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# The U.S. Automotive Industry: National and State Trends in Manufacturing Employment

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# The U.S. Automotive Industry: National and State Trends in Manufacturing Employment

## Abstract

[Excerpt] The U.S. motor vehicle manufacturing industry' employs 880,000 workers, or approximately 6.6% of the U.S. manufacturing workforce, including those who work in the large motor vehicle parts manufacturing sector, as well as those who assemble motor vehicles. Since the beginning of the decade, the nation's automotive manufacturing sector has eliminated more than 435,000 automotive manufacturing jobs (or an amount equal to about 3.3% of all manufacturing jobs in 2008). The employment level first dipped below one million in 2007 and fell to 880,000 workers last year. With the restructuring and bankruptcy of Chrysler and General Motors, and the ongoing recession in the auto sector, employment in the nation's automotive manufacturing industry will most likely shrink in 2009 and 2010 as additional assembly, powertrain, and auto parts plants close. This report provides an analysis of automotive manufacturing employment, with a focus on national and state trends. The 111th Congress continues to be heavily engaged in oversight and legislative proposals in response to the unprecedented crisis of the domestic motor vehicle manufacturing industry.

The Detroit-based automotive manufacturers (General Motors, Ford, and Chrysler) have suffered a series of setbacks in recent years with their share of the domestic market dropping from 64.5% in 2001 to 47.5% in 2008. As a consequence, the traditional auto states of Michigan, Indiana, and Ohio have been—and will continue to be—heavily impacted by the changes taking place in the automotive sector. Together, there are now 152,000 fewer automotive manufacturing jobs in these three states than there were five years ago.

Recent automotive sales and production data indicate the enormous changes taking place in today's motor vehicle manufacturing sector. For instance, automotive sales fell to 13.2 million units in 2008, down by 18% from 2007, and forecasts indicate U.S. consumers are expected to purchase fewer than 10 million cars and light trucks in 2009. There has also been a loss of market share by the Detroit 3 producers which has created gains for foreign-owned domestic manufacturers and imports. Some recent Detroit 3 automotive manufacturing employment losses are partially offset by new investments by foreign-owned manufacturers in the United States as they have open, or will open, new plants in states like Indiana, Georgia, and Tennessee.

Many Members of Congress, and especially those members from the traditional auto belt states of Michigan, Indiana, and Ohio, have expressed their concerns about lost jobs in the automotive manufacturing sector. With the sale of GM assets to the U.S. government and Chrysler assets to Fiat, two new companies have emerged that will be substantially smaller than the companies that went into bankruptcy. As a consequence, the total level of motor vehicle manufacturing employment will be reduced, especially in locales where facilities have closed. The most recent automotive manufacturing employment data indicate that 42% of all persons in the industry work in one of the three traditional auto belt states, each of which at present employs more than 100,000 persons in the industry. Michigan alone has accounted for 40% of the net job loss in the industry since 2003. Losses in Ohio and Indiana have been less severe, offset somewhat by foreign investment. Alabama, with fewer total automotive manufacturing employees, has been the big job gainer, adding over 12,000 auto manufacturing jobs since 2003. Texas, now the eighth largest state by automotive employment, gained 5,200 jobs between 2003 and 2008. Auto industry states in the South including Kentucky, South Carolina, and Tennessee have lost jobs in recent years, but far fewer than in the traditional auto belt states.

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**Keywords**

automotive industry, employment, production, General Motors, Ford, Chrysler, United Auto Workers, UAW, public policy

**Disciplines**

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# **The U.S. Automotive Industry: National and State Trends in Manufacturing Employment**

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## Summary

The U.S. motor vehicle manufacturing industry employs 880,000 workers, or approximately 6.6% of the U.S. manufacturing workforce, including those who work in the large motor vehicle parts manufacturing sector, as well as those who assemble motor vehicles. Since the beginning of the decade, the nation's automotive manufacturing sector has eliminated more than 435,000 automotive manufacturing jobs (or an amount equal to about 3.3% of all manufacturing jobs in 2008). The employment level first dipped below one million in 2007 and fell to 880,000 workers last year. With the restructuring and bankruptcy of Chrysler and General Motors, and the ongoing recession in the auto sector, employment in the nation's automotive manufacturing industry will most likely shrink in 2009 and 2010 as additional assembly, powertrain, and auto parts plants close. This report provides an analysis of automotive manufacturing employment, with a focus on national and state trends. The 111<sup>th</sup> Congress continues to be heavily engaged in oversight and legislative proposals in response to the unprecedented crisis of the domestic motor vehicle manufacturing industry.

The Detroit-based automotive manufacturers (General Motors, Ford, and Chrysler) have suffered a series of setbacks in recent years with their share of the domestic market dropping from 64.5% in 2001 to 47.5% in 2008. As a consequence, the traditional auto states of Michigan, Indiana, and Ohio have been—and will continue to be—heavily impacted by the changes taking place in the automotive sector. Together, there are now 152,000 fewer automotive manufacturing jobs in these three states than there were five years ago.

Recent automotive sales and production data indicate the enormous changes taking place in today's motor vehicle manufacturing sector. For instance, automotive sales fell to 13.2 million units in 2008, down by 18% from 2007, and forecasts indicate U.S. consumers are expected to purchase fewer than 10 million cars and light trucks in 2009. There has also been a loss of market share by the Detroit 3 producers which has created gains for foreign-owned domestic manufacturers and imports. Some recent Detroit 3 automotive manufacturing employment losses are partially offset by new investments by foreign-owned manufacturers in the United States as they have open, or will open, new plants in states like Indiana, Georgia, and Tennessee.

Many Members of Congress, and especially those members from the traditional auto belt states of Michigan, Indiana, and Ohio, have expressed their concerns about lost jobs in the automotive manufacturing sector. With the sale of GM assets to the U.S. government and Chrysler assets to Fiat, two new companies have emerged that will be substantially smaller than the companies that went into bankruptcy. As a consequence, the total level of motor vehicle manufacturing employment will be reduced, especially in locales where facilities have closed. The most recent automotive manufacturing employment data indicate that 42% of all persons in the industry work in one of the three traditional auto belt states, each of which at present employs more than 100,000 persons in the industry. Michigan alone has accounted for 40% of the net job loss in the industry since 2003. Losses in Ohio and Indiana have been less severe, offset somewhat by foreign investment. Alabama, with fewer total automotive manufacturing employees, has been the big job gainer, adding over 12,000 auto manufacturing jobs since 2003. Texas, now the eighth largest state by automotive employment, gained 5,200 jobs between 2003 and 2008. Auto industry states in the South including Kentucky, South Carolina, and Tennessee have lost jobs in recent years, but far fewer than in the traditional auto belt states.

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## Background: The Motor Vehicle Industry in Crisis

The global recession, credit crisis, and rapid decline in automotive vehicle sales in the latter half of 2008 and into 2009 accelerated the contraction of the U.S. and global motor vehicle industry. The “Detroit 3” (General Motors (GM), Ford, and Chrysler, LLC), in the midst of significant efforts to reorganize their domestic operations, were especially hard hit by gasoline prices that exceeded \$4.00/gallon (gal.) in July 2008 and led to a rapid shift by consumers to buy smaller, more fuel-efficient vehicles. Although gas prices fell during the fall of 2008, recession and frozen credit markets contributed to an 18% drop in car sales during 2008.

Car and light truck unit sales by the Detroit 3 fell to just 6.3 million in 2008, compared to 11 million in 2000, and almost 10 million as late as 2005. In 2008, U.S. car and truck sales both fell: car sales by 843,000 versus a two million unit decline in light truck sales. Truck sales were also more than three million units less than the all-time 2005 annual peak. While most foreign-owned manufacturers had also expanded their truck offerings (including SUVs and minivans) in the U.S. market, they have not been as dependent as the Detroit 3 on truck products. In 2008, each of the Detroit 3 still counted on light trucks for a majority of sales (55% for GM, higher levels for Ford and Chrysler), while no foreign-owned competitor did so. Only about a third of foreign-brand companies’ sales overall were classified as light trucks.<sup>1</sup>

In November and December 2008, automotive executives from Detroit came to Washington, DC to request federal assistance for the U.S. motor vehicle industry. Although Congress considered, but did not pass, legislation to provide the requested assistance to GM and Chrysler, the Bush Administration put in place a program in mid-December that was similar to the rejected congressional initiative. The Bush Administration deemed a failure of one or more of the Detroit 3 a risk it did not want to take, in light of the already precarious economy.

The Obama Administration has followed the general approach adopted by the Bush Administration, but by April 30, 2009, Chrysler had filed for reorganization under Chapter 11 of the Bankruptcy Code. General Motors, the iconic century-old symbol of American industry, followed Chrysler into bankruptcy on June 1, 2009.<sup>2</sup> Chrysler’s quick trip through bankruptcy ended on June 10, 2009, when Chrysler Group LLC was sold to Fiat S.p.A.<sup>3</sup> GM emerged from bankruptcy in early July 2009 to become the General Motors Company, with the U.S. government owning 60.8%, the governments of Canada and Ontario 11.7%, and the UAW, 17.5%.<sup>4</sup> All three parties have said that they intend to sell their shares in the company as rapidly as is feasible.

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<sup>1</sup> For a discussion on the domestic motor vehicle market, federal financial assistance, and restructuring efforts for the U.S. automotive industry see CRS Report R40003, *U.S. Motor Vehicle Industry: Federal Financial Assistance and Restructuring*, coordinated by Bill Canis.

<sup>2</sup> Two automakers have been formed as a result of bankruptcy: Chrysler Group LLC and General Motors Company. In addition, Old Chrysler and Old GM remain in bankruptcy and are now known as Old Carco LLC and Motors Liquidation Company, respectively.

<sup>3</sup> De la Merced, Michael and Micheline Maynard, “Fiat Deal with Chrysler Seals Swift 42-Day Overhaul,” *New York Times*, June 10, 2009, <http://www.nytimes.com/2009/06/11/business/global/11chrysler.htm>.

<sup>4</sup> Whoriskey, Peter, “GM Emerges from Bankruptcy After Landmark Government Bailout,” *Washington Post*, July 10, 2009, <http://www.washingtonpost.com/wp-dyn/content/article/2009/07/10/AR2009071001473.html>.



The crisis of the auto sector has also had serious consequences for many of the companies that supply parts to the original equipment manufacturers (OEMs, e.g. Ford, Toyota, etc.). Several OEMs halted their assembly lines or went to short work weeks during 2009 as supply far exceeded demand. Chrysler shut production down entirely after its bankruptcy filing, and, in early June, GM temporarily closed seven U.S. assembly plants and one Mexican plant. Chrysler restarted a number of its facilities in late June, and GM will reportedly bring plants back on line by mid-August 2009. While these plants will resume production, the financial damage to suppliers has been significant, with many workers laid off. At least 15 suppliers filed for bankruptcy in the first six months of 2009 and more large suppliers are at risk. Meanwhile, many smaller Tier 2 and Tier 3 suppliers are closing their doors for good.<sup>5</sup>

In response to the collapse in car and light truck sales, the 111<sup>th</sup> Congress passed, and President Obama signed, legislation in June 2009 that included the Consumer Assistance Recycle and Save Act of 2009, informally known as the “Cash-for-Clunkers” program<sup>6</sup> (similar to what Germany and other countries have adopted).<sup>7</sup> The Obama Administration also announced federal standards to increase fuel economy for automobiles and light trucks.<sup>8</sup>

The share of all U.S. manufacturing employment directly tied to manufacturing motor vehicles and parts in 2008 was 6.6%, or 880,000 workers.<sup>9</sup> In 2007, for the first time since 1990, automotive industry employment fell below the one million mark dropping to 993,000. More job losses in the automotive manufacturing sector are expected to occur in 2009 and beyond as the Detroit-based automakers continue to close or idle plants (see **Table 1**). The employment impact will extend beyond the automotive industry. There are many industries, including aluminum, iron, copper, plastics, rubber, and electronic and computer chips, whose output is sold in large measure to the automotive industry.<sup>10</sup> In 2008, 13% of the output of the U.S. steel industry was shipped to

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<sup>5</sup> Snyder, Jesse, “Low credit-risk scores, wary lenders suggest more failures are ahead,” *Automotive News*, August 3, 2009.

<sup>6</sup> The Cash for Clunkers program was enacted in June 2009 as part of the war supplemental spending bill P.L. 111-32.

<sup>7</sup> This program is aimed to encourage consumers to trade in older, less fuel-efficient automobiles to spur new car sales. For a discussion on “Cash for Clunkers” legislation see CRS Report R40654, *Accelerated Vehicle Retirement for Fuel Economy: “Cash for Clunkers,”* by Brent D. Yacobucci and Bill Canis.

<sup>8</sup> In May 2009, the Obama Administration announced it would establish a nationwide federal standard, as compared to the current patchwork system, that will require by 2016 the same level of emissions as adopted in California, which has the strictest standard in the nation. The federal standards would limit emissions by increasing fuel economy to an average of 35.5 miles per gallon (mpg) in 2016. New passenger cars sold in the U.S. will have to meet an average mileage requirement of 39 mpg. This would be up from today’s current average of 27.5 mpg. Light trucks would have to deliver an average of 30 mpg, compared with about 23 mpg today. The Environmental Protection Agency and the National Highway Traffic Safety Administration are expected to work together on the rules to raise fuel-economy standards. For more information on Corporate Average Fuel Economy (CAFE) standards see CRS Report R40166, *Automobile and Light Truck Fuel Economy: The CAFE Standards*, by Brent D. Yacobucci and Robert Bamberger.

<sup>9</sup> This ratio is based on preliminary annual data for 2008 reported by the U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW) program. It includes all employees at manufacturing establishments, and, for motor vehicles, all employees included in North American Industry Classification System (NAICS) categories 3361, 3362, and 3363 (these categories will be described later in this report). Unless otherwise defined, this categorization is the basis for statements in this report regarding motor vehicle manufacturing employment.

<sup>10</sup> McAlinden, Sean, Kim Hill, and Bernard Swiecki, “*Economic Contribution of the Automotive Industry to the U.S. Economy – An Update*,” Center for Automotive Research, A Study Prepared for the Alliance of Automobile Manufacturers, pp. 21-25, Fall 2003. <http://www.cargroup.org/pdfs/Alliance-Final.pdf>. (An updated version of this report is expected in the fall of 2009.)

the motor vehicle industry, which is the steel industry’s second-largest end market user.<sup>11</sup> The U.S. motor vehicle manufacturing industry also represents a significant share of the U.S. gross domestic product. Motor vehicle production comprised 2.3% of total output in 2008, down from 3.5% in 2003, according to data from the Bureau of Economic Analysis.<sup>12</sup>

**Table 1. Closures of U.S. Car and Truck Assembly Plants, 2007-2011**  
as of July 29, 2009

Date	Manufacturer	Location
May 2007	Ford	Wixom, Michigan
June 2007	Ford	Norfolk, Virginia
September 2008	General Motors	Doraville, Georgia
October 2008	Chrysler LLC	St. Louis, Missouri (St. Louis South)
December 2008	Chrysler LLC	Newark, Delaware
December 2008	General Motors	Janesville, Wisconsin
December 2008	General Motors	Moraine, Ohio
April 2009	General Motors	Janesville, Wisconsin (Janesville 3)
July 2009	General Motors	Flint, Michigan (Line #3)
July 2009	Chrysler LLC	Warren, Michigan
July 2009	General Motors	Wilmington, Delaware
October 2009	General Motors	Pontiac, Michigan
November 2009	General Motors	Spring Hill, Tennessee (on standby production)
December 2009	Chrysler Group LLC	St. Louis, Missouri (St. Louis, North)
December 2010	Chrysler Group LLC	Warren, Michigan (Sterling Heights)
2010	Ford	Wayne, Michigan (Wayne Assembly)
2011	Ford	St. Paul, Minnesota (Twin City Assembly)

**Source:** *Automotive News*, Chrysler, General Motors, and other public sources.

**Notes:** This table only covers U.S. car and light truck assembly plants. It does not include the announced closures of stamping and powertrain plants or the closures of warehousing and parts distribution centers.

