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*Motor Vehicle Manufacturing Employment: National and
State Trends and Issues*

Stephen Cooney, Resources, Science, and Industry Division

December 27, 2007

Abstract. This report looks at four sets of issues that have received attention in Congress or among the public more widely, with respect to employment in the U.S. motor manufacturing industry.

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Motor Vehicle Manufacturing Employment: National and State Trends and Issues

Stephen Cooney

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Summary

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The U.S. motor vehicle manufacturing industry employs about 1 million workers, or about 7.5% of the entire U.S. manufacturing workforce, including those who work in manufacturing parts and bodies, as well as those who assemble motor vehicles. Since 2000, the industry has eliminated about 300,000 manufacturing jobs, but the employment level is still almost as high as in 1990. By comparison, manufacturing in general has suffered a much higher rate of job loss.

The Detroit-based U.S.-owned manufacturers (General Motors, Ford, and Chrysler, collectively known as the “Big Three”), all of which are organized by the United Auto Workers union (UAW), have cut back domestic production by 3 million units since 2000, accounting for all the net employment losses. The shift in consumer preferences from trucks and SUVs to smaller vehicles has accelerated a loss of market share by the Big Three producers and gains for foreign-owned domestic manufacturers and imports. Big Three employment losses were partially offset by new investments by foreign-owned manufacturers in the United States. Today, companies owned by foreign investors produce 28% of all U.S.-made light motor vehicles, up from 11% in 1990.

The patterns of job loss and creation have not been evenly distributed around the country. Forty-four percent of all persons in the industry work in a “heartland auto belt” of three states, Michigan, Ohio, and Indiana, each of which has more than 100,000 persons in the industry. Michigan alone has accounted for more than a third of the net job loss in the industry since 2000. Losses in Ohio and Indiana have been less severe, offset somewhat by foreign investment. Alabama has been the big recent job gainer, adding 15,000 jobs since 2000. Tennessee and Kentucky, now the fourth and fifth largest producing states, have added the most jobs since 1990, and South Carolina has also seen a big net gain. These jobs, mostly non-union, have stretched the “auto belt” more to the South.

New fuel economy standards for automobiles and light trucks, as approved by Congress and signed into law (P.L. 110-140), may encourage greater development of small, fuel efficient cars, but the number of such U.S. plants, even for foreign-owned companies, has declined in recent years. S. 2191, approved at committee level in the Senate in December 2007, would use funds from the auction of emission allowances to support domestic manufacture of fuel-efficient vehicles and components. Congress may also consider the proposed Korea-U.S. Free Trade Agreement, which addresses the current imbalance in automotive trade. The Employee Free Choice Act (H.R. 800), approved by the House, but on which a cloture vote failed in the Senate, could help the UAW organize foreign-owned companies.

In seeking to improve the competitiveness of Big Three assembly operations against both non-union domestic producers and imports, the UAW and the Big Three in 2007 negotiated new contract bargaining agreements. The deals addressed health care costs, wage levels, and other issues.

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Introduction¹

The 110th Congress is addressing many issues that could have a major impact on the U.S. motor vehicle manufacturing industry. This includes adopting new fuel economy standards for automobiles and light trucks (P.L. 110-140), plus consideration of legislation that may be used to help promote the manufacturing of future generations of fuel-efficient vehicles (S. 2191). Also, it includes the proposed Korea-U.S. Free Trade Agreement, because Korea is a major supplier of cars and trucks to the U.S. market. In the field of industrial relations, the Employee Free Choice Act (H.R. 800), approved by the House, but on which a cloture vote failed in the Senate, could be significant in an industry in which all assembly plants owned by U.S. domestic corporations are union-organized, while virtually none operated by foreign-owned companies are.²

Any legislative action by Congress that affects U.S. motor vehicle production and sales will have a major impact on U.S. manufacturing employment. The share of U.S. manufacturing employment directly employed in manufacturing motor vehicles and parts in 2006 was 7.5%, or about 1 million workers.³ There are also many industries whose output is sold in large measure to the automotive industry. For example, 14% of the output of the U.S. steel industry in 2006 was shipped to the motor vehicle industry, which is the second-largest sectoral user.⁴

Within Congress and throughout the country, there have been many concerns expressed about lost jobs in the automotive industry. Indeed, according to the U.S. Labor Department's Quarterly Census of Employment and Wages, automotive manufacturing employment declined by about a quarter between 2000 and 2006. However, over the longer term, automotive manufacturing employment has held up much better than overall manufacturing employment. While the United States has seen overall manufacturing employment decline by about 3.5 million jobs since 1990, employment in the auto industry declined only marginally over this longer period. But the Detroit-based "Big Three" U.S. auto manufacturers (General Motors, Ford, and Chrysler) are still in the middle of restructuring efforts, which could imply further employment reductions in the near future, and the total level of employment could decline further.

By contrast, employment has increased at foreign-owned motor vehicle assembly and parts plants. This change has offset at least partially the decline in employment at the Detroit Big Three and their suppliers. As foreign-owned manufacturers have increased U.S. motor vehicle sales, market share, production, and employment, the perception has grown that contract agreements

¹ John Williamson of the CRS Knowledge Services Group assisted in the preparation of the data for this report, especially for Tables 2-4.

² On this divergence in industrial relations organization, see CRS Report RL32883, *U.S. Automotive Industry: Recent History and Issues*, by Stephen Cooney and Brent D. Yacobucci, pp. 37-43.

³ This ratio is based on annual data for 2006 reported by the U.S. Dept. of Labor, Bureau of Labor Statistics, in "National Employment, Hours and Earnings," drawn from the *Current Employment Statistics* survey. It includes all employees at manufacturing establishments, and, for motor vehicles, all employees included in North American Industry Classification System categories 3361, 3362, and 3363 (these categories will be described below in this report). Unless otherwise defined, this categorization is the basis for statements in this report regarding motor vehicle manufacturing employment.

⁴ However, this does not include steel shipments to metals service centers, some of which also may supply auto parts manufacturers; see "Steel Markets" in American Iron and Steel Institute, *Annual Statistical Report* (2006).

that bind the domestically owned companies have been impediments to their competitiveness. In the autumn of 2007, the United Auto Workers⁵ (UAW) union negotiated new collective bargaining agreements with each of the Detroit Big Three. These new agreements seek to reduce or remove the perceived structural issues in union contracts.

This leads to a further major aspect of the issue, which will be explored in this report. Changes in automotive employment have not been geographically balanced. The decline overall has had the strongest impact by far on Michigan, and to a lesser extent on Ohio and Indiana, the other two leading Midwest auto manufacturing states. Other states outside this region, such as New York, New Jersey, Maryland, Georgia, Virginia, and Oklahoma, have lost their Big Three assembly plants since 1990, but are generally less reliant on auto manufacturing employment. Meanwhile, foreign-owned nameplate manufacturers (original equipment manufacturers, or “OEMs” in the industry) have established new plants largely, though not exclusively, in the South during this period. As assembly plants tend to draw parts supply plants in their direction, there is evidence that what *Automotive News* labels the “new American manufacturers” have extended the traditional Midwest “Auto Belt” more into a corridor that includes the mid-South.⁶

This report looks at four sets of issues that have received attention in Congress or among the public more widely, with respect to employment in the U.S. motor manufacturing industry:

- *National employment trends.* Is there an employment crisis in the U.S. automotive manufacturing industry?
- *State and regional developments.* What is the impact of automotive manufacturing trends on states and regions? As Michigan has apparently borne the brunt of automotive employment cutbacks and by 2007 was suffering from the nation’s highest unemployment rate, is this a “one-state recession,” as some have said, or is the impact broader?
- *Fuel economy and small vehicle manufacturing.* In view of the congressional debate over fuel economy rules, where are smaller, fuel-efficient vehicles made in the United States, and who makes them?
- *New UAW labor contracts with the Detroit Big Three.* How do these new agreements address some of the competitiveness issues raised by the domestically owned industry?
- *Impact of federal legislative proposals.* Finally, and in conclusion, the report will briefly review the status of legislative issues that may have a major impact on U.S. automotive employment.

⁵ Formally, the United Automobile, Aerospace and Agricultural Implement Workers of America.

⁶ For a detailed analysis of this phenomenon, see Thomas H. Klier and Daniel P. McMillen, “The Geographic Evolution of the U.S. Auto Industry,” in Federal Reserve Bank of Chicago, *Economic Perspectives* (2nd qtr., 2006), pp. 2-13.

Motor Vehicle Manufacturing Jobs: A National Crisis?

Is the national auto manufacturing base in a crisis? One answer might be in perceptions, but perceptions, especially in this case, shape reality. The reality is that many Americans identify American industrial competitiveness with the competitiveness in the marketplace and on the factory floor of the traditional Detroit-based Big Three.⁷

The economic health of the Big Three is not good. The public perception of this circumstance is influenced by a confluence of recent major developments:

- First, there were widely publicized bankruptcies and financial distress in the auto supplier sector associated with the Big Three. Notably, this included the largest industrial bankruptcy of all time, the declaration of Chapter 11 by Delphi Corporation, formerly the parts manufacturing arm of General Motors, in October 2005.
- Since 2005, the Big Three, including Chrysler, which for most of this period was a subsidiary of German-owned DaimlerChrysler AG, each have reported losses cumulating in the billions of dollars.
- Moreover, there have been widely reported “buyouts” by the Big Three of unionized production employees to get their contracts off the company books, and mid-contract “givebacks” on health care coverage requested by each of the Big Three (and negotiated by the UAW with Ford and GM, but denied to Chrysler).
- As oil has climbed near the \$100-per-barrel level, as gasoline prices increased by 50% in an unstable global security environment, and as policy concerns with climate change issues increased, sales of pickup trucks and SUVs, the Big Three’s most popular and profitable vehicles, stagnated or declined in 2006-07. Congress approved in 2007, and the President signed into law, new fuel economy rules as part of P.L. 110-140, an energy legislation package, notwithstanding some concerns by the Big Three and the UAW that their employment levels could be hurt.⁸ Although Toyota, for example, publicly sided with the Big Three position, the success of its Prius hybrid vehicle reinforced a public impression that the Japanese companies are the leaders in fuel economy.⁹

⁷ This perspective may have been reinforced by a seminal and critical work on Big Three auto production methods authored by the MIT International Motor Vehicle Project in *The Machine That Changed the World* (New York: Rawson Associates, 1990).

⁸ A discussion of this legislation is in CRS Report RL33982, *Corporate Average Fuel Economy (CAFE): A Comparison of Selected Legislation in the 110th Congress*, by Brent D. Yacobucci and Robert Bamberger.

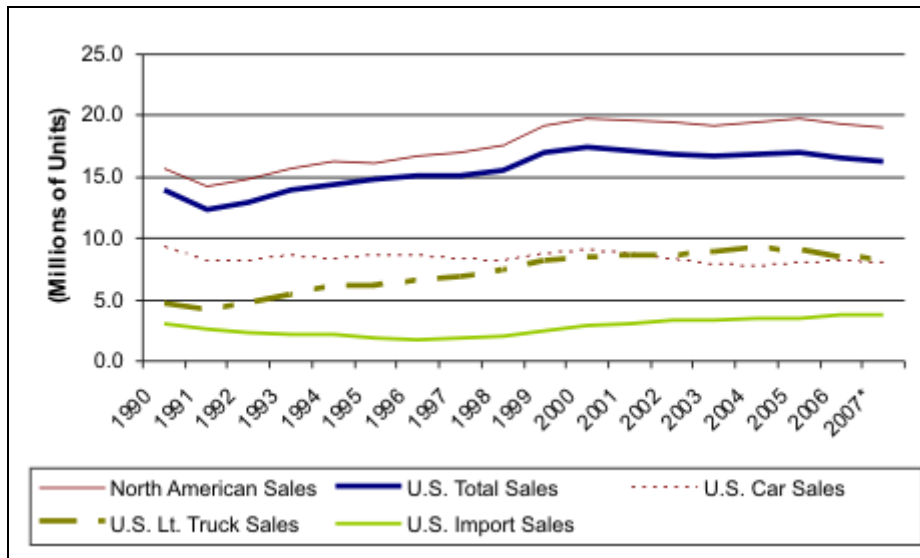
⁹ A voter survey taken by the Pew Campaign for Fuel Efficiency and the National Environmental Trust indicated that 69% said they supported the across-the-board 35 mpg light-vehicle standard by 2020 that would be required in the original Senate-passed measure. Only 19% said they supported a moderate alternative (H.R. 2927) proposed in the House and supported by auto manufacturers and the UAW. “When read several of the arguments made by automakers in lobbying ads against the [Senate] plan, including predictions of job cuts and more expensive vehicles, none garnered more than 25% support from those polled.” *Detroit Free Press*, “Give Us More M.P.G., Voters Say” (November 10, 2007).

