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NHTSA Technical Report**

**January 2001**

# **Evaluation of the American Automobile Labeling Act**

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| 16. Abstract<br><p>Congress passed the American Automobile Labeling Act (AALA) to help consumers in the selection of new vehicles by providing information about the country of origin of vehicles and their parts. Passenger vehicles manufactured after October 1, 1994 must have labels specifying their percentage value of U.S./Canadian parts content, the country of assembly, and countries of origin of the engine and transmission.</p> <p>The evaluation is based on a consumer survey to see if new-vehicle purchasers know about the labels, understand them, and/or use them to help select a vehicle; manufacturer and dealer surveys to learn about their response to the labels; and statistical analyses of the actual trends in U.S./Canadian parts content in new motor vehicles after 1994.</p> <p>Over 75 percent of consumer survey participants, even those that care deeply about "buying American," were unaware of the existence of the AALA labels. Many participants who did read the label said they used the country-of-assembly information, but none said they used the numerical U.S./Canadian parts content score or the engine/transmission information. Overall U.S./Canadian parts content in new cars and light trucks dropped from 70 percent in model year 1995 to 67.6 percent in 1998; however, it increased from 47 to 59 percent in transplants while dropping from 89 to 84 percent in Big 3 vehicles. The trends in parts content are undoubtedly influenced by the 1995 U.S.-Japan Agreement on Autos and Auto Parts and the North American Free Trade Agreement (NAFTA).</p> |                                                             |                                                                                                                                                          |           |
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## EXECUTIVE SUMMARY

The American Automobile Labeling Act (AALA) was enacted in October 1992 in order to aid potential purchasers in the selection of new passenger motor vehicles by providing them with information about the country of origin of vehicles and their parts. The AALA provides that new passenger cars, pickup trucks, vans and sport utility vehicles manufactured on or after October 1, 1994 have labels specifying the percentage value of the U.S./Canadian parts content of each vehicle, the country where the vehicle was assembled, and the countries of origin of its engine and transmission. On July 21, 1994, the National Highway Traffic Safety Administration (NHTSA) published a new regulation to implement the AALA (Part 583 of Title 49 of the *Code of Federal Regulations*).

The Government Performance and Results Act of 1993 and Executive Order 12866 require agencies to evaluate their existing regulations to see if they are achieving their objectives and to assess their impacts. This report evaluates the AALA from two aspects.

First, since AALA is an information program, NHTSA surveyed 646 consumers in 1998 who had bought or leased a new vehicle during the past six months or were planning to buy or lease within the next three months to find out what percentage had heard of the labels, read them, understood them, and/or used them to help select a vehicle. Because if nobody reads, or nobody understands, or nobody uses the labels, they are not achieving their objective of providing information to potential purchasers. The survey investigated how many consumers think the country of origin of vehicles/parts is critically important information and if these consumers in particular are reading and using the labels to assist their purchasing decisions. NHTSA also surveyed manufacturers and dealers to learn about their activities and costs to produce and disseminate the labels.

The principal finding was a disconnect between consumers' ignorance of the labels and their belief in the importance of buying a U.S./Canadian product. The great majority of consumers were unaware of the existence of the labels, only 7 percent had read the label at a dealership, and not a single person explicitly stated they had used the numerical parts-content score on the AALA label to comparison-shop among make-models according to their percentages of U.S./Canadian parts content. In fact, the only data on the label that a substantial number of consumers called influential was the country of final assembly. (Actually, country-of-assembly information was available to consumers before the AALA, but not necessarily in a standardized and conveniently accessible form like the AALA labels.)

Yet, one-sixth of the survey participants, a proportion that would extrapolate to 2,500,000 new-vehicle sales per year in the United States, rate it critically important that vehicles be made in the U.S. or Canada and, more generally, always try to "buy American" when they go to a store. But even this group is no more cognizant of the labels than the average consumer. They mostly "buy American" simply by acquiring any Big 3 vehicle assembled in North America. They are not using the numerical parts-content scores to comparison-shop for models with the highest U.S./Canadian parts content.

Second, the report statistically analyzes sales data to track the share of U.S./Canadian parts and assemblies in new vehicles during 1994-98. Did it rise or fall? How do trends in motor vehicles compare to other consumer products such as radios or refrigerators? Did make-models that increased U.S./Canadian parts content experience, on the average, higher or lower sales?

In this context, however, it is important to recognize that well before the AALA, in fact since the 1960's, a series of laws, regulations, international agreements, incentives and economic conditions have motivated foreign-based manufacturers to transplant some of their assembly and parts facilities to North America. Above all, a 1995 U.S.-Japan Agreement on Autos and Auto Parts explicitly aimed to increase U.S. parts content in the transplant vehicles of Japanese-based companies. These market analyses just tell us what actually happened to vehicle sales in 1995-98. They will not tell us to what extent, if any, AALA labels influenced the observed trends.

The introduction of AALA labels in model year 1995 was not followed by a resurgence of U.S./Canadian parts content in the overall new-vehicle fleet, but rather a modest decline from an average of 70 percent in model year 1995 to 67.6 percent in model year 1998. The net effect, however, conceals two trends working in opposite directions.

Transplant vehicles (assembled in North America by foreign-based manufacturers) increased their proportion of U.S./Canadian parts from 47 to 59 percent and reduced their content of overseas parts. At first glance, that could be a response to the labels. But the strong, explicit terms of the 1995 U.S.-Japan Agreement and the current dearth of consumer interest in AALA's numerical parts-content scores intuitively suggest that the Agreement and earlier actions have had more influence than the AALA labels. (However, the parts-content scores on the AALA labels have helped Federal agencies monitor progress under the U.S.-Japan Agreement.)

The Big 3 reduced U.S./Canadian parts content from 89 to 84 percent in 1995-98, apparently by sourcing or purchasing more parts in Mexico. The net shift, in essence, is largely from overseas countries to Mexico, a plausible development given the North American Free Trade Act (NAFTA).

In 1992-98, unprecedented prosperity and a strong dollar in the United States were associated with increases in net imports for most consumer goods, such as refrigerators, carpets, or furniture. The automotive industry, with programs such as AALA, the U.S.-Japan Agreement, etc. did not massively differ from the economy-wide pattern, but the growth in import dependence for motor vehicles and parts was just a bit smaller than the average for other consumer goods.

Here are the principal findings of the evaluation, followed by a list of conclusions, a synopsis of the impact of AALA to date, and possible future strategies to enhance consumer awareness and use of AALA information - or to reduce the burden of AALA.

## CONSUMERS' AWARENESS AND INFLUENCE BY THE AALA LABELS

- In a survey of 646 people who had bought or leased new vehicles during the past 6 months or were planning to do so within 3 months:
  - 23%\* knew of the existence of the AALA label
  - 15%\* said they had seen an AALA label
  - 7%\* had read the label at a dealership
  - 5%\* said they were influenced by the label to any degree whatsoever
  - 2%\* were moderately or strongly influenced by the label because it identified the vehicle's country of assembly
  - nobody said they used the labels to comparison-shop among make-models according to their percentages of U.S./Canadian parts content
- Dealers concurred that the country-of-assembly is the information on the AALA label most important to consumers.

## CONSUMERS' UNDERSTANDING OF THE AALA LABELS

- Among the 41 people who had read the label at a dealership:
    - 86% thought it was "very easy" or "somewhat easy" to understand
- However, only
- 35% correctly identified that Canadian parts were included in the numerical parts content score, whereas
  - 23% mistakenly believed that Mexican parts are included in this score

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\* The percentages in this table are based on the full set of 646 participants and they are not additive. Each group is a subset of all the preceding groups. For example, 5 percent of the 646 participants said they were influenced by the label to any degree whatsoever, and all of these had also read the label at a dealership, seen it, and knew of its existence (i.e., belonged to all three preceding groups).

## CONSUMERS' KNOWLEDGE OF WHERE THEIR OWN VEHICLE WAS ASSEMBLED

- 94% of purchasers of Big 3 vehicles assembled in the U.S. or Canada correctly identified them as assembled in the U.S. or Canada (only 1% thought they were assembled overseas and 5% didn't know).
- 81% of purchasers of vehicles assembled overseas correctly identified them as assembled overseas, although 17% named the wrong country (11% thought they were assembled in the U.S. or Canada and 8% didn't know).
- but only 54% of purchasers of transplants correctly identified them as assembled in the U.S. or Canada (26% thought they were assembled overseas and 20% didn't know).

## IMPORTANCE OF U.S./CANADIAN ASSEMBLY AND CONTENT TO CONSUMERS

- Survey participants rated from 0 to 100 the importance of various factors in selecting a new vehicle. The average new-vehicle customer considers "Made in the U.S./Canada" (43) less important than most of the other factors typically considered decisive in selecting a vehicle: e.g., reliability (93), safety (85), price (76), styling (70).
- Purchasers of Big 3 vehicles consider "Made in the U.S./Canada" (57) about as important as a vehicle's optional equipment (58), fuel economy (57) and cargo capacity (59), but less decisive than its reliability (93), drive quality (90), safety (84), size (76), price (72), or styling (72).
- Purchasers of transplant vehicles consider "Made in the U.S./Canada" (26) nearly the least important factor. Buyers of import vehicles consider it even less important (11).

## THE STAUNCH "BUY AMERICAN" MARKET SEGMENT

- One-sixth of the survey participants considered "Made in the U.S./Canada" critically important (100 rating) for their new vehicle and, more generally, always try to "buy American" when they go to a store.
- This staunch "buy American" group had recently bought 96 percent Big 3 vehicles assembled in the United States, Canada or Mexico and 4 percent transplants assembled in the United States. None had bought an overseas import.
- Only 20 percent of this group knew of the existence of the AALA label, and only 9 percent had read it at a dealership. Thus, most of them bought a car assembled in North America without consulting the label or ascertaining the U.S./Canadian parts content.

## POTENTIAL INFLUENCE OF THE LABELS

- In the survey, 56 percent of those who had not heard of the label said that now that it had been explained to them it would influence their future purchase of a vehicle.

## DISSEMINATION OF THE LABELS

- At this time (2000), summaries of label information - e.g., tables that list the make-models in each vehicle class by U.S./Canadian parts content - are not available to consumers via the news media or the Internet.
- Only six of the 646 vehicle purchasers had the AALA label pointed out and explained to them by a salesperson. Only one said it was an important part of the sales presentation.
- Only 2 percent of dealers said their sales staff provides label information to the customers without being asked.
- Two of the 21 manufacturers produced brochures explaining the labels in 1994. Both discontinued the brochures, citing lack of consumer interest.
- 19 manufacturers said they had never encouraged or required dealers to make customers aware of the AALA label.
- 51 percent of dealers said that manufacturers provided them with no guidelines or materials for training their staff to explain the labels.

## COST OF AALA TO THE MANUFACTURERS

- Manufacturers reported they had spent a cumulative total of \$37.9-47.5 million to implement the AALA through September 1998, including start-up and recurring costs.
- Since 60 million passenger vehicles were sold from October 1994 through September 1998, that amounts to \$0.63-0.79 per vehicle, including start-up. The cost of operating and maintaining the AALA, excluding start-up, is estimated to be \$0.10-0.30 per vehicle.

## PERCENTAGE OF U.S./CANADIAN PARTS CONTENT IN NEW VEHICLES

- The value-weighted average U.S./Canadian parts content in new passenger vehicles registered in the United States, by model year, was as follows:

|                         | 1995      | 1998        |
|-------------------------|-----------|-------------|
| <b>All new vehicles</b> | <b>70</b> | <b>67.6</b> |
| Big 3                   | 89        | 84          |
| Transplants             | 47        | 59          |
| Imports from overseas   | 4         | 4           |

- Overall U.S./Canadian content dropped from 70 percent in model year 1995 to 67.6 percent in 1998.
- Big 3 vehicles, on the average, have substantially higher U.S./Canadian content than transplants (vehicles assembled and sold in North America by foreign-based companies), and transplants' content is much higher than imports' (vehicles assembled overseas by foreign-based companies).
- Big 3 vehicles are using fewer U.S./Canadian parts and more Mexican parts.
- Transplants have substantially increased U.S./Canadian parts and reduced overseas parts.
- Only one manufacturer stated that parts-content information labels influenced them to shift any operations from one country to another (and that company did not substantially increase U.S./Canadian content in 1995-98).

## PERCENT OF NEW VEHICLES ASSEMBLED IN THE UNITED STATES OR CANADA

- The percent of new vehicles registered in the United States, by country of assembly, in model year 1994, just before the AALA and in model year 1998, was as follows:

|                         | 1994 | 1998 |
|-------------------------|------|------|
| United States or Canada | 84.8 | 83.2 |
| Mexico                  | 2.2  | 4.1  |
| Overseas                | 13.0 | 12.7 |

- More vehicles sold in the United States are being assembled in Mexico, and proportionately fewer in the U.S./Canada or overseas.

- The percent shares of new-vehicle registrations in the United States for Big 3, transplants and imports in model year 1994, just before the AALA and in model year 1998, were:

|                                | 1994        | 1998        |
|--------------------------------|-------------|-------------|
| <b>Big 3</b>                   |             |             |
| Assembled in U.S./Canada       | 71.0        | 67.0        |
| Assembled in Mexico            | 1.8         | 2.8         |
| Imports from overseas          | <u>.5</u>   | <u>.2</u>   |
|                                | 73.3        | 70.0        |
| <b>Foreign-based companies</b> |             |             |
| Assembled in U.S./Canada       | 13.8        | 16.2        |
| Assembled in Mexico            | .4          | 1.3         |
| Imports from overseas          | <u>12.5</u> | <u>12.5</u> |
|                                | 26.7        | 30.0        |

- The Big 3 lost some market share to foreign-based companies in model years 1994-98.
- “Transplants” assembled in North America accounted for the entire gain by the foreign-based companies.
- Big 3 and foreign-based companies both increased exports from Mexico to the U.S.
- “Captive imports” from overseas by the Big 3 captured a negligible share of the market in 1994-98.

## CARS VS. TRUCKS

- **U.S./Canadian parts content** (value-weighted averages), by vehicle type:

|                        | 1995 | 1998 |
|------------------------|------|------|
| Passenger cars         | 64   | 60   |
| Pickup trucks          | 83.3 | 83.1 |
| Vans                   | 85.5 | 80.5 |
| Sport utility vehicles | 70   | 69   |

- Pickup trucks and vans have higher U.S./Canadian content than cars and SUVs.
- Pickup trucks and SUVs came closest to maintaining their levels of U.S./Canadian content from 1995 to 1998.
- **Market shares** (percent of new vehicles registrations), by vehicle type and model year:

|                        | 1994 | 1998 |
|------------------------|------|------|
| Passenger cars         | 58.3 | 53.4 |
| Pickup trucks          | 20.2 | 17.9 |
| Vans                   | 10.7 | 11.0 |
| Sport utility vehicles | 10.8 | 17.7 |

- The market shifted primarily from cars to SUVs
- Pickup trucks and vans had smaller changes in market share.
- Since cars and SUVs have similar U.S./Canadian content, the net impact of the shift from cars to SUVs on overall U.S./Canadian content was negligible.
- **Country of assembly** (value-weighted percent of new-vehicle registrations), by vehicle type and model year:

|                        | 1994 | 1998 |
|------------------------|------|------|
| Passenger cars         |      |      |
| U.S./Canada            | 75.5 | 73.9 |
| Mexico                 | 2.6  | 3.6  |
| Overseas               | 21.9 | 22.5 |
| Pickup trucks          |      |      |
| U.S./Canada            | 95.6 | 92.3 |
| Mexico                 | 1.0  | 7.3  |
| Overseas               | 3.5  | .4   |
| Vans                   |      |      |
| U.S./Canada            | 96.6 | 97.7 |
| Mexico                 | -    | -    |
| Overseas               | 3.4  | 2.3  |
| Sport utility vehicles |      |      |
| U.S./Canada            | 84.6 | 78.5 |
| Mexico                 | -    | 2.4  |
| Overseas               | 15.4 | 19.1 |

- The overwhelming majority of pickup trucks and vans are assembled in North America. As a consequence, they also have more U.S./Canadian parts content than cars and SUVs.
- Imports from overseas are primarily cars and SUVs - hardly any pickup trucks by 1998.
- Exports of pickup trucks and SUVs from Mexico to the United States increased dramatically from 1994 to 1998.
- Tariffs on pickup trucks undoubtedly discouraged imports from overseas, whereas NAFTA stimulated exports from Mexico to the United States.

## IMPORT DEPENDENCE IN MOTOR VEHICLES COMPARED TO OTHER INDUSTRIES

The Department of Commerce publishes annual statistics on U.S. production, consumption, exports and imports in various industries. Their statistics are not directly comparable to the numerical scores on the AALA labels (which include Canada, for example). They indicate that:

- Net import dependence in finished motor vehicles was 21.80 percent in 1992, before AALA and 23.11 percent in 1998, an increase of 1.31 percentage points.
- Net import dependence for 27 non-automotive consumer products (unaffected by AALA) was 7.34 percent in 1992 and 11.55 percent in 1998, an increase of 4.21 percentage points.
- In other words, the growth in import dependence for motor vehicles was somewhat less than the average for other industries unaffected by the AALA, the U.S.-Japan Agreement on Autos and Auto Parts, etc.

## RELATIONSHIP BETWEEN U.S./CANADIAN PARTS CONTENT AND SALES

- Make-models that increased their U.S./Canadian parts content from one model year to the next experienced, on the average, a slight gain in sales.
- No claim of a cause-and-effect relationship is made here. The analysis merely describes what happened to sales of make-models that increased U.S./Canadian parts content.

## CONCLUSIONS

- Most consumers are unaware of the existence of the AALA labels.
- A sizable proportion of those who know about the labels are influenced by the country-of-assembly information, but few make use of the numerical parts-content score, or the engine and transmission information.
- Even those consumers that care deeply about U.S./Canadian parts content and assembly do not rely extensively on the AALA labels to pinpoint the make-models with high U.S./Canadian content. Instead, they simply buy Big 3 vehicles.
- The manufacturers and their dealers rarely use the AALA information as a selling point.
- More extensive dissemination, such as tables that conveniently list the make-models in each vehicle class by U.S./Canadian parts content, could increase consumers' awareness of the AALA data. It is unknown to what extent, if any, that might influence their purchasing decisions.
- Even consumers who have read the AALA label are often unaware that its numerical score includes Canadian parts but excludes Mexican parts.
- The introduction of AALA labels in model year 1995 was not followed by a resurgence of U.S./Canadian parts content or a massive shift from overseas imports to vehicles assembled in North America (or vice-versa).
- Nevertheless, data from the Department of Commerce suggest that the growth in import dependence for motor vehicles during 1992-98 was somewhat less than the average growth in import dependence for other consumer products unaffected by AALA, the U.S.-Japan Agreement on Autos and Auto Parts, etc.
- Transplant vehicles substantially increased their U.S./Canadian parts content during 1995-98 and a few make-models reached levels that rival some Big 3 vehicles. It is unknown to what extent, if any, the AALA labels contributed to the increase, but, intuitively, the U.S.-Japan Agreement and earlier actions seem to have been the main influences.
- Much of the public is still unaware that transplants are assembled in North America and contain significant proportions of U.S./Canadian parts.
- The Big 3 and some foreign-based manufacturers stepped up parts and assembly operations in Mexico after the inception of NAFTA. This has slightly reduced average U.S./Canadian parts content.
- Make-models that increased U.S./Canadian parts content did not suffer in the marketplace.

## SYNOPSIS: IMPACT OF THE AALA IN 1995-98

The evaluation suggests that the AALA has had two definite and one doubtful impact. First, many of the consumers who read the AALA labels at the dealership find them convenient and influential for identifying in what country a vehicle was assembled. Second, Federal agencies use the parts content scores to monitor progress under the U.S.-Japan Agreement on Autos and Auto Parts. The doubtful impact is that the labels may have contributed to the increase of U.S./Canadian content in transplants during 1995-98: while this increase certainly took place, the role of the labels is doubtful - given that the U.S.-Japan Agreement on Autos and Auto Parts, and earlier measures, seem to have been quite a bit more influential. However, two current shortcomings of the AALA are: (1) Most consumers don't know the AALA labels exist. (2) Even those who know of the labels rarely use the numerical parts-content scores or the information about engines and transmissions.

## POSSIBLE FUTURE ALTERNATIVES

- (1) Expand public information and education: Explore potential strategies to disseminate the AALA information more extensively to the public in convenient formats - e.g., via the Internet, listing make-models within the various vehicle classes by percent U.S./Canadian content. If market research such as focus groups indicates a strategy(s) really promises to increase consumer awareness and ultimately affect purchase decisions, implement that strategy(s).
- (2) Leave the program unchanged: The program would continue to supply a modest proportion of consumers with country-of-assembly information they find useful. If the numerical USCan content scores have had any influence on manufacturers to date, that influence could continue. However, it would be unreasonable to expect future increases in consumer awareness of the labels.
- (3) Modify AALA to require only country-of-assembly information (or repeal AALA): Since country-of-assembly is currently the only widely used information on the AALA label, Congress may wish to delete the numerical parts-content score and the information on the engine and transmission. That would largely eliminate AALA's burden on manufacturers and suppliers. Or, Congress could simply repeal the AALA since country-of-assembly information can be obtained elsewhere. This alternative risks losing any impact the numerical score may be having on manufacturers today, or any potential impact if it were more widely known to consumers.

## CHAPTER 1

### INTRODUCTION

The American Automobile Labeling Act (AALA) was enacted in October 1992 in order to aid potential purchasers in the selection of new passenger motor vehicles by providing them with information about the country of origin of vehicles and their parts<sup>1</sup>. The AALA provides that new passenger cars, pickup trucks, vans and sport utility vehicles (SUVs) manufactured on or after October 1, 1994 have labels specifying the percentage value of the U.S./Canadian (USCan) parts content of each vehicle, the country where the vehicle was assembled, and the countries of origin of its engine and transmission. Two examples of AALA labels are illustrated in Figure 1-1. On July 21, 1994, the National Highway Traffic Safety Administration (NHTSA) published<sup>2</sup> a new regulation<sup>3</sup> to implement the AALA.

#### 1.1 Evaluation of the American Automobile Labeling Act

The Government Performance and Results Act of 1993<sup>4</sup> and Executive Order 12866,<sup>5</sup> "Regulatory Planning and Review," require agencies to conduct periodic evaluations of existing regulations and programs to assess if they are effectively achieving their regulatory objectives, or whether modifications are needed to make them more effective or less burdensome. Most NHTSA evaluations address safety regulations and consist of statistical analyses of crash data to estimate actual benefits (lives saved, injuries and crashes prevented) and engineering analyses of costs<sup>6</sup>. The evaluation of a non-regulatory consumer program that disseminates safety information likewise boiled down to a statistical analysis of crash data<sup>7</sup>. But in the case of AALA,

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<sup>1</sup>The American Automobile Labeling Act originally was part of the *Department of Transportation and Related Agencies Appropriation Act for Fiscal Year 1993*, Public Law 102-388, October 6, 1992. Subsequently, the AALA was incorporated into Title II of the *Motor Vehicle Information and Cost Savings Act*, Public Law 103-272, July 5, 1994.

<sup>2</sup>*Federal Register* 59 (21 July 1994): 37294.

<sup>3</sup>*Code of Federal Regulations*, Title 49, General Printing Office, Washington, 1998, Part 583.

<sup>4</sup>*Government Performance and Results Act of 1993*, Public Law 103-62, August 3, 1993.

<sup>5</sup>*Federal Register* 58 (4 October 1993): 51735.

<sup>6</sup>*Evaluation Program Plan 1998-2002*, NHTSA Report No. DOT HS 808 709, Washington, 1998, pp. 19-27.

<sup>7</sup>Kahane, C.J., *Correlation of NCAP Performance with Fatality Risk in Actual Head-On Collisions*, NHTSA Technical Report No. DOT HS 808 061, Washington, 1994.

FIGURE 1-1: SAMPLE AALA LABELS

| PARTS CONTENT INFORMATION                                                                    |       |
|----------------------------------------------------------------------------------------------|-------|
| FOR VEHICLES IN THIS CARLINE:                                                                |       |
| U.S./CANADIAN PARTS CONTENT                                                                  | 65%   |
| MAJOR SOURCES OF FOREIGN PARTS CONTENT:                                                      |       |
| JAPAN:                                                                                       | 15%   |
| FOR THIS VEHICLE:                                                                            |       |
| FINAL ASSEMBLY POINT: XXXXXX, OHIO, USA                                                      |       |
| COUNTRY OF ORIGIN:                                                                           |       |
| ENGINE PARTS:                                                                                | U.S.  |
| TRANSMISSION PARTS:                                                                          | JAPAN |
| NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS. |       |

| PARTS CONTENT INFORMATION                                                                   |         |
|---------------------------------------------------------------------------------------------|---------|
| FOR VEHICLES IN THIS CARLINE:                                                               |         |
| U.S./CANADIAN PARTS CONTENT                                                                 | 15%     |
| MAJOR SOURCES OF FOREIGN PARTS CONTENT:                                                     |         |
| MEXICO:                                                                                     | 45%     |
| GERMANY:                                                                                    | 20%     |
| FOR THIS VEHICLE:                                                                           |         |
| FINAL ASSEMBLY POINT: XXXXXX, MEXICO                                                        |         |
| COUNTRY OF ORIGIN:                                                                          |         |
| ENGINE PARTS:                                                                               | MEXICO  |
| TRANSMISSION PARTS:                                                                         | GERMANY |
| NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS |         |

a non-safety consumer information program, it is not so obvious what needs to be evaluated and what data should be analyzed. First, it is necessary to understand the objectives and goals of the regulation and the legislation that engendered it. It is also noteworthy that AALA does not exist in a vacuum, but is one of a series of laws, regulations, international agreements and incentives that may influence manufacturers' decisions on where to manufacture or source parts and assemblies.

Stated goals of the AALA: The NHTSA regulation establishing the labels says rather neutrally their purpose is "to aid potential purchasers in the selection of new passenger motor vehicles by providing them with information about the value of the U.S./Canadian and foreign parts content of each vehicle."<sup>8</sup> It does not say how they might use the information or how it might affect their selection. Still, even this brief statement is enough to establish an initial evaluation objective: to survey purchasers and find out what percentage have heard of the labels, read them, understood them correctly, and/or used them to help select a vehicle. Because if nobody reads, or nobody understands, or nobody uses the labels, they are not "aiding potential purchasers."

Barbara Mikulski, the Senator from Maryland who introduced the AALA in 1992, stressed that its goal was consumer information, like the "label that tells us how many calories are in [a] can of soup." "This legislation does not attack anyone, nor punish any nation. If people want to buy a foreign car, that is their choice." However, for the "millions of Americans [who] want to buy American cars,...[who] want to practice pocketbook patriotism,...[who believe] American automobile workers build some of the best cars in the world," these "easy-to-read stickers" will "make sure they have the opportunity to know what they are doing."<sup>9</sup>

Thus, another group of evaluation objectives emerges. We should statistically analyze sales trends to see if the share of U.S. parts and assemblies has changed since AALA, and in particular if make-models that increased their U.S. parts content experienced a change in sales. In addition, the purchaser survey should investigate how many consumers staunchly believe in "buying American" and if these consumers in particular are reading and using the labels to assist their purchasing decisions.

Other potential effects of the AALA - the lesson from NCAP: Although AALA is a consumer information program, its most far-reaching effect could be directly on the manufacturers, rather than on consumer behavior or the manufacturers' response to that behavior. In other words, the labels could for various reasons directly encourage the manufacturers to increase or decrease U.S. parts or assemblies even without strong evidence of consumer interest in and response to the labels.

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<sup>8</sup>*Code of Federal Regulations*, Title 49, General Printing Office, Washington, 1998, Part 583.2.

<sup>9</sup>*Congressional Record - Senate* 138 (19 February 1992): 1710. *Congressional Record - Senate* 138 (4 August 1992): 11415.

NHTSA's New Car Assessment Program (NCAP) is a prime example. In 1979 the agency began frontal crash tests of cars and published numerical safety performance scores. While this program and its subsequently developed "star ratings" are now well known, it was not so at first. If a consumer survey similar to the one described in Chapter 6 of this report had been conducted during the early 1980's, it would no doubt have shown that few consumers knew about NCAP scores, and fewer used them to select their new car. Yet NCAP scores and survival rates in actual crashes improved remarkably during those early years: 49 percent of model year 1979-82 cars but just 14 percent of 1983-86 cars had poor NCAP scores. The fatality risk for belted front-seat occupants in head-on collisions decreased by 20 percent<sup>10</sup>. The mere arrival of a government-issued **numerical** score, regardless of consumer awareness or response, apparently galvanized an industry-wide effort to excel on that score. Manufacturers always desire to build safe vehicles, but now the NCAP score gave them a focus and a measuring tool to quantify and compare "safety." In addition to a positive motivation to achieve good scores, it also created negative motivations to avoid poor scores, such as: unwanted government attention to poor performance, discussion in the trade press that could ultimately feed public perceptions of shoddy design, or potential litigation by people involved in crashes.

AALA's numerical parts-content score could have the same effect on manufacturers even if few individual consumers use the information. It is a government-issued score that quantifies and allows explicit comparison of vehicles' North American content. It differs from NCAP in that the "right" direction for the score is not obvious but depends upon whom you ask: everybody wishes for safer vehicles, but not necessarily "more American" vehicles. But manufacturers could still be motivated to avoid scores that might result in unwanted attention or discussion in the trade or popular press.

The implications for the evaluation are to increase the importance of statistical analyses of sales trends to see if the share of U.S. parts and assemblies has changed since AALA. We should ask the manufacturers if the labels were a factor in decisions to locate parts manufacturing or sourcing. Last but not least, if the study shows a strong change in North American parts content in some group of vehicles, even though few consumers pay attention to the numerical parts-content score, those two findings should not be viewed as contradictory.

