman” team is a</td>
</tr>
<tr>
<td>enough so that extensive regulation could undermine economic progress.</td>
<td></td>
<td>possible option.</td>
</tr>
<tr>
<td>Knowledge is the most critical business asset. Over half of it is in</td>
<td>4.59</td>
<td>Unless CEOs construe their</td>
</tr>
<tr>
<td>people’s heads, so when they walk out the door, that knowledge goes with them.</td>
<td></td>
<td>mandate in a broad social</td>
</tr>
<tr>
<td>What is required for the future of U.S. corporate success is a</td>
<td>4.55</td>
<td>context, they risk</td>
</tr>
<tr>
<td>simultaneous focus on profit and community, an approach that ought to</td>
<td></td>
<td>becoming targets of</td>
</tr>
<tr>
<td>become the model for big companies.</td>
<td></td>
<td>resentment by those</td>
</tr>
<tr>
<td>The issue of outsized CEO compensation packages is relevant to today’s</td>
<td>4.52</td>
<td>who see the global movement</td>
</tr>
<tr>
<td>employees. If the CEO performs well, this is accepted, but if he fails this</td>
<td></td>
<td>as a negative trend.</td>
</tr>
<tr>
<td>does not make for much trust.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One thing very clear now is that the on-line world is going to change</td>
<td>4.45</td>
<td>From the corporate</td>
</tr>
<tr>
<td>everything. There will be increasing focus on and need for understanding</td>
<td></td>
<td>standpoint, there is logic</td>
</tr>
<tr>
<td>different distribution channels and matching products and services to these</td>
<td></td>
<td>in holding back until</td>
</tr>
<tr>
<td>channels.</td>
<td></td>
<td>public problems are</td>
</tr>
<tr>
<td>The Internet could be used to reduce cost of supplies or to reduce</td>
<td>4.36</td>
<td>adequately defined and a</td>
</tr>
<tr>
<td>inventories. Thus, business fundamentals don’t change; only the tools do.</td>
<td></td>
<td>course of action is clear</td>
</tr>
<tr>
<td>Competitive pressure from abroad is a cyclical thing. It is</td>
<td>4.31</td>
<td>and supported by the</td>
</tr>
<tr>
<td>inevitable that European and Japanese firms once again will challenge the U.S.</td>
<td></td>
<td>governments involved.</td>
</tr>
<tr>
<td>the way they did a decade or so ago.</td>
<td></td>
<td></td>
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</tbody>
</table>

* A critical value of 5 indicates agreement with Garten's opinion, a critical value of 4 means somewhat agree, while a critical value of 3 indicates somewhat disagree.

**Figure 1** shows the statewide results for the six summary dimensions (see the discussion in sidebar concerning summary dimensions).

Indiana CEOs somewhat agree with Garten on five of six dimensions (exceeding a 3.82 cutoff point), the highest being stakeholder interests and the lowest being government and regulation.

It is the management and leadership summary dimension where opinions vary most from Garten’s position. The varying opinions between business segments account for this divergence.

**Business Segment Results**

The management and leadership dimension illustrates a pattern of divergent opinions between business segments (see **Figure 2**). CEOs at
variance most with Garten’s viewpoints work in manufacturing, at a north location, in a large firm, in a public firm, in older companies, have a favorable experience with NAFTA, have a favorable experience with the Internet, and have export sales exceeding 6 percent of total sales.

This analysis points to the idea that Indiana CEOs appear to express confidence in their own capabilities to solve emerging problems.

Specific to the management and leadership dimension, there is no across-the-board agreement as positions within the industry segment illustrate. Manufacturing and financial firms somewhat disagree with Garten while service firms somewhat agree with his positions. This pattern is also noticed for other segment comparisons.

Indiana executives prefer to be self-reliant in dealing with problems, even if Garten believes these issues are beyond the average CEO’s ability to handle effectively. We conclude that Indiana executives

- are confident they can cope with the changing world environments;
- discount the seriousness of the challenge that Garten believes exists;
- appear more upbeat about their ability to meet the new global competition.

**Summary**

Results indicate some differences between Indiana CEOs and Garten with respect to the complexity of the business environment. In particular, CEOs differ most from Garten regarding their ability to effectively manage in the new environment. Garten asserts that this environment is becoming “a turbulent sea” and “too difficult for most CEOs to successfully handle all at once.” Indiana executives, on the other hand, surmise that the business environment is already complex and that these emerging trends of greater complexity that Garten speaks of are already “business as usual” for them.

**Implications for Indiana**

First, Indiana CEOs appear more conservative and self-reliant, believing they are capable of dealing with the complexities of a changing global business environment. As a corollary, this suggests that turning to the public sector for direction for solving problems might be pursued only after careful consideration.

