The Meaning of the 2003 UAW-Automotive Pattern Agreement

A Research Report for the

Auto Industry of the Future Program

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Introduction

The 2004 pattern negotiation between the United Autoworkers Union (UAW) and the "Big Five"[1] represents a strong contrast to the previous 1999 agreement. The 1999 agreement was the most significant labor agreement in decades in terms of meaning for the future structure of the U.S. auto industry and was notable for a number of outcomes. First, the national agreement was lengthened from a traditional three-year to a four-year contract period. Second, the economics of the agreement or the pattern of wage and benefit improvements were the most expensive since 1979 (reflecting the strength of the Big 3 in the booming truck market of the late 90's). And finally, the agreement permitted, or seemed to permit, the monumental spin-off of the largest parts-making divisions at GM and Ford,—Delphi and Visteon,—as newly independent parts companies. This last important change, however, was fraught with unsustainable constraints that were left for future negotiations. As a result, the 2003 negotiation must be seen as a continuation of the 1999 bargaining round on the subject of labor used to manufacture parts and components for North American assembled, Big Three vehicles.

The 1999 agreement was negotiated in highly favorable economic circumstances for the UAW. The Big 3 had completed a period of record breaking years in terms of earnings derived from the sale of their truck products in a seven-year long light truck sales boom. And the national unemployment rate had reached a 40-year low in the midst of an overwhelmingly prosperous U.S. economy that was even marked by labor shortages in many sectors. In contrast, the 2003 negotiation was overshadowed by a weak U.S. economy, record incentives on many Big 3 models assembled by the UAW, and the rapid erosion of Big 3 market share and earnings, especially at Ford and Chrysler Group. These macro-economic and industry conditions heavily influenced the final outcome of negotiations.

Each of the companies shared a similar list of negotiating priorities or goals prior to the start of formal 2003 negotiations. However, each of the companies also ranked these goals in a significantly different order depending on their competitive position regarding different elements of labor cost. In the end, the companies achieved varied degrees of success accomplishing their major goals. As for the UAW, its major aim is always the protection of the economic position of its current rank-and-file members and almost 500,000 UAW retirees and their families.

It can be said that the overall economics (improvements in wages and benefits) of the 2003 agreement are certainly less expensive than the 1999 agreement, but these terms do little to redress the competitive disadvantage the UAW faces with regards to international competition in the final assembly of vehicles and major components. However, the new Delphi/Visteon supplemental agreement may eventually result in a distinct improvement in the union's position in parts and component manufacturing.

Considerable media and corporate relations attention was also paid to some improvement in "flexibility" supposedly granted to the companies for the purpose of productivity. Yet the known provisions of the national agreements show little gain in any type of flexibility. However, there remains a possibility that the current round of local negotiations across the companies greatly improved internal flexibility or productivity within the facility. All-in-all, the new contract leaves the vehicle firms no worse off, and may dramatically improve the competitive position of Delphi

[1] The Big Three: General Motors (GM), Ford, Chrysler Group; and Delphi and Visteon.

and Visteon in the years ahead.[2]

In fact, the negotiation by the companies with the UAW did not finish in October 2003. The UAW agreed to negotiate a supplementary agreement with both Visteon and Delphi on the subject of wages and benefit levels for new hires at these companies, as well as possible plant consolidations. This supplementary negotiation was completed to an extent that the UAW and Delphi could announce a seven-year supplement on April 29, 2004 and the UAW and Visteon several days later.[3] Furthermore, the details and arrangements regarding a number of large DCX parts plant sell-offs must also be negotiated in the months ahead. Finally, local agreements were completed throughout the fall and winter of 2003-2004 and the results of these negotiations should be closely examined.[4]

In summary, the 2003 negotiations were and still are critical to the future of the traditional U.S. auto industry. In particular, the supplementary negotiations at Delphi and Visteon have as a major theme the complete restructuring of UAW-represented parts and components production in the U.S. auto industry. Roughly the same wage and benefit pattern negotiated for future new workers at these supplier companies will also be offered, it seems, to American Axle, Chrysler spin-off plants, and other former Big Three operations now operated and owned by the independent supplier sector.

This report first reviews the general economic environment that led into the 2003 negotiations. A review of the general terms of the agreement is then presented. This review is followed by two scenario forecasts of the results of the agreement in terms of Big Five UAW employment and future vehicle labor cost. Finally, a 2003 estimate of labor cost per vehicle for the Big Three and the international producers is shown. Major findings include.

- The average hourly cost of 1st tier UAW production labor will rise from $55.40 per hour in 2003 to $64.99 per hour in 2007, an increase of 17.3 percent.
- When skilled trades are included, the average hourly cost of 1st tier UAW labor will rise from $57.06 per hour in 2003 to $66.28 per hour in 2007, an increase of 16.1 percent.
- New UAW hires at Delphi and Visteon will initially cost a total of $25.89 per hour in 2004. This rate will increase to $34.60 per hour by 2007.
- A first forecast scenario calls for a decline in annual UAW labor cost of $1.58 billion by 2007. About 67,200 UAW workers are expected to retire and 22,553 will be replaced by new hires with 14,653 of these new hires at Delphi and Visteon. Total Big Five UAW employment will fall by 44,600 between 2003 and 2007.
- The first scenario forecast estimates that Big Five UAW labor cost per vehicle will fall by $237 per vehicle at Chrysler Group and $64 at GM by 2007. Ford UAW labor cost is expected to rise by $138 per vehicle during this period.
- A second forecast scenario calls for an increase in annual UAW labor cost of $788 million by 2007. About 67,200 UAW workers are again expected to retire and 38,283 will

[2] There is some debate between financial analysts on this issue, see for example: Gary Lapidus, "Big 3 UAW agreement: The tug-o'-war is called a tie," Goldman Sachs Autos and Auto Parts United States, New York, N.Y., September 22, 2003. Michael Bruynesteyn, "Autos: Labor Pact's Attrition & Plant Closings Are Not Enough To Offset Increased Labor & Healthcare Costs. Material Cost Savings, Price & Volume Can Likely Counter The Impact." Prudential Financial, New York, NY, September26, 2003.

[3] Delphi Corporation, Delphi News Release: Delphi and the UAW finalize New Hire Wage and Benefit Supplement, Troy, Mich. April 29, 2004.

[4] As of mid January 2004, 50 of 73 GM locals, 52 of 63 Ford locals, and 3 of 26 Chrysler Group locals had ratified local agreements with the companies.

be replaced by new hires with 14,653 of these new hires at Delphi and Visteon. Total Big Five UAW employment will fall by 28,917 between 2003 and 2007.

- The second scenario forecast estimates that Big Five UAW labor cost per vehicle will rise by $64 per vehicle at Chrysler Group compared to a combined $115 per vehicle increase at GM. Ford UAW labor cost will experience an increase of $338 per vehicle by 2007.
- In 2003, the international automotive producers maintained a $1,319 per vehicle advantage in labor cost versus the Big Three in North America. Almost 100 percent of this advantage is located at the assembly company level of operations.

Table 1: UAW Employment* at the Big 3

Company	August 1999	August 2003	December 2003
General Motors [a]	150,976	125,044	122,000
Delphi	44,043	31,076	28,772
Ford [b]	101,201	95,149	91,900
(Visteon)	(23,500)	(20,400)	(20,821)
Chrysler Group [c]	75,923	66,350	61,214
Total Big 3 UAW	372,143	317,619	303,886

Source: Company sources

*Includes on-roll or active, protected status, indefinite layoff, temporary layoffs, and workers on all types of unpaid leave.

a -Does not include Electro Motive Division (EMD), does include Saturn.

b -Includes UAW-Ford workers located at Visteon (shown below).

c -Includes salaried UAW-Chrysler Group.

The Bargaining Environment

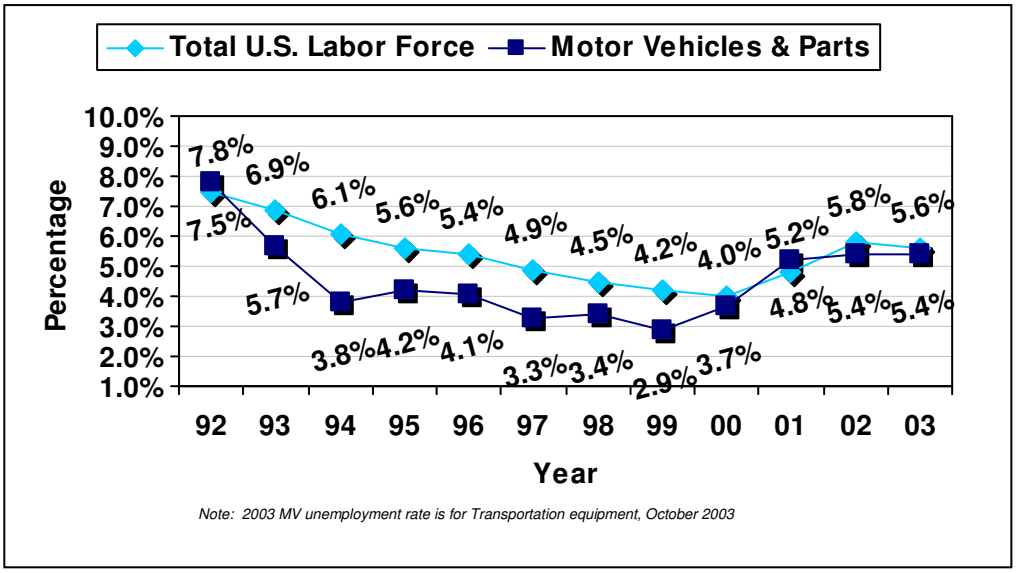
The UAW entered the 2003 negotiation with some unfortunate disadvantages. The general U.S. economy was not strong—especially for negotiating unions in the private sector—and even more so for manufacturing unions fully exposed to the strong dollar and international competition from hyper-low-wage countries. Sales trends in the U.S. vehicle market by spring had made it obvious that 2003 was shaping up as the fourth consecutive year of major market share losses for the Big 3. Although the overall U.S. light vehicle market had shown remarkable strength in the 2001-2002 recession, this fact was clearly attributable to price and other incentive competition offered on the union's passenger car and light truck products in the U.S. market.

<u>The Macro-environment</u>

The macro-environment of the general economy has generally had little relevance on the price of labor supply for the Big 3 in recent years. As seen in Figure 1, the U.S. auto industry has demonstrated a lower unemployment rate than the U.S. average for every year except one since 1993. However, the pace of 2003 labor settlements in the U.S. economy exhibited a pattern of very modest wage increases for union manufacturing workers compared to union workers overall. First year wage increases for all union workers in settlements bargained in 2003 averaged 1.6 percent (weighted) compared to .8 percent for manufacturing workers. On the other hand, when the value of first year lump-sum payments are factored in, manufacturing workers gained a respectable 4.8 percent average increase. This pattern could reflect continued weakness in the U.S. manufacturing sector, especially in pricing. Analysis provided by the Bureau of National Affairs (BNA) actually shows very few settlements with changes in

benefits (only 8 percent of contracts had prescription drug coverage changes as a result of bargaining) in 2003 bargaining.

Figure 1: Unemployment Rate 1992 - 2003



Source: AAMA Economic Indicators, Q1 1998, p.16; USDOL, BLS Employment and Earnings, November 2003, p 39; United States Department of Labor Bureau of Labor Statistics <http://www.bls.gov/cps/> [February 17, 2004]

Table 2: All Settlements
Average First Year Wage Increases Reported in 2003

	2003
All Settlements: No lump sum	
Weighted	1.6%
Unweighted	3.1%
Manufacturing: No lump sum	
Weighted	0.8%
Unweighted	2.1%
Manufacturing: With Lump sum	
Weighted	4.8%
Unweighted	3.2%

Source: Collective Bargaining Bulletin, 1-22-04, BNA.

The Automotive Environment: The UAW Confronts Deflation

The 1982-1996 national negotiations were characterized by union attempts to negotiate and guarantee job security—not major improvements in the economics (wage and benefits) package. In contrast, the 1999 negotiation was the first to emphasize the economics of the agreement since the late 1970s. The 2003 agreement, however, clearly marked a return of concerns regarding not only job security, but also the defense of benefits—especially health benefits for both active and retired rank-and-file members.

Market conditions would argue that the UAW could naturally expect a struggle in 2003 to maintain its annual improvement factor (AIF) percentage regarding wage increases. The AIF had only recently been restored in the 1999 agreement with a consistent AIF having not been achieved since 1979. There also remained the goal of further improvements in benefits or cost-of-living coverage (COLA). This situation arose after a round of unpopular concessions in the 1982 contract, wage increases had been generally pared to a combination of lump sums and percentage increases for each of the 3-year agreements. In addition, the UAW had sacrificed some COLA coverage in previous agreements in order to ward off the prospect of co-pays on health insurance benefits. This trend is clearly shown in Table 3. However, Figure 2 shows that the inconsistent AIF pattern over the last 20 years has hardly slowed the general growth in the hourly compensation of Big 3 UAW employees (including skilled trades). The major reason, of course, is COLA compensation— usually folded into the base wage at the start of each new agreement. The total UAW wage rate, with COLA, increased at an annual average of 5.5 percent during 1960-2003. In fact, cumulative COLA amounted to $14.04/hour during 1960-2002, or over half the total increase in the UAW wage. Total wage compensation almost doubled between 1985 and 2003 (from $13.30/hour to $26.47/hour).[5]

Table 3: The Pattern in Agreements

Year	Wages	Pension	Other
1982 (GM & Ford)	No AIF or Lumps	—	SUB** Replenished/GIS*** Profit-sharing
1984 (GM & Ford)	1 2.25% AIF 2 2.25% Lumps	26.0% increase In 30&Out Suppl.*	Jobs Bank Created – no outsourcing layoffs
1987	1 3% AIF 2 3% Lumps	24.5% increase In 30&Out Suppl.	More SUB “Guaranteed numbers”
1990	1 3% AIF 2 3% Lumps	17.0% increase In 30&Out Suppl.	$4.0 bil. in SUB/Jobs Bank at GM: 36 wks to get in Bank
1993	1 3% AIF 2 3% Lumps	12.8% increase In 30&Out Suppl.	$4.7 bil. At GM for SUB/Jobs Bank
1996	2 3% AIFs 1 3% Lump ($2,000)	13.1% increase In 30&Out Supply.	1 for 2 Replacement/95% of SEL attrition
1999	4 3% AIFs 1 $1,350 Lump	18.9% increase In 30&Out Suppl.	24% cut allowed at 1 for 3/1 for 2; Delphi Spun off
End of 99’	$25.57 hr. Prod. $29.52 Skilled	$2,730/mo. Suppl.	Plant closing moratorium

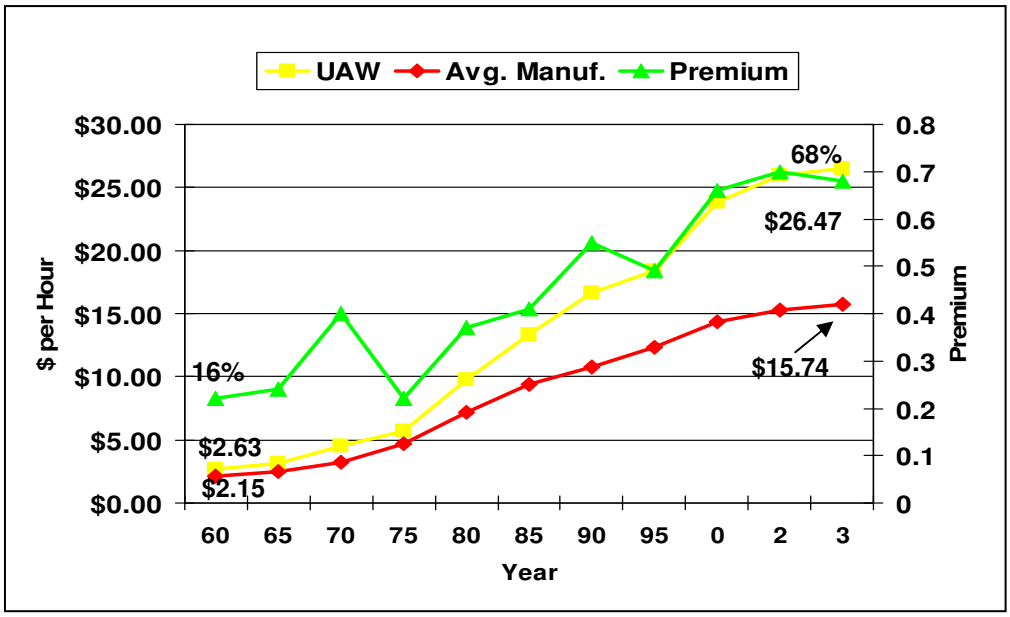
*Supplemental

** SUB – Supplemental Unemployment Benefits

***GIS – Guaranteed Income Stream

[5] We combine production and skilled trades wage rates (including COLA) at 80 and 20 percent respectively as shown in the 2003 UAW highlights. Pre-2003 wages were given in the 2003 UAW Ford National Negotiations Media Fact Book.

Figure 2: The UAW Wage Rate and its Premium
1960 - 2002
(Growth of 5.5% per Year)



Source: Ford Motor Company, 2003 UAW-Ford National Negotiations Media Fact Book. Dearborn, MI. 2003; United States Department of Labor Bureau of Labor Statistics < http://www.bls.gov/ces/> [February 17, 2004]

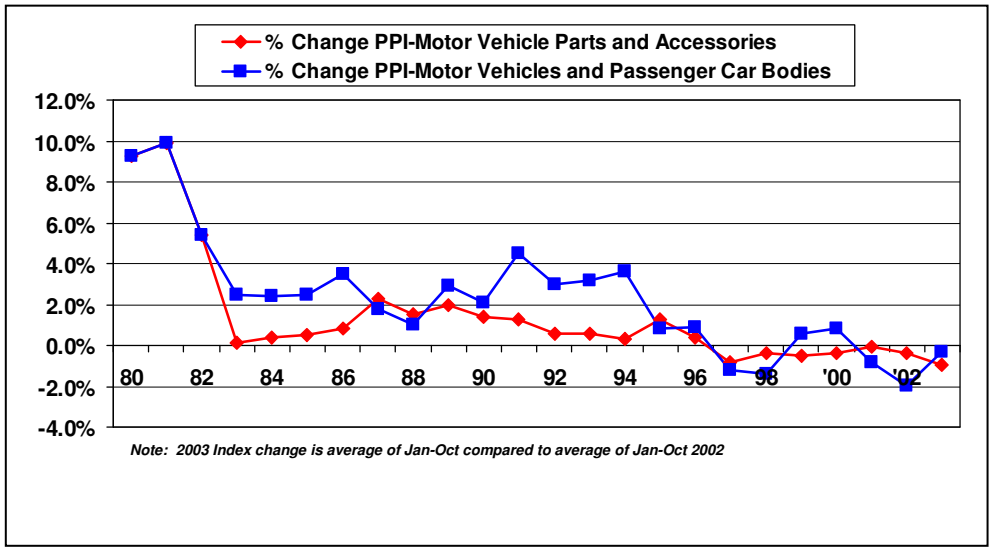
Figure 2 also shows the nominal average wage rate in U.S. manufacturing for 1960-2003. In 1960, the UAW was 16 percent higher than the overall U.S. wage rate. This 16 percent premium for UAW workers fit into a general pattern of 15-25 percent higher wages for Big 3 workers that held throughout the 1950s, the 1960s and through 1975. Post 1975, the premium began to increase presumably due to the absence of COLA provisions in many other non-Big 3 union contracts and the falling unionization rate of U.S. manufacturing. In 2003, the UAW average rate (with COLA) was 68 percent higher than the average manufacturing rate of $15.74/hour—an all-time record for this premium.[6]

In previous decades the UAW could reasonably argue that the wage premium for autoworkers was justified by much higher levels of value-added per hour worked, or capital investment per worker than in other sectors of manufacturing or the economy. However, the trend in annual price inflation for both U.S.-produced vehicles and automotive parts has slowed and even turned negative since 1995. As shown in Figure 3, vehicle manufacturers only accomplished two years (1999-2000) of positive year-over-year increases in the production price index (PPI) for motor vehicles during 1997-2003. Automotive parts manufacturers have not experienced a year-over-year increase in the PPI for parts and components since 1996. The onset of the 2001 recession and rising import levels for vehicles and parts had already produced a strong incentive environment by the summer of 2001. The events of September 11, 2001 quickly resulted in even stronger price give-backs to consumers and vehicle manufacturers.