Three caveats: Three important caveats, however, arise in connection with these evaluation objectives. First, AALA as enacted requires the labels to specify the proportion of **U.S. or Canadian** parts, not just U.S. parts. Since the numerical scores on the AALA labels pertain to U.S./Canadian content, not just U.S. content, so too this report will analyze the trend in USCan content, not U.S. content<sup>11</sup>.

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<sup>10</sup>Kahane (1994), pp. 129-147, especially p. 137.

<sup>11</sup>The International Trade Administration of the U.S. Department of Commerce explains: "For the purposes of the AALA, the United States and Canada are considered to be one source of auto parts. This is due to the high degree of integration between the two markets, originally encouraged by the U.S./Canada Auto Pact of 1965. The AALA was written before the passage of the North American Free Trade Agreement (NAFTA), and therefore does not include Mexican

Second, it is not the mission of NHTSA or the Department of Transportation to persuade consumers to buy American vehicles in preference to those built by our international trading partners, whereas it is very much our mission to make vehicles safer<sup>12</sup>. The analysis results in this report are presented in a spirit of “here is what actually happened to vehicle sales,” leaving readers to judge by their own values if the outcome was favorable or not. That is a contrast to our safety evaluations, where NHTSA most emphatically believes that the more lives saved, the better.

Third, the AALA is just one of many laws, regulations, international agreements and incentives that may influence manufacturers’ decisions on where to manufacture or source parts and assemblies. Sections 1.2 and 1.3 will review those other measures. Although this evaluation will demonstrate some significant trends in recent vehicle sales and parts content, it will in general not attempt to assess how much of the trend, if any, is due to the AALA, and how much is due to other measures or a carryover of earlier trends.

Evaluation questions: Here is a more detailed list of questions addressed by the evaluation:

- What has been the overall trend in the USCan parts content in new vehicles during model years 1995-98, since AALA took effect? Has it increased or decreased? What factors have been influential?
- Has there been a market shift in 1995-98 from vehicles assembled overseas to vehicles assembled in North America (or vice-versa)?
- Have foreign-based companies changed the proportion of USCan parts since 1995 in the “transplant” vehicles they assemble in North America?
- Have the Big 3 companies maintained the proportion of USCan parts since 1995 in their vehicles?
- Did make-models that increased their proportion of USCan parts from one year to the next experience a change in sales?
- How does the import-dependence trend in motor vehicles since AALA compare to the trends in other consumer goods not regulated by AALA, such as radios or refrigerators?
- What percentage of new car purchasers have heard of, seen and read the AALA labels?

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sourced parts as part of “U.S. Content”. [sic] No revision of the AALA has been made since the passage of NAFTA to change the counting methodology to a NAFTA basis.” ([www.ita.doc.gov/auto/aala.html](http://www.ita.doc.gov/auto/aala.html) as of November 17, 1999)

<sup>12</sup>Whereas the National Traffic and Motor Vehicle Safety Act of 1966 (Public Law 89-563) declares that its purpose is “to reduce traffic accidents and deaths and injuries” when it authorizes DOT to prescribe safety standards and carry out needed research, the AALA has no corresponding statement of purpose and simply requires DOT to issue labeling requirements.

- What percentage understand the information on the labels? Do people know that the numerical score includes the proportion of U.S. or Canadian parts, but not Mexican parts?
- How important is the country of origin of a vehicle or its parts to the average purchaser?
- Does the average purchaser know in what country his or her new vehicle was assembled?
- How large is the staunch “Buy American” market segment? What vehicles do they buy? Do they use the labels to assist their purchasing decisions?
- Why have manufacturers moved production facilities or parts sourcing from overseas to North America or vice versa? Were the AALA labels influential?
- What is the cost of the regulation to manufacturers?
- What guidance are manufacturers giving dealers about the AALA labels?
- What information are dealers giving purchasers about the AALA labels? Do sales staff explain the labels or make them part of their sales presentation?

Chapter 2 of this evaluation is a statistical analysis of the sales, prices, USCan parts content and assembly locations of new cars, pickup trucks, vans and SUVs during 1994-98. It tracks the average USCan content and percent assembled in the U.S. or Canada, year-by-year, since AALA took effect: for the entire new-vehicle fleet, and for subgroups such as Big 3, transplants, imports, cars, pickup trucks, etc. Chapter 3 uses regression analyses to investigate if make-models that increased USCan parts content from one model year to the next experienced a change in sales different from make-models with unchanged or decreased USCan content. Chapter 4 analyzes production, imports, exports, and U.S. sales in the motor vehicle industry and in other industries unaffected by AALA, comparing import dependence in autos to other consumer products during 1992-98 - before and after AALA.

Chapters 5-8 document the methods and results of three surveys conducted in late 1998 to assess the effects of the regulation: 1) a telephone survey of recent and potential purchasers of new passenger cars, pickup trucks, vans and SUVs; 2) a letter survey of the Big 3 and foreign-based manufacturers of these vehicles; and 3) a letter survey of new-vehicle dealers.

The “Discussion of Findings” that follows Chapter 8 assembles, compares and reconciles the statistical and survey results to reach overall conclusions about the consumer response and apparent impact of the AALA labels.

## **1.2 Other programs and factors influencing parts content and assembly locations**

Since the 1960's, a series of laws, regulations, international agreements and incentives have attempted to encourage the manufacturing of parts and vehicle assemblies in North America and combat long-term worldwide economic trends that had been increasing imports into the United

States. These measures will now be discussed in more or less chronological order. One of the most recent and important measures, which will be discussed separately in Section 1.3, is the 1995 U.S.-Japan Agreement on Autos and Auto Parts, which began shortly after the AALA labels and was directly aimed at increasing North American parts content in transplant vehicles. The Agreement, as well as the other measures and pre-existing trends described here, are no doubt responsible for much if not all of the post-AALA increase of USCan parts content in transplant vehicles noted in Chapter 2 of this evaluation.

Import dependence trends in the U.S. auto market The United States automobile market, up until the 1970's, was dominated by the Big 3 automakers: General Motors, Ford and Chrysler. Imports accounted for less than 10 percent of the market through 1969<sup>13</sup>. After overseas countries recovered from the devastation of World War II and developed new plants, they caught up with U.S. technology while retaining a cost advantage. Imports rose steadily through 1972. However, the petroleum crises of 1973-74 and 1979-80 greatly accelerated the trend because overseas companies were ready to meet the demand of U.S. consumers for fuel-efficient vehicles while the Big 3 had to retool quickly to produce smaller automobiles. This gave the foreign-based manufacturers additional advantages in the cost and reliability of smaller automobiles. U.S. imports of Japanese automobiles increased from 942 units in 1960<sup>14</sup> to 233,000 in 1970<sup>15</sup> and 2,000,000 by 1980<sup>16</sup>. Foreign-based companies had gained consumer acceptance in the United States and a persistent 20-30 percent share of the new-vehicle market. Even though fuel supplies were again abundant in the 1980's and 1990's, and even though some overseas countries lost their cost advantage relative to the United States, foreign-based companies were able to retain their market share by expanding their production to larger cars and SUVs and, as we shall see, by moving some of their manufacturing and purchasing to North America.

Voluntary Restraint Agreements The petroleum crisis of 1979-1980 and a subsequent business recession in the United States during 1981-82 was followed by distress in the U.S. auto industry. Production of motor vehicles fell 45 percent between 1978 and 1982, and industry employment dropped by 39 percent, from 1,058,000 to 648,000<sup>17</sup>, while the Japanese import share of the U.S. passenger car market rose from 9 percent in 1976 to 22 percent in 1981.

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<sup>13</sup>*MVMA Motor Vehicle Facts & Figures '78*, Motor Vehicle Manufacturers Association, Detroit, 1978, p. 18.

<sup>14</sup>*Motor Vehicle Statistics of Japan*, Japan Automobile Manufacturers Association, Washington, 1984.

<sup>15</sup>*World Motor Vehicle Data, 1980 Edition*, Motor Vehicle Manufacturers Association, Detroit, 1980.

<sup>16</sup>United States Department of Commerce.

<sup>17</sup>Bureau of Labor Statistics, employment series for the "Motor Vehicle and Equipment" industry (SIC 371).

The automobile industry and the labor unions sought relief from rapidly increasing imports, initially without success. In June 1980, the Ford Motor Company and the United Auto Workers filed a joint petition for relief from imports under section 201 of the Trade Act of 1974 with the U.S. International Trade Commission (investigation No. TA-201-44). The petition claimed that the U.S. auto industry was being substantially injured by imports. The Commission determined that the industry was not injured. Next, momentum gained in 1981 for legislation to restrict Japanese imports to 1.6 million units, but this too was not enacted.

However, on May 1, 1981, the Government of Japan's Ministry of International Trade and Industry (MITI) announced a three-year Voluntary Restraint Agreement (VRA), limiting Japanese auto exports to the United States to 1.68 million units during each of the first two years and to about 2.02 million units in fiscal year 1984<sup>18</sup>. On March 1, 1985, President Reagan announced that the United States would not ask the Japanese Government to renew the VRA for 1985; however, on March 28, 1985, the Japanese Government announced that it would impose a limit on annual auto exports to the United States to 2.3 million units. Japan reimposed this limit annually until 1992, when it further reduced its quota to 1.65 million vehicles for the fiscal year ending March 1, 1993<sup>19</sup>. MITI announced in early 1994 (before the AALA and the U.S.-Japan Agreement on Autos and Auto Parts took effect) that they would discontinue the limits<sup>20</sup>.

One important feature of the VRA that undoubtedly spurred the development of transplant factories is that it only applied to vehicles assembled in Japan. Vehicles produced at transplant or joint-venture factories located in the United States did not count toward the VRA, and the Japanese companies were able to sell as many vehicles from these facilities as they wished. Thanks to transplants, Japanese companies eventually could sell as many vehicles as American consumers wanted without even coming close to the limits set by the VRA.

The first transplants and joint ventures The first transplants and joint ventures involved European countries and were at least partly motivated by currency values and local incentives (to be discussed below). Production of automobiles in the United States by foreign-owned manufacturers began with the start-up of Volkswagen of America's plant in Westmoreland, Pennsylvania in 1978. Currency exchange rates made production less costly in the United States than in West Germany. In 1988, following the rebound of the dollar, Volkswagen closed this factory. In late 1980, Renault of France acquired 46.6 percent of American Motors Corporation (AMC). Renault and AMC jointly designed a car that was produced at the AMC Kenosha, Wisconsin assembly plant.

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<sup>18</sup>At a later date, MITI announced a unilateral restriction of exports of vehicles such as four-wheel-drive station wagons and "jeep" type vehicles to the United States (82,500 units) and Puerto Rico (70,000 units).

<sup>19</sup>*U.S. Industrial Outlook 1994*, U.S. Department of Commerce, International Trade Administration, Washington, 1994, p. 35-9.

<sup>20</sup>Maskery, Mary Ann, "Japanese Offer Slight Hike in Parts Buying," *Automotive News*, April 4, 1994, p. 48.

Japan's entrance into the market through U.S. automobile production facilities followed in 1982. Honda of America Manufacturing, Inc. began producing passenger cars at its new plant in Marysville, Ohio and expanded operations in 1989 with another plant in East Liberty, Ohio. In 1989, Honda began manufacturing engines and suspensions at its plant in Anna, Ohio, where it had been manufacturing motorcycles since 1979. In 1999, Honda announced "Honda Manufacturing of Alabama" a new company that will produce engines and an SUV or a minivan (or both) at a new plant in Lincoln, Alabama beginning in 2002.

Pressure for domestic-content legislation In the early 1980's, as imports from Japan increased and Japanese automakers opened manufacturing facilities in the United States, there was concern by the U.S. auto and auto parts industry that foreign-nameplate automobiles have more local content. Legislation was introduced in Congress to require minimum local content by automakers. In 1981, the United Automobile Workers (UAW) launched a campaign to achieve legislation requiring that automakers selling more than 100,000 cars per year in the United States be required to include minimum domestic content percentages in parts and labor. Although none of these bills were enacted, their mere discussion could have influenced foreign-based manufacturers to increase production in the United States.

Three basically identical bills (S.707, H.R. 1234, and H.R. 4115), all subtitled the "Fair Practices in Automotive Products Act," were introduced in 1983 in the 98<sup>th</sup> Congress to "establish domestic content requirements for motor vehicles sold or distributed in interstate commerce in the United States." They called for a U.S. Automobile Industry Advisory Council within the DOT to assist in formulating a strategy to increase the domestic production of automotive products for sale and distribution in interstate commerce. The bills provided for a membership of five consumer representatives on such council.

The bills set forth for all motor vehicle manufacturers which produce over 100,000 motor vehicles for ultimate retail sale in the United States "minimum domestic content ratios" (the domestic value, including labor and parts, of the manufacturer's production costs of all automotive products sold in the United States). The bills established penalties for a vehicle manufacturer who failed to meet the minimum domestic content ratio beginning with the first model year following January 1, 1984. The penalties would reduce imports of vehicles and auto parts by the percentage point difference between the manufacturer's actual and required domestic content.

The bills required all such manufacturers to provide information to the DOT for the purposes of administering this requirement. They required the DOT and the Federal Trade Commission to study the effectiveness and impact of this legislation on the purchase of auto parts, and on employment at dealerships. The bills allowed the Secretary of Transportation to terminate the Act if the Secretary found that injuries to domestic industries had been prevented or remedied. Finally, the bills required the DOT to appoint a government task force to study the impact of currency exchange rates on vehicle manufacturers and the sale of automotive products.

In 1985, the House of Representatives bill H.R. 1050 was introduced in the 99<sup>th</sup> Congress, (but not enacted into law), also called the "Made in America Act." The bill proposed to limit the quantity of imported motor vehicles to 15 percent of the number of motor vehicles (domestic and

foreign) sold in the United States during the prior year, as determined by the Department of Commerce (excluding motor vehicles imported by U.S.-based automobile manufacturers from their Canadian subsidiaries). The bill imposed civil penalties for violations of the import restrictions. The bill required the Secretary of Commerce to report annually to Congress on the impact of this Act, and to terminate the limitations after December 31, 1990 if injury to the domestic industry had been prevented or remedied.

A wave of transplants and joint ventures Starting in 1983, the other Japanese manufacturers followed Honda in establishing transplant factories, or they began to enter into joint ventures with the Big 3. General Motors and Toyota signed a Memorandum of Understanding to build a subcompact car at a former GM plant in Fremont, California. In 1984, New United Motor Manufacturing, Inc. (NUMMI) was formally established as a 50-50 joint venture and began passenger car production. In 1991, NUMMI expanded production to pickup trucks, all of which are sold by Toyota.

In 1983, Nissan opened a plant in Smyrna, Tennessee, to build pickup trucks. Nissan expanded production to passenger cars in 1985 in Smyrna, and began engine production at the plant in 1989. In 1997, Nissan Powertrain Assembly began production of engines and transaxles in Dechard, Tennessee to supply its cars and trucks.

In 1987, AutoAlliance International, Inc., a joint venture between Mazda and Ford, announced the purchase of a Ford manufacturing facility in Flat Rock, Michigan, and began production of passenger cars. Ford increased its 25 percent share in Mazda to 33.4 percent in 1996, and a former Ford executive was named president of Mazda.

In 1988, Toyota opened a car manufacturing plant in Georgetown, Kentucky. In 1989-1991, Toyota expanded production in Kentucky with axles and engines, and since then added minivan production. In 1998, Toyota Motor Manufacturing, Indiana, Inc. began production of full-sized pickup trucks in Princeton, Indiana, and expanded to SUVs. The same year, Toyota Motor Manufacturing, West Virginia, Inc. began production of engines at its new plant in Buffalo, West Virginia. Production of transmissions will be added at this plant in 2001.

In 1988, Diamond-Star Motors Corporation, a joint venture between Mitsubishi and Chrysler (who owned 24 percent of Mitsubishi), began production of passenger cars in Bloomington-Normal, Illinois. In 1995, Mitsubishi purchased Chrysler's share in Diamond-Star Motors and became the sole owner.

In 1989, General Motors of Canada, Inc. and Suzuki Motor Corporation of Japan began production of a passenger car in Ingersoll, Canada, which offered Suzuki the opportunity to access the North American market.

In 1989, Subaru-Isuzu Automotive, a joint venture of Fuji Heavy Industries and Isuzu Motors Limited (GM owned 34.2 percent of Isuzu) began production of passenger cars and a pickup truck in Lafayette, Indiana. GM increased its ownership of Isuzu to 37.5 percent. In 2000,

DMAX Ltd., a GM and Isuzu joint venture, 60 percent owned by Isuzu, will produce engines in Moraine, Ohio.

The consolidation trend continued into the 1990s when Daimler-Benz and Chrysler merged, Ford Motor Co. acquired Volvo's car division, General Motors purchased 50 percent of Saab, Ford purchased Jaguar, and BMW took over Rover. In 2000, DaimlerChrysler purchased 34 percent of Mitsubishi Motors.

Special rules for trucks The Big 3 have long held a higher market share for pickup trucks and vans than for passenger cars. While consumer preference for Big 3 trucks is a factor, long-standing regulations concerning the import of trucks should also be considered. These rules could have influenced Japanese manufacturers to transplant the production of pickup trucks to the United States, more so than SUVs.

In 1962, the United States accused the European Community of unfairly restricting imports of American poultry at the request of the West German poultry industry. Partly because American imports of Volkswagen vans from West Germany were close in dollar value to the lost sales of American chickens exported to Europe, the United States retaliated in 1963 by imposing a 25 percent duty on imports of light trucks<sup>21</sup> - the so-called "chicken tax." Prior to this proclamation, imported trucks had been subject to a tariff of 8.5 percent (and cars, 2.9 percent). The 25 percent tariff has been retained in some form even though the poultry dispute was resolved long ago.

During the 1970s, Japanese manufacturers could avoid the 25 percent tariff by shipping cab-chassis units without the cargo bed, which were assessed a 4 percent import duty. In the United States, a bed was attached to the chassis. However, on May 20, 1980, the Treasury Department ruled that cab-chassis units were trucks for the purposes of tariff classification, and were subject to the 25 percent tariff rate. By then, nearly all imported trucks came from Japan.

Another opportunity for avoiding the 25 percent tariff hinged on the definitions of "trucks" and "passenger vehicles." Subaru installed two seats in a cargo bed and Customs classified the hybrid vehicle as a passenger car with a 2.9 percent tariff rate. In 1987, however, the Isuzu Trooper II four-wheel-drive SUVs imported from Japan were held by Customs officials in U.S. ports while they were stripped of rear seat belts and factory installed carpet in the cargo area. Customs import specialists determined that the Trooper II would have been classified as a passenger car under Isuzu's allocation in the Japanese VRA. The switching of classification by cosmetically altering a passenger car and truck to circumvent the automobile VRA came under increasing scrutiny by Customs officials.

On February 16, 1989, the Treasury Department announced that vans with rear side windows and at least one rear door plus front and rear passenger seats were to be classified as passenger vehicles subject to a 2.5 percent duty. This ruling was to prevent manufacturers from cosmetically changing the classifications of vehicles. SUVs were also classified as passenger vehicles if they had four doors. The new ruling eased the import of vans and SUVs (with four

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<sup>21</sup>Presidential Proclamation 3564.

doors) into the United States while maintaining a high tariff on conventional pickup trucks. As of 1998, few pickup trucks, but large numbers of SUVs are imported into the United States from overseas. As explained above, Nissan and Toyota invested heavily in plants in the United States to build pickup trucks; Mazda and Isuzu sell Big 3-built pickup trucks under license; and Mitsubishi phased out the sale of pickup trucks in the United States.

Incentives The enacted or proposed Federal measures discussed so far spurred transplants indirectly, by regulating imports. However, State and local incentives packages that entail tax abatements, infrastructure improvements and employee training have directly encouraged foreign automakers' investment in U.S. manufacturing facilities.

Today, incentives have tripled since 1978 when Pennsylvania gave Volkswagen an incentive package of \$86 million to locate in a region that was seriously affected by economic downturns. Tennessee followed with similar packages for Nissan, as did Kentucky for Toyota, and Ohio for Honda. In 1992, BMW received \$150 million to locate a plant in Spartanburg, South Carolina, where it builds passenger cars and the new Sport Activity Vehicle. In 1993, Mercedes Benz received commitments from Alabama of \$253 million for its plant in Tuscaloosa, Alabama, where it builds the M-Class SUV. In 1999, Alabama gave an incentive package of \$158 million to Honda to build a new plant in Lincoln, where it will produce minivans or SUVs, or both.

Effects of currency fluctuations Movements in the value of foreign currencies against the dollar significantly affected the decisions of automakers to relocate manufacturing facilities worldwide. Fluctuations in currency exchange rates between the yen and the dollar influenced the shift of foreign-owned production facilities to the United States in the later 1980s.

With the dollar strong and the Japanese yen weak until the mid-1980s, production of automobiles in Japan was cheaper than in the United States. At that time, the Japanese automobiles built in Japan and exported to the United States enjoyed a cost advantage of roughly \$2,000 when compared to a similar U.S.-built auto. Much of this cost advantage is attributed to currency exchange and manufacturing costs.

After 1985, the yen appreciated significantly and operations in the United States held a cost advantage over producing automobiles in Japan and exporting to the United States. Once the cost advantage of producing in the United States was established, the number and scope of foreign-owned operations accelerated. Japanese parts suppliers invested heavily in the United States and relocated to supply the transplant operations. The movement of parts manufacturers to supply the transplant operations has effectively removed foreign-owned manufacturers from the vagaries of currency fluctuations and insulated the automakers and auto parts suppliers from losses attributed to currency swings. Thus, the 1980's decisions to move operations to the United States have a strong momentum of their own, and were not easily reversed even when the yen weakened.

The yen's fall in value relative to the dollar since mid-1995 (from a high of 80 yen to the dollar in mid-1995 to nearly 150 yen/dollar in mid-1998) means that Japanese vehicles and parts imported into the U.S. are once again less expensive, and Japanese auto manufacturers resumed importing

somewhat larger numbers of vehicles, but without reducing their large production of transplants. In the last few years, an economic turnaround in Japan and a stronger yen encouraged Japanese manufacturers to continue investing in the United States.

Opportunities in Mexico All Big 3 automakers and many leading U.S. automotive parts suppliers have manufactured in Mexico for a long time, but exports from Mexico to the United States have only surged in recent years. In the mid- to late 1970s, Big 3 automakers faced increased competition from Japanese automakers and opened production-sharing operations in Mexico to take advantage of the *maquiladora* program. A *maquiladora* is a factory that assembles a product in Mexico from mostly U.S. components and exports most of the assembled product back to the United States. The 1989 Maquiladora Decree (initially called the Border Industrialization Program when it began in 1965) allowed for the duty-free importation of foreign merchandise into Mexico on a temporary basis, where it is assembled, manufactured or repaired and then exported either to the country of origin or to a third country, and allowed for 100 percent foreign ownership. U.S. automotive manufacturers and auto parts suppliers were among the leading users of the *maquiladoras*, taking advantage of lower wage rates, lower overhead and utility costs, and low transportation costs due to proximity to the United States. The *maquiladora* program will formally end under the North American Free Trade Agreement (NAFTA), and *maquiladoras* will operate in the same manner as any other Mexican firm by January 1, 2001.

Exchange rate fluctuations further encouraged automakers to step up operations in Mexico. The devaluation of the Mexican peso on international currency markets in December 1994 and the subsequent slump of the Mexican economy in 1995 resulted in a drop in U.S. exports of automobiles and automotive parts to Mexico, but it had the opposite effect on U.S. imports from Mexico. A healthy economy in the United States enabled automotive producers in Mexico to increase their exports to the U.S. The recent stabilization of the peso along with increased consumer confidence in Mexico is expected to lead to more joint ventures between U.S. and Mexican automotive parts suppliers as they seek to modernize their plants, and presumably, increase exports of autos and auto parts to the United States.

On January 1, 1994, the North American Free Trade Agreement was implemented. NAFTA provides for the elimination of tariff and most nontariff barriers over a 10-year period. NAFTA extends to Mexico the agreements made by Canada and the United States in 1965 and 1989 (see below). NAFTA has enabled U.S. automotive producers to increase and rationalize their manufacturing facilities in Canada and Mexico, improving their productivity and profitability. Specifically, pickup trucks assembled in Mexico were no longer subject to the 25 percent tariff, and could profitably be sold in the United States. Manufacturers have responded by adding plants in Mexico and increasing capacity. Foreign automakers, such as Volkswagen which has a plant in Puebla, Mexico, supply largely to the North American market.

Benefits of "globalization" Even aside from tariffs, import restrictions, currency fluctuations, State incentives, etc., foreign-based manufacturers have intrinsic economic and marketing reasons to set up transplant factories in North America and to increase the content of North American parts in their transplant vehicles. Transportation costs can be saved by assembling vehicles where the customers are and obtaining parts and raw materials close by where the vehicles are

assembled. Production in the customers' country enables the foreign-based company to become more familiar with local consumer preferences, draw on local engineering and marketing know-how, and produce a more saleable vehicle. For example, the 1998 Toyota Sienna minivan, produced at the Georgetown, Kentucky plant and based on the Camry platform that is very popular in the United States, has far outsold its predecessor, the imported Previa. Transplant enterprises help the companies draw on local sources of credit and eases entry into joint ventures with North American companies. By becoming more "global," the foreign-based manufacturers hope to grow and become profitable. This is a long-term, persistent trend.

**U.S.-Canada trade agreements** It is appropriate to conclude this section with an overview of the trade agreements that fostered a special relationship between the U.S. and Canadian automotive industries, with massive exchanges of vehicles and parts. The U.S.-Canada Automotive Products Trade Act of 1965 (APTA) was aimed at expanding automotive trade between the U.S. and Canada by granting duty-free treatment to imports between the United States and Canada for specified motor vehicles and parts for use as original equipment in the manufacture of these motor vehicles. Direct investment expenditures on plant and equipment in Canada by the Canadian affiliates of GM, Ford, and Chrysler increased substantially after the APTA became effective.

On January 1, 1989, the U.S.-Canada Free Trade Agreement (CFTA) became effective, retaining the duty-free provisions of APTA. Under the agreement, all qualifying trade between the United States and Canada would be free of duty as of January 1, 1998, and the 10-year phase-in of staged duty reductions for all tariff barriers would be eliminated. In addition, the CFTA addressed concerns of U.S. automakers by disallowing foreign auto companies from assembling cars in Canada using Canadian auto parts, then shipping duty-free to the U.S. The agreement also established a bilateral panel to assess the state of the North American automotive industry and to propose public policy measures and private initiatives to improve the competitiveness of the industry in domestic and foreign markets. The United States and Canada are one another's principal trading partners, and much bilateral trade is generated by intracompany shipments by General Motors, Ford and Chrysler. As was discussed above, NAFTA has now extended the special relationship to Mexico, but only in the last few years.

### **1.3 The U.S.-Japan Agreement on Autos and Auto Parts**

So far, we have discussed measures and trends that preceded the AALA by up to 25 years, spurred the growth of transplant factories, and somewhat indirectly or implicitly boosted the USCan parts content of the transplants. Now let us consider one measure that nearly coincided with the AALA and quite explicitly called for higher USCan parts content in transplants.

On June 28, 1995, the United States and Japan signed the U.S.-Japan Agreement on Autos and Auto Parts, a five-year comprehensive agreement covering all aspects of bilateral automotive trade - motor vehicles, automotive parts, and Government of Japan regulation of the automotive aftermarket. The agreement was intended to address difficulties experienced by U.S. firms in accessing Japan's vehicle distribution system, eliminating regulations on the automobile parts aftermarket in Japan, and improving opportunities for U.S. original equipment parts suppliers in Japan, and with Japanese transplants in the United States.

As part of the Agreement, the United States negotiated 17 objective criteria to evaluate progress in the three main areas addressed in the negotiations. Three criteria specifically pertain to market access for original equipment parts:

(1) Japanese vehicle manufacturers in Japan and their transplants are to broaden suppliers' opportunities through design-in and supplier outreach programs, localization of R&D, and transparency in purchasing practices. The goal is to ensure that new suppliers in the United States will have access to the market for parts procurement by the Japanese automakers and their transplants. New suppliers will be given the opportunity to obtain business at the "design-in phase" and transplant R&D, engineering, and procurement facilities are located in the United States.

(2) Japanese vehicle manufacturers and Japanese transplant vehicle manufacturers must make an effort to purchase parts without discrimination against suppliers based on capital affiliation. The goal of this is to ensure that U.S. parts suppliers are not discriminated against with respect to parts procurement when they sell to Japanese transplants.

(3) Japanese vehicle manufacturers must make an effort to change the extent of local parts sourcing, considering data on purchases of parts made in the United States and vehicle production by Japanese transplant vehicle manufacturers in the United States.

The U.S. Government established an Interagency Enforcement Team to monitor progress under the Agreement. The Team is co-chaired by the Department of Commerce and the Office of the U.S. Trade Representative. The Team has relied heavily upon the numerical scores on the AALA labels to track the USCan content of transplant and import vehicles produced by Japan-based companies. They have also used data from the U.S. Customs Service, the Japanese Automobile Manufacturers Association and various U.S. manufacturer associations for this purpose at times.