<sup>11</sup> This figure does not include steel shipments to metals service centers, which may also supply auto parts manufacturers; see “Steel Markets” in American Iron and Steel Institute, *Annual Statistical Report*, 2008.

<sup>12</sup> U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Table 1.2.5, Gross Domestic Product by Major Type of Product, June 25, 2009, <http://www.bea.gov/national/nipaweb/SelectTable.asp?Selected=N>.

Many Members of Congress have expressed concerns about lost jobs in the automotive sector—especially in the traditional auto states of Michigan, Indiana, and Ohio, where job loss has been most intense and has affected all sectors that comprise the auto industry. For the last several years, the Detroit-based U.S. auto manufacturers have been working to restructure their operations, with significant reductions in total motor vehicle manufacturing employment. The U.S. Labor Department's Quarterly Census of Employment and Wages (QCEW) reports that automotive manufacturing employment declined by over 30% between 2000 and 2008, dropping from 1.3 million to 880,000 workers, based on preliminary U.S. government labor market statistics for 2008. The automotive manufacturing industry is expected to shed jobs through 2009 and 2010. There were approximately 3.9 million fewer manufacturing workers in the United States in 2008 as compared to 2000, with the employment levels in overall manufacturing falling from 17.3 million to around 13.4 million.

The Detroit 3 is anticipated to emerge with a much smaller presence in the U.S. market in the years ahead as they work through their bankruptcy proceedings and restructuring efforts. At the same time, foreign-owned auto manufacturers maintain an active presence in the United States. Over the years, international auto makers such as BMW, Honda, Hyundai, and Toyota have all built factories in the United States (mostly in the South) that produce hundreds of thousands of vehicles each year. Some of the Detroit 3 employment losses have been offset by the jobs produced by international auto manufacturers as a result of their investments in the United States. For example, new jobs have been added by foreign companies such as Honda which opened a new plant in Indiana in 2008. In addition, there will be new employment opportunities as Kia and Volkswagen plan to open new automotive production plants in Georgia and Tennessee (see **Table 2**).

**Table 2. Foreign-Owned OEM Car and Truck Assembly Plants**  
1978-2011

Year	Company	Location	Employees	Capacity
1978	Volkswagen	New Stanton, Pennsylvania	1.2 million cars between 1978 and 1988 (plant closed in 1989)	
1982	Honda	Marysville, Ohio	5,070	440,000
1982	Honda <sup>a</sup>	Russells Point, Ohio	1,100	800,000
1983	Nissan	Smyrna, Tennessee	3,900	550,000
1984	Mazda/AutoAlliance <sup>b</sup>	Flat Rock, Michigan	3,200	167,490
1984	NUMMI/Toyota/GM <sup>c</sup>	Fremont, California	4,700	342,041
1985	Honda <sup>a</sup>	Anna, Ohio	2,640	1,180,000
1985	Mitsubishi	Normal, Illinois	1,950	59,018
1986	Toyota	Georgetown, Kentucky	6,855	500,000
1986	Toyota	Cambridge and Woodstock, Ontario	5,700	280,000
1989	Honda	East Liberty, Ohio	2,470	240,000
1989	Subaru	Lafayette, Indiana	2,770	91,581
1994	BMW	Greer, South Carolina	4,900	170,739
1996	Toyota	Princeton, Indiana	4,300	300,000
1996	Toyota <sup>a</sup>	Buffalo, West Virginia	1,054	414,000
1997	Nissan <sup>a</sup>	Decherd, Tennessee	850	950,000
1997	Mercedes-Benz	Vance, Alabama	3,000	174,000
2001	Toyota <sup>a</sup>	Huntsville, Alabama	860	400,000
2001	Honda	Lincoln, Alabama	4,000	300,000
2003	Nissan	Canton, Mississippi	3,400	400,000
2003	Toyota	San Antonio, Texas	1,850	200,000
2005	Hyundai	Montgomery, Alabama	2,700	300,000
2007	Toyota	Lafayette, Indiana	<sup>d</sup>	91,663
2008	Honda	Greensburg, Indiana	2,000	200,000
2010	Toyota <sup>e</sup>	Blue Springs, Mississippi		
2010	Kia	West Point, Georgia		
2011	Volkswagen	Chattanooga, Tennessee		

**Source:** *Automotive News*, company websites, and other public sources.

- Engine, transmission, or drivetrain facility. Some other auto assembly plants build engines and transmissions onsite.
- AutoAlliance Inc., a joint venture automobile assembly firm which is co-owned by Ford and Mazda, also builds the Ford Mustang (92,345 units of the 167,490 units) produced in 2008.
- NUMMI was a 50/50 joint venture between "old" GM and Toyota. GM announced it would sever its partnership with NUMMI so GM's part of NUMMI remains in bankruptcy court and Toyota does not appear inclined to continue building cars at the plant.

- d. Toyota Camry's are built under a contract between Toyota and Fuji Heavy Industries at Subaru's Lafayette plant. Employment figures are listed for the combined Subaru/Toyota workforce is listed under the Subaru plant.
- e. Toyota had planned to produce the Highlander sport utility vehicle at its eighth North American assembly plant which was schedule to begin production by 2010. Recently, Toyota announced that it would produce more fuel efficient cars at the Blue Springs plant, but it remains unclear which vehicle will be produced there.

As the turbulent events of the last year clearly indicate, the nation's auto manufacturing base is facing significant challenges. Indisputably, the U.S. automobile manufacturing sector is going through a very painful transition. The industry is in the midst of a significant systemic restructuring effort and faces great uncertainty because of changing market conditions. It also must confront continuously increasing global competition from a number of countries that currently have no presence in the U.S. OEM market.

This report looks at major issues that have received attention in Congress, and among the public more widely, with respect to employment in the U.S. automotive manufacturing industry. It reviews trends in manufacturing employment and the outlook for this sector in the near-term. It also examines auto sector employment in the states, with an emphasis on those states in "automobile alley," the corridor running from Michigan south to Alabama. As a consequence of the recent significant changes that have occurred in the auto sector, the following trends will likely affect a significant portion of the automotive industry:

- *National automotive manufacturing employment is expected to continue to fall.* U.S. automotive manufacturing employment dropped sharply in 2007 and 2008, as the Detroit 3 and international auto manufacturers worked to restructure their business operations. For the first time since 1990, motor vehicle manufacturing employment fell below the 1 million mark in 2007 and dropped below 900,000 in 2008. Automotive manufacturing employment will most likely continue to trend downward for the near-term.
- *State and regional automotive job markets have changed and now affect a wider swath of the United States.* These national trends are having a substantial impact on states and regions around the country. The U.S. auto industry recession is no longer a one state recession. Beyond the impact on Michigan, the other auto belt states (e.g., Indiana and Ohio) and other key automotive manufacturing centers (e.g., Alabama, Georgia, Kentucky, South Carolina, and Tennessee) are feeling the effects of the rapidly changing U.S. automotive manufacturing industry.
- *Automotive sales and production levels are falling.* As a result of the current tough economic conditions confronting U.S. consumers, automotive sales and production levels have dropped substantially. Automobile sales in the United States declined by 18% between 2007 and 2008 to 13.2 million units.<sup>13</sup> This is the lowest level since the early 1990s.<sup>14</sup> In 2009, forecasts indicate U.S. consumers are expected to purchase fewer than 10 million cars and light trucks.<sup>15</sup>

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<sup>13</sup> These statistics cover U.S. light vehicle sales by company and source from the Ward's Automotive Group, <http://www.wardsauto.com/>.

<sup>14</sup> U.S. light vehicle sales in 1991 and 1992 totaled 12.3 million and 12.9 million, respectively, according to data from the Ward's Automotive Group.

<sup>15</sup> *Automotive News* reported these figures in their most recent update on the seasonally adjusted annualized sales rate (SAAR) for the first six months of 2009 released on July 6, 2009, <http://www.autonews.com>.

U.S. motor vehicle production was also down last year, falling to around 8.7 million units, the lowest level since 1990.<sup>16</sup> Most analysts expect that a recovery in motor vehicle sales to the 16 million level could take years to achieve.

- *Fuel efficient vehicles may be an important market opportunity and could be a necessary strategy for survival.* All the major automakers have announced they are working to revamp their inventories and seem to be increasingly focused on the development of smaller, fuel-efficient vehicles. Many observers believe the holy grail of motor vehicle efficiency is energy storage and conversion technology.
- *New labor market arrangements are being crafted with the Detroit 3.* Since 2007, the Detroit 3 and the UAW have addressed their labor contracts to increase their competitiveness with international automakers operating in the United States. The dismal automotive sales figures recorded in 2008 and the recent bankruptcies of Chrysler and GM have brought about significant changes in industrial relations between the UAW and the Detroit 3 and have leveled the playing field in terms of foreign OEMs.

## National Automotive Manufacturing Employment Trends

The upheaval at the Detroit 3 and the changing market conditions resulting in lower automotive sales and production levels are causing uncertainty especially for communities that are heavily reliant on auto manufacturers and auto parts suppliers. The structural changes facing the Detroit 3 are reverberating through the nation's auto belt states of Michigan, Indiana, and Ohio. This section of the report focuses on national motor vehicle manufacturing employment trends since 1990. Data on the total level of national employment since 1990, as well as employment levels in each of the three subsectors that constitute the nation's automotive manufacturing industry by selected years, are presented below. The next section of this report examines state-level automotive manufacturing employment trends in greater detail.

The automotive manufacturing industry is an integral part of the U.S. manufacturing base. As shown in **Table 3**, in 2008 880,000 jobs were directly tied to automotive manufacturing nationwide, comprising 6.6% of the approximately 13.4 million manufacturing jobs in the United States. Today, the industry is in the midst of what appears to be a historic and pivotal structural change. The economic challenges facing the industry are not new developments. The changing domestic and global automotive market is having a direct impact on automotive manufacturing employment in the United States.

About 3.9 million manufacturing jobs have been lost in the United States since 2000, the majority of them in the severe recession that gripped manufacturing from 2001 until about 2003, while the overall U.S. economy was virtually unaffected. Some industry observers have erroneously tied the loss of jobs to declining industries. But, in the case of U.S. manufacturing, one of the major

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<sup>16</sup> Automotive News, "North American Car and Truck Production," January 12, 2009, <http://www.autonews.com>.

sources of job loss over the past twenty years has been increasing application of technology and rising productivity.<sup>17</sup> About this, Federal Reserve Chairman Ben Bernanke said recently,

The U.S. manufacturing sector, which is perhaps the sector most exposed to international competition, has achieved truly remarkable increases in its productivity in the past decade or so.<sup>18</sup>

These trends seem, on the face of it, contradictory:

- Loss of 3.9 million manufacturing jobs from 2000 to 2008;
- Increase in manufacturing output by 60% between 1997 and 2005.<sup>19</sup>

Economists explain this seeming dichotomy through productivity growth. In manufacturing, there was a 30% increase in productivity from 1993 to 2005, following fairly stagnant productivity growth from 1985 to 1992.<sup>20</sup> The application of new technologies such as robotics and use of computing and software on the factory floor are often cited as major changes that boosted manufacturing productivity, increased quality and cut prices, but also led to ongoing layoffs. As this report discusses, some of the job reductions in auto manufacturing are also attributable to rising productivity. Painful as layoffs are for those affected, rising productivity is a mark of a healthy manufacturing sector. (The recent layoffs and plant closings by GM and Chrysler are as, discussed in this report, linked to the nosedive in worldwide auto sales in 2008 and 2009).

In the nation's motor vehicle manufacturing sector alone there were 435,000 fewer jobs in 2008 than in 2000 as the Detroit 3 and other auto manufacturers reduced costs wherever possible. The nation's automotive manufacturing sector represented about 11% of all manufacturing jobs lost between 2000 and 2008, with motor vehicle manufacturing employment falling from 1.3 million workers at the beginning of this decade to a workforce of 880,000 last year.<sup>21</sup> In 2009, motor vehicle manufacturing employment has fallen from 711,200 jobs in January to an estimated 623,000 jobs in June.<sup>22</sup> With economic recovery and increased auto production, employment in the sector could increase somewhat.

The downsizing of the American automotive manufacturing industry is expected to continue over the next few years. For instance, General Motors has announced that it will close a third of its plants (14 plants) and has cut 21,000 jobs as part of its U.S. bankruptcy plan,<sup>23</sup> reducing its U.S. hourly employment levels from 61,000 in 2008 to 40,000 in 2010, a 34% reduction that will

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<sup>17</sup> *Wall Street Journal Blogs, Real Time Economics*, "Productivity Gains May Make Job Losses Worse," November 6, 2008.

<sup>18</sup> Speech by Ben Bernanke, Montana Economic Development Summit, May 1, 2007.

<sup>19</sup> Federal Reserve Bank of St. Louis, "Industrial Production: Manufacturing Series," <http://research.stlouisfed.org/fred2/series/IPMAN>.

<sup>20</sup> Federal Reserve Bank of St. Louis, "Manufacturing: Multifactor Productivity Series," <http://research.stlouisfed.org/fred2/series/MFGPROD?cid=2>.

<sup>21</sup> U.S. Department of Labor, Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*, <http://www.bls.gov/cew/>.

<sup>22</sup> U.S. Department of Labor, Bureau of Labor Statistics, Employment, Hours, and Earnings from the Current Employment Statistics (CES) survey (National): Motor vehicles and parts. Data for 2009 reflects a series of shutdowns of Detroit 3 and foreign-owned OEMs. [http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?series\\_id=CES3133600101&data\\_tool=XGtable](http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?series_id=CES3133600101&data_tool=XGtable).

<sup>23</sup> GM's restructuring plan was accepted by U.S. bankruptcy court on July 10, 2009.

eliminate 21,000 jobs. The auto manufacturer expects that its hourly employment will level off at about 38,000 in 2012. Further cuts are expected in salaried and executive employment.<sup>24</sup> Chrysler recently completed its bankruptcy proceedings and its restructuring efforts are underway.<sup>25</sup> The Detroit automaker closed two plants in the fourth quarter of 2008 (Chrysler closed its Newark, Delaware plant in December and its St. Louis South plant in October of last year). More jobs will be lost because of plant closures scheduled by the Detroit 3 for 2009 through 2011 (see **Table 1**).