[6] Ford Motor Company, 2003 UAW-Ford National Negotiations Media Fact Book. Dearborn, MI.2003. Pages 8-9.

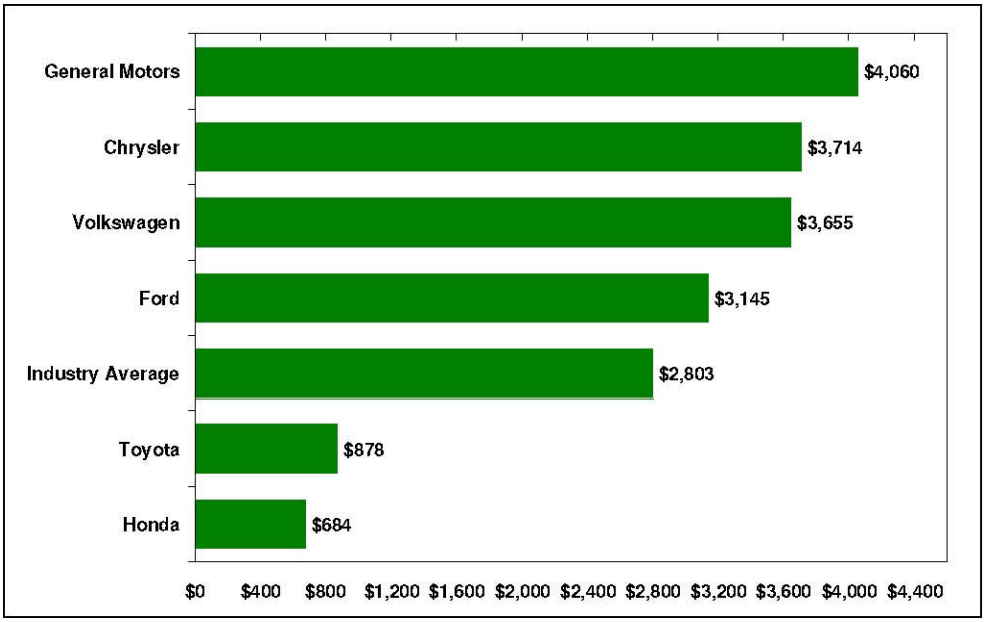
The relative situation for the Big 3, as shown for December 2003 in Figure 4, was far worse than for their international competitors due to the strong dollar and weak product offerings.[7]

Figure 3: Annual Percentage Change of PPI Index
Motor Vehicles and Motor Vehicle Parts 1980 - 2003



Source: United States Department of Labor Bureau of Labor Statistics
http://www.bls.gov/ppi/home.htm [January 14, 2004]

Figure 4: December '03 Incentives



Source: AutoData

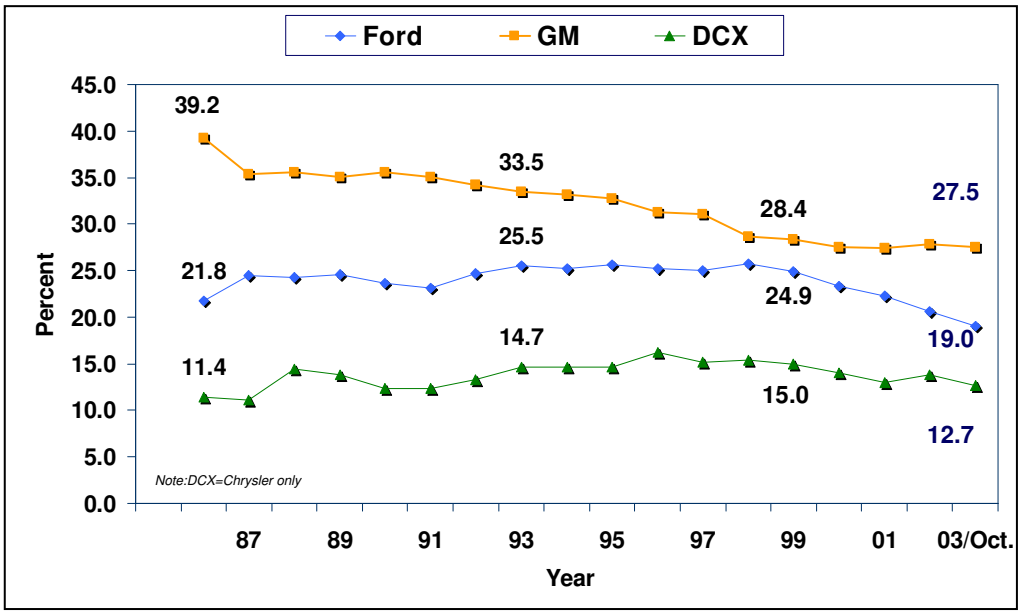
[7] In fact, a number of union sources strongly maintain that this pricing issue is the major competitive problem for the Big 3—not rising labor or component costs. These officials and staff state that the Big 3 face a "revenue" not a cost problem, especially in passenger cars.

At a given wage rate, price deflation that exceeds improvements in labor productivity naturally leads to a decline in the demand for labor in any market. The price incentive programs of the Big 3 have been attributed to a number of motives beyond "Keep America Rolling"—which it did do to an extent). These motives include: an attempt to preserve market share to ensure future profits with the introduction of new models, a method to preserve volume to spread the fixed cost of under funded retiree pensions and spiraling health costs; or alternatively a blatant attempt to drive one of the Big 3 into bankruptcy. Perhaps the most interesting explanation involves the almost $8.5 billion in Supplementary Unemployment Benefits (SUB) and protected employment status monies guaranteed under the 1999 agreement with the Big 3 and Delphi. Attempts by the companies to hold firm on price in early 2001 would have resulted in the layoff of many tens of thousands of workers who would have become eligible for these monies (rising to full pay after 42 weeks of layoff on SUB). The companies, already facing pension shortfalls, and remembering the disastrous cash drain of such layoffs in 1992 for GM, cut prices instead of production and employment in early 2001. This illustrates the power of labor agreements to affect overall strategy at the Big 3.

The Automotive Environment: The UAW Confronts Market Share Loss

The Big Three, of course, have continued to steadily lose share in the North American and U.S. vehicle market despite their price incentive programs. The UAW is hardly a stranger to market share losses by its employers—notably in the 1970s, early 1980s, and early 1990s. A major difference in the current recession is the overall market did not decline to a degree compared to previous recessions coincident with the loss of market share. In fact, overall sales records were set in 1999-2000. These sales levels temporarily masked serious competitive problems for the UAW and the Big 3. As shown in Figure 5, the most striking loss of share during the 1999 contract period was at Ford and the Chrysler Group. Although combined Big 3 share of the U.S. market for North American assembled vehicles (in 100 percent owned Big 3 assembly plants) has fallen below 60 percent in 2003 (59.3 percent), the bulk of the loss was experienced at Ford (-5.9 points) and Chrysler Group (-2.3 points), compared to GM (-1.1 points). In fact, Ford has lost 21 percent of its U.S. share since 1993. Even allowing for an ample use of overtime, the meaning of this share loss in terms of over-manning is clear for Ford and Chrysler as they entered the 2003 negotiations.

Figure 5: Down Below 60 Percent "Big 3" U.S. Market Share
1986 -2003



Source: Automotive News Data, CAR calculations.

The Automotive Environment: The UAW Produces Mixed Results on Productivity

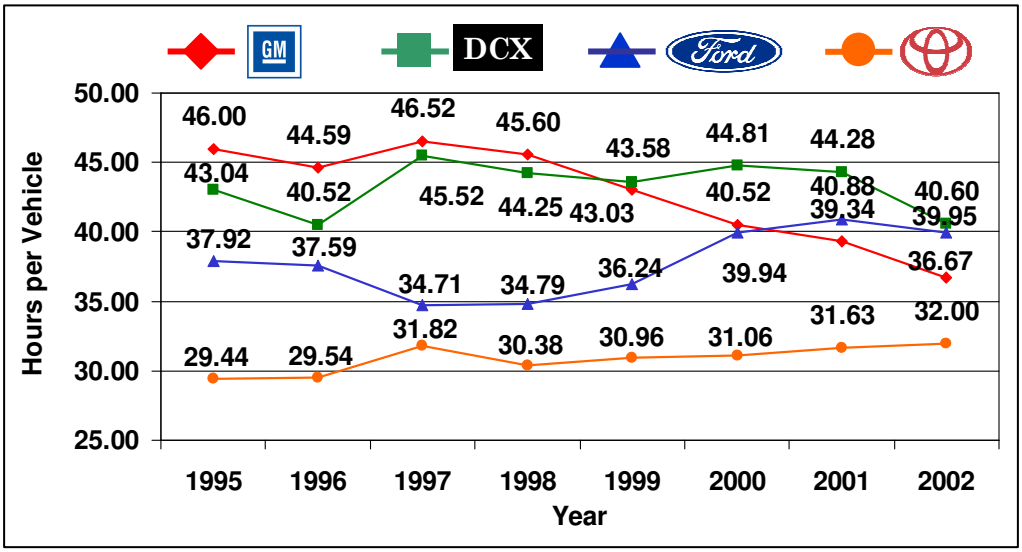
A famous series of "total hours" estimates of Big 3 North American productivity are reproduced in Figure 6 from various editions of the *Harbour Report* (Harbour & Associates, Inc.). These estimates purport to show the relative labor hours per vehicle of four companies for the period 1995–2002. The hours include direct and indirect, salaried and labor, incurred at vehicle assembly, engine and transmission plants—major "in-house" facilities in North America. These hours are sometimes referred to as strategic plant productivity. They do not include hours in other types of operations throughout the companies (e.g. foundries or tool & die, etc.) The estimates also do not apparently include workers on layoff or protected status if they were not included in production which also limits their usefulness in labor cost comparisons.

A summary of the figure is simple. GM has dramatically improved its hours per vehicle performance every year since 1997 (when it was dead last on this statistic). Ford lost ground every year during 1997-2001, until its decline in productivity leveled off in 2002. Chrysler showed no pattern of improvement until 2001-2002. The Toyota figures, it should be noted, are somewhat suspect for 2001-2002[8] since the company has not supplied figures for all of its North American plants (especially the troubled Princeton, IN truck plant). Yet Toyota productivity has been traditionally used as a starting benchmark by company negotiators in recent bargaining rounds. Curiously, Toyota shows no pattern of improvement during 1995-2002. Presumably, this is due to the concentration by Toyota on extending its manufacturing product line in North America, as well as the addition of content in higher-priced vehicles. The relative change in the Big 3 position is striking. Ford was only three hours behind Toyota in 1995—and now GM is

[8] In fact, the Harbour Report 2003 did not provide a Toyota or Honda figure for totals hours because the companies did not report information to Harbour & Associates on a number of their plant operations in 2002. The "benchmark" 2002 figure given by the 2003 Harbour Report is unexplained, and we only presume it refers to Toyota. At least at the macro level, the usefulness of the Harbour Report as a benchmarking instrument beyond the Big 3 appears to be greatly diminished. However, individual comparisons in most operations are possible and are very useful and there is no substitute for this source of information.

within striking range, with less than a 5-hour-per-vehicle difference with the international firm that builds the widest and most comparable product line in North America.

Figure 6: Harbour Productivity Reports



Source: Harbour Reports: 1996-2003

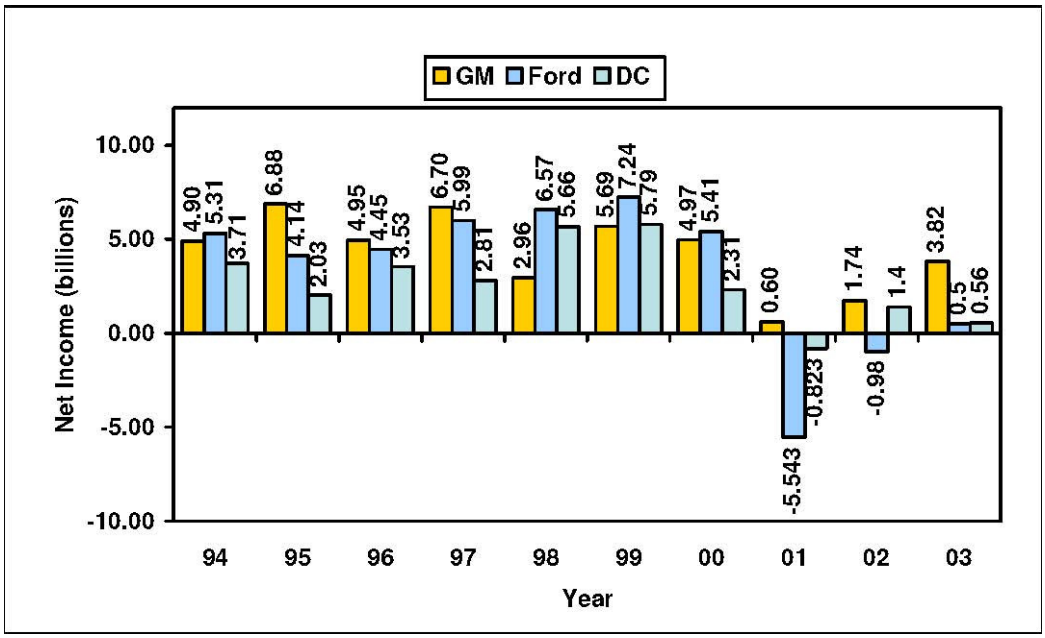
GM's steady progress on "Harbour physical productivity" exists as a clear and obvious model for Ford and Chrysler Group. GM productivity levels improved at almost a 5 percent annual rate during 1997-2002. Unfortunately, this is still not quite a rate of productivity increase that can pay for the simultaneous growth in total hourly wages and the fall in vehicle price levels during the same period. In fact, U.S. wide vehicle producer prices fell at an average annual rate of almost 1 percent per year during 1997-2002. The UAW wage rate, however, grew at an average annual rate of about 4.6 percent during the same period (not counting lump sums or increases in benefits costs). Even without accounting for legacy costs, GM's net additions to profit contributed by UAW labor may have still fallen (by at least -.6 percent per year). Productivity growth still failed to pay for the increases in wages and price deflation. An old industry saw has it that if the companies can raise their vehicle prices by the rate of inflation, they can cover increases in COLA. If the companies can increase their productivity at the rate of increase in the AIF, they can cover the wage increase. The market, of course, guarantees neither of these possibilities.

Ford productivity, of course, fell as a result of lost sales and production and as a result of quality problems that resulted in product interrupts and recalls that were highly damaging to Ford manufacturing performance in the late 90s. Chrysler's recent surge in performance, presumably, can be attributed to quick action subsequent to the re-structuring announcement in March 2001. Irregardless, the position of both companies with respect to their largest domestic competitor has seriously depreciated. GM's recent rise in productivity, and most importantly, the method through which it was accomplished, must be matched by its closest domestic competitors. All 3 manufacturing departments (and their vice presidents) frequently expressed their determination to "hit the Toyota benchmark" in background briefings to media and analysts—and in leadership meetings with the union. Clearly, all 3 companies set this "benchmark" as a major goal of national, and especially local, negotiations. A quick calculation of the number of UAW job slots needed to be cut to match the Toyota Harbour productivity

benchmark of 32 hours per vehicle in 2002 was 27,000, with thousands of other reductions in Canada and Mexico.

In summary, the UAW faced a poor macro-economy, the rising loss of market share, declining product prices, and poor productivity growth at two of the 3 major vehicle firms in the months leading up to the negotiations. Net earnings performance for the vehicle firms were also in poor shape as shown in Figure 7. Ford's automotive performance was hardly better than that at Chrysler and the two companies were confronted with a more productive GM that still enjoyed other immense traditional advantages in economies of scale. One advantage enjoyed by Ford and Chrysler Group includes lower percentages of skilled trades and far smaller counts of non-working UAW employees in projected Jobs Banks assignments than is the case for GM. For example, no less than 25 percent of GM UAW workers are skilled trades workers compared to 16 to 20 percent of workers at D/C and Ford. Never has evidence so quickly accumulated regarding the demise of the Big 3's previous market oligopoly that was the subject of UAW bargaining for so many previous decades. The North American vehicle market was very competitive in 2003.

Figure 7: Big 3 Profits —1994 -2003
($103.1 billion 1994-2000)



Source: Company financial reports.

As at least a postscript, it should be mentioned that the general state of labor relations was positive between the Big 3 and UAW (and its locals) heading into 2003. No legal strike had been sanctioned by a union president since the famous Flint strikes of 1998. Previously, 17 UAW strikes were authorized against GM and Delphi facilities during 1994-1998, usually because of management resistance to replacing some retirees. In contrast, no official local strikes were sanctioned during the life of the 1999-2003 agreement, and only a couple of short wildcats were rumored to have occurred at Chrysler Group facilities. Also, for the first time, the Big 3 fully honored the plant closing moratorium letter attached to the agreement. No major or even minor facilities (except the previously announced Buick City Assembly Plant) were shut.

This behavior significantly reduced the number of employee transfers between plants that are despised by so many UAW members.

Goals of the Contract Negotiation

To a certain extent, the companies shared similar goals in bargaining. First, all three companies wanted to match the Toyota productivity benchmark described previously. This goal, however, had to be accomplished in local plant negotiations with the tacit, almost invisible support, of the international union. Second, all three companies wanted to limit increases in the defined benefit pension payout to both current and future retirees. Third, all three companies sought to improve their position with regards to spiraling healthcare cost inflation that was rising at double-digit rates similar to the early 90s. Finally, all five companies were interested in reducing the UAW labor cost of producing parts and components needed in assembly. For GM/Delphi and Ford/Visteon, this meant a re-negotiation of the price of future labor in Delphi/Visteon facilities. For Chrysler Group, this last goal meant the shedding of large parts facilities through sell-offs to the independent parts sector. Other goals mentioned in briefings (mostly at Chrysler Group), also included a reduction in the cost of unemployed UAW labor or reduction in absenteeism. These were graded as lower in priority for GM and Ford. The companies did differ on how they prioritized the goals described above. This became apparent during background briefings and through public executive comments leading into the negotiations.