On April 18, 1997, the Interagency Enforcement Team issued a report to the President evaluating progress under the agreement<sup>22</sup>. Results stated that, "measured by parts purchasing data supplied by the Japanese Automobile Manufacturers Association, purchases of U.S.-made parts by the transplants rose by slightly over 6 percent in value in the first half of JFY 1996<sup>23</sup>, to an annual rate of \$18.4 billion. Taking into consideration a decline in transplant production, this rate represents a rebound from 1995 levels. Based on American Automobile Labeling Act (AALA) calculations, the North American parts content of U.S.-produced Japanese vehicles rose from a production-weighted 47.6 percent in model year 1995 to 52.4 percent in model year 1997. The Japanese automakers continue to make progress in implementing their 1995 global business plans. In the United States, these companies are expanding the production of passenger cars, light trucks, and

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<sup>22</sup>*Report to President William Jefferson Clinton of the Interagency Enforcement Team Regarding the U.S.-Japan Agreement on Autos and Auto Parts*, U.S. Department of Commerce and the Office of the U.S. Trade Representative, Washington, 1997.

<sup>23</sup>Japanese Fiscal Year, ending March 31, 1996.

major components, such as engines and transmissions—thereby creating sales opportunities for U.S. parts suppliers and increasing employment of U.S. workers.”<sup>24</sup>

The 1997 report indicated that a survey conducted by four major U.S. parts associations (Automotive Parts and Accessories Association, Automotive Service Industry Association, Motor and Equipment Manufacturers Association, and Specialty Equipment Market Association), show continued modest growth in U.S. original equipment (OE) suppliers’ business with Japanese transplants in North America. Forty percent of the firms responding that attempt to sell to transplants characterize their progress as “significant” or substantial,” 25 percent as “modest,” and 35 percent as “limited” or “none.” These statistics show an improvement over the assessment level from a previous survey in 1996. In addition, the results of the survey indicated that fewer than 3 percent of the respondents expect sales in both the United States and Japan to decline, while more than half of the remaining 97 percent expect business to grow. The remaining respondents expect sales to Japanese transplants to account for about 16 percent of their total OE sales by 1999, up from 14 percent in 1996.

On August 12, 1998, the Interagency Enforcement Team issued the fifth semi-annual monitoring report to the President regarding the U.S.-Japan automotive agreement.<sup>25</sup> The report noted that in Japan fiscal year 1997, investment by the Japanese automakers in new production facilities in the United States has displaced automotive imports from Japan, creating tens of thousands of jobs for U.S. workers, and increasing the purchases of U.S. auto parts by Japanese transplants by 10 percent. Imports of parts from Japan continued to decline, largely due to Japanese transplants substituting auto parts imported from Japan with U.S. parts, according to the report.

The report stated that the Japanese transplant levels of USCan content have increased significantly from 47.6 percent in MY 1995 to 59.4 percent in MY 1998, using AALA data.<sup>26</sup> These percentages agree closely with the findings of our own evaluation (see Section 2.4, “True Transplants”).

The report included a presentation of domestic and foreign auto parts purchases by Japanese automakers in Foreign Trade Zones (FTZ). Foreign Trade Zones are areas under U.S. Customs supervision located in the United States that are considered outside the customs territory of the United States for tariff purposes. Every passenger vehicle plant in the United States is located in an FTZ. Products entering the U.S. customs territory after assembly in an FTZ can be assessed duty rates in one of several ways in order to obtain the most favorable duty treatment on parts incorporated into the finished product. Foreign Trade Zone regulations by the U.S. Department

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<sup>24</sup>*Report to President William Jefferson Clinton* (1997), pp. 6, 30.

<sup>25</sup>*Report to President William Jefferson Clinton of the Interagency Enforcement Team Regarding the U.S.-Japan Agreement on Autos and Auto Parts*, U.S. Department of Commerce and the Office of the U.S. Trade Representative, Washington, 1998.

<sup>26</sup> The weighted average calculations include averaging both North American-built and overseas-built vehicles of the same carline.

of Commerce require that automakers report the value of parts shipped into the FTZ from U.S. locations ("domestic status inputs"), as well as the value of parts imported from foreign countries ("foreign status inputs") annually to the Commerce Department. These data on Japanese automakers' reports on domestic status inputs are used to monitor trends in the purchases of U.S. parts by Japanese transplants, and to estimate the percentage of domestic content of Japanese transplant production. It should be noted that FTZ data tend to overstate the value of domestic content as they include parts imported from Canada under the APTA/CFTA and parts imported into the United States under normal customs procedures and then shipped to the FTZ.

FTZ data indicate that domestic content of transplant vehicles grew from 57.1 percent in United States fiscal year (FY) 1992 to 61.8 percent in FY96. FTZ data also show that the value of domestic purchases by the seven Japanese transplant automakers increased by 84.4 percent from \$9.0 billion in FY92 to nearly \$16.6 billion in FY96.

The report also noted that data from the Japanese Automobile Manufacturers Association show an increase in Japanese purchases of U.S. original equipment automotive parts from \$16.4 billion in JFY95 to \$18.92 billion in JFY97.

A major finding in Chapter 2 of this NHTSA evaluation report (as well as in the Interagency Enforcement Team report discussed here) is that USCan content increased substantially in the transplant vehicles of Japanese-based companies from 1995 to 1998, subsequent to the nearly simultaneous implementation of the AALA and the Trade Agreement. Under the circumstances, it is virtually impossible to quantify how much of the effect should be attributed to the AALA labels, how much to the Trade Agreement, and how much to the continuing effect of earlier measures and trends described in Section 1.2. Nevertheless, the strong, explicit terms of the Trade Agreement and the current near absence of consumer interest in the numerical scores of the AALA (see Section 6.6) intuitively suggest that the Trade Agreement has had more direct effect than the AALA labels. Furthermore, a major shift in production or parts-sourcing cannot be implemented overnight. The response of the Japanese-based companies in 1995-98 must, to some extent, already have been in the planning stages for some time. That suggests the earlier measures were influential, too. Ironically, even though the numerical scores on the AALA labels have so far been of little direct use to consumers, they have been quite useful to the Interagency Enforcement Team that monitors progress under the Trade Agreement.

#### **1.4 AALA requirements**

The American Automobile Labeling Act was part of the Department of Transportation and Related Agencies Appropriation Act for Fiscal Year 1993, P.L. 102-388. The AALA provides that all new passenger cars (regardless of weight), certain small buses, and all trucks and multipurpose passenger vehicles with a gross weight rating (GVWR) of 8,500 pounds or less, manufactured on or after October 1, 1994, bear labels providing information about the value of the USCan and other parts content of each vehicle.

The AALA amends Title II of the Motor Vehicle Information and Cost Savings Act (Cost Savings Act) by adding a new section 210. On July 5, 1994, the President signed a bill (P.L. 103-

272) which revised and codified “without substantive change” the Cost Savings Act. The content labeling provisions, which formerly existed as section 210 of the Cost Savings Act, are codified at 49 U.S.C. § 32304, Passenger motor vehicle country of origin labeling. On July 21, 1994, the National Highway Traffic Safety Administration (NHTSA) published in the Federal Register (59 FR 37294) a new regulation, 49 CFR Part 583, Automobile Parts Content Labeling, to implement the American Automobile Labeling Act.

Section 32304, “Passenger Motor Vehicle Country of Origin Labeling” requires passenger motor vehicles<sup>27</sup> manufactured on or after October 1, 1994 to be labeled with information about the countries of origin of vehicles and parts. The purpose of the section is to enable consumers to take this information into account in deciding which vehicle to purchase.

The following presents the AALA as it was in effect during model years 1995-98, the time frame of this evaluation report.<sup>28</sup> Section 32304 (b) requires each new passenger motor vehicle to be labeled with the following five items of information:

- 1) The percentage USCan equipment (parts) content;
- 2) The names of any countries<sup>29</sup> other than the U.S. and Canada which individually contribute 15 percent or more of the equipment content, and the percentage content for each such country;
- 3) The final assembly place by city, state (where appropriate), and country;
- 4) The country of origin of the engine; and
- 5) The country of origin of the transmission.

Section 32304 (b) specifies that the first two items of information, the equipment content percentages for the U.S./Canada and other countries, are calculated on a “carline” basis rather than for each individual vehicle. The term “carline” refers to a name of a group of vehicles which has a degree of commonality in construction, e.g., body, chassis.

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<sup>27</sup>The term “passenger motor vehicle,” defined in section 49 U.S.C. 32101 as a motor vehicle with motive power, designed to carry not more than 12 individuals, was amended for purposes of section 32304 to include any “multipurpose passenger vehicle” and “light duty truck” that is rated at not more than 8,500 pounds gross vehicle weight rating or less. Thus, the motor vehicle content labeling requirements apply to passenger cars, pickup trucks, SUVs, vans, and small buses up to 8500 GVWR. Motorcycles are excluded.

<sup>28</sup>On July 28, 1999, NHTSA published in the Federal Register (64 FR 40777) a final rule amending the regulation implementing the AALA. These changes are described in Section 1.7 of this evaluation, “Recent amendments to the AALA.”

<sup>29</sup>If there are more than two such countries, only the names of the two countries providing the greatest amount of content need be listed.

Manufacturers of passenger motor vehicles are required to establish the required information annually for each model year, and are responsible for the affixing of the label to the vehicle. Dealers are responsible for maintaining the labels.

The AALA information “may be either part of the Monroney price information label required by 15 U.S.C. 1232, part of the fuel economy label required by 15 U.S.C. 2006, or a separate label. A separate label may include other consumer information” (49 CFR Part 583.5).

In order to calculate the information required for the label, the vehicle manufacturer must know certain information about the origin of each individual part or component used to assemble its vehicles. For example, in order to calculate the information for the first item of the label, i.e., the percentage of the value of the motor vehicle equipment installed on passenger motor vehicles within a carline which originated in the U.S./Canada, the manufacturer must know the USCan content of each individual part or component.

The statute specifies that suppliers of passenger motor vehicle equipment must provide information about the origin of the equipment they supply. For purposes of determining the USCan origin for the first item on the label, the statute provides different procedures depending on whether equipment is received from an allied supplier (a supplier wholly owned by the manufacturer, or, in the case of a joint venture assembly arrangement, any supplier wholly owned by one member of the joint venture arrangement) or an outside supplier (a non-allied supplier of passenger motor vehicle equipment to a manufacturer’s allied supplier, or anyone other than an allied supplier who ships directly to the manufacturer’s final assembly point).

For equipment received from outside suppliers, section 32304 (a) (9) (A) provides that the equipment is considered USCan if it contains at least 70 percent value added in the U.S./Canada. Thus, any equipment that is at least 70 percent USCan is valued at 100 percent USCan, and any equipment under 70 percent is valued at zero percent. This statutory provision is sometimes referred to as the “roll-up, roll-down” provision.<sup>30</sup> For equipment received from allied suppliers, section 32304 (a) (9) (B) provides that the actual amount of USCan content is used.

The statute requires the Department of Transportation to promulgate regulations implementing the content labeling requirements. Section 32304 (d) requires the promulgation of regulations which specify the form and content of the required labels, and the manner and location in which

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<sup>30</sup>The “roll-down” portion of the Act was eliminated under section 7016 (d) (1) (C) of TEA-21. While equipment from an outside supplier that is at least 70 percent USCan is still to be valued at 100 percent USCan, any equipment under 70 percent is valued, and must be reported, to the nearest five percent. For example, 38 percent would be reported to the manufacturer as 40 percent, rather than zero as under current law. NHTSA issued a final rule on July 28, 1999 (64 FR 40777) amending the regulation to be consistent with the revised Act, effective June 1, 2000. However, during the period in which this evaluation was conducted the Department of Transportation had not yet amended 49 CFR § 583.6 and § 583.10 to conform to the amended AALA; the elimination of the “roll-down” portion and the subsequent amended procedures for calculating USCan parts content did not affect our surveys.

the labels must be affixed. Section 32304 (e) requires promulgation of such regulations as may be necessary to carry out the labeling requirements, including regulations to establish a procedure to verify the required labeling information. That section also directs that such regulations provide the ultimate purchaser of a new passenger motor vehicle with the best and most understandable information possible about the USCan or other origin of the equipment of such vehicles without imposing costly and unnecessary burdens on the manufacturers. Finally, section 32304 (e) also specifies that the regulations include provisions requiring suppliers to certify whether their equipment is of U.S., USCan, or other origin.

On July 21, 1994, the National Highway Traffic Safety Administration published in the Federal Register (59 FR 37294) a final rule establishing a new regulation, 49 CFR Part 583, Automobile Parts Content Labeling, to implement the American Automobile Labeling Act. The regulation established requirements for: 1) manufacturers of passenger motor vehicles; 2) suppliers of motor vehicle equipment used in the assembly or passenger motor vehicles; and 3) dealers of passenger motor vehicles. A summary of the requirements is set forth below.

Requirements for manufacturers of passenger motor vehicles Vehicle manufacturers are required to affix to all new passenger motor vehicles a label which provides the following information:

- 1) USCan Parts Content<sup>31</sup> – the overall percentage, by value, of the passenger motor vehicle equipment that was installed on vehicles within the carline of which the vehicle is part, and that originated in the United States and/or Canada.
- 2) Major Sources of non-USCan Parts Content -- the names of the two countries, if any, other than the United States and Canada which contributed at least 15 percent of the average overall percentage, by value, of the passenger motor vehicle equipment installed on vehicles within the carline of which the vehicle is part, and the percentage attributable to each such country (if there are more than two such countries, the manufacturer need only provide the information for the two countries with the highest percentages).
- 3) Final Assembly Point -- the city, state (in the case of vehicles assembled in the United States), and country of the final assembly point of the passenger motor vehicle.

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<sup>31</sup>For the past several years, NHTSA has provided a limited, temporary provision in the § 583.6 (c) (6) content calculation procedures to give a vehicle manufacturer added flexibility in making content determinations in those instances in which outside suppliers have not responded to the manufacturer's requests for content information. In order to conform Part 583 with section 7106 (d) (4) NHTSA removed the time limitation in the amended final rule (64 FR 40777) published July 28, 1999. In the changed regulation, if a manufacturer or allied supplier requests information in a timely manner from one or more of its outside suppliers concerning the USCan content of particular equipment, but does not receive that information despite a good faith effort to obtain it, the manufacturer or allied supplier may make its own good faith value added determinations, for no more than 10 percent, by value, of a carline's total parts content from outside suppliers. The amended regulation was not in effect at the time of the surveys.

- 4) Country of Origin for the Engine Parts<sup>32 33</sup> – the country of origin of the passenger motor vehicle's engine.
- 5) Country of Origin for the Transmission Parts -- the country of origin of the passenger motor vehicle's transmission.

The label is also required to include a statement below this information reading as follows:

Note: Parts content does not include final assembly, distribution, or other non-parts costs.

Manufacturers are permitted, but not required to provide at the end of the note the following additional statement for carlines assembled in the U.S. and/or Canada, and another country:

This carline is assembled in the U.S. and/or Canada, and in [insert the name of each other country]. The USCan parts content for the portion of the carline assembled in [insert name of country, treating the U.S. and Canada together, i.e., U.S./Canada] is [ ] %.<sup>34</sup>

The information for items 1) and 2) of the label is calculated, prior to the beginning of the model year, for each carline. The information for items 3), 4), and 5) is determined for each individual vehicle. However, the country of origin for groups of engines and transmissions is determined once a model year.

Vehicle manufacturers are to calculate the information for the label, relying on information provided to them by the suppliers. Under the final rule, manufacturers and allied suppliers are required to request their suppliers to provide the relevant content information specified in Part 583, and the suppliers are required to provide them the specified information in response to such requests. The vehicle manufacturers are required to maintain records of the information used to determine the information provided on the labels.

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<sup>32</sup>NHTSA amended 49 CFR § 583.5 so that the wording of the vehicle content label would no longer use the terms "Engine Parts" and "Transmission Parts." It would instead use the terms "Engine" and "Transmission." The changes did not affect the study since they were not in effect at the time during which the study was conducted.

<sup>33</sup>NHTSA amended 49 CFR § 583.8, procedure for determining country of origin for engines and transmissions, according to section 7106 (d) (1) (A). Assembly and labor costs incurred for the final assembly are now to be included in making country of origin determinations for engines and transmissions. The changes did not affect the study since they were not in effect at the time during which the study was conducted.

<sup>34</sup>In order to conform to new requirements in section 7106 (d) 2, NHTSA added to § 583.5 an additional option permitting manufacturers to voluntarily identify USCan parts content based on the country in which the vehicle was assembled.

For each year, manufacturers shall submit to the Administrator of the National Highway Traffic Safety Administration three copies of the information required by §583.5 (a) to be placed on a label for each carline. The information for each carline shall be submitted not later than the date the first vehicle of the carline is offered for sale to the ultimate purchaser.

For model year 1995 vehicles and model year 1996 vehicles which are offered for sale to ultimate purchasers before June 1, 1995, manufacturers and suppliers may, instead of following the detailed calculation procedures set forth in the regulation, use procedures that they expect, in good faith to yield similar results.

Manufacturers of passenger motor vehicles are required to establish the required information annually for each model year, and are responsible for the affixing of the required label to the vehicle.

In the final rule, NHTSA excluded all final stage manufacturers,<sup>35</sup> as well as businesses that produce a total of fewer than 1,000 passenger motor vehicles for sale in the United States annually from providing items 1 and 2 of the label (the two items that are determined on a carline bases). However, these manufacturers are required to provide items 3, 4, and 5 of the label.

Requirements for suppliers of motor vehicle equipment For any equipment that an outside supplier (a supplier not wholly owned by the vehicle manufacturer) supplies to a vehicle manufacturer, a supplier wholly owned by the vehicle manufacturer (an allied supplier) or, in the case of a joint venture vehicle assembly arrangement, a supplier that is wholly owned by one member of the joint venture arrangement, the outside supplier is required to provide, at the request of that manufacturer or allied supplier, the following information:

- 1) The price of the equipment to the manufacturer or allied supplier;
- 2) Whether the equipment has, or does not have, at least 70 percent of its value added in the U.S. and Canada;
- 3) For any equipment for which the USCan content is less than 70 percent, the country or origin of the equipment (treating the U.S. and Canada together);
- 4) For equipment for which the USCan content is less than 70 percent, the country of origin of the equipment (separating the U.S. and Canada).

For any equipment that an allied supplier supplies to a vehicle manufacturer, the supplier is required to provide, at the request of the manufacturer, the following information:

- 1) The price of the equipment to the manufacturer;
- 2) The percentage USCan content of the equipment;
- 3) The country of origin of the equipment (treating the U.S. and Canada together);
- 4) For equipment that may be used in an engine or transmission, the country of origin of the equipment (separating the U.S. and Canada).

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<sup>35</sup>Final stage manufacturer means a person who performs such manufacturing operations on an incomplete vehicle that it becomes a completed vehicle.

A supplier of engines and transmission is, in addition to the above requirements, required to provide, at the request of the vehicle manufacturer, the country of origin for each engine or transmission it supplies to the manufacturer, in the form of a certification. Outside suppliers that directly supply to allied suppliers are required to provide the specified information and certification directly to the allied suppliers. Suppliers are also required to maintain records of the information used to compile the information provided to the manufacturers and outside suppliers.

The requirements apply only to suppliers which supply directly to the vehicle manufacturer or to an allied supplier. No requirements are imposed on suppliers earlier in the chain, e.g., a company which supplies an item of equipment to an outside supplier which then supplies it to a vehicle manufacturer.

Requirements for dealers of passenger motor vehicles Dealers are required to maintain the label on each vehicle until the vehicle is sold to a consumer. Dealers may temporarily remove separate content labels (but not if they are part of the Monroney price sticker label or the fuel economy label) for purposes of test drives or for moving vehicles in intra-dealer exchanges if each of the following conditions is met:

- 1) The manufacturer advises that the label can be removed and replaced without damage;
- 2) The dealer removes the label immediately before each test drive or replaces it immediately before moving a vehicle in an intra-dealer exchange and replaces it immediately after such move;
- 3) The dealer advises the person taking the test drive about the existence of the label and offers the opportunity to inspect the label (either on or off the vehicle).

Dealers are not specifically required to have brochures or posters explaining the AALA labels, or to discuss the labels in sales presentations, or to provide any AALA-related information to consumers other than the labels themselves.

Certifications and records NHTSA permits certifications and other records to be submitted and retained electronically. The agency believes that this is consistent with the approach taken by the Federal government in related areas, and with requirements to establish regulations that avoid imposing unnecessary and costly burdens on the manufacturer. Manufacturers are required to maintain records for five years after December 31 of the model year to which the records relate. Suppliers are required to maintain all records which form the basis for the information it provides on the certificates including, but not limited to, calculations of content certificates from suppliers, and relevant information from manufacturers and suppliers. Suppliers must maintain records for six years after December 31 of the calendar year set forth in the date of each certificate.

On September 15, 1995, NHTSA published in the Federal Register (60 FR 47878) a revised final rule making several changes to the final rule in response to petitions for reconsideration of the agency's July 1994 final rule implementing the statute. The revised final rule will reduce the burdens associated with making content calculations and will also result in more accurate information. The amendments made by the rule were effective October 16, 1995. NHTSA made the following changes in the final rule:

- 1) If a supplier used material in producing passenger motor vehicle equipment which was produced or assembled in the U.S. or Canada, the supplier will subtract from that material, any value that was not added in the U.S. or Canada. The supplier can make a good faith estimate of the value that was not added in the U.S. or Canada. This can be based on information available to the supplier, e.g., information in its records, information it can obtain from its suppliers, the supplier's knowledge of manufacturing processes, etc. Suppliers cannot simply default to zero.
- 2) The supplier shall consider the amount of value added and the location in which that value was added:
  - (a) From the time the supplier received the material back to and including two earlier stages where the material was changed into a new and different product with a different name, character, and use.
  - (b) The value of materials used to produce a product in the earliest of these two stages will be treated as value added in the country in which that change occurred.

Recent amendments to the AALA As part of the NHTSA Reauthorization Act of 1998, Congress amended the AALA to make a number of changes in the labeling requirement. This Act is part of the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), signed on June 9, 1998. These changes did not take effect during the 1995-98 time frame of this evaluation and are not reflected in any of the analyses of this report, but they could affect the findings if similar analyses were to be conducted in the future:

Section 7106 (d) (1) (A) of TEA-21 amends the AALA to specify that assembly and labor costs incurred for the final assembly of engines and transmissions are to be included in making the country of origin determination. Section 7106 (d) (1) (B) amends the definition of final assembly place. Section 7106 (d) (1) (C) amends the AALA to eliminate the "roll-down" portion of the provision. While equipment from an outside supplier that is at least 70 percent USCan is still to be valued at 100 percent USCan, any equipment under 70 percent must be reported to the nearest five percent. Section 7106 (d) (2) amends section 32304 (d) of the AALA to provide that a manufacturer's vehicle content label may include a line identifying the country in which the vehicle assembly was completed. The full text of TEA-21 and the conference report is available on the Web at <http://www.fhwa.dot.gov/tea21>.

## **1.5 Dissemination of AALA information**

Neither the AALA nor the NHTSA regulation requiring the labels include any stipulation for disseminating this information to the public other than the labels themselves. As of 2000, NHTSA and other Federal agencies have not issued any brochures comparing AALA information by make-model, or placed such information on their Web sites. Compilations of AALA data were published in the *Automotive News Market Data Book*, a trade publication, in 1995 and 1996, but not in subsequent years. Unlike crash test results and fuel economy ratings, for example, they have not been published in popular journals such as *Consumer Reports*, *Car and Driver*, etc. Nor is NHTSA aware of their publication in the literature of non-Government organizations that promote the consumption of products made in the United States.

Several foreign-based manufacturers have advertised extensively that their vehicles are assembled in the United States and/or contain large proportions of U.S. parts. In particular, two manufacturers reported to NHTSA in our survey that they used brochures, newspaper ads, magazine ads, and/or television ads to advertise that they purchase parts and materials from U.S. suppliers, invest in U.S. manufacturing plants, and contribute to the U.S. economy in the form of direct jobs, and donations to charitable groups and educational organizations.

However, these two manufacturers did not explicitly state the percentage of domestic content in their vehicles in their media ads. NHTSA is not aware of any manufacturer that used AALA statistics to demonstrate an edge over their competitors (comparable to Audi's advertising that they had the best results on NHTSA's crash tests).

In 1994, the same two manufacturers produced brochures that presented sample parts content labels. Both brochures were critical of the government's methodology for counting parts and combining Canadian with United States parts in the numerical score. The two manufacturers found that none of their customers were interested in the label and they discontinued distribution of the consumer guides.

Chapter 6 of this report investigates, through a consumer survey, the current level of consumer awareness of the existence of the labels and the extent to which they understand the information on the labels and find it useful.

In this context, it should also be noted that country-of-assembly information was available to consumers before the AALA, but not necessarily in a standardized and conveniently accessible form like the AALA labels. Since model year 1981, the country of assembly can be decoded from the Vehicle Identification Number (VIN), but it is safe to say that few consumers would know how to decode it. The country of assembly is quite commonly specified on the Monroney price sticker, but it is not required there by law. It is often listed, but not mandatory, on the manufacturers' certification label (49 CFR Part 567) that is permanently affixed to the vehicle, usually on the rear edge of the driver's door. It may be assumed that few consumers peruse these certification labels before they buy vehicles. In recent years, organizations that supply information about passenger vehicles via the Internet often specify the country of assembly.



## CHAPTER 2

### TRENDS IN U.S./CANADIAN CONTENT AND ASSEMBLY, 1995-98

United States/Canadian (USCan) parts content, as specified in the labels placed on new vehicles in accordance with the American Automobile Labeling Act (AALA) did not rise during model years 1995-98. In fact, it declined from an average of 70 percent in model year 1995 passenger cars and light trucks, the first year of the labels, to an average of 67.6 percent in model year 1998. The principal reason for the overall decline was a reduction of USCan content - and a corresponding increase in Mexican parts content - in Big 3 cars and light trucks. But there were substantial gains in USCan content among the "transplant" vehicles. Similarly, the proportion of vehicles sold in the United States that were assembled in the United States or Canada declined from 82 percent in model year 1994 to 80 percent in 1998, primarily because more Big 3 vehicles are being assembled in Mexico.

These statistical analyses of this chapter, as well as Chapters 3 and 4, just aim to describe what actually happened to vehicle sales. They are not designed to identify cause-and-effect relationships or to attribute any of the observed sales trends specifically to AALA or to other regulations or international agreements.

#### 2.1 The data base for studying U.S./Canadian content trends

Each manufacturer is required to notify NHTSA of the information that goes on the parts-content labels for each of their lines of passenger cars, pickup trucks, sport utility vehicles (SUV) and vans manufactured on or after October 1, 1994.<sup>1</sup> These letters, kept on file by NHTSA's Office of Vehicle Safety Compliance provide information on the USCan content of virtually every 1995-98 make-model in each model year. Phone calls to manufacturers filled the handful of gaps in the letters.

Several details about the labels are relevant. *Automotive News* and, possibly, other sources printed summaries of the label information for model years 1995 and 1996. There are a number of discrepancies between these listings and the official letters to NHTSA: in every case, this evaluation relies on the letters. The principal quantitative datum on the label is the percentage of the vehicle's parts and components that are of USCan origin; as explained in Section 1.4, labor and assembly are not included in the computation. The labels contain various data in addition to the percent of USCan parts, but none of the other data are considered in this chapter. Since the data on final assembly, engine and transmission only list countries by name, and do not specify what percent derives from each country, they are not suitable for quantitative analyses such as year-to-year computation of fleetwide averages. The percentage of parts from countries other than the United States or Canada is only reported for those countries that contributed at least 15

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<sup>1</sup>*Code of Federal Regulations*, Title 49, General Printing Office, Washington, 1998, Part 583.

percent of the parts. Without data on contributions lower than 15 percent, it is impossible to calculate accurate fleetwide averages. In particular, it is impossible to measure the substantial increase in Mexican parts content that undoubtedly took place in Big 3 vehicles during 1995-98, since few models achieved more than 15 percent Mexican content.

Manufacturers are allowed certain leeways in computing the percentage of USCan parts value. As explained in Section 1.4, manufacturers could simplify the calculation for certain outside-supplied parts, counting them as 100% or 0% USCan ("roll-up" or "roll-down"), and they had permission to use "good-faith" estimates rather than calculations on up to 10 percent of the value of outside-supplied parts when these suppliers did not furnish data on the origin of the parts (and in model year 1995 they had permission to use "good faith" estimates for any information not provided by suppliers). Consequently, the USCan content percentages are estimates rather than exact numbers, and at least some of their year-to-year variation could be due to the estimation procedures.

New-vehicle sales or registration data by make-model and model year are needed to obtain fleetwide averages of USCan content. The analyses of this chapter are based on **registration** data from the New Car and Light Truck File that R. L. Polk supplies to NHTSA. The file counts how many new vehicles were registered in each month, by make-model, subseries and model year. It traces the registrations for vehicles of a specific model year, say 1995, from the time in 1994 when they were first offered to the public until the end of 1996 (1997 for trucks), by which time nearly all of them had been cleared from the dealers' lots. The sum of all these monthly initial registrations over the 3 or 4 year period is essentially equal to the total sales of that make-model-MY in the United States. Polk data from calendar years 1993 through June 1999 were available as of March 2000 and used to tally the MY 1994-98 registrations. (To the extent that about 1 percent of MY 1998 production was still unsold or unregistered as of July 1, 1999, the MY 1998 registrations are underreported by about 1 percent.)

The advantage of these registration data is that they can be made to correspond exactly to the information in the AALA letters. In both cases, the "model year" is the "production" model year, identified by the 10<sup>th</sup> character of the Vehicle Identification Number (VIN) and written on titles and registrations. Likewise, an exact correspondence was established between the make-model definitions in the AALA letters and on the Polk files. Those definitions were mapped into pairs of four-digit numerical codes as shown in Appendix A. The codes are similar to the ones used in earlier NHTSA evaluations<sup>2</sup> and indicate the specific make-model and the more general car/light truck group to which the make-model belongs.