Under the North American Industry Classification System (NAICS), the three major components of the industry are motor vehicle assembly (NAICS 3361), motor vehicle bodies and trailers (NAICS 3362), and automotive parts (NAICS 3363).<sup>26</sup> By aggregating all three NAICS categories using data from the Bureau of Labor Statistics' QCEW program, CRS is able to provide comprehensive coverage of manufacturing employment in the nation's motor vehicle industry since 1990 at the national and state level.<sup>27</sup> The QCEW data are based on establishment-level filings by each company from quarterly tax reports submitted to State Employment Security Agencies by over eight million employers subject to state unemployment insurance laws. The establishment level information is aggregated by industry code. The statistics as reported by BLS are shown in **Table 3**, below.

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<sup>24</sup> General Motors, "Restructuring Website," Employees, p. 3, <http://www.gm.com/restructuring/docs/employees.pdf>.

<sup>25</sup> On April 30, 2009, Chrysler entered into federal bankruptcy protection and 42 days later, on June 10, 2009, Chrysler emerged from bankruptcy with the completion of the Chrysler-Fiat alliance to form the "New Chrysler," formally known as Chrysler Group, LLC.

<sup>26</sup> For information on the North American Industry Classification System, which is the federal government's standard in classifying business establishments for the "purpose of collecting, analyzing, and publishing statistics related to the U.S. business economy," visit the Census Bureau's website at <http://www.census.gov/eos/www/naics/>.

<sup>27</sup> The Quarterly Census of Employment and Wages (QCEW) is the virtual census of employment in the United States. The QCEW program covers 99.7% of wage and salary civilian employment. It derives its data from quarterly tax reports submitted to State Employment Security Agencies by over 8 million employers subject to state unemployment insurance (UI) laws and from federal agencies subject to the Unemployment Compensation for Federal Employees (UCFE) program. More information about the QCEW can be found at <http://www.bls.gov/cew/>. One caveat about NAICS is that it does not cover all segments of the auto manufacturing sector: glass and tires, for example, are listed under non-automotive categories.



**Table 3. U.S. Motor Vehicle Manufacturing Employment**  
Number of Employees, in thousands

Industry Segment	1990	2000	2003	2007	2008 (p)	2000- 2008 (p) Numeric Change	2007-2008 (p) Numeric Change
Motor vehicle mfg. (NAICS 3361)	261	292	258	222	196	-97	-27
Motor vehicle body and trailer mfg. (NAICS 3362)	128	188	153	166	143	-45	-22
Motor vehicle parts mfg. (NAICS 3363)	729	835	700	605	541	-294	-64
Motor vehicle mfg. Employment Total	1,118	1,315	1,111	993	880	-435	-113
Manufacturing Employment	17,797	17,314	14,460	13,833	13,383	-3,931	-450
Motor vehicle mfg. as a % of total mfg. employment	6.3%	7.6%	7.7%	7.2%	6.6%		

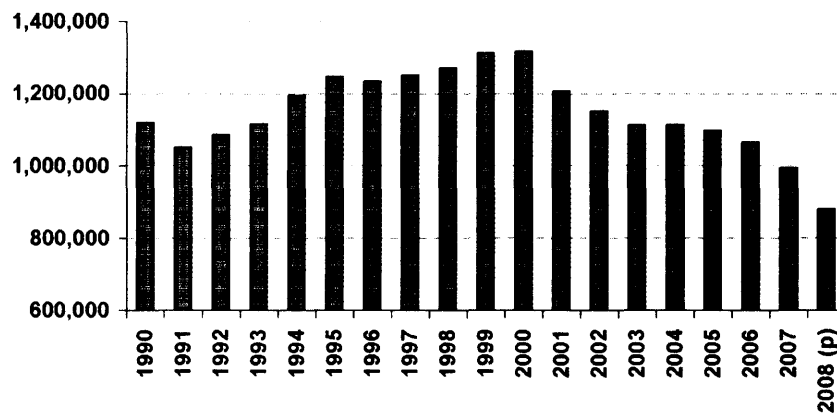
**Source:** U.S. Department of Labor. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages* (QCEW), July 27, 2009. <http://www.bls.gov/cew/>.

**Notes:** 2008 QCEW data are preliminary. Final 2008 QCEW statistics will be released in late 2009.

The long-term trend shows that the 1990s were, for the most part, a growth period for the nation's automotive manufacturing industry. **Figure 1** indicates total U.S. automotive manufacturing employment grew from 1.1 million in 1990, to a peak of 1.3 million in 2000. During most of the 1990s, the industry added jobs (national auto manufacturing declined two times from 1990-1991 and 1995-1996) driven in large part by increased demand for new domestic cars and light trucks. Beginning in 2000, the industry entered a period of decline resulting from a combination of factors, including the 2001 recession, foreign competition, domestic relocation, and increased productivity through automation which contributed to the decline in automotive manufacturing jobs. As shown in **Figure 1**, automotive manufacturing employment has fallen every year, but one, since the beginning of this decade (there was a slight increase in employment between 2003 and 2004); the biggest losses were recorded between 2000-2001, 2006-2007, and 2007-2008.

In 2008, U.S. automobile industry employment contracted by 113,000 jobs, a drop of 11%. This was the sharpest decline in automotive jobs recorded since 1990. The last time the industry recorded such a large drop in employment was during the 2000 and 2001 recession, when automotive manufacturing employment fell by approximately 110,000 jobs. This trend is not widely expected to improve in the near-term with losses expected to continue throughout 2009 and, if present trends continue, possibly beyond.

**Figure 1. Automotive Manufacturing Employment Trends**  
Number of Employees, 1990-2008 (preliminary)



**Source:** U.S. Department of Labor, Bureau of Labor Statistics, *Quarterly Census of Employment and Wages* (QCEW). <http://www.bls.gov/cew/>.

**Notes:** These statistics cover NAICS 3361 (motor vehicle mfg.), 3362 (motor vehicle body and trailer mfg.), and 3363 (motor vehicle parts mfg.). 2008 data are preliminary and are subject to revision. The final year-end 2008 QCEW statistics will be released in late 2009.

## Motor Vehicle Assembly Employment

As shown in **Table 3** above, the workforce in motor vehicle assembly operations (NAICS 3361) grew from 261,000 workers in 1990 to 292,000 at the 1999-2000 peak, with employment increasing during most of this period (however, there were two big drops in motor vehicle assembly employment during the 1990s).<sup>28</sup> In this decade, there has been a steady decrease in motor vehicle manufacturing employment. Every year, except for the 2000 and 2001 period, employment in this segment of the industry fell. Between 2006 and 2007, the nation's motor vehicle assembly manufacturing sector posted an 8% drop in employment, reducing its payroll by some 18,000 jobs. There was an even greater decline in 2008. The industry shed 26,600 jobs based on preliminary data, for an employment total of 195,600, the lowest level in nearly two decades. In 2009, the job losses are expected to be even greater as a result of the GM and Chrysler plant closings that occurred at the end of last year and continuing into 2009 and 2010. At the same time, foreign automobile manufacturers like Kia and Volkswagen are scheduled to open new plants in the South and Honda opened a new plant in Greensburg, Indiana in late 2008, but these plants are not expected to hire unemployed GM or Chrysler workers.

<sup>28</sup> Motor vehicle assembly employment (NAICS 3361) fell by nearly 20,000 jobs between 1990 and 1991 and by 9,000 jobs between 1995 and 1996, according to data from the Bureau of Labor Statistics *Quarterly Census of Employment and Wages*.

## Automotive Parts Manufacturing Employment

The various problems facing the big car manufacturers extend to the much larger auto parts supplier sector of the industry since they are inherently intertwined. This critical sector employs far more people than do automotive assembly plants. Over 60% of jobs in motor vehicle manufacturing are in the auto parts sector, based on a disaggregated analysis of the three subcategories comprising U.S. motor vehicle manufacturing (see **Figure 2**). In 2008, preliminary data show that over 540,000 workers were employed in the auto parts manufacturing industry working for 5,000 suppliers nationwide. There was a sharp drop in auto parts sector employment, with 64,000 fewer auto parts manufacturing jobs in 2008 than in 2007, as large parts suppliers began to reduce their workforce to deal with the sales slump. For example, recently announced or enacted job cuts among auto parts suppliers include 2,800 jobs at Visteon,<sup>29</sup> 1,100 jobs at Tenneco worldwide,<sup>30</sup> 3,000 positions at Dana Corporation,<sup>31</sup> and 2,100 hourly jobs at American Axle & Manufacturing.<sup>32</sup>

More jobs are expected to be eliminated in the coming year. This downward trend is not new. It began in 1999, when auto parts manufacturing employment peaked at 836,000 jobs. Every year since then, the number of jobs in the auto parts sector have been down compared to the previous year, falling to just below 700,000 jobs in 2003—for the first time since 1991—and declining ever since.

The nation's auto parts supplier industry has been weighed down by various problems for years, experiencing heavy debt and overcapacity caused by production cuts by the nation's automakers, particularly the Detroit 3. Higher energy and input materials' costs also affect the nation's automotive suppliers, as have low cost parts imports from China and higher cost imports from Japan and Europe.<sup>33</sup> More recently, the credit crisis and the rapid decline in auto sales mean that many of the nation's auto parts suppliers have limited access to credit. Many of these companies face growing uncertainty about their future business prospects. The decline in motor vehicle production and sales reduces demand for automotive parts since auto parts consumption is strongly linked to the sales of new vehicles. The impact on suppliers when an automaker sharply curtails operations can be severe. Another problem facing U.S. auto suppliers is that foreign transplants operating in the United States tend to maintain relationships with their traditional supplier base (e.g., German assembly plants tend to purchase from their traditional suppliers, including Bosch GmbH and Continental AG or Japanese transplants like Toyota purchase from the Denso Corporation). Thus, auto parts suppliers that are heavily reliant on the Detroit 3 such as Delphi (GM's main supplier), Visteon (a former division of Ford), and Johnson Controls are losing market share.

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<sup>29</sup> Beene, Ryan, "Visteon Posts Loss, Cutting 2,800 Jobs," *Automotive News*, October 30, 2008, <http://www.autonews.com/article/20081030/COPY01/310309868/1128>.

<sup>30</sup> *Associated Press*, "Auto Parts Supplier Plans to Cut 1,100 Jobs," October 29, 2008. <http://www.nytimes.com/2008/10/30/business/30tenneco.html>.

<sup>31</sup> *Indy.com*, "Auto-Parts Maker Dana to Close Plants, Cut Staff," November 7, 2008. <http://www.indy.com/posts/auto-parts-maker-dana-to-close-plants-cut-staff>.

<sup>32</sup> Sherefkin, Robert, "American Axle Swings to Loss in Third Quarter," *Crain's Detroit Business*, October 31, 2008. <http://www.craindetroit.com/article/20081031/FREE/810310276>.

<sup>33</sup> Klier, Thomas and James Rubenstein, *Who Really Made Your Car? Restructuring and Geographic Change in the Auto Industry*, Upjohn Institute, 2008. p. 359.

More than 40 automotive parts suppliers filed for Chapter 11 protection in 2008, according to the Motor & Equipment Manufacturers Association (MEMA)<sup>34</sup> and approximately 20 suppliers filed for bankruptcy during the first six months of 2009.<sup>35</sup> MEMA also reports that based on industry surveys approximately one-third of all suppliers are “in imminent financial distress.”<sup>36</sup> Most recently, the large auto parts supplier Visteon Corporation filed for bankruptcy.<sup>37</sup> The company is the largest supplier to Ford and a large parts supplier to Hyundai Motor. Delphi Corporation, formerly the large manufacturing arm of General Motors which has been in bankruptcy since October 2005 is still struggling to emerge from Chapter 11 reorganization. On July 30, 2009, the bankruptcy court confirmed Delphi’s reorganization plan, which includes GM resuming ownership of four Delphi plants and a creditor group taking possession of others.<sup>38</sup> Most analysts expect that the auto parts industry will continue to cut its workforce in the year ahead.

Further, more auto parts companies risk failure this year as Chrysler and GM work through their respective bankruptcy and restructuring efforts and other automakers position themselves for today’s challenging market conditions. Two-thirds of the Detroit 3’s suppliers also provide parts to the foreign transplant factories in the United States, so the demise of key parts makers would have effects on both foreign OEMs in the United States as well as other parts suppliers. As a consequence, the Obama administration has put an auto supplier support program in place providing them with up to \$5 billion in financing.<sup>39</sup>

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<sup>34</sup> Motor & Equipment Manufacturers Association, “Parts Suppliers Submit Formal Assistance Request to Treasury; Urge Immediate Action to Spur Auto Sector and Economy,” February 16, 2009. <http://www.mema.org/news/releasedetail.php?id=497>.

<sup>35</sup> Motor & Equipment Manufacturers Association’s Letter to U.S. Department of Treasury, February 13, 2009. The 2009 data were supplied to CRS by the Original Equipment Suppliers Association (OESA) on June 2, 2009.

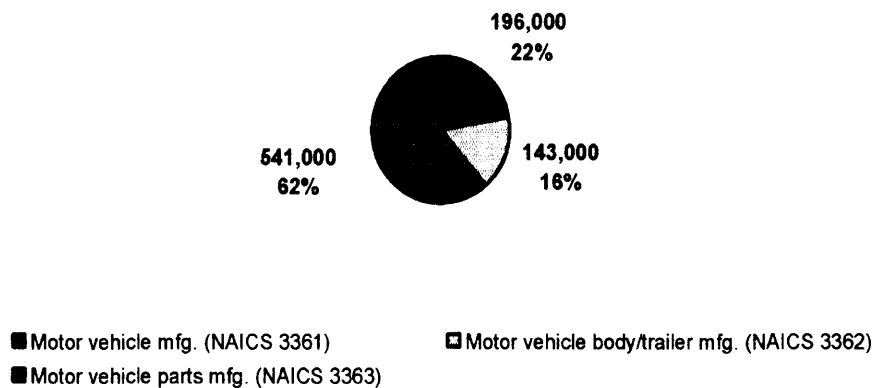
<sup>36</sup> Ibid.

<sup>37</sup> Visteon Corporation, *Visteon Corporation Files for Chapter 11 Reorganization in the United States*, May 28, 2009. [http://www.visteon.com/media/newsroom/2009/090528\\_story1.html](http://www.visteon.com/media/newsroom/2009/090528_story1.html).

<sup>38</sup> Shepardson, David, “Judge Clears Way for Delphi to Exit 4-Year Bankruptcy,” *The Detroit News*, July 31, 2009.

<sup>39</sup> U.S. Department of Treasury, *Auto Supplier Support Program: Stabilizing the Auto Industry at a Time of Crisis*, March 19, 2009. [http://www.treas.gov/press/releases/docs/supplier\\_support\\_program\\_3\\_18.pdf](http://www.treas.gov/press/releases/docs/supplier_support_program_3_18.pdf). The Motor & Equipment Manufacturers Association asked the U.S. Treasury for up to an additional \$10 billion in June 2009 on the grounds that the earlier facility was inadequate. Treasury officials declined to provide further financial support.

