Research Note

The State of Hoosier Manufacturing

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Indiana, a manufacturing based rust-belt state, cannot afford to sit by and assume that jobs will come to the state or that the jobs currently here will stay. Lawmakers and organizations around the state must take a proactive stance in order to preserve and enhance the manufacturing sector's contributions to the Hoosier economy. The loss of production jobs has been economically devastating in the traditionally manufacturing areas of the country. The Midwest built its economies on manufacturing during the industry's heyday, and with the nationwide shift in jobs to the service and high-tech industries, the Midwest and the state of Indiana face the biggest challenges in attempting to reshape their economies and retrain their workforces to better handle the realities of the global marketplace.

MANUFACTURING ECONOMIES IN THE MIDWEST

Indiana, Ohio, and Pennsylvania are three states that have been hit hard by job losses associated with plant closings and layoffs during the past generation. Although 7.2 million jobs were created in the United States between January 2000 and January 2008, an increase of approximately 5.5 percent, these three states have not benefited from the economic expansion. During this period, Pennsylvania, Indiana, and Ohio lost a net 37,300 jobs, gaining service sector jobs but losing a total of 609,200 manufacturing jobs (Wallison, 2008).

America saw over 3 million manufacturing jobs disappear between 1995 and 2005, and 37.5 percent of that job loss was concentrated in seven Northern states: Illinois, Indiana, Michigan, New York, Ohio, Pennsylvania, and Wisconsin. During that timeframe, 24 out of 25 of the largest cities in the Great Lakes region lost manufacturing jobs (Wial & Friedhoff, 2006). The layoffs and plant closings have devastated entire economies in some towns and have taken a heavy toll on many working families, some of which made their living from the same manufacturing company for generations.

The Rust Belt consists of Northern Midwestern and Northeastern states, generally from Indiana to Pennsylvania. The economies of these states traditionally have relied heavily on manufacturing and industrial segments, including steel production. The financial health of these states has coincided with the strength of these sectors. For the past generation, the downfall of U.S. manufacturing has been specifically intertwined with the job loss attributed to plant closings and their effects on the communities within these states.

Between 2000 and 2003, 98,500 manufacturing jobs vanished in Indiana, according to the U.S. Bureau of Labor Statistics (McCurry, 2004). The issue was brought forth as a talking point by both Democratic presidential candidates in the 2008 Indiana primary, the first contested primary in the Hoosier state in a generation. Both candidates addressed NAFTA in a negative light in an effort to capitalize on the angst of the citizens which was brought about by the fear of more lost industrial jobs in the future. As Senators Clinton and Obama made their way through various parts of the state, the topic of manufacturing job losses as a result of flawed NAFTA provisions became common theme in their stump speeches. Similar language appeared when the candidates visited other so-called rust belt states – namely Pennsylvania and Ohio – earlier in the primary season. The trade pact was not used as a wedge issue in stump speeches in other states during this time frame, but the sensitivity of job losses in manufacturing-based sectors in Indiana appeared to be a hot button issue that gained traction.

In stump speeches given throughout the rust belt states, both Senator Clinton and Senator Obama named the North American Free Trade Agreement (NAFTA) as the culprit behind job losses that occurred when companies outsourced factory jobs to Mexico. Even though NAFTA was passed during a Democratic administration, the concept of free trade was highlighted in a negative fashion, with all the candidates except Bill Richardson claiming that they would renegotiate the provisions of the free trade deal. The candidates attempted to tap into the electorate's angst and fear that more jobs would be shipped overseas. As previously stated, Ohio, Pennsylvania, and Indiana saw heavy job losses from 2000 to 2008. These three states contain 371 pledged delegates – nearly 10 percent of all delegates – and the presidential candidates focused on plant closings and subsequent job loss due to the importance and sensitivity of the issue in those key battleground states (Wallison, 2008).

While there has been some anti-globalization sentiment in Indiana, many Hoosiers aren't aware of the importance of international influence to the state's economy. Gubernatorial candidate Jill Long-Thompson also attempted to capitalize on this feeling. In a commercial launched during the 2008 gubernatorial election, she made specific mention of the state outsourcing some Indiana government jobs to other states and countries and how she would keep jobs in the state.

An unfortunate example of the angst that the politicians were attempting to tap into occurred in November 2008 when Coupled Products LLC announced that it was slashing jobs at its Columbia City, IN, plant and would shift these jobs to a factory in Mexico. ("Area plant loses jobs to Mexico," 2008) The auto parts maker assembled brakes and power steering among other automobile components. Although the Indiana Department of Workforce Development indicated that the employees would be eligible for job training, the sting of these sorts of job losses has been indicative of those who are against NAFTA.