GM

The productivity leader, GM, faced a serious relative disadvantage compared to its bargaining competitors in the number of retirees per active workers – a ratio of over two to one. Although the famous pension fund short-fall did fade away with the recovery of financial markets by the end of 2003, as forecast by the GM CFO, an improvement in GM's health cost liabilities remained the company's major bargaining goal. Of secondary importance was continuing GM's trend growth in plant level labor productivity—a goal that could only be met in local negotiations that needed to commit GM's UAW plants to the Global Manufacturing System (GMS). And, as is now apparent, a final goal was a further resolution of the competitive position of GM's parts partner Delphi through the use of the transfer options to GM. In return for UAW flexibility on these goals, GM may have been prepared to offer a higher wage pattern and more employment level guarantees than Ford or Chrysler Group.

Ford

As made clear in briefings by Ford corporate leadership, the major goal of the company was to obtain a UAW "sign-off" on the major restructuring plan announced by Ford in January 2002. This plan, which involved plant shutdowns, represented the only serious capacity reduction strategy of the Big 3 and required permission from the UAW to allow exclusions to the plant closing moratorium agreement. A second goal for Ford was additional productivity growth sufficient to not only keep pace but once again at least match GM in strategic hours per vehicle. This last goal required considerable flexibility in local negotiations and a return to emphasizing the Ford Production System (FPS) which had lapsed under the previous CEO. Although Ford has denied it, Visteon's competitive position was clearly a significant goal in negotiations. Finally, Ford did have serious concerns regarding the rising cost of health benefits and defined benefits. In return for UAW cooperation, Ford may have been prepared to offer the UAW more security in benefits.

Chrysler Group

In 2003, Chrysler correctly assessed the potential of further developments in Visteon/Delphi competitive levels which could leave a still "integrated" Chrysler at a disadvantage in the cost of components and parts. Since DCX had seriously reduced capital spending at Chrysler in the previous two years, it became doubly important for the company to move much of its remaining "non-core" component work to the independent supplier sector. In other words, Chrysler needed permission to sell parts facilities as stand-alone businesses and to eventually move this labor content to a lower cost level. A second goal, as was the case with the other two firms, was improvement in productivity levels in strategic operations. Other goals included lower protected worker status cost and lower absenteeism rates throughout the Chrysler system. Like Ford, in return for cooperation, Chrysler may have been prepared to offer the UAW more benefits protection and even an increase in future assembly capacity and employment to match Chrysler's target of one million additional sales by 2010.

Delphi and Visteon

The goals of these two companies were fairly obvious but their negotiation would be restricted by their major partners and the UAW's recognition of the companies as still being part of GM and Ford. Both companies wanted to further rationalize their businesses and facilities and restrict future new hires to second and maybe even third tier wages pegged to competitive rates in the various segments of the auto supplier sector.

UAW

The UAW set as its major goal the preservation of benefits in a negotiating year marked by record incentives and double-digit health cost inflation. The new president of the UAW, Ron Gettlefinger, consistently proclaimed that health sharing was "off the table," or "couldn't be solved at the bargaining table" in speech after speech and in every interview for almost ten months leading up to the start of formal negotiations. In fact, the union clearly decided early on that health cost sharing (especially of monthly premiums) was politically unacceptable to the vast majority of its active "Big Five" membership, not to mention, non-voting current retirees. A large share of active members were close to retirement and could clearly calculate the extraordinary after-tax, inflating value of these benefits—and the concern of older workers over corporate pronouncements on health care was also matched by younger members with families. Despite reassurance from the union president, many rank-and-file members harbored serious fears regarding the preservation of these benefits and expectations were generally low. Yet pushing health benefits "off-the-table," an effective tactical move, carried with it clear risks of further employment declines and generally weak contract terms elsewhere in the agreement. The fact that the union president's assessment that double-digit health care was a "national" problem that could "only be solved by national policy" was correct (a conclusion secretly shared by the majority of executives) did not lessen the destructive effects of these costs on the economic position of the UAW.[9]

The union's other goals – not as heavily emphasized in public -included the preservation of significant parts production employment at Delphi and Visteon, as well as significant support from their vehicle employers in organizing large, non-union suppliers through the use of positive, card-check neutrality. In fact, no rational forecast of maintaining, much less than growing, Big Five employment could have been envisioned by any of the parties to the negotiation. Only a

[9] See most recent Ron Gettlefinger's "Remarks to the 2004 National CAP Conference" and "Bargaining for America, Good jobs are worth fighting for" http://www.uaw.org [March 2, 2004].

reorganization of much of the independent parts sector that supplied the Big 3 could maintain the UAW total membership and lessen the pressure on still remaining Big Five rank-and-file members.

A Very Short History of the Negotiation

Pre-Negotiation and Negotiation

The negotiation of the Big 3 pattern agreement with the UAW is a highly complex (and expensive) process. All five companies begin planning (even training) for the negotiation for almost a year prior to ratification. Preliminary joint "leadership" meetings and company-union briefings precede the start of formal negotiations, along with a formal union bargaining convention where the assembled delegates are presented with a platform or framework of the negotiation for ratification. The formal negotiation began with Chrysler Group on July 17, 2003 and the GM and Ford negotiations also began with handshake ceremonies by July 19, 2003. Both management and the union teams split into least 20 or more paired sub-committees whose job were to negotiate various sections of the agreement and report back to the overall bargaining committees for each company or union department led by their vice presidents.

The negotiation between a private union and its private employers is shrouded quite naturally with a necessary level of secrecy. Bargaining details in the popular media is anathema to union negotiators in particular (like any important business negotiation). Rumors about what occurred or actual bargaining points in the actual negotiation are not the subject of this report. Suffice to say that in some period shortly after Labor Day, it was rumored in the media that the union received a set of "final offers" from each of the 3 (possibly five) companies that were remarkably similar. Rumors in the press also indicated that wage offers were extremely low. What followed was not the traditional selection of a "target company," or the concentration of bargaining by the union to set a pattern agreement at a single company while holding the other company negotiations in abeyance. Instead, the UAW leadership appeared to intensify bargaining at all 3 vehicle firms simultaneously, if not at Visteon and Delphi as well. This called for extreme attention and efforts from the union president who physically traveled between the negotiations every day.

Settlement and Ratification

On September 14, at 11 p.m., an agreement was announced between Chrysler Group and the UAW at a Detroit hotel. The other companies were reportedly present in the room at the time of the joint announcement by the UAW and Chrysler. An agreement with Ford was announced two days subsequent to Chrysler, and the GM and Delphi negotiations were wrapped up by the following weekend. The Ford agreement also covered UAW workers at Visteon (now including the new hires added since 1999 as new "Ford workers for life"). The Delphi agreement was so similar to that negotiated with GM the UAW continued to merge the highlights of the settlements with GM and Delphi in the same highlights distributed to both sets of members. Ratification was accomplished at all five companies in October with very high percentages of acceptance reported at each company.

The UAW, Delphi and Visteon also announced that a negotiation of a supplementary contract would begin within 90 days on the subject of competitive wages for new UAW hires at the two firms. These negotiations were to be completed within an additional 90 and were subject to further ratification by the combined locals of Delphi and Visteon.

The Economics of the Pattern Agreement

The 2003 Big Five-UAW four-year, pattern contract can be called a moderate settlement if only compared to the 1999 contract. Table 4 compares the two agreements, side-by-side, on both economics and job security issues. The separate sections of the table are discussed below.

Table 4: Tale of the Tape in UAW '99 and '03

	UAW '99	UAW '03
Wages	Four 3% BWIs + expected COLA = 21% wage increase or from $21.02 to $25.39. Over 4 years (Actual wage ends at $25.57/hr. for 21.7% increase)	Wage freeze after $2 COLA fold in for first 2 yrs. Starting wage = $25.57, 2% increase in BWI in third yr., 3% in fourth yr. Final wage = $28.43 with COLA for an 11.1% total increase over 4 yrs.
Pensions	Basic benefit increased by 19% over 4 years; Supplement increased by $435/mo. Or 19% over 4 years. 30 & Out up by 19% to $2,730/mo. Current retirees get $1.25/mo. in Basic plus 4 lump sums.	30 & Out rises by 10.6% to $3,020/mo. Basic benefit rise by 8.9%. Four lump sums of $800 for current retirees.
Bonuses	$1,350 signing bonus, 4 holidays Bonuses of $600.	$3,000 immediate signing bonus; 3% of earnings bonus in Sept. '04 or about $2,000; 4 holiday bonuses of $600 maintained.
Job Security	76% one-for-one employment floor Delphi guarantees; Visteon workers protected	See plant shutdown or sell list; New BEL/SWEL is 10% lower at GM/DCX. Plant closing moratorium signed subject to listed exclusions.
Other	Sub-fund increased and lengthened, more insurance etc.,	SUB period lengthened to 48 weeks, SUB pay increased by 11%

Source: UAW Highlights, 1999 and 2003

Wages and Cost of Living (COLA) – The UAW pattern contract freezes wage increases, or improvements in the base rate, in the first two years of the agreement except for a reduced COLA fold-in at the start of the agreement. Workers still receive COLA improvements each quarter. Base wages are increased by two percent in the third year of the agreement, and increased again by three percent in the fourth year of the agreement. An exception to this rule is the immediate increase in the skilled trades worker tooling allowance by $.30/hour. For a production assembler, the starting base wage including a COLA fold-in of $2.00/hour is $25.57/hour. This base rate is expected to rise, with the addition of projected COLA improvements, to $28.43/hour by the fourth year of the contract. This represents a total increase of 11.1 percent compared to a 21.7 percent increase achieved in the 1999 agreement. Base wages plus projected COLA, then, is expected to rise by just below 2.7 percent per year over the life of the agreement compared to a five percent year in the 1999 agreement.

Up-Front Bonuses – However, the UAW negotiated an up-front signing bonus of $3,000 (payable immediately upon ratification) compared to a $1,350 amount in 1999. Also the UAW captured a $2,000 performance bonus in the second year of the 2003 agreement as well. These up-front bonuses actually result in a 16.5 percent total increase if the projected total wages, COLA and up-front bonuses for the 2003-2007 contracts are compared to the improvements achieved in 1999 bargaining. This represents an annual increase of just under 4 percent in cash compensation for UAW production workers over the life of the agreement, hardly a concession on economics by any means. The four holiday bonuses of $600 present in the 1999 agreement were also maintained.

Pensions – The UAW negotiated an impressive increase in pension rates in the 1999 contract with the Big 3. Both the "basic benefit" rate and the supplemental rate rose by 19 percent over the life of this previous agreement for future retirees. In contrast, the 2003 contract increases the "30 & Out" supplement to the pension for future retirees (10-01-03 and after) by only 10.6 percent to a maximum of $3,020 during the life of the agreement. The basic benefit for future retirees was only increased by 8.9 percent. Current retirees, in contrast to adjustments received in past agreements, received no improvement in either the supplement or basic benefit. Instead, four $800 lump-sum payments will be paid to these former workers to offset the effects of inflation. These lump sums, given the large numbers of current retirees, will not be inexpensive. GM will pay $800 million for 250,000 retirees in lump sums; $340 million will be paid at Ford to their 106,000 retirees, and $224 million paid by Chrysler Group to their 70,000 retirees. In the 1999 agreement, current retirees who retired before October 1984 received special "catch-up" increases of 19.6 percent, others still on the supplement received a 12.5 percent increase in their pre-social security pension amounts, and all retirees received an additional 3 lump sums of $900 – an impressive increase in the companies' pension liabilities.

The pension improvements are truly moderate. They represent the lowest percentage improvements in decades in pension payouts and reflect concerns at the time of negotiation regarding the viability of the vested funds and the severe requirements for cash flow connected to federal mandates for defined benefits. However, the high levels of service for the labor forces at the Big 3 afford the companies little time to vest funds needed to cover even these modest improvements. The 30,000 projected retirees (see below) in the next four years under the GM agreement alone will receive an additional $314/month in supplemental benefits for at least ten years before they are eligible for just the basic benefit at Social Security eligibility age. This represents $1.13 billion in additional future pension payouts, followed by an additional $300 million in basic benefit payouts due to the 8.6 percent improvement in this pension payout. Finally, tens of thousands of additional GM workers will follow those that retire under the 2003 agreement at these new payouts.

Health Benefits -Health benefits are not shown in Table 4 and will be discussed here. Prior to negotiation, Ford reported an hourly employee/retiree annual healthcare expense in 2002 of $12,443, up from $8,362 in 2000. There are strong reasons to believe that GM's annual health care expenses per worker were even higher than this amount by thousands per worker because of the company's older demographics for both active employees and retirees than Ford or Chrysler. This explains, of course, GM's grim pre-negotiation determination to make some headway on these runaway benefit costs.

The UAW did move on health cost-sharing in the 2003 agreement. First, the union agreed to divert (eliminate) 5 cents of the COLA fold-in due the workers at the start of the new agreement and divert an additional 2 cents per quarter of COLA for 16 consecutive quarters for a total sacrifice of coverage of $.37/hour by the end of the contract. This diversion (or "sacrifice of what the workers do not already have") will eventually reduce the total wage bill of the Big 3 alone by $232 million annually in 2007. It clearly represents a contribution to health care premiums that hasn't been granted by the union since the 1993 contract when Owen Bieber agreed to a total 22 cent per hour diversion for the same reasons.[10] Wall Street analysts in general have failed to list this contribution in assessments of the 2003 agreement.

The union then announced an agreement to increase the co-pay on brand-name drugs to $10

[10] United Auto Workers union, "UAW-GM Report, UAW Wins Full Pattern at GM.," October 1993, Detroit, MI. Page 6.

per prescription for active workers from the previous $5 level. Generic drugs remained at a $5 co-pay and current retirees still pay only $5 for brand name drugs, but all actives and retirees must prove the "necessity" for the use of brand-name drugs or pay the full difference with generics and a $10 sanction. All retirees and actives must use mail-order drugs after two prescriptions at some considerable savings to the companies for these maintenance prescriptions. This last requirement may eliminate the use of brand-name drugs for which there is a generic substitute.

The UAW president's pledge to preserve health care for his membership clearly did not extend to support for the drug company monopolies in the United States. The cost of prescription drugs is not a minor portion of Big 3 health care expenses. Experts have declared the share of drug costs at about 10 percent in the overall U.S. health care bill, but estimates of this drug share for the Big 3 range from 32 percent for Ford to 36 percent for GM. This higher percentage of the drug share components of health cost for the Big 3 is because their older retirees and active workers use maintenance drug prescriptions at a higher level than average Americans. Several financial analysts have remained unimpressed with the health cost share granted in the 2003 agreement estimating a potential 1-2 percent fall in future health costs. This analyst is far more impressed—and expects a drop of 2-3 percent at least—especially when the COLA diversions are factored in.

Exclusions to Plant Closing Moratorium -The extent to which the Big 3 can cover the higher economic wage and benefits cost in the 2003 agreement is determined by the extent to which the companies are allowed to improve external flexibility the ability to move workers to where they are needed throughout the system, to eliminate over-capacity and over-manning, and to outsource work to lower cost producers. An important determinant of the company's ability to improve in this area comes in the form of specific exclusions to the general plant closing moratorium side agreement. The plants specifically listed as excluded from this agreement are shown in Table 5.

The exclusions are divided into three categories: complete shutdowns, plants that have already been sold, and plants that can be sold during the life of the agreement. In terms of closings, Chrysler Group was allowed to close two plants: a glass plant and a foundry with 1,706 job slots. Ford achieved its primary goal of a signoff on its restructuring plan, but substituted Lorain Assembly for a temporary reprieve of half of St. Louis Assembly for four years (1,000 layoffs). Total job elimination added up to 3,847 at Ford. This list for Ford represents the accomplishment of its major goal in negotiations—a union signoff on the 2002 restructuring plan. However, it is very likely that a number of the jobs affected by the Lorain Assembly closure will be transferred to another Ford assembly facility for the purpose of continued production of the Ford Econoline van. One can reasonably assume that at least 800-900 of the 1,700 affected UAW Lorain jobs will reappear at a second facility. And finally GM received two exclusions, Baltimore Assembly and Malleable Iron Foundry in Saginaw for a total of 1,599 job eliminations. Not mentioned in the GM highlights is the near term shutdowns of three Lansing assembly and stamping plants presumably because these plants are being replaced by a new assembly plant in nearby Delta Township, a new regional stamping center in Lansing, and the expansions at the already operating Grand River Assembly Plant in Lansing. Finally, GM gave Linden Assembly in New Jersey only an additional four years of operation.

A disturbing (to some) feature of the plant closing exclusions list is the meaning for future over-capacity in the North American market. The Big 3 reductions in assembly capacity amount to about 580,000 units in North American capacity, to which GM and Chrysler (e.g. expansion of Warren Truck Assembly) will actually add another 200,000 units over the life of the agreement.

At the same time, the internationals are expected to add about 1.25 million units of new capacity. Thus the meaning is clear, barring a dramatic increase in the size of the North American market, overcapacity in assembly will increase, and prices will continue to fall. Somehow, the UAW avoided serious reductions in the assembly capacity of its membership. This can represent a potential victory for the union given a turnaround in the success of Big 3 products in the market.

It should be mentioned that the Delphi portion of the GM/Delphi Highlights mention four specific Delphi plants that the company asked the UAW to close. The union did not agree in the national agreement to the closure of these plants (Flint West, Tuscaloosa Alabama, Lockport, and Oalthe, Kansas). The possible consolidation of these plants was reported as still under discussion in the supplementary contract announced by Delphi and the UAW on April 29 2004.

Table 5: Exclusions from the Plant Closing Moratorium

Closing	For Sale or Sold
DCX:	*DCX for Sale*
McGraw Glass (847)	Detroit Axle (1,698)
Indianapolis Foundry (859)	Mount Eliot Tool & Die (284)
Total: 1,706	Toledo Machining (1,657)
	DCX Transportation (551)
Ford:	*DCX Sold:*
Woodhaven Forge (77)	Huntsville Electronics (1,799)
Vulcan Forge (78)	New Castle Forge (1,166)
Edison Assembly-NJ (869)	New Venture Gear Syracuse (3,137)
Lorain Assembly (1,731)*	
Cleveland Aluminum Casting (92)	
½ shift at St. Louis (1,000)	
Total: 3,847	
	Total for DCX: 10,292 + 1,706 = 11,998
GM:	
Baltimore Assembly (1,268)	*net of 800-900 transfers = 881
Malleable Iron (331)	
Lansing plants (?)	
Total: About 3,600	

Source: UAW 2003 Highlights, Company sources on 2002 employment levels by facility.