- Compounding the impression of Japanese technological leadership in fuel economy, Toyota is pressing GM for the overall global leadership in motor vehicle sales and production. It has also overtaken Ford, another U.S. industrial icon, for second place in domestic market share.¹⁰

On top of these adverse developments from the Big Three’s perspective, the overall market, in terms of U.S. and North American sales, declined significantly in 2006 and 2007. **Figures 1** and **2** illustrate how both sales and production have declined, affecting especially production at Big Three UAW-organized assembly plants.

Figure 1. Motor Vehicle Sales

(Cars and Light Trucks)



Sources: *Automotive News Market Data Books*, supplemented by 2007 data from *Automotive News and Ward’s Motor Vehicle Facts & Figures (2007)* for U.S. imports.

*Annual rate (U.S., Canada - Jan. Oct.; Mexico - Jan.-Sept.).

Sales and Production Trends in the U.S. Market

U.S. Demand for Domestically Made Vehicles Declines—Trucks Worst Affected

Figure 1 illustrates sales of cars and light trucks in the North American and U.S. markets. It shows total North American sales, because the market has been fully integrated since NAFTA entered into effect since 1994, with both the domestic Big Three and their major foreign competitors having assembly operations in the United States, Canada, and Mexico. However, as U.S. sales alone have accounted for 85-90% of sales throughout the period and because the U.S.

¹⁰ By the accounting in the 2007 *Automotive News Global Market Data Book* (p. 5), Toyota actually outpaced GM in the number of vehicles sold worldwide in 2006, 8.808 million to 8.679 million. According to *Automotive News’* 10-month data for 2007, Toyota had sold 2.199 million cars and light trucks in the U.S. market, compared to 2.166 million vehicles for Ford.

UAW organizes only plants in the United States, both this figure and the one following focus primarily on U.S. sales and production, as the main North American trend driver.¹¹

U.S. and North American sales generally follow the U.S. business cycle. Thus, U.S. sales fell from about 14 million cars and light trucks after the 1990 peak, to just over 12 million during the 1991 recession. They recovered slowly in the early 1990s, reaching 15 million units in 1996—then escalated to over 17 million units annually in 1999–2001. After the recession of that year, and fed by concerns about the economic impact of the “9/11” terror incidents, the Big Three led a wave of discounting and other sales measures to keep production levels up (such as GM’s “Keep America Rolling” 0% interest sales campaign). Through 2005, domestic sales continued to average almost 17 million units per year. But with higher gasoline prices in 2006 and the housing slump of 2007, sales slipped to 16.6 million in the former year, and an annual rate closer to 16.0 million in 2007. Many forecasters question whether 2008 domestic U.S. sales will even reach that level.¹²

Perhaps more significant than total sales volume is the composition of sales. As shown in **Figure 1**, “light truck” sales were less than half car sales in the U.S. market in 1990 (4.6 million versus 9.3 million). But then the “minivan” (introduced by Chrysler in the mid-1980s) and the “sports utility vehicle” (SUV), pioneered by AMC’s Jeep, and popularized by the Ford Explorer, revolutionized the market in the 1990s. U.S. car sales have never regained the 1990 level, while light trucks overtook cars in sales volume in 2002, and by 2004 had opened a margin of 1.5 million units. (9.2 million to 7.7 million, for 54% of the market).

The importance for employment of this market shift is that while foreign-based competitors had even become dominant in some classes in the domestic car market, the Big Three, with their UAW-organized assembly plants, remained dominant in the light truck market. For example, an earlier CRS report showed that by 2003, about 75% of the light trucks sold were Big Three products, but less than half of all cars.¹³ Truck-based vehicles had become the redoubt of the unionized, domestically owned motor industry.¹⁴

Thus, Big Three employment and production would be disproportionately and negatively affected not only by the total fall in sales (less than a million units between the 17 million total of 2005 and the annual rate of 16.3 million through October, 2007), but by the decline of trucks as a share of the total. From its peak of 9.2 million in 2004, truck sales declined by almost a million to 8.4

¹¹ The UAW formerly organized plants in Canada as well, but the separate Canadian Auto Workers union split from the UAW in 1985. The issue of how recent U.S. developments may affect motor vehicle production in Canada is addressed in a later section.

¹² Global Insight. *U.S. Automotive Outlook Webcast* (December 13, 2007), p. 28; and, “Motor Vehicles: News and Views—Forecast Highlights” (December 10, 2007). This source forecast final 2007 U.S. demand at 16.07 million units, with 2008 demand at 15.5 million units. General Motors officials “expect a flat market” in 2008, while Nissan CEO Carlos Ghosn “said the market would be flat at best, ranging between 15.5 and 16 million vehicles;” *Detroit News (detnews.com)*, “Slow Auto Sales Forecast for 2008” (November 23, 2007); *Wall St. Journal.online*, “GM Finance Chief Expects Lower Industry Sales” (November 30, 2007).

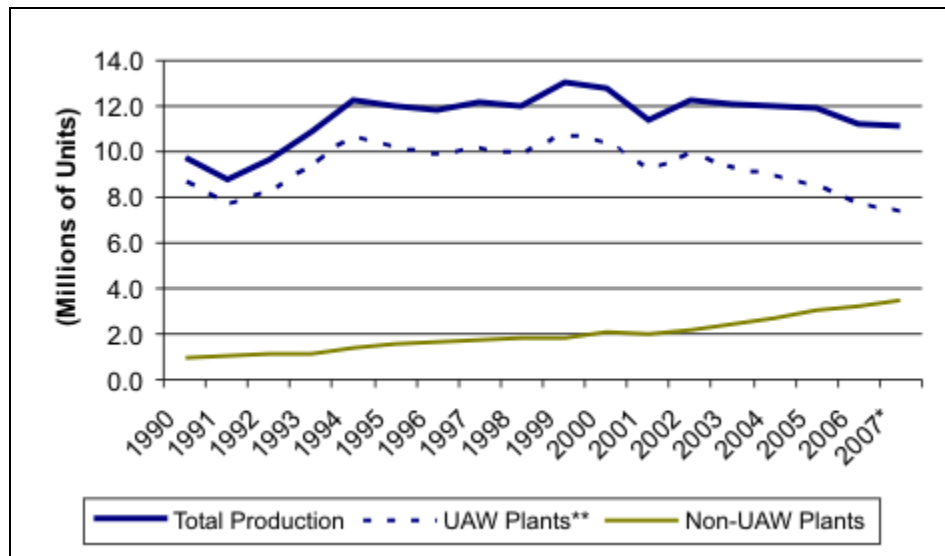
¹³ CRS Report RL32883, *U.S. Automotive Industry: Recent History and Issues*, by Stephen Cooney and Brent D. Yacobucci, Table 3.

¹⁴ It should be noted that by the early 2000s, the market had also seen the evolution of a new product, the “crossover utility vehicle” (CUVs, nicknamed dismissively by off-road purists as “cute utes”). Generally, SUVs are based on a heavy, pickup-truck-type body-on-frame platform. CUVs are lighter, smaller vehicles built to a car-based unibody design, but are still classed as “trucks” within the industry. The Toyota RAV-4 and the Honda CRV, along with Ford’s Escape/Mercury Mariner, are the best-known models.

million units in 2006 and less in 2007. Car sales did not increase to make up for the loss, but they did increase somewhat—and cars remain the strongest suit of the foreign-based manufacturers.

Another trend illustrated in **Figure 1** that has an adverse effect on Big Three employment is the recovery of imports. With the arrival of Japanese so-called “transplant” manufacturers in the 1980s, sales of vehicles imported from overseas declined from 3 million in 1990 to less than 2 million annually in 1995-97.¹⁵ Even as German and Korean manufacturers also established assembly plants in the United States, and the Japanese companies opened new plants, imports subsequently began to increase again. By 2001, the import level was again higher than 3 million units. By 2006, it reached 3.7 million, and the annual rate for 2007 was higher.¹⁶ In 1996, 1.7 million imports represented just 11% of the U.S. domestic vehicle market of 15.1 million. Ten years later, the market was 1.5 million vehicles larger, but the import share was 3.7 million, or 23%. The U.S. market in 2006 for North American-produced vehicles was actually smaller than in 1996.

Figure 2. U.S. Motor Vehicle Production
(All Cars and Trucks)



Sources: Total U.S. production, 1990-2006 from *Ward’s Motor Vehicle Facts & Figures* (2007); other data through 2006 from *Ward’s Automotive Yearbooks*.

* Annual rate (U.S., Canada—January-October; Mexico—January-September).

** UAW total includes all assembly plants operated by the Detroit Big Three, and UAW-organized plants currently or originally operated as joint ventures between the Big Three and other companies.

¹⁵ In keeping with conventional automotive terminology, U.S. “imports” do not include vehicles assembled at plants in Canada or Mexico—all the Big Three, as well as all the major foreign OEMs, have assembly plants in one or both countries. CRS Report RL32883, *U.S. Automotive Industry: Recent History and Issues*, by Stephen Cooney and Brent D. Yacobucci, esp. Appx. 1, measures the rising trend of vehicles manufactured in such plants.

¹⁶ CRS has examined the increase from Japan in 2006, and concluded that the primary cause was an increase in compact and subcompact vehicles sold in the U.S. market in the face of rising gasoline prices; CRS Report RS22620, *The 2006 Increase in U.S. Motor Vehicle Imports from Japan*, by Stephen Cooney.

Big Three UAW Plants Suffer Largest Production Cuts

Figure 2 illustrates the impact of the market changes on U.S. Big Three and foreign OEM manufacturers' output totals. Total U.S. motor vehicle production (excluding other North American production, regardless of ownership) stood at less than 10 million units at the beginning of the 1990s.¹⁷ However, of this output in 1990, 89% was produced by the Detroit Big Three—8.1 million units directly, and another half-million in three joint venture plants operated by Japanese-owned firms in association with the Big Three, and also organized by the UAW.¹⁸ About 1 million units in that year were produced by foreign OEMs in the United States. All were Japanese-owned, Volkswagen having closed its plant in Pennsylvania, and Hyundai's North American plant at that time located in Quebec.

U.S. production surpassed 12 million units by mid-decade, and reached a peak of 13 million by 1999. Of that figure, more than 10 million were directly built by the Big Three; adding in 700,000 vehicles built by their joint-venture affiliates, UAW-built vehicles accounted for 83% of U.S. production. With expansion by the Japanese OEMs and new plants opened in South Carolina and Alabama by BMW and Mercedes Benz, respectively, the non-UAW total units of production had doubled to about 2 million by the end of the decade.