The registration data were also compared to production data for model year 1995-98 passenger cars that the manufacturers have supplied to the Environmental Protection Agency for computing Corporate Average Fuel Economy (pursuant to 40 CFR 86.085-37). They specify the number of vehicles produced *for sale in the United States* during a production model year. When the Polk

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<sup>2</sup>Kahane, C.J., *Relationships between Vehicle Size and Fatality Risk in Model Year 1985-93 Passenger Cars and Light Trucks*, NHTSA Technical Report No. DOT HS 808 570, Washington, 1997, Appendix B.

registration data and the manufacturer-supplied data did not agree (in 6 percent of the make-model-year combinations), we used the manufacturer-supplied data.

To compute average USCan content for the entire fleet, or a subset, it makes more sense to take **value-weighted** rather than sales-weighted (or registration-weighted) averages. For example, if the fleet consists of one \$20,000 car with 100 percent USCan content and one \$80,000 car with 0 percent USCan content, the value-weighted average is

$$(100\% \times 1 \times 20,000 + 0\% \times 1 \times 80,000) / (1 \times 20,000 + 1 \times 80,000) = 20 \text{ percent}$$

whereas the sales-weighted average is

$$(100\% \times 1 + 0\% \times 1) / (1 + 1) = 50 \text{ percent}$$

Surely, the value-weighted average better expresses, in economic terms, the share of USCan parts in the total fleet. (Registration-weighted overall averages are also shown in Section 2.2, for comparison purposes.)

In order to compute value-weighted averages, it is necessary to have price as well as sales (registration) data by make-model and model year. Price data for model years 1994-98 are all taken from *Automotive News Market Data Books*, annual publications that list the current model year prices as of approximately April 1. These prices are defined the same way, year after year, except that destination charges were added starting in 1997, a one-time increase on the order of 2 percent. We used the lowest price listed for each make-model, the "base sticker price." This is not necessarily the same as the [unknown] average actual sales price: it excludes premiums for higher-priced subseries (especially for pickup trucks and luxury cars) or optional equipment, but it also excludes discounts that consumers received. Thus, the value-weighted averages will only be approximately, not exactly, accurate.

Statistics on vehicle assembly countries, although unnecessary for the analysis of average USCan parts content, provide useful supplemental information. Several data sources were used to estimate for each make-model and model year (1994-98) the percent of vehicles sold in the United States that were assembled in the United States, Canada, Mexico or overseas. The majority of make-models had all their vehicles assembled in just one country in any given year. In make-models where some units were assembled in one North American country and the remainder in one overseas country, the *Automotive News* sales data and/or the Polk registration data usually identify the percentage for each country. However, those two sources do not distinguish between United States, Canadian and Mexican assemblies. VINs, on the other hand, specify the country of assembly. State crash data for calendar year 1997 from eight States that report the VIN and send their files to NHTSA - Florida, Maryland, Missouri, New Mexico, North Carolina, Ohio, Pennsylvania and Utah - show the distribution of assembly locations among crash-involved MY 1994-97 vehicles. These distributions are assumed to be approximately correct for overall U.S. registrations. Distributions for MY 1998 are estimated based on 1997 registrations and 1998 production, as in the following example:

| Assembled<br>In | 1997<br>U.S. Regs | 1997<br>Production | 1998<br>Production | 1998 U.S. Registrations<br>Unadjusted <sup>3</sup> | Adjusted <sup>4</sup> |
|-----------------|-------------------|--------------------|--------------------|----------------------------------------------------|-----------------------|
| United States   | 82%               | 59,212             | 57,989             | 80.31                                              | 81%                   |
| Mexico          | 18%               | 35,987             | 37,789             | 19.00                                              | 19%                   |

A data base was generated for all make-models of passenger cars, pickup trucks, SUVs and vans with a gross vehicle weight rating (GVWR) or 8,500 pounds or less, for model years 1994-98, stating the USCan content on the AALA label (MY 1995-98 only), the model year registrations, the base sticker price, and the percent of U.S.-sold vehicles assembled in the United States, Canada, Mexico and overseas. It is listed in Appendix A. As stated above, many of the numbers are approximate rather than exact. But the data set is complete and has no missing data.

## 2.2 Overall trends in U.S./Canadian parts content and assembly locations

The principal finding of this analysis is that value-weighted average USCan parts content declined from 70.01 percent in new MY 1995 cars and light trucks, the first year of the labels, to 67.64 percent in MY 1998. USCan content was 71.77 percent in 1996 and 68.10 percent in 1997:

### All new passenger cars, pickup trucks, SUVs and vans (8,500 pounds GVWR or less)

#### Value-Weighted Averages

| Model<br>Year | Total<br>Registrations | Avg Base<br>Sticker Price | Approximate<br>Total Value | Value-Weighted Avg.<br>USCan Parts Content (%) |
|---------------|------------------------|---------------------------|----------------------------|------------------------------------------------|
| 1994          | 14.37 M                | \$ 18,385                 | \$ 221.3 B                 | .                                              |
| 1995          | 15.61                  | 19,328                    | 257.0                      | <b>70.01</b>                                   |
| 1996          | 13.60                  | 19,706                    | 233.3                      | <b>71.77</b>                                   |
| 1997          | 15.05                  | 21,055                    | 275.6                      | <b>68.10</b>                                   |
| 1998          | 14.73                  | 21,741                    | 278.9                      | <b>67.64</b>                                   |

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<sup>3</sup>80.31 = (57,989/59,212) x 82; 19.00 = (37,789/35,987) x 18

<sup>4</sup>81 = 80.31 / (80.31 + 19.00); 19 = 19.00 / (80.31 + 19.00)

|      | Percent Assembled in |      |        |        |          |
|------|----------------------|------|--------|--------|----------|
|      | U.S./Canada          | U.S. | Canada | Mexico | Overseas |
| 1994 | 82.0                 | 69.7 | 12.2   | 1.7    | 16.3     |
| 1995 | 80.1                 | 66.8 | 13.2   | 2.3    | 17.6     |
| 1996 | 82.3                 | 68.0 | 14.3   | 3.5    | 14.1     |
| 1997 | 80.2                 | 68.1 | 12.2   | 3.5    | 16.2     |
| 1998 | 80.1                 | 67.4 | 12.7   | 3.4    | 16.4     |

The percentage of new vehicles assembled in the United States or Canada declined from 82 in 1994, just before the labels, to 80 in 1998. The strongest trend during 1994-98, at least in relative terms, was the doubling of Mexican assemblies. Overseas assemblies declined from 16.3 percent in 1994 to 14.1 percent in 1996, but had recovered to 16.4 percent by 1998. United States and Canadian assemblies did not change much from 1994 to 1998.

Overall registrations were stable (some of the year-to-year fluctuation is due to variation in the length of the "production" model year). The average base sticker price increased 4 percent a year, from \$18,385 to \$21,741. However, the larger than usual (6.8%) increase from 1996 to 1997 is primarily due to the inclusion of destination charges in the base sticker price in *Automotive News Market Data Books* starting in 1997.

The initial impression from these aggregate statistics is that the introduction of the labels in 1995 was not followed by a massive increase in USCan parts content nor a massive shift from overseas to U.S./Canadian assembled vehicles; on the contrary, both had declined by 1998. However, these initial findings need to be confirmed by more detailed analyses of segments of the automotive market and a comparison of trends in motor vehicles and other consumer products.

Trends are essentially the same if the data are registration-weighted rather than value-weighted. The registration-weighted average USCan content and assembly are 1-2 percentage points higher in each year than in the value-weighted data because the high-priced imports are given less weight here. However, the net decline in USCan content from 1995 to 1998 is 2.2 percentage points, similar to the trend in the value-weighted data.

#### Registration-Weighted (Not Value-Weighted) Averages

| Model<br>Year | USCan Parts<br>Content (%) | Percent Assembled in |        |          |
|---------------|----------------------------|----------------------|--------|----------|
|               |                            | U.S./Canada          | Mexico | Overseas |
| 1994          |                            | 84.8                 | 2.2    | 13.0     |
| 1995          | 71.77                      | 83.1                 | 3.1    | 13.8     |
| 1996          | 73.26                      | 85.0                 | 4.2    | 10.8     |
| 1997          | 69.98                      | 83.4                 | 4.0    | 12.6     |
| 1998          | 69.53                      | 83.2                 | 4.1    | 12.7     |

The remaining analyses of this chapter are all based on value-weighted averages for USCan content.

## 2.3 “Big 3” vs. foreign-based nameplates

One way to segment the automotive market is to compare vehicles bearing the nameplates of the “Big 3” domestic corporations, General Motors, Ford or Chrysler, regardless of who designed or assembled them<sup>5</sup>, and vehicles with nameplates of foreign-based corporations<sup>6</sup>, regardless of where they were built. The data analyzed in this report all precede the DaimlerChrysler merger. Here are the relative market shares for the Big 3 and foreign-based nameplates in model years 1994-98, including all cars and light trucks, based on the model-year registrations as listed in the data base in Appendix A (not value-weighted):

|                          | Market Shares (%) |      |      |      |      |
|--------------------------|-------------------|------|------|------|------|
|                          | 1994              | 1995 | 1996 | 1997 | 1998 |
| Big 3                    | 73.3              | 72.5 | 73.5 | 71.4 | 70.0 |
| Foreign-based nameplates | 26.7              | 23.5 | 26.5 | 28.6 | 30.0 |

Clearly, the introduction of the labels in 1995 was not followed by an immediate or subsequent shift from foreign-based nameplates to the Big 3. Now let’s look at the trends in USCan content and assembly location separately for Big 3 and foreign-based nameplate vehicles:

### Big 3

| Model Year | Total Registrations | Avg Base Sticker Price | Approximate Total Value | Value-Weighted Avg. USCan Parts Content (%) |
|------------|---------------------|------------------------|-------------------------|---------------------------------------------|
| 1994       | 10.54 M             | \$ 17,319              | \$ 160.1 B              | .                                           |
| 1995       | 11.32               | 18,009                 | 182.0                   | <b>89.19</b>                                |
| 1996       | 10.00               | 18,785                 | 168.7                   | <b>87.64</b>                                |
| 1997       | 10.75               | 20,003                 | 194.5                   | <b>85.28</b>                                |
| 1998       | 10.31               | 20,782                 | 193.7                   | <b>83.98</b>                                |

### Percent Assembled in

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<sup>5</sup>The “Big 3 nameplates” include any car or light truck sold as a Chrysler, Dodge, Plymouth, Eagle, Jeep; Ford, Lincoln, Mercury; Buick, Cadillac, Chevrolet, Geo, Oldsmobile, Pontiac, Saturn or GMC, regardless of whether it was assembled in North America (“domestic”) or overseas (“captive import”).

<sup>6</sup>“Foreign-based nameplates” in this report include any car or light truck sold as a VW, Audi; BMW; Nissan, Infiniti; Honda, Acura; Jaguar; Mazda; Mercedes-Benz; Porsche; Saab; Subaru; Toyota, Lexus; Volvo; Mitsubishi; Suzuki; Hyundai; Kia; Isuzu; or Land Rover, regardless of whether it was assembled in North America (“transplant”) or overseas (“import”).

|      | U.S./Canada | U.S. | Canada | Mexico | Overseas |
|------|-------------|------|--------|--------|----------|
| 1994 | 97.6        | 81.8 | 15.8   | 1.9    | .5       |
| 1995 | 97.1        | 79.5 | 17.6   | 2.5    | .4       |
| 1996 | 96.1        | 77.5 | 18.6   | 3.7    | .2       |
| 1997 | 95.6        | 79.5 | 16.1   | 3.8    | .6       |
| 1998 | 96.1        | 79.1 | 17.0   | 3.5    | .4       |

### Foreign-based Nameplates

| Model Year | Total Registrations | Avg Base Sticker Price | Approximate Total Value | Value-Weighted Avg. USCan Parts Content (%) |
|------------|---------------------|------------------------|-------------------------|---------------------------------------------|
| 1994       | 3.84 M              | \$ 21,175              | \$ 61.2 B               | .                                           |
| 1995       | 4.29                | 22,532                 | 74.9                    | <b>23.42</b>                                |
| 1996       | 3.60                | 22,150                 | 63.6                    | <b>29.64</b>                                |
| 1997       | 4.31                | 23,577                 | 81.1                    | <b>26.90</b>                                |
| 1998       | 4.42                | 23,922                 | 85.1                    | <b>30.45</b>                                |

### Percent Assembled in

|      | U.S./Canada | U.S. | Canada | Mexico | Overseas |
|------|-------------|------|--------|--------|----------|
| 1994 | 40.9        | 38.1 | 2.9    | 1.3    | 57.7     |
| 1995 | 38.7        | 36.1 | 2.6    | 1.9    | 59.4     |
| 1996 | 45.8        | 42.8 | 3.0    | 3.0    | 51.2     |
| 1997 | 43.3        | 40.7 | 2.6    | 2.9    | 53.8     |
| 1998 | 43.9        | 40.9 | 3.0    | 3.2    | 52.9     |

These statistics reveal the pattern that will appear repeatedly. Big 3 vehicles, starting from a high USCan parts content in 1995 (89.19%), steadily lost USCan content in subsequent years and had dropped to 83.98 percent by 1998. Vehicles sold by foreign-based companies substantially gained USCan content, from 23.42 percent in 1995 to 30.45 percent in 1998, but even then they were still far below the USCan parts content of the Big 3.

Shifts in assembly locations parallel the USCan parts content trends. Big 3 cars and trucks dropped from 97.6 percent U.S. or Canadian assembly in 1994 to 96.1 percent in 1998, while Mexican assemblies increased from 1.9 to 3.5 percent (well under 1% of Big 3 sales are "captive imports" assembled overseas). Foreign-based nameplate vehicles increased from 40.9 percent to 43.9 percent assembly in the United States or Canada, and from 1.3 percent to 3.2 percent in Mexico. Their overseas assemblies fell from 57.8 to 52.9 percent. Basically, Big 3 cars became less U.S./Canadian and more Mexican, while import-brand cars became substantially more U.S./Canadian and/or more Mexican, but less Japanese and German.

## 2.4 “Domestics” vs. “transplants” vs. “imports”

A more complex market segmentation takes into account where the vehicle was designed and assembled as well as who sold it. Three large groups are “true domestics,” designed by the Big 3 in North America, assembled by Big 3 plants in North America and sold by the Big 3; “true transplants,” designed overseas, assembled in North America in plants owned in whole or in part by foreign-based corporations, and sold with foreign-based nameplates; and “true imports,” designed and assembled overseas and sold with foreign-based nameplates. Some make-models, however, do not fit into these categories but into one of six smaller groups. These groups and their USCan content trends will be discussed one-by-one, but first let us look at their relative market shares in MY 1994-98:

|                                       | Market Shares (%) |      |      |      |      |
|---------------------------------------|-------------------|------|------|------|------|
|                                       | 1994              | 1995 | 1996 | 1997 | 1998 |
| Big 3 nameplates                      |                   |      |      |      |      |
| “True domestic”                       | 68.0              | 66.9 | 69.6 | 66.4 | 65.9 |
| Internat’l design, Big 3 factory      | 2.3               | 2.7  | 1.4  | 3.0  | 2.9  |
| Internat’l design, transplant factory | 2.5               | 2.4  | 2.4  | 1.6  | 1.1  |
| “Captive import”                      | .5                | .5   | .2   | .4   | .2   |
| Foreign-based nameplates              |                   |      |      |      |      |
| Big 3 design & factory                | 1.1               | .6   | .8   | .6   | .6   |
| “True transplant”                     | 15.2              | 14.5 | 15.0 | 15.7 | 16.9 |
| Part-time transplant                  | .4                | .6   | .3   | .3   | .4   |
| Mexican transplant                    | .4                | .6   | .8   | .8   | .9   |
| “True import”                         | 9.6               | 11.1 | 9.7  | 11.2 | 11.3 |

Market shares did not change dramatically for the three large categories. True domestics more or less held their own, first gaining from 68.0 to 69.6 but eventually falling back to 65.9 percent of all motor vehicle registrations. True transplants gained some market share, from 15.2 percent to 16.9 percent. True imports gained from 9.6 percent to 11.3 percent in 1998 - a boom year for luxury vehicles.

“True domestics” include the many make-models that most people consider pure Big 3. They have to be designed by the Big 3 in North America; in this age of multinational corporations and the “international car” it is hard to say who designed what, but at least they are not obvious copies of vehicles initially designed overseas. They can be assembled in the United States, Canada or Mexico, but at plants owned by the Big 3. They carry Big 3 nameplates. Most Big 3 vehicles - Dodge Caravan, Mercury Grand Marquis and Buick LeSabre to name just a few - are true domestics. These models can be expected to have the highest USCan content, and indeed they do:

## True Domestics

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | % USCan Content |     |     | % Assembled in |        |
|---------------|------------------------|------------------------------|-----------------|-----|-----|----------------|--------|
|               |                        |                              | Avg             | Min | Max | US/Can         | Mexico |
| 1994          | 9.78 M                 | \$ 17,659                    | .               |     |     | 98.7           | 1.3    |
| 1995          | 10.44                  | 18,383                       | <b>90.64</b>    | 70  | 96  | 98.4           | 1.6    |
| 1996          | 9.46                   | 19,018                       | <b>88.78</b>    | 70  | 96  | 97.1           | 2.9    |
| 1997          | 10.00                  | 20,289                       | <b>86.70</b>    | 60  | 96  | 96.9           | 3.1    |
| 1998          | 9.70                   | 21,024                       | <b>85.17</b>    | 60  | 95  | 97.2           | 2.8    |

USCan parts content started at 90.64 percent in 1995, and although it had fallen substantially to 85.17 percent by 1998, that is still a lot higher than the average for any of the other eight groups. Although the labels usually shed no light on where the decrease is going, it is safe to speculate that much of it went to Mexico during those years of the North American Free Trade Act (NAFTA) and, before that, the *maquiladora*<sup>7</sup> movement (see Section 1.2). Still, among all the individual make-models here, USCan content was never lower than 60 percent, and it ranged as high as 96 percent. Most of the models were closer to the high end, as evidenced by the average. (Mercury Villager, the only make-model as low as 60 percent, was designed by Ford in cooperation with Nissan, contains many Japanese components, and is almost on the borderline between “true” domestics and the next category.) Mexican assembly of these vehicles likewise increased from 1.3 to 2.8 percent; specifically, the Dodge Ram Pickup, GM Suburban and Dodge/Plymouth Neon were assembled in Mexico in large numbers, other make-models in smaller numbers.

“International” design cars built in Big 3 factories and sold with Big 3 nameplates include the high-volume Ford Escort/Mercury Tracer and the Chrysler Sebring Convertible. Escort and Tracer were originally based on the Mazda Protege design, but the cars sold in the United States during 1994-98 were all built at Ford plants in the United States or Mexico and are, in many ways, more Fords than Mazdas. The Sebring Convertible is fundamentally a Mitsubishi sold by Chrysler; however it is assembled at a Chrysler plant in Mexico, not a Mitsubishi plant. These make-models can be expected to have less USCan content than “true” domestics, due to a combination of Japanese and Mexican influences (results for MY 1996 are anomalous because Ford Escort had a short production run in that model year):

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<sup>7</sup>A *maquiladora* is a factory that assembles a product in Mexico from mostly U.S. components and exports most of the assembled product back to the United States. By agreement between the two countries, the movement of components and assembled products is duty-free.

### International Design; Big 3 Assembly; Big 3 Nameplate

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | % USCan Content |     |     | % Assembled in |        |
|---------------|------------------------|------------------------------|-----------------|-----|-----|----------------|--------|
|               |                        |                              | Avg             | Min | Max | U.S.           | Mexico |
| 1994          | .33 M                  | \$ 9,323                     | .               |     |     | 65.9           | 34.1   |
| 1995          | .43                    | 9,971                        | <b>79.15</b>    | 75  | 80  | 59.7           | 40.3   |
| 1996          | .19                    | 13,893                       | <b>70.49</b>    | 50  | 85  | 28.9           | 71.1   |
| 1997          | .44                    | 13,350                       | <b>72.80</b>    | 45  | 80  | 71.5           | 28.5   |
| 1998          | .42                    | 13,662                       | <b>64.92</b>    | 40  | 80  | 71.0           | 29.0   |

USCan parts content has ranged from 70 to 85 percent in Escort and Tracer, but only from 40 to 50 percent in Sebring Convertible. The average was 79.15 percent in 1995, before the Sebring Convertible existed, but it has fallen to 64.92 percent. Additional information on the labels indicate both Japanese and Mexican content: Japanese engines and/or transmissions on some Escorts and Tracers, Japanese and Mexican engines on Sebring Convertible, and Mexican and/or Japanese content in excess of 15 percent in some model years.

"Transplant" vehicles sold with Big 3 nameplates form a cohesive group that includes the Geo Prizm, designed by Toyota and built by New United Motor Manufactures, Inc. (NUMMI) the GM-Toyota joint-venture plant located in Fremont, California; Geo Metro and Tracker, designed by Suzuki and built by CAMI, a joint venture between General Motors of Canada and Suzuki Motor Corp. located in Ingersoll, Ontario; Ford Probe, designed by Mazda and built by Auto-Alliance International, a Ford-Mazda joint venture plant in Flat Rock, Michigan; and Chrysler Sebring sedan, Dodge Avenger and Eagle Talon, designed by Mitsubishi and built at the Normal, Illinois Chrysler-Mitsubishi joint-venture plant. These make-models can be expected to have less USCan content than the preceding group:

### International Design; Transplant Assembly; Big 3 Nameplate

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | % USCan Content |     |     | % Assembled in |        |
|---------------|------------------------|------------------------------|-----------------|-----|-----|----------------|--------|
|               |                        |                              | Avg             | Min | Max | US/Can         | Mexico |
| 1994          | .36 M                  | \$ 11,277                    | .               |     |     | 100.           | .      |
| 1995          | .38                    | 12,412                       | <b>56.45</b>    | 40  | 72  | 100.           | .      |
| 1996          | .32                    | 12,805                       | <b>56.96</b>    | 40  | 72  | 100.           | .      |
| 1997          | .24                    | 13,668                       | <b>54.29</b>    | 40  | 65  | 100.           | .      |
| 1998          | .16                    | 14,294                       | <b>61.21</b>    | 40  | 73  | 100.           | .      |

Although lower than the preceding groups, these vehicles still have a lot of USCan parts content. They are the first indication in this report that transplants, unlike true imports, have a lot of USCan parts. The U.S./Canadian value added to transplants goes far beyond mere assembly labor.

“Captive imports” -i.e., cars designed and built overseas but sold in the United States by the Big 3 include Cadillac Catera, Ford Aspire, Mercury Capri, Dodge/Plymouth Colt, Dodge Stealth, and Eagle Summit:

### **Captive Imports: International Design; Overseas Assembly; Big 3 Nameplate**

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | % USCan Content |     |     |
|---------------|------------------------|------------------------------|-----------------|-----|-----|
|               |                        |                              | Avg             | Min | Max |
| 1994          | .07 M                  | \$ 11,932                    | .               |     |     |
| 1995          | .08                    | 10,701                       | <b>5.00</b>     | 5   | 5   |
| 1996          | .03                    | 9,307                        | <b>5.00</b>     | 5   | 5   |
| 1997          | .06                    | 24,143                       | <b>3.62</b>     | 3   | 5   |
| 1998          | .03                    | 30,635                       | <b>4.00</b>     | 4   | 4   |

Unlike all other vehicles with Big 3 nameplates, captive imports have very little USCan content. Sales have dwindled in recent years. The large price increase in 1997 reflects the introduction of Cadillac Catera.

Big 3 designed and built trucks sold with foreign-based nameplates are the reverse of the preceding group. They include the Mazda Navajo and Pickup (which are essentially a Ford Explorer and Ranger, respectively), the Nissan Quest (Mercury Villager) and the Isuzu Hombre (GM “S/T” pickup). Since they are Big 3 vehicles produced in Big 3 plants (not joint venture or transplant factories), they can be expected to have high USCan content. However, they only account for a small proportion of foreign-based nameplate sales:

### **Big 3 Design; Big 3 Assembly; Foreign-Based Nameplate**

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | % USCan Content |     |     |
|---------------|------------------------|------------------------------|-----------------|-----|-----|
|               |                        |                              | Avg             | Min | Max |
| 1994          | .16 M                  | \$ 14,528                    | .               |     |     |
| 1995          | .09                    | 18,091                       | <b>71.83</b>    | 70  | 80  |
| 1996          | .10                    | 16,844                       | <b>76.33</b>    | 70  | 92  |
| 1997          | .09                    | 18,610                       | <b>65.74</b>    | 60  | 90  |
| 1998          | .09                    | 17,062                       | <b>72.64</b>    | 60  | 90  |

“True transplants” are the highest-volume subgroup of foreign-based nameplate vehicles and, intuitively, the group that might have the greatest diversity of USCan content. They are designed overseas, or at least at companies that are not the Big 3. They are primarily assembled in the United States, Canada or Mexico at plants owned by foreign-based companies or jointly owned with the Big 3. However, in some years, the company may import some units if, for instance, demand exceeds North American production. But if imports account for over 35 percent of registrations in any year, we will classify this make-model as a “part-time” rather than a “true”

transplant. At least part (usually all) of the North American assemblies are in the United States or Canada; if all are in Mexico, we will classify the make-model as a “Mexican” rather than a “true” transplant. They carry foreign-based nameplates. These models could have quite low USCan content if they are little more than locally assembled kits of imported parts, but they could have high USCan content if the manufacturer has brought over or locally developed in-house and supplier parts operations:

### True Transplants

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | % USCan Content |     |     | % Assembled in |          |
|---------------|------------------------|------------------------------|-----------------|-----|-----|----------------|----------|
|               |                        |                              | Avg             | Min | Max | No. Amer.      | Overseas |
| 1994          | 2.18 M                 | \$ 13,187                    | .               |     |     | 81.8           | 18.2     |
| 1995          | 2.27                   | 14,171                       | <b>47.04</b>    | 25  | 72  | 87.7           | 12.3     |
| 1996          | 2.03                   | 15,042                       | <b>54.35</b>    | 30  | 71  | 94.2           | 5.8      |
| 1997          | 2.36                   | 15,808                       | <b>52.52</b>    | 40  | 65  | 95.1           | 4.9      |
| 1998          | 2.49                   | 16,736                       | <b>59.26</b>    | 40  | 75  | 93.1           | 6.9      |

Sales of true transplants increased, partly due to best-sellers such as Honda Accord and Toyota Camry, and partly because new make-models such as Mercedes ML320, BMW Z3 and Toyota Sienna joined the ranks.

USCan content increased quite substantially, from 47.04 percent in 1995 to 59.26 percent in 1998. At 75 percent, the USCan content of the 1998 Honda Accord was not much below the average for true domestic vehicles (85.17%), and three times as high as the lowest make-model in this group, the 1995 Toyota pickup (25%). However, most of the models are at an intermediate level, well below the USCan content of Big 3 cars, yet containing U.S./Canadian value added far beyond mere assembly labor. Many of the transplants have become more North American over time, both in parts content and in the proportion assembled in the Western Hemisphere.

This increase of USCan parts in transplant vehicles since the inception of AALA is one of the most important evaluation findings. Of course, it is inappropriate to conclude from these statistics alone, in the absence of other evidence, that the AALA labels themselves “caused” the trend of increasing USCan content in transplants. Many other factors, especially the U.S.-Japan Agreement on Auto and Auto Parts, have been contributing to this trend (see Sections 1.2 and 1.3).

“Part-time transplants” are a small group of make-models that moved back and forth between North American and overseas assembly, or that were produced half-and-half in both places, including Suzuki Sidekick and Swift, Hyundai Sonata, VW Cabrio and Isuzu Amigo. Since their production is not centered in North America, they have much lower USCan content, on the average, than “true” transplants:

## Part-Time Transplants

| Model<br>Year | Total<br>Registrations | Average<br>Base Sticker<br>Price | % USCan Content |     |     | % Assembled in   |          |
|---------------|------------------------|----------------------------------|-----------------|-----|-----|------------------|----------|
|               |                        |                                  | Avg             | Min | Max | North<br>America | Overseas |
| 1994          | .06 M                  | \$ 11,041                        | .               |     |     | 36.7             | 63.3     |
| 1995          | .09                    | 13,257                           | <b>14.96</b>    | 5   | 45  | 20.3             | 79.7     |
| 1996          | .03                    | 14,569                           | <b>14.78</b>    | 5   | 50  | 33.7             | 66.3     |
| 1997          | .05                    | 15,175                           | <b>8.28</b>     | 2   | 50  | 37.9             | 62.1     |
| 1998          | .06                    | 15,508                           | <b>15.83</b>    | 1   | 55  | 53.8             | 46.2     |

"Mexican transplants" include Volkswagen's Jetta, Golf and New Beetle. Sales more than doubled in 1994-98. They resemble true transplants, except they are assembled exclusively in Mexico, not in the United States or Canada:

### Mexican Transplants (VW Jetta, Golf and New Beetle)

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | % USCan Content |     |     |
|---------------|------------------------|------------------------------|-----------------|-----|-----|
|               |                        |                              | Avg             | Min | Max |
| 1994          | .06 M                  | \$ 13,480                    | .               |     |     |
| 1995          | .10                    | 13,282                       | <b>10.00</b>    | 10  | 10  |
| 1996          | .11                    | 14,031                       | <b>15.00</b>    | 15  | 15  |
| 1997          | .11                    | 14,865                       | <b>9.07</b>     | 5   | 10  |
| 1998          | .14                    | 15,144                       | <b>10.35</b>    | 2   | 15  |

These models have far less USCan content than "true transplants." Additional information on the labels suggests they contain large, fairly similar proportions of Mexican and German parts. The labels also show a mix of Mexican and German engines. In other words, VW models assembled exclusively in Mexico tend to contain Mexican parts, whereas true transplants assembled in the United States or Canada contain U.S./Canadian parts. By contrast, Big 3 cars, even when they are assembled in Mexico, still contain large percentages of U.S./Canadian parts.