Manufacturing has become a hot-button topic in the presidential election because many rust-belt states are also considered swing states, even traditionally Republican-leaning Indiana. During a 24 month time frame, 200,000 total factory jobs disappeared from Indiana, Michigan, Ohio, and Pennsylvania. Senator McCain did not address the issue nearly as much as Senator Clinton and Senator Obama did during their visits to rust-belt states, and his strategy was not to focus tax breaks to manufacturers but, rather, across the board to all companies. According to a *Business Week* article, McCain said in a June 10 speech: "Serious reform is needed to help American companies compete in international markets" (Mandel, 2008). His program included a reduction in the corporate income tax and allowing companies to write off their investments in equipment faster. "U.S. manufacturing just needs what every other sector needs – an improved environment for doing business," says Daniel T. Griswold, a trade expert at the conservative Cato Institute. Obama proposed a more active approach to helping manufacturing during his general election run. In a June 16, 2008, speech in Michigan, he advocated "a competitiveness agenda built upon education and energy, innovation and infrastructure, fair trade and reform" (Mandel, 2008). Another manufacturing-related idea that found its way into the 2008 presidential campaign was funding the development of "green" technologies as a way to create jobs. Perhaps due to the economic crisis, the campaign focused more on manufacturing policies than past elections.

MANUFACTURING IN THE HOOSIER ECONOMY

The loss of manufacturing industries has been detrimental to the economies of mid-size Hoosier towns, such as Kokomo, Terre Haute and Gary. Unemployment rates in these areas are much higher than the state averages as brain-drains have shifted many in the workforce to hotbeds of service-sector employment where more opportunity exists such as in Indianapolis or Chicago. Indiana is the number one manufacturing state in terms of employment and in terms of the number of plants (*Manufacturers' News*, August 2006), but Indiana's midsize towns have the most at stake when it comes to winning and losing because manufacturing is a hefty chunk of those economies. A December 8, 2008, article in *Forbes* included Kokomo as one of their 10 fastest-dying cities in the US due to their economy's reliance on manufacturing (Woolsey, 2008).

The relatively low dollar has given additional hope that foreign industry will construct assembly operations in the U.S. and in Indiana. One type of policy consideration arose from a Brookings Institution report, indicating that "government support for the growth of regional 'clusters' of companies in the same industry, in which Washington would provide grants to help existing companies collaborate on new products and technologies so that they could better compete globally. In addition, money would be spent on improving infrastructure and providing training for workers" (*Right Business Environment at a Glance*, 2008).

The shift in manufacturing in Indiana as a percentage of total workforce has been dramatic in only a generation. Manufacturing employment in Indiana peaked at 19.4 million in 1979 **(**Altmann & Dufrene, 2007). Thirty-one percent of all Hoosier jobs were in manufacturing in 1981; this number shrank to 25 percent by 1990. In 1997, jobs in the service sector overtook manufacturing employment for the first time in Indiana. In addition, approximately 40,000 high-paying industrial jobs have vanished since 2003 (Evanoff & Russell, 2008).

Manufacturing jobs shrank to 14.2 million workers as of December 2006, just 19 percent of all Hoosier jobs but still much higher than the national average. **(**Altmann & Dufrene, 2007) Even though decreases in the industrial sector have kept the state from being extremely prosperous, new manufacturing jobs make the sector extremely important as a driving economic force, especially when compared to other states with other styles of economies.

The number of American manufacturing jobs that are outsourced or transferred can be attributed in some part to favorable labor conditions in less developed economies. This was the case in 1991 which eerily predicted an increasing trend, one that was soon exacerbated by the passage of NAFTA. An unexpected transfer of manufacturing jobs from Elkhart, IN, to Puerto Rico in 1991 provided an early snapshot the downfall of traditional industrialized blue-collar labor.

Whitehall Laboratories, apparently given heavy tax breaks, decided to transfer locations and lay off 800 workers, instantly raising the Elkhart unemployment rate from 6.2 to 7 percent. The average tenure of its former work force was 20 years (Kelly, 1992). The state of Indiana was once a bastion for manufacturing, but as the economic realities of the global marketplace started to take shape the realities of the Ricardian Model mean that the U.S. (and the Midwest in particular) started losing jobs in the manufacturing sector.

Aside from foreign competition and outsourcing, the loss of some manufacturing jobs (as opposed to job loss as a result of another form of displacement-factory shutdowns) can be attributed to improved assembly efficiencies and upgraded automation in factories. Increased worker productivity sounds like a good thing. However, this might be a cause of factory layoffs, at the same time. Michael Hicks (2007) noted that the fundamental cause of manufacturing job loss was simply due to increased worker productivity. “Since the late '70s the U.S. population has been rising by about 1.1 percent per year, but the value of manufactured goods produced by each worker has been rising by 4 percent per year. The higher demand for goods (due to higher population) is heavily outpaced by the productivity growth of manufacturing workers. With 4 percent productivity growth per year, it takes only 18 years for a manufacturing worker to double the value of the goods he or she produces (in inflation-adjusted dollars). If you add the overall population growth rate--as a good measure of growing demand--then factories can cut their labor force by 50 percent every 22 years. That's just about what has happened in Indiana over the past generation. The real question about manufacturing jobs isn't why so many have disappeared, but why so many still remain?”