Since then, total U.S. output has declined by 2 million units. Domestic Big Three output has fallen by a third, while foreign OEMs have continued to increase output. The annual rate of U.S. Big Three production in 2006 and 2007 was less than 7 million units. Their joint-venture affiliates maintained their contribution, primarily because the Toyota Corolla, a popular compact, is built at a joint-venture plant with GM in California, and the Ford Mustang is built at the Ford-Mazda plant in Michigan. Adding all the UAW plants together, as in **Figure 2**, yields a total 2007 annual-rate production of 7.4 million units. Meanwhile, foreign OEMs have built new plants in new locations (Honda and Hyundai in Alabama, Nissan in Mississippi, and a new Toyota pickup truck plant in Texas) as well as expanding existing plants. Their annual-rate 2007 U.S. output is up to 3.4 million units, or on a combined basis, more than 50% of the output from just the Big Three UAW-organized plants. The total output of foreign-owned non-UAW OEM plants in the United States in 2007 has reached 28% of total U.S. motor vehicle production. Moreover, foreign OEMs have announced the building of more assembly plants in 2006-2007: Toyota in Mississippi, Honda in Indiana, and Kia in Georgia.

The economics consulting firm Global Insight predicts a continued declining share of North American production from the Detroit Big Three. From a forecast 2007 production base of just under 15 million light vehicles in 2007, they estimate that 2008 output will decline to 14.4 million vehicles. They then forecast a slow recovery in both car and light truck production, not exceeding the 2006 level until 2011 or 2012. However, they further predict that "Transplants [will] represent all the growth in North American production." Big Three North American output, which they estimate at 9.5 million units in 2007, would fall to 8.8 million units in 2008 in their forecast, and possibly not reach 9 million units again before 2012. Foreign OEM output, after stagnating

¹⁷ Totals for **Figure 2** include medium and heavy trucks, but these are less than a half-million units annually, and do not alter the trends in the figure, which essentially reflect light vehicle output.

¹⁸ The three plants were GM-Toyota (Fremont, CA), known by the acronym of NUMMI (New United Motor Manufacturing Inc.); the Ford-Mazda "AutoAlliance" plant in Flat Rock, MI; and, the Chrysler-Mitsubishi "DiamondStar" plant in Normal, IL. All are still operating, although Chrysler has dropped out of its j.v. with Mitsubishi.

around 5.5 million units in 2008, could resume its upward climb thereafter, to about 6.5 million units by 2012.¹⁹

The Impact of Sales and Production Trends on Employment

National Motor Vehicle Manufacturing Employment Data

Figure 3 and **Figure 4** illustrate how these trends have impacted overall employment in the U.S. motor vehicle manufacturing industry. **Figure 3** presents the total level of such employment since 1990, as well as employment levels in each of the three subsectors that constitute this manufacturing sector. Under the new North American Industry Classification System (NAICS), these major components are motor vehicle assembly (NAICS 3361), motor vehicle bodies and trailers (NAICS 3362), and automotive parts (NAICS 3363).²⁰ One advantage of using NAICS categorizations is that all automotive equipment is clearly shown as associated with the motor vehicle industry and not other product groups. NAICS 3362 does include such products as truck trailers, recreational vehicles and motor homes, but using all three NAICS categories insures comprehensive coverage of the motor industry, and more than 90% of employment in the three classes is associated with the manufacture of cars and light trucks. Another advantage of using the NAICS-basis data is that it is indifferent to ownership, so that we can measure employment, for example, at the same parts manufacturing plant, whether it was owned by GM, spun off by GM to Delphi, or owned by a third-party supplier, at any time between 1990 and the present. It still counts as a parts plant and not a motor vehicle assembly plant.

Figure 3 illustrates that total U.S. employment in automotive manufacturing rose from about 1 million persons in 1990, to a peak of 1.3 million in 1999-2000, before falling back to about the 1 million level in 2006-2007. If one disaggregates the total number for the three subcategories, one can see that the overwhelming number of jobs, as well as gains and losses, in the industry have been in the parts sector—about 840,000 at the industry’s 1999-2000 peak. By 2007, that number had fallen to near the 600,000 level, which was actually 50,000 below the 1990 level. The workforce in motor vehicle assembly operations (NAICS 3361) has varied by a much smaller amount—growing from 271,000 in 1990 to 291,000 at the 1999-2000 peak, then falling to 222,000 by 2007. The decline, however, in this category has been steeper than the rise, reflecting a number of trends and cross-pressures that will be discussed further below. The third, and smallest, subcategory, bodies, trailers, etc. (NAICS 3362), has been less sensitive to the rise and decline of demand for cars and light vehicles. Employment has fallen a little from the 2000 high of about 180,000, but is still much higher than the level of 130,000 recorded in 1990.

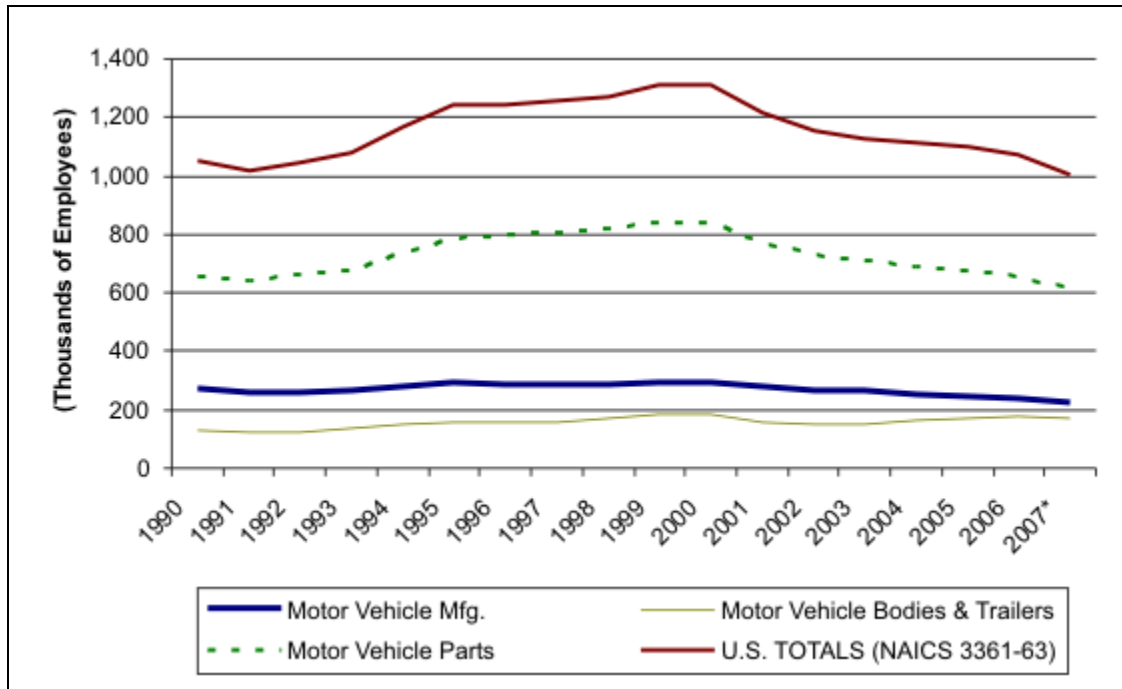
Many commentators have emphasized the loss of jobs in this sector since 2000: for example, a front-page caption in the trade news paper *Automotive News* highlighted the fact that, “The U.S. auto industry employs nearly 25% fewer factory workers today than it did in 2000.”²¹ However, that is typical of “peak-to-trough” accounting. In a cyclical industry such as motor vehicle manufacturing, there is no reason to believe that employment (hours worked) will not move up and down with the business cycle.

¹⁹ Global Insight. *Auto Webcast*, pp. 33, 40-41.

²⁰ Data organized under the NAICS system has been recalculated to cover the entire period.

²¹ *Automotive News*, “Endangered Species: Factory Jobs” (November 26, 2007), p. 1.

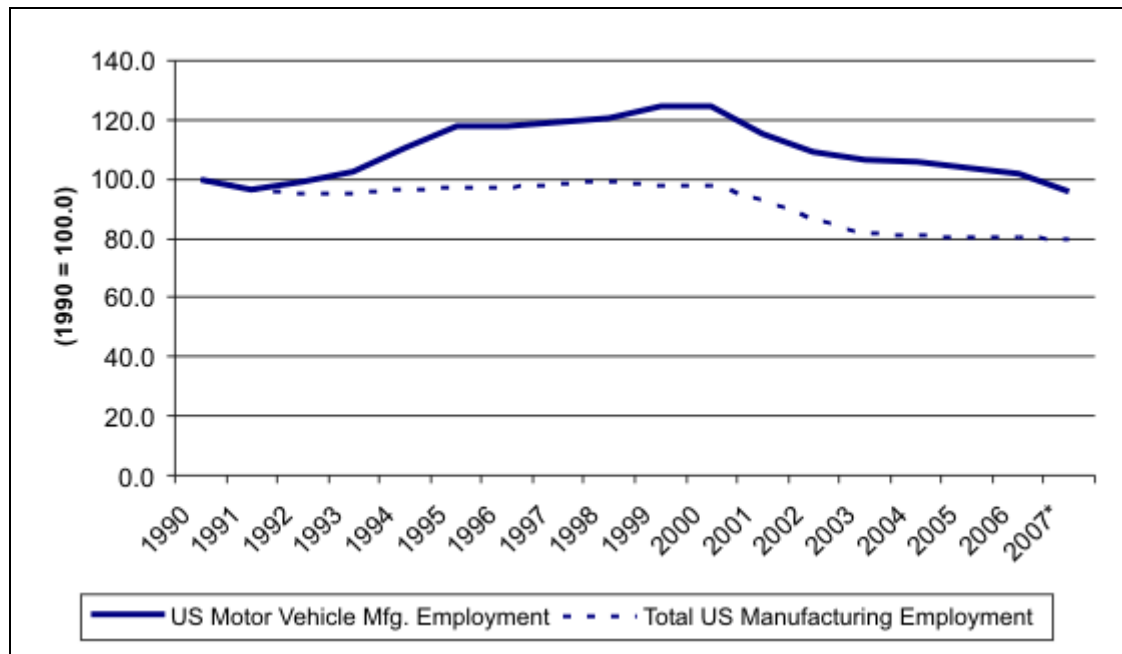
Figure 3. U.S. Motor Vehicle Industry Manufacturing Employment



Source: U.S. Dept. of Labor. Bureau of Labor Statistics. "National Employment, Hours and Earnings" (November 13, 2007).

* Annual rate.

Figure 4. Employment Trends, Motor Vehicle and General Manufacturing



Source: As for Figure 3.

* Annual rate.

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Motor Vehicle Manufacturing Holds Up Better Than Other Manufacturing Employment

When employment in automotive manufacturing is compared to manufacturing employment in general (as in **Figure 4**), one can see that motor vehicle manufacturing has actually sustained its employment numbers over time much better than U.S. manufacturing in general. If one normalizes 1990 as the base employment level, motor vehicle manufacturing increased employment by 25% through 2000, while, despite an economic boom for most of the decade, total manufacturing employment did not actually ever regain the 1990 level. Since motor vehicle manufacturing is a significant share of total manufacturing, one can calculate that, for all other types of manufacturing, employment fell by more than 1 million jobs between 1990 and 2000. Motor vehicle manufacturing employment has, statistically speaking, returned to its 1990 base level, while manufacturing employment in general has declined by 3.7 million jobs since then.

Past Performance and Future Outlook for Motor Vehicle Manufacturing Employment

There are a number of reasons why auto manufacturing employment patterns may have differed from those of industry in general.

- *Foreign OEMs have been steadily expanding or establishing new plants in the United States throughout the period since 1990.* In an earlier CRS report calculations were presented that indicated the total number of persons employed by foreign-owned motor vehicle manufacturers, including parts suppliers, had reached nearly 300,000 by the early 2000s, or about a quarter of the total employment in the industry. This calculation excluded employees of Chrysler, then a subsidiary of a German company.²² This number has continued to grow, despite the overall automotive employment decline since 2000.
- *Strong Detroit Big Three sales in the 1990s supported employment growth throughout the motor vehicle manufacturing sector independent of foreign companies' U.S. expansion.* Then, as demand for Big Three U.S.-built vehicles declined since 2000, the Big Three and their suppliers have been reducing employment to reflect reduced production and market share levels. "For every job created by the International [companies] in the U.S., the Big 3 have shed 6.1 jobs ..."²³
- *Current and future Big Three restructuring implies further job losses in the industry.* Job declines are directly related to production cuts by the Big Three, and consequent reduction in orders for parts from their suppliers. However, a large share of the employment reduction is also due to improving productivity. Adjustments in union contracts with the industry allow more flexibility in

²² CRS Report RL32883, *U.S. Automotive Industry: Recent History and Issues*, by Stephen Cooney and Brent D. Yacobucci; pp. 31-33 present this calculation, based on U.S. Commerce Dept. foreign investment data.