**Figure 2. Motor Vehicle Manufacturing Employment by Industry Segment**  
Number of Employees, 2008 (preliminary)



**Source:** U.S. Department of Labor, Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*. <http://www.bls.gov/cew/>.

**Notes:** These statistics cover NAICS 3361 (motor vehicle manufacturing), NAICS 3362 (motor vehicle body and trailer manufacturing), and 3363 (motor vehicle parts manufacturing). 2008 QCEW data are preliminary.

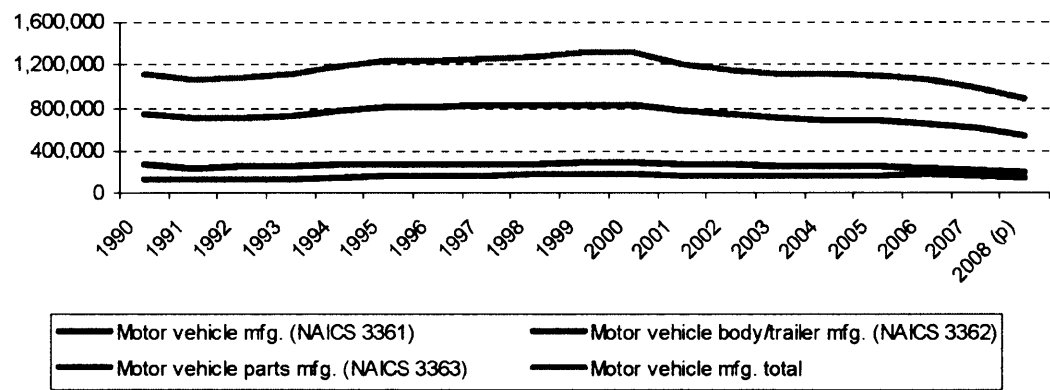
### Motor Vehicle Body/Trailer Manufacturing Employment

The third, and smallest, industry sector, which covers establishments engaged in the manufacturing of motor vehicle bodies and cabs or truck, automobile, and utility trailers (NAICS 3362), is the only segment of the motor vehicle manufacturing industry that posted an increase in employment over the last 18 years, with the number of jobs in this sector rising from 128,000 in 1990 to 143,000 in 2008 (see **Table 3**). Relative to the other sectors, it has fared somewhat better because it seems to have been less sensitive to the rise and decline of demand for cars and light trucks. However, in this decade, the industry has lost a substantial number of jobs, with employment dropping by 24% from 188,000 in 2000. Between 2007 and 2008, preliminary data indicate a loss of 22,400 motor vehicle body and trailer manufacturing jobs.

### Motor Vehicle Manufacturing Drops More Than Other Manufacturing Employment Since 2000

As shown in **Figure 3**, with a few annual exceptions, there is a clear downward employment trend in the combined U.S. motor vehicle manufacturing industry this decade. Since 2000, there has been a drop in employment in all three motor vehicle industry manufacturing sectors. In addition to the structural reasons cited earlier, the cyclical nature of the motor vehicle industry also means that it moves up and down with the general business cycle.

Figure 3. U.S. Motor Vehicle Industry Manufacturing Employment Trends  
Number of Employees, 1990-2008 (preliminary)

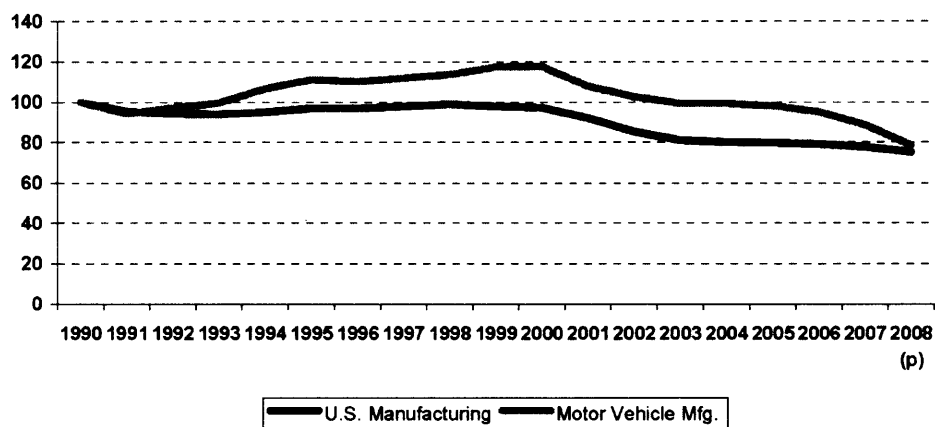


Source: U.S. Department of Labor. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*. <http://www.bls.gov/cew/>.

Notes: These statistics cover NAICS 3361, 3362, and 3363. 2008 QCEW data are preliminary.

When employment in automotive manufacturing is compared to manufacturing employment in general (as shown in **Figure 4**), the data suggest that if one indexes 1990 as the base employment level, motor vehicle manufacturing sustained its employment numbers between 1994 and 2002 when compared to U.S. manufacturing employment. During that time period it sustained its levels better than other manufacturing employment, posting an employment increase of 18% between 1990 and 2000. Over the same period, manufacturing overall was down by 3%. However, more recently this relationship has switched. Motor vehicle manufacturing employment is falling faster than overall employment in the nation's manufacturing sector. Manufacturing employment decreased by 23% in 2008 over 2000, while motor vehicle manufacturing posted a reduction in its workforce of 33% (down by 435,000 jobs). Both overall manufacturing employment and motor vehicle manufacturing employment have been below their 1990 base since 2005.

**Figure 4. Employment Trends, Motor Vehicle and General Manufacturing**  
Index, 1990 = 100



**Source:** U.S. Department of Labor, Bureau of Labor Statistics, *Quarterly Census of Employment and Wages* (QCEW), <http://www.bls.gov/cew/>.

## Past Performance and Future Outlook for U.S. Motor Vehicle Manufacturing Employment

The U.S. automotive landscape has been fundamentally reshaped and the industry, both domestically and internationally, is experiencing unprecedented structural change. The U.S. automotive industry faces a variety of challenges, which include a deep recession, volatile gasoline prices, rising Corporate Average Fuel Economy (CAFE) standards, and changing consumer tastes. For instance, a long-term expectation of cheaper gasoline increases demand for larger vehicles, including trucks and SUVs, while higher gasoline prices increase demand for small cars. By model year (MY) 2020, the Energy Independence and Security Act of 2007 (EISA; P.L. 110-140) requires car manufacturers to achieve a corporate average fuel economy standard of 35 miles per gallon (mpg) by MY2020. While this standard will gradually increase each year, President Obama has said that fuel economy standards will have to increase to 35.5 mpg by MY2016 to achieve a proposed integration of CAFE standards and automotive greenhouse gas emission standards.<sup>40</sup> With the possibility of higher future gas prices and tougher CAFE standards, the U.S. automotive industry will likely reduce their production of large vehicles, including SUVs and minivans, while ramping up production of higher mileage and/or smaller vehicles. Ford, GM, and Chrysler are expected to all increase small car output, which would allow each automaker to meet CAFE requirements, while still building smaller numbers of larger models. This is what Nissan, Toyota, and other foreign OEMs already do. Other trends include:

- *Foreign OEMs have been expanding existing or establishing new plants in the United States since 1990 and employ thousands of American workers.* The U.S. government's employment statistics do not isolate the number of jobs tied to foreign OEMs operating in the United States, and estimates of jobs supported by

<sup>40</sup> See CRS Report R40166, *Automobile and Light Truck Fuel Economy: The CAFE Standards*, by Brent D. Yacobucci and Robert Bamberger.

foreign-owned OEMs vary widely.<sup>41</sup> A May 2009 memorandum by the Center for Automotive Research (CAR), stated that international producers (BMW, Honda, Hyundai, Kia, Mazda, Mercedes, Mitsubishi, Nissan, Subaru, Suzuki, Toyota and Volkswagen) employed 107,500 people in the United States in January 2009.<sup>42</sup> In 2008, foreign OEM's accounted for over half of all sales in the United States; some of these vehicles were made in the United States and others imported.<sup>43</sup>

- Strong Detroit 3 sales in the 1990s supported much of the nation's employment growth in automotive manufacturing; growth in automotive employment is increasingly tied to foreign companies' U.S. expansion. With the decline in demand for Detroit 3 U.S.-built vehicles since 2000, the Detroit 3 and their suppliers have been reducing employment to reflect their reduced production and market share levels. According to CAR, for every job created by the foreign transplant producers in the United States, Detroit shed 6.1 jobs in the United States, 2.8 of them in Michigan.<sup>44</sup> On the other hand, another recent study by CAR found that Honda's U.S. manufacturing operations created 151,957 private sector jobs in the supply chain, with associated estimated salaries and wages of \$9 billion. Another 215,726 private sector jobs were reportedly generated by Honda's dealerships and Honda product-related retail employment in the United States.<sup>45</sup> According to CAR, "there are 4.8 additional jobs in the U.S. economy for every one job at Honda automotive manufacturing operations."<sup>46</sup>

As these foreign OEMs increasingly gained market share, this affected the employment and labor conditions of the Detroit 3. There is particular concern with the unionized Detroit 3 plants and supplier companies that rely on Detroit 3 production for major shares of their output. This situation may be viewed by some as a belated response of the traditional, Detroit-based automotive manufacturing model to international competition, including foreign manufacturers setting up shop in the United States. Much of U.S. industry has already been undergoing this "downsizing" or "rightsizing" (depending on the observer's perspective), through both the growth period of the 1990s, and the manufacturing recession that occurred after 2001. But, many observe, only since this latter date have the UAW and the Detroit 3 been able to reach

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<sup>41</sup> The Japanese Automobile Manufacturers Association (JAMA) estimates that Japanese-brand vehicle manufacturers employed 62,000 workers in 2007, compared with 55,800 workers in 2004 (Japanese Automobile Manufacturers Association, *Driving a New Generation of American Mobility*, November 2008. [http://www.jama.org/library/pdf/brochure\\_Nov2008.pdf](http://www.jama.org/library/pdf/brochure_Nov2008.pdf)). The Association of International Automobile Manufacturers (AIAM) reported that in 2008, their member companies (Honda, Nissan, Toyota, Mitsubishi, Subaru, Isuzu, Hyundai, and Kia) directly employed 90,100 American workers. (Association of International Automobile Manufacturers, 2008 Quick Facts, [http://www.aiam.org/public/aiam/impact/national\\_impact.aspx](http://www.aiam.org/public/aiam/impact/national_impact.aspx).)

<sup>42</sup> McAlinden, Sean, "CAR Research Memorandum: *The Impact on the U.S. Economy of Successful versus Unsuccessful Automaker Bankruptcies*," Center for Automotive Research, May 26, 2009. p. 1. The companies cited reported beginning of year employment figures to CAR. [http://www.cargroup.org/pdfs/09\\_May\\_Research\\_Memorandum.pdf](http://www.cargroup.org/pdfs/09_May_Research_Memorandum.pdf).

<sup>43</sup> Ward's Automotive Group, *U.S. Light Vehicle Sales by Company and Source*, 2008. <http://www.wardsauto.com>.

<sup>44</sup> McAlinden, Sean, "Well, Who Won? *The Future of Automotive Human Resources in the United States*," FACS Conference, Detroit, Michigan, January 12, 2008, slide 17. [http://www.facsnet.org/pdf/2008/08\\_01\\_12\\_McAlinden\\_auto\\_labor.pdf](http://www.facsnet.org/pdf/2008/08_01_12_McAlinden_auto_labor.pdf).

<sup>45</sup> Center for Automotive Research, *Contribution of Honda to the Economy of Seven States and the United States*, January 2009.

<sup>46</sup> *Ibid.*, p. 5. Honda's direct automotive manufacturing employment stood at 24,699 in 2007.



agreements, culminating in the historic 2007 collective bargaining agreements, that allow this sector of the motor industry to implement labor cost savings and to take fuller advantage of productivity improvements.<sup>47</sup> In 2009, the UAW reached agreement with the Detroit 3 on further cost-cutting concessions to the 2007 national labor pacts to help the auto manufacturers weather the recession.<sup>48</sup>

For many years, Chrysler, Ford, and General Motors have borne costs not carried by their competitors. Comparing wage rates of the Detroit 3 and OEM transplants is problematic. There is no standard wage that foreign OEMs pay their workers and the companies do not make the information public. As of 2007, an assembly-line worker at one of the Detroit 3, excluding benefits, earned a national hourly wage of \$28, according to the UAW.<sup>49</sup> By contrast, a sampling by *Automotive News* found that Toyota's Georgetown, Kentucky plant pays between \$27 and \$30 an hour, excluding benefits, while workers at Toyota's San Antonio, Texas plant made \$15.50 an hour when the plant opened in 2006 and are paid \$21 an hour in 2009. Honda's Greensburg, Indiana assembly plant, which opened in October 2008, reportedly had starting hourly wages of \$14.84, while Kia Motors in West Point, Georgia is reportedly hiring workers at \$14.90 per hour.<sup>50</sup>

The most significant and problematic cost difference between the Detroit 3 plants and foreign-owned plants is not wages, which are similar, but legacy costs—payments to cover retiree health and pension benefits. According to one estimate, by the Oliver Wyman consulting firm, which publishes the Harbour Report (an annual study on labor productivity for car manufacturers), GM and Chrysler, with fewer than 100,000 hourly employees, provide 325,000 retirees with defined-benefit pensions and health care benefits, while foreign transplants have a far larger number of workers than retirees.<sup>51</sup> In 2007, legacy costs reportedly added about \$1,800 to the average cost of a Detroit 3 produced vehicle, compared with one from the foreign companies' factories.<sup>52</sup> Current UAW contracts ensure that new hires will get less in pay and benefits. More importantly, the 2007 collective bargaining contract and later modifications to that contract shift the health care costs of retirees to a UAW-administered VEBA (Voluntary Employee Beneficiary Association), thus freeing the Detroit 3 from one expensive aspect of legacy costs.<sup>53</sup> Furthermore, the UAW agreed to a contract modification that funded the VEBA with stock instead of cash (as previously agreed), so the future of the UAW-administered retiree health plan now depends on the future success of New Chrysler and New GM.

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<sup>47</sup> For a discussion on labor market negotiations see CRS Report R40003, *U.S. Motor Vehicle Industry: Federal Financial Assistance and Restructuring*, coordinated by Bill Canis.

<sup>48</sup> United Auto Workers, "UAW reaches tentative understandings with Chrysler, Ford, and General Motors," press release, February 17, 2009, <http://www.uaw.org/news/newsarticle.cfm?ArtId=523>.

<sup>49</sup> Cohn, Jonathan, *Debunking the Myth of the \$70-per-hour Autoworker*, United Auto Workers, November 25, 2008. [http://www.uaw.org/auto/11\\_25\\_08auto2.cfm](http://www.uaw.org/auto/11_25_08auto2.cfm).