Worker productivity has been higher in the manufacturing sector than other sectors of the economy and manufacturing productivity increased by 38 percent between 1997 and 2004, versus 24.4 percent growth in productivity for all business. This leads us to believe that while the entire economy benefits when worker productivity rises, those who lose their job as a result of the need for less overall workers will be the ones who have the most at stake. Re-training and educating displaced workers becomes essential if they want to remain viable in the industry.

A PROACTIVE LOOK AT RETAINING AND ATTRACTING NEW INDUSTRY JOBS

"Manufacturing is the best-paying industry in Indiana, but the state really doesn't have anything else taking its place that pays as well while the manufacturing jobs are being lost," said economist Sean Maher, who tracks Indiana for financial adviser Moody's Economy.com of West Chester, PA (Evanoff & Russell, 2008) .

It was sometime around the mid-1990s when lawmakers in Indiana woke up and realized that they needed to proactively take actions to not only keep present manufacturing jobs in the state but also to position the state to be attractive to international manufacturing. The state reeled in a big catch in 1996 when Toyota selected Indiana over Kentucky, Michigan, and Ohio in a review process. That 1996 big catch was the first major foreign manufacturing jackpot in the modern global business environment for Indiana. Toyota weighed many options in the selection process and ultimately found that the best possible conditions presented themselves in Indiana over other competing states in the running. The factory site was located about 20 miles north of Evansville. An array of factors came into play, including the $72 million incentive package by the state which includes $2.8 million in worker training and $12 million for highway and infrastructure improvements leading to the site. Other comparative advantages probably included the location to two nearby railroads (CSX Transportation and Norfolk Southern and two utilities (PSI Energy and Southern Indiana Gas and Electric Co.). The fact that the location was not near hotbeds of union membership surely was an additional decision maker. In any case, the composite array of factors that allowed Toyota to pick Southern Indiana for this manufacturing factory provided a template for future Hoosier communities could model. (See Appendix A)

Several years later, an ill-fated milestone in Indiana’s decline in traditional manufacturing employment occurred in 2000, as Bethlehem Steel Corp, once the second largest steel producer in the United States, announced that its Burns Harbor, IN, mill would be shut down, laying off 100 workers. In its hay day, the company symbolized the overall economic power and might of U.S. manufacturing, and the Burns Harbor plant, its biggest, was constructed in the early 1960s. According to *Recycling Today*, Bethlehem Steel informed the union at that time of its intent to permanently close the slab mill. A Worker Adjustment and Retraining Notification (WARN) Act notice was also issued to comply with federal law requiring advance notification of no less than 60 days in advance of the closing. (“Bethlehem Steel Closing Indiana Plant,” 2000) It was no coincidence that the closing of the mill took a heavy toll on its heavy union-workforce. The entire steel industry in the US has been hurt due to the realities of the modern world, where industries in which collective bargaining has forced wages and benefits to be extremely high and has negatively affected organizational profits. Consequently executives have made the difficult decision to move to regions of the world where unions don’t exist.

Politicians in Indiana have been slow to take the lead in addressing manufacturing job loss. Governor Joe Kernan took steps to increase the visibility of the Hoosier manufacturing business climate during his brief tenure as governor and helped bring the issue to the forefront during the 2004 gubernatorial election. One issue Kernan championed was tax restructuring that helps manufacturers better compete internationally. "Indiana is somewhat unique in that we have international trade offices in 14 countries," Kernan said. "Pennsylvania is the only other state with as many, and we're partners with them in a couple. We're looking for opportunities for reverse investment from overseas as well as helping Indiana companies export their products. Indiana has jumped to 10th in the country in export activity and we are on track to sell more than $16 billion this year, a record" (McCurry, 2004).

Around this time, in 2004, Jim Wheeler, executive director of Techpoint, an association of Indiana's high-tech companies said, "Over the last two years, the state has made more progress than it had in the previous eight or 10 years in terms of making the state more business-friendly," as he cited $75 million allocated for the 21st Century Research and Technology Fund (McCurry, 2004). Wheeler also indicated his stance that the strategy of the state should focus on specific areas of manufacturing that have the greatest growth potential, such as Zimmer, Inc., which is the international leader of artificial joints, and Cook Biotech, which completed an expansion of their tissue-engineering facility at Purdue's Research Park in 2004. Cook's facility includes a new clean-room manufacturing space, where the company transforms an area of pig intestine into strong pliable sheets that work as a scaffold to facilitate the growth of new tissue. The mayor of West Lafayette, Jan Mills, praised Cook's expansion, which was estimate to create 200 new jobs. "The city of West Lafayette is pleased to be able to provide the tax incentives and quality of life amenities that encourage companies like Cook Biotech to remain and expand in our community," Mills said (Phipps, 2004). Strategic enhancement of those manufacturing sectors which can be lucrative and can flourish in the 21st century should be the goal of the state's lawmakers, colleges and economic organizations.