²³ Center for Automotive Research (CAR). *The Big Leave: The Future of Michigan's Automotive Industry*, presentation by Sean McAlinden to RSQE Economic Outlook Conference (November 15, 2007), p. 23. A specialist in the supplier industry forecasts that "half of the estimated 5,200 suppliers in the United States are expected to disappear over the next five years ... About one-third will likely find new buyers, and the rest will go out of business." *Detroit Free Press*, "Component Crisis: Suppliers Dwindling" (November 28, 2007).

determining employment levels, including through negotiated “buyout” arrangements accepted by labor. For example, GM since 2002 has reduced the average hours needed to assemble a vehicle by 15%, but has reduced its U.S. workforce by 40%. One industry analyst has commented, “In the past, job losses have been cyclical ... But the decline since 2000 is permanent because it’s structural. Those jobs are not coming back, and all auto-dependent areas are sharing the loss.”²⁴ *While the overall decline in manufacturing employment has slowed since 2003, the decline in Big Three employment, and that of their suppliers, may continue at the current pace, or accelerate.*

To answer the question at the beginning of this section, there is not a general jobs crisis in U.S. automotive manufacturing sector, but there is a crisis in a major part of that sector: unionized Big Three plants, and supplier companies that rely on Big Three production for major shares of their output. This crisis may be viewed as the belated response of the traditional, Detroit-based automotive manufacturing model to international competition, including foreign manufacturers setting up shop in the United States. The rest 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 only since this latter date have the UAW and the Big Three been able to reach agreements, culminating in the 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.

The UAW in the 1980s had negotiated agreements with the Big Three to allow more rapid introduction of technology and greater employment flexibility, but founded on the principle that there should be no effort to increase profits by reducing the union-organized employment base. In the industry conditions prevailing since 2000, as production levels stagnated then fell, and profits turned into losses in the billions of dollars, labor has accepted buyouts and other early retirement offers by the Big Three, which has cut or will eliminate the number of jobs in the United States (plus Canada) by a total of 150,000 between 2005 and 2009. “With buyouts or early retirement offers expected at all three Detroit automakers in the wake of [new] UAW contracts that allow new hires to get less in pay or benefits, the number is sure to grow soon.”²⁵

The new contract agreements will be summarized in the last part of this report. But, first, the report will review the latest data on auto industry employment by state. The impact of restructuring to date has been far from even across the country. While it may be ongoing, there has already been a measurable impact on the location of the U.S. motor vehicle industry.

Motor Vehicle Manufacturing Performance by State

As described in the earlier CRS report on the U.S. motor industry, the domestic Big Three manufacturers have followed a strategy of “reconcentrating” automotive assembly operations in the traditional midwestern heartland of the industry. This strategy has been driven by a number of factors, not only including declining production and loss of market shares on their part, but also a new tendency to proliferate models under different corporate badges off the same underlying vehicle platform. The earlier strategy of locating assembly operations nearer customers to

²⁴ Prof. James Rubenstein, quoted in *Automotive News*, “Endangered Species ...,” p. 34.

²⁵ *Detroit Free Press*, “150,000 Cuts Enough?” (November 5, 2007).

minimize shipping costs has essentially been discarded. Virtually all the Big Three assembly plants on the East Coast have been or are being closed, as well as in disparate locations such as Atlanta (both Ford and GM), Maryland, Virginia, Oklahoma, and California. The new Big Three model consists of centralized locations, each producing one family of cross-badged vehicles, which can be conveniently supplied by parts makers, and from which product can be shipped to customers nationwide.²⁶ Sean McAlinden of the Center for Automotive Research has described this as “the retreat to the core ... Michigan as the Alamo!”²⁷

At the same time, the “new American manufacturers” have extended the traditional U.S. “auto belt” farther to the South, bringing with them an increasing number of auto parts suppliers. This has created more of an “auto corridor” focused on the I-65/I-75 interstate highways. Not all foreign-owned OEMs have invested exclusively in southern plants and the Detroit Big Three produce some vehicles in the South. Despite the now-shuttered plants in Georgia, GM continues to build product in Texas, Louisiana, Tennessee and Kentucky, and Ford also builds trucks in Louisville. But the three largest Japanese manufacturers, plus BMW, Mercedes Benz, and Hyundai have all built plants south and west of the traditional Midwest auto belt, and more new plants (and expansions) are being built by these companies. This upsurge in southern investment continues to bring with it a substantial number of new automotive supplier plants.²⁸

The map in **Figure 5** illustrates the geographic distribution of employment in the U.S. motor vehicle industry, defined here as 2006 employment reported by the Labor Department’s Bureau of Labor Statistics (BLS) in NAICS 3361-62-63.²⁹ The core of the industry remained in three midwestern states each with employment greater than 100,000: Michigan (about 200,000), Ohio, and Indiana. They are labeled in this report as the “Heartland Auto Belt.” Then there is a group of seven states filling out what are labeled as seven 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 some traditional midwestern auto manufacturing states (Illinois and Missouri). They also include some states with both Big Three and foreign OEM assembly plants (California and Texas), but which mainly make the list because of large supplier industries. Three other leading states have mainly risen through heavy investments by foreign-owned companies in the past 20 years (Tennessee, Kentucky, and Alabama).

The remaining states in the national map are classed according to the number of employees in the automotive manufacturing sector. Some of them still 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. In **Table 1**, the report provides some further details on the “Heartland 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

²⁶ CRS Report RL32883, *U.S. Automotive Industry: Recent History and Issues*, by Stephen Cooney and Brent D. Yacobucci, pp. 33-37, largely based on the work of Thomas Klier and colleagues for the Federal Reserve Bank of Chicago.

²⁷ McAlinden, *The Big Leave*, pp. 29-30.

²⁸ This development is discussed in more detail in CRS Report RL32883, *U.S. Automotive Industry: Recent History and Issues*, by Stephen Cooney and Brent D. Yacobucci, pp. 35-36.

²⁹ In **Figure 4** above, and **Figure 5** and **Table 1** below, it was not possible to include state employment in auto assembly plants (NAICS 3361) for all states, because of federal data disclosure rules. Totals for states that had one or two light vehicle assembly plants were completed by information supplied to CRS by the OEMs themselves.

from the table are those states, such as Iowa, Pennsylvania, and Oregon, whose industry is primarily dominated by the medium and heavy truck building, or bodies and trailers.

The Heartland Auto Belt

A “One-State Recession” in Michigan

Michigan remains unambiguously the state most highly dependent on automotive manufacturing. While two other midwestern states also employ more than 100,000 persons in the industry, a third of all manufacturing jobs in Michigan in 2006 were in motor vehicle manufacturing, compared to 22% in Indiana and 16% in Ohio. In terms of its “intensity quotient” shown in **Table 1**, the percentage of employment in the motor 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.

But unlike the other two heartland auto states, Michigan has experienced no investment in motor vehicle assembly operations by foreign companies in the past 20 years (excluding the Daimler acquisition of the entire Chrysler group), meaning that, essentially, the relative decline of the Detroit Big Three’s role in U.S. motor vehicle manufacturing during this period has been an unalloyed negative development for Michigan.³⁰ Between 2000 and 2006, Michigan lost 351,000 jobs overall—241,000 of this net job loss was in manufacturing, and the net loss in motor manufacturing was 116,000 jobs, about half of the total, according to BLS data. That meant a loss of 35% of all motor industry jobs. While there had been some gain in motor vehicle manufacturing employment there in the 1990s, the net gains have all been wiped out since then in all three of the industry’s subsectors. More than a quarter of all jobs in U.S. motor vehicle manufacturing in 1990 were in Michigan; by 2006, the share was down to one-fifth. About 40% of the net national decline in motor industry manufacturing jobs in 2000-06 was accounted for by the net loss of jobs in Michigan.³¹

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³⁰ Toyota and Hyundai have established technical centers in Michigan, and Volkswagen has had its U.S. headquarters in the state, which it announced will be moved to Virginia. Also, foreign-owned auto parts suppliers have numerous operations in the state.

³¹ These data are from the same source as the data in **Table 1**.