"True imports" are designed overseas, assembled overseas (except a small proportion of Volvos in Canada and 1995-96 BMW 300's in the United States) and carry foreign-based nameplates. Since they include many luxury make-models, the average price is substantially higher than the other groups. Sales grew in 1997-98 as the booming United States economy whetted appetites for luxury cars and trucks:

## True Imports

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | % USCan Content |     |     | % Assembled in |          |
|---------------|------------------------|------------------------------|-----------------|-----|-----|----------------|----------|
|               |                        |                              | Avg             | Min | Max | US/Can         | Overseas |
| 1994          | 1.38 M                 | \$ 29,417                    | .               |     |     | .5             | 99.5     |
| 1995          | 1.73                   | 29,683                       | <b>4.12</b>     | 0   | 20  | .8             | 99.2     |
| 1996          | 1.32                   | 29,694                       | <b>4.74</b>     | 0   | 20  | .9             | 99.1     |
| 1997          | 1.69                   | 30,919                       | <b>4.54</b>     | 0   | 15  | .3             | 99.7     |
| 1998          | 1.66                   | 31,320                       | <b>3.91</b>     | 0   | 15  | .6             | 99.4     |

USCan content is much lower than in transplants, averaging below 5 percent and rarely exceeding 10 percent in any individual make-model. Whereas foreign companies extensively manufacture or purchase parts in the United States or Canada to put into the vehicles they assemble here, they do not ship many USCan parts home, assemble them into vehicles and then ship the finished product back to the United States.

By 1998, the USCan content of true transplants (59.26%) was substantially closer to true domestics (85.17%) than to true imports (3.91%). In other words, the new-vehicle market contains three important, quite distinct groups: domestics, which always had high USCan content, but lost USCan content during 1995-98; imports, that have very low USCan content throughout 1995-98; and transplants, whose USCan content was midway between imports and domestics in 1995, but content gained substantially during 1995-98 and is now closer to domestics than imports.

### 2.5 Cars vs. pickup trucks vs. SUVs vs. vans

There may be a perception that light trucks have higher USCan content than passenger cars, if only because the Big 3 have a higher market share of light trucks than cars, and perhaps even because consumers of light trucks place more value on "buying American" than car buyers. That perception could lead to a belief that the market shift from cars to light trucks in recent years ought to have increased average USCan content for the overall fleet.

The perception, however, is primarily true of pickup trucks and vans, not SUVs. Because the market shift away from passenger cars is mainly to SUVs, not pickup trucks or vans, the effect of this shift on net USCan content is small.

The growing popularity of SUVs is immediately seen in statistics on market shares. SUVs increased from 11 to 18 percent of the new-vehicle market in just four years, while passenger cars dropped from 58 to 53 percent. Pickup trucks captured close to 19 percent of sales each year, and vans (with GVWR 8,500 pounds or less) 11 percent. Essentially, SUVs took the place of passenger cars:

|                | Market Shares (%) |      |      |      |      |
|----------------|-------------------|------|------|------|------|
|                | 1994              | 1995 | 1996 | 1997 | 1998 |
| Passenger cars | 58.3              | 59.7 | 57.9 | 55.3 | 53.4 |
| Pickup trucks  | 20.2              | 17.0 | 17.1 | 19.9 | 17.9 |
| SUVs           | 10.8              | 11.6 | 13.9 | 15.5 | 17.7 |
| Vans           | 10.7              | 11.8 | 11.2 | 9.4  | 11.0 |

Passenger cars sold in the United States, by 1998, were about 58 percent Big 3 and 42 percent import brands, the latter more or less equally divided between transplants and true imports. That mix resulted in lower USCan content than pickup trucks, SUVs or vans:

### Passenger Cars

| Model Year | Total Registrations | Avg Base Sticker Price | Avg % USCan Content | % Assembled in |        |          |
|------------|---------------------|------------------------|---------------------|----------------|--------|----------|
|            |                     |                        |                     | US/Can         | Mexico | Overseas |
| 1994       | 8.37 M              | \$ 20,327              | .                   | 75.5           | 2.6    | 21.9     |
| 1995       | 9.32                | 20,922                 | <b>64.14</b>        | 74.0           | 3.1    | 22.9     |
| 1996       | 7.87                | 20,958                 | <b>66.29</b>        | 77.5           | 3.6    | 18.9     |
| 1997       | 8.33                | 22,287                 | <b>61.76</b>        | 75.8           | 3.1    | 21.1     |
| 1998       | 7.86                | 22,753                 | <b>60.38</b>        | 73.9           | 3.6    | 22.5     |

USCan parts content decreased from 64.14 percent in MY 1995 to 60.38 percent in 1998. During those years U.S./Canadian assembly also declined, but not nearly as much: from 75.5 to 73.9 percent. The decline in USCan content reflects primarily a reduction of USCan content in Big 3 cars, and secondarily a shift from Big 3 cars to transplants and imports; it would have been even greater if not for increased USCan content among transplants. Sales of passenger cars decreased slightly.

Pickup trucks sold in the United States during 1994-98 were assembled 97-99 percent in North America; each year 82-90 percent were Big 3 products. In other words, only 1-3 percent are true imports. An important reason is that pickup trucks brought fully assembled into the United States, except from Canada or, more recently, Mexico have long been charged a 25 percent tariff<sup>8</sup> (see Section 1.2). That's given North America a historical advantage as place of assembly. It is reflected in the high market share for the Big 3 and the high proportion of transplants among trucks sold by foreign-based companies:

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<sup>8</sup>"Mission Impossible? AIADA Tackles 25% Truck Tariff," *AIADA's Showroom*, Vol. 16, No. 5, June/July 1999. In the 1994-98 time frame, the 25 percent tariff applies only to pickup trucks imported from countries other than Canada or Mexico. Vans and SUVs are exempt.

### Pickup trucks

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | Avg %<br>USCan<br>Content | % Assembled in |        |          |
|---------------|------------------------|------------------------------|---------------------------|----------------|--------|----------|
|               |                        |                              |                           | US/Can         | Mexico | Overseas |
| 1994          | 2.91 M                 | \$ 11,302                    | .                         | 95.6           | 1.0    | 3.5      |
| 1995          | 2.65                   | 12,397                       | <b>83.33</b>              | 95.1           | 1.9    | 3.1      |
| 1996          | 2.32                   | 13,015                       | <b>83.36</b>              | 92.4           | 5.8    | 1.8      |
| 1997          | 2.99                   | 14,286                       | <b>83.55</b>              | 92.1           | 6.8    | 1.1      |
| 1998          | 2.63                   | 14,433                       | <b>83.09</b>              | 92.3           | 7.3    | .4       |

USCan content held its own as the Big 3 market share increased and overseas-assembled trucks almost disappeared - and despite increasing production of Big 3 pickup trucks in Mexico. Import-brand pickup trucks, both transplants and true imports, have lost sales since 1995. The latest USCan content, 83.09 percent, is substantially higher than for passenger cars (60.38%).

SUVs are the growth market of the 1990's. Registrations increased by 67 percent from 1994 to 1998. They include a growing proportion of luxury models and since 1996 they have had a higher average base sticker price than cars, pickups or vans. Sales have grown for models produced throughout 1994-98 such as GMC Yukon, or for new models such as Ford Expedition that more or less replaced existing models in a manufacturer's lineup, or for new models by manufacturers that had just entered the SUV business, such as Mercedes ML320:

### SUVs

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | Avg %<br>USCan<br>Content | % Assembled in |        |          |
|---------------|------------------------|------------------------------|---------------------------|----------------|--------|----------|
|               |                        |                              |                           | US/Can         | Mexico | Overseas |
| 1994          | 1.56 M                 | \$ 18,749                    | .                         | 84.6           | .      | 15.4     |
| 1995          | 1.80                   | 20,116                       | <b>69.76</b>              | 79.6           | 1.5    | 18.9     |
| 1996          | 1.88                   | 21,292                       | <b>72.76</b>              | 81.6           | 4.0    | 14.4     |
| 1997          | 2.33                   | 23,480                       | <b>67.30</b>              | 75.3           | 4.1    | 20.6     |
| 1998          | 2.61                   | 24,683                       | <b>69.06</b>              | 78.5           | 2.4    | 19.1     |

The USCan content and assembly trends of SUVs are much closer to those of passenger cars than those of pickup trucks or vans. Those who perceive the SUV as a "Big 3 stronghold" are not taking into account such highly successful imports as the Nissan Pathfinder, Toyota 4Runner and RAV4 and Honda CRV or transplants such as Isuzu Rodeo and Honda Passport. USCan content is not much higher than for cars and well below the levels for pickup trucks and vans. But it held its own during 1995-98. Like cars, close to 20 percent are assembled overseas (SUVs are not subject to the 25% tariff that applies to pickup trucks). Several Big 3 brands are now extensively assembled in Mexico, further reducing USCan content and assembly. When the public substituted SUVs for cars, they barely changed their domestic vs. transplant vs. import consumption patterns.

Vans have a level of USCan content and assembly comparable to pickup trucks. Even though vans for passenger transport are not subject to the 25 percent tariff that applies to pickup trucks, the Big 3 have kept a very high share thanks to a technological and marketing edge and economies of scale. The vans in the data base include minivans (e.g., Plymouth Voyager, Ford Windstar, Chevrolet Venture, Mazda MPV or Toyota Sienna) and full-sized vans with GVWR of 8,500 pounds or less (e.g., Dodge Ram Wagon and Van, Ford Econoline or GMC Savana):

### Vans

| Model<br>Year | Total<br>Registrations | Avg<br>Base Sticker<br>Price | Avg %<br>USCan<br>Content | % Assembled in |        |          |
|---------------|------------------------|------------------------------|---------------------------|----------------|--------|----------|
|               |                        |                              |                           | US/Can         | Mexico | Overseas |
| 1994          | 1.53 M                 | \$ 16,575                    | .                         | 96.6           | .      | 3.4      |
| 1995          | 1.84                   | 17,614                       | <b>85.70</b>              | 95.2           | .      | 4.8      |
| 1996          | 1.52                   | 18,555                       | <b>84.79</b>              | 96.4           | .      | 3.6      |
| 1997          | 1.41                   | 19,994                       | <b>81.09</b>              | 95.6           | .      | 4.4      |
| 1998          | 1.60                   | 20,048                       | <b>80.42</b>              | 97.7           | .      | 2.3      |

Registrations were close to 1.6 million throughout 1994-98. USCan content started at 85.70 percent in 1995, even higher than pickup trucks, but it had declined to 80.42 percent by 1998. Whereas the absolute numbers are comparable to those of pickups, the declining trend is similar to cars. Average USCan content declined primarily because Big 3 vans had fewer USCan parts, not because of a shift to transplants or imports. For example, USCan content in the Chevrolet Venture/Olds Silhouette/Pontiac Trans Sport dropped from 95 percent in 1997 to 75 percent in 1998, while Mexican content increased to 17 percent.

## 2.6 Effect of within-group USCan content shifts vs. between-group market shifts

The overall USCan content of the new-vehicle fleet declined from 70.01 percent in MY 1995 to 67.64 percent in MY 1998, as shown in Section 2.2. The next sections enumerated four factors that appear to be driving overall USCan content:

- A trend toward less USCan content within true domestic vehicles drives fleetwide USCan content down.
- A trend toward more USCan content within true transplant vehicles drives fleetwide USCan content up.
- A market shift from Big 3 to import-nameplate vehicles drives fleetwide USCan content down.
- A market shift from passenger cars to SUVs drives fleetwide USCan content up.

Here are rough estimates of the relative importance of each factor:

- True domestic Big 3 vehicles constitute close to 66 percent of the vehicle fleet. USCan content decreased by about 5.4 percentage points: from 90.6 percent in 1995 to 85.2

percent 1998. As a result, this factor accounts for a  $66\% \times 5.4\% = 3.6$  percentage point reduction in USCan content for the overall vehicle fleet. When domestic Big 3 vehicles with international design (e.g., Ford Escort) are included, this factor rises to a 3.9 percentage point overall **reduction**.

- True transplant vehicles constitute about 17 percent of sales. USCan content increased by about 12 percentage points: from 47 percent 1995 to 59 percent in 1998. This factor accounts for a  $17\% \times 12\% = 2.0$  percentage point **increase** in USCan content for the whole vehicle fleet.
- The market share for the Big 3 dropped from 72.5 percent in MY 1995 to 70.0 percent in MY 1998, while import-nameplate vehicles rose from 27.5 to 30.0 percent of sales. In 1998, USCan content was, on the average, 53.5 percentage points higher in Big 3 than in import-nameplate vehicles: 84 vs. 30.5 percent. This factor accounts for a  $2.5\% \times 53.5\% = 1.3$  percentage point **reduction** in USCan content for the whole fleet.
- The market share for passenger cars dropped from 59.7 percent in 1995 to 53.4 percent in 1998, with nearly all the growth going to SUVs. In 1998, USCan content was, on the average, 9 percentage points higher in SUVs than in passenger cars: 69 vs. 60 percent. This factor accounts for a  $6.3\% \times 9\% = 0.6$  percentage point **increase** in USCan content for the entire fleet.

In all, the four factors approximately account for a net:

$$- 3.9 + 2.0 - 1.3 + 0.6 = - 2.6$$

and that corresponds closely to the actual net 2.37 percentage point reduction in USCan content, from 70.01 to 67.64 percent, in the overall fleet from 1995 to 1998. In other words, the most important factor has been the reduction of USCan content in Big 3 vehicles, and it has overshadowed the substantial gains in USCan content among the transplant vehicles as well as any effects of market shifts.

## 2.7 By manufacturer

The trends in USCan content differ substantially among manufacturers, as we shall see. There is, however, no obvious correlation between aggregate USCan content trends and manufacturers' success in gaining or maintaining market share. Let us first examine the market shares of 21 manufacturers, based on the "production model year registrations" as defined in Section 2.2, and thus somewhat different (and more variable) than shares based on "calendar year sales" as reported in *Automotive News Almanacs*. All statistics in this section are based on the nameplate under which a vehicle is sold, not on who produced it. For example, NUMMI cars sold as Geo Prizms are included in General Motors, and those sold as Corollas are included in Toyota:

|                | Market Shares (%) |      |      |      |      |
|----------------|-------------------|------|------|------|------|
|                | 1994              | 1995 | 1996 | 1997 | 1998 |
| General Motors | 33.6              | 33.4 | 32.1 | 29.6 | 29.3 |
| Ford           | 25.1              | 24.7 | 23.7 | 26.4 | 24.8 |
| Chrysler       | 14.6              | 14.5 | 17.8 | 15.4 | 15.9 |
| Toyota         | 7.6               | 6.8  | 7.8  | 7.8  | 8.7  |
| Honda          | 5.5               | 5.2  | 5.6  | 6.4  | 6.9  |
| Nissan         | 5.0               | 5.5  | 4.9  | 5.3  | 4.2  |
| Mazda          | 2.7               | 2.1  | 1.7  | 1.4  | 1.5  |
| Mitsubishi     | 1.4               | 1.8  | 1.1  | 1.7  | 1.2  |
| Subaru         | .3                | .7   | .7   | .8   | 1.0  |
| Isuzu          | .8                | .8   | .6   | .5   | .8   |
| Suzuki         | .2                | .2   | .2   | .2   | .2   |
| Volkswagen     | .5                | .9   | 1.1  | 1.1  | 1.5  |
| Mercedes-Benz  | .4                | .6   | .4   | .7   | 1.0  |
| BMW            | .6                | .8   | .4   | .9   | .8   |
| Volvo          | .6                | .6   | .6   | .4   | .7   |
| Jaguar         | .11               | .12  | .12  | .13  | .16  |
| Landrover      | .05               | .13  | .18  | .16  | .13  |
| Saab           | .14               | .20  | .17  | .19  | .09  |
| Porsche        | .02               | .05  | .05  | .08  | .07  |
| Hyundai        | .8                | .9   | .6   | .7   | .6   |
| Kia            | .1                | .2   | .3   | .4   | .5   |

Companies with substantial gains (in absolute terms) are Chrysler, Toyota, Honda, Volkswagen, Mercedes-Benz and Kia. General Motors, Nissan and Mazda lost market share. Ford was almost unchanged. Now let us examine the trends in value-weighted average USCan parts content:

|                | USCan Content (Average %) |      |      |      |
|----------------|---------------------------|------|------|------|
|                | 1995                      | 1996 | 1997 | 1998 |
| General Motors | 91.9                      | 91.7 | 90.3 | 85.0 |
| Ford           | 85.8                      | 84.9 | 82.6 | 85.8 |
| Chrysler       | 88.6                      | 84.0 | 80.1 | 79.0 |
| Toyota         | 30.5                      | 36.2 | 34.2 | 37.4 |
| Honda          | 36.0                      | 47.9 | 42.7 | 53.0 |
| Nissan         | 22.9                      | 23.0 | 25.8 | 26.1 |
| Mazda          | 29.4                      | 37.8 | 33.7 | 38.7 |
| Mitsubishi     | 30.0                      | 41.3 | 27.8 | 30.6 |
| Subaru         | 26.2                      | 33.9 | 32.4 | 23.6 |
| Isuzu          | 25.0                      | 33.1 | 38.4 | 47.8 |
| Suzuki         | 24.7                      | 16.5 | 13.5 | 10.1 |
| Volkswagen     | 7.8                       | 10.3 | 7.1  | 7.3  |
| Mercedes-Benz  | 2.0                       | 2.0  | < .5 | 13.4 |
| BMW            | 4.2                       | 11.8 | 9.1  | 9.2  |
| Volvo          | 2.0                       | 2.0  | 2.0  | 1.7  |
| Jaguar         | 6.1                       | 5.7  | 5.1  | 5.0  |
| Landrover      | < .5                      | < .5 | < .5 | < .5 |
| Saab           | 1.3                       | 1.0  | 1.8  | 1.9  |
| Porsche        | < .5                      | < .5 | < .5 | < .5 |
| Hyundai        | 7.6                       | 5.0  | 1.3  | 1.1  |
| Kia            | 7.2                       | 5.0  | 5.0  | 4.2  |

There are clear differences between the Big 3, who have high levels of USCan content (79-92%) in their almost exclusively domestic vehicles; the Japanese companies, all except 1997-98 Suzuki at an intermediate level (22-53%), selling a large proportion of transplants with some imports; and the European and Korean companies, at a much lower level (0-13%), selling primarily imports.

At the same time, there are visible differences within each group. Among the Big 3, Ford started the lowest, but held its USCan content and, by 1998 was the highest (85.8%). GM started at a very high 91.9 percent but dropped substantially to 85 percent in 1998. Most of the drop came in the last year, which saw an almost across-the-board reduction of USCan content in the various GM models. Chrysler's USCan content dropped even more than GM's, from 88.6 to 79 percent.

All Japanese companies except Subaru and Suzuki increased their USCan content during 1995-98, but Honda and Isuzu had the largest increases by far. Honda, at 53 percent, is now well ahead of the others. Toyota and Mazda had increases of 7-9 percentage points, placing them in the high 30's. Nissan, Mitsubishi and Subaru changed less and had 23-31 percent USCan content in 1998.

European companies had much lower USCan content than Japanese vehicles. Volkswagen, with many operations in Mexico, maintained a fairly steady USCan content around 8 percent. After BMW and Mercedes opened assembly facilities in Spartanburg, South Carolina and Tuscaloosa, Alabama, respectively, USCan content jumped to 9-13 percent. The other European vehicles have little USCan content. Hyundai lost most of its USCan content after closing its Canadian assembly plant.

When data are aggregated at the company level, there is little correlation between the trends in USCan content and market share. Among the Big 3, GM lost USCan content and lost market share; however, Chrysler lost even more USCan content but gained market share. Among Japanese companies, Honda and Toyota gained USCan content and market share; however, Nissan and Mitsubishi also gained USCan content but lost market share; Subaru lost USCan content but gained market share. Most of the European companies gained market share but only Mercedes-Benz and BMW increased USCan content. Hyundai lost both market share and USCan content.

The data also suggest that companies sourced more parts during 1995-98 from countries with lower manufacturing costs. Thus, Japanese and German companies sourced more parts in the United States and Canada (or, in the case of VW, in Mexico), American companies acquired more Mexican parts, and Korean companies obtained more from Korea.

Comparison of the assembly locations of vehicles sold in the United States in 1994 and 1998 shows differences among manufacturers as well as time trends:

|                | MY   | Percent of U.S. Registrations Assembled in |        |          |
|----------------|------|--------------------------------------------|--------|----------|
|                |      | U.S./Canada                                | Mexico | Overseas |
| General Motors | 1994 | 99.4                                       | .6     | .        |
|                | 1998 | 96.7                                       | 2.1    | 1.0      |
| Ford           | 1994 | 97.4                                       | 1.9    | .7       |
|                | 1998 | 98.6                                       | 1.4    | .        |
| Chrysler       | 1994 | 94.0                                       | 4.8    | 1.2      |
|                | 1998 | 90.3                                       | 9.7    | .        |
| Toyota         | 1994 | 40.2                                       | .      | 59.8     |
|                | 1998 | 54.0                                       | .      | 46.0     |
| Honda          | 1994 | 60.5                                       | .      | 39.5     |
|                | 1998 | 70.5                                       | .      | 29.5     |
| Nissan         | 1994 | 54.3                                       | .      | 45.7     |
|                | 1998 | 41.0                                       | 4.8    | 54.2     |

|                                  | MY   | Percent of U.S. Registrations Assembled in |        |          |
|----------------------------------|------|--------------------------------------------|--------|----------|
|                                  |      | U.S./Canada                                | Mexico | Overseas |
| Mazda                            | 1994 | 52.7                                       | .      | 47.3     |
|                                  | 1998 | 53.7                                       | .      | 46.3     |
| Mitsubishi                       | 1994 | 40.9                                       | .      | 59.1     |
|                                  | 1998 | 45.7                                       | .      | 54.3     |
| Subaru                           | 1994 | 62.0                                       | .      | 38.0     |
|                                  | 1998 | 57.9                                       | .      | 42.1     |
| Isuzu                            | 1994 | 49.5                                       | .      | 50.5     |
|                                  | 1998 | 75.5                                       | .      | 24.5     |
| Suzuki                           | 1994 | 48.7                                       | .      | 51.3     |
|                                  | 1998 | 22.5                                       | .      | 77.5     |
| Volkswagen                       | 1994 | .                                          | 65.9   | 34.1     |
|                                  | 1998 | .                                          | 53.0   | 47.0     |
| Mercedes-Benz                    | 1994 | .                                          | .      | 100.0    |
|                                  | 1998 | 22.3                                       | .      | 77.7     |
| BMW                              | 1994 | .                                          | .      | 100.0    |
|                                  | 1998 | 11.9                                       | .      | 88.1     |
| Volvo                            | 1994 | 7.2                                        | .      | 92.8     |
|                                  | 1998 | 9.3                                        | .      | 90.7     |
| Saab, Jaguar, Landrover, Porsche | 1994 | .                                          | .      | 100.0    |
|                                  | 1998 | .                                          | .      | 100.0    |
| Hyundai                          | 1994 | 2.8                                        | .      | 97.2     |
|                                  | 1998 | .                                          | .      | 100.0    |
| Kia                              | 1994 | .                                          | .      | 100.0    |
|                                  | 1998 | .                                          | .      | 100.0    |

General Motors and Chrysler substantially increased assemblies of vehicles in Mexico and exports of those vehicles to the United States during 1994-98. Ford assembled about the same number of vehicles in Mexico each year, but exported fewer of them to the United States (while selling more in Mexico or other countries). The trends in assembly locations for GM and Chrysler vs. Ford are consistent with the trends in USCan parts content.

Japanese companies rely heavily on transplants. Among the larger companies, Honda had the highest percentage of transplants throughout 1994-98. Their proportion of U.S. sales assembled in the United States or Canada increased from 60.5 percent in 1994 to 70.5 percent in 1998. Toyota had a large increase, from 40.2 percent to 54.0 percent of U.S. registrations assembled in U.S./Canada. Isuzu also had a large increase. Nissan, Subaru and Suzuki reduced assemblies in U.S./Canada. Nissan is also the only Japanese company that assembled vehicles in Mexico for sale in the United States.

Volkswagen, as stated above, assembles many cars in Mexico. Mercedes-Benz and BMW increased their transplant production from nothing to 12-22 percent, still far below most Japanese companies. Hyundai moved all assembly back to Korea.

USCan parts in transplant vehicles: It is especially interesting to focus on the percent of USCan content in the transplant vehicles of the seven companies, all Japanese, that sold transplants throughout 1995-1999. In the following table, "transplants" include "true transplants" and "Big 3 built vehicles sold with foreign-based nameplates" (such as Isuzu Hombre), in the nomenclature of Section 2.4:

|            | Transplant Vehicles: USCan Content (Average %) |      |      |      |
|------------|------------------------------------------------|------|------|------|
|            | 1995                                           | 1996 | 1997 | 1998 |
| Toyota     | 49.4                                           | 53.1 | 52.7 | 54.7 |
| Honda      | 47.1                                           | 65.4 | 59.6 | 72.0 |
| Nissan     | 44.0                                           | 45.4 | 46.2 | 51.1 |
| Mazda      | 66.2                                           | 69.5 | 67.0 | 68.8 |
| Mitsubishi | 57.6                                           | 57.6 | 51.4 | 63.4 |
| Subaru     | 35.0                                           | 40.0 | 40.0 | 40.0 |
| Isuzu      | 35.0                                           | 48.1 | 46.4 | 60.6 |

Every Japanese manufacturer's transplants gained USCan parts content. Honda and Isuzu gained over 24 percentage points. Toyota, Nissan, Mitsubishi and Subaru gained 5-7 points. In other words, during 1995-98, the Japanese manufacturers succeeded in a concerted effort to increase the proportion of U.S. sales assembled in North America **and** the proportion of USCan parts in these North American-assembled vehicles. Although these trends must have existed even before the AALA and the 1995 U.S.-Japan Agreement on Autos and Auto Parts (see Sections 1.2 and 1.3), they have certainly continued since AALA and the Agreement.

## 2.8 Make-models that gained or lost USCan content

By tracking the USCan content of individual make-models from 1995 to 1998, we can obtain insight on what sorts of vehicles were the principal gainers, and losers in USCan content. Some models, however, were not produced continuously from 1995 through 1998. To facilitate this analysis, the 298 make-models of cars, pickup trucks, SUVs and vans in the original data base

were aggregated into 135 groups of vehicles produced from 1995 through 1998. For example, if a manufacturer produced a model in 1995 and then discontinued it but essentially replaced it with a new model in the same market class - e.g., Ford Bronco and Expedition, both full-sized SUVs - these two models, together, form a group produced from 1995 through 1998. Also, when one company sells two or more models of identical or similar design under different nameplates (corporate twins), with identical or similar USCan content, they are grouped together for this analysis - e.g., Buick LeSabre, Olds 88 and Pontiac Bonneville.

The procedure is to compare the USCan content for MY 1995 and MY 1998 and compute the gain or loss; the average annual registrations for 1995 through 1998; and the **gain score**, the product of  $\Delta$  USCan and average registrations. For example, Honda Accord had 50 percent USCan content in 1995 and 75 percent in 1998, a gain of 25 percentage points. Since average annual new-vehicle registrations were 364,873, the gain score is

$$.25 \times 364,873 = + 91,218$$

The interpretation of the gain score is that an increase of 25 percentage points in the USCan content of Honda Accords is equivalent, so to speak, to manufacturing enough additional parts in the United States and Canada to assemble 91,218 cars per year.

Among the 135 groups, only 30 increased USCan content from 1995 to 1998. The total new-vehicle registrations for the 30 gainers was, on the average, 3,554,909 per year. The sum of the gain scores for the 30 groups was 389,562 - i.e., the registration-weighted average increase in USCan content for these models was  $389,562/3,554,909 = 11$  percentage points.

Sixty-six groups, totaling 8,249,643 vehicles per year lost USCan content from 1995 to 1998. The sum of the gain scores was - 605,858. In other words, the sum of the losses exceeded the sum of the gains, consistent with the decline in average USCan content of the entire vehicle fleet, as reported in Section 2.2. The average reduction in USCan content among these 66 models was  $- 605,858/8,249,643 = - 7.3$  percentage points.

Thirty-nine groups, totaling 2,351,709 vehicles per year reported exactly the same USCan content in MY 1995 and MY 1998.

Table 2-1 lists the 20 make-model groups with the most positive gain scores. Topping the list is Honda Accord, with a gain score of 91,218, thanks to a 25 percentage point increase in USCan content and a high volume of sales. Honda Civic is a close second, with a similar 25 percentage point USCan increase and slightly lower sales. In third place is the Ford F-Series truck, whose USCan content increased "only" 5 percentage points - from a high 90 to an even higher 95 - but whose sales are so large that its gain score exceeds all the remaining models.