<sup>50</sup> Chappell, Lindsay, "Transplant Wages are a Moving Target," *Automotive News*, December 15, 2008. <http://www.autonews.com/article/20081215/ANA03/812150358/1176>.

<sup>51</sup> Gold, Jenny, "Cutting Worker Costs Key to Automakers' Survival," NPR, December 23, 2008. [http://www.andersoneconomicgroup.com/Portals/0/upload/NPR\\_BigThree122308.pdf](http://www.andersoneconomicgroup.com/Portals/0/upload/NPR_BigThree122308.pdf).

<sup>52</sup> Ibid.

<sup>53</sup> For a discussion on VEBA's, see CRS Report RL33505, *Tax Benefits for Health Insurance and Expenses: Overview of Current Law and Legislation*, by Bob Lyke and Julie M. Whittaker, p. 12.

## Motor Vehicle Manufacturing Employment Performance by State

The U.S. automotive industry is geographically concentrated along an axis that runs from Michigan to Alabama, along I-65 and I-75. Last year, more than 45% of the nation's cars and light trucks were produced in Michigan, Indiana, and Ohio.<sup>54</sup> These three states also accounted for over 40% of all motor vehicle manufacturing employment in the United States in 2008, based on preliminary BLS data. As shown in **Table 4**, each of these states employed over 100,000 workers last year, representing a significant share of manufacturing employment in their respective states (29%, 20%, and 14%, respectively).

At a time when the Detroit 3 have increasingly pulled their manufacturing activities back to their traditional Midwestern base (Michigan, Indiana, and Ohio), automotive manufacturing has also increasingly shifted to the South, creating an "auto alley" along the I-65/I-75 interstate highways.<sup>55</sup> This development has come about because of heavy investments by foreign-owned OEMs in states such as Alabama, Indiana, Kentucky, Ohio, and Tennessee. The southward movement of the industry coincided with a recognition by states like Alabama, Georgia, Kentucky, Mississippi, and South Carolina that foreign-owned auto assembly plants and their suppliers could become a significant source of manufacturing jobs in those states. Many states offered financial incentives to the OEMs, and labor considerations (e.g., lower wage rates, lower levels of union membership) provided an additional benefit. Additionally, Indiana and Ohio have also become quite competitive in seeking foreign OEM and auto parts sector investments and, while both states have lost significant amounts of Detroit 3/UAW employment, they have attracted a significant number of jobs and companies that either build cars or supply the OEMs.

The Detroit 3 continue to produce some vehicles in the South, but the future of a number of those plants may be uncertain. GM has announced that it will build a new small car assembly plant in Orion Township, Michigan and a metal-stamping facility in Pontiac Michigan. Two other sites, Spring Hill, Tennessee and Janesville, Wisconsin were also reportedly considered. Outside of the Upper Great Lakes region, GM is currently in negotiations with state and local officials in Michigan over economic incentives.<sup>56</sup> GM builds product in Kentucky, Louisiana, Tennessee, and Texas, and Ford produces trucks in Louisville, Kentucky.

The three largest Japanese manufacturers, plus BMW, Mercedes Benz, Hyundai, and Kia have all built plants south and west of the traditional Midwest auto belt. According to Thomas Klier, a senior economist at the Federal Reserve Bank of Chicago, "the number of assembly plants in the South increased from 5 to 13 between 1979 and 2008."<sup>57</sup> This upsurge in southern investment has also brought with it a substantial number of new automotive supplier plants. As a result, the states

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<sup>54</sup> *Automotive News*, "North American Car & Truck Production, 2007 and 2008." <http://www.autonews.com>. These figures cover car and light truck production.

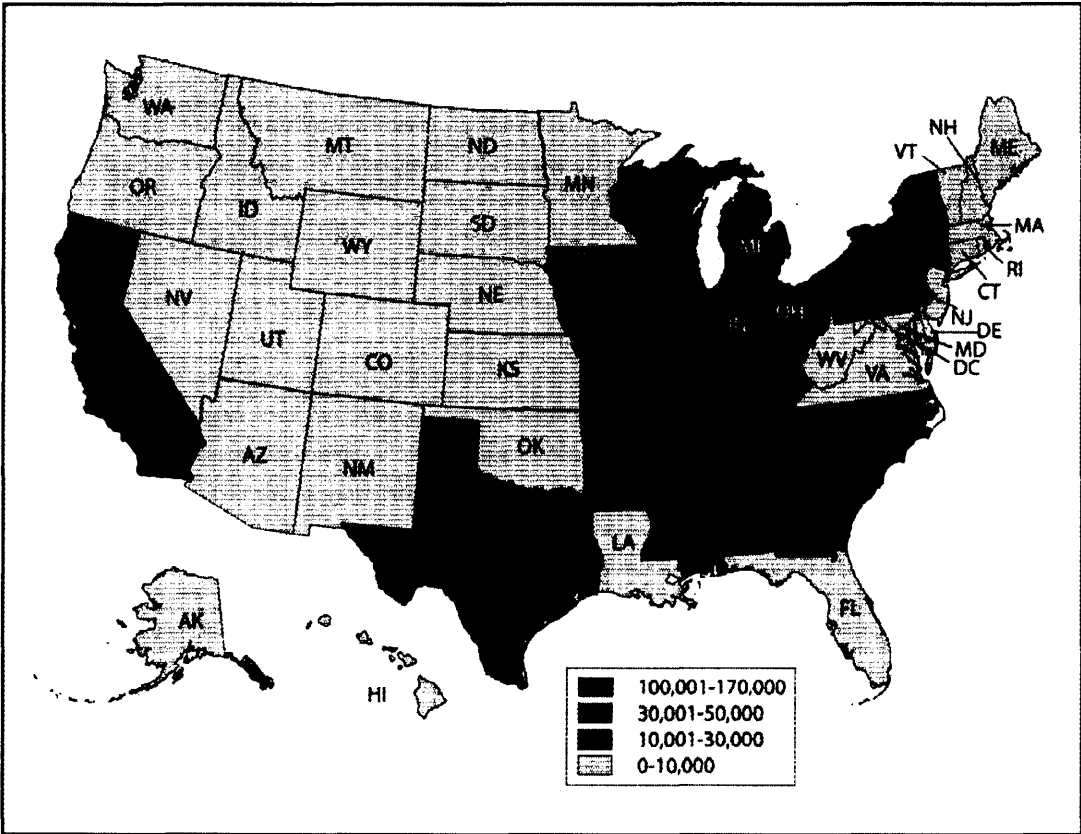
<sup>55</sup> The auto-producing area in the United States, commonly referred to as Auto Alley, extends through a narrow corridor approximately 700 miles long and less than 100 miles wide. Two north-south interstate highways, I-65 and I-75, form the spine of the corridor. Thomas Klier and James Rubenstein coined the term "Auto Alley" in their book, *Who Really Made Your Car?* Upjohn Institute, April 2008.

<sup>56</sup> Stynes, Tess, "GM to Build Small Cars in Michigan," *Wall Street Journal*, June 26, 2009.

<sup>57</sup> Klier, Thomas and James Rubenstein, "Who Really Made Your Car?" See [http://www.upjohninst.org/publications/newsletter/tk-jr\\_408.pdf](http://www.upjohninst.org/publications/newsletter/tk-jr_408.pdf).

in the second group identified in Table 4 now have a strong automotive manufacturing industry presence. They each employ at least 30,000 automotive industry workers. California and Illinois also have a significant workforce engaged in automotive manufacturing.

Figure 5. U.S. Motor Vehicle Manufacturing Employment by State  
Number of Employees, 2008 (preliminary)



Source: U.S. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*, <http://www.bls.gov/cew/>.

Notes: These statistics are preliminary and based on three automotive industry manufacturing NAICS codes: NAICS 3361, 3362, and 3363.

**Figure 5** illustrates the geographic distribution of employment in the U.S. motor vehicle manufacturing industry, defined here as preliminary 2008 employment reported by the Labor Department's Bureau of Labor Statistics (BLS) in NAICS 3361, 3362, and 3363.<sup>58</sup> As detailed in **Table 4**, the core of the industry remains in three Midwestern states each with employment greater than 100,000: Michigan (167,000), Indiana (102,000), and Ohio (102,000). They are labeled in this report as the "Traditional Auto Belt." Then there is a group of several other states that are considered the other leading states in terms of automotive employment. These states have at least one light vehicle assembly plant (in most cases more) and at least 30,000 automotive industry workers. They include a traditional Midwestern auto manufacturing state (Illinois), as well as those states with both Detroit 3 and foreign OEM assembly plants (California and Texas), but which are included in the list because of large auto supplier industries. Three other leading states have mainly risen through heavy investments by foreign-owned companies in the past 20 years (Alabama, Kentucky, and Tennessee).

The remaining automotive states are classed according to the number of employees in the automotive manufacturing sector. Some have major light motor vehicle assembly plants, some formerly had such plants, but now are primarily equipment suppliers (such as New York), and others (like North Carolina) have never had a light vehicle manufacturing plant, but are important suppliers to the industry. **Table 4** provides additional information on the "Traditional Auto Belt," the other leading states, and all other states that either have a large number of persons working in the industry or at least one light motor vehicle assembly plant. Excluded from the table are those states, such as Iowa, Pennsylvania, and Oregon, whose industry is primarily dominated by medium and heavy truck building, or truck bodies and trailers.

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<sup>58</sup> In **Figure 5** and **Table 4** it is not possible to include state employment in motor vehicle manufacturing (NAICS 3361) for all states because of federal data disclosure rules. Thus, the auto manufacturing employment statistics for the states with an asterisk, primarily those states that only had one or two light vehicle assembly plants, were compiled with information supplied to CRS by the OEMs themselves or from publicly available sources.

**Table 4. State-Level Motor Vehicle Manufacturing Employment**

State	2003	2007	2008 (preliminary)	Change from 2003	Change from 2007	% of U.S. Total	% of State Mfg.	Rel. to U.S. Avg. (=1.0)
Traditional Auto Belt (number of employees, in thousands)								
Michigan	262	198	167	-95	-31	19.0%	29.0%	4.4
Indiana	125	118	102	-23	-16	11.6%	19.7%	3.0
Ohio	136	114	102	-34	-12	11.6%	13.8%	2.1
Other Leading Auto Manufacturing States								
Kentucky	53	50	45	-8	-5	5.1%	18.3%	2.8
Tennessee*	51	52	43	-8	-9	4.9%	12.1%	1.8
Illinois	41	39	34	-7	-5	3.9%	5.2%	0.8
California	41	36	34	-7	-2	3.9%	2.4%	0.4
Texas	29	37	34	5	-3	3.9%	3.7%	0.6
Alabama	21	35	33	12	-2	3.8%	11.7%	1.8
Other Auto Manufacturing States								
North Carolina	27	26	25	-2	-1	2.9%	4.9%	0.7
South Carolina*	25	26	25	0	-1	2.8%	10.2%	1.6
Missouri	37	29	24	-13	-5	2.8%	8.4%	1.3
New York	29	22	19	-10	-3	2.2%	3.6%	0.5
Wisconsin	23	20	18	-5	-2	2.1%	3.7%	0.6
Georgia	20	16	16	-4	0	1.8%	3.8%	0.6
Mississippi*	10	12	10	0	-2	1.1%	6.2%	0.9
Kansas*	8	8	8	0	0	0.9%	4.3%	0.7
Minnesota	8	6	6	-2	0	0.7%	1.8%	0.3
Louisiana*	6	4	4	-2	0	0.4%	2.3%	0.4
Delaware*	4	2	1	-3	-1	0.1%	3.9%	0.6
United States	1,111	993	880	-231	-113	100.0%	6.6%	1.0

**Source:** U.S. Department of Labor, Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*. <http://www.bls.gov/cew/>.

**Notes:** These statistics cover NAICS 3361-3363 and are based on preliminary 2008 QCEW data. The states with an asterisk denote that additional data was compiled by CRS from the OEMs or from other publicly available sources for motor vehicle manufacturing (NAICS 3361).

When considering automotive industry employment at the state level, two noteworthy trends are evident.

- *OEM market share is growing outside the upper Midwest.* Over the past two decades, the rapid growth of foreign-owned plants in the United States has been accompanied by rapidly growing employment at a diverse group of international automotive assembly and supplier firms (see **Table 2** above). Many of the foreign OEMs initially built passenger cars. Toyota, Honda, and Nissan later moved into the light truck and minivan markets, and along with Mercedes and BMW, also entered the SUV and crossover segments. With each new vehicle segment, the foreign OEMs gained additional market share.
- *The Detroit 3 are shedding capacity, mostly as plants far from their base in the Upper Midwest.* This trend has dictated a marked decline in employment by the Detroit 3 and their suppliers. In addition to closing many automotive manufacturing plants in Michigan and other traditional auto belt states, the Detroit 3 closed numerous plants that were located farther afield. Additionally, Ford and GM spun-off their auto parts operations, Visteon and Delphi. Neither of those firms was successful in transforming themselves into successful stand-alone companies, and both laid-off thousands of UAW workers as the Detroit 3 lost market share.

In instituting restructuring plans and devising ways in which to compete head-on with foreign-owned manufacturers in the U.S. market, the Detroit 3 have shuttered plants and reduced employment, and have plans to continue to streamline their operations in the years ahead. While nothing is likely to compensate for Detroit 3 job losses, the foreign-based companies' U.S. operations have created assembly and auto parts jobs on a significant scale. Many, but not all, of the new jobs are located far from the traditional auto belt states.<sup>59</sup> Furthermore, given the reportedly greater efficiency of the foreign-owned plants, fewer jobs appear to be created than those lost. Job creation by foreign-owned OEMs was not sufficient to offset a net overall U.S. automotive sector loss of 231,000 jobs between 2003 and 2008 (see **Table 4**).

## Michigan, Ohio, Indiana: The Traditional Auto Belt

Michigan is more highly dependent on the automotive manufacturing industry than any other state, as much of its economy is tied to health of the Detroit 3 and their supplier networks. Nationwide, spending on autos and light trucks has fallen significantly over the last year. With automotive manufacturing accounting for nearly a third of all manufacturing jobs in the state last year, Michigan's large auto manufacturing industry has been hit particularly hard by the loss of market share from the traditional Detroit 3 automakers. Unlike other states, particularly in the South, Michigan has experienced no investment in motor vehicle assembly operations by foreign OEMs in the past 20 years (excluding the Daimler acquisition of the entire Chrysler group from 1998 to 2007). However, international auto companies have established 12 research and

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<sup>59</sup> But traditional auto states, Ohio and Indiana, are home to Honda (Ohio: 2 assembly plants, 1 engine plant, 1 transmission plant, 1 motorcycle plant, Honda Engineering North America, and Honda R&D Americas; Indiana: 1 assembly plant), Toyota (Indiana: 1 assembly plant); Toyota/Subaru (Indiana: 1 joint venture assembly plant).

development and design facilities in Michigan with about 1,700 employees, according to the Association of International Automobile Manufacturers.<sup>60</sup>

Michigan has lost more jobs than either Indiana or Ohio, the two other leading auto-manufacturing states. While the latter two states have maintained auto employment at more than 100,000 workers each year since 1990, Michigan's automotive manufacturing sector workforce declined by nearly 95,000 since 2003. Michigan's automotive workforce shrank by 36% during this time period, from 262,000 workers to 167,000. As a consequence, the loss of jobs in Michigan's manufacturing sector was substantial overall. Statewide, manufacturing employment fell by 20%, from over 717,000 jobs in 2003 to approximately 576,000 in 2008. Nearly 70% of the manufacturing jobs lost in Michigan were in the state's automotive manufacturing sector.