Figure 5. U.S. Motor Vehicle Manufacturing Employment by State

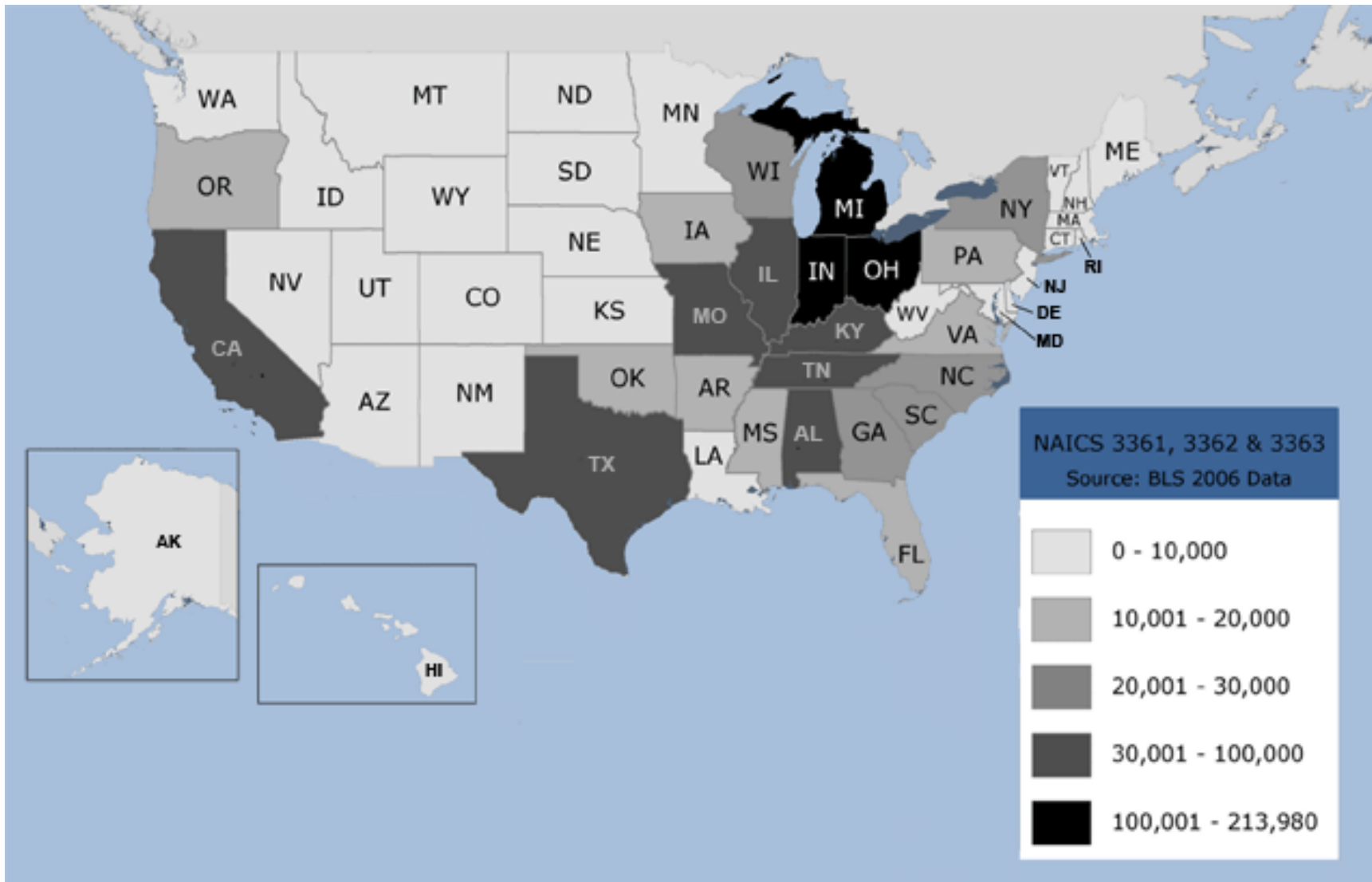


Table I. Motor Vehicle Manufacturing States

Heartland Auto Belt						
	Employment (2006) (Thousands)	Chg. fr. 2000	Chg. fr. 1990	% of US Total	% of State Mfg.	Rel. to US Avg. (=1.0)
Michigan	214	-116	-83	20.1	32.9	4.4
Ohio	127	-37	-22	11.9	16.0	2.1
Indiana	124	-15	7	11.7	21.9	2.9
Other Leading Auto Manufacturing States						
Tennessee	54	-5	18	5.1	13.5	1.8
Kentucky	53	-2	25	5.0	20.3	2.7
Illinois	39	-9	-2	3.7	5.8	0.8
California	39	-7	-6	3.7	2.6	0.3
Texas	35	0	9	3.3	3.8	0.5
Alabama	35	15	19	3.3	11.6	1.5
Missouri	32	-6	0	3.0	10.6	1.4
Other Auto Manufacturing States ^a						
N. Carolina	28	-5	4	2.6	5.1	0.7
S. Carolina	25	1	12	2.4	9.9	1.3
New York	24	-11	-18	2.3	4.2	0.6
Wisconsin	22	-9	-9	2.0	4.3	0.6
Georgia	21	-4	1	2.0	4.7	0.6
Mississippi	13	1	0	1.2	7.4	1.0
Virginia	13	-1	3	1.2	4.4	0.6
Kansas	9	-1	-2	0.8	4.7	0.6
Minnesota	7	-3	-1	0.6	2.0	0.3
Louisiana	5	0	1	0.4	3.1	0.4
Delaware	3	-2	-1	0.3	10.1	1.3
U.S. TOTAL	1,064	-251	-54	100.0	7.5	1.0

Sources: Department of Labor, Bureau of Labor Statistics. "Quarterly Census of Employment and Wages" for state data; U.S. totals from "National Employment, Hours and Earnings."

a. More than 20,000 motor vehicle manufacturing jobs, or at least one assembly plant in 2006.

As a consequence partly of this decline, Michigan by 2007 had the worst unemployment rate in the nation. According to seasonally adjusted Labor Department data, Michigan's unemployment level as of October 2007 was 7.7%, more than 1.5 points above the level in the next two most affected states (Mississippi and Alaska). Thus, on a Labor Department map, Michigan was the

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only state with unemployment higher than 7% of the workforce, and was three points higher than the national average of 4.7%.³²

Mixed Results in Ohio and Indiana

By comparison with Michigan, **Ohio**, the second-leading motor vehicle manufacturing state, has seen a much more moderate decline in employment, as shown in **Table 1**. Since 2000, it has lost 37,000 motor manufacturing jobs (22%)—11,000 of them in motor vehicle assembly, and 21,000 in parts, which in 2006 employed about three times as many people in the state. Manufacturing overall saw a net decline of 228,000 jobs in Ohio in 2000-2006, so unlike Michigan, the motor vehicle industry directly accounted for only about 16% of the net loss. Ohio's unemployment rate, at 5.8 % is higher than the national average, but is thus not primarily due to auto industry job losses. Note that, unlike Michigan, Ohio has seen major investment in foreign-owned assembly plants in the state, with two Honda facilities.

In **Indiana**, the state has actually gained motor vehicle assembly and body and trailer-building jobs over both 1990 and 2006 (NAICS 3362 accounts for a much higher share of motor vehicle employment in Indiana than in either Michigan or Ohio). However, the state has lost about 23,000 parts manufacturing jobs since 2000, many of them in plants owned by the Big Three or their major suppliers. This led to an overall net decline of 15,000 in motor industry jobs in the state. As in Ohio, this was only a fraction of the state's overall net manufacturing job loss (15%). Moreover, as of 2006, Indiana actually had recorded a small increase in automotive employment over 1990, and its overall unemployment rate in October 2007 was about equal to the national average. Future job losses owing to Big Three downsizing may be offset to some degree by a new Honda assembly plant announced in 2007.

The overall statistics for loss of auto industry jobs since 2000 in the "heartland auto belt" do not necessarily suggest that the motor vehicle industry is dying in this region. Almost half of the nation's employees in motor vehicle manufacturing (44%) still work there. Both the Big Three and foreign investors have been aggressive in developing new facilities in these states. Each of the Detroit Big Three has made major investments in rebuilding or renovating assembly plants in Michigan. Chrysler has created a new "modularized" campus for building Jeeps in Ohio. Besides expanding its assembly plant in Princeton, Indiana, Toyota has added a new assembly line in a former Isuzu plant in the same state. And Honda, as mentioned above, has announced a new assembly plant, also to be built in Indiana.

Employment Mostly Stable in Other Leading States

Table 1 identifies seven other states as being leading motor vehicle manufacturing states. These states all have one or more motor vehicle assembly plants, as well as major parts supply industries, with auto industry employment greater than 30,000 persons in 2006. Each state ranges between three and five percent of total U.S. motor vehicle manufacturing employment. The states have had diverse experiences in recent decades in auto manufacturing.

Alabama is the star of the group. With no motor vehicle manufacturing assembly plant as of 1990, Alabama successfully recruited Mercedes Benz' U.S. assembly plant in the 1990s, and

³² Dept. of Labor, BLS. "Unemployment Rates by State," map and table (December 5, 2007).

plants built by Honda and Hyundai since 2000. Toyota has an engine manufacturing plant there, leading a large group of parts suppliers establishing themselves in the state. Since 2000, while the United States as a whole was losing 250,000 motor vehicle manufacturing jobs, Alabama was adding 15,000—the only gain of this magnitude in the country. Of these jobs, 10,000 were in vehicle assembly, with another net 4,000 in parts manufacturing. With Kia announcing a new plant to be opened just across the river in West Point, Georgia, parts manufacturing jobs in the state may continue to increase. Despite these gains, motor vehicle manufacturing employment in 2006 was still only 11.6% of Alabama’s manufacturing workforce, significantly less than in the heartland auto belt states, and its intensity quotient, at 1.5 times the national average, is also lower.

Two other southern states in the I-65/I-75 auto corridor, **Tennessee** and **Kentucky**, succeeded in the 1980s in attracting auto manufacturing plants from foreign OEMs, as well as GM’s Saturn plant in Spring Hill, Tennessee. Both states in 2006 had more than 50,000 persons employed in motor vehicle manufacturing, and had higher shares of their workforce so employed than Alabama. With 20.3% of the workforce in the motor industry in 2006, Kentucky actually recorded a higher level than Ohio’s 16%, and a higher intensity quotient as well. Both states have shown dramatic employment gains in the industry since 1990 (Tennessee, up 18,000—Kentucky, up 25,000). However, both states have also lost other auto industry jobs, from a Big Three assembly plant in Kentucky and NAICS 3362-63 plants in Tennessee since 2000, and have recorded small net losses in the current decade.

Texas has recorded a gain in assembly operations, mostly from a large new Toyota truck plant that began operating in San Antonio in 2006, but a net loss in parts manufacturing jobs left the auto employment level in the state flat since 2000. **Illinois**, **Missouri**, and **California**, all of which have been major auto manufacturing states for decades, failed to attract any new foreign or domestically owned assembly plants since 1990, and were the major net job losers since 2000 among this group of states. Except in Missouri, by 2006 the auto industry shares of these states’ manufacturing workforces were less than 10% and below the average intensity quotient.

Other Motor Vehicle Manufacturing States

Table 1 includes also all the remaining states with at least one light motor vehicle assembly plant, including those in which closures of the plants had been announced by 2006. The table also includes states that have a major role in the industry only through leading roles as parts suppliers, notably **North Carolina**, **New York** (whose last assembly plant, in Tarrytown, was closed in the 1990s), and **Virginia** (where Ford’s truck plant in Norfolk was closed in 2007). But while motor vehicle industry-related employment has been relatively stable in North Carolina and Virginia, it has declined by 18,000 jobs or 42% in New York since 1990, a higher rate of loss over that time even than in Michigan.

The only state in this group showing a major overall gain in automotive employment since 1990 is **South Carolina**. BMW’s North American plant was established there in the 1990s and further expansion of that facility was announced in 2007. South Carolina has recorded a net gain of 12,000 auto industry jobs since 1990, and the sector in 2006 accounted for almost 10% of the state’s manufacturing workforce. **Delaware**, a small state but one with two assembly plants, is the only other state in this group where auto manufacturing employment accounts for 10% of the manufacturing workforce, and where the intensity is greater than the national average. However, one of the state’s two plants, the Chrysler plant in Newark, is now slated for closure. Despite

establishment of the big Nissan assembly plant in Canton, **Mississippi** has recorded little net overall gain, but this may change once the Toyota plant announced for the state is in operation.

In other states in this group, two assembly plants in **Georgia**, both in the Atlanta area—one owned by Ford, the other by GM, are in the process of closing. Ford has also announced closure of the only assembly plant in **Minnesota**. Chrysler closed its large assembly plant in Kenosha, **Wisconsin** (a former AMC plant), two decades ago, but still maintains an engine plant there, and GM assembles trucks in Janesville. GM also builds trucks in **Kansas** and **Louisiana**. In none of these states is the auto industry share of manufacturing employment greater than 5%.

U.S. Manufacturing of Small Motor Vehicles

During recent debates on energy legislation and automotive fuel economy standards in both houses of Congress, the issue was raised as to whether proposed bills would damage, or even cause the disappearance of, the manufacturing of small, fuel-efficient motor vehicles in the United States. It was stated by the UAW, for example, that there are in the United States 67,000 workers “who assemble or make parts for these vehicles.”³³ Therefore, it was argued that a statutory “anti-backsliding” provision was required to prevent companies from meeting new fuel economy rules by importing more vehicles from abroad, to the detriment of their continued manufacture at domestic plants.³⁴

If it is difficult to produce smaller vehicles at a profit in the domestic market, as is sometimes alleged, it was feared that these jobs would be in danger of being outsourced overseas, if stringent new fuel economy rules were adopted. A CRS report, cited earlier, illustrates how a surge in imports of motor vehicles from Japan in 2006 was linked to increase in sales of small cars, owing to sharp increases in gasoline prices.³⁵ Data for 2007 indicate that subcompact vehicles, all imported to the United States, are the fastest-growing segment of the U.S. car market. Through November 2007, sales of such vehicles were up about 22% over the previous year. They may have taken sales away from the next larger class, compact cars, whose sales were down 3.3% during the same period. While all of the Detroit Big Three manufacture compacts domestically (see **Table 4** below), no subcompacts are produced in the United States, and in the auto industry, it is widely believed that it cannot be profitable to do so.³⁶

Table 2 illustrates the development over time of plants in the United States, which manufacture motor vehicles defined by CRS as small motor vehicles using data from *Ward's Automotive Yearbook* and Environmental Protection Agency fuel economy guides. It shows these plants as shares of total numbers of plants operated by each U.S. nameplate manufacturer, as they have been opened, closed, or altered product mix since 1975. The list excludes two-seat sports cars and

³³ U.S. House. Committee on Energy and Commerce, Subcommittee on Energy and Air Quality. *Hearing on Alternative Fuels, Infrastructure, and Vehicles* (June 7, 2007). Testimony of Alan Reuther, Legislative Director—UAW, p. 2. More frequently cited is the UAW count of “17,000 small car production jobs in the United States.” See, for example, *Detroit News (detnews.com)*, “Auto Industry Backs CAFE Deal” (December 2, 2007). **Table 2** below provides data on employment at individual assembly plants.