Another Purdue-related manufacturing initiative that has found statewide success is a collaborative organization, the Advanced Manufacturing Institute (AMI). Senator Evan Bayh secured $3 million in federal dollars for the construction of the facility in 2003. AMI's mission is to discover new ways that Indiana manufacturers can increase efficiencies in production and decrease costs. New technologies in enhancing manufacturing will be explored, and one goal of the initiative is to increase the presence of Indiana manufacturing into the global marketplace. AMI will work with the University in researching new ways to help organizations make products more resourcefully (Bayh, 2004).

"The Advanced Manufacturing Institute will help attract expert researchers to our state and create a new hub where Hoosiers can work to enhance our national security and improve manufacturing," Senator Bayh stated at the time the monetary gift was awarded. "During a time when manufacturing jobs are declining, the creation of these facilities will help spur the discovery of innovative ways to produce new goods and ensure the development of new job opportunities for future generations of Hoosier workers" (Bayh, 2004).

Partnerships of this sort, where synergies can be created, have had the best results and are on the rise. At the time of the AMI announcement, Purdue president Martin Jischke said "We've developed a business plan in response to encouragement from our friends in the private sector … Manufacturing, at 20 percent, is the state's largest sector. We want to keep and grow what we have. The Institute will focus on advanced processes and help create products. It could be a strategically important asset to our state" (McCurry, 2004).

Of course, to be complacent and simply do nothing is not an option anymore. The world is changing at a rapid rate and to assume that the status quo will keep organizations happy is not the case. A proactive approach is absolutely necessary in order to stem the tide and not only keep as many current operations in the state as possible. Partnerships and alliances in the state and between various state associations and global groups are necessary, as exemplified in the successful alliance between Purdue University and the state.

Some states have been more proactive and innovative in their attempts to create a pleasant business climate for manufacturing industry than others. Historically, those states that most efficiently dedicate their capital, resources, and leaders to creating synergies in forming a positive business climate for multinational manufacturing tend to have the best outcomes in that sector. On the other hand, a state that does not appreciate the challenges that come with a proactive approach get bypassed.

There has been an increased emphasis on comparing and contrasting a manufacturing work environment in one state versus another as competition to retain jobs and lure additional jobs becomes fiercer. According to the National Manufacturing and Logistics Report Card from Ball State, Indiana, based on its most recent efforts to attract factory jobs, received an A, with a total rank of sixth out of 50 states. On the other hand, Kentucky, Indiana's neighbor to the south, received an F and ranked 45th (*Inside Indiana Business*, 2008). Although Indiana has seen dramatic manufacturing job losses in the past generation, it does seem to be faring better than other Midwestern rust belt states in stemming the losses, while at the same time doing its part to add new job-generating production facilities in order to offset the factory shutdowns.

Michael Hicks of the Bureau of Business Research at Ball State has spearheaded the report, which was sponsored by Conexus Indiana, a new initiative created to capitalize on emerging opportunities in advanced manufacturing, aligning resources and expertise to make Indiana a leader in these industries. Hicks indicated that Indiana is faring better than other states in making the area attractive to foreign manufacturing, partly due to the state's proximity to inland waterways (Ohio River and Lake Michigan) and its access to railways and highways. He went on to add, "Indiana is one of the best places for manufacturing in the nation. In recent years, state leadership has developed policies to attract and retain these industries. Our neighboring states have not been able to keep up with us in this regard." Hicks said Indiana is the nation's most manufacturing intensive state with about a third of goods and services produced from that sector (Hicks, 2007). Indiana must leverage its current advantages and develop new benefits such as workforce training if it wants to compete with other states in the hyper-competitive US economy.

Another compare and contrast report is put out by *Site Selection* magazine, which lists the best areas for expansion planning and potential plant locations, compiled based on research and surveys of real-estate moguls. According to the *Indianapolis Star*, the magazine delivers the results of the information to 44,000 executives of fast-growing firms. Based on results included in its November 2008 issue, North Carolina ranked first, followed by Tennessee, Alabama and Texas. Indiana jumped from jumped from 11th place in 2007 to fifth place in 2008 (Spalding, 2008c). Report cards such as these are utilized not only by U.S. companies but increasingly by foreign firms as additional methodologies to weigh possible alternate destinations in which to operate.

As of late 2008, the business climate seems to be on the upswing in Indiana. According to a report from the *Indianapolis Star*, "U.S. Investment Monitor, a report on corporate investment for 2006 by the consulting firm Ernst & Young, ranked Indiana fifth among all states and best in the Midwest for securing job pledges from companies that also considered other states. Indiana ranked second in the nation in new capital investments." The same article also noted that "when Standard & Poor's upgraded the state's credit rating in 2006 to AA, the agency cited the burgeoning life science sector as a stable factor in the state economy. This year S&P assigned Indiana the top AAA rating. It's the first time Indiana has achieved the highest credit score, and it didn't hurt that the state had a balanced budget and more than $3 billion in the bank from the road lease deal" (Evanoff & Russell, 2008).