As shown in **Table 5**, Michigan's motor vehicle parts manufacturing industry posted the sharpest drop in employment on a percentage basis (down by 37%) of the three automotive manufacturing industry sectors, losing 66,000 jobs between 2003 and 2008. The number of jobs for Michiganders in the state's motor vehicle body and trailer manufacturing sector also declined, resulting in the loss of some 2,000 jobs since 2003. As a result of these declines, Michigan's share of all jobs in U.S. motor vehicle manufacturing has fallen substantially since 1990. In that year, one in four of all jobs in the motor vehicle manufacturing industry were located in Michigan; by 2008, the share had fallen to fewer than 1 in 5 jobs nationwide.

**Table 5. Employment Trends in Michigan's Motor Vehicle Manufacturing Industry, 2003-2008**

(number of employees, in thousands)

Michigan	2003	2004	2005	2006	2007	2008 (preliminary)	Change from 2003	Change from 2007
Motor vehicle mfg. (3361)	75	71	66	59	59	49	-26	-10
Motor vehicle body and trailer mfg. (3362)	9	10	9	9	9	7	-2	-2
Motor vehicle parts mfg. (3363)	177	169	158	146	131	111	-66	-20
Motor Vehicle Total	262	250	232	214	198	167	-95	-31
Manufacturing Employment	717	695	678	649	621	576	-141	-45
Private Sector Employment	3,680	3,665	3,664	3,613	3,565	3,465	-215	-100

**Source:** U.S. Department of Labor. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*. <http://www.bls.gov/cew/>.

**Notes:** These statistics cover NAICS 3361-3363. 2008 QCEW data are preliminary.

<sup>60</sup> Association of International Automobile Manufacturers, Michigan 2007. <http://www.aiam.org/public/aiam/impact/mi.aspx>.

The decline in the state's auto industry has driven up Michigan's unemployment rate. As of June 2009, 15.2% of the state's workforce was unemployed, the highest in the nation, according to preliminary statistics from the Bureau of Labor Statistics. This compares to 8.1% a year earlier. It is also nearly 6 points higher than the national average of 9.5% in June 2009<sup>61</sup> and above the next highest ranked states by unemployment of Rhode Island, Oregon, and South Carolina at 12.4%, 12.2%, and 12.1%, respectively.<sup>62</sup> In terms of its "auto intensity quotient" shown in **Table 4** above, the percentage of employment in the motor vehicle manufacturing industry compared to the national average, Michigan ranked 4.4 times more reliant on the industry than the national average, while Indiana was about three times above the national average, and Ohio about twice that level. The "auto intensity quotient" measures the percentage of employment in the motor vehicle manufacturing industry compared to the national average.

## **Foreign Automakers Help to Sustain Auto Manufacturing Employment in Indiana and Ohio**

Indiana—as the second-leading motor vehicle manufacturing state—has seen a moderate decline in employment by comparison to Michigan. As shown in **Table 4**, Indiana, with an automotive manufacturing workforce of 102,400, has a long history with major auto assembly and parts plants. GM, Chrysler, Subaru, Toyota, and Honda all have made significant investments in the state. The principal reason that Indiana has not seen major losses in auto employment has been the gradual, but significant, addition of foreign OEMs. In October 2008, Honda began to produce Civic sedans at a new \$550 million facility in Greensburg, Indiana.<sup>63</sup> According to Honda's website, the plant currently employs 1,000 workers and could reach 2,000 jobs as production ramps up to 200,000 cars per year.<sup>64</sup> The state is also home to a Subaru/Toyota plant (that produced 91,500 Subaru Legacy, Outback, and Tribeca vehicles and 91,000 Toyota Camry cars in 2008) and a Toyota manufacturing plant that employs 4,300 workers who make the Sequoia SUV, Sienna minivan, and, in late 2009, will begin producing the Highlander SUV.<sup>65</sup>

With one in five manufacturing jobs in the automobile manufacturing industry, Indiana rivals Michigan in auto manufacturing jobs as a percent of all manufacturing employment. Indiana replaced Ohio as the second leading automotive manufacturing state nationwide in 2007. Since 2003, Indiana's automotive manufacturing employment base fell by 23,000 jobs, far below the 95,000 jobs lost in Michigan during the same period.

Ohio's drop in employment has been greater than Indiana's as it lost 34,500 vehicle manufacturing jobs between 2003 and 2008. In 2007, Ohio fell to third place behind Indiana in auto manufacturing employment, with 114,200 automotive manufacturing workers in the state

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<sup>61</sup> The national unemployment rates are located on the Bureau of Labor Statistics Current Population survey page at <http://www.bls.gov/cps/>.

<sup>62</sup> The state-by-state unemployment rates are located on the Bureau of Labor Statistics Local Area Unemployment Statistics page at <http://www.bls.gov/lau/>.

<sup>63</sup> Honda, "Honda Begins Mass Production of Civic Sedans in Indiana," October 9, 2008. <http://world.honda.com/news/2008/c081009Production-Civic-Indiana/>.

<sup>64</sup> *Indiana Economic Digest*, "Honda Offers Buyouts, Cuts Pay," April 1, 2009. <http://www.indianaeconomicdigest.net/main.asp?SectionID=31&SubSectionID=114&ArticleID=47008>.

<sup>65</sup> Toyota Motor Manufacturing, Indiana, Inc. December 2008. [http://www.toyota.com/about/our\\_business/operations/manufacturing/tmmi/](http://www.toyota.com/about/our_business/operations/manufacturing/tmmi/).

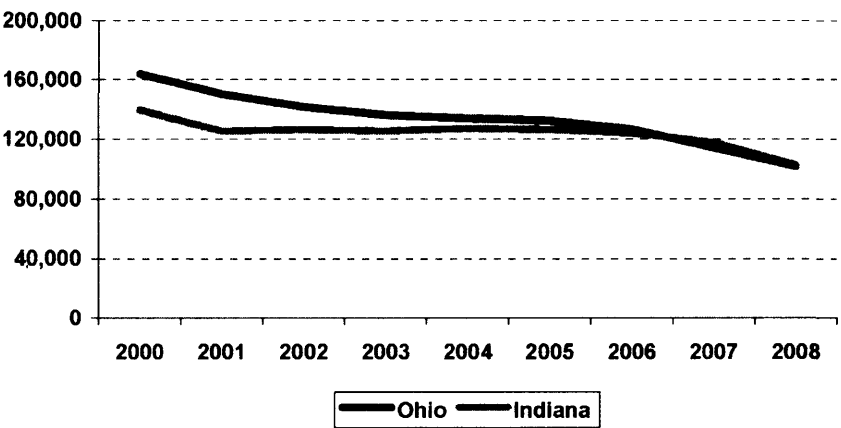


(see Table 4). In 2008, GM closed its plant in Moraine, Ohio, which produced the Chevy Trailblazer, GMC Envoy, and Saab 9-7X. Honda, Chrysler, and Ford also have assembly and other plants in Ohio. The number of jobs in Ohio’s motor vehicle assembly industry fell from 39,200 to 22,500 between 2000 and 2008.

Unlike Michigan, Ohio has seen major investment by foreign-owned assembly plants in the state. Honda assembly plants are located in Marysville and East Liberty, and an engine plant and transmission plant are located in Anna and Russells Point, Ohio, respectively. According to the Association of International Automobile Manufacturers, Honda has invested over \$6 billion in manufacturing facilities in Ohio and has approximately 11,500 production workers in Ohio.<sup>66</sup>

Employment losses were greatest in the automotive parts sector (NAICS 3363), which accounted for more than 70% of the entire automotive industry in the state. Employment fell from 111,800 in 2000 to 72,300 in 2008.<sup>67</sup> Auto assembly and parts manufacturing employment in the state fell to just over 100,000 workers in 2008. Motor vehicle manufacturing as a share of total manufacturing employment in Ohio has also decreased in recent years. In 2003, auto manufacturing accounted for 16.1% of all manufacturing in the state; in 2008, the percentage fell to 13.8%. The loss of 25% of employment in Ohio’s auto sector was greater than the loss posted in Ohio’s manufacturing sector overall—about 13%—from 2003 to 2008. In addition to the automotive parts identified in NAICS code 3363, Ohio also is a major producer of tires, glass, and other products built specifically for motor vehicles, but which are not captured by the NAICS codes that cover motor vehicle manufacturing.

Figure 6. Motor Vehicle Manufacturing Employment in Ohio and Indiana  
Number of Employees, 2000-2008 (preliminary)



Source: U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW). <http://www.bls.gov/cew/>.

Notes: These statistics are preliminary and cover NAICS 3361-3363. 2008 QCEW data.

<sup>66</sup> Association of International Automobile Manufacturers. Ohio. <http://www.aiam.org/public/aiam/impact/oh.aspx>.

<sup>67</sup> Ohio, Department of Development, Policy Research and Strategic Planning Office. *The Ohio Motor Vehicle Industry*. February 2009, p. 49.

Based on the most recently available data, over 40% of the nation's employees in motor vehicle manufacturing still work in Michigan, Indiana, and Ohio. However, since 1973 the U.S. domestic light vehicle producers have lost what was until then a stable oligopoly. From more than a 70 percent market share in 1988, U.S. domestic assemblers have, since 2002, produced less than half of the light motor vehicles sold in the United States. Between 1988 and 2003, the market share of U.S. brand trucks (light trucks, SUVs, and minivans) rose from 28.3% to 40.2% of all vehicles sold in the United States.<sup>68</sup> The share of U.S. brand cars fell from 46.3% to 18.0% between 1988 and 2007.<sup>69</sup>

While the Detroit 3 were able to capitalize on consumer demand for large vehicles, federal policies pointed toward greater fuel efficiency and less polluting vehicles. With very clear governmental priorities and preferences in Europe and Japan for smaller, more environmentally friendly vehicles, Japanese and European OEMs were better able to anticipate the longer term trends in the auto sector; Toyota, Honda, Nissan, and Hyundai developed a range of vehicles that included economy, compact, intermediate, standard, full size, premium, and luxury cars that appealed to the broadest possible range of U.S. consumers.<sup>70</sup> By producing many more light trucks than cars, the Detroit 3 found themselves in a difficult situation by 2004, when consumer demand began to shift rapidly in favor of cars. The high fuel prices and credit crisis of 2008 made it all but impossible for two of the Detroit 3 (GM and Chrysler) to avoid bankruptcy reorganization. Citing an analysis by Standard & Poor's, the Ohio Department of Development notes:

[T]he difference between the three largest Japanese assemblers—Honda, Nissan, and Toyota—and the Detroit 3 is that the former are expected to surpass their 2007 production levels in a few years, while the latter are not.<sup>71</sup>

## Motor Vehicle Employment Picture Changes in Most of the Leading Auto Manufacturing States

Kentucky, Tennessee, California, Illinois, Texas, and Alabama employed more than a quarter of the nation's automotive manufacturing employment base in 2008 (see **Table 4**). These six states have a combined automotive manufacturing workforce of over 224,000 and each has one or more motor vehicle assembly plants, as well as major parts supply industries, with auto industry employment greater than 30,000 persons in 2008, based on preliminary 2008 BLS data.

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<sup>68</sup> Ohio, Department of Development, Policy Research and Strategic Planning Office. *The Ohio Motor Vehicle Industry*. February 2009. pp. 67-68.

<sup>69</sup> Ibid.

<sup>70</sup> European OEMs concentrated U.S. production on SUVs, crossover vehicles, and sports models, but were able to export smaller vehicles from assembly plants in Europe.

<sup>71</sup> Ibid., p. 79.

## The Auto Industry's Southern Migration

### Alabama's Automotive Employment Base

The employment statistics underscore the migration of the automotive manufacturing industry southward. Foreign-based companies located their operations in the southern part of the United States, away from the traditional center of U.S. auto manufacturing, the auto belt states of Michigan, Indiana, and Ohio discussed above. This southern migration is largely attributable to foreign investors being drawn to the U.S. South's low-cost land and labor, along with states that promote more flexible labor regulations and do not appear to have a strong pro-union sentiment. Despite the present overcapacity in auto-making facilities, several new plants are slated for the South, with Kia and Volkswagen opening auto production plants in Georgia and Tennessee in late 2009 and in 2011, respectively. Kia is expected to open an assembly plant in West Point, Georgia and VW's assembly plant is to be in Chattanooga, Tennessee (see **Table 2**). Toyota is still constructing a new auto plant in Mississippi, although it has delayed its opening until the auto market turns up.<sup>72</sup>

Alabama has been successful in attracting foreign automakers: Mercedes-Benz, Honda, and Hyundai all have large vehicle assembly plants in Alabama, and Toyota makes V-8 engines in the state. Mercedes-Benz began production in its first North American manufacturing facility in Alabama in 1997 (see **Table 2**). Japanese automotive manufacturers have also located assembly operations in the state. Honda initiated mass production of its vehicles in 2001 and Toyota selected Alabama as the site for its first V-8 engine facility outside of Japan in 2003. Hyundai is the newest transplant automotive manufacturer to locate in the state.<sup>73</sup> This plant initially produced the Sonata sedan in 2005 and added the Santa Fe crossover (CUV) in 2006 at its new \$1.1 billion facility in Montgomery, Alabama.<sup>74</sup> The Hyundai plant is just over 100 miles and one hour and forty minutes from the new Kia plant in West Point, Georgia (Kia is a Hyundai subsidiary that will share many of the same parts suppliers). Alabama's vehicle production currently represents 8% of total auto production in the United States.

As a result of these investments, Alabama's auto manufacturing industry has fared much better than the traditional auto manufacturing states of Michigan, Indiana, and Ohio. As shown in **Table 6**, since 2003, while the United States as a whole lost 231,000 motor vehicle manufacturing jobs, Alabama added 12,000—the only gain of this magnitude in the country. Of these jobs, approximately 6,000 were in vehicle assembly, with another 5,000 in parts manufacturing.

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<sup>72</sup> West, Phil. "Toyota Puts Brakes on Mississippi Plant," *Commercialappeal.com*, December 15, 2008.

<sup>73</sup> Alabama Automotive Manufacturers Association, *An Alabama Industry Profile*. [http://www.aama.to/auto\\_profile.pdf](http://www.aama.to/auto_profile.pdf).

<sup>74</sup> Hyundai, Hyundai in the U.S., U.S. Investment. <http://www.hyundaiusa.com/abouthyundai/usinvestment/usinvestment.aspx>.