³⁴ The anti-backsliding provision, at §102(b)(4), requires that producers of “domestically manufactured” cars must maintain a fleet fuel economy average for such vehicles of either 92% of the standard for cars, or at least 27.5 mpg, as currently required for cars.

³⁵ CRS Report RS22620, *The 2006 Increase in U.S. Motor Vehicle Imports from Japan*, by Stephen Cooney.

³⁶ *Detroit News (detnews.com)*, “Subcompact Sales Boom” (December 10, 2007).

CUVs that may be measured as small in capacity, but do not achieve low fuel economy ratings. **Table 3** lists those vehicles that are included under the small car definition. **Table 4** provides details on the location of each assembly plant that was still producing small cars as of mid-2007, or for which plans exist to produce small cars there in the future.

For both domestic and foreign OEMs, assembly plants producing small, fuel-efficient vehicles in the United States have declined in number and as a share of total plants operated since the 1985-90 time period. **Table 2** divides the numbers of plants by UAW-organized and non-UAW plants, as the union has been particularly concerned about the potential loss of U.S. small-car manufacturing capacity.

- UAW-organized assembly plants producing small cars peaked in 1985 at nine out of 56 operating at the time (16%). Seven of the nine were operated directly by the Big Three (including in this count an American Motors plant acquired by Chrysler two years later). The other two UAW plants were the Volkswagen plant in Pennsylvania, and the GM-Toyota NUMMI joint venture in California. By 2007, just four of 53 UAW-organized assembly plants still produced small cars (7.5%)—one for each of the domestic Big Three and NUMMI, which produces the Toyota Corolla and the Pontiac Vibe.
- The share of non-UAW plants (all foreign-owned) producing small cars peaked at half the total (four out of eight) in 1990. By 2007, the share was 11% (two out of 18).

One may infer from this that, although foreign-owned manufacturers, especially from Japan and Korea, have a perceived comparative advantage in designing and producing small fuel-efficient vehicles, the most efficient use of their resources in the United States is to expand the production of vehicles aimed more at the evolving “sweet spots” of the U.S. market—midsize sedans, minivans, SUVs, trucks, and, lately, CUVs. Foreign or domestic, manufacturers in the United States appear to be still following the 1970s dictum of Henry Ford II, “minicar, miniprofit.”³⁷

³⁷ Quoted in Douglas Brinkley, *Wheels for the World* (New York: Penguin Books, 2003), p. 666. On the same page a Chrysler executive from the same era is quoted as saying, “Even if we don’t believe in small cars, we have to build them. There’s a law.”

Table 2. Four Decades of U.S. Small Car Manufacturing

(numbers of plants)

	1975		1985		1990		1995		2000		2005		2007	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
UAW-Organized:														
General Motors	31	1	29	4	27	2	22	3	23	2	24	2	23	1
Ford	22	2	15	2	15	2	16	1	15	1	18	1	14	1
Chrysler ^a	11	1	9	1	7	0	11	1	9	1	11	1	11	1
Foreign-owned ^b			3	2	4	1	4	1	4	1	5	1	5	1
Total UAW^c	66	4	56	9	53	5	53	6	51	5	58	5	53	4
Non-UAW^d	0	0	3	1	8	4	9	3	11	2	17	2	18	2

Source: Operating plants from *Automotive News Market Data Book*, various years. Small cars are defined as cars in the subcompact or compact classes by *Ward's Automotive Yearbook*, and/or the Environmental Protection Agency (EPA).

Notes: Light vehicles include passenger cars and light trucks, the latter including pickups, minivans and SUVs. Small cars are as listed in **Table 2**. Small cars may be the sole product of an assembly plant or one of several lines of light vehicles produced in an assembly plant. For the purposes of this table, any plant that has an assembly line devoted solely to small cars is defined as one plant. If a plant produces small cars as well as other light vehicles, the small car assembly line is counted as one plant and all other light vehicle lines are counted as another plant. For example, New United Motor Manufacturing Inc. (NUMMI) of Fremont, CA, a UAW-organized joint venture between GM and Toyota operated by Toyota, produces small cars (Toyota Corolla/Pontiac Vibe) on one assembly line and a light truck (Toyota Tacoma pickup truck) on the other. In this table, NUMMI is counted as two plants.

A: Total Light Vehicle Assembly Plants. B: Small Car Plants

- a. Chrysler includes statistics for American Motors which Chrysler acquired in 1987.
- b. Volkswagen, NUMMI, Diamond-Star (Chrysler-Mitsubishi), Auto Alliance (Ford-Mazda).
- c. Includes Checker Motors (closed 1982) and International Harvester (light trucks and SUVs; closed 1980). Neither company produced small cars.
- d. Honda, Nissan, Toyota, BMW, Subaru-Isuzu, Mercedes-Benz, Hyundai, Kia.

Table 3. Identification of Small Cars by Manufacturer

(as defined for Table 2)

UAW-Organized Plants:	Non-UAW Plants:
<p>General Motors Chevrolet Cobalt/Pontiac G5^a Chevrolet Vega Chevrolet Chevette Chevrolet Cavalier Saturn SC, SL, and SW Saturn Ion</p> <p>Ford Ford Focus^a Pinto Escort</p> <p>Chrysler Dodge Caliber^a AMC Gremlin (acquired from American Motors) Dodge Omni/Plymouth Horizon Dodge Neon</p> <p>Volkswagen (1978-1988) Rabbit/Golf</p> <p>NUMMI (Toyota/GM) Toyota Corolla^a Pontiac Vibe^a Chevrolet Nova Geo Prizm Chevrolet Prizm Toyota Voltz (export only)</p>	<p>Honda Civic^a</p> <p>Nissan Sentra (production moved from United States to Mexico in 1999)</p> <p>Subaru Legacy^a</p>

Source: As for Table 2.

Note: Many vehicles were sold in multiple versions under different nameplates (e.g., Chevy Cavalier, Pontiac Sunbird, Cadillac Cimarron). This table lists only the most widely sold version.

a. Vehicle still in production in United States.

Table 4. U.S. Small Car Manufacturing Assembly Operations

(as of September 2007)

	Location	2007 Assembly Operation	Announced Plan or Commitment
UAW-Organized Plants			
General Motors	Lordstown, Ohio	Chevrolet Cobalt Pontiac G5	Alpha vehicle, 2011 (compact rear-wheel drive)
Ford	Wayne Assembly Wayne, Michigan	Ford Focus	Continue production
Chrysler	Belvidere, Illinois	Dodge Caliber	Continue production
NUMMI	Fremont, California	Toyota Corolla Pontiac Vibe	Continue production

	Location	2007 Assembly Operation	Announced Plan or Commitment
Non-UAW Plants			
Honda	East Liberty, Ohio	Honda Civic	Continue production
	Greensburg, Indiana	(under construction)	Begin Civic production 2010
Subaru	Lafayette, Indiana	Subaru Legacy	Continue production

Sources: *Automotive News*, various dates; Global Insight. *North American Light Vehicle Industry Forecast Report*, various dates. GM data also from *UAW GM Report* on GM plant investment commitments from Sept. 2007 contract agreement, not publicly confirmed by General Motors.

Changing Detroit: The 2007 Collective Bargaining Agreements

The 2007 Contract Negotiation Process

Earlier CRS reports detailed UAW labor contract agreements with the Detroit Big Three that many observers contended were making the union-organized sector of the motor manufacturing industry uncompetitive with foreign owned-OEMs that manufactured both in the United States and abroad. Some of these issues included:

- Nearly free lifetime health care coverage for employees, retirees and dependents—a cost that was estimated by 2005 to cost the companies as much as \$1,500 per vehicle produced. Foreign OEMs do not pay such costs to any similar degree because of a younger workforce and few retirees in the United States, as well as different health care systems in their home markets;
- A defined-benefit pension plan, to which employees and their spouses were entitled after 30 years on the job;
- In effect a guaranteed salary—even if a plant closed or was downsized, companies were required to keep hourly employees on the payroll through a “jobs bank,” until another suitable position could be found;
- Consequent loss of flexibility in managing production to meet actual demand—production had to be maintained so that employees were generating revenue, even if vehicles were sold at a loss through fleet sales or the use of high-cost incentives (practices that reduced residual values and therefore attractiveness to customers in retail sales).³⁸

³⁸ These issues are discussed in CRS Report RL32883, *U.S. Automotive Industry: Recent History and Issues*, by Stephen Cooney and Brent D. Yacobucci, pp. 43-46; and CRS Report RL33169, *Comparing Automotive and Steel Industry Legacy Cost Issues*, by Stephen Cooney, pp. 1-6. Sean McAlinden of CAR summarizes the impact on company management in *The Big Leave*, p. 9.

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There had been interim adjustments to the 2003 national contract necessitated by multibillion dollar losses reported by each of the Big Three companies. The 2007 contract negotiations saw a substantial effort by both management and labor at the UAW-represented companies to establish a comprehensive new labor agreement cognizant of the Big Three's competitive problems. As has been traditional in previous UAW-industry contracts, the collective bargaining agreement was reached through a process of "pattern bargaining." The union selected one of the Big Three OEMs with which to bargain, and, in keeping with the UAW's general policy of not allowing domestic producers to seek competitive advantages through differences in labor contracts, to impose that pattern on the other companies once an agreement was reached. However, owing to some major differences in both the financial conditions and organizational structures among the Big Three, significant differences emerged among the collective bargaining agreements that were reached with the three companies in the autumn of 2007.

Negotiation of the 2007 collective bargaining agreements with the Detroit Big Three manufacturers proceeded according to the following chronology:

- **July 20-23:** Official commencement of contract renewal talks between the UAW and each of the Detroit Big Three. (In July, control of the U.S. Chrysler Group of DaimlerChrysler AG of Germany is formally transferred to "the new Chrysler," an independent company owned by Cerberus Capital Limited Partnership, a private equity firm.
- **"Mid-August:"** Big Three officially ask UAW to take over administration of health care benefits for current and retired employees, and their families.
- **September 13:** President Ron Gettelfinger announces to UAW members that GM will be the lead company (strike target) in the contract negotiations. Ford and Chrysler receive contract extensions.
- **September 14:** UAW contract with GM expires—UAW extends on an hour-by-hour basis.
- **September 24:** Negotiators fail to reach agreement and UAW calls first nationwide strike against GM in 40 years.
- **September 26:** GM and UAW settle on a "pattern-setting deal for the U.S. auto industry," and strike ends after two days. The new agreement shifts retiree health care obligations to the UAW, with a large initial contribution from GM. The UAW also agrees to lower pay and a different benefit structure for new hires in "non-core" jobs. In exchange, GM makes new product commitments at existing U.S. factories.
- **October 7:** UAW establishes Chrysler as the next bargaining target. Chrysler is warned of a possible strike by October 10.
- **October 10:** The "one-shift" national strike against Chrysler. UAW walks out, because its bargaining committee cannot agree on terms in view of Chrysler commitments to continued production at U.S. facilities more limited than those provided by GM. UAW tentative agreement announced later that afternoon, including a transfer of retiree health care to UAW, and strike ends. Meanwhile, UAW members at GM complete ratification of their contract by a 65% positive vote.