HOOSIER MANUFACTURING COLLABORATORS AND PARTNERS

One organization that serves to create synergies between comparative advantages within the state and potential suitors is the Indiana Department of Workforce Development (IDWD), which aids companies in creating new jobs, offers a variety of training and educational grants, partners with Indiana's 26 WorkOne Centers, administers the unemployment insurance system, provides labor market information, assists employers with preparing workers for layoffs and closures, and operates a statewide job placement service (DiLaura, 2006). The IDWD is an important liaison between displaced industry workers and retraining for similar, more in-demand craftsmen of the future economy. The department also tracks and predicts job growth for various jobs through 2014. An assessment of this information can provide a guide to the workforce training that would most appropriately match the needed jobs in a region. For instance, the IDWD indicated that for the counties in west central Indiana (Clay, Parke, Putnam, Sullivan, Vermillion, and Vigo Counties), industrial machinery mechanic jobs will have a growth percentage of 16.6 percent with an average wage in that area of $42,030 ("Manufacturing training grant for Southeast Indiana," 2007). Appropriate training in this field would be an efficient dedication of resources to educate workers in this region for the future increased demand for industrial machinery mechanic employment.

Without a doubt, a key ingredient to attracting foreign investment has been through workforce education and through retraining efforts directed towards in-demand sectors, spearheaded by regional campuses and technical colleges. The northeast region of Indiana's WorkOne program assists in training workers in high-tech manufacturing areas, in the wake of 230 layoffs plant layoffs in Noble County. According to WorkOne Northeast, a $1 million grant is on the way, providing advanced manufacturing training, including medical-device production. Additionally, Ivy Tech in northeast Indiana is working with WorkOne to teach additional skill sets to workers (Gingery, 2008). Ivy Tech has stepped up to be a versatile partner with various statewide entities in efforts to develop educational programs that build a workforce which can meet demands of the 21st century economy. In November 2008, Ivy Tech representatives met with the Department of Workforce Development, the Indiana Chamber of Commerce, and former Economic Advisor to President George W. Bush, Allan Hubbard, to discuss levels of education as they related to the local workforce (Dick, 2008). It is important that training and development coincide with predicted jobs of the future, and Ivy Tech Community College, as an important statewide collaborator for students with traditionally blue-collar backgrounds, stands to play a key role in the Indiana economic initiatives of the future.

According to Joe Loughrey, vice chairman of Cummins Inc. and chair of the Conexus Indiana manufacturing and logistics initiative, education and workforce training in strategic areas will help bring economic success to the state. "Indiana and its communities must do a better job of aligning the education they provide with the real opportunities Indiana has to compete for the manufacturing jobs of the future. That's why our Conexus Indiana manufacturing and logistics initiative is launching a new program called 'Dream It. Do It' in several areas of the state to encourage young people to pursue promising careers in these fields." He added, "In short, manufacturing isn't part of Indiana's economic past, the subject of nostalgia for a bygone era. It's a vital part of our high-tech future, a critical piece of the puzzle in closing the earnings gap between Hoosier workers and the average American" (Loughrey, 2008).

Serving as an integral liaison between the federal government and foreign governments, as well as between private enterprises, has been The Indiana Economic Development Corporation (IEDC). Established in 2005 as a group to facilitate new job creation in the state, many international companies go over specifics of possible partnerships with the IEDC in the selection process. More importantly, the organization offers tax incentives for companies looking to expand or locate in Indiana. The organization was created by Governor Mitch Daniels and replaced the Indiana Department of Commerce. In efforts to boost the average wages per job, in which the state falls below the national average, the IEDC targets companies for tax breaks that are able to offer wages above the national average in an effort to close the wage gap. According to the group's website, since the creation of the IEDC, the state has posted three consecutive years of record-breaking commitments for new jobs. The IEDC is an example of how a dedicated organization – one that serves as a partner with the state – can facilitate manufacturing growth and provide jobs and opportunities for its citizens.

In its short time in existence, the IEDC has pledged over $700 million in incentives for 610 deals and 75,761 promised jobs averaging about $3 an hour more than the average wage in the state. According to the *Indianapolis Star*, that is approximately double the number of jobs created in the last years of the previous, Democratic administration led by Joe Kernan and earlier by Frank O'Bannon. The Kernan-O'Bannon years were marked by the 2001 recession, which dragged down job creation (Evanoff & Russell, 2008).

Another new statewide program implemented to enhance and promote plants and factories that rely on technology is called "Indiana's Advanced Manufacturing Initiative." According to the IEDC (http://www.in.gov/iedc), "The mission of the Indiana's Advanced Manufacturing Initiative is to support the statewide economic development goals of growing and retaining businesses in Indiana, and to attract new businesses to the state by developing world-class manufacturing resources through: creating awareness of Indiana's advanced manufacturing resources, facilitating access to public resources, and reporting progress and updates.