Most important, Table 2-1 shows that 15 of the top 20 gainers are transplants of one form or another: 9 are "true" Japanese transplants (Accord, Civic, Tacoma, Altima, Corolla, Frontier, Rodeo, Passport, Legacy), 2 are Japanese transplants sold with Big 3 nameplates (Geo Prizm and Metro), 3 true import models were replaced or at least supplemented by a transplant or an

TABLE 2-1

TWENTY MAKE-MODEL GROUPS WITH GREATEST GAINS IN  
U.S./CANADIAN PARTS CONTENT, 1995-98

|                             | Average USCan Content (%) |      |       | Average<br>Annual<br>Registrations | Gain<br>Score* |
|-----------------------------|---------------------------|------|-------|------------------------------------|----------------|
|                             | 1995                      | 1998 | Gain  |                                    |                |
| 1. Honda Accord             | 50                        | 75   | + 25  | 364,873                            | 91,218         |
| 2. Honda Civic              | 45                        | 70   | + 25  | 311,940                            | 77,985         |
| 3. Ford F-Series            | 90                        | 95   | + 5   | 668,480                            | 33,490         |
| 4. Toyota Pickup/Tacoma     | 25                        | 45   | + 20  | 133,533                            | 26,707         |
| 5. Nissan Altima            | 40                        | 55   | + 15  | 147,019                            | 22,053         |
| 6. Toyota Corolla           | 45                        | 55   | + 10  | 213,855                            | 21,386         |
| 7. Nissan Pickup/Frontier   | 30                        | 45   | + 15  | 118,702                            | 17,805         |
| 8. Toyota Previa/Sienna     | 5                         | 60   | + 55  | 26,744                             | 14,709         |
| 9. Isuzu P'UP/Hombre        | 5                         | 90   | + 85  | 14,853                             | 12,625         |
| 10. Isuzu Rodeo             | 35                        | 55   | + 20  | 61,136                             | 12,227         |
| 11. Crown Vic/Grand Marquis | 80                        | 85   | + 5   | 195,707                            | 9,785          |
| 12. Geo Prizm               | 50                        | 62   | + 12  | 70,860                             | 8,503          |
| 13. BMW 300/Z3              | 5                         | 13.7 | + 8.7 | 62,423                             | 5,461          |
| 14. Toyota 4Runner          | 5                         | 10   | + 5   | 102,642                            | 5,132          |
| 15. Honda Passport          | 35                        | 55   | + 20  | 25,553                             | 5,111          |
| 16. Subaru Legacy           | 35                        | 40   | + 5   | 84,122                             | 4,206          |
| 17. Explorer/Mountaineer    | 80                        | 81   | + 1   | 410,254                            | 4,180          |
| 18. Volkswagen Jetta        | 10                        | 15   | + 5   | 82,007                             | 4,100          |
| 19. Pathfinder/QX4          | 0                         | 5    | + 5   | 81,442                             | 4,072          |
| 20. Geo Metro               | 45                        | 50   | + 5   | 63,894                             | 3,195          |

\*Gain score = USCan gain x annual registrations

essentially domestic vehicle (Previa to Sienna, P'UP to Hombre, BMW 300 to 300/Z3), and 1 was a Mexican transplant (Jetta). The remaining 5 of the top 20 gainers include 3 Ford domestic models (F-Series, Crown Victoria, Explorer) and 2 Japanese true imports (4Runner, Pathfinder).

The two groups that had the largest gain in percent USCan content (although not the largest gain scores because sales volumes are not so high) are the Isuzu pickup truck, gaining from 5 to 90 when it shifted from an import (P'UP) to a domestic vehicle sold by Isuzu (Hombre); and the Toyota van, gaining from 5 to 60 when it shifted from a true import (Previa) to a true transplant (Sienna).

Table 2-2 lists the 20 make-model groups with the most negative gain scores. Topping the list are three groups of domestic Chrysler products: Neon, Caravan/Voyager/Town&Country and Dodge Ram Pickup. In fact, the **entire** list is Big 3 vehicles, 19 "true" domestics, and the Escort/Tracer, an international design produced in Ford factories. Six, including the top three are Chrysler, 10 are General Motors, and only 4 are Ford, reflecting the corporate USCan content trends reported in Section 2.7. Seven groups have a portion of their final assemblies in Mexico (Neon, Ram Pickup, Cavalier, Escort, Suburban, Tahoe, Contour) and, presumably, increased their Mexican parts content over the years.

Although the single most negative score (- 53,790) is not nearly as large as the most positive (+ 91,218), negative scores are more persistent. The 20<sup>th</sup> model in Table 2-1 is down to + 3,195 while the 20<sup>th</sup> model in Table 2-2 is still at - 10,515.

Table 2-3 lists the 15 best-selling vehicles that reported identical USCan content in 1995 and 1998. These make-models show no obvious pattern. They include 4 true domestic groups (Ranger, Saturn, Econoline, Mustang), 5 true transplants (Camry, Sentra, 626, Avalon, Eclipse), 5 true imports (Maxima, Volvo 850/70, Tercel, Mirage, Lexus ES) and the Geo Tracker (essentially a Suzuki Sidekick sold by Chevrolet).

## **2.9 USCan content changes in carryover vs. redesigned vs. entirely new models**

In the majority of cases, this year's vehicles of a particular make-model are not too different from the past year's: they are essentially carryover models. Every four years or more, however, successful make-models are extensively redesigned: a fundamentally new vehicle is sold under the same name as last year's product. For example, the 1996 Ford Taurus is a major redesign of the 1995 Taurus. In other cases, a vehicle design and its name are both discontinued, but the manufacturer produces a new vehicle with a new name, yet aimed at more or less the same market segment, such as the 1997 Malibu replacing the 1996 Corsica as Chevrolet's mid-sized sedan. When do most of the shifts in USCan content take place? The most dramatic shifts might be expected when vehicles are redesigned or replaced. But since models carry over far more often than they are redesigned or replaced, it should come as no surprise that the cumulative bulk of the change is in carryover models.

The quantitative analysis was based on a "year-to-year" change data file. Make-model groups were defined as in the preceding section. A record was created for each of three "current" years:

TABLE 2-2

TWENTY MAKE-MODEL GROUPS WITH GREATEST LOSSES IN  
U.S./CANADIAN PARTS CONTENT, 1995-98

|                             | Average USCan Content (%) |      |       | Average<br>Annual<br>Registrations | Gain<br>Score* |
|-----------------------------|---------------------------|------|-------|------------------------------------|----------------|
|                             | 1995                      | 1998 | Gain  |                                    |                |
| 1. Dodge/Plymouth Neon      | 92                        | 71   | - 21  | 256,143                            | - 53,790       |
| 2. Caravan/Voyager/T&C      | 89                        | 80.1 | - 8.9 | 514,774                            | - 45,809       |
| 3. Dodge Ram Pickup         | 86                        | 74   | - 12  | 320,541                            | - 38,465       |
| 4. GM C/K Pickup            | 95                        | 90   | - 5   | 657,069                            | - 32,853       |
| 5. Grand Am/Skylark/Achieva | 91                        | 80   | - 11  | 275,333                            | - 30,287       |
| 6. Cavalier/Sunfire         | 90                        | 81   | - 9   | 335,653                            | - 30,209       |
| 7. Escort/Tracer            | 79.3                      | 71   | - 8.3 | 330,360                            | - 27,393       |
| 8. LeSabre/88/Bonneville    | 95                        | 86   | - 9   | 279,949                            | - 25,195       |
| 9. Jeep Grand Cherokee      | 93                        | 84   | - 9   | 262,349                            | - 23,611       |
| 10. GM U Van                | 92                        | 75   | - 17  | 121,600                            | - 20,672       |
| 11. Corsica/Beretta/Malibu  | 91                        | 80   | - 11  | 182,490                            | - 20,074       |
| 12. Taurus/Sable            | 90                        | 86.1 | - 3.9 | 487,752                            | - 19,135       |
| 13. Blazer/Jimmy/Bravada    | 95                        | 90   | - 5   | 325,838                            | - 16,292       |
| 14. GM S/T Pickup           | 95                        | 90   | - 5   | 271,136                            | - 13,557       |
| 15. Jeep Cherokee           | 84                        | 74   | - 10  | 134,866                            | - 13,487       |
| 16. Ford Windstar           | 95                        | 90   | - 5   | 232,223                            | - 11,611       |
| 17. GM Suburban             | 95                        | 85   | - 10  | 112,673                            | - 11,267       |
| 18. Intrepid/Vision         | 94                        | 86   | - 8   | 139,611                            | - 11,169       |
| 19. GM Tahoe/Yukon          | 95                        | 86   | - 9   | 121,563                            | - 10,941       |
| 20. Contour/Mystique        | 80                        | 75   | - 5   | 210,293                            | - 10,515       |

\*Gain score = USCan gain x annual registrations

TABLE 2-3

**FIFTEEN HIGHEST-VOLUME MAKE-MODEL GROUPS  
WITH UNCHANGED U.S./CANADIAN PARTS CONTENT, 1995-98**

|                        | Average USCan Content (%) |      |      | Average<br>Annual<br>Registrations |
|------------------------|---------------------------|------|------|------------------------------------|
|                        | 1995                      | 1998 | Gain |                                    |
| 1. Toyota Camry        | 55                        | 55   | 0    | 354,770                            |
| 2. Ford Ranger         | 80                        | 80   | 0    | 272,722                            |
| 3. Saturn              | 95                        | 95   | 0    | 263,541                            |
| 4. Ford Econoline Van  | 90                        | 90   | 0    | 165,949                            |
| 5. Nissan Maxima       | 5                         | 5    | 0    | 142,800                            |
| 6. Ford Mustang        | 90                        | 90   | 0    | 139,274                            |
| 7. Nissan Sentra       | 45                        | 45   | 0    | 137,703                            |
| 8. Mazda 626           | 65                        | 65   | 0    | 87,424                             |
| 9. Toyota Avalon       | 60                        | 60   | 0    | 68,517                             |
| 10. Volvo 850/70       | 2                         | 2    | 0    | 62,996                             |
| 11. Mitsubishi Eclipse | 72                        | 72   | 0    | 61,992                             |
| 12. Toyota Tercel      | 10                        | 10   | 0    | 48,965                             |
| 13. Mitsubishi Mirage  | 5                         | 5    | 0    | 48,492                             |
| 14. Lexus ES           | 10                        | 10   | 0    | 46,952                             |
| 15. Geo Tracker        | 40                        | 40   | 0    | 37,439                             |

1996, 1997 and 1998, consisting of the USCan content and registrations in the current and the previous model year and a description of the change, if any, in that make-model. For example, the “1996 Honda Civic” record shows USCan content of 70 in the current year (1996), 45 in the previous year (1995) and 228,874 registrations in the current year, 325,294 in the previous year. The contribution of 1996 vs. 1995 Honda Civic, a carryover make-model to overall USCan shifts is estimated by

$$\text{Gain}(N) = [\text{USCan}(N) - \text{USCan}(N-1)] [\text{Regs}(N) + \text{Regs}(N-1)] = .25 \times 554,168 = 138,542$$

For the three “current” years 1996, 1997 and 1998 combined, there were 72 make-model-year combinations where USCan content increased from the previous to the current year; 62 were carryover models, 7 were redesigns and 3 were replacement models with new names. The gain scores for the 62 carryover models added up to 1,196,361; the sums for the 7 redesigns and 3 replacements were 61,841 and 53,670, respectively. In other words, the overwhelming bulk of the USCan increases is in the carryover models, because they greatly outnumber the redesigns and replacement models. However, the registration-weighted average gain in USCan content is 6.6 in the carryover models, 7.8 in the redesigns and 15.7 in the replacements, indicating a potential for greater change when the model is redesigned or replaced.

Similarly, there were 126 make-model-year combinations where USCan content declined from the previous to the current year; 115 were carryover models, 8 were redesigns and 3 were replacement models. The gain scores for the 115 carryover models added up to - 1,574,401; the sums for the 8 redesigns and 3 replacements were - 137,749 and - 45,430. Here too, most of the USCan loss is in the carryover models, simply because they far outnumber the redesigned or replaced models. However, the registrations-weighted average loss in USCan content is 4.8 in the carryover models, 4.2 in the redesigns and 6.7 in the replacements.

This preponderance of USCan change in carryover models is found in both Big 3 and transplant vehicles.



## CHAPTER 3

### REGRESSION OF NEW VEHICLE SALES BY U.S./CANADIAN CONTENT AND OTHER FACTORS

The regulation that establishes content labels for new vehicles in accordance with the American Automobile Labeling Act (AALA) explicitly says their purpose is “to aid potential purchasers in the selection of new passenger motor vehicles by providing them with information about the value of the U.S./Canadian and foreign parts content of each vehicle.”<sup>1</sup> Presumably, the labels would guide people who strive to “buy [North] American” and/or admire United States/Canadian (USCan) engineering and quality to favor vehicles with higher USCan parts content. Conversely, the labels might incline people who esteem the products of another nation(s) to buy vehicles with a high percentage of parts from that nation(s) (and low USCan content).

Chapter 2 showed that USCan content did not increase for the new-vehicle fleet as a whole from 1995 to 1998. In fact, it declined from 70 to 67.6 percent. Nor were there strong shifts from imported to domestic vehicles, or vice-versa in 1995, the model year the labels were introduced, or subsequently. However, the aggregate statistics do not reveal the sales trends for individual make-models. Did models that increased USCan content typically experience increases or decreases in sales? Have transplant [Big 3] vehicles with relatively high USCan content sold better or worse, since 1995, than comparable vehicles with low USCan content?

Questions like those are addressed by regression analyses of year-to-year changes in sales of individual make-models as the dependent variable and their year-to-year changes in USCan content as an independent variable. Other factors, additional independent variables, are the year-to-year change in price, the vehicle type (car, pickup truck, etc.) the nameplate type (Big 3, transplant or import), and whether or not the make-model was redesigned.

Regressions were run on the entire data base of 410 points and on many subsets. The majority of them showed an occasionally statistically significant association between increased USCan content and increased sales. Although results vary a lot, they associate, on the average, a 2 percent increase in sales with a 10 percentage-point increase in USCan content. It must be emphasized that regression results do not, by themselves, establish a causal relationship between USCan content and sales. This report does not claim that increasing USCan content made the sales go up. Indeed, a strong causal relationship is improbable, given that our consumer survey showed little or no use of the numeric USCan content score in vehicle purchasing decisions (Section 6.6). This report merely notes that models with increasing USCan content had, on the average, better sales performance than the models without it. In other words, the models that have been gaining popularity have also been gaining USCan content, but their popularity is not necessarily a consequence of their USCan content.

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<sup>1</sup>*Code of Federal Regulations*, Title 49, General Printing Office, Washington, 1998, Part 583.2.

Specifically, a robust regression coefficient might have been construed as evidence of a possible cause-and-effect relationship - i.e., obtaining similar regression coefficients for USCan content in the numerous regressions on subsets of the data. The coefficients in this chapter are only partially robust. On the one hand, the regression coefficients in analyses of Big 3 vehicles alone are similar to the coefficients in analyses of transplants/imports alone. But the coefficients for USCan content in passenger cars are quite positive, while the coefficients for USCan content in light trucks are mixed at best and are often negative. There does not appear to be any intuitive reason to suspect a negative effect in light trucks; if anything, truck buyers have traditionally been viewed as more interested in “buying American” than car buyers. The findings suggest that the observed relationships between USCan content and sales, although real in a statistical sense, probably have little to do with direct cause and effect.

Nevertheless, the overall results of this chapter at least suggest that increasing USCan content does not harm sales.

### 3.1 The data base for the regression analyses

Appendix B lists the entire data base, including all variables, used in the regression analyses. It comprises 410 data points (make-model-group/current MY combinations).

The starting point for creating the data base is the file described in Section 2.1, consisting of 298 individual make-models of passenger cars, pickup trucks, SUVs and vans with a gross vehicle weight rating (GVWR) of 8,500 pounds or less, sold in the United States during at least one model year from 1994 to 1998. The file specifies, for each model year, the USCan content on the AALA label (MY 1995-98 only), the production-model-year registrations (1994-98) and the base sticker price (1994-98). It is listed in Appendix A.

However, production-model-year registrations are inappropriate here. Registration data derive from R. L. Polk files, where the “production” model year is based on the 10<sup>th</sup> character of the Vehicle Identification Number (VIN). The length of a manufacturer’s “model year production run” is sometimes 12 months, but it can also be substantially longer or shorter. That makes it difficult to compare a make-model’s sales from one model year to the next, because one might be based on a longer production run than the other.

In this chapter, vehicles will be grouped by their **“sales” model year**: all vehicles sold between October 1 of year N-1 and September 30 of year N, regardless of their actual production model year, are classified in sales model year N. Sales statistics by make-model for sales model years 1994-98 were compiled from *Automotive News*. Sales can easily be compared year to year, because they are based on 12-month periods. The analysis is done with the caveat that vehicles of sales-model-year N may include some vehicles of production year N-1 (holdovers) or N+1 (early introductions), whereas the AALA label information for model year N pertains specifically to vehicles of production year N. Thus, the sales data are not an exact match for the AALA label data.

This file in Appendix A also has too many individual make-models for our purpose. It was condensed and abridged to 116 high-volume make-model groups (MMG), to facilitate year-to-year comparisons of sales, USCan parts content and base sticker price:

- In Appendix A, models that were substantially redesigned are listed separately (e.g., 1994-96 Toyota Camry and 1997-98 Toyota Camry); here, they are combined to make a single MMG.
- Similarly, if a manufacturer produced a model in 1994, say, and then essentially replaced it in 1995-98 by another model with a new name but in the same market class - e.g., Hyundai Excel and Accent, both economy cars - these two models, together, form one MMG produced from 1994 through 1998.
- Also, when one company sold two or more models of identical or similar design under different nameplates (corporate twins), with identical or similar USCan content, they were grouped together - e.g., Buick LeSabre, Olds 88 and Pontiac Bonneville.
- Make-models with low sales volume often have extreme sales fluctuations and are poor candidates for regressions of year-to-year sales trends. The MMGs in this analysis all average at least 20,000 sales per year. These more popular models/groups have relatively smoother, more predictable sales trends.

Whenever two or more individual make-models are combined into a single MMG, the MMG sales for each model year are the sums of the sales of the constituent models. The price and USCan content are the sales-weighted averages of the individual values.

Even when MMGs contain more than one make-model, they are all the same type of vehicle: passenger car, pickup truck, sport utility vehicle (SUV) or van. Thus, each MMG is assigned a single “vehicle type” code.

Each MMG is coded “Big 3,” “Transplant” or “Import.” Big 3 comprises all vehicles sold with one of the nameplates of the Big 3 domestic manufacturers, regardless of where it was produced or designed. In the nomenclature of Section 2.4, they include “true domestics” such as Dodge Caravan, Mercury Grand Marquis, Saturn, etc.; “international designs assembled in Big 3 factories,” such as Ford Escort; “transplant vehicles sold with Big 3 nameplates” such as Geo Prizm; and “captive imports” such as Cadillac Catera. Transplants are all make-models with nameplates of foreign-based companies but assembled exclusively or primarily in the United States or Canada. They include “true transplants” such as Honda Accord, Toyota Tacoma, Mazda 626, etc. and “Big 3 designed/built vehicles with foreign-based nameplates” such as the Mazda pickup truck. Imports are all make-models with foreign-based nameplates assembled exclusively or primarily outside the United States or Canada. They include “true imports” such as Nissan Pathfinder, Mercedes E-class, Lexus ES, etc.; “Mexican transplants” such as Volkswagen Jetta; and “part-time transplants” such as Hyundai Sonata (however, none of the latter met the 20,000 sales per year criterion).

The next step is to transform the MMG-oriented file of 116 records into an MMG\*MY file containing 410 records showing the change in sales, price and USCan content from the preceding year to the current year. This file contains one record for each MMG in each model year (1995-98) for which vehicles of that MMG were sold in that year and in the preceding year. These 410 records become the data points for the regression analyses. For example, the MMG consisting of the single make-model Ford Mustang (sold throughout 1994-98) generates four records with the “current” model year 1995, 1996, 1997 and 1998, respectively:

| Current<br>MY | Current Model Year |        |       | Preceding Model Year |        |         |
|---------------|--------------------|--------|-------|----------------------|--------|---------|
|               | Sales              | Price  | USCan | Sales                | Price  | USCan   |
| 1995          | 138,867            | 14,530 | 90    | 147,744              | 13,365 | Unknown |
| 1996          | 129,718            | 15,180 | 90    | 138,867              | 14,530 | 90      |
| 1997          | 112,311            | 15,880 | 80    | 129,718              | 15,180 | 90      |
| 1998          | 136,488            | 16,675 | 90    | 112,311              | 15,880 | 80      |

Sales declined relative in 1995 (relative to 1994), 1996 (relative to 1995) and 1997 (relative to 1996) but rose in 1998 (relative to 1997). The base sticker price rose every year. USCan parts content was unchanged in 1996 (relative to 1995), declined in 1997 (relative to 1996) but rose in 1998 (relative to 1997).

The dependent variable in the regressions will be the natural logarithm of the ratio of the sales of the current to the preceding model year,

$$\Delta\_Sales = \log [Sales(MY) / Sales(MY-1)]$$

Similarly, one of the independent variables is the natural logarithm of the price ratio:

$$\Delta\_Price = \log [Price(MY) / Price(MY-1)]$$

Log ratios of sales and price are often used in econometric analyses like these because they tend to have fairly linear relationships with one another. Another advantage is that the resulting model predicts by how many percent sales will change for each 1 percent increase in price (“elasticity”). The independent variable pertaining to USCan content, for “current” model years 1996-98 is the arithmetic difference in the proportions of USCan content this year and the preceding year, as reported to NHTSA:

$$\text{for MY 1996-98: } \Delta\_USCan = .01 [USCan(MY) - USCan(MY-1)]$$

The reason for multiplying by .01 (changing percents to proportions) is to put  $\Delta\_Sales$ ,  $\Delta\_Price$  and  $\Delta\_USCan$  on the same magnitude basis: a value of .01 corresponds to a 1 percent sales increase, a 1 percent price increase, and a 1 percentage point USCan increase. Regression coefficients will measure the elasticity of the relationships.

When the “current” model year is 1995, the preceding year’s USCan content is unknown, since there were no labels in MY 1994. The definition of  $\Delta\_USCan$  for 1995 is based on the following rationale: in 1995, consumers gained the ability to differentiate the USCan content of one make-model from another. Before that, they did not have information to differentiate individual make-models. But they were not completely uninformed. Even the average consumer could probably distinguish a Big 3 vehicle from a foreign-based nameplate. However, the subgroup who were truly interested in content and country of origin - the types most likely to be reading the labels starting in 1995 - likely knew more than the average consumer. Many of this subgroup probably could distinguish transplants from imports among vehicles with foreign-based nameplates, based on magazine articles, brochures, inquiries to dealers, etc. In other words, in 1994, they could classify vehicles as Big 3, transplant, or import, but they could not differentiate USCan content within those three categories. They could only assume that each make-model was at the average for its category. In 1995, they could differentiate. Since  $\Delta\_USCan$  should represent the change in information from one year to the next,  $\Delta\_USCan$  for 1995 ought to be the difference between the actual USCan content for that specific make-model and the average USCan content for all make-models in its class - Big 3, transplant, or import, as the case may be. Based on the methods of Chapter 2, the average percentages of USCan content in 1995 were 90.09 percent for the Big 3 (excluding transplants and imports sold with Big 3 nameplates, as will be explained below), 48.39 percent for transplants sold by foreign-based companies, and 4.69 percent for imports sold by foreign-based companies. Thus,

for MY 1995:

$$\Delta\_USCan = \begin{array}{ll} .01 [USCan(95) - 90.09] & \text{for Big 3 vehicles} \\ .01 [USCan(95) - 48.39] & \text{for transplants} \\ .01 [USCan(95) - 4.69] & \text{for imports} \end{array}$$

Big 3 vehicles ordinarily include “true domestics,” “international designs assembled in Big 3 factories,” “transplant vehicles sold with Big 3 nameplates” and “captive imports.” An exception must be made for 1995. Six Big 3 MMGs in 1995 are not “true domestics” in the nomenclature of Section 2.4: Escort/Tracer, Ford Probe, Ford Aspire, Geo Prizm, Geo Metro and Geo Tracker. Content-sensitive consumers would probably have known that Ford Aspire was a Korean import and would never have expected it to have 90.09 percent USCan content; thus,  $\Delta\_USCan = .01 [USCan(95) - 90.09]$  does not make sense for Ford Aspire; indeed, it is not clear what they would have expected. As a result, the 1995 Ford Aspire is not included in the file, although the 1996 and 1997 Aspires are included, with  $\Delta\_USCan = .01 [USCan(MY) / USCan(MY-1)]$ . By the same token, the “Geo” nameplate would immediately signal content-sensitive consumers that Prizm, Metro or Tracker have less USCan content than the typical Big 3 vehicle; these, too, are excluded in 1995. On the other hand, even content-sensitive consumers were likely unaware of the Mazda heritage in Escort/Tracer and expected it to have typical Big 3 USCan content; it is included for 1995. Ford Probe is in-between: the Mazda influence is stronger and probably better known than for Escort/Tracer, although there is no unique nameplate like “Geo”; since there is doubt, it’s best to leave it out for 1995.

By the same logic, content-sensitive consumers were likely unaware that Nissan Quest and the Mazda pickup were qualitatively more U.S./Canadian than the typical transplant; both of these MMGs are included with transplants, and  $\Delta\_USCan = .01 [USCan(95) - 48.39]$  makes sense for

1995. Volkswagen Jetta and Golf, although technically “Mexican transplants,” are probably viewed the same as other imports; these MMGs are included with imports, and  $\Delta\_USCan = .01 [USCan(95) - 4.69]$  in 1995.

The regression data points will be weighted by the sum of the current and preceding model year’s sales. Thus, in the case of Ford Mustang, the sales, price and USCan data shown above yield the following variables for the regressions:

| MY   | $\Delta\_Sales$ | $\Delta\_USCan$ | $\Delta\_Price$ | Weight Factor |
|------|-----------------|-----------------|-----------------|---------------|
| 1995 | - .062          | - .0009         | + .084          | 286,611       |
| 1996 | - .068          | .000            | + .044          | 268,585       |
| 1997 | - .144          | - .100          | + .045          | 242,029       |
| 1998 | + .195          | + .100          | + .049          | 248,799       |

In these four data points it is evident that sales increased in the one year that USCan content went up, and sales declined when USCan content went down or stayed the same. If the remaining 406 data points all had the same pattern (they don’t, of course), there would be a very strong association between sales and USCan content.

Another independent variable is defined at the MMG\*MY level. It is a nominal (non-numeric) variable with 11 categories. It identifies ten actions or conditions that are likely to increase or reduce sales from the previous model year, such as: redesign of the model, introduction of new models, introduction of competitors. The 11<sup>th</sup> category, “no change” indicates none of these ten apply. The ten change categories are:

1. Redesign, same name (e.g., 1997 Toyota Camry): extensive redesign of a model may stimulate sales and is often accompanied by a price increase.
2. Redesign, new name - one model replaces another in the same market class (e.g., 1997 Expedition replaces 1996 Bronco as Ford’s full-sized SUV): introduction of a new model can greatly spur sales, especially if the old model was no longer a good seller. Price may also increase.
3. Last year before redesign, same name (e.g., 1995 Mercedes E-class): sales occasionally drop off as customers tire of the old design and wait for the new one.
4. Last year before redesign, new name (e.g., 1997 Volvo 850, which was replaced by 1998 Volvo S70): sales may decline as customers tire of the old design and wait for the new.
5. Last year it existed (e.g., 1996 Caprice/Roadmaster): sales often plunge as models are phased out; conversely manufacturers may abruptly phase out models whose sales plunge.
6. Additional name introduced in an existing MMG (e.g., in 1996, Plymouth Breeze joined Dodge Stratus and Chrysler Cirrus): usually increases net sales for the MMG.

7. One name dropped from an existing MMG (e.g., in 1998, Eagle Vision was dropped and only Dodge Intrepid remained): usually decreases net sales for the MMG.
8. Competitor introduced in the same market class, sometimes by the same manufacturer (e.g., 1995 Ford Aerostar is in this category, because Ford Windstar was introduced at that time): can reduce sales [of Aerostar, in this example] drastically.
9. Second year the MMG existed<sup>2</sup> (e.g., 1996 Honda Odyssey): sales in the second year are often higher than in the first, partly because the new model needs time to catch on, partly due to the technicality that the first year is sometimes less than a full year.
10. Second year after a redesign or renaming (e.g., 1996 Subaru Legacy): sales in the second year are often higher than in the first, partly because the new design needs time to catch on, partly due to the technicality that the first year is sometimes less than a full year.

The entire file of 410 data points is listed in Appendix B. It includes 264 cases where none of the above ten change categories apply (these are superior regression candidates), and 146 cases that fit into one of the change categories.

### 3.2 Regression examples and strategy

The initial regression encompasses all 410 data points, as shown in Table 3-1. The dependent variable is  $\Delta\_Sales$ ; the independent variables are the continuous parameters  $\Delta\_USCan$  and  $\Delta\_Price$  and the nominal variables Nameplate (Big 3, transplant or import), Vehicle Type, Model Change Code and Current Model Year. Each data point (MMG-current MY combination) is weighted by the sum of the current and preceding year's sales. The analysis is performed by the General Linear Model (GLM) procedure on the Statistical Analysis System (SAS)<sup>3</sup>. This model has an overall F value of 5.45 ( $p < .0001$ , given that there are 20 model degrees of freedom and 389 error df). R-squared is .2153. In other words, some of the independent variables are strongly associated with the year-to-year change in sales, enough to make the overall model highly significant; yet, at the same time, it is no surprise that these independent variables, by themselves do not explain every change in sales.

The most important statistic for this study is the regression coefficient of  $\Delta\_USCan$ , + .04144. This is a weak positive correlation, and it is not statistically significant ( $t = 0.23$ ,  $p > .05$ ). For statistical significance at the two-sided .05 level, the absolute value of  $t$  would have to exceed as little as 1.97 or as much as 2.13 in the regressions of this chapter, depending on the error degrees

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<sup>2</sup>"First year an MMG existed" is not a possible category for a data point in the regressions. All data points are for MMGs that existed in the current and the preceding year, otherwise  $\Delta\_Sales$  cannot be defined.