The Chrysler sell-off list is split into two sections, and represents a potential complete accomplishment of the company's major goal in negotiation. The sold plants are those with actual buyers including Metaldyne (New Castle), Siemens (Huntsville), and Magna-Styer (Syracuse). The UAW has required, however, that plants still for sale be allowed another chance to build competitive business cases through joint company-union efforts before the union will allow their sale to unknown buyers (at this time). However, this "chance" to build a new business case is likely to extend through the life of at least the 2003 agreement for at least two of these plants: Toledo Machining and Detroit Axle. The total number of job slots involved in the sell-offs and possible sell-offs of "non-competitive" facilities is 6,937 (minus Toledo Machining and Detroit Axle), which added to the plant closing total of 1,706, gives Chrysler a

total reduction of 8,643 jobs before further "trimmings" at surviving plants in the Chrysler system or over 13 percent of the total UAW-Chrysler count prior to negotiation. In return, this UAW department received promises of new products and new assembly capacity in the future. It should be pointed out that the job cuts listed in Table 5 do not immediately translate in immediate declines in company UAW employment. The workers involved will not lose their jobs at the company—they must be transferred to other facilities, bought out, voluntarily retired, or supported by SUB benefits and protected status programs. Indeed, 1st tier Big Five UAW employment can only fall at the rate of natural retirement – as explained below – and only according to specific non-replacement ratios. The 2003 agreement does not provide any hint of an increase in external flexibility—or the right of companies to force-transfer unneeded workers beyond an area hire distance (50 miles) or extended area hire region (up to 100 miles). Workers who refuse to transfer after layoff, then, will be eventually covered by the protected status programs (Jobs Bank at GM or GEN pool at Ford) and eventually be paid 100 percent of their straight pay after 48 weeks of layoff on the SUB plan.

Job Security - The UAW almost entirely renegotiated its job security provisions in the 1999 agreement. The previous 1996 agreement allowed the auto companies to reduce their employment by not replacing half of retirees during the agreement (the famous "one-for-two" rule). This restriction was more than respected by Ford and DCX, but almost completely ignored by GM (resulting in many strikes). The 1999 agreement set out a new employment security agreement. Each bargaining unit was provided with a benchmark minimum (BMM) employment level or Initial Secure Employment Level set at the number of active workers with one or more years of seniority. This BMM was set at the beginning of the contract and could decline gradually by one-third of 1 percent for each of fifteen quarters covered by the agreement, or by a total of 5 percent. The company was required to replace workers (within 90 days) who leave due to retirement, quits, outsourcing, or technological change at a rate of 1-for-3 when employment of the bargaining unit falls between 100 and 90 percent of the BMM. The company is required to hire workers at a 1-for-2 rate when employment falls between 90 and 80 percent of the BMM. When employment falls below 80 percent of the BMM, the replacement rate is supposed to rise to 1-for-1, but since after 15 quarters the BMM falls by 5 percent, the total decline could amount to 24 percent.

The 2003 agreement allows the companies to reduce the original 1999 BMM employment levels by ten percent. It should be added that in the 1999 agreement, the original required hiring was determined by a BMM at the bargaining unit level, but could have been filled at a group or regional level. In other words, plant employment levels could have been severely reduced at an individual bargaining unit if job openings were created elsewhere in a group of related plants. This group provision was eliminated in the 2003 agreement. Also, it is now possible for the company to temporarily reduce employment without required hiring due to volume-related market layoffs. Clearly, the closed plants listed in Table 5 are not subject to the guarantees; it remains unclear whether the plants that have yet to be sold are excluded from the guarantees.

Finally, it was possible to gradually reduce a company's UAW labor force under the 1999 job security guarantees by up to 24 percent by the end of the four–year agreement—if enough attrition occurred. In other words, the actual employment floor under the 372,000 UAW Big Five jobs was 283,000 in 1999. Given sufficient and consistent attrition rates, a lack of technical barriers, and sufficient outsourcing opportunities, the Big 3 could have reduced their UAW employment by up to 89,000 by the end of the agreement.

Table 6: Big 3 UAW Employment
1999 – Early to Mid 2003

	Oct. 99'	Mid-'03	Mid-'03	Mid-'03	Mid-'03	
	Total	Working/Protected Status	Layoff	Other (Leaves)	Total	Net Change
GM (no Delphi)**	151,000	115,181	2,104	7,759	125,044	-25,956 (-17.2%)
Chrysler Group	75,923	62,273**	873	3,204	66,350	-9,573 (-12.6%)
Ford (with Visteon)*	101,200	90,860	4,289	-	95,149	-6,051 (-6.0%)
Delphi	42,067	28,933	170	1,751	31,076	-10,991 (-26.1%)
Total	370,190	297,247	7,436	12,724	317,619	-52,571 (-14.2%)
** includes Saturn and temporary layoffs – end of 2002						

Source: Company sources.

As Table 6 shows, GM reduced its total UAW count by 17.2 percent under the 1999 agreement. Delphi UAW employment fell by 26.1 percent, exceeding the 1999 BMM maximum allowable percentage decline for this firm. Ford and Chrysler, on the other hand, took smaller declines, -6.0 percent at Ford/Visteon and -12.6 percent at Chrysler with almost all of these declines initiated after the restructuring announcements in March 2001 (Chrysler) and January 2002 (Ford). Total UAW job slots at the five companies were reduced by almost 53,000 (see Table 1), well short of the 89,000 maximum. Four of the five companies can still reduce their UAW count under the terms of the 2003 agreement. The minimum levels are shown in Table 7.

Table 7: 2007 BMM Minimums by Company

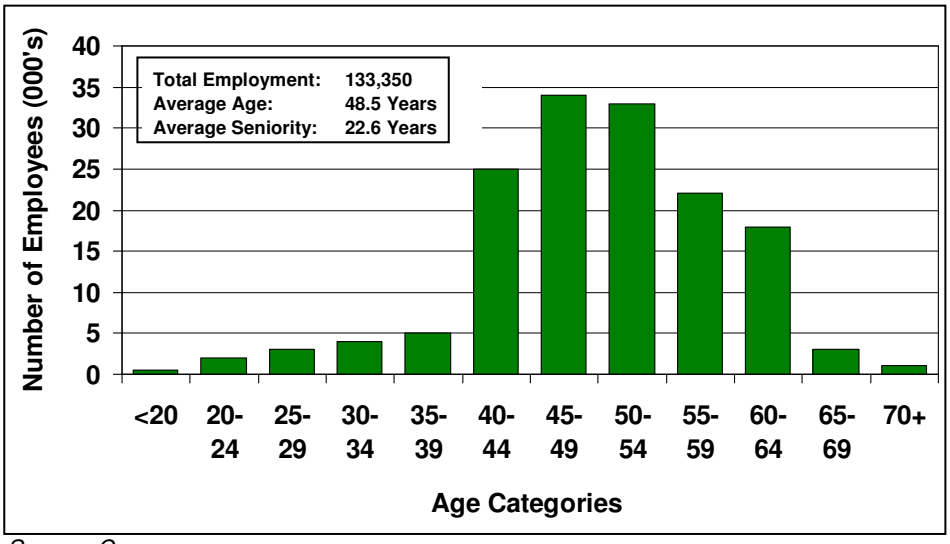
GM	103,000
Ford/Visteon	69,000 (73,300)
Chrysler Group	52,000
Delphi	28,800

These minimums were calculated by merely reducing the 1999 employments levels shown in Table 5 by 10 percent and further reducing them by 24 percent. One striking fact is that Delphi is already at its 2003 contract BMM by December 2003. According to the agreements—Delphi employment can fall no further—retirees must be replaced one-for-one. Another striking omission (from the Ford highlights) is that Ford did not appear to win the right to reduce its 1999 BMM level by 10 percent. If so, Ford BMM is 73,300, and not 69,000.

A major opportunity for improving future productivity in the 2003-2007 agreement exists regarding the demographics of the other four company UAW-represented labor forces. For example, the average age of a UAW-GM worker in the spring of 2002 was no less than 49 years—resulting in perhaps the oldest labor force of any major manufacturing firm in the United

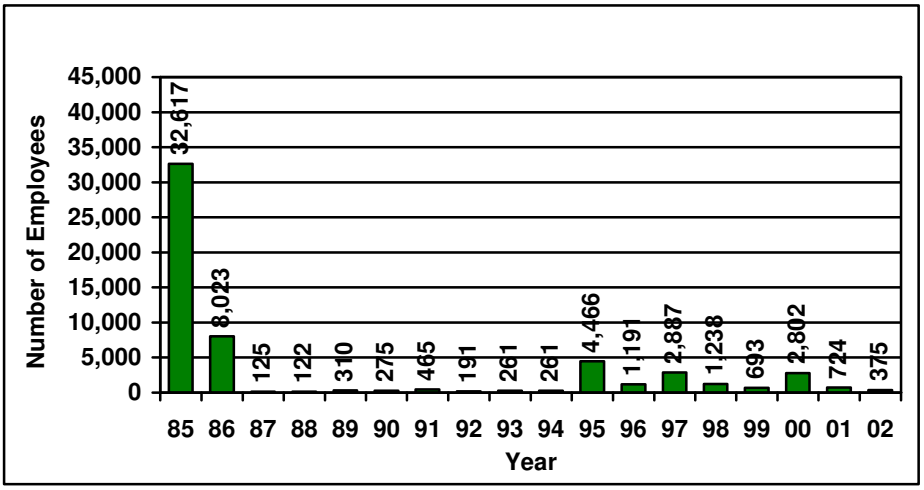
States. Average seniority at GM for these workers was 23 years—a company record. In fact, as shown in Figure 8, over 40 percent of the GM membership may have possessed 28 years of service or more years by the summer of 1999 – making 60,000 Delphi and GM workers eligible for regular or early retirement. As shown in Figure 9, the GM labor force had reached this demographic position after years of downsizing at GM during the previous decade—a period during which GM hired less than 10,000 permanent employees (UAW) to replace the tens of thousands of retirees who left. GM and Delphi both expected retirement attrition to reach 7 to 8 percent (up to 15,500) in 1999 and to average 6 to 7 percent in the following four years.

Figure 8: General Motors Hourly Employment Active, JOBS Bank, Temporary Layoff, Indefinite Layoff, Time-for-Time,
Temporary Employees and Leaves As of July 31, 2002



Source: Company sources.

Figure 9: GM Permanent New Hires
UAW Only

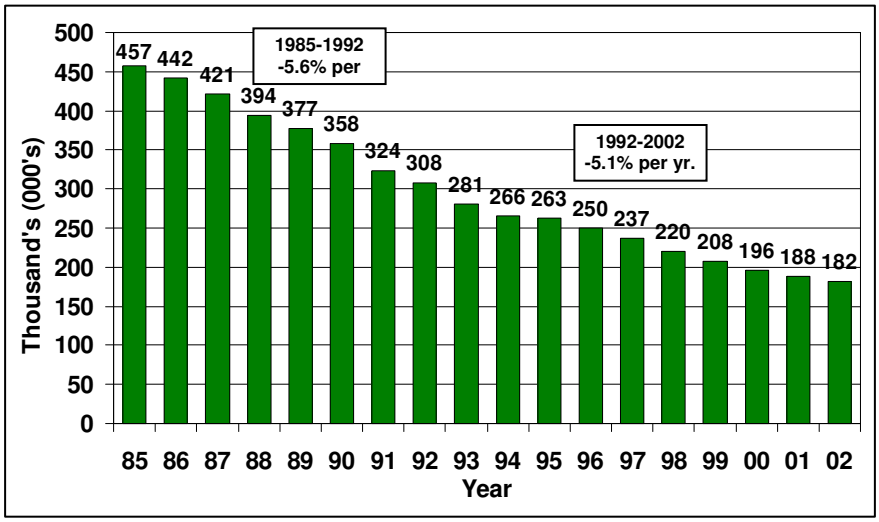


Source: Company sources.

GM and Delphi have made heavy use of natural attrition in the previous seventeen years to trim their union labor forces. In fact, as shown in Figure 10, GM and Delphi reduced their U.S.

manufacturing labor force by an impressive average of over 20,000 slots per year during 1985-2002. All union attempts during this period through national and local negotiations to maintain some sort of employment floor were unsuccessful. Negotiated job security provisions such as plant closing moratoriums (1987), one-for-two replacement (1990), the 1996 "95 percent snapshot guarantee," and the recent 1999 BMM guarantees all failed to halt GM downsizing. As Figure 10 shows, the annual rate of decrease was -5.6 percent during 1985-1992, and -5.1 percent per annum during 1992-2002.

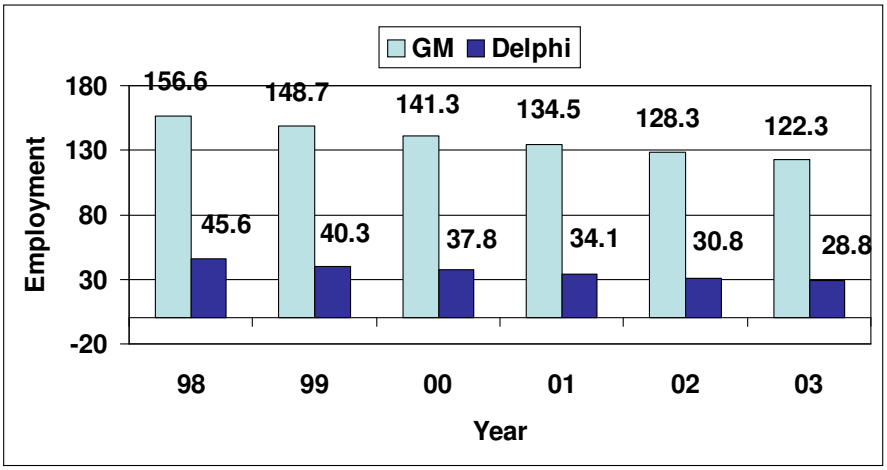
Figure 10: GM U.S. Hourly Population (Includes Delphi)



Source: Company sources.

Figure 11 shows a similar percentage rate of decrease in end-of-the-year employment for both Delphi and GM during 1998-2003. The absolute number of job increases has fallen, but not the annual percentage decline. Since the percentage fall in employment has been greater than the loss of sales and production since 1997, productivity as indicated in the Harbour Report has increased. Yet the greatest share of the employment decline has been made possible by "riding the attrition curve," even when employment is shed through spin-offs such as Delco-Remy, Guide Division, or Peregrine. Only American Axle has kept an approximate number of jobs active in the UAW (approximately 7,700). This is the source of the famous "legacy cost" position or disadvantage of GM versus its competitors.

Figure 11: GM and Delphi UAW EOY Employment 1998 -2003



Source: Company sources.

The situation at Ford and DaimlerChrysler has been somewhat different. These two firms engaged in significant hiring during 1992-2000 for the purpose of replacing retirees (almost one-for-one). To a certain extent, this reflected the superior levels of labor cost enjoyed by these two firms versus their GM competition in the previous decade. Yet the labor forces of Ford and Chrysler Group were also surprisingly old at the start of the 2003 negotiations. The average age of a Chrysler UAW worker in 2002 was 44, and for Ford, also about 44 years of age.[11] Average years of service for service were 17 and 16 years respectively at Chrysler Group and Ford. Although these averages do not match the relative antiquity of GM's labor force, they are surprisingly high for two firms that carried out so much hiring in the 1990s.

The apparent answer to the still high average age of workers at Ford and Chrysler Group is the presence of so many "30-plus hangers on," or aging baby boomers. These are workers who could retire but do not. Older workers at the Big 3 usually receive favorable work assignments, freedom from worry about forced transfers, and choices for overtime based on their facility seniority. At GM and Delphi, these positions became scarce, especially for 100,000 workers forced to transfer to other facilities after plant shutdowns during 1985-2000. These workers would arrive at a new plant with zero facility seniority irregardless of their overall company seniority – and were assigned the most arduous positions. This was a powerful argument for retirement for many. Ford and Chrysler, in fact possess a bimodal distribution of UAW workers – one median placed in the early 30s age group, and a second median of workers in their early 50s. The companies' common problem is to convince the workers in their 50s that can, to retire in the next three to four years.

<u>The Spin-off Guarantees: Delphi versus Visteon, Changes between 1999 and 2003</u>

The spin-off guarantees contained in the 1999 agreement reflects the different legal status of the two parts divisions, Delphi and Visteon. Delphi became a fully independent corporate identity on May 28, 1999 with the last transfer of Delphi stock to GM stockholders. Visteon remained a fully-owned corporate division of Ford Motor Company throughout negotiations. The UAW and GM agreed in early June that Delphi would receive a "separate but identical contract" to that negotiated between GM and the UAW. In effect, the negotiation between GM and the UAW also represented a negotiation between Delphi and the UAW. The UAW has

[11] Company sources.

never yet agreed to this position on the subject of Visteon.

A strong contrast still exists in guaranteed rights between Delphi and Visteon workers negotiated in 1999. Delphi workers who elected not to retire were granted a UAW-GM-Delphi Flowback Agreement that allows them to file for a transfer back to GM under the Area Hire and Extended Area Hire Placement program. The right to flowback was extended for another four years under the 2003 agreement. UAW-Ford employees assigned to Visteon, however, still possess the right to file for transfer to other Ford plants for life since they are still Ford workers for life.

The other guarantee comparisons follow a similar vein. Delphi workers were guaranteed their layoff benefits by GM through June 1, 2004. GM also guaranteed pensions, health care for retirees and post-retirement life insurance for Delphi workers in the event of financial distress at Delphi for eight years. Finally, in the event of Delphi insolvency, GM would guarantee pension rights for up to seven years of credited service for Delphi workers at the time. Visteon workers, however, receive the exact same benefits including Ford profit sharing, as regular Ford workers because they are still regular Ford employees.

A critical comparison between the Delphi and Visteon guarantees concerns future hires at the two parts-making operations. The 1999 Delphi agreement guarantees that all new hires will be paid the same wages and benefits during the life of the agreement. The contract language was silent about the status of wages and benefits for new hires after September 2003, or even the wages of workers hired after that date.

The Visteon language in the UAW-Ford contract, on the other hand, guaranteed that new hires under the new agreement will receive the same terms as the UAW-Ford contract, if Visteon is spun-off, for two successive agreements to the 1999 agreement. As a matter of precedent, new hires at American Axle and Detroit-Diesel Penske have received the same wages and benefits ever since these units were sold by GM. Yet the Delphi 1999 agreement appeared to provide a window to the company to renegotiate the wage and benefit package at some future date—perhaps as soon as September 2003. The option to negotiate second tier wages for new hires at Delphi clearly surfaced in the 2003 negotiation. To quote the highlights:

> No later than 90 days after the effective date of the 2003 UAW General Motors National Agreement, the UAW and Delphi will enter into discussions for the express purpose of negotiating "competitive wage and benefit levels" for employees hired on a permanent basis after the effective date of the supplement. Wages and benefits in the U.S. automotive and truck component industry would be the benchmark used to determine competitiveness. As used here, "competitive wage and benefit levels" means wages and benefits that meet those of an appropriate representative group of UAW-represented employers in the U.S. automotive and truck component industry. The resulting wage and benefit levels would be uniformly applied to all Delphi employees covered by the supplement.[12]

[12] UAW GM and Delphi Report, "Contracts Deliver on Health Pledge, Economic Gains," United Auto Workers, Detroit, September 2003, page13.

The exact same language also appeared in the highlights of the UAW-Ford Report.[13] Ford and Visteon's confidence is so great in the positive wage outcomes of the supplementary bargaining; they were able to state the following in December:

> "As job openings occur, Ford employees assigned to Visteon will return to Ford over time. As agreed to in concept by the UAW (the final terms are being negotiated between Visteon and the UAW), Visteon will fill future job openings with UAW-represented workers earning Tier I UAW supplier level wages."[14]

Not stated specifically in the highlights of the UAW-Chrysler agreement is the question of whether new hires at sell-off plants will also face a second tier competitive wage. Negotiations to date at several of these plants, however, certainly indicate that this will be the case. Also, after a one day strike at the expiration of their agreement in February 2004, the American Axle unit of the UAW also agreed to a 2nd tier wage rate for new hires.