INDUSTRY SUCCESS STORIES IN INDIANA

The work done to find companies who pledge their capital to Indiana can also lead to expansions of existing factories, essentially providing new jobs at faster rates since the lag due to construction of new facilities can by bypassed. This has been the case as the state has worked with and provided a good business climate for Subaru of Indiana to make the pledge to grow. Fuji Heavy Industries Ltd.'s Subaru and Honda were the only two automakers to see U.S. sales increases in the first three quarters of 2008 ("Honda Production Underway," 2008). In 2006, it was announced that the Lafayette, IN, based Subaru plant would receive a $230 million expansion and add 1,000 jobs to assemble Camrys. The IEDC provided incentives including $500,000 in infrastructure upgrades to the area and $1.25 million in training grants. ("Rolls Royce Announces …," 2006) This announcement marked the largest single job creating initiative in the Lafayette area in 20 years ("WorkKeys Plays Major Role …," 2007).

Rolls-Royce, the English carmaker and subsidiary of German company BMW, also has a big presence in the state. Rolls-Royce acquired the Indianapolis-based Allison Engine Company in 1995. In 2006, the company expanded and added 600 new jobs to their 4,000 person workforce. The IEDC offered $17 million forgivable loan in exchange for Rolls-Royce's pledge to invest $145 million in capital, as well as a 10-year tax abatement totaling $11 million ("Rolls Royce Announces …," 2006).

The international auto industry also plays a significant role in southern Indiana. In the fall of 2007, Toyota announced that a supply-chain vendor was adding 200 additional jobs at its Princeton, IN, plant where it assembles seat frames. Toyota Boshoku Corporation, which will started production in 2009, was given $1.8 million in tax credits and $200,000 in training grants by the state, including $400,000 in nearby infrastructure upgrades. The agreement was finalized during Governor Daniels' trade mission a month beforehand. In a statement released at the time of the announcement, the company's chairman and chief executive said, "Toyota Boshoku America is a growing company and we know that Southern Indiana has an experienced and dedicated workforce. We look forward to increasing our activities in Southern Indiana" ("Toyota Supplier to Build Plant in Princeton," 2007).

Indiana hit the jackpot when it landed the Honda automobile plant in Greensburg, beating out several neighboring states in the selection process. State lawmakers put forth a $140 million package of tax incentives and touted the relatively cheap land nearby, but the biggest incentive might have come from the residents themselves. Citizens in the area were encouraged to mail personal letters to appeal Honda to locate there and 200 residents banded together and wore matching t-shirts while forming the shape of the Honda insignia where a picture was snapped from an aerial view and sent to the company. When all options were evaluated, the executives at Honda believed that the Greensburg community was the best overall fit for its assembly operations. Basic wages start at $15 per hour and the company plans to hire 2,000 production workers. The location of the facility was right off of I-74, and the Japanese carmaker paid landowners in the rural area for the acres needed to build the plant.

The net effects of Indiana automakers cannot be underestimated. Vendors and supply chain partners for Indiana automakers tend to provide the best efficiencies when they are located near the Honda and Toyota plants. Japanese multinational Aisin Brake and Chassis is a Terre Haute, IN manufacturer, and the company doubled its production space recently due to increases in demand. By the end of 2007, the company employed 504 local workers (ABI, 2008).

Honda's choice to locate its factory in Greensburg, IN, was a huge economic success story for the state. The decision-making process was a tough one, but the deal was sealed by Governor Daniels in the months leading up to final evaluation. About a month before the gubernatorial race ended, Honda assembled its first Civic automobile at its Greensburg factory. The plant currently employs 900 workers and that number will grow to 2,000 as demand for the fuel-efficient 4-door car has been strong. "The first Civic built in Greensburg becomes a landmark vehicle in Indiana's proud automotive history," Daniels said in an e-mail distributed by his office. "Thousands of great jobs and a new surge of opportunity throughout southeast Indiana begin today" (Spalding, 2008b).

More than 220 Japanese companies have invested more than $8.7 billion in Indiana. Those companies employ more than 42,000 Hoosiers. Since 2005, the IEDC has completed 28 competitive projects with Japanese businesses, making Indiana the top state in jobs and investment captured ("Toyota Supplier to Build Plant in Princeton," 2007).

According to OCO Consulting, Indiana will gain nearly 5,000 jobs created by foreign investment in expansions of existing establishments and Greenfield investments, comparable to the announcements in 2007 of 5,397 new jobs due to upcoming FDI. Most of that new employment will be in the automobile manufacturing industry (about 36 percent). By way of contrast, the share of new jobs in automobile and auto-component manufacturing for the United States was 15 percent (Slaper, 2008). The streak of automobile assembly plants and car parts factories committing to Indiana or expanding in Indiana can be leveraged to its fullest extent if the state can position itself as an efficient area for foreign carmakers to set up operations without the burden of union demands. Commitments from Honda and Toyota and car parts assemblies have allowed Indiana to remain a top exporting state as well as achieve an impressive rate of growth.