Second, Indiana executives generally hold homogenous views (as seen in Figure 1). This implies that backing efforts through a statewide business community approach might be possible, thus speeding up and focusing effort on solutions. The advantage of “one mind” is that massed support gets more attention and generates more impact than when different approaches are pursued.

Third, a large proportion of executives expressed no opinion about the effect that NAFTA has had on their businesses. Of those that are impacted by NAFTA, just under half reported a favorable experience. Also noteworthy is that one-third of companies indicated export sales exceeding the 6 percent mark. This leads to the idea that foreign market development has potential for Hoosier business expansion.

Fourth, well over half of respondents indicated that the Internet has had a favorable effect on their business. This implies that enhancing development of the Internet within the state should be encouraged.

Will Indiana executives come to a common position for addressing key emerging issues? Will it be along Garten’s suggested approach of a business-government combination or some other path? Based on our survey results, we think the direction for Indiana CEOs is towards self-reliance versus the public-private partnerships that Garten favors.

**Figure 2**

Analysis of the Management and Leadership Summary Dimension by Business Segment

*Figures 2, 3, and 4 are available online at www.ibrc.indiana.edu/ibr.*

- **Mean Survey Response for the Management and Leadership Summary Dimension**
  - **Industry:**
    - Manufacturing (29)
    - Financial (28)
    - Services (16)
  - **Location:**
    - North (38)
    - South (32)
  - **Legal Form:**
    - Public (43)
    - Private (29)
  - **Employment:**
    - Small (42)
    - Large (31)
  - **Sales:**
    - Small (39)
    - Large (24)
  - **NAFTA Effect:**
    - Unfavorable (19)
    - Favorable (16)
  - **Foreign Sales:**
    - Small (47)
    - Large (23)
  - **Internet Effect:**
    - Unfavorable (19)
    - Favorable (42)
  - **Age of Business:**
    - New (15)
    - Older (57)

*For more information*

The entire study, with detailed tables and a complete analysis, is available online at www.ibrc.indiana.edu/ibr.

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**Endnotes**

1. Internal Revenue Service 2001 and 2002; Indiana MapStats 2003; calculations by authors.
In March 2004, federal approval of the I-69 corridor connecting Evansville and Indianapolis made the new interstate a soon-to-be reality for the 1.3 million people living in the nine counties the corridor runs through; that is, if one’s definition of soon encompasses the next eight to fourteen years.

The approved corridor is to improve access to communities and businesses throughout southwest Indiana by linking Daviess, Gibson, Greene, Johnson, Marion, Monroe, Morgan, Pike, and Warrick counties (see Figure 1). I-69 would also be particularly important to the Crane Naval Surface Warfare Center in neighboring Martin County.

Of the nine counties in the I-69 corridor, three counties have average weekly wages that exceed Indiana’s (Gibson, Marion, and Pike), but the overall regional weekly wage of $586 is just 94.1 percent of the state average (see Table 1). At $441 a week, those in Daviess County earned the least, receiving just 70.8 percent of the state average.

When looking at median household income from Census 2000, it was Monroe County that came in at the bottom at $33,311, likely due to the Indiana University (IU) student population. Greene, Daviess, and Pike counties also had median incomes below $35,000. Six of the nine counties had median household incomes below the state median of $41,567.

Educational attainment varies from Daviess County, where nearly 30 percent of the population over age twenty-five has not completed high school, to Monroe County, where 39.6 percent have a bachelor’s degree or higher (once again, because of the presence of IU).

During the next phase of the I-69 project, final alignment will determine the exact route within the two-thousand foot buffer zone. The 142-mile corridor will be broken into six sections, and local officials and residents along the route will help plan and design the highway that works best for their respective communities.

The Indiana Department of Transportation estimates I-69 will cost $1.78 billion to build, with 80 percent of that paid with federal funds and 20 percent paid with state gas tax revenues.

### Table 1

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Inside This Issue...

• Letting It Ride on Indiana’s Technology Belt
  “The I-69 technology belt in northeast Indiana facilitates intercommunity collaboration and is beginning to create a counterbalance to the dominant Indianapolis metro area.”

• Exodus to Suburbia Continues, but a Little Slower
  “The five fastest-growing counties in Indiana surround Indianapolis, but all five have experienced a slight drop-off in percent growth.”

• The Mind of the Indiana CEO: Views on Emerging Business Issues
  “Overall, Indiana executives surmise that the business environment is already complex and the emerging trends of greater complexity are already ‘business as usual’ for them.”

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