The UAW and Delphi Corporation finally announced a signed supplemental agreement on April 29, 2004 followed by an identical announcement from Visteon and the UAW on May 6. The major difference between the two agreements is that Visteon is prohibited from closing, spinning off, or selling any existing "plant, asset or business unit constituting a bargaining unit during the life of the 2003-2007 UAW – Ford National Agreement except by mutual agreement with the UAW."[15] Discussions between the UAW and Delphi, on the other hand, regarding the consolidation of three plants "are continuing."[16] A discussion of the economic terms of the supplementary agreement between the UAW and Delphi and Visteon follows below.

The Competitive Meaning of the 2003 Contract

The competitive meaning of the 2003 pattern agreement can be read several ways. First, did the UAW once again reduce its competitive standing versus labor supplied by union and non-union suppliers? Or was the union's position improved? Second, did the Big 3 reduce their competitive standing versus the major non-participants in the pattern agreement: the international vehicle-makers in North America? Or was their position improved? And third, who fared best among the five negotiating firms within the pattern agreement: GM, Ford or the Chrysler Group? Or Delphi versus Visteon versus the rest of the independent parts sector? The answers to these questions also depend on patterns in future wage and benefit increases at other automotive parts and vehicle firms outside of the pattern, and more importantly, trends in productivity growth across the North American industry. Two first steps in answering these questions require forecasts of future pattern UAW average hourly wages, and then of employment.

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[13] UAW Ford Report, "Contract Delivers on Health Care, Economic Gains, Workers Rights' United Auto Workers," Detroit, September 2003, page 17.

[14] Ford Motor Company, "Ford announces New Agreements with Visteon, Increases 2003 Earnings Guidance," Dearborn, December 22. Page3.

[15] United Auto Workers Union, UAW and Visteon finalize supplemental agreement on future hire wages and benefits, Detroit MI, May 6, 2004.

[16] United Auto Workers Union, UAW and Delphi finalize supplemental agreement on future hire wages and benefits, Detroit, MI., April 29, 2004. These plants are Delphi Flint West, Tuscaloosa (Alabama), and Olathe (Kansas).

A Forecast of Change in Average Hourly Labor Cost of the Big Five

The Big Three

The average hourly cost of labor estimated for this study refers to the total labor cost of each active hour used by the automotive firms. It should not include the cost of current retirees since these costs have no meaning for unit production within the confines of this forecast.[17] It does include, naturally, charges for future retirement of active workers for which funds must be accumulated. It also includes charges for workers on protected status and the cost of overtime and up-front bonuses. Table 8 presents a an estimate of the components of the 2003 Big Three average hourly labor cost for production workers, and a forecast of the rate that should exist in 2007 (September). The estimate for 2003 was taken from a Wall Street source (see source for Table 8 below), and adjusted to delete the cost of current retiree health expense.[18] A number of other sources could have been used for this starting point – but this example was already in the public domain and seems to clearly reflect a source at GM.

As shown in Table 8, the average hourly labor rate is split into two components – wage components received by workers as cash or vacation, and benefits both mandated (FICA) and contractual. Except for upfront bonuses, wage cost elements are expected to rise during 2003-2007 at the same rate as the over wage + COLA element, about 11.1 percent. In the benefits area, pension cost is expected to rise at about 10.6 percent or by the percentage increase in the supplement. This is clearly optimistic since companies must front-load their vesting for this increase for thousands of workers expected to retire in the next four years. Health care, on the other hand, is expected to rise 10 percent per year a moderate forecast that reflects the improvements offered by the union on prescription drugs. Overall, average hourly labor cost is expected to rise from $55.40 per hour in October 2003 to $64.99 an hour in September 2007. In Figure 12, these results are shown, compared to previous estimates by this author of average hourly cost at the five firms since 1990.

[17] Of course, this is not to say that potential "legacy costs" do not matter in the long run. The fact of rapidly escalating U.S. health costs alone provides a powerful inducement for Big Five firms to avoid the hiring of new, permanent union labor to the greatest extent possible—based even on the cost of current retirees. Indeed, the absence of this liability remains a major competitive advantage for new entrants (the internationals) in the U.S. market, not to mention imported vehicles from economies with national health care and state pension systems. All manufacturing firms in the U.S. economy that use union labor are motivated to "de-integrate" as much as possible for this reason. The recent decline in U.S. manufacturing employment and the disappointing recovery in this sector of the U.S. economy owes much to the U.S. governments failure to control health care inflation or to distribute its costs.

[18] However, we believe the hourly health cost shown in Table 8for 2003 is a more accurate estimate for GM than for Ford or Chrysler Group. The latter two firms face cost levels that are perhaps three dollars per hour lower.

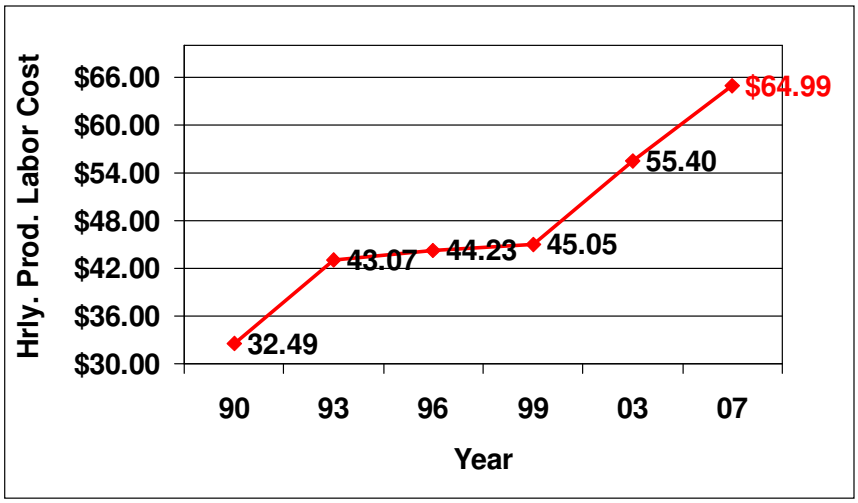
Table 8: Average Hourly Wage for Production Workers

	2003	2007
Wages & COLA	**25.58**	28.44
Overtime	**3.53**	3.90
Vacation	**5.99**	6.62
Upfront Bonus	**0.26**	0.60
Other Misc.	**1.89**	2.09
Total Wages	**37.25**	41.65
Pensions	**4.47**	4.94
Group Life	**1.27**	1.40
Healthcare	**9.14**	13.38
FICA&UC	**2.95**	3.26
Other Misc.	**0.32**	0.35
Total Benefits	**18.15**	23.34
Total	$55.40	$64.99

Source: Deutsche Bank, Autos Weekly that Was the Week That Was. June 6, 2003. Forecast for 2007 is performed by CAR.

As shown in Figure 12, average hourly labor cost per hour for production workers is expected to rise by 17.3 percent compared to the 22.9 percent increase for 1999-2003. The low rate of increase in the 1993-1999 contracts reflects lower increases in the AIF, lower lump-sums, and certainly a lower rate of increase in the expense of health care during that period of time. A similar set of figures was also computed for skilled trades workers. The 2003 rate for this labor is estimated at $62.48 per hour and forecast for 2007 at $71.16 per hour. The production and skilled trades hourly costs are combined (assuming 22 percent of workers are skilled trades) for a 2003 combined rate of $57.06 per hour. The forecast combined rate for 2007 is $66.28 per hour, a 16.1 percent percentage increase over the starting rate in 2003 (a 3.8 percent annual rate of growth). These rates are used directly in the forecast below to estimate the financial impact of the contract on the cost per vehicle through 2007.

Figure 12: Big 3 Average UAW Hourly Production Labor Cost: 1990 -2007
(Skilled trades will rise to $71.16/hour by '07)



Source: CAR and company sources.

It should be noted that international automotive firms such as Honda, BMW or Toyota pay roughly the same hourly wage rate to their production workers as the Big 3 if standard bonuses are included on an hourly basis. In fact, some of these firms pay slightly higher rates than the UAW. This is no accident, since it reflects the so-called "threat effect" of unionization. These international firms generally must pay a wage similar to that of the UAW, even in Alabama or South Carolina, or they face a very probable threat of unionization. In fact, the companies typically match the UAW contract increases penny for penny. In 2003, a production worker at Toyota Motor Manufacturing (TMM) earned $22.03/hour at Georgetown in 2003 along with a bonus of $8,773. Since the bonus paid in 2002 was $8,547, and Toyota executives have confirmed that there will be little change in the amount in the years to come—it is apparent that the full wage for TMM production workers already exceeds that of the UAW.

The payment of a standard bonus would match Japanese company practice in Japan of a permanent bonus portion of the wage (paid semi-annually in Japan). The bonus isn't paid in years with low or negative earnings allowing the company to flex its labor cost with the market. It should be mentioned that Toyota is adding thousands of new hires in new plants in the next four years who will paid lower grow-in, starting wage rates—and of course, their benefits cost per hour is lower for even just actives because they are 12-15 years younger than Big Five workers.

Delphi and Visteon

Delphi and Visteon reached a seven year supplemental agreement on the future labor cost of UAW new hires at the end of April 2004. The magnitude of the change in labor cost of hiring new UAW labor is very impressive indeed in this agreement. The known highlights include the following details,

- ***Wages*** Non-skilled trades workers are split into three groupings. New hires for all three groups start at $14.00/hour. Grow-in improvements will occur at 3 percent every 26 weeks until a full rate of $14.50/hour is reached for custodians, $16.50/hour for production workers, and $18.50/hour for another classification of production workers (semi-skilled). Skilled trades classifications will receive the same rate as UAW-GM or UAW-Ford skilled trades workers.
- ***COLA adjustments*** will be determined by the UAW-Ford and UAW-GM agreements except that the first adjustment is will not occur until the 2nd quarter of the fourth year and will be reduced by 30 percent of the full adjustment until the 2nd quarter of the sixth year. 100 percent of the COLA adjustment will be paid starting with the 3rd quarter of the sixth year.
- ***Performance bonuses*** will be paid to new hires at a rate of 3 percent of qualified earnings in 2005-2010.
- ***Health Care*** No premium co-pays are required, but annual deductibles are charged to individuals and families and are much higher for out-of-network care ($1,200 and $2,100) than in-network care ($300 and $600). Drug co-pays are $7.50 for generic and $15.00 for brand-name. An annuals contribution of $600 to a Flexible Spending Account is made by the company. Dental coverage is delayed until after the third year of seniority.
- ***Pension coverage*** <u>There is no "30 and out" provision in the supplemental agreement</u>. Fifty cents per compensated hour will accrue will be credited annually in a post-retirement health account which accumulates with interest credited at the 30-year U.S. Treasury bond rate. The accounts vest upon retirement. Delphi and Visteon will annually contribute 5.4 percent of wages to each workers Individual Retirement Plan with interest credited at the 30 year U.S. Treasury bond rate. Also, the company will match 30 percent on the first 7

percent of a workers contribution to the plan with the contribution matching after three years seniority. Thus – total contributions to the worker's retirement plan by the company maxes at 7.5 percent of annual compensation.

- **Supplementary Unemployment Benefits (SUB)** After three years of seniority, workers will be eligible for up to 156 weeks of SUB pay (95 percent of take-home as gross pay).

Table 9 presents estimates of the average hourly labor costs of Delphi/Visteon new hires in 2004 and 2007. The 2007 estimate pertains to the $18.50/hour group of workers. The $14.00 and $16.50 per hour groups will have reached their maximum ceiling wages by 2007 – but COLA adjustments will have not started for any group. The 2007 sum of $34.60/hour is almost $30.00 or 47 percent lower than the cost of production labor shown in Table 8 for the Big 3 and indeed for existing (in early 2004) Delphi/Visteon production labor.

Table 9: Average Hourly Labor Cost for Delphi/Visteon New Hires

	2004	2007
Wages & COLA	14.00	16.66
Overtime	1.93	2.30
Vacation	.59	1.05
Upfront Bonus	0.0	.57
Other Misc.	0.0	0.0
Total Wages	16.52	20.58
Pensions	0.0	1.54
Group Life	.56	.69
Healthcare	7.00	9.32
FICA & UC	1.31	1.63
Other Misc.	.50	.50
Total Benefits	9.37	13.68
Total	25.89	34.60

The total hourly costs shown in Table 9 are very competitive vis-à-vis other independent supplier that compete with Delphi and Visteon as will be shown below. This was certainly a major factor in these negotiations for all parties. It is also clear from the results of the supplementary negotiations that the UAW was willing, to an extent, to trade wages for quality health care – a tradition for the union and a reflection of the importance of these benefits to their current and future membership.

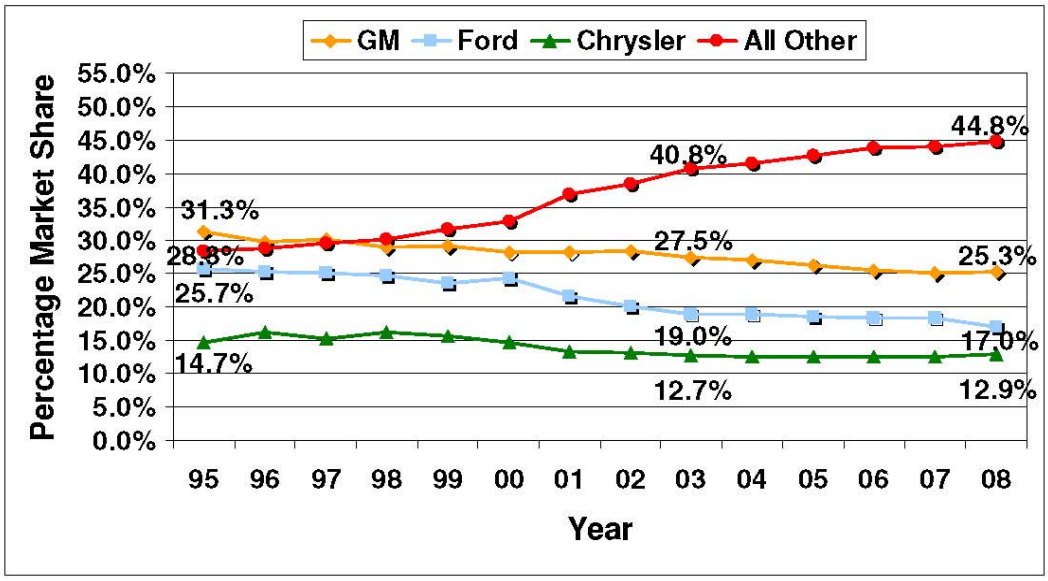
The effect on Delphi/Visteon labor cost of the new supplementary agreement, of course, depends directly on the extent to which new hires at these firms can be substituted for existing labor. The motivation to transfer existing, expensive labor back to GM and Ford is quite naturally high and is discussed below.

The Final Forecasts for People and Money: Two Replacement Scenarios

Since forecast average hourly costs are expected to rise by a total 16.1 percent over the life of the agreement, or 3.8 percent per year, the Big 3 companies must either improve the combination of productivity and prices by these percentages, or face the prospect of higher UAW labor cost per vehicle. Prices, however, are not expected to improve by many analysts even with the introduction of new models in the years ahead. CAR obtained a forecast of Big 3 U.S. market share through 2008 from the 3 best known consulting services and combined their

estimates in Figure 13. The forecasters expect only Chrysler Group to improve its market share through 2008. The other two companies are expected to lose an additional 4 points of U.S. market share by 2008. This loss of market share may or may not reflect continued loss in pricing for the firms, but it certainly affects production levels — a major determinant of productivity.

Figure 13: U.S. Market Share 1995 -2008*



*Sources: 1995-200: CSM, *2002-2008 average of sales forecasts from JD Power, Global Insight, and CSM, Dec. 2003.*

A major first assumption of the CAR forecast of the Big Three UAW employment or count is that the companies will attempt to reduce their union employment to greatest extent possible given further losses in market share, declining production, and the pressure to improve productivity in the face of competition from the internationals. However, a major second assumption of the CAR forecast is that the companies cannot lower their work forces by more than cumulative natural attrition. In fact, the count of total attrition is a floor regarding total employment decline. This is true because the UAW can require the replacement of many retirees with new workers, thus slowing the process. Finally, the actual employment declines must be negotiated at the local agreement level, plant by plant. This process is still continuing and will continue with the creation of special production agreements tied to new products. However, much of the companies' flexibility will be at the discretion of the UAW president and the various department vice presidents of the UAW.

Two forecasts are presented here to define the boundaries of this possible change and its consequences.

A First Forecast

The first employment forecast is shown in Table 10. This "people" forecast assumes that Ford and Chrysler Group will take maximum advantage of forecast attrition to reduce employment, However, GM is limited by its 2007 BMM and must replace some of its retiring workers. In addition, it is clear that both Delphi and Visteon traded employment security for the new 2nd tier wage levels. The union clearly expects employment levels at these two companies to decline only marginally – and for retirees and transfers back to GM and Ford to be replaced at a very high percentage rate. Our employment forecast

The first money forecast is shown in Table 10. This forecast shows the beginning and ending UAW total wage and benefit bill at each company. The change in UAW labor cost per vehicle (North American basis) is given in the last column. For the Big Three, these changes, of course, rely on the 2003 level of average hourly labor cost, $57.06/hour, and the ending figure, $66.28/hour. For Delphi, a combination of rates shown in Tables 8 and 9 above that reflect the relative share of 1st and 2nd tier workers is used. The money, or cost per vehicle forecast, also relies on a December 2003 production forecast from each company obtained from CSM Inc.[19] The results are discussed separately by company.

GM

Currently, workers at GM are expected to retire at a rate of 6 to 7 percent per year over the life of the agreement. Total cumulative attrition is expected to reach 30,000 by the end of the fourth year of the agreement. GM, however, will replace 8,000 of these retirees with either new hires or flowback transfers from Delphi. As shown in Table 10, this results in a net employment reduction of 22,000 or an annual percentage decline of about 4.5 percent a year. The latter option of transfers from Delphi might be preferred because the Delphi workers will possess high company seniority on their arrival—leaving GM with a high attrition rate well into the decade. A high attrition rate allows GM the flexibility to make further employment adjustments later in the decade if needed. Also, Delphi transfers will be partially replaced by second tier wage new hires at Delphi and no Delphi customer will benefit more from this fall in labor cost than GM. Up to 4,000 Delphi transfers to GM are expected to occur over the life of the agreement.

Table 11 shows GM's initial 2003 UAW wage and benefit bill of $14.09 billion, and this amount is forecast to fall to $13.49 billion by 2007, a reduction of $600 million. Since GM's North American production is forecast by CSM Inc. to fall somewhat from its 2003 level, UAW cost per vehicle will fall by $19.