According to *Manufacturers' News Inc.*, the southeastern part of the state saw an increase in manufacturing employment in 2008. Although the state of Indiana lost 2.2 percent of its total manufacturing jobs from March 2007 to March 2008 (15,000 total jobs). Indiana, however, did fare better than other rust belt states. In a similar time period, Michigan lost 5 percent of manufacturing jobs, Ohio lost 3.1 percent, Kentucky lost 2.3 percent, and Illinois lost 1.5 percent (MNI, 2008). Although the national trends do not appear to be on the upswing, much work can be done to offset any job loss, especially when replacing low-wage, low-skilled jobs with high-skilled advanced manufacturing jobs.

In the current global marketplace, it is important for Hoosiers to realize that many of the manufacturing jobs in Indiana come from foreign companies who have made a commitment to invest in the state. The relationships with these companies need to be strengthened not only to keep current jobs, but also to send the signal to other foreign manufacturers that the state of Indiana provides a friendly business climate for potential international entrants. Statistics released by *InContext*, an organization of the Indiana Business Research Center at Indiana University's Kelley School of Business, indicate that 92,000 Hoosier manufacturing jobs in 2005 were attributed to (majority-owned) international corporations. In fact, manufacturing jobs represent two-thirds of majority-owned U.S. affiliate employment, the third greatest share in the nation. More statistics compiled by *InContext* are below:

- Parent companies from Europe account for 65.4 percent of Indiana's majority-owned U.S. affiliate employment, followed by Asia/Pacific countries (24.4 percent) and Canada (6.0 percent).
- The United Kingdom is the number one source of majority-owned U.S. affiliate employment (32,400 jobs). Japan contributes the second greatest number (32,000 jobs). Germany contributes 25,100 jobs.
- Indiana ranked eighth nationally for the gross value of property, plant and equipment of majority-owned U.S. affiliates in 2005.
- In 2005, the ratio of the gross value of property, plant and equipment of majority-owned U.S. affiliates to Indiana's gross state product was

0.145.[4] Kentucky had a higher ratio, but the ratio for Indiana was well above the national average and all other Midwestern states.

- Majority-owned U.S. affiliates employed 139,900 people in 2005, or 4.4 percent of all private industry employment in Indiana (Slaper, 2008).

INDUSTRY-RELATED GRANTS IN INDIANA

A recent development to offset lost factory jobs and better position Indiana for high-tech global manufacturing has been through grants, which have been awarded at an increased rate in the past few years. The ability to attract grants and educate the local workforce is another ingredient to attract foreign manufacturing when global companies look to set up operations somewhere. Indiana is already well-established in the manufacturing sector and could utilize any additional governmental subsidies designed to retrain and certify workers for advanced manufacturing in similar-types of industries that already exist in the state.

An Indiana manufacturing organization might be awarded a grant from the federal government. A look at a list of manufacturing Recipients for FY 2006 at Fedspending.org indicated that a total of 97 companies with "manufacturing" in their company name received federal funding totaling **$74,146,222. Of those companies, two were located in Indiana,** B & B Manufacturing, Inc., and C & K Manufacturing. In addition, Assistance for "11.611: Manufacturing Extension Partnership" (FY 2000-2007) awarded federal funding to **162 various organizations, totaling $629,939,315, which included** $8,452,202 to the Indiana Office of the Governor (OMB Watch, 2006). Although there were only two Indiana companies that were privileged to receive the money, the opportunity exists for those eligible in the future as a means to achieving growth.

In August 2007, IDWD, in an attempt to increase the southeast part of the state's training for manufacturing jobs, awarded a grant to the Region 9 workforce board under the "Tomorrow's Manufacturing Workforce" program. Part of the grant was utilized for a career advancement program for dislocated factory workers, in amounts of $1500 for retraining and education, including participating local institutions at the Purdue College of Technology, at the Columbus Area Career Connection, Southeast Career Center, and Ivy Tech campuses in Lawrenceburg, Columbus, Madison, and Batesville, a region that included 550 manufacturing businesses. Manufacturing is an especially important driver in the local economy, accounting for 28 percent of the area's total jobs. Along with retraining, local officials are hopeful that many citizens will additionally pursue a certification in MSSC to enhance their marketability in manufacturing. With the added training, the workforce envisions the required skill sets necessary to position itself for future production work. The MSSC is a national organization that focuses on the core knowledge and skills needed by production workers in the nation's advanced manufacturing sector, and attainment of the industry credential demonstrates that workers have mastered the skills needed in the high-growth, technical jobs of the 21st century ("Manufacturing Training Grant for Southeast Indiana," 2007). The tough-minded, hard-hat wearing earners of the future that decide to pursue this degree not only will allow themselves to be more marketable for the manufacturing jobs of the future, but they will also help to market their communities to commitments of future capital and job creation.