**Table 6. Employment Trends in Alabama's Motor Vehicle Manufacturing Industry, 2003-2008**

(number of employees, in thousands)

Alabama	2003	2004	2005	2006	2007	2008 (preliminary)	Change from 2003	Change from 2007
Motor vehicle mfg. (3361)	6	7	9	12	12	12	6	0
Motor vehicle body and trailer mfg. (3362)	3	4	5	6	5	5	2	0
Motor vehicle parts mfg. (3363)	12	13	17	17	17	17	5	0
Motor Vehicle Total	21	24	31	35	35	33	12	-1
Manufacturing Employment	294	292	298	303	296	284	-10	-12
Private Sector Employment	1,483	1,509	1,548	1,575	1,592	1,570	87	-22

**Source:** U.S. Department of Labor. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*. <http://www.bls.gov/cew/>.

**Notes:** These statistics cover NAICS 3361-3363. 2008 QCEW data are preliminary.

Notwithstanding the rapid growth of Alabama's auto industry over the last few years, it has been unable to sustain the pace in the face of anemic new car sales. Employment in Alabama's motor vehicle manufacturing segment was stagnant in 2007 and fell in 2008, following double-digit advances in 2005 and 2006. Despite these gains, motor vehicle manufacturing employment in 2008 was still only 11.7% of Alabama's manufacturing workforce, significantly below the traditional auto belt states, and its intensity quotient, at 1.8 times the national average, is also lower. The University of Alabama's Center for Business and Economic Research maintains that "while Alabama's motor vehicle and parts manufacturers are facing the same challenges as their counterparts in other states, to some extent they are in a better strategic position to rebound, primarily due to their product mix and to newer and relatively more efficient plants."<sup>75</sup>

Mercedes-Benz is reportedly preparing to expand its U.S. assembly plant in Vance, Alabama to produce "future products." This report comes following the steep fall in the production of vehicles at the Alabama plant as consumers steered away from SUVs like the M-Class in the wake of higher fuel prices. The plans include a \$290 million investment at the Vance, Alabama factory that would allow Mercedes to build more vehicles. The new expansion project is expected to take until 2011 to complete.<sup>76</sup>

<sup>75</sup> Center for Business and Economic Research, Culverhouse College of Commerce, The University of Alabama, "Economic Outlook Second Quarter 2009," Alabama Business, Second Quarter 2009. <http://cber.cba.ua.edu/pdf/ab2009q2.pdf>.

<sup>76</sup> Chappell, Lindsay, "Mercedes Prepares to Expand Alabama Plant," *Automotive News*, March 20, 2009. <http://www.autonews.com/apps/pbcs.dll/article?AID=/20090320/ANA02/903209969/1181>.

## **Auto Investment in Tennessee and Kentucky Remains Strong**

Similar to the automotive investment trends in Alabama, in the past 20 years, two other southern states in the I-65/I-75 auto corridor, Tennessee and Kentucky, have succeeded in attracting a number of foreign auto manufacturing plants (see **Table 2**). There is also a GM Saturn plant in Spring Hill, Tennessee. That trend continues to the present day. An estimated 43,000 Tennesseans were directly employed in automotive manufacturing in 2008, accounting for 12% of the state's manufacturing workforce, based on preliminary data from BLS. The Spring Hill plant is GM's third newest assembly plant. It opened in 1990 to assemble the Saturn brand of cars. However, Saturn production at Spring Hill, Tennessee, ceased in March 2007, and the plant now builds the Chevrolet Traverse. GM recently announced that its Spring Hill plant has not been designated for permanent closure; it will be placed on "standby" and could build a future vehicle.<sup>77</sup>

In July 2008, the Volkswagen Group of America announced that it would produce a car specifically designed for the North American driver. That production facility will be located in Chattanooga, Tennessee. VW's decision to locate car production in Tennessee marks a return to U.S. production for the company, which closed its only U.S. plant in Pennsylvania in 1988.<sup>78</sup> The new plant is expected to employ about 2,000 people when it reaches full production, which is scheduled to begin in 2011. There is no indication that VW will delay its plans due to the existing tough economic conditions facing all auto manufacturers.<sup>79</sup>

Some industry analysts have noted that the falling value of the U.S. dollar may have been a key factor in VW's decision to resume car production in the United States. The decline of the U.S. currency has increased the cost of overseas production, and conversely made U.S.-based auto manufacturing more cost effective. At its new Chattanooga facility, VW intends to develop a car to compete with Honda's Accord and Toyota's Camry. Economists at the University of Tennessee in Knoxville project the Volkswagen plant could generate 11,477 jobs at the plant, its suppliers and related businesses.<sup>80</sup>

As in Tennessee, the motor vehicle industry has a strong presence in Kentucky. In 2008, 781,000 cars and light trucks were assembled in the state, third nationwide behind Michigan and Ohio.<sup>81</sup> These vehicles are manufactured by General Motors at their Bowling Green plant, which produces the Corvette and Cadillac XLR. In addition, Ford has a plant in Louisville that produces the Ford Explorer, among other vehicles. Toyota's Georgetown plant manufactures the Toyota Camry, Avalon, and Solara. The most recent figures indicate that light vehicle production in Kentucky fell by 25% in 2008.<sup>82</sup>

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<sup>77</sup> Lareau, Jamie, "GM Identifies 14 Plants to be Closed or Idled," *Automotive News*, June 1, 2009. <http://www.autonews.com/article/20090601/ANA02/906019968/1128>.

<sup>78</sup> Volkswagen was the first foreign automaker to open a U.S. plant and was also the first (and only) to close a U.S. plant. Volkswagen has supplied the U.S. market with imported cars ever since.

<sup>79</sup> Parc, Mike, "Chattanooga: VW Reaffirms Plant Despite Profit Drop; CEO Visit," *Chattanooga Times Free Press*, April 23, 2009. <http://www.timesfreepress.com/news/2009/apr/23/chattanooga-vw-reaffirms-plant-despite-profit-drop/?volkswagen>.

<sup>80</sup> Fox, William, Murray, Matthew, and Watts, Ann, "Economic and Sales Tax Revenue Effects of Volkswagen's Location of its Automobile Assembly Plant in Chattanooga, Tennessee," Center for Business and Economic Research, pp. 1-2, August 2008. [http://www.chattanoogachamber.com/PDF\\_Files/110308\\_VWTEconomicImpactStudy%20\(2\).pdf](http://www.chattanoogachamber.com/PDF_Files/110308_VWTEconomicImpactStudy%20(2).pdf).

<sup>81</sup> Automotive News, *2008 Market Data North American Production*, Crain Communications. April 7, 2008, p. 3.

<sup>82</sup> Ibid.

As a result of the Ford, GM, and Toyota automotive manufacturing facilities that operate in Kentucky, over 18% of state's manufacturing workforce was employed in the motor vehicle manufacturing industry in 2008, with an automotive workforce of almost 45,000, down from a high of over 50,000 jobs earlier in the decade. Kentucky recorded a higher level of motor vehicle manufacturing employment as a percentage of all manufacturing employment in the state than Ohio's 14%, and a higher intensity quotient as well (2.8% compared to 2.1%). Since 2003, there has been a steady decline of motor vehicle manufacturing jobs in Kentucky, with the biggest decreases recorded between 2003 and 2004 (the state's automotive sector shed approximately 1,200 jobs) and from 2006 and 2007 (with 2,500 fewer workers than the previous year). Preliminary 2008 data indicate a continuation of that trend, with automotive manufacturing employment in the state down by nearly 11% over 2007, or a loss of 5,500 jobs.

### **Auto Industry is a Growing Presence in Texas and Remains Significant in Illinois, Missouri, and California**

Automotive assembly manufacturers have also located operations in Texas, which recorded a gain in assembly operations, mostly from a large new Toyota Tundra light truck plant that began operating in San Antonio in 2006.<sup>83</sup> In addition, General Motors' Arlington plant is in the Dallas-Fort Worth area. So far, no changes at the Arlington, Texas GM plant have been announced.<sup>84</sup> Between 2003 and 2008, the state added over 5,000 automotive manufacturing jobs employing 34,200 Texans, second only to the net increase in jobs posted in Alabama during the same time period (see **Table 4**). As a percentage of the state's manufacturing base, motor vehicle employment increased from 3.2% in 2003 to 3.7% last year. What the current troubles of the Detroit automakers, particularly GM's restructuring plans, will mean for the long-term growth of auto manufacturing in Texas remains to be seen. While there has been an observable "retreat back to the Midwest" by the Detroit 3, any decision to end GM production of the Chevrolet Suburban and Tahoe, GMC Yukon, and Cadillac Escalade (all large SUVs) at Arlington, Texas would practically cede all auto production in the state of Texas to Toyota.

Illinois, Missouri, and California, all of which have been top auto manufacturing states for decades, have not attracted any new foreign- or domestically-owned assembly plants since 1990. The auto industry shares of Illinois and Missouri's manufacturing workforces were significant in 2008 at 5.2% and 8.4%, respectively. California's auto industry comprised a much smaller share of its manufacturing base at around 2.4% in 2008.

Illinois has a long history as a major automotive state, especially in auto parts production. Ford's oldest continually operating plant, Chicago Assembly, began producing Model Ts in 1924. The plant currently manufactures the Ford Taurus and Lincoln MKS. Ford will also begin producing Explorers at the Chicago plant in mid-2010. Chrysler has produced cars in Belvidere, which is located in northern Illinois, since 1965. The Belvidere plant, closed since April 30, 2009, reopened on July 27, 2009.<sup>85</sup> Belvidere's products include the Dodge Caliber (compact) and Jeep Compass and Patriot and, in 2011, Belvidere is slated to begin production of Fiat models (the

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<sup>83</sup> Toyota, "Toyota Begins Tundra Production in San Antonio," November 17, 2006. <http://www.toyota.com/about/news/manufacturing/2006/11/17-1-TMMTX.html>.

<sup>84</sup> Associated Press, "Arlington Not On List of GM Plant Closures," *Dallas Morning News*, June 3, 2009. <http://www.dallasnews.com/sharedcontent/dws/bus/stories/060408dnbusgm.479195.html>.

<sup>85</sup> *Wall Street Journal*, "Chrysler's North American Plants to Resume Production in July," June 19, 2008.

Fiat-based Dodge Hornet and the Alfa-Romeo-based Chrysler Mito). The only foreign-owned OEM in Illinois is the Mitsubishi assembly plant in Normal, Illinois. It employs approximately 1,800 workers and manufactures the Eclipse coupe, Galant sedan, and Endeavor SUV.

The Illinois automotive industry, which had nearly 34,300 workers in 2008, shed 6,800 jobs since 2003, with most of this decline attributable to 4,800 fewer jobs in the auto parts manufacturing segment of the industry. As in other states, Illinois' manufacturing base is highly dependent on automotive manufacturing, which accounted for more than 5% of total manufacturing employment in 2008 (see Table 4).

Automotive manufacturing is an important part of Missouri's economy. The automotive industry accounts for 8.4% of total manufacturing employment in the state. Ford, GM, and Chrysler operate assembly plants in Missouri. Since 2003, automotive industry employment in the state has fallen. The most recent statistics indicate 12,500 fewer autoworkers in Missouri in 2008, based on preliminary data, than in 2003, with employment dropping from approximately 37,000 to fewer than 25,000 last year. The announced closing by Chrysler of its St. Louis North assembly plant by the end of next year will eliminate Chrysler manufacturing in Missouri.

In California, the Fremont auto assembly plant had been a joint venture between GM and Toyota since 1984. As part of the GM bankruptcy proceeding, the joint venture, known as New United Motor Manufacturing Inc. (NUMMI), was listed as an asset of "Old" GM, now formally known as Motors Liquidation Company. The Fremont plant was the last major auto assembly facility in California.<sup>86</sup> It operated as a training facility for both Toyota and GM. As its entry point into the U.S. market, Toyota operated the facility to determine the feasibility of establishing manufacturing operations in the United States. For GM, NUMMI provided GM executives and UAW workers with valuable insights into the way Toyota operates.<sup>87</sup> Numerous GM executives worked at NUMMI, as did Akio Toyoda, Toyota's new president.<sup>88</sup>

In July 2009, the NUMMI plant was running three assembly lines, producing the Toyota Corolla compact car, the Toyota Tacoma pickup truck, and the Pontiac Vibe hatchback. Employment at the plant is approximately 4,500 workers. In early July, Toyota announced that GM's exit from NUMMI has "prompted a set of difficult and complex decisions for Toyota."<sup>89</sup> While the "new" GM is no longer a partner in NUMMI, Toyota will likely consider many factors, even if it makes a quick decision about the plant's future. Some of these factors are: NUMMI has reportedly never made a profit for either company; it is Toyota's highest cost facility; wage costs are as much as 80% higher at NUMMI than many of Toyota's newer facilities; it is the only plant that Toyota operates with UAW labor; and it is at the very far end of Toyota's American supply chain.

On the other hand, California is Toyota's largest market and a plant closing could result in possible criticism for the company; culturally, plant closings and even layoffs have been a very

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<sup>86</sup> Toyota will continue producing the Pontiac Vibe until August 2009 and the Corolla and Tacoma until Toyota makes a decision about the plant's fate.

<sup>87</sup> New United Motor Manufacturing, Inc. website, "what we're about," [http://www.nummi.com/us\\_roots.php](http://www.nummi.com/us_roots.php).

<sup>88</sup> *Automotive News*, "Final Assembly: GM's NUMMI news was buried in the small print," July 6, 2009. <http://www.autonews.com/apps/pbcs.dll/article?AID=/20090706/ANA03/307069941&AssignSessionID=273357677374500>.

<sup>89</sup> Linebaugh, Kate, "Toyota-GM NUMMI Plant at Risk," *Wall Street Journal*, July 13, 2009; *San Francisco Business Journal*, "Report: Toyota leaning to close NUMMI," July 21, 2009; Chappell, Lindsay, "Toyota says it may end NUMMI operations," *Automotive News*, July 13, 2009.

low priority for the company.<sup>90</sup> The Tacoma and Corolla are both very popular vehicles; a NUMMI closing would force Toyota to redistribute production of those models to other plants at a reported cost of \$500 million to \$1 billion.<sup>91</sup> For California, GM's bankruptcy will extend well beyond the NUMMI plant: it could create a domino effect throughout the state's auto supplier industry, especially if Toyota decides to terminate its portion of the joint venture.<sup>92</sup> Preliminary 2008 data indicate there were 34,200 automotive manufacturing jobs in the state, down from 40,500 in 2003, resulting in a 16% drop in auto industry employment. Automotive manufacturing comprises about 2.4% of the state's manufacturing base, but few states exert such a powerful influence over car design and car culture as California.

## Other Motor Vehicle Manufacturing States

Several other states have at least one light motor vehicle assembly plant, including those where plant closures were announced by 2008 (see **Table 4**). The table also includes states that have a major role in the auto industry as vehicle parts suppliers. Notable among these are North Carolina and New York (whose last assembly plant, in Tarrytown, was closed in the 1990s). But while motor vehicle industry-related employment has been relatively stable in North Carolina, it has declined by 19,600 jobs, or 51%, in New York since 1990, a higher rate of auto manufacturing-related employment loss than in Michigan during the same period.