Ford

As shown in Table 10, Ford and Visteon 1st tier workers are expected to retire at a rate of 4.0 percent per year, or 17,400 jobs during the life of the contract. Ford attrition is not expected to exceed this annual rate because of Ford's bimodal distribution of workers, and because there is no evidence to date of Ford's willingness to spend large sums to buy out older worker's equity in return for their retirement (the case at Chrysler Group), and because Ford and Visteon are not contemplating sell-offs of parts businesses. In fact, as shown in Table 1 above, 2,100 jobs were eliminated at Ford/Visteon in the last 6 months of 2003. If Ford and Visteon business continues

[19] Forecast values received on request from CSM, Inc. The values for 2003 production were 5.31 million units for GM, 3.77 million units for Ford, and 2.57 million for Chrysler Group. The forecast 2007 production levels were 5.11 million for GM, 3.53 million for Ford , and 2.66 million for Chrysler Group.

to lag the market, it is possible that few retirees will be replaced at either company. This sort of "pass" has been given from a UAW president to Ford, GM and Chrysler in past crisis periods. However, guarantees made within the UAW/Visteon agreement will probably call for some significant Ford replacement hiring to accommodate transferred 1st tier workers from Visteon.

About 14,300 of the 17,500 total retirements will be workers retiring at Ford plants. It is expected that up to 4,000 1st tier Ford workers will transfer from Visteon plants to Ford during the life of the agreement. These workers will replace workers retiring from Ford plants. A certain portion of these transferred workers, in turn, will be replaced at Visteon by new hires under the terms of the supplementary agreement.

Table 11 shows Ford/Visteon- 1st tier's initial 2003 UAW wage and benefit bill of $10.60 billion, and this amount is forecast to fall to $10.02 billion by 2007, a reduction of $580 million. Since Ford's North American production is forecast by CSM Inc. to fall from its 2003 level, UAW cost per vehicle will fall by $12.

Chrysler Group

Chrysler UAW workers are expected to retire at a faster rate than Ford, but not at the same rate as GM or Delphi. Chrysler has shown a strong willingness to buy-out workers with 30 or more years of seniority since its restructuring announcement in March 2001. In the case of sell-offs of facilities, Chrysler has offered very large payouts in the New Castle plant sell-off to Metaldyne, and will do so to an extent in the sale of Huntsville Electronics to Siemens. In fact, Chrysler UAW employment fell by an impressive 4,800 in the last six months of 2003 (see Table 1). The company clearly recognizes a pay-back in these transactions for "accelerated attrition" which are financially accounted as one-time adjustments. Chrysler will reduce its labor force at the same rate as attrition, 5 percent per year. It will face less resistance from the union on this decline because so many of the job reductions involve plant sell-offs. As shown in Table 10, Chrysler employment will fall by 12,000 and many of these jobs will reappear in the independent parts sector as lower-wage (eventually) UAW jobs.

Table 11 shows Chrysler Group's initial 2003 UAW wage and benefit bill of $7.44 billion, and this amount is forecast to fall to $7.07 billion by 2007, a reduction of $580 million. Since Chrysler's North American production is forecast by CSM Inc. to fall from its 2003 level, UAW cost per vehicle will fall by $237.

Delphi

Delphi's attrition is expected to be the highest of any company, 7 percent a year. Yet Delphi's legal ability to make use of this attrition is problematic since the company ended 2003 at its 2007 BMM level. Delphi is further restricted by apparent guarantees made to the UAW in the supplementary negotiation. Yet Delphi announced an employment restructuring plan in the fall of 2003 that included 3,750 hourly job cuts in the United States by the end of 2004 (out of 8,500 worldwide). About 1,400 of these jobs are located in the Automotive Holding Group division of Delphi which covers the three threatened Delphi facilities in Kansas, Alabama, and Michigan. We assume in this forecast that Delphi is granted the right to reduce employment to its BMM level which has already occurred by the end of 2003. This allows Delphi employment to fall by 2,200 to 28,800 over the life of the agreement as shown in Table 10. In addition, we assume that at least 4,000 1st tier Delphi workers will transfer to GM during the life of the agreement. When we combine these transfers with 7,800 expected retirements, we get a total turnover of 1st tier workers of 11,800. It is expected that 9,600 of these job openings are replaced by new, 2nd tier workers. By 2007, then, 33 percent of Delphi UAW labor will be supplementary agreement

new hires earning a lower wage.

Table 11 shows Delphi's initial 2003 UAW wage and benefit bill of $3.50 billion, and this amount is forecast to fall to $3.17 billion by 2007, a reduction of $330 million. About 70 percent of this reduction will be reflected, it is assumed, in GM North American vehicle costs—the UAW cost per GM vehicle, then, by another $45, for a total GM/Delphi decline of $64 per vehicle.

Visteon

The attrition of Visteon 1st tier workers is included in the Ford results in Table 10 and the company's attrition of these workers is expected to be the same rate as Ford, 4 percent a year. Visteon's legal ability to make use of this attrition is highly flexible since the company is current employment is far above its 2007 BMM level. Yet Visteon is prohibited from consolidating any Visteon bargaining units by the provisions of the supplementary agreement with the UAW. About 3,133 Visteon 1st tiers are expected to retire and 4,000 to transfer back to Ford during the life of the agreement. This results in a total turnover of 7,133 out of an employment base of 20,800, or 34 percent. It is expected that Visteon will be allowed to reduce its overall labor force 1st and 2nd tier) by at least ten percent, or 2,080 positions. Visteon would then hire 5,053 new 2nd tier workers bringing its total count by 2007 to 18,720 (27 percent 2nd tiers). The 5,053 Visteon new hires should be added to the UAW's total count for 2007 in Table 10. Eighty percent of the total 2007 cost of these workers, $345 million, should be added to Ford's UAW labor cost per vehicle. This works out to $78/vehicle and is shown in Table 11.

A summary of the first "mass retirement" scenario indicates a modest win for Chrysler, followed A summary of the first "replacement" scenario indicates a modest win for Chrysler. Chrysler's internal UAW cost falls by $237/vehicle versus a combined GM/Delphi cost decrease of $64/vehicle. Ford, however, lags the other two companies with a combined Ford/Visteon cost increase of $238/vehicle. This represents an additional $475 disadvantage versus Chrysler by 2007About 67,200 UAW workers are expected to retire, but only 22,553 are replaced, 14,653 of them by 2nd tier hires at Delphi and Visteon. Total Big Five UAW employment falls by 44,647 in this severe scenario.

Table 10: A First Forecast – Mass Retirement – Some Replacement
The Final Calculations: People: 2003 -2007

Company	Initial UAW Count*	Total Retirement Attrition	Final UAW Count	Labor Decline Annual Percentage
GM**	125,000	30,000	103,000	-4.5%
Ford (and Visteon 1st tier)	94,000	17,500	80,500	-4.0%
Chrysler***	66,000	12,000	54,000	-5.0%
UAW – Delphi (1st & 2nd tier)	31,000	7,800	28,800	-1.3%
Total	316,000	67,200	266,300****	

** August '03*
*** Includes Saturn*
**** Includes salaried UAW*
***** 271,353 with 5,053 Visteon 2nd tier new hires.*

Table 11: The Final Calculations: Money Part 1

	Starting Compensation (billions)	End Compensation (billions)	Change in UAW Labor Cost (millions)	Change in Vehicle UAW Cost (N. American basis)
GM	$14.09	$13.49	$ (600)	$(19)
Ford (with Visteon -1st tier)	10.60	10.54	60	160**
Chrysler	7.44	7.07	(370)	(237)
UAW – Delphi (1st & 2nd tier)	3.50	3.17	(330)	(45)*
** 70% of cost impact on GM ** Plus an additional $78/vehicle for Visteon new hires.*				

A Second Forecast

A second employment forecast is shown in Table 12. This "people" forecast assumes that the Big Three will be limited in taking maximum advantage of forecast attrition to reduce employment. Chrysler Group, in particular, may be less than successful in "trimming" negotiations at its major plants (still unresolved), and would still contain the large parts facilities of Detroit Axle and Toledo Machining.

GM

In Table 12, total cumulative attrition for GM is still expected to reach 30,000 by the end of the fourth year in this "replacement" scenario. GM, however, will now replace 15,000 of these retirees with either new hires or flowback transfers from Delphi. Total employment falls to 110,000. This results in a net employment reduction of 15,000 or an annual percentage decline of about 3.0 percent a year. It is assumed here that GM encounters significant UAW resistance, perhaps for the benefit of Ford and Chrysler, or encounters "supplier competence problems"[20] in attempting to move more work to outside suppliers.

Table 13 shows GM's initial 2003 UAW wage and benefit bill of $14.09 billion, and this amount is now forecast to rise to $14.41 billion by 2007, an increase of $31 million. UAW cost per vehicle now rises by $160 by 2007.

Ford

In Table 12, Ford now experiences a labor decline of only 3 percent per year, or 10,800 job slots by the end of the agreement. Once again, union resistance, as well the unwillingness of Ford/Visteon- 1st tier workers to leave accounts for the two-company total to fall to only 83,200.

Table 13 shows Ford/Visteon- 1st tier's initial 2003 UAW wage and benefit bill of $10.60 billion, and this amount is forecast to rise to $10.90 billion by 2007, an increase of $30 million. Since Ford's North American production is forecast by CSM Inc. to fall from its 2003 level, UAW cost per vehicle will now rise by $260.

[20] Described to the author as the inability of suppliers to perform advanced modular or integration work.

Chrysler Group

Chrysler's forecast in Table 12 changes dramatically because of a Chrysler's possibility inability to trim excess labor at its major facilities (in local negotiations) or accomplish half of its planned sell-off of parts facilities. Thus, Chrysler total UAW employment falls by only 10 percent to 60,000 through 2007. This represents an annual decline rate of 2.4 percent per year. This results in an increase in Chrysler Groups internal UAW wage bill of $420 million or $59/vehicle by 2007.

Delphi and Visteon

Delphi and Visteon results remain the same as in the first forecast.

A summary of the second "replacement" scenario indicates no significant win for Chrysler. Chrysler internal UAW cost rises by $64/vehicle versus a combined GM/Delphi cost increase of $115/vehicle. Ford, however, lags the other two companies with a combined Ford/Visteon cost increase of $338/vehicle. To say the least, this scenario does not show the Big Five maintaining the "status quo" competitively versus the international competition.[21] About 67,200 UAW workers are expected to retire, but 38,283 are replaced, 14,653 of them by 2nd tier hires at Delphi and Visteon. Total Big Five UAW employment falls by only 28,917 in this less severe scenario.

Table 12: Second Forecast: Replacement Scenario
The Final Calculations: People: 2003 -2007

	Initial UAW Count*	Total Attrition	Final UAW Count	Labor Decline Annual Percentage
GM**	125,000	30,000	110,000	-3.0%
Ford (and Visteon 1st tier)	94,000	17,400	83,200	-3.0%
Chrysler***	66,000	12,000	60,000	-2.4%
UAW – Delphi (1s t& 2nd tier)	31,000	7,800	28,800	-1.3%
Total	316,000	67,200	282,000****	

**August '03'*
***Includes Saturn*
****Includes salaried UAW.*
*****271,353 with 5,053 Visteon 2nd tier new hires.*

[21] The additional gross cost per UAW worker for G M is about$131,400 in 2007. The total UAW labor bill for the company in the first forecast is $13.49 billion for 103,000 workers—compared to $14.41 billion for 110,000 workers in forecast two. If the 7,000 additional workers in the second forecast were truly excess labor, the cost is $920 million. However, a great deal of so-called productivity growth is merely outsourcing to the supplier sector where labor costs per worker are roughly half of that within the Big Three 1st tier. In fact, work moved to the supplier sector could require even more labor hours than the same production in the Big Three. The 2nd tier wage rate negotiated in the Delphi/Visteon supplemental wage rate reflects this competitive reality. A strong trend towards modular work outsourced from their former parent firms (work from assembly plants) could develop with the use of new hires at Delphi and Visteon.

Table 13: The Final Calculations: Money Part II

	Starting Compensation (billions)	End Compensation (billions)	Change in UAW Labor Cost (millions)	Change in Vehicle UAW Cost (N. American basis)
GM	$14.09	$14.41	$320	$160
Ford (with 1st tier Visteon)	10.60	10.90	300	260**
Chrysler	7.44	7.86	420	$59
UAW – Delphi (1st & 2nd tier)	3.50	3.17	(330)	$(45)*
** 70% of cost impact on GM* *** Plus an additional $78/vehicle for Visteon new hires.*				

The Competitive Meaning of the Supplementary Negotiation at Delphi and Visteon

The 1999 labor negotiation will be long remembered as the contract that specified the UAW's price for the long-awaited restructuring of the North American motor vehicle industry. The Delphi spin-off and the eventual spin-off of Visteon effectively ends the eighty-year tradition of integrated manufacturing at GM and Ford. The organizational and cost structure of these two firms will eventually resemble the great majority of other worldwide motor vehicle producers.

However, the spin-off agreements signed in the fall of 1999 by the UAW also represented a frank recognition by the union of the new reality of North American automotive manufacturing. Seven out of every ten manufacturing jobs in the industry are located within facilities operated by independent suppliers. Less than one out of every five of these jobs is organized by any union.[22] To a large extent, the spin-off agreements were meant to buy time for the UAW. The existing Delphi and Visteon rank-and-file were largely protected, and the union may have been trying to negotiate four more years to increase its representation in the competitive shops sector through massive organizing and top-down pressure from assembly locals.

Many Delphi and Visteon plants have been forced to bid competitively for future new product from GM and Ford, as well as other business. In particular, Delphi and Visteon plants must now compete directly with other UAW plants, as well as non-union and international competitors. To do this effectively in the long-run, Delphi and Visteon must match the labor cost levels enjoyed by at least their union-organized competitors—either through higher productivity or the same wage levels. This is the meaning of multi-tiered bargaining or union contracts that differ by the competitive conditions of each product market. It now appears that both Delphi and Visteon will be able to compete with lower wage rates for new hires depending on the competitive conditions in each segment of the overall automotive components market. Of course, a major question is what UAW wages are paid in the independent parts sector with which Delphi and Visteon competes. An interesting result, of course, of the new Delphi/Visteon supplementary agreement is the creation only two wage tiers and a still-high cost for skilled trades labor. This will restrict

[22] In fact, union percentage coverage of all employees in the motor vehicle and motor vehicle equipment industry in 2001 was 37.4 percent. See Barry T. Hirsch and David A. Macpherson, **Union Membership and Earnings Data Book**. A BNA Plus Publication. The Bureau of National Affairs, Inc. Washington D.C., 2002. Page 48.

the competitive flexibility of these two companies across a wide variety of parts and component markets. In some cases, the new Delphi/Visteon wage scales will be very competitive – in others – not so.

CAR performed an analysis of 25 existing UAW agreements with independent suppliers (no Big 3 spin-off facilities) covering 19,379 UAW members purchased from the BNA data file on existing labor agreements. All of the agreements were negotiated in 2002-2003. Mid-point production and skilled trades' employee wage rates were identified in these agreements and the simple average of these rates is shown in Table 14. The simple average for production is $15.48 per hour, and for skilled trades (probably semi-skilled), $18.40 per hour. Considerable variance was present in the sample, with a maximum wage for production of $23.54 and a minimum of $10.72 per hour. The variance for skilled trades is somewhat lower, with a maximum of $24.71 per hour and a minimum of $14.60.

Table 14: Wages - 25 UAW Independent Supplier Agreements
(Covering 19,379 workers)

	Production	Skilled Trades
Average (Simple)	$15.48	$18.40
Minimum	$10.72	$14.60
Maximum	$23.54	$24.71
SD	$2.87	$2.78
Four contracts had health co-pay premiums. Seven contracts offered at least part 401K pensions. Contract list in Appendix A		

Table 15: UAW Wage Means by Industry Segment
Weighted by Employment

	Production	Skilled
All 25 Weighted	$15.76	$19.03
Engine Parts	18.14	19.65
Interior Syst.	16.51	18.49
Stamping	12.93	19.54
Chassis	14.15	19.37
Electrical	14.07	16.86

The agreements were then sorted by product segment and the means recomputed on a weighted basis by employment. These results are shown in Table 15. The weighted mean rises to $15.76 per hour, and weighted average for skilled trades rises to $19.03. This weighted average of $15.76/hour, is remarkably close to the $15.77/hour U.S. average manufacturing rate in 2003.[23] Facilities engaged in the production of engine components demonstrated the highest wages for both production ($18.14) and skilled trades ($19.65). Facilities that produce automotive stampings showed the largest means for production wages at $12.93 per hour, and facilities that produce electrical components, the lowest skilled trades wage rate of $16.86. No

[23] See Figure 2.

analysis was possible on wage differences by geographic region or size of the facility or company. Only 19 of the purchased agreements contained information on health co-pays; four of these agreements showed evidence of a co-pay on health premiums. Seven of the 19 agreements with benefits information showed the presence of a least a partial 401k plan or only a 401k plan in lieu of defined benefits for retirement.

Wage rates similar to those shown in Tables 14 and 15 were perhaps a focus of the supplementary negotiation with Delphi and Visteon regarding future new hires. Previously, the UAW had offered a very small window on wage flexibility before in the 1996 agreement. That job security provision allowed the companies expanded employment credit for initiating or acquiring businesses that grew UAW employment (two for three)—and did allow wage flexibility under the severe restrictions of these wages "not undercut the wage and benefits of other UAW members working in the relevant industry or geographical area in which they are situated…and such businesses must produce products or services that clearly compete directly or indirectly with work covered by other National UAW agreements."[24] Although Delphi and American Axle made use of this provision, other examples were extremely rare. Production wages in Table 15 do vary across component markets (and presumably by region of the country). Delphi and Visteon's new wage scales will clearly match this competition in many product markets, but not in all.

The economic importance and meaning of the second tier wages negotiated for Delphi and Visteon will be limited for some time by the rate of new hiring by these firms.[25] Yet it can allow these firms to compete for new product business directly against large UAW employers such as Lear, and eventually UAW-JCI and UAW-Magna facilities. The starting grow-in wage of $14 per hour is especially competitive. The competitive meaning of these lower wage rates is clear:

1. 1,000 UAW production workers working at the current Big Five average hourly labor cost of $55.40 per hour cost up to $115.2 million a year. This is a cost borne by Delphi/Visteon today.
2. 1,000 UAW workers working at the $15.76 wage shown above with an 80 percent matching benefits and other wage costs rate would cost $59.0 million a year – a massive savings of $56.2 million. This is a cost total applicable to Lear or other independent UAW suppliers today.
3. Unfortunately, 1,000 Mexican production workers cost approximately $6-10 million in annual labor cost today. However, this cost must be at least doubled by low productivity levels (high turnover rates) and other costs such as transportation associated with near-shore and off-shore sourcing.

Some of the UAW labor decline shown in Tables 10 and 12 above clearly reflects outsourcing of assembly and parts assembly work to the independent supplier sector. In fact, much of the UAW labor cost decline per vehicle shown in Table 11 must be replaced by parts supplier labor cost. If that work travels to UAW independent suppliers, costs will fall by up to 50 percent. If it travels the road to Mexico or other hyper-low-wage destinations, costs will fall much further.

Total parts imports into the U.S. from Mexico peaked recently at $21.0 billion in 2003 and total parts imports reached $74.5 billion from all countries that same year. But not all automotive

[24] United Auto Workers Union, UAW-G M Report, UAW-GM Workers Make Historic Gains, Detroit, MI, November, 1996, pages 4-5.