In August 2008, Governor Daniels made $3 million in training grants available to employees who lost jobs due to plant layoffs or closings in the recreational vehicle industries. The governor told the IDWD to seek a federal emergency grant for more training assistance for displaced workers in the RV industry (Tharp, 2008). Also in August 2008, it was announced that north central Indiana will receive a grant from the state of Indiana for $346,202 to help create jobs in the region's advanced manufacturing industries, in addition to $221,674 given to the area last year. This grant stems from the Strategic Skills Initiative, developed to address Indiana's critical job shortages and to increase opportunities and wages for Hoosier workers and then filter funding to those local organizations to implement solutions to those scarcities ("Manufacturing Training Grant for Southeast Indiana," 2007). The grant will be used to create a 160-hour advanced manufacturing training course entitled Skill Map, a program aimed at manufacturing companies with employment opportunities which works in conjunction with Ivy Tech campus in Kokomo. Ivy Tech hopes to certify and ultimately place 200 workers into jobs after they gain certification through MSSC. The grant is an offspring of the three year, $15-million Workforce Innovation in Regional Economic Development (WIRED) grant awarded to the Indiana Dept of Workforce Development by the US Department of Labor, targeted at advanced manufacturing employment (DiLaura, 2006).

These grants to assist displaced production workers are quite welcomed in the communities most affected by the job losses. In September 2008, it was announced that the state of Indiana will receive $10.4 million in a federal grant that gives workers up to $6,000 if they pursue a certification or associate's degree in a high-demand, high-wage occupation. This news came in response to RV manufacturing layoffs of 2,400 Hoosier employees (Spalding, 2008a).

Additionally in September 2008, The U.S. Department of Labor announced a $10,395,000 grant to assist approximately 900 Indiana workers affected by mass layoffs and permanent closures in the recreational vehicle industry. "Governor Daniels and I have been in close contact on this nearly $10.4 million grant, which through his leadership will provide Indiana workers affected by the downturn in RV sales with re-employment services such as career counseling and skills training to help them find new jobs," said U.S. Secretary of Labor Elaine L. Chao ("U.S. Department of Labor, 2008). This grant includes sill assessments, occupational training, and career counseling as part of the secretary of Labor's National Emergency Grant discretionary fund and is distributed to IDWD.

Finally, it was announced that the Eastside Industrial Park in Kendallville, IN, was awarded an investment of nearly $1 million to upgrade and expand. The hope is for the park to be able to accommodate additional businesses and production. The anticipated impact and outcome of the investment is estimated to create 200 jobs and generate $54 million in private investment (Lugar, 2008).

All of the recent positive steps cannot hide the realities of Indiana's manufacturing economy. According to *A Weekly Report on Future Corporate Downsizings* by Mark Heschmeyer (2008), a publication reporting permanent job layoffs and upcoming plant closings, it appears that Indiana has a significant problem on its hands. Its data indicates that the increasing trends of plant closings are real and apparent. In September 2008, it was reported that: (1) GECOM Corp., North Vernon, is closing down and laying off 136 employees on September 28; (2) Sundowner Trailers, Elkhart, is closing down and laying off 80 employees on October 3; (3) Trelleborg Automotive, Peru, is closing down and laying off 180 employees October 8; (4) MasterBrand Cabinets Inc., Richmond, is laying off 275 employees on October 26; and (5) Parsons is closing down and started laying off 412 employees at the Newport Chemical Depot with the facility shutdown occurring in 2010.

CONCLUSION

The fragile U.S. economy is forcing many executives to make the decision to close their factories and set up operations elsewhere to take advantage of low-wages and better business environments. The state has held its own, but the process to keep current jobs and lure the global manufacturers of the 21st century is a hyper-competitive, fierce, continuous dogfight. The IEDC has posted many pieces of data and marketing information on their business climate. They are doing everything they can to put the Hoosier state in best possible position to attract foreign manufacturing in the global marketplace.

The combination of grants, a committed state, willing communities, good leadership, and bit of luck will continue to not only offset manufacturing loss and plant closings but also position the state as a leader in international advanced manufacturing business climate. Indiana needs to stay active in the hyper-competitive in the global marketplace and provide a willingness to partner and form alliances with foreign manufacturing if the state hopes to compete with other states and the rest of the world in having a strong modern economy. To do nothing is not an option.

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APPENDIX A. Indiana Carmakers

Company	Location	Model(s)	Number of Employees
AM General	Mishawaka	Humvee	1,000
AM General	Mishawaka	Hummer H2	600
GM	Fort Wayne	Chevrolet Silverado; GMC Sierra	2,900
Honda	Greensburg	Civic	2,080
Subaru	Lafayette	Legacy; Tribeca; Outback; Camry	2,600
Toyota	Princeton East	Sienna; Sequoia	3,300
Toyota	Princeton West	Tundra; Sequoia	1,300