<sup>3</sup>*SAS/STAT User's Guide, Version 6, Fourth Edition*, Volume 2, SAS Institute, Cary, NC, 1989, pp. 891-996.

TABLE 3-1: INITIAL REGRESSION ANALYSIS,  
ALL MAKE-MODEL GROUPS IN 1995-98

Dependent variable:  $\Delta\_SALES$  (log of the ratio of current MY to preceding MY sales)  
 Aggregation method: by make-model group and current model year  
 N of observations: 410  
 Weighting factor:  $SALES\_2Y$  (sum of current MY and preceding MY sales)  
 Degrees of freedom: 20 model, 389 error  
 Model F value: 5.34 ( $p = .0001$ )  
 R-square: .2153

REGRESSION COEFFICIENTS

| Parameter        | Estimate      | t for H0:<br>Parameter=0 | Pr >  t      |
|------------------|---------------|--------------------------|--------------|
| INTERCEPT        | -.01205       | - 0.48                   | .6337        |
| $\Delta\_USCAN$  | <b>.04144</b> | <b>0.23</b>              | <b>.8206</b> |
| $\Delta\_PRICE$  | -.72895       | - 2.66                   | .0081        |
| NAME_PLT         |               |                          |              |
| BIG 3            | .00000        | .                        | .            |
| TRANSPLANT       | -.00111       | - 0.04                   | .9696        |
| IMPORT           | -.00014       | - 0.00                   | .9969        |
| VEH_TYP          |               |                          |              |
| CAR              | .00000        | .                        | .            |
| PICKUP           | .05544        | 2.03                     | .0435        |
| SUV              | .15181        | 4.80                     | .0001        |
| VAN              | -.00741       | - 0.22                   | .8268        |
| CHG_MODL         |               |                          |              |
| NO CHANGE        | .00000        | .                        | .            |
| REDES SAME NAME  | .01767        | 0.48                     | .6328        |
| REDES NEW NAME   | .33526        | 3.49                     | .0005        |
| LAST YR BF REDES | .00755        | 0.19                     | .8467        |
| LAST YR BF RENAM | -.09154       | - 1.25                   | .2134        |
| LAST YR IT EXIST | -.39261       | - 4.50                   | .0001        |
| ADDL NAME INTROD | .12775        | 1.35                     | .1763        |
| ONE NAME DROPPED | -.49985       | - 2.85                   | .0046        |
| COMPETITOR INTRO | -.30152       | - 3.18                   | .0016        |
| 2ND YR IT EXIST  | .17681        | 2.79                     | .0055        |
| 2ND YR AFT REDES | .10845        | 3.10                     | .0021        |
| CURR_YR          |               |                          |              |
| 1995             | .00273        | 0.09                     | .9286        |
| 1996             | .01890        | 0.65                     | .5150        |
| 1997             | .00265        | 0.08                     | .9326        |
| 1998             | .00000        | .                        | .            |

of freedom (df), and for the two-sided .01 level, 2.6 to 2.95. A two-sided test is appropriate when, as in this case, there is no specific “right” or “expected” direction for the effect.

The coefficient says that each 1 percentage-point increase in USCan content is associated with a 0.04 percent increase in sales. In other words, models that increased from 50 to 60 percent USCan content, or from 80 to 90, or from 5 to 15 experienced, on the average, a 0.4 percent increase in sales, after controlling for the other independent variables. Not a big change.

The regression coefficients for the other independent variables are intuitively reasonable. The coefficient for  $\Delta\_Price$  is a strong - .72895 and it is statistically significant ( $t = -2.66$ ,  $p < .01$ ). We expect a negative coefficient for  $\Delta\_Price$  - i.e., when prices are increased, all else being equal, sales should decline. In econometric terminology, the sales-price elasticity is - .72895: when prices increase by 1 percent, sales drop by 0.73 percent. This coefficient, however, needs to be interpreted with caution. As stated at the beginning of this chapter, regressions do not clarify what is the “cause” and what is the “effect,” if indeed there is any cause-and-effect relationship at all. Sometimes sales influence prices rather than the other way around. A manufacturer might raise prices, to maximize profits, if a model sells very well. In that case, the observed price-sales elasticity could be positive, rather than the usual negative. Although this regression produced a strong negative coefficient for  $\Delta\_Price$ , others might not.

The intercept is - .012, indicating that a passenger cars USCan content, price or design lost 1.2 percent sales per year. The coefficients for Big 3, Transplant and Import are all close to zero, indicating little market shift from one of these to another in 1995-98. The coefficients for Pickup, SUV and Van are measured relative to Car (which is arbitrarily assigned a zero effect). The model says that pickups and especially SUVs did significantly better than cars, while vans did about the same. SUV sales gained about 15 percent per year relative to cars.

Relative to MMGs that were essentially unchanged from one year to the next, sales gained substantially for MMGs that were redesigned with a new name (e.g., Ford Bronco to Expedition), or if a new make-model was added to an existing MMG (e.g. Plymouth Breeze to Dodge Stratus and Chrysler Cirrus in 1996) or for MMGs in the second year of their existence or in the second year after a redesign/rename. Sales plunged in the last year of an MMG’s existence, or when one of the make-models in an MMG was dropped, or an important competitor was introduced. The effects for Current Model Year are all weak, indicating a relatively smooth overall sales trend from 1995 to 1998, without strong intermediate ups and downs.

The weakest feature of the regression in Table 3-1 is the inclusion of all the models that had changed from one year to the next. Intuitively, it is much harder to predict sales when models are substantially redesigned - some new designs prosper and others flop - than when models are the same from year to year. Mathematically, since there are only a few data points in each of the ten change groups, it is difficult for the regression to differentiate the effects of model changes from the effects of other variables: e.g., did those few models that faced a new competitor sell so poorly for that reason alone, or was it in part because they also raised prices and/or lowered USCan content?

A more attractive approach, illustrated in Table 3-2, is to limit the regression to MMGs that were essentially unchanged from the previous year, that did not fit into any of the ten change categories. The penalty is that the sample is reduced from 410 to 264 data points. This model also has a highly significant overall F value of 2.40 ( $p < .001$ , 10 model df, 253 error df). R-squared is .0865. Although that is lower than the .2153 in the preceding regression, this is not an inferior model: it is true we eliminated one of the best explanatory variables, Model Change, but we also eliminated all the variance explained by that variable by excluding the data points with model changes. Although R-squared is lower, the mean-square-error dropped by 40 percent.

The regression coefficient for  $\Delta\_USCan$ , + .29028, is much higher than in the first model, but it is still not statistically significant at the two-sided .05 level ( $t = 1.68$ ). The coefficient says that each 1 percentage-point increase in USCan content is associated with a 0.3 percent increase in sales. In other words, models that increased from 50 to 60 percent USCan content, or from 80 to 90, or from 5 to 15 experienced, on the average, a 3 percent increase in sales, after controlling for the other independent variables. It bears repeating that this is not significant and not necessarily a cause-and-effect relationship. But if the relationship were cause-and-effect, would a sales increase of this magnitude be plausible? The consumer survey found that only 7 percent of new-vehicle purchasers actually read the label at a dealership (Section 6.4), and none of these individuals explicitly stated they had used the USCan content scores to comparison-shop among make-models, or that they had selected or rejected a specific vehicle because of its high or low USCan parts content (Section 6.6). That a major boost in USCan content could directly cause a sales increase of 3 percent is improbable given the survey findings.

The coefficient for  $\Delta\_Price$  in Table 3-2 is negative, as in Table 3-1, but not nearly as strong. The coefficients for the other variables are about the same in both regressions: little effect for Nameplate and Current-MY, a strong sales increase for pickup trucks and, especially, SUVs relative to passenger cars. Given that Nameplate and Current-MY are not significant in either regression, it might be desirable to drop them for parsimony and to raise overall F. However, in GLM models the inclusion of a few extraneous variables usually has little influence on the important coefficients; these variables will be retained because they might conceivably be significant in some subsets of the data that will be candidates for subsequent regressions.

Another possible shortcoming of both preceding regressions is that they contain some data points representing extraordinary year-to-year changes in sales. Sometimes a make-model's sales will increase 50 or 100 percent from one year to the next, or decrease by 50 percent, for idiosyncratic reasons that cannot be boiled down to regression parameters. Sales fluctuations of that magnitude could hardly be due to USCan content. But if USCan content happened to have gone up or down in the year of a big sales change, it could sway the regression to give unwarranted weight to that data point in calibrating the  $\Delta\_USCan$ - $\Delta\_Sales$  relationship. Intuitively, it seems desirable to eliminate the potential distorting effect of these outliers by restricting the regressions to data points with  $\Delta\_Sales$  within certain reasonable bounds. The strategy will be to perform each regression first with all available data points, and then on subsets with successively narrower ranges of  $\Delta\_Sales$ :

TABLE 3-2

## REGRESSION ANALYSIS FOR ALL UNCHANGED MAKE-MODEL GROUPS IN 1995-98

Dependent variable:  $\Delta\_SALES$  (log of the ratio of current MY to preceding MY sales)  
 Aggregation method: by make-model group and current model year  
 N of observations: 264  
 Weighting factor:  $SALES\_2Y$  (sum of current MY and preceding MY sales)  
 Degrees of freedom: 10 model, 253 error  
 Model F value: 2.40 ( $p = .0098$ )  
 R-square: .0865

## REGRESSION COEFFICIENTS

| Parameter       | Estimate      | t for H0:<br>Parameter=0 | Pr >  t      |
|-----------------|---------------|--------------------------|--------------|
| INTERCEPT       | -.03607       | - 1.64                   | .1031        |
| $\Delta\_USCAN$ | <b>.29028</b> | <b>1.68</b>              | <b>.0947</b> |
| $\Delta\_PRICE$ | -.20523       | - 0.71                   | .4774        |
| NAME_PLT        |               |                          |              |
| BIG 3           | .00000        |                          |              |
| TRANSPLANT      | .02030        | 0.75                     | .4512        |
| IMPORT          | .02159        | 0.60                     | .5516        |
| VEH_TYP         |               |                          |              |
| CAR             | .00000        |                          |              |
| PICKUP          | .05568        | 2.17                     | .0310        |
| SUV             | .11511        | 4.01                     | .0001        |
| VAN             | -.00180       | - 0.05                   | .9569        |
| CURR_YR         |               |                          |              |
| 1995            | .02841        | 1.03                     | .3063        |
| 1996            | -.00364       | - 0.13                   | .8933        |
| 1997            | .00218        | 0.07                     | .9413        |
| 1998            | .00000        |                          |              |

### Lower and Upper Limits on $\Delta$ \_Sales:

|             |      |      |      |      |      |      |
|-------------|------|------|------|------|------|------|
| Lower limit | - .7 | - .6 | - .5 | - .4 | - .3 | - .2 |
| Upper limit | + .7 | + .6 | + .5 | + .4 | + .3 | + .2 |

Corresponds to Year-to-Year Percentage Changes in Sales:

|                       |       |      |      |      |      |              |
|-----------------------|-------|------|------|------|------|--------------|
| Decrease no more than | - 50  | - 45 | - 39 | - 33 | - 26 | - 18 percent |
| Increase no more than | + 100 | + 82 | + 65 | + 49 | + 35 | + 22 percent |

For example, only 11 of the 410 data points in Table 3-1, and only 2 of the 264 data points for unchanged MMGs in Table 3-2 had  $\Delta$ \_Sales outside the  $\pm .7$  range. It seems plausible to exclude the few cases where sales were halved or doubled, since something happened in those models obviously unrelated to USCan, price, or any of the other variables in the regression. Without those points, the regression ought to fit the data better and, intuitively, it ought to calibrate the  $\Delta$ \_USCan effect better.  $\Delta$ \_Sales limits of  $\pm .6$ ,  $\pm .5$  or  $\pm .4$  likewise exclude only small numbers of data points with sales changes generally beyond what could likely be attributed to the parameters in our regressions; perhaps they could further refine the calibration of the  $\Delta$ \_USCan coefficient. But the  $\Delta$ \_Sales limits should not be allowed to shrink beyond  $\pm .3$  or  $\pm .2$ , because substantial numbers of data points are excluded and the year-to-year changes get into a range that could be due to parameters in our regressions.

No theoretical statistical basis is claimed for this consecutive truncation of the range of the dependent variable. Nevertheless, repeating the analysis for the full data set with the six truncated sets ought to provide a better empirical impression of the robustness of the  $\Delta$ \_USCan coefficient.

The 14 principal regressions of this chapter are: the analysis of the full 410-point data set, already shown in Table 3-1; six successive truncations of that data set, as described above; the analysis of 264 data points for unchanged MMGs, shown in Table 3-2; and six successive truncations of the unchanged data points.

The next strategy is to analyze subsets of the motor vehicle fleet: regressions of only the Big 3 vehicles, or only those with foreign-based nameplates (transplants plus imports), or just the transplants; regressions of just passenger cars, and within that subset, just cars with Big 3 nameplates, with foreign-based nameplates, and just transplants; and regressions for light trucks, and subgroups of light trucks. The numerous regressions help to gauge the robustness of the results. If the  $\Delta$ \_USCan coefficients vary a lot among subgroups without any intuitively reasonable explanation, it could be a sign that the association between increasing popularity and increasing USCan content is more coincidental than systematic. Moderately consistent results would at least support, although not necessarily prove, an organic link.

At the same time, however, it is interesting to look at subsets because real differences in how consumers view USCan content could be reflected in the  $\Delta$ \_USCan coefficients. For example, the data in Section 6.2 indicate that consumers of Big 3 vehicles are, on the average, more concerned

about “buying American” than people who buy imports. If so, that could portend a more positive  $\Delta\_USCan$  coefficient in the regression limited to Big 3 vehicles than in an analysis of imports. On the other hand, maybe people who buy transplants are the most likely to use the labels, because there are substantial differences in USCan content within the transplant group, so we could see the most positive coefficients in the analyses of transplants. There may also be a public perception that people who drive light trucks care more about USCan content than car drivers. Maybe the historically higher market shares of the Big 3 in trucks than cars have fed that perception. Is the  $\Delta\_USCan$  coefficient higher in the light truck analyses?

### 3.3 Regression results

Table 3-3 presents, in two pages, the  $\Delta\_USCan$  coefficients in 56 regression analyses of passenger cars and light trucks, combined - i.e., the percentage sales increase associated with a 1 percentage point increase in USCan content from the preceding model year to the current one. The first set of numbers in Table 3-3 represent the regression on the full data set of 410 MMG-MY combinations, already documented in Table 3-1. The  $\Delta\_USCan$  coefficient is + .04, and it is not statistically significant ( $t = .23$ ,  $p > .05$ ). As stated above, the coefficient says that each 1 percentage-point increase in USCan content is associated with a 0.04 percent increase in sales.

The second entry in the “all make-model groups” section of Table 3-3 calibrates the  $\Delta\_USCan$  coefficient after excluding 11 data points with  $|\Delta\_Sales| > .7$  - i.e., cases where sales increased by more than 100 percent or decreased by more than 50 percent from the preceding year. The regression based on the remaining 399 points has about the same F value as the initial regression in Table 3-1 (4.77 vs. 5.34) and about the same R-squared (.2016 vs. .2152), but the mean-square residual error is reduced by 36 percent. The  $\Delta\_USCan$  coefficient rises to + .13, but it is still not statistically significant ( $t = .85$ ,  $p > .05$ ). The coefficients for the other independent variables are usually close to the values in Table 3-1; for example  $\Delta\_Price$  has a -.601 coefficient. One exception is the coefficient for “redesigned with a new name”: some of the outliers that were excluded were redesigns with new names that experienced sales increases over 100 percent; without those outliers, the coefficient is much smaller than in Table 3-1, although still positive.

The remaining five coefficients in the first section of Table 3-3, “all make-model groups,” are relatively stable: .13, .08, .11, .13, and .19. As the allowed range of  $\Delta\_Sales$  contracts and more outliers are excluded, the N of data points shrinks, slowly at first but more rapidly at the end: 410, 399, 391, 378, 363, 332 and 285. Even though N gets smaller, t-values increase because getting rid of the outliers increases the signal-to-noise (residual error) ratio. For example, the second, third and sixth regression all produce coefficients of .13, but their t-values are .85, .94 and 1.23, respectively. The last of these regressions produced a  $\Delta\_USCan$  coefficient that is statistically significant ( $t = 2.10$ ,  $p < .05$ ).

The second section of Table 3-3, “all unchanged make-model groups,” probably has the most meaningful results because it is limited to MMGs that were essentially the same as the previous year and excludes the sales-distorting effects of models being introduced, redesigned or discontinued. The first entry is based on the full set of 264 unchanged-MMG data points and it has already been documented in Table 3-2. The  $\Delta\_USCan$  coefficient is + .29 and it is not

TABLE 3-3

ALL VEHICLES: SALES INCREASE (%) PER 1 PERCENT INCREASE IN U.S./CANADIAN CONTENT, MY 1995-98

coefficients for  $\Delta\_USCan$  in the regressions of  $\Delta\_Sales$  by  $\Delta\_USCan$  and other variables in 116 high-volume make-model groups $\Delta\_USCan$  = U.S./Canadian content on current MY AALA label - content on preceding MY AALA label ‡ $\Delta\_Sales$  = log (current MY sales) - log (preceding MY sales)

Limited to make-model groups with sales changes in the following ranges:

|                                  |                  |       |      |      |      |      |       |        |
|----------------------------------|------------------|-------|------|------|------|------|-------|--------|
| Sales increase (%) no more than: |                  | Any   | 100  | 82   | 65   | 49   | 35    | 22     |
| Sales decrease (%) no more than: |                  | Any   | -50  | -45  | -39  | -33  | -26   | -18    |
| All make-model groups            | coefficient      | .04   | .13  | .13  | .08  | .11  | .13   | .19    |
|                                  | t-value          | .23   | .85  | .94  | .56  | .88  | 1.23  | 2.10*  |
|                                  | N of data points | 410   | 399  | 391  | 378  | 363  | 332   | 285    |
| All unchanged make-model groups  | coefficient      | .29   | .26  | .26  | .25  | .26  | .30   | .30    |
|                                  | t-value          | 1.68  | 1.53 | 1.69 | 1.67 | 1.81 | 2.45* | 2.77** |
|                                  | N of data points | 264   | 262  | 258  | 253  | 250  | 230   | 204    |
| Big 3 make-model groups          | coefficient      | -.31  | -.05 | -.06 | -.06 | .10  | .26   | .36    |
|                                  | t-value          | -1.01 | -.22 | -.25 | -.26 | .55  | 1.51  | 2.27*  |
|                                  | N of data points | 230   | 224  | 221  | 213  | 204  | 189   | 163    |
| Unchanged Big 3 groups           | coefficient      | .26   | .23  | .24  | .23  | .24  | .44   | .41    |
|                                  | t-value          | .94   | .83  | 1.01 | .99  | 1.06 | 2.18* | 2.30*  |
|                                  | N of data points | 156   | 155  | 153  | 150  | 149  | 140   | 124    |

\* coefficient is statistically significant at the .05 level.

\*\* coefficient is statistically significant at the .01 level.

‡ in 1995,  $\Delta\_USCan$  =  $USCan(95)$  - 90.09 for Big 3;  $USCan(95)$  - 48.39 for transplant;  $USCan(95)$  - 4.69 for import.

TABLE 3-3 (continued)

Limited to make-model groups with sales changes in the following ranges:

|                                  |                  |       |      |      |      |       |      |      |
|----------------------------------|------------------|-------|------|------|------|-------|------|------|
| Sales increase (%) no more than: |                  | Any   | 100  | 82   | 65   | 49    | 35   | 22   |
| Sales decrease (%) no more than: |                  | Any   | -50  | -45  | -39  | -33   | -26  | -18  |
| Transplant/imported groups       | coefficient      | .27   | .14  | .14  | .17  | .21   | .07  | .09  |
|                                  | t-value          | 1.44  | .85  | .90  | 1.12 | 1.49  | .62  | .88  |
|                                  | N of data points | 180   | 175  | 170  | 165  | 159   | 143  | 122  |
| Unchanged transplants/imports    | coefficient      | .43   | .38  | .34  | .36  | .39   | .22  | .20  |
|                                  | t-value          | 2.06* | 1.89 | 1.80 | 1.90 | 2.22* | 1.47 | 1.61 |
|                                  | N of data points | 108   | 107  | 105  | 103  | 101   | 90   | 80   |
| Transplant make-model groups     | coefficient      | .02   | .02  | .02  | .06  | .06   | -.04 | .04  |
|                                  | t-value          | .14   | .14  | .14  | .37  | .37   | -.30 | .33  |
|                                  | N of data points | 69    | 69   | 69   | 68   | 68    | 64   | 60   |
| Unchanged transplant groups      | coefficient      | .35   | .35  | .35  | .35  | .35   | .22  | .23  |
|                                  | t-value          | 1.62  | 1.62 | 1.62 | 1.62 | 1.62  | 1.29 | 1.56 |
|                                  | N of data points | 44    | 44   | 44   | 44   | 44    | 41   | 40   |

\* coefficient is statistically significant at the .05 level.

statistically significant ( $t = 1.68$ ,  $p > .05$ ). The other entries in that section, with truncated ranges of  $\Delta\_Sales$ , produce virtually the same  $\Delta\_USCan$  coefficients: .26, .26, .25, .26, .30 and .30.  $N$  shrinks slowly here, because most of the unchanged MMGs do not have volatile year-to-year sales shifts: 264, 262, 258, 253, 250, 230 and 204. The last two  $\Delta\_USCan$  coefficients are statistically significant at the .05 and .01 levels, respectively.

The simple arithmetic average of the 14  $\Delta\_USCan$  coefficients in the first two sections of Table 3-3 is a heuristic indicator of the central tendency in these analyses. That average is .2. In other words, a 10 percentage-point increase in USCan content is associated with a 2 percent increase in sales. No claim is made that this is the “best,” unbiased estimate from the data, nor have any error bounds been computed for it.

The next two sections of Table 3-3 limit the analyses to vehicles with Big 3 nameplates. They account for somewhat over half the data points. The regression procedure is the same as above, except that the Nameplate variable is omitted, since all data points have Big 3 nameplates. The initial regression, based on all 230 “Big 3” data points, yields a  $\Delta\_USCan$  coefficient of  $-.31$ , negative, but not statistically significant ( $t = -1.01$ ). Truncating the allowed range of  $\Delta\_Sales$  to  $\pm .7$  weakens the coefficient to  $-.05$ . It stays at that level for two more truncations and then changes sign and even becomes a statistically significant  $+.36$  when  $|\Delta\_Sales| \leq .2$  ( $t = 2.27$ ,  $p < .05$ ). The regression results for unchanged Big 3 MMGs are more stable. The analysis for all 156 unchanged points produces a  $\Delta\_USCan$  coefficient of  $+.26$  that is not statistically significant ( $t = .94$ ). The first four truncated analyses produce nearly the same results. The last two regressions produce higher coefficients, .44 and .41 that are both statistically significant.

The second page of Table 3-3 analyzes non-Big 3 cars (transplants and imports). The first two sections of this page analyze transplants and imports together. The regressions include the Nameplate variable, and it has two possible values: transplant or import. In the uppermost section, where all transplant/import MMGs are included, the  $\Delta\_USCan$  coefficients range from  $+.07$  to  $+.27$ . None of them are statistically significant. In the analyses of unchanged transplant/import MMGs, the coefficients are slightly higher, ranging from  $+.20$  to  $+.43$ ; the first and the fifth are statistically significant at the .05 level.

When the regressions are limited to transplant models only, and all of these are included, even the ones with redesigns, etc., the  $\Delta\_USCan$  coefficients are close to zero, ranging from  $-.04$  to  $+.06$ . However, when the analyses are further limited to transplants without important year-to-year model changes, the coefficients are all positive, ranging from  $+.22$  to  $+.35$ .

Table 3-3 shows more or less the same relationship between  $\Delta\_USCan$  and  $\Delta\_Sales$  for Big 3, transplant and import vehicles, or at least that the relationship is not obviously stronger in one of the groups than in the others.

The two pages of Table 3-4 display all the regressions in Table 3-3, but for **passenger car** MMGs only. Just under two-thirds of the MMGs are passenger cars. The regression procedure is the same as in Table 3-3, except that the Vehicle Type variable is omitted, since all vehicles are cars. It is immediately noticeable that the coefficients are more positive than in Table 3-3, often

TABLE 3-4

## PASSENGER CARS: SALES INCREASE (%) PER 1 PERCENT INCREASE IN U.S./CANADIAN CONTENT, MY 1995-98

coefficients for  $\Delta\_USCan$  in the regressions of  $\Delta\_Sales$  by  $\Delta\_USCan$  and other variables in 78 high-volume make-model groups $\Delta\_USCan$  = U.S./Canadian content on current MY AALA label - content on preceding MY AALA label ‡ $\Delta\_Sales$  = log (current MY sales) - log (preceding MY sales)

Limited to make-model groups with sales changes in the following ranges:

|                                  |                  |        |        |        |        |        |        |        |
|----------------------------------|------------------|--------|--------|--------|--------|--------|--------|--------|
| Sales increase (%) no more than: |                  | Any    | 100    | 82     | 65     | 49     | 35     | 22     |
| Sales decrease (%) no more than: |                  | Any    | -50    | -45    | -39    | -33    | -26    | -18    |
| All make-model groups            | coefficient      | .30    | .41    | .42    | .43    | .41    | .34    | .35    |
|                                  | t-value          | 1.22   | 2.06*  | 2.30*  | 2.47*  | 2.72** | 2.69** | 3.18** |
|                                  | N of data points | 267    | 261    | 255    | 247    | 235    | 213    | 179    |
| All unchanged make-model groups  | coefficient      | .54    | .54    | .51    | .49    | .52    | .46    | .43    |
|                                  | t-value          | 2.61** | 2.61** | 2.71** | 2.70** | 2.98** | 3.06** | 3.31** |
|                                  | N of data points | 169    | 169    | 167    | 163    | 160    | 146    | 128    |
| Big 3 make-model groups          | coefficient      | .37    | .50    | .51    | .55    | .54    | .55    | .63    |
|                                  | t-value          | .86    | 1.40   | 1.54   | 1.72   | 2.05*  | 2.38*  | 3.14** |
|                                  | N of data points | 137    | 133    | 131    | 126    | 118    | 108    | 88     |
| Unchanged Big 3 groups           | coefficient      | .71    | .71    | .70    | .67    | .69    | .72    | .63    |
|                                  | t-value          | 1.96   | 1.96   | 2.19*  | 2.17*  | 2.31*  | 2.62*  | 2.62*  |
|                                  | N of data points | 89     | 89     | 88     | 86     | 85     | 79     | 67     |

\* coefficient is statistically significant at the .05 level.

\*\* coefficient is statistically significant at the .01 level.

‡ in 1995,  $\Delta\_USCan$  =  $USCan(95)$  - 90.09 for Big 3;  $USCan(95)$  - 48.39 for transplant;  $USCan(95)$  - 4.69 for import.

TABLE 3-4 (continued)

Limited to make-model groups with sales changes in the following ranges:

|                                  |                  |       |       |      |       |       |      |      |
|----------------------------------|------------------|-------|-------|------|-------|-------|------|------|
| Sales increase (%) no more than: |                  | Any   | 100   | 82   | 65    | 49    | 35   | 22   |
| Sales decrease (%) no more than: |                  | Any   | -50   | -45  | -39   | -33   | -26  | -18  |
| Transplant/imported groups       | coefficient      | .30   | .34   | .33  | .35   | .39   | .19  | .15  |
|                                  | t-value          | 1.22  | 1.59  | 1.67 | 1.77  | 2.14* | 1.30 | 1.12 |
|                                  | N of data points | 130   | 128   | 124  | 121   | 117   | 105  | 91   |
| Unchanged transplants/imports    | coefficient      | .50   | .50   | .45  | .47   | .53   | .32  | .26  |
|                                  | t-value          | 2.02* | 2.02* | 1.94 | 2.07* | 2.50* | 1.95 | 1.73 |
|                                  | N of data points | 80    | 80    | 79   | 77    | 75    | 67   | 61   |
| Transplant make-model groups     | coefficient      | .26   | .26   | .26  | .26   | .26   | .15  | .16  |
|                                  | t-value          | 1.10  | 1.10  | 1.10 | 1.10  | 1.10  | .82  | .94  |
|                                  | N of data points | 45    | 45    | 45   | 45    | 45    | 42   | 40   |
| Unchanged transplant groups      | coefficient      | .46   | .46   | .46  | .46   | .46   | .31  | .31  |
|                                  | t-value          | 1.73  | 1.73  | 1.73 | 1.73  | 1.73  | 1.62 | 1.62 |
|                                  | N of data points | 30    | 30    | 30   | 30    | 30    | 28   | 28   |

\* coefficient is statistically significant at the .05 level.

reaching statistical significance at the .01 level. The 14 regression results for all passenger car MMGs (first two sections of Table 3-4) produce  $\Delta\_USCan$  coefficients ranging from + .30 to + .54. Ten of the 14 are significant at the .01 level and only one is not statistically significant.  $\Delta\_USCan$  coefficients are even larger when the data are limited to Big 3 passenger cars, ranging from + .37 to + .72, and eight of them are statistically significant. The second page of Table 3-4 shows positive  $\Delta\_USCan$  coefficients for transplants/imports as well, ranging from + .15 to + .53; 5 of 14 are statistically significant. Even the analysis of transplant models only, based on substantially fewer data points, produces uniformly positive coefficients.