[25] In fact, these new second wage workers will probably be segregated for some time in separate facilities that produce only "new" product.

components and parts can or should be made in Mexico (or China). Many components must be assembled closed to the final vehicle assembly plants due to concerns regarding fragility, ship-ability, inventory cost or quality. Also, direct labor costs take a small share of total cost in various components that require heavy capital expenditures in large scale manufacturing. It is now becoming clear that the UAW understands these limitations and has concentrated its organizing efforts on supplier facilities that are unable to "pack up" and leave when threatened.

The Re-organization of UAW Parts Manufacturing and the Possibility of a Pattern in Parts Manufacturing

Agreements negotiated by the UAW during 1982-1990 concentrated on income maintenance provisions such as almost limitless funding for SUB and protected status programs. Negotiations during 1993–2003 have stressed limitations on outsourcing and, lately, support by the Big 3 employers to re-organize the U.S. supplier sector. The restrictions on sourcing by the Big Five take up many pages of the 1996-2003 agreements, but the union has almost reached the limit of its ingenuity to force new provisions on these issues. Suffice to say—the outsourcing of current work saves the Big Three nothing since displaced workers must be added back to their employment totals after 48 weeks. The major concern of the UAW today, however, is new work with new parts numbers for new vehicles. The union has reached agreement now with the companies to be involved at every step of supplier selection including phase one of the product development process and membership on supplier selection committees. Also at every step, the union must be informed of even the potential of using non-union suppliers and the transfer of information of all types from the company to union is mandated.

Yet outsourcing restrictions have consistently failed over time to halt the steady loss of UAW jobs. However, a new range of wage rates that allows the Big Five to compete more closely to the same levels as the international's production system in North America could slow the flow of lost work. This required lower wage rates for new workers at Delphi, Visteon, and at the buildup lines still contained in many truck assembly plants. It also requires the re-organization of the first tier supplier sector in the United States.

A number of companies have been subjected to UAW (and CAW) organizing drives since 1997 and have reached "positive relationships" with the union. Such a positive relationship has been defined as the acceptance of card check neutrality—even "positive" card check neutrality at plants that directly supply the Big 3. There appears to be some substance to rumors regarding Big 3 pressure ("using suppliers that are good corporate citizens") on these firms to cooperate with the UAW regarding 1) recognition of card checks as a replacement for formal NLRB scheduled representation elections and 2) not mounting anti-union internal campaigns to block the union—instead, supporting organization.[26] What can be said is that the UAW has clearly targeted large interiors systems firms first in its organizing drives—or firms that compete directly with Lear, Delphi and Visteon for business in these products. The UAW has now successfully reached "positive relations" with every major domestic supplier in this segment. Its current

[26] The union is often frustrated by weak labor laws in the area of labor representation, especially when compared to other developed countries; this has led to a reliance on card check neutrality and large customer influence (the threat of an assembly plant boycott) in organizing supplier labor. The NLRB system is notoriously [perhaps too strong a word?] slow in punishing firms who break labor laws regarding the right to organize and tends to apply only minor penalties in the rare cases where any penalties are levied. The UAW has also been constantly confronted with market realities such as low wage right to work Mexican and Asian competition and has thus finally decided to respond with its own market power—control over assembly plant production and key components to force positive relations with "run-away suppliers."

targets now appear to be producers of chassis systems which include companies such as TRW and Dana[27], the latter company which announced a positive relationship with the UAW last summer.

However, even when a positive relationship is agreed upon, the union faces a long and arduous process of card checking the plants. If the union is successful in the chassis product segment of the U.S. supplier industry as it was in interiors, it is not clear what its target might be next: either independent automotive stampers or engine parts firms? The long run result may be an attempt to construct a set of mini-pattern industry agreements, one for each supplier segment. In other words, Lear, JCI, Magna facility locals that produce similar products would be combined in pattern agreements that produce a similar union wage and benefit packages. Other mini-patterns could be set for chassis facilities and so on throughout the automotive systems chain. Build-up lines that leave the assembly plants would be still organized in the same assembly local, as an amalgamated unit. Plants and companies that "run-away" to Mexico or farther are clearly those who would be leaving in any case. This reorganization of both the UAW and re-organized non-union supplier labor would significantly change the structure of labor cost and relations in the U.S. auto parts sector.

A Competitive Contradiction

A contradiction to the multi-tiered, mini-pattern UAW system – if it is indeed developing—is the competition the Big Five still face from international producers in North America. This competition does not refer to wage rates paid to workers at Toyota or Honda assembly and powertrain plants (which are very close to the UAW's), but instead the lower wages (than those paid at UAW facilities of the same companies) paid to workers at first tier supplier facilities that supply the international assembly plants with components. Organizing these plants will be difficult for the UAW—Toyota will certainly not pressure its suppliers on the union's behalf—and a failure to organize these plants will cause friction with their traditional employers at the Big Five. In fact, evidence seems to indicate that the UAW has only marginally improved the wages to date for newly organized supplier facilities partially because of this competitive contradiction.

Conclusions

The low replacement scenario shown in Tables 10 and 11 above illustrate a case where the new 2003 agreement certainly does not harm Big 3 competitiveness, and combined with the gradual replacement of current UAW workers at Delphi and Visteon with new hires at lower wage rates, may indeed improve current competitiveness on labor costs. However, a high replacement rate for retirees as shown in Tables 12 and 13 pushed this boundary to a considerable degree. It should be remembered that these forecasts depend on the relative fortunes in the market of the UAW's employers in North America. Toyota, Honda, and Nissan cannot justify wage freezes to their labor forces this year or probably next, and must share their profits with these workers at recent payouts. A fall in the value of the dollar too will do more than a little to improve the position of UAW labor. Offsetting these positive developments is the reality of still rising legacy costs for the Big 3, the hiring of thousands of new workers at low grow-in wage levels by the internationals, and the apparent determination by the internationals to increase their parts sourcing to Mexico in emulation of the Big 3.

[27] United Auto Workers Union Press Release, "UAW announces partnership agreement with Dana," Detroit, MI. August 13, 2003.

The Final Conclusion – Labor Cost in a North American Vehicle

It is of course difficult to summarize all of the influences that will determine the final competitive meaning of the 2003 UAW agreement. In any event, Figure 14 represents a starting point to a stylized, macro approach to the multi-tier division of labor costs within vehicle production that can identify some of the important issues in measuring this final calculation of competitiveness. The figure attempts to portray the distribution of total manufacturing labor hours for the Big 3 and the international vehicle producers in a North American vehicle through the second tier of supply. Figure 14 is also meant to be a comparative of the relative differences in labor costs between domestic and international OEMs in North America. The following steps are taken in the estimation of assembly company hours per vehicle in 2003.

1. The assembly company level of hours (not including Delphi and Visteon) is directly computed from actual 2003 North American Big 3 and international company employment in all types of manufacturing facilities and includes associated layoffs and workers paid in protected status programs. Supervisory employment at the plant level is included as well.[28]
2. 2002 Canadian and Mexican assembly company workers are included and the average hourly wage cost was estimated by weighting the 3 hourly rates by the share of total North American hours for the 3 types of national labor.[29]
3. Employment in service or parts operations, however, was excluded, as was non-automotive employment.[30]
4. Finally, 5 percent of employment was assumed to be comprised of workers on leave of absence without pay. Total hours per worker are assumed to be 2,080 per year. The hourly cost of vacation was then subtracted from the average hourly wage estimated on page 29 of this report, giving a rate of $51 per hour for the U.S. Big 3 and $46 per hour for Big 3 North American labor. A similar wage correction was made for international labor. The sum total of hours for the Big 3 and the Internationals was divided by their 2003 N. American production. (See Appendix C for exact calculations and Appendix B for production sourcing)

The first and second tier estimations are far more complicated. An attempt is made to distribute all of the hours reported by three government statistical bureaus for automotive parts production between Big 3 and international North American production. The following steps are taken in the estimation of 1st tier hours per vehicle in 2003.

1. Government estimates of employment in parts production manufacturing (North American Industry Code (NAIC) 3363) are first netted for aftermarket production and exports to countries outside of North America.[31] It was assumed that these purposes

[28] U.S. Big 3 employment was increased by 9 percent to account for supervisory labor in the plant.

[29] 2003 Canadian and Mexican employment was unavailable. For example, the Harbour Report 2003 shows a 2002 Big Three employment total of 23,000 in Mexico. The CAW web site lists 44,000 members at the Big Three in 2003—however a Harbour figure of 34,000 was used. Hourly wages and benefits for Mexican labor were assumed to $5.10 hr. in 2003. CAW average hourly labor cost is estimated to be U S $35.00 per hour based on CAW reported cost. A similar rate was assumed for the international producers. Employment for these companies was taken from the 2003 Harbour Report. International vehicle firms employed 21,400 in Mexican facilities, and 8,170 in Canadian plants in 2002.

[30] About 13,000 in employment was deleted from Big Three employment for these purposes.

[31] Government sources are the following:Instituto Nacionalde Estadística Geografía e Informática (INEGI), Banco de Información Económica, Accessed 3/18/04; Industry Canada, Canada's Automotive Industry 2003,strategis.ic.gc.ca, Accessed 3/23/04; Bureau of Labor Statistics, Current Employment Statistics Survey, Accessed 3/25/04. The actual data is contained in Appendix F

accounted for 20 percent of total employment. 2001 employment levels for the parts sectors of Mexico and Canada are used. The 2003 total is used for the U.S. industry.

2. It was also assumed that except for the GM and Ford spin-offs, 80 percent of remaining supplier sector employment was located in the first tier of supply. This estimate is based on a study performed by CAR using LEEDS U.S. Census data in 1999. In effect, 80 percent of total supplier employment was reported by the U.S. Census to be located in firms of 500 or more in employment which is assumed in this estimation to be 1st tier employment. In order words, this estimation does not use the classic definition of 1st tier as a final stage of supply to the motor vehicle firm, but classifies all employees of large suppliers (over 500 employees) as 1st tier.
3. Further, almost all of the American Axle, Delphi and Visteon hourly labor forces were assumed as 1st tier and included in the hours' estimation for the Big 3. An average hourly rate of $55.40 was assumed for these workers.
4. The U.S. government employment number from 2. above was netted for American Axle, Delphi, and Visteon manufacturing employment and with Canadian 1st tier parts employment distributed between the Big 3 and the internationals on the basis of North American share of production in 2003. An average hourly rate of $29.00 was assumed for U.S. workers and US $25.00 for Canadian workers.
5. Also, 35,000 Japanese and European auto workers were added to the internationals first tier totals to represent the value of parts imports (now falling) still sourced from Japan and Europe. About 12,000 European auto workers were added to the Big Three's 1st tier totals to represent the value of parts imports sourced from Europe in new N. American vehicle production. All of these workers were assumed to cost $35.00 per hour. About $13.5 billion in auto parts were imported in the U.S. from Japan in 2003 – and about $9.8 billion from Europe.
6. Finally, about 17 percent of total Mexican automotive parts employment of 390,000 in 2001 are included as first tier employment – or a smaller percentage than U.S. or Canadian supplier employment (80 percent). This Mexican 1st tier employment total was also netted for aftermarket employment before distribution between the Big Three (90 percent) and the internationals (10 percent). Mexican auto parts workers were assumed to costs $3 per hour.
7. Total hours for each parts worker is assumed to be 2,080 per year (52 weeks x 40 hours). The sum total of hours for parts workers distributed between the Big 3 and the Internationals was divided by the two company groups' 2003 N. American production. (See Appendix D for exact calculations)

Finally, the following steps are taken in the estimation of 2nd tier hours per vehicle in 2003.

1. U.S. and Canadian government estimates of employment for parts production (NAIC 3363) not assigned to 1st tier production is again netted for aftermarket production and exports to countries outside of North America and distributed between Big Three and international forms according to their share of North American production.
2. Remaining first tier U.S. and Canadian parts employees at independent supplier firms were distributed between the Big 3 and the internationals on the basis of North American share of production in 2003. An average hourly rate of $22.00 was assumed for U.S. workers and US $21.00 for Canadian workers.
3. Finally, about 83 percent of total Mexican automotive parts employment of 390,000 in 2001 is included as 2nd tier employment – or a larger percentage than U.S. or Canadian supplier employment (20 percent). This Mexican 2nd tier employment total was also netted for aftermarket employment before distribution between the Big Three (90 percent) and the internationals (10 percent). The same Mexican labor rate, $3 per hour,

is used to determine the cost of this labor.

4. Total hours for each parts worker is assumed to be 2,080 per year. The sum total of hours for 2nd tier parts workers distributed between the Big 3 and the Internationals was divided by the two company groups' 2003 N. American production.

As Table 16 shows, over half of the $21 billion in Mexican automotive parts imported into the United States in 2002 was in four categories: electrical parts and components, parts for interior components such as seats, automotive audio sets, and stamped parts. A detailed breakout of these large categories shows that, except for wire harness and radio/CD player sets, most of the commodities are subassemblies or small parts – traditional output for 2nd tier suppliers.

Table 16: 2002 U.S. Automotive Parts Imports from Mexico by Category

Component Sector	US $ Thousands
Electrical	5,182,763
Interiors	2,696,849
Audio	2,343,319
Stamping, Panels, Structural Components	1,632,837
Engine Parts	1,630,194
Engine Complete	1,200,549
Other (Trailer Parts, Tractor Engines, Other)	990,272
Safety Equipment	919,292
Suspensions & Suspension Parts	681,075
HVAC & HVAC Parts	678,517
Steering & Steering Parts	447,207
Wheels, Tires, & Parts	339,594
Vehicle Glass	311,342
Brakes & Brake Parts	282,887
Drivetrain Complete	260,445
Exhaust System & Parts	204,099
Drivetrain Parts	178,413
Chassis Parts	89,710
Total Value of Imported Vehicle Components	20,069,364

Source: U.S. Customs

The summary chart shown in Figure 14 below is most accurate at the assembly company level. Almost 100 percent of the labor cost difference between the Big Three and the internationals in Figure 14 can be attributed to the two company groups' relative level of labor use and the difference in labor rates. The 10 hour gap in labor hours per vehicle between the Big 3 and the internationals is due to remaining productivity and capacity issues (layoffs, protected status workers, some over-manning) and a slightly higher level of integration at the Big 3. For example, the Big Three still maintain a significant amount of internal powertrain and drivetrain foundry capacity. The internationals tend to buy these products from independent suppliers or from keiretsu subsidiaries.

The assembly company level average hourly labor cost gap of $18 per hour reflects differences in the age of the workers (affecting benefit costs) and the fact that the internationals build a larger proportion of their vehicles in Mexico and Canada (about 29 percent for the internationals and 23 percent for the Big Three). The elimination of the 10 hour gap at the assembly company

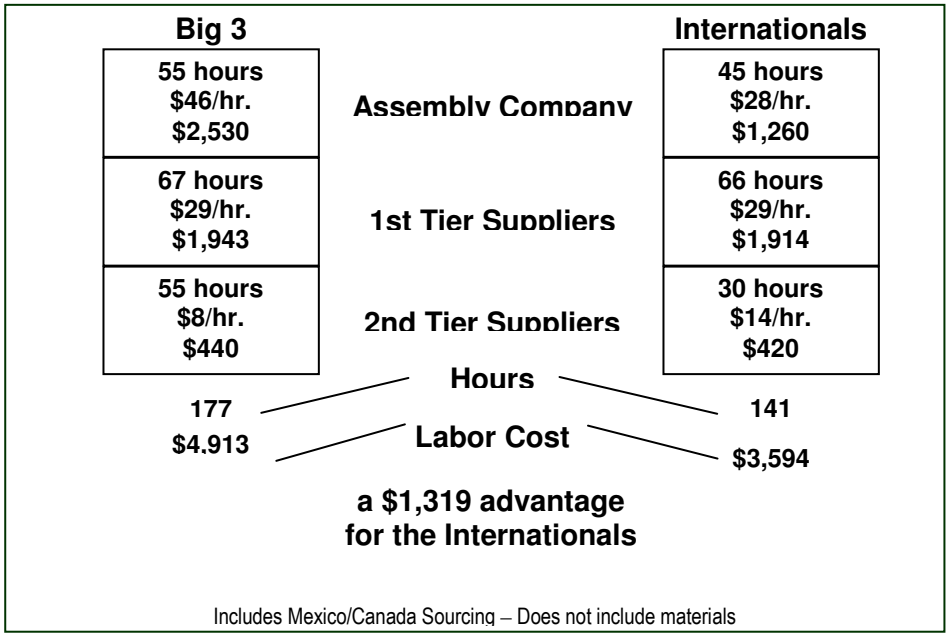
level would lower the labor cost advantage for the internationals by $460 per vehicle, or 35 percent of the total labor cost gap between the Big 3 and the Internationals across the tiers of $1,319. The elimination of the $18 per hour gap in average hourly labor cost between the internationals and the Big Three would eliminate another $810 in the cost difference (at 45 hours per vehicle) or another 61 percent of the difference.

The 1st and 2nd tier estimates in Figure 14 are incomplete due to a lack of coverage. Many other automotive parts manufacturing hours are located in other industries aside from NAIC 3363. All of materials (steel, aluminum, etc.), and most of foundry products used by the automakers are not included in Figure 1. Even so, the two groups of firms appear to be evenly matched at the first tier of supply. However, this is primarily due to the use of similar assumptions in the allocation of independent supplier hours. Enough Mexican parts labor is used by the Big Three at the 1st tier to offset the heavy use of Delphi/Visteon UAW workers and produce a $29 per hour cost similar to the labor cost in parts purchased by the internationals. At the 2nd tier, however, the Big Three capture a labor cost rate advantage ($6 per hour) through their heavy use of Mexican parts sourcing. It should also be mentioned that many other studies of the multi-level labor tier in the Japanese automotive industry indicate a far higher number of labor hours source to the 2nd tier and lower levels.

Though Figure 14 contains numerous assumptions it remains possible to forecast some changes in the automotive labor market of the future. The Big Three will clearly continue to pressure their union for lower employment at the assembly company level. Tables 10 and 12 contain forecasts of Big 3 reductions in UAW labor that range from 31,800 to 47,500 during 2003-2007. At 2,080 hours of effort per year per worker and a forecast of 11.3 million units of N. American production in 2007, the number of hours per vehicle could fall by 5.8 to 8.7 hours a vehicle.[32] The latter reduction of almost 9 hours would give the Big 3 virtual equivalence with the internationals in hours at the assembly company level – but not in labor cost rates. In return, the Japanese international producers at least, will continue to reduce their imports of components from labor-expensive Japan, and heavily increase their use of Mexican-produced automotive parts and whittle away at the Big Three advantage in this area of labor cost. This will set a new stage for negotiating the agreement of 2007 between the UAW and its traditional automotive employers.

[32] Additional improvements in productivity in Big 3 Mexican and Canadian operations can be expected to makeup the remaining 4.2 to 1.3 hours of the total 10 hours.