South Carolina is another southern state that has attracted foreign-owned automotive investment. The number of automotive industry jobs in the state was relatively stable between 2003 and 2008, dropping slightly from 25,400 to 24,700. More than 10% of the state's manufacturing workforce in 2008 worked in the automotive sector. BMW's only North American plant was established there in 1994, and a \$750 million plant expansion is underway.<sup>93</sup> Capacity at the plant is expected to increase from 170,000 to 200,000 vehicles a year by 2012. The Spartanburg plant, which builds diesel versions of the X5 for the U.S. market and diesel-powered X5s and X6s for the European market, exported more than 60% of its Spartanburg production in 2008 to more than 100 countries. In 2009, BMW reported that it had 5,000 full-time jobs at its Spartanburg location and was operating two shifts.<sup>94</sup>

Delaware had one GM assembly plant, which closed in July 2009. The low-volume plant, which built the Pontiac Solstice, Saturn Sky, and Opel Roadster, produced 18,842 vehicles in 2008. According to GM, there were 1,875 employees at the Wilmington plant.<sup>95</sup> It is among the 14 GM

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<sup>90</sup> Liker, Jeffrey K., *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*. New York: McGraw-Hill, 2004. Chaps. 16-17.

<sup>91</sup> Avalos, George, "Toyota at NUMMI: Should they stay or should they go?" *MercuryNews.com*, July 17, 2009.

<sup>92</sup> Edmunds AutoObserver, "Future of GM-Toyota NUMMI Plant Uncertain with GM Bankruptcy," June 2, 2009. <http://www.autoobserver.com/2009/06/future-of-gm-toyota-nummi-plant-uncertain-with-gm-bankruptcy.html>; Greimel, Hans, "Toyota won't bear full cost of closing NUMMI," *Automotive News*, August 4, 2009.

<sup>93</sup> Barkholz, David, "Exports, flexibility help BMW's U.S. plant avoid layoffs," *Automotive News*, June 10, 2009.

<sup>94</sup> Barkholz, David, "Exports, flexibility help BMW's U.S. plant avoid layoffs," *Automotive News*, June 10, 2009; Woodward, Douglas and Paulo Guimarães, "BMW in South Carolina: The Economic Impact of a Leading Sustainable Enterprise," September 2008. <http://mooreschool.sc.edu/export/sites/default/moore/research/presentstudy/bmw/BMWReportSept2008.pdf>.

<sup>95</sup> GM reports on its website that there are 1,875 employees at its Wilmington Assembly Plant: [http://www.gmdynamic.com/company/gmability/environment/plants/facility\\_db/facilities/find\\_by\\_state?state=DE](http://www.gmdynamic.com/company/gmability/environment/plants/facility_db/facilities/find_by_state?state=DE).



plants in the United States that will close by 2011.<sup>96</sup> In August 2009, Delaware will no longer have an automotive assembly plant located in the state. The GM closure follows the closing of a Chrysler plant in Newark, Delaware in December 2008.<sup>97</sup> In October 2008, Chrysler closed its Newark SUV plant, which produced the Dodge Durango and Chrysler Aspen (see **Table 1**). Originally, plans to close the plant were announced in 2007, with the closure planned for 2009. However, the plants' closure was accelerated due to low demand. Last year, there were about 1,200 people employed in the state's small automotive manufacturing industry. They comprised about 4% of the state's manufacturing employment base.

In Mississippi, 6.2% of the state's workforce is engaged in automotive manufacturing, with automotive industry employment accounting for about 10,000 jobs in the state. Despite the establishment of a large Nissan assembly plant in Canton, Mississippi in 2003, which produces cars such as the Nissan Altima, Quest, Armada, Titan, and Infiniti QX56, with an annual production capacity of 400,000 vehicles,<sup>98</sup> Mississippi has recorded little net overall automotive manufacturing employment gain. Nissan is investing \$118 million in its Canton facility to build commercial vehicles (trucks).<sup>99</sup> Toyota, which has built a new facility in Blue Springs, near Tupelo, has yet to install production equipment and has deferred startup from 2010 until automotive demand improves. Initially, the plant was to build the Highlander, but Toyota later decided to locate Prius production at the facility. At present, Toyota has announced that it will not build the Prius there, but has not announced which vehicle will be produced there.<sup>100</sup>

In other states in this group, two assembly plants in Georgia, both in the Atlanta area—one owned by Ford, the other by GM, have closed in recent years.<sup>101</sup> As a result, automotive employment in the state dropped from 20,500 workers in 2003 to 15,600 last year, a loss of 4,900 jobs. Further, in September 2008, GM closed its minivan plant in Doraville, Georgia, affecting 1,500 employees (see **Table 1**). However, although the Detroit 3 no longer assemble vehicles in Georgia, the automotive manufacturing industry there will change as Kia Motors prepares to open a new assembly plant in West Point, Georgia, which is on the border with Alabama. This is the first manufacturing site in North America for the Korean-owned Kia Motors Corporation (Hyundai has controlling interest in Kia). The company announced that it would invest \$1.2 billion in its first U.S. production plant and it is scheduled to begin production in the last quarter of 2009. At full capacity, the plant will have the ability to produce 300,000 vehicles annually and it plans to employ approximately 2,500 workers.<sup>102</sup>

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<sup>96</sup> Gardner, Greg, "Which GM Factories are Likely to Close," *The Detroit Free Press*, April 28, 2009. <http://www.freep.com/apps/pbcs.dll/article?AID=2009904280331>.

<sup>97</sup> Visnic, Bill, "Plant Closings May Not Be Over For GM," *Edmunds AutoObserver*, July 17, 2009. <http://www.autoobserver.com/2009/07/plant-closings-may-not-be-over-for-gm.html>; Abuelsamid, Sam, "Short Run for Chrysler Hybrids? Newark DE Plant to Close December 31, 2008," *Autoblog Green*, October 23, 2008. <http://www.autobloggreen.com/2008/10/23/short-run-for-chrysler-hybrids-newark-de-plant-to-close-dec-3>.

<sup>98</sup> Nissan, *About Nissan*, <http://www.nissanusa.com/about/corporate-info/nissan-in-north-america.html>.

<sup>99</sup> Nissan North America, Nissan Commercial Vehicles, News and Events, "Nissan expands Canton plant as it prepares to build Commercial Vehicles." <http://www.nissancommercialvehicles.com/news-events/detail/9>.

<sup>100</sup> Chandler, Clay, "Promises Kept by Toyota in Blue Springs," *The Mississippi Business Journal*, February 23, 2009. <http://www.allbusiness.com/automotive/motor-vehicle-models-sedans/11819698-1.html>.

<sup>101</sup> *Associated Press*, "Ford, GM Cuts Leave Georgia Out in Cold in Auto Plant Battle," January 24, 2006. <https://www.accessnorthga.com/detail.php?n=131399&c=8>.

<sup>102</sup> Kia Motors, "First Major Auto Assembly Equipment for KIA Arrives in the U.S.," October 9, 2008. [http://www.kmmgusa.com/news\\_10\\_09\\_08.aspx](http://www.kmmgusa.com/news_10_09_08.aspx).

Ford has also announced closure of the only assembly plant in Minnesota. The Ford Motor Company plant in St. Paul was expected to close in September 2008,<sup>103</sup> but more recently Ford has announced that they would keep the Twin Cities plant open through 2011. Minnesota's automotive employment base totaled approximately 6,000 workers in 2008, down from more than 8,000 in 2003. Chrysler closed its large assembly plant in Kenosha, Wisconsin (a former AMC plant), two decades ago, but still maintains an engine plant there (earlier this year, the company announced layoffs at the factory that has operated in Kenosha for more than 100 years).<sup>104</sup>

Because of GM's financial problems and the decline in SUV sales, the company accelerated the closure of its Janesville, Wisconsin plant, which produced the Chevrolet Tahoe and Suburban and GMC Yukon and Yukon XL full-size SUVs.<sup>105</sup> That plant closed in December 2008 (see **Table 1**). The closures affected approximately 2,200 employees. This will reduce the state's automotive manufacturing base this year even further, continuing the downward trend of recent years. Between 2003 and 2008, the state lost more than 5,500 automotive manufacturing jobs.

GM also builds trucks in Kansas and Louisiana. GM reports that it employs 2,153 workers at its Shreveport, Louisiana plant, which opened in 1981,<sup>106</sup> and 2,350 workers are employed at the company's Fairfax assembly plant in Fairfax, Kansas.<sup>107</sup> The Shreveport assembly plant was not on the list of GM plant closures announced on June 1, 2009, nor was the Fairfax assembly plant.<sup>108</sup> In none of these states is the auto industry share of manufacturing employment greater than 5%. Last year, Kansas and Louisiana together employed over 11,600 auto manufacturing workers.

New automotive manufacturing jobs might be created in Louisiana in the years ahead as a result of a recently announced new auto company investment backed by T. Boone Pickens and the Silicon Valley venture capital firm, Kleiner Perkins Caulfield & Beyers, among others. Louisiana Economic Development announced on June 17, 2009, the investment in the new auto company, V-Vehicle Company (VVC). Production at the new assembly plant in Monroe, Louisiana, could begin in 15 months and could create over 1,400 direct jobs, according to an economic impact analysis by Louisiana State University.<sup>109</sup>

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<sup>103</sup> DePass, Dee, "Ford's Latest Plan: St. Paul Plant Will Close in September 2009," *StarTribune.com*, <http://www.startribune.com/business/16195272.html>.

<sup>104</sup> Content, Thomas, "Chrysler: Kenosha Layoffs on Hold," *The Journal Sentinel*, March 25, 2009. <http://www.jsonline.com/business/41824082.html>.

<sup>105</sup> Associated Press, "GM Plant in Janesville Closing for Good This Week," *Milwaukee-Wisconsin Journal Sentinel*, April 19, 2009. <http://www.jsonline.com/news/wisconsin/43254027.html>.

<sup>106</sup> GM Facilities, Global Operations, [http://www.gmdynamic.com/company/gmability/environment/plants/facility\\_db/facilities/21](http://www.gmdynamic.com/company/gmability/environment/plants/facility_db/facilities/21).

<sup>107</sup> GM Facilities, Global Operations, [http://www.gmdynamic.com/company/gmability/environment/plants/facility\\_db/facilities/find\\_by\\_state?state=KS](http://www.gmdynamic.com/company/gmability/environment/plants/facility_db/facilities/find_by_state?state=KS).

<sup>108</sup> *Times-Picayune*, "General Motors Plant in Shreveport Escapes Closure," June 1, 2009. [http://www.nola.com/business/index.ssf/2009/06/general\\_motors\\_plant\\_in\\_shreve.html](http://www.nola.com/business/index.ssf/2009/06/general_motors_plant_in_shreve.html).

<sup>109</sup> Louisiana Economic Development, "New American Car Company Will Make History in Louisiana," June 17, 2009. <http://www.ledlouisiana.com/news--multimedia/news-releases/new-american-car-company-will-make-history-in-louisiana.aspx>, "V-Vehicle Company." [http://www.ledlouisiana.com/downloads/V-Vehicle\\_Company\\_Info\\_&\\_Bios.pdf](http://www.ledlouisiana.com/downloads/V-Vehicle_Company_Info_&_Bios.pdf).

## Outlook

The U.S. automotive industry is a major employer of manufacturing workers in the United States. The industry is undergoing a substantial restructuring that has generally affected all segments of the industry, including domestic as well as foreign OEMs and parts suppliers. U.S. producers of motor vehicles and auto parts have been much more affected by the economic recession than foreign companies that do business in the United States. For the most part, companies like Toyota, Nissan, Honda, BMW, Mercedes, and Hyundai are well capitalized and are expected to regroup as the global recession comes to an end. Ford has significant cash reserves, is reducing its debt, has renegotiated its contract with the UAW, and no longer has onerous legacy costs that previously added significantly to Detroit 3 production costs. GM and Chrysler went through a bankruptcy reorganization process that saw the “good assets” sold to new owners. The “bad assets” were left in bankruptcy with “Old GM” (a/k/a Motors Liquidation Company) and “Old Chrysler” (a/k/a Carco LLC).

The U.S. Bankruptcy Court agreed to a settlement that saw the “new” Chrysler (Chrysler Group LLC) sold to Fiat (initially 20%), the United Auto Workers union (a 68% stake), and the U.S. and Canadian governments (a 12% stake combined),<sup>110</sup> and the “new” GM (General Motors Company) to the U.S. Treasury (60.8%), the Canadian and Ontario governments (11.7%), a health care trust fund operated for the benefit of UAW retirees (17.5%), and unsecured bondholders and other unsecured creditors of GM (10%).<sup>111</sup> As with Ford, the new GM and new Chrysler contracts with the UAW were renegotiated as part of the bankruptcy package, with significant changes to health care, retirement, and compensation. Management ranks at GM and Chrysler have been reduced by tens of thousands and current retiree benefits for managers were reduced significantly and immediately. Nevertheless, GM is expected to continue to close facilities until 2011. The former parts divisions of GM and Ford, Delphi and Visteon, are both in bankruptcy and remain reliant on GM and Ford for most of their sales. Some other U.S. auto parts suppliers are either bankrupt or are expected to be if the market stabilizes at levels well below 16 million units per year. Foreign competitors are in better financial shape and continue to look for investment opportunities in the United States and elsewhere—although expansion opportunities in the U.S. may be limited until sales pick up dramatically.

GM and Chrysler may account for a smaller share of U.S. auto production in the next few years. Both companies and Ford appear to be revamping their product lineups to achieve a better balance between cars and light trucks and between small, more fuel-efficient vehicles and larger vehicles. To succeed, most analysts agree that all three companies will have to make a profit in all segments of the auto market. There is no long-term certainty that SUVs and trucks can be the main profit centers for these companies moving forward.

At the national level, employment in the industry as a whole will continue to decline in 2009 and 2010 as the Detroit 3 and the foreign OEMs restructure their business operations and auto parts suppliers continue to adjust to significantly lower demand for auto parts. While several foreign-owned OEMs continue to invest in the United States, the recession has slowed their overall levels of investment and has caused companies like Toyota to rethink their strategy for the U.S. market

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<sup>110</sup> CRS Report R40003, *U.S. Motor Vehicle Industry: Federal Financial Assistance and Restructuring*, coordinated by Bill Canis, p. 27.

<sup>111</sup> General Motors, Form 8-K, July 16, 2009, p. 49, [http://www.gm.com/corporate/investor\\_information/sec/](http://www.gm.com/corporate/investor_information/sec/).

going forward. Because employment is heavily concentrated in the traditional auto belt states (Michigan, Ohio, and Indiana) and increasingly in the southern states along the I-65/I-75 corridors, the impacts will likely be most deeply felt among the OEMs and their suppliers—at least until demand for new vehicles picks up. But the challenges confronting the Detroit 3 have also been shared more broadly, to some extent, by states like New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, Missouri, Wisconsin, Illinois, and California, where auto assembly and parts plants have been in the process of closing over the past 30 years.

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