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- **October 27:** After aggressive campaign by UAW leadership (and a split in the negotiating committee), Chrysler workers ratify agreement—supported by only 56% of production workers and 51% of skilled trades.
- **November 1:** Chrysler announces plans to end shifts at five assembly plants, terminate production of selected products, and to eliminate 12,000 jobs in addition to cuts announced earlier in 2007.
- **November 3:** UAW and Ford reach an agreement. Ford will make significantly lower contributions than GM when retiree health care transferred to union. Ford also gets right to pay lower-tier wages to all new hires, up to 20% of the total hourly workforce. In exchange, Ford announces that it will keep open five plants it had planned to close.
- **November 14:** UAW contract with Ford ratified by an 81% positive vote, completing the negotiation process.³⁹

The UAW first negotiated all elements of the issues with GM, to establish a “pattern” with the company that was then considered financially the strongest of the three, and the farthest along in terms of restructuring. Having established this pattern, the UAW then moved on to Chrysler, a company whose management was in transition, with respect to both structure and personnel.⁴⁰ The agreement negotiated with Chrysler was the most controversial, both among the UAW negotiating committee and its membership, as revealed in the relatively close margin of ratification. Further uncertainty was added by the Chrysler job cuts announced immediately after ratification. But when Ford agreed in its negotiation with the UAW to rescind five planned factory closings, the result was the highest level of ratification approval of any of the agreements. This was despite Ford’s smaller contribution to the new union-run retirement health care plan than GM, and Ford’s greater leeway than the other two Big Three OEMs in replacing hourly workers under the current contract with new employees under a lower-tier wage structure and a different benefits format. Part of the rationale for this differentiation of treatment was the perception by the UAW that Ford may be the financially weakest of the Big Three, and that maintaining current production facilities insofar as possible was the key union goal.⁴¹

Summary of New Contract Bargaining Agreements

The following analysis summarizes the changes in the UAW contract reached in these collective bargaining agreements.⁴²

³⁹ Based on *Detroit News* (*detnews.com*), “Timeline: The Road to Ratification” (November 16, 2007); also, *ibid.*, “New Era Begins for Big 3” (November 15, 2007).

⁴⁰ Failure of DaimlerChrysler management to gain similar health care “givebacks” from the UAW (contract modifications) to those agreed with Ford and GM in 2006 is said to have been one of the motivating factors in the decision to sell the Chrysler Group. *Automotive News*, “DCX Board Chief Aims to Undo Schrempf Legacy” (April 2, 2007), p. 3.

⁴¹ See the section on Ford in a *Detroit News* “special report” (*detnews.com*), “Historic UAW Contracts Forged from Angry Words, Picket Lines, Harsh Reality” (November 16, 2007).

⁴² While there are many press sources and accounts of these negotiations and agreements, the best summary of the final deals are in McAlinden, *The Big Leave*, pp. 15-20, 47-49. Complete summaries are provided in the following documents: *UAW GM Report* (September 2007); *UAW Chrysler Newsgram* (October 2007); *UAW Ford Report* (November 2007).

Transfer of Retiree Health Care to UAW

A leading objective of the UAW in the negotiations was the protection of retiree benefits already guaranteed by previous contracts. Given the real possibility that one or more of the Big Three could face bankruptcy at some time in the future, the UAW was amenable to consideration of transferring an open-ended commitment to retiree health care to an independent entity managed by the UAW (a “Voluntary Employees’ Beneficiary Association,” or VEBA).⁴³ The cost of this to each of the Big Three varies. GM will contribute \$31.8 billion, including \$4.4 billion in a note convertible to GM stock and a pledge to back up the VEBA for up to \$2 billion, if inflation is higher than expected.⁴⁴ Ford and Chrysler had fewer retirees affected. The upfront contributions for Ford and Chrysler to the VEBAs were \$13.2 billion and \$8.8 billion respectively. Because of legal and organizational issues, the VEBAs will not be set up until 2010, but the automakers might be able financially to recognize savings earlier. The major benefit of this change for the Big Three is that, for a defined, upfront contribution, they largely eliminate the uncertainties of future retiree health care costs and the legal obligation to provide health care to retirees.

Two-Tier Pay and Benefits

The UAW broke with a longstanding tradition in a national contract negotiation by agreeing to allow the Big Three OEMs to provide pay and benefits on a differential structure to workers in the same plants. As opposed to more than \$28 in base wages for current production workers, the new hourly starting wage for new hires will be about \$14, rising to \$15-\$16 after an initial period. In the first agreement, with GM, the lower tier wages for new hires was limited to hourly pay for “non-core” activities, such as machinists, line workers on drivetrain parts and sub-assemblies, inspectors, stampings, material handlers, and drivers. The definition was so broadly defined that it could include as many as 23,000 positions, covering almost a third of GM’s current UAW-represented employees. A similar definition was used in the Chrysler contract, again covering nearly a third of present positions, or 13,000 employees. “Non-core” would receive seniority when vacancies arose in core production jobs, and they could move into those positions at the full, “first-tier” contract rate of pay.

With Ford, the distinction between “core” and “non-core,” which preserves the principle that all UAW-covered workers receive the same rate of pay for the same job, was eliminated. Ford received the right to hire any new workers, including line production jobs, up to a level of 20% of the total hourly workforce. The percentage cap excludes new hires at facilities Ford had agreed to close or at plants Ford had taken back from its former parts-making affiliate, Visteon. In addition, while GM agreed to move production workers currently employed on a temporary basis into permanent positions, neither Ford nor Chrysler accepted this obligation.

The new “two-tier” structure also applies to employee benefits. Current hourly employees covered by the “first-tier,” traditional union contract will receive the full pension for which they remain eligible on retirement. They will also receive full retiree health care benefits, though these will be provided after 2010 by the UAW-administered VEBA, not by the companies. Thus, the UAW will be responsible for any adjustments in coverage necessitated by any future shortfalls in VEBA resources.

⁴³ For details on the legislative background of VEBAs, see CRS Report RL33505, *Tax Benefits for Health Insurance and Expenses: Overview of Current Law and Legislation*, by Bob Lyke and Julie M. Whittaker.

⁴⁴ As summarized in *Financial Times (FT.com)*, “UAW Could Hold Top GM Stake” (October 1, 2007).

“Second-tier” employees (new hires, however defined at each company) will never be eligible for a traditional pension or the current retiree health care coverage. As active employees, they participate in a health plan with \$300 to \$600 in annual deductibles, plus they receive a flexible health care spending account, from which to purchase customized coverage. With respect to retirement, they will accumulate a cash balance pension, while the company contributes to a 401(k) account that the employee can use for health care expenses after retirement. CAR analyst Sean McAlinden also defines a third class of employees, which he defines as “Tier 1.5” or “the new traditionals.” These are permanent workers who move from a “Tier 2, non-core” job, into a job included at the “Tier 1” pay level. These workers “will not have retiree health benefits *ever*. They will not receive defined pension benefit.”⁴⁵

Jobs Bank Changes

The burden of the “jobs banks” maintained by the Big Three companies was to a great extent alleviated by the buyouts put into place starting in 2006. The union continued to maintain the principle that currently employed UAW workers cannot be terminated unconditionally through corporate downsizing. However, going forward, the rules for staying in the jobs bank indefinitely were significantly tightened. At all three companies, participation in the jobs bank is now basically limited to a period of two years, with limits placed on the number of refusals an employee can make when offered a new position either within or outside their area of residence.

Detroit Big Three Cost Benefits

The new agreements may promise major labor cost savings for the Big Three. Much of the discrepancy in hourly cost levels (pay and benefits) estimated at \$30,000 per year against non-union producers in the U.S. market may be eliminated. With respect to new hires, the Big Three may be paying even less than the competition. McAlinden reports that the total cost per hour of UAW labor currently under “Tier 1” contracts at \$78 per hour today at GM. The “Tier 2” labor cost would drop to \$25.65 per hour, and even the “Tier 1.5 new traditionals” would only cost a total of \$38.47 per hour. Nor are these numbers purely hypothetical—the average hourly GM employee is nearly 49 years old, with 22.5 years of service, and 63.5% are eligible to retire in five years. For Ford and Chrysler average age and service levels are lower, but about 30% can retire in five years (under the traditional UAW “30 and out” guarantee). McAlinden further estimates for GM total labor cost savings of \$3.3 billion by 2011, and retiree health care cost savings of \$2.8 billion. Based on an estimated increase in GM North American production of about 500,000 vehicles per year by 2011, he projects a savings of \$981 per car in labor costs, and \$676 in retiree health cost savings.⁴⁶

Labor Gains in Job Security

Besides maintaining the retirement security for current UAW workers in “Tier 1” positions, the UAW won guarantees of continued production, and in some cases, promises of new product, at

⁴⁵ Quoted from McAlinden, *The Big Leave*, p. 17.

⁴⁶ Pay and service estimates are from *ibid.*, pp. 18-19; GM savings per vehicle on p. 21. Another account comparing GM with Toyota estimates that total average hourly cost savings would bring GM down to about \$50 per hour, compared to Toyota’s cost of \$47 per hour; *Detroit Free Press*, “How Deal Can Pull GM Even with Toyota” (October 2, 2007).

most existing Big Three plants. UAW active membership has declined from a high of 1.5 million to less than 500,000 in 2007. Each of the Big Three is continuing aggressive buyout campaigns aimed at current employees, and one source states, “The union’s auto company membership is expected to drop to 150,000” by 2010.⁴⁷ Thus, it was important for the UAW as an organization, as well as its current workforce, to secure such guarantees going forward.⁴⁸

- GM made the most extensive new product guarantees. It laid out plans for continued production and replacement models for all of its assembly plants, at least through 2011 and beyond. The only exception is Doraville, Georgia (Atlanta), still scheduled to close in 2008, plus three parts operations. Some products do remain “business-case dependent” on the list, or, as with the Chevrolet Volt “plug-in hybrid” planned for the Detroit Hamtramck plant, may be technologically speculative.⁴⁹ Global Insight predicts two additional GM plant closings that have not been announced. The plant in Moraine, Ohio, that produces the Chevy Trail Blazer/GMC Envoy, is not listed in UAW’s report. The Wilmington, Delaware, plant is listed as continuing to produce two-seat sports cars through 2012, but is assigned no new products. Global Insight believes that GM must take out 400,000 units of capacity by the end of the decade to achieve a 90% capacity utilization rate, and suggests these are the two plants most likely to be shut.⁵⁰
- UAW opponents of the Chrysler agreement “complained that the deal lacked the specific future product guarantees found in the GM deal.... The UAW argued that Chrysler had promised to keep operating all but a few facilities and has identified more than \$15 billion in potential investments.”⁵¹ The listing released by the UAW mostly includes commitments to continue production “through the current product life cycle,” with two assembly plants, Newark, Delaware and a small Detroit-area plant, slated for closure after that.⁵² In a more favorable analysis, McAlinden states Chrysler promised to “continue and/or expand production at 6 assembly, 4 stamping and 8 powertrain plants,” and “reversed 4 closures.”⁵³
- With Ford, the big news for the UAW was the reprieve of five plants from the list of planned closures, including Avon Lake, Ohio, and two other assembly plants (Chicago and a Detroit-area truck plant) for which closure plans had not yet been publicly announced. The UAW also highlighted new investment and modernization plans at Ford plants. The previously announced closure at Twin Cities (St. Paul) was confirmed, though a year later than originally announced along with the closure of a casting plant and a transmission plant.⁵⁴

⁴⁷ *Business Week*, “Labor’s New Roll of the Dice” (December 24, 2007), p. 37.

⁴⁸ The following summary is based on press reports, including commentary on based on publicly circulated UAW documents.

⁴⁹ The full list is at *UAW GM Report*, p. 11. See, among many other analyses, *Detroit Free Press*, “UAW Contract: Nuts and Bolts” (September 29, 2007).

⁵⁰ Global Insight. *Auto Webcast*, p. 44.

⁵¹ *Detroit Free Press*, “Tough UAW Vote” (October 28, 2007).

⁵² *UAW Chrysler Newsgram*, p. 14.

⁵³ McAlinden, *The Big Leave*, p. 49.

⁵⁴ *Ibid.*, and *UAW Ford Report*, pp. 3-5.