Figure 14: Estimate of Labor Tiering Cost on a Vehicle: North America in 2003



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Appendix A Labor Agreement List

Labor Agreement List

Company name	City	State	Union	Local
Allied Signal		IN	UAW	
Allied Signal, Inc. Spark Plug Plant	Newark	OH	UAW	533
AmTran	Conway	AR	UAW	1762
Auburn Gear, Inc.	Auburn	IN	UAW	825
Borg Warner/Warner Gear Div.	Muncie	IN	UAW	287
Bosch Braking Systems Div./Robert Bosch Corp.	Ashland, OH; Johnson City, TN		UAW	1910, 2155
Budd Co.	Detroit	MI	UAW	306
Eaton Corp./Clutch Div.	Auburn	IN	UAW	164
Goodrich	Troy	OH	UAW	128
Interec Systems	Bardstown	KY	UAW	2302
International Truck and Engine Company	National agreement		UAW	
Johnson Controls, Inc	Shelbyville	KY	UAW	2926
Lear Corp.	Detroit	MI	UAW	174
Modine Manufacturing Co.	LaPorte	IN	UAW	530
Pall Corp, Pall Trinity Micro	Cortland	NY	UAW	1326
Revere Copper Products Inc.	Rome	NY	UAW	2367
Riverside Seat Co.	Riverside	MO	UAW	710
Trane Company	Lexington	KY	UAW	912
Textron Automotive Co.	Muskegon	MI	UAW	539
TRW, Inc./Commercial Steering Div.	Lebanon	TN	UAW	342
TRW-Sterling Plant	Sterling Heights	MI	UAW	247
Union City Body Co., L.P.	Union City	IN	UAW	494
Vibratech, Inc.	Alden	NY	UAW	850
Simpson Industries	Fremont	IN	UAW	1395
Hitachi Magnetics Corp.	Edmore	MI	UAW	1436

Appendix B – The Sourcing of Big 3 2003 N. American Production

The Sourcing of Big Three
2003 N. American Production

	Units				NA Share		
	Car	Truck	Total		Car	Truck	Total
Chrysler							
U.S.	362,519	1,447,932	1,810,451	70.6%	2.2%	8.9%	11.1%
Canada	140,349	303,175	443,524	17.3%	0.9%	1.9%	2.7%
Mexico	139,578	172,177	311,755	12.2%	0.9%	1.1%	1.9%
Total NA	642,446	1,923,284	2,565,730		3.9%	11.8%	15.7%
Ford							
U.S.	822,903	2,328,224	3,151,127	84.1%	5.0%	14.3%	19.3%
Canada	172,900	288,121	461,021	12.3%	1.1%	1.8%	2.8%
Mexico	85,715	51,097	136,812	3.6%	0.5%	0.3%	0.8%
Total NA	1,081,518	2,667,442	3,748,960		6.6%	16.4%	23.0%
GM							
U.S.	1,386,599	2,506,751	3,893,350	73.4%	8.5%	15.4%	23.9%
Canada	617,645	322,237	939,882	17.7%	3.8%	2.0%	5.8%
Mexico	105,818	362,715	468,533	8.8%	0.6%	2.2%	2.9%
Total NA	2,110,062	3,191,703	5,301,765		12.9%	19.6%	32.5%
Big 3							
U.S.	2,572,021	6,282,907	8,854,928	76.2%	15.8%	38.5%	54.3%
Canada	930,894	913,533	1,844,427	15.9%	5.7%	5.6%	11.3%
Mexico	331,111	585,989	917,100	7.9%	2.0%	3.6%	5.6%
Total NA	3,834,026	7,782,429	11,616,455		23.5%	47.7%	71.2%
International Producers							
U.S.	1,945,013	1,371,708	3,316,721	70.7%	11.9%	8.4%	20.3%
Canada	408,471	290,819	699,290	14.9%	2.5%	1.8%	4.3%
Mexico	586,321	86,432	672,753	14.3%	3.6%	0.5%	4.1%
Total NA	2,939,805	1,748,959	4,688,764		18.0%	10.7%	28.8%
All OEMs							
U.S.	4,517,034	7,654,615	12,171,649	74.6%	27.7%	46.9%	74.6%
Canada	1,339,365	1,204,352	2,543,717	15.6%	8.2%	7.4%	15.6%
Mexico	917,432	672,421	1,589,853	9.8%	5.6%	4.1%	9.8%
Total NA	6,773,831	9,531,388	16,305,219		41.5%	58.5%	100.0%

Transplants			
U.S.	11.9%	8.4%	20.3%
Canada	2.5%	1.8%	4.3%
Mexico	3.6%	0.5%	4.1%
Total NA	18.0%	10.7%	28.8%

Country Share of NA Production			
U.S.	27.7%	46.9%	74.6%
Canada	8.2%	7.4%	15.6%
Mexico	5.6%	4.1%	9.8%
Total NA	41.5%	58.5%	100.0%

Appendix C Assembly Companies

Assembly Companies

US Big 3	
GM	111,941
Ford	71,012
Chrysler	63,146
Total Big 3	270,708
Net for parts	257,708
Hours For All Workers	536,033,482
Hourly Rate	50.70
Total Wages (Billions)	27.18
US Share	76.2%

US Internationals	
Total Internationals[1]	58,427
Net for Parts	58,427
Hours For All Workers	121,528,160
Hourly Rate	35.00
Total Wages (Billions)	4.25
US Share	70.7%

Canada Big 3	
Employment[2]	34,313
Hours For All Workers	71,371,040
Hourly Rate	35.00
Total Wages (Billions)	2.50

Canada Internationals	
Employment[2,3]	8,170
Hours For All Workers	16,993,600
Hourly Rate	35.00
Total Wages (Billions)	0.59

Mexico Big 3	
Employment[2]	22,628
Hours For All Workers	47,066,240
Hourly Rate	5.10
Total Wages (Billions)	0.24

Mexico Internationals	
Employment[2]	21,400
Hours For All Workers	44,512,000
Hourly Rate	5.10
Total Wages (Billions)	0.23

Big 3 North America OEM	
Total Hours	654,470,762
Total Wages (Billions)	29.91
Wage Rate	45.71
Production	11,868,258
Hours Per Vehicle	55.14

Internationals North America OEM	
Total Hours	183,033,760
Total Wages (Billions)	5.08
Wage Rate	27.73
Production	4,034,137
Hours Per Vehicle	45.37

Hours Per Year	2,080

NOTE: Hours are fixed for all workers at 2,080 hours a year per person.

[1] W2 Reported Employment

[2] Employment levels from the Harbour Report

[3] Employment includes CAMI

Appendix D Tier 1

Tier 1

US Big 3	
Total Employment Supplier Sector	624,140
Tier 1 Employment	499,312
Tier 1 Aftermarket Employment	99,862
Delphi	26,393
Visteon	19,760
American Axle	7,315
Employment Spin-off Suppliers	53,468
Spin-off Suppliers Aftermarket Employment	10,694
Employment Less Aftermarket	284,408
Employment Less Spin-off Suppliers	241,634
Hourly Rate	$29.00
Hourly Rate Spin-off Suppliers	$57.00
Hours Less Spin-off Suppliers	502,598,960
Hours Spin-off Suppliers	88,969,920
Wages Less Spin-off Suppliers (Billions $)	14.58
Wages Spin-off Suppliers (Billions $)	5.07
Total Employment	327,182
Total Hours	591,568,880
Total Wages (Billions $)	19.65

US Internationals	
Total Employment Supplier Sector	624,140
Tier 1 Employment	499,312
Tier 1 Aftermarket Employment	99,862
Delphi	26,393
Visteon	19,760
American Axle	7,315
Employment Spin-off Suppliers	53,468
Spin-off Suppliers Aftermarket	10,694
Employment Less Aftermarket	115,041
Employment Less Spin-off Suppliers	72,267
Hourly Rate	$29.00
Hourly Rate Spin-off Suppliers	Not Applicable
Hours Less Spin-off Suppliers	150,316,368
Hours Spin-off Suppliers	Not Applicable
Wages Less Spin-off Suppliers (Billions $)	4.36
Wages Spin-off Suppliers (Billions $)	Not Applicable
Total Employment	157,815
Total Hours	150,316,368
Total Wages (Billions $)	4.36

Canadian Big 3	
Total Employment Supplier Sector	80,230
Tier 1 Employment	64,184
Tier 1 Aftermarket Employment	12,837
Total Employment	36,559
Hourly Rate	$25.00
Total Hours	76,043,149
Total Wages (Billions $)	1.90

Canadian Internationals	
Total Employment Supplier Sector	80,230
Tier 1 Employment	64,184
Tier 1 Aftermarket Employment	12,837
Total Employment	14,788
Hourly Rate	$25.00
Total Hours	30,759,027
Total Wages (Billions $)	0.77

Japan Internationals	
Tier 1 Employment To North America	37,760
Tier 1 Aftermarket Employment	7,552
Total Employment	30,208
Hourly Rate	$35.00
Total Hours	62,832,640
Total Wages (Billions $)	2.20

Appendix D Tier 1 continued

Tier 1

European Big 3	
Tier 1 Employment To North America	21,700
Tier 1 Aftermarket Employment	4,340
Total Employment	12,360
Hourly Rate	$35.00
Total Hours	25,709,466
Total Wages (Billions $)	0.90

European Internationals	
Tier 1 Employment To North America	21,700
Tier 1 Aftermarket Employment	4,340
Total Employment	5,000
Hourly Rate	$35.00
Total Hours	10,399,334
Total Wages (Billions $)	0.36

Mexico Big 3	
Total Employment Supplier Sector	390,000
Tier 1 Employment	66,300
Tier 1 Aftermarket Employment	13,260
Total Employment	47,736
Hourly Rate	$3.00
Total Hours	99,290,880
Total Wages (Billions $)	0.30

Mexico Internationals	
Total Employment Supplier Sector	390,000
Tier 1 Employment	66,300
Tier 1 Aftermarket Employment	13,260
Total Employment	5,304
Hourly Rate	$3.00
Total Hours	11,032,320
Total Wages (Billions $)	0.03

Big 3 North America Tier 1	
Total Hours	792,612,375
Total Wages (Billions $)	22.75
Wage Rate	$28.70
Production	11,868,258
Hours Per Vehicle	66.78

Internationals North America Tier 1	
Total Hours	265,339,689
Total Wages (Billions $)	7.72
Wage Rate	$29.11
Production	4,034,137
Hours Per Vehicle	65.77

NOTE: Hours are fixed for all workers at 2,080 hours a year per person.

Hours Per Year	2,080
Big 3 Share of Tier 1 Employment US, Canada, & Europe	71.2%
Big 3 Share of Tier 1 Employment Mexico	90.0%
Internationals Share of Tier 1 Employment US, Canada, & Europe	28.8%
Internationals Share of Tier 1 Employment Mexico	10.0%

Appendix E Tier 2

US Big 3	
Total Tier 2 Employment	124,828
Aftermarket Related Employment[1]	24,966
Employment	71,102
Hourly Rate	$22.00
Hours for All Workers	147,892,220
Total Wages (Billions $)	3.25

US Internationals	
Total Tier 2 Employment	124,828
Aftermarket Related Employment[1]	24,966
Employment	28,760
Hourly Rate	$22.00
Hours for All Workers	59,821,572
Total Wages (Billions $)	1.32

Canadian Big 3	
Total Tier 2 Employment	16,046
Aftermarket Related Employment[1]	3,209
Employment	9,140
Hourly Rate	$21.00
Hours for All Workers	19,010,787
Total Wages (Billions $)	0.40

Canadian Internationals	
Total Tier 2 Employment	16,046
Aftermarket Related Employment[1]	3,209
Employment	3,697
Hourly Rate	$21.00
Hours for All Workers	7,689,757
Total Wages (Billions $)	0.16

Mexico Big 3	
Total Tier 2 Employment	323,700
Aftermarket Related Employment[1]	64,740
Employment	233,064
Hourly Rate	$3.00
Hours for All Workers	484,773,120
Total Wages (Billions $)	1.45

Mexico Internationals	
Total Tier 2 Employment	323,700
Aftermarket Related Employment[1]	64,740
Employment	25,896
Hourly Rate	$3.00
Hours for All Workers	53,863,680
Total Wages (Billions $)	0.16

Big 3 North America Tier 2	
Total Hours	651,676,127
Total Wages (Billions $)	5.11
Wage Rate	$7.84
Production	11,868,258
Hours Per Vehicle	54.91

Internationals North America Tier 2	
Total Hours	121,375,009
Total Wages (Billions $)	1.64
Wage Rate	$13.50
Production	4,034,137
Hours Per Vehicle	30.09

NOTE: Hours are fixed for all workers at 2,080 hours a year per person.

[1] Aftermarket Employment represents 20% of total employment.

Hours Per Year	2,080
Big 3 Share of Tier 2 Employment US & Canada	71.2%
Big 3 Share of Tier 2 Employment Mexico	90.0%
Internationals Share of Tier 2 Employment US & Canada	28.8%
Internationals Share of Tier 2 Employment Mexico	10.0%

Appendix F: All Employees – US NAIC 3363

	Motor vehicles	Automobiles and light trucks	Automobiles	Light trucks and utility vehicles	Motor vehicle bodies and trailers	Motor vehicle bodies	Motor vehicle parts	Motor vehicle gasoline engine and parts	Motor vehicle electric equipment	Motor vehicle steering and suspension parts	Motor vehicle brake systems	Motor vehicle power train components	Motor vehicle seating and interior trim	Motor vehicle metal stamping	Other motor vehicle parts	All other motor vehicle parts
	CEU3133610001	CEU3133611001	CEU3133611101	CEU3133611201	CEU3133620001	CEU3133621101	CEU3133630001	CEU3133631001	CEU3133632001	CEU3133633001	CEU3133634001	CEU3133635001	CEU3133636001	CEU3133637001	CEU3133639001	CEU3133639901
1990	271.4	238.8	171.3	67.4	129.8	63.3	653	81.1	119	40.3	36.8	75.5	51.8	99.7	148.8	133.2
1991	258.4	228	163.8	64.2	120.3	59.2	638.9	80	114.7	40.3	36.6	75.7	50.6	93.2	147.8	133
1992	259.9	225.1	161.5	63.6	126	59.1	661.2	81.7	116.1	42.3	38.2	79.3	52.3	97.1	154.3	139.1
1993	263.7	225.1	161.5	63.6	136.3	61.4	677.8	83.2	117.4	43.5	39.4	81.6	54.5	99.8	158.6	143.1
1994	281.5	238.7	171.2	67.4	151.4	66.1	735.6	90.8	125.7	47.8	43.2	89.6	58.2	106.6	173.7	157
1995	294.7	251.3	180.3	71	159.9	70.2	786.9	97.2	129.7	51.9	46.8	97.3	61.5	114.7	187.8	170
1996	285.3	241.9	173.5	68.3	155.1	71	799.9	99.5	128.9	53.3	48.1	99.9	62.2	115.6	192.4	174
1997	286.8	244.6	175.3	69.3	158.2	73.3	808.9	101.9	127.8	54.8	49.4	102.7	62.1	113.1	197.1	179.1
1998	283.6	235.1	168.1	67	169.7	76.1	818.2	103	129.4	54.1	49.6	103.9	64.8	114.2	199.3	181.3
1999	291.3	236.7	169.8	66.9	184.2	80.4	837.1	104.3	133.6	55.6	50.1	104.2	68.1	120.6	200.7	181.8
2000	291.4	237.4	170.3	67.1	182.7	81.8	839.5	104.2	133.6	55.7	50.1	104.3	68.9	121.3	201.5	182.1
2001	278.7	236.4	168.6	67.8	159.4	75.8	774.7	96.7	120.1	51.5	46.6	95.7	64.9	111.6	187.5	169.7
2002	265.4	232.5	158.7	73.8	152.2	68.3	733.6	93	110.1	47.4	45.3	91.7	62	105.5	178.5	163.5
2003	267.5	236.2	156.8	79.4	151.3	60.7	707.4	85.6	104.1	43.7	46	93	59.4	102.9	172.7	158.6

All Employees – Canada NAIC 3363

	Transportation Equipment Manufacturing	Motor Vehicle Manufacturing	Automobile and Light-Duty Motor Vehicle Manufacturing	Motor Vehicle Body and Trailer Manufacturing	Motor Vehicle Body Manufacturing	Motor Vehicle Parts Manufacturing	Motor Vehicle Gasoline Engine and Engine Parts Manufacturing	Motor Vehicle Electrical and Electronic Equipment Manufacturing	Motor Vehicle Steering and Suspension Components (except Spring) Manufacturing	Motor Vehicle Brake System Manufacturing	Motor Vehicle Transmission and Power Train Parts Manufacturing	Motor Vehicle Seating and Interior Trim Manufacturing	Motor Vehicle Metal Stamping	Other Motor Vehicle Parts Manufacturing
	(NAICS 336)	(NAICS 3361)	(NAICS 33611)	(NAICS 3362)	(NAICS 336211)	(NAICS 3363)	(NAICS 33631)	(NAICS 33632)	(NAICS 33633)	(NAICS 33634)	(NAICS 33635)	(NAICS 33636)	(NAICS 33637)	(NAICS 33639)
1990	209,804	51,153	45,773	12,764	5,866	75,923	11,879	5,854	5,630	6,129	5,689	9,247	8,789	22,706
1991	194,052	51,500	46,670	9,721	4,660	67,628	7,060	4,608	4,392	5,400	8,014	9,016	8,867	20,271
1992	197,870	51,658	46,539	9,053	4,471	72,295	7,430	4,354	4,784	6,009	7,903	8,246	11,408	22,161
1993	191,404	51,321	45,294	9,612	4,662	73,227	7,945	4,265	5,084	6,305	8,507	7,712	13,077	20,332
1994	197,645	51,577	44,296	11,312	5,290	76,647	8,484	4,289	5,215	6,224	7,689	9,442	13,572	21,732
1995	213,512	54,104	45,618	13,072	5,585	84,940	9,819	4,492	6,088	6,106	9,078	9,814	15,680	23,863
1996	220,102	50,123	42,699	14,982	6,466	86,702	10,729	4,602	5,996	6,448	9,237	10,716	15,611	23,363
1997	226,053	50,015	40,932	16,831	7,818	92,368	10,295	6,502	6,275	7,088	10,578	11,765	16,447	23,418
1998	235,009	51,440	41,846	17,502	7,487	94,264	10,227	6,565	6,616	7,671	11,090	13,130	16,133	22,832
1999	241,846	54,785	43,059	18,142	7,655	96,159	10,707	6,811	5,530	7,512	12,554	12,760	18,166	22,119
2000	235,691	52,190	41,822	19,413	8,951	90,444	10,897	6,733	4,131	7,358	11,648	13,800	15,225	20,652
2001	229,788	49,891	42,930	18,424	8,610	92,041	11,110	6,886	4,912	6,840	10,930	10,589	15,525	25,249

Mexico Auto Parts Manufacturing Employment

	Vehicle Manufacturers	Components Industry	Maquiladora Components (Included in Components)	Total Automotive Industries
1992	60,000	285,000	126,000	345,000
1993	55,000	258,000	101,000	313,000
1994	50,000	256,000	103,000	306,000
1995	42,000	253,000	119,000	295,000
1996	44,000	280,000	136,000	324,000
1997	49,000	320,000	159,000	369,000
1998	54,000	356,000	173,000	410,000
1999	57,000	377,000	189,000	434,000
2000	60,000	414,000	211,000	474,000
2001	57,000	390,000	199,000	447,000