In addition to these commitments to keep plants operating, McAlinden notes commitments to “insource” jobs and allow UAW-organized operations to bid on jobs previously committed to outside suppliers (a total of more than 5,000 jobs at the three companies). The Big Three also committed to moratoria on future outsourcing.⁵⁵

Reducing Detroit’s Commitment to Canada?

As discussed earlier in the CRS baseline report on the motor vehicle industry, the Detroit Big Three have a longstanding commitment to building motor vehicles in Canada in a two-way sectoral free trade system that goes back to 1965. This deal has ensured Canada’s role as the largest U.S. export market for motor vehicles and parts, the largest two-way trade partner, and a virtually permanent large Canadian automotive trade surplus.⁵⁶ Under this agreement, Ontario has overtaken Michigan as the largest auto-producing state or provincial jurisdiction in North America.

But one reason the Big Three have made significant investments in Canada has been savings derived from the Canadian health care system, as opposed to expensive, company-provided health care in the United States. Another advantage has been the currency exchange rate, with the Canadian dollar falling as low as 65¢U.S. in the past decade. The Canadian Auto Workers have reportedly used these cost differentials to leverage contract gains not enjoyed by their UAW counterparts in recent years. But with Canada’s dollar reaching parity with the American dollar in 2007, and with the Big Three offloading retiree health care costs and making other health care gains in the new UAW contracts, Canadian production is less attractive now to the Big Three. One source forecasts that Ontario production capacity will decline by 600,000 units by 2012, while Michigan will gain 100,000 units.⁵⁷ In the near future, Ford is predicted to close one of its two Canadian assembly plants, in St. Thomas, Ontario, where it builds large, rear-wheel-drive sedans on an aging platform.⁵⁸

Conclusion: A Competitive Detroit Big Three?

Outlook for U.S. Motor Vehicle Manufacturing Employment

As to whether the new UAW labor contracts will renew the competitiveness of the Big Three and stop their erosion of U.S. market share, labor relations specialist Harley Shaiken summed up the view of many analysts: “The contract allows the three automakers to be more competitive, but it doesn’t remotely ensure success—that requires the right models and the right strategic vision.”⁵⁹ It is clear that the UAW has accepted that a different labor model is required, or the union will end up with the reputation of organizing only losers among the OEMs. The deal may be viewed

⁵⁵ McAlinden, *The Big Leave*, p. 49.

⁵⁶ See CRS Report RL32883, *U.S. Automotive Industry: Recent History and Issues*, by Stephen Cooney and Brent D. Yacobucci, esp. pp. 18-23 and Appx. 5.

⁵⁷ *Detroit News* (*detnews.com*), “Canada Loses Luster for Big 3” (December 10, 2007).

⁵⁸ *Ibid.*, “Ford Will Close Ontario Plant” (December 10, 2007); Global Insight, *Auto Webcast*, p. 44. The latter source also noted on p. 43, however, that Toyota is adding capacity to build 150,000 RAV4 CUVs at Woodstock, ON in 2008.

⁵⁹ Quoted in *Detroit News*, “New Era Begins for Big 3.”

as a model of how the union-organized segment of the industry can respond to competitive challenges.

At the national level, the prospects for employment growth in the industry as a whole are not strong during the remaining years of this decade. Foreign-owned manufacturers continue to invest in the United States. However, insofar as the new labor deals allow UAW-organized manufacturers to operate more flexibly, predictions of a continued slowdown in U.S. motor vehicle sales may mean that employment created by these new investments is more than offset by Big Three efforts to reduce labor overhead through increased production efficiencies. This will be especially true if their output is downscaled to demand.

From the state perspective, Big Three cutbacks and plant closures have been widespread, but the negative effects have been felt disproportionately by one state, Michigan. It has suffered about 40% of the total net job loss in automotive manufacturing between 2000 and 2006. Although buyouts will continue, most Michigan Big Three plants will apparently survive, using the new UAW “Tier 2” labor contracts. But as the older class of highly compensated workers retires, the new contract means a clear cut in the pay rate for the new hires who join the industry.

Other states have not been so negatively affected in the 2000s. Within the “heartland auto belt,” Ohio and Indiana have lost jobs on a net basis. Unlike Michigan, however, their Big Three losses have been somewhat offset by foreign OEMs. New York, a major parts manufacturing state, has perhaps suffered a job loss in the industry that is proportionally as large as Michigan’s, but the automotive sector is relatively small there as a share of total manufacturing employment.

Southern states have not seen the large overall gains that one might expect to have seen, except for Alabama, which has gained 15,000 net new jobs since 2000—the largest increase of any state. If one goes back to the period since 1990, Alabama is joined by three other southern states—Tennessee, Kentucky, and South Carolina—as the biggest net gainers of auto manufacturing jobs, especially through foreign investment.

Legislative Initiatives May Affect Automotive Manufacturing Employment Outlook

The future of U.S. automotive manufacturing has been a major concern of many Members of Congress. The outlook for future employment in the industry may be affected by federal legislation in the present Congress.

The “Employee Free Choice Act” (H.R. 800/S. 1041)

This bill was approved by the House 241-185 on March 1, 2007. This union-endorsed measure might assist organizing efforts in non-union plants by making it easier to use a “card check” process that supporters believe is a more effective and efficient means of determining support for union representation. On June 26, 2007, the Senate refused to close debate on its equivalent bill (S. 1041) on a vote of 51 yeas to 48 nays.

Fuel Economy Legislation (Title I of P.L. 110-140)

Federal fuel economy standards for all light motor vehicles have been made more stringent in energy legislation approved in the 110th Congress.⁶⁰ A version approved by the House on December 6, 2007, by a vote of 235-181 adopted with some changes an earlier Senate-approved bill, which mandated a general fuel economy standard of 35 miles-per-gallon by 2020. The Senate twice failed to close debate on the bill, but then on December 13, 2007, approved by 86-8 a different version with an identical section on automotive fuel economy.⁶¹ To assure passage, the Senate removed most of the tax provisions. However, the Senate did leave in sufficient tax provisions to offset the federal revenue that would be lost from the auto fuel economy measures.⁶² The House on December 18, 2007, then approved the version of the bill as amended by a vote of 314-100. President Bush signed the bill into law on December 19, 2007.

Fuel economy mandates can have a major impact on the automotive market, with different effects on different manufacturers. The new law contains provisions designed to offset any negative impacts on U.S. motor vehicle manufacturing. Section 112 establishes that 50% of the civil fines collected from OEMs who fail to meet the new CAFE requirements shall be transferred to a Department of Transportation program for grants in support of the domestic manufacture of advanced technology vehicles and components. Under the “improved vehicle technology” subtitle, the Department of Energy is authorized to make grants for converting and retooling plants for the production of advanced technology fuel-efficient vehicles, and to issue loan guarantees for parts and battery manufacturers for such vehicles.⁶³

Funding Advanced Vehicle Manufacturing in Greenhouse Gas Reduction Legislation (S. 2191)

This bill includes the use of proposed auctions of greenhouse gas (GHG) emission credits to fund the development and manufacture of clean, advanced technology vehicles. Eight bills were introduced in the first session of the 110th Congress with the goal of reducing GHG (including carbon dioxide, CO₂) through a market-oriented program along the lines of the trading provisions of the current U.S. acid rain reduction program. One of them, S. 2191, co-sponsored by Senators Joseph Lieberman and John Warner, was ordered to be reported by the Senate Environment and Public Works Committee in an 11-8 vote on December 5, 2007.⁶⁴

⁶⁰ On the history of automotive fuel economy legislation, including in the 110th Congress, see CRS Report RL33413, *Automobile and Light Truck Fuel Economy: The CAFE Standards*, by Brent D. Yacobucci and Robert Bamberger.

⁶¹ On House passage, *Washington Post*, “Broad Energy Bill Passed by House” (December 7, 2007), p. A1. On the Senate’s actions, *Daily Report for Executives (DER)*, “Senate Rejects Motion to Limit Debate on Energy Bill with \$21 Billion Tax Package” (December 10, 2007), p. G-5; “Democrats Go Back to Drawing Board on Energy Bill after Senate Roadblock” (December 10, 2007), p. A16; and, “Senate Passes Revised Energy Measure Boosting Fuel Economy, Renewable Fuels” (December 14, 2007), p. A-38.

⁶² *Ibid.*, “Senate Passes Energy Legislation after Nixing \$21.8 Billion Tax Title” (December 14, 2007), p. G10. Because of anticipated reduction in fuel consumption, tax revenue for the Highway Trust Fund is expected to decline.

⁶³ P.L. 110-140 §132-135.

⁶⁴ These bills are discussed in CRS Report RL33846, *Greenhouse Gas Reduction: Cap-and-Trade Bills in the 110th Congress*, by Larry Parker, Brent D. Yacobucci, and Jonathan L. Ramseur. All the bills from both houses are summarized in Appendix A. On approval by the Senate committee, see *DER*, “Senate Committee Approves Legislation to Place Cap on Greenhouse Gas Emissions” (December 6, 2007), p. A-44.

S. 2191 would allocate limits on emissions to utilities and industries, under a general cap, aimed at reducing total GHG emissions over time. Trading in emissions credits would be monitored and additional emissions credits would be auctioned by a “Climate Change Credit Corporation” established under the bill. By Section 4401 of the bill, up to 20% of the proceeds of these auctions could be used to carry out an advanced technology vehicles manufacturing program. In Section 4405, “advanced technology vehicles” are defined as “hybrid or advanced diesel light duty motor vehicles” meeting prescribed emissions and fuel economy standards. Funding would be available to “automobile manufacturers and component suppliers” to cover the “engineering integration” of advanced technology components into vehicles and up to 30% of the cost of “reequipping or expanding an existing manufacturing facility to produce” vehicles and components.

According to one analysis, compared to relatively modest amounts that would be provided from fines and loan guarantees under P.L. 110-140, “the cap-and-trade bill would mean real money.” It is calculated to generate “as much as \$40 billion from the sale of emissions permits.”⁶⁵

The Proposed U.S.-Korea Free Trade Agreement

Another major issue for the automotive industry that may be faced by Congress in the second session of the 110th Congress is whether to approve the proposed U.S.-Korea Free Trade Agreement. Many in the U.S. automotive sector are concerned that agreement as negotiated is unbalanced. It would enhance access to the U.S. market for Korean-based OEMs (Hyundai-Kia), which already in 2006 sold 750,000 vehicles in the United States (4.6% of the domestic market, more than 500,000 imported), by eliminating all tariffs on products brought in from Korea, while U.S. OEMs have only been able to export a few thousand units to Korea. Ford and Chrysler explicitly oppose congressional approval of the deal.⁶⁶ GM, with a substantial stake in Korean manufacturer Daewoo, has remained neutral.⁶⁷ The UAW is strongly opposed to the agreement. In testimony before the House Ways and Means Committee’s Trade Subcommittee, UAW Legislative Director Alan Reuther stated that the agreement as contemplated “would exacerbate the totally one-sided auto trade imbalance between Korea and the U.S. and jeopardize the jobs of tens of thousands of American workers.”⁶⁸

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⁶⁵ *Automotive News*, “Climate Bill Dangles \$40 Billion for Auto Industry” (December 17, 2007), pp. 4 and 45.

⁶⁶ Executive Office of the President. Office of the U.S. Trade Representative. *Report of Industry Trade Advisory Committee on Automotive and Capital Goods (ITAC 2)* (April 27, 2007), pp.1-2; and “Ford Motor Company Assessment of the Automotive Provisions of the US-Korea FTA,” appended to that report.

⁶⁷ “General Motors Corporation Assessment of the Automotive Provisions of the US-Korea FTA,” appended to *ibid.*

⁶⁸ U.S. House of Representatives. Committee on Ways and Means. Subcommittee on Trade. Testimony of Alan Reuther (March 20, 2007); and, letter of Alan Reuther to all Members of the House (April 18, 2007), p. 2. A similar letter was sent to all Members of the Senate.

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<http://wikileaks.org/wiki/CRS-RL34297>