If the coefficients for passenger cars are higher than in the all-vehicles analyses, it can only be that the coefficients for light trucks are lower or even negative. Table 3-5, a set of regressions for **light truck** MMGs only, shows a lot of negative  $\Delta\_USCan$  coefficients, some of which are statistically significant. These regressions include the Vehicle Type variable, and it has three possible values: pickup, SUV or van. The first 14 regressions in Table 3-5 include all light truck MMGs: Big 3, transplant and imported. The  $\Delta\_USCan$  coefficients range from - .56 to + .01 and are statistically significant in one case; however, none of the coefficients for the unchanged MMGs are statistically significant. When the analyses are limited to Big 3 light trucks, the  $\Delta\_USCan$  coefficients are just a shade more negative; again none of the coefficients for the unchanged MMGs are statistically significant. The coefficients for transplants and imports, on the second page of Table 3-5, are more positive than for the Big 3, ranging from - .53 to + .40; all but one of the 14 coefficients for unchanged MMGs are positive.

These mixed but often negative coefficients for light trucks are an important caveat for the results of this chapter. There does not appear to be any intuitive reason to suspect a negative effect in light trucks. The findings suggest that the various relationships between USCan content and sales, although real enough in a statistical sense, might not have that much to do with cause and effect. Among passenger cars, certain high-volume make-models that drive the regressions, specifically transplants such as Honda had increasing USCan content and sales, while other high-volume make-models, specifically Big 3 models such as General Motors, lost USCan content [to Mexico] and sales. But among light trucks, the transplants that gained USCan content did not particularly increase their sales, while some high-volume Big 3 models, especially Chrysler and General Motors lost USCan content [to Mexico] while sales boomed. If the relationship in cars were “causal” it would not likely be reversed in light trucks, but if the pattern in cars is more of a coincidence (i.e., the sales increases and decreases are essentially due to factors other than USCan content), there could more easily be the opposite pattern in trucks.

Nevertheless, the generally positive coefficients of this chapter, even though they fall short of proving that USCan content benefits sales, at least do not suggest that increasing USCan content does sales any harm.

In all the preceding regressions, the definition of  $\Delta\_USCan$  in 1996, 1997 and 1998 was the actual year-to-year change, while a less direct surrogate had to be used in 1995. Did the inclusion of the 1995 data points distort the regressions or push the results in one direction? Table 3-6 repeats the principal regressions of this chapter, the first two sections of Table 3-3, but using only the 317 data points from model years 1996-98, and not the 93 data points for MY 1995. The  $\Delta\_USCan$

TABLE 3-5

## LIGHT TRUCKS: SALES INCREASE (%) PER 1 PERCENT INCREASE IN U.S./CANADIAN CONTENT, MY 1995-98

coefficients for  $\Delta\_USCan$  in the regressions of  $\Delta\_Sales$  by  $\Delta\_USCan$  and other variables in 38 high-volume make-model groups $\Delta\_USCan$  = U.S./Canadian content on current MY AALA label - content on preceding MY AALA label ‡ $\Delta\_Sales$  = log (current MY sales) - log (preceding MY sales)

Limited to make-model groups with sales changes in the following ranges:

|                                  |                  |       |         |         |          |       |       |       |
|----------------------------------|------------------|-------|---------|---------|----------|-------|-------|-------|
| Sales increase (%) no more than: |                  | Any   | 100     | 82      | 65       | 49    | 35    | 22    |
| Sales decrease (%) no more than: |                  | Any   | -50     | -45     | -39      | -33   | -26   | -18   |
| All make-model groups            | coefficient      | -.11  | -.29    | -.31    | -.56     | -.37  | -.27  | -.19  |
|                                  | t-value          | -.36  | -1.30   | -1.43   | -2.80 §§ | -1.86 | -1.55 | -1.10 |
|                                  | N of data points | 143   | 138     | 136     | 131      | 128   | 119   | 106   |
| All unchanged make-model groups  | coefficient      | -.21  | -.30    | -.30    | -.30     | -.30  | -.12  | .01   |
|                                  | t-value          | -.62  | -.97    | -1.09   | -1.09    | -1.09 | -.53  | .04   |
|                                  | N of data points | 95    | 93      | 91      | 90       | 90    | 84    | 76    |
| Big 3 make-model groups          | coefficient      | -.69  | -.65    | -.67    | -.70     | -.42  | -.22  | -.10  |
|                                  | t-value          | -1.96 | -2.07 § | -2.34 § | -2.55 §  | -1.42 | -.85  | -.42  |
|                                  | N of data points | 93    | 91      | 90      | 87       | 86    | 81    | 75    |
| Unchanged Big 3 groups           | coefficient      | -.22  | -.29    | -.33    | -.32     | -.32  | -.01  | .04   |
|                                  | t-value          | -.77  | -.68    | -.85    | -.85     | -.85  | -.03  | .15   |
|                                  | N of data points | 67    | 66      | 65      | 64       | 64    | 61    | 57    |

§ coefficient is negative and statistically significant at the .05 level.

§§ coefficient is negative and statistically significant at the .01 level.

‡ in 1995,  $\Delta\_USCan$  =  $USCan(95)$  - 90.09 for Big 3;  $USCan(95)$  - 48.39 for transplant;  $USCan(95)$  - 4.69 for import.

TABLE 3-5 (continued)

Limited to make-model groups with sales changes in the following ranges:

|                                  |                  |        |        |        |        |       |       |     |
|----------------------------------|------------------|--------|--------|--------|--------|-------|-------|-----|
| Sales increase (%) no more than: |                  | Any    | 100    | 82     | 65     | 49    | 35    | 22  |
| Sales decrease (%) no more than: |                  | Any    | -50    | -45    | -39    | -33   | -26   | -18 |
| Transplant/imported groups       | coefficient      | - .43  | - .51  | - .53  | - .46  | - .03 | - .09 | .20 |
|                                  | t-value          | - 1.37 | - 1.77 | - 1.87 | - 1.57 | - .09 | - .31 | .92 |
|                                  | N of data points | 50     | 47     | 46     | 44     | 42    | 38    | 31  |
| Unchanged transplants/imports    | coefficient      | .40    | .20    | .16    | .16    | .16   | .07   | .26 |
|                                  | t-value          | .92    | .50    | .41    | .41    | .41   | .19   | .94 |
|                                  | N of data points | 28     | 27     | 26     | 26     | 26    | 23    | 19  |
| Transplant make-model groups     | coefficient      | - .41  | - .41  | - .41  | .01    | .01   | - .06 | .12 |
|                                  | t-value          | - 1.19 | - 1.19 | - 1.19 | .02    | .02   | - .16 | .61 |
|                                  | N of data points | 24     | 24     | 24     | 23     | 23    | 22    | 20  |
| Unchanged transplant groups      | coefficient      | .03    | .03    | .03    | .03    | .03   | - .02 | .17 |
|                                  | t-value          | .08    | .08    | .08    | .08    | .08   | - .05 | .76 |
|                                  | N of data points | 14     | 14     | 14     | 14     | 14    | 13    | 12  |

TABLE 3-6

MY 1996-98 ONLY, ALL VEHICLES:  
SALES INCREASE (%) PER 1 PERCENT INCREASE IN U.S./CANADIAN CONTENT

coefficients for  $\Delta\_USCan$  in the regressions of  $\Delta\_Sales$  by  $\Delta\_USCan$  and other variables in 116 high-volume make-model groups  
 $\Delta\_USCan$  = U.S./Canadian content on current MY AALA label - content on preceding MY AALA label  
 $\Delta\_Sales$  = log (current MY sales) - log (preceding MY sales)

Limited to make-model groups with sales changes in the following ranges:

|                                  |                  |       |      |      |      |      |        |        |
|----------------------------------|------------------|-------|------|------|------|------|--------|--------|
| Sales increase (%) no more than: |                  | Any   | 100  | 82   | 65   | 49   | 35     | 22     |
| Sales decrease (%) no more than: |                  | Any   | -50  | -45  | -39  | -33  | -26    | -18    |
| All make-model groups            | coefficient      | -.28  | .04  | .06  | .06  | .16  | .29    | .31    |
|                                  | t-value          | -1.19 | .24  | .35  | .35  | 1.01 | 2.18*  | 2.58*  |
|                                  | N of data points | 317   | 309  | 303  | 294  | 281  | 257    | 220    |
| All unchanged make-model groups  | coefficient      | .30   | .30  | .30  | .28  | .31  | .48    | .44    |
|                                  | t-value          | 1.46  | 1.46 | 1.52 | 1.51 | 1.68 | 3.08** | 3.28** |
|                                  | N of data points | 202   | 202  | 200  | 196  | 193  | 179    | 159    |

\* coefficient is statistically significant at the .05 level.

\*\* coefficient is statistically significant at the .01 level.

coefficients are fairly similar to those in Table 3-3, although more volatile as might be expected from using fewer data. They range from  $-.28$  to  $+.48$ ; all but one are positive. The 14 coefficients average to  $+.21$ . That is essentially identical to the  $+.20$  average of the first 14  $\Delta\_USCan$  coefficients in Table 3-3.

### 3.4 Relationships between USCan content and price

There is a perception - and it is supported by the survey responses of the manufacturers in Chapter 7 - that cost-efficiency is one of the motives for relocating parts factories and/or switching from outside suppliers in one country to another. Specifically, Japanese and Western European manufacturers might save money by using fewer parts from their home countries and more USCan parts at times when the USCan parts cost less. But the Big 3 might save by acquiring fewer USCan and more Mexican parts. If these cost savings were passed directly to the consumer on the make-models where they occurred, we would expect an association of USCan content and price. If such association existed, there could further be an indirect effect on sales: a change in USCan content causing lower prices in turn causing higher sales. It is important to remember, though, that cost is not the same thing as price. A manufacturer who experiences a cost-savings on a particular make-model is free to retain the savings as increased profit or to spread the savings as price reductions on other make-models if that appears to be a better market strategy. Even if USCan content is uncorrelated with retail prices it may still affect manufacturing costs.

These hypotheses can be statistically assessed by performing regressions on the data file described in Section 3.1.  $\Delta\_Price$  will now be the dependent variable, while  $\Delta\_USCan$  continues as the principal independent variable. The data will be limited to current model years 1996, 1997 and 1998: we are only interested in the effect of **actual** year-to-year changes in USCan on prices, and cannot use 1995 data, where the actual change in USCan from 1994 is unknown and  $\Delta\_USCan$  was a surrogate measuring, as it were, the change in USCan perceived by the consumer.

Separate analyses are needed for Big 3 vehicles and those sold by foreign-based companies, because the effects could be in opposite directions. In the Big 3, most of the limited movement in parts was presumably between the United States/Canada and Mexico, although in most cases that cannot be inferred directly from the labels, which only mention countries that contribute over 15 percent of the value of parts, or engines, or transmissions. Thus, lower USCan might result in lower costs: a positive  $\Delta\_USCan$  coefficient. (That expectation could, in fact, be incorrect if a substantial portion of the parts movement was to Japan or Western Europe rather than Mexico.) In the foreign-based companies, a movement of parts from Japan or Western Europe to North America might have lowered costs. If so, the higher the USCan content the lower the cost (negative coefficient). Captive imports are deleted from the Big 3 data and Korean manufacturers from the transplant/import data because they do not fit the paradigms just described.

Make-model groups that were substantially redesigned, with the same name or a new name, are excluded in the first year of their redesign/rename because they essentially became different vehicles and cannot be expected to have the same price. The other eight model-change categories, such as "last year before redesign," "second year it existed," etc. are retained because

the basic vehicle is the same in the current and the previous year; however, the model-change variable is kept in the regression because these factors could affect prices for marketing reasons.

Table 3-7 documents the regression of  $\Delta\_Price$  by  $\Delta\_USCan$  and other variables for 160 Big 3 MMG data points of model years 1996-98. This model fits the data well, with overall  $F = 7.94$  (14 model df, 145 error df,  $p < .0001$ ) and  $R\text{-squared} = .4339$ . But the regression coefficient for  $\Delta\_USCan$  is not statistically significant ( $t = -0.76$ ). The observed effect,  $-.042$  is quite weak and its sign is inconsistent with the hypothesis that most of the parts movement in the Big 3 was between U.S./Canada and Mexico. It associates, for example, a 0.42 percent reduction in prices with a 10 percentage-point increase in USCan content - essentially little or no effect.

The intercept in this regression is .01957, and its interpretation is that the price inflation for unchanged passenger cars was about 2 percent in 1998. Among vehicle types, pickups and SUVs had significant positive coefficients, indicating that their prices rose faster than passenger car prices. The various model-change-related categories had little effect on price<sup>4</sup>. The strongest effect by far is the 5 percent price increase attributed to model year 1997 ( $t = 8.62$ ). This primarily reflects the changeover, starting with the 1997 *Automotive News Market Data Book* from excluding to including the destination charge in the list price. Price increases were also significantly higher than average in 1996 ( $t = 2.08$ ), but only by 1.3 percent.

Table 3-8 limits the Big 3 analysis to the 116 data points that were not in any of the model-change-related categories. The  $\Delta\_USCan$  coefficient is again negative,  $-.084$ , and stronger than in the preceding regression but it is still not statistically significant ( $t = -1.20$ ) and it is still weak in practical terms. It associates a 0.84 percent reduction in prices with a 10 percentage-point increase in USCan content.

Table 3-9 shows a regression of 118 data points of foreign-based manufacturers, excluding Hyundai and Kia. Transplants and imports are both included; however, unlike the  $\Delta\_Sales$  regressions, the Nameplate variable is not used (because we do not assume here that a change in USCan content would have different effects on costs/prices in transplants and imports). The  $\Delta\_USCan$  coefficient is  $+.03531$  and it is not statistically significant ( $t = 0.48$ ). This is a negligible effect, and its sign is inconsistent with the hypothesis that movement from Japan or Western Europe to North America should lower costs.

The intercept is  $-.00071$ , indicating essentially zero inflation in the “baseline” year 1998, when a strong dollar presumably helped importers hold the line on prices. Prices escalated more for light trucks than cars. There was a significant price increases in 1996; however, the 1997 increase primarily reflects the inclusion of destination charges in the price computation.

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<sup>4</sup>The two categories that might be expected to affect price - actual redesigns - are excluded from the data. The “one make-model dropped from the MMG” category has a significant negative effect because it just so happened, in this data set, that the highest-price make-models were dropped.

TABLE 3-7: REGRESSION OF  $\Delta\_PRICE$  BY  $\Delta\_USCan$   
IN ALL 1996-98 BIG 3 MAKE-MODEL GROUPS  
(excluding captive imports)

Dependent variable:  $\Delta\_PRICE$  (log of the ratio of current MY to preceding MY price)  
Aggregation method: by make-model group and current model year  
N of observations: 160  
Weighting factor: SALES\_2Y (sum of current MY and preceding MY sales)  
Degrees of freedom: 14 model, 145 error  
Model F value: 7.94 (p = .0001)  
R-square: .4339

REGRESSION COEFFICIENTS

| Parameter        | Estimate | t for H0:<br>Parameter=0 | Pr >  t |
|------------------|----------|--------------------------|---------|
| INTERCEPT        | .01957   | 3.88                     | .0002   |
| $\Delta\_USCAN$  | - .04199 | - 0.76                   | .4490   |
| VEH_TYP          |          |                          |         |
| CAR              | .00000   | .                        | .       |
| PICKUP           | .01155   | 1.87                     | .0642   |
| SUV              | .01664   | 2.36                     | .0195   |
| VAN              | - .00024 | - 0.03                   | .9732   |
| CHG_MODL         |          |                          |         |
| NO CHANGE        | .00000   | .                        | .       |
| LAST YR BF REDES | .01564   | 1.54                     | .1262   |
| LAST YR BF RENAM | - .00432 | - 0.34                   | .7363   |
| LAST YR IT EXIST | - .01234 | - 0.70                   | .4868   |
| ADDL NAME INTROD | - .02064 | - 1.21                   | .2276   |
| ONE NAME DROPPED | - .06851 | - 2.37                   | .0189   |
| COMPETITOR INTRO | - .02140 | - 0.85                   | .3975   |
| 2ND YR IT EXIST  | - .00918 | - 0.72                   | .4743   |
| 2ND YR AFT REDES | - .00409 | - 0.52                   | .6027   |
| CURR_YR          |          |                          |         |
| 1996             | .01253   | 2.08                     | .0388   |
| 1997             | .05001   | 8.62                     | .0001   |
| 1998             | .00000   | .                        | .       |

TABLE 3-8: REGRESSION OF  $\Delta\_PRICE$  BY  $\Delta\_USCAn$   
IN UNCHANGED 1996-98 BIG 3 MAKE-MODEL GROUPS  
(excluding captive imports)

Dependent variable:  $\Delta\_PRICE$  (log of the ratio of current MY to preceding MY price)  
 Aggregation method: by make-model group and current model year  
 N of observations: 116  
 Weighting factor: SALES\_2Y (sum of current MY and preceding MY sales)  
 Degrees of freedom: 6 model, 109 error  
 Model F value: 13.39 (p = .0001)  
 R-square: .4243

#### REGRESSION COEFFICIENTS

| Parameter       | Estimate       | t for H0:<br>Parameter=0 | Pr >  t      |
|-----------------|----------------|--------------------------|--------------|
| INTERCEPT       | .01903         | 3.50                     | .0007        |
| $\Delta\_USCAN$ | <b>-.08398</b> | <b>- 1.20</b>            | <b>.2334</b> |
| VEH_TYP         |                |                          |              |
| CAR             | .00000         | .                        | .            |
| PICKUP          | .00730         | 1.01                     | .3143        |
| SUV             | .00907         | 1.22                     | .2240        |
| VAN             | -.00506        | - 0.60                   | .5501        |
| CURR_YR         |                |                          |              |
| 1996            | .01754         | 2.57                     | .0114        |
| 1997            | .05311         | 8.10                     | .0001        |
| 1998            | .00000         | .                        | .            |

TABLE 3-9: REGRESSION OF  $\Delta\_PRICE$  BY  $\Delta\_USCan$   
IN ALL 1996-98 TRANSPLANT/IMPORT MAKE-MODEL GROUPS  
(excluding Korean manufacturers)

Dependent variable:  $\Delta\_PRICE$  (log of the ratio of current MY to preceding MY price)  
 Aggregation method: by make-model group and current model year  
 N of observations: 118  
 Weighting factor: SALES\_2Y (sum of current MY and preceding MY sales)  
 Degrees of freedom: 13 model, 104 error  
 Model F value: 1.80 (p = .0523)  
 R-square: .1838

#### REGRESSION COEFFICIENTS

| Parameter        | Estimate      | t for H0:<br>Parameter=0 | Pr >  t      |
|------------------|---------------|--------------------------|--------------|
| INTERCEPT        | -.00071       | - 0.07                   | .9405        |
| $\Delta\_USCAN$  | <b>.03531</b> | <b>0.48</b>              | <b>.6353</b> |
| VEH_TYP          |               |                          |              |
| CAR              | .00000        |                          |              |
| PICKUP           | .03777        | 2.37                     | .0199        |
| SUV              | .02771        | 1.56                     | .1222        |
| VAN              | .02317        | 0.70                     | .4869        |
| CHG_MODL         |               |                          |              |
| NO CHANGE        | .00000        |                          |              |
| LAST YR BF REDES | .00359        | 0.20                     | .8429        |
| LAST YR BF RENAM | .00463        | 0.08                     | .9352        |
| LAST YR IT EXIST | .05292        | 0.85                     | .3978        |
| ADDL NAME INTROD | -.06237       | - 1.27                   | .2057        |
| COMPETITOR INTRO | .02905        | 0.43                     | .6711        |
| 2ND YR IT EXIST  | -.03008       | - 1.05                   | .2943        |
| 2ND YR AFT REDES | .02442        | 1.69                     | .0942        |
| CURR_YR          |               |                          |              |
| 1996             | .02887        | 2.44                     | .0164        |
| 1997             | .03753        | 2.92                     | .0043        |
| 1998             | .00000        |                          |              |

Table 3-10 limits the analysis to the 80 data points for entirely unchanged MMGs. The  $\Delta\_USCan$  coefficient is a negligible  $+0.021$  and it is not statistically significant ( $t = 0.28$ ).

Large year-to-year changes in price are much rarer than extreme sales fluctuations. Only two transplant/import data points, and no Big 3 data points had  $|\Delta\_Price| > .2$ . Exclusion of those two points had little effect on the results.

These analyses showed that changes in USCan content in specific make-models had no significant association with the retail prices in those make-models. As explained above, the results do not preclude the possibility that changes in USCan content affected manufacturers' costs, because cost-savings are not necessarily passed on as price reductions on the make-models where they occur.

TABLE 3-10: REGRESSION OF  $\Delta\_PRICE$  BY  $\Delta\_USCan$   
IN UNCHANGED 1996-98 TRANSPLANT/IMPORT MAKE-MODEL GROUPS  
(excluding Korean manufacturers)

Dependent variable:  $\Delta\_PRICE$  (log of the ratio of current MY to preceding MY price)  
 Aggregation method: by make-model group and current model year  
 N of observations: 80  
 Weighting factor: SALES\_2Y (sum of current MY and preceding MY sales)  
 Degrees of freedom: 6 model, 73 error  
 Model F value: 2.72 (p = .0193)  
 R-square: .1828

#### REGRESSION COEFFICIENTS

| Parameter       | Estimate      | t for H0:<br>Parameter=0 | Pr >  t      |
|-----------------|---------------|--------------------------|--------------|
| INTERCEPT       | - .00090      | - 0.09                   | .9277        |
| $\Delta\_USCAN$ | <b>.02104</b> | <b>0.28</b>              | <b>.7803</b> |
| VEH_TYP         |               |                          |              |
| CAR             | .00000        |                          |              |
| PICKUP          | .02779        | 1.73                     | .0880        |
| SUV             | .04274        | 2.08                     | .0414        |
| VAN             | .02488        | 0.74                     | .4596        |
| CURR_YR         |               |                          |              |
| 1996            | .02851        | 2.28                     | .0254        |
| 1997            | .03973        | 2.95                     | .0042        |
| 1998            | .00000        |                          |              |



## CHAPTER 4

### IMPORT DEPENDENCE IN MOTOR VEHICLES AND PARTS COMPARED TO OTHER CONSUMER PRODUCTS, 1992-98

United States/Canadian (USCan) parts content did not rise in **absolute** terms after labels were placed on new vehicles in accordance with the American Automobile Labeling Act (AALA). Chapter 2 showed it declined from an average of 70 percent in model year 1995, the first year of the labels, to 67.6 percent in model year 1998. But in 1995-98 the strong U.S. economy and dollar must have worked to stimulate imports of all sorts of products. Maybe the growth of import dependence in motor vehicles would have been even stronger if not for the AALA labels, the U.S.-Japan Agreement on Autos and Auto Parts, and other measures. One way to evaluate the effect of these measures is to examine trends in motor vehicles and parts **relative** to 27 other selected consumer products such as appliances, clothing, etc., that are not regulated by the AALA. (Although some of those products have mandatory or optional country-of-origin labels, their labels did not come into existence or change significantly in or near 1995, the year the AALA took effect.) The analyses of this chapter show that the longer-term growth in import dependence among motor vehicles and parts from 1992 to 1998 was less than the average of the 27 other consumer industries - but in the years immediately before and after the AALA, it was about the same as in the other industries. In other words, there is little evidence that the AALA had any immediate effect on relative import dependence, although conceivably the AALA, the U.S.-Japan Agreement and other measures could have been factors in the longer-term effect.

The analyses of this chapter are based on data issued by the U.S. Department of Commerce, and they differ in a number of important ways from the information on the AALA labels and the statistics considered in Chapters 2 and 3. Above all, the percentages here are for the United States only, while AALA percentages are for the United States and Canada combined. Other differences are described in Section 4.1. The trends should only be expected to resemble, not correspond exactly, to the trends in Chapter 2.

#### **4.1 The data base for comparing import dependence trends in various industries**

The regulation that establishes labels for new vehicles in accordance with the AALA specifies detailed procedures for computing what percent of the value of the parts was manufactured in the United States or Canada<sup>1</sup>. In particular, the percentage shown on the label applies only to parts content and does not include assembly labor or other factors that add value to the finished

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<sup>1</sup>*Code of Federal Regulations*, Title 49, General Printing Office, Washington, 1998, Part 583.

vehicle<sup>2</sup>. The percentage includes parts made in Canada as well as the United States. Directly comparable statistics are not available for other consumer industries.

On the other hand, *U.S. Industry and Trade Outlook*, published annually by McGraw-Hill and developed by the U.S. Department of Commerce and several private organizations<sup>3</sup>, tabulates annual figures on U.S. production ("value of product shipments"), exports and imports in a large number of industries including new motor vehicles and automotive parts/accessories. The tables can be used to define import dependence as follows:

$$\text{net imports} = \text{imports} - \text{exports}$$

$$\text{apparent domestic consumption} = \text{product shipments} + \text{net imports}$$

$$\text{net import dependence} = (\text{net imports} / \text{apparent domestic consumption}) \%$$

The *Outlook* statistics for motor vehicles and for parts differ in a number of important ways from the information on the AALA labels:

- AALA statistics are calculated for each individual make-model, but the *Outlook* only aggregates statistics for entire industries.
- Production statistics in the *Outlook* are for the United States only, while AALA percentages are for the United States and Canada combined. In the *Outlook*, shipments from the United States to Canada are included among exports, and from Canada to the United States, among imports.
- The *Outlook* tallies all exports as well as imports, making it possible to calculate net imports. The AALA only tells us the percentage of non-USCan parts in vehicles sold in the United States, but nothing about the percentage of USCan parts in vehicles sold outside the United States. Thus, the AALA cannot be used to tally exports, or net imports.

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<sup>2</sup>On July 28, 1999, NHTSA published a final rule (64 FR 40777) amending the regulation implementing the AALA. Effective June 1, 2000, assembly and labor costs incurred for the assembly of engines and transmissions are to be included in making country of origin determinations for those parts. The new rule, however, was not in effect during the 1992-98 time frame of the analyses of this chapter.

<sup>3</sup>*U.S. Industry & Trade Outlook '98*, McGraw-Hill, New York, 1998; *U.S. Industry & Trade Outlook '99*, McGraw-Hill, New York, 1999.

- The *Outlook* statistics for motor vehicles add the entire value of any vehicle assembled in the United States, including all transplants, to “value of product shipments” and the entire value of any vehicle assembled outside the United States to “imports.” During 1995-98, the AALA considered only the value added by parts (and not by assembly labor, etc.) and estimated what proportion of the value of the parts was USCan, regardless of where the vehicle was assembled.
- The *Outlook* statistics are by calendar year while the AALA data are by model year.
- The *Outlook* statistics for motor vehicles include heavy trucks and buses as well as cars and light trucks, but the AALA only applies to cars and light trucks.
- The *Outlook* statistics for parts/accessories include aftermarket parts and accessories as well as the original parts in new vehicles, but the AALA only applies to the original parts.

In other words, neither the *Outlook* statistics for vehicles nor for parts should be expected to correspond exactly or even closely to the industry-wide totals computed from AALA data in Chapter 2, either in absolute terms or in the detailed year-to-year fluctuations. Nevertheless, there is reason to believe that the overall trends in the *Outlook* statistics will more or less mirror the trends in the AALA data. If net import dependence, as defined in the *Outlook*, were to increase substantially, say five percentage points or more, we would expect a corresponding increase in non-USCan parts in AALA labels, and vice-versa. Thus, the statistics in this chapter may be satisfactory for a heuristic, directional comparison of trends in motor vehicles and parts relative to other industries, but not for a quantitative analysis of the relative effect of the AALA.

Even though the *Outlook* statistics are not directly comparable to the AALA data, they have two advantages: (1) The *Outlook* statistics for motor vehicles and parts are directly comparable to the *Outlook* statistics for other consumer products. (2) *Outlook* statistics exist even before 1995, the first year of the AALA labels. That permits a comparison of 1995-98, when vehicles had the labels, to 1992-94, when they did not.

Whenever possible, statistics are derived from *U.S. Industry & Trade Outlook '99*, because it has final numbers from 1992 through 1996 (1997 for exports and imports) and estimates for 1997 (production) and 1998. *Outlook '98* only has forecasts for 1998, but had to be used for a few industries omitted in the 1999 book. Industries are classified by Standard Industry Classifications (SIC). “Motor Vehicles” include SIC 3711 (motor vehicles and car bodies) and 3713 (truck and bus bodies). *Outlook '99* presents the following statistics, in millions of current dollars, for U.S. production (“product data - value of shipments”), imports and exports in SIC 3711 and 3713<sup>4</sup>:

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<sup>4</sup>*U.S. Industry & Trade Outlook '99*, McGraw-Hill, New York, 1999, p. 36-12. .

|      | Production | Imports | Exports |
|------|------------|---------|---------|
| 1992 | 151,629    | 59,805  | 17,539  |
| 1993 | 168,682    | 67,803  | 18,399  |
| 1994 | 201,307    | 78,806  | 22,123  |
| 1995 | 205,644    | 84,042  | 21,522  |
| 1996 | 205,930    | 86,992  | 22,904  |
| 1997 | 217,694    | 92,369  | 24,525  |
| 1998 | 220,141    | 94,032  | 27,854  |

They are used to compute net imports, apparent U.S. consumption and percent net import dependence:

|      | Net<br>Imports | Consumption | Import<br>Dependence (%) |
|------|----------------|-------------|--------------------------|
| 1992 | 42,266         | 193,895     | 21.80                    |
| 1993 | 49,404         | 218,086     | 22.65                    |
| 1994 | 56,683         | 257,990     | 21.97                    |
| 1995 | 62,520         | 268,164     | 23.31                    |
| 1996 | 64,088         | 270,018     | 23.73                    |
| 1997 | 67,844         | 285,538     | 23.76                    |
| 1998 | 66,178         | 286,319     | 23.11                    |

These statistics show fluctuating import dependence, but an overall trend toward slightly higher import dependence in later years. Although differing on a year-to-year basis, they convey the same general impression as the overall results in Section 2.2: that U.S./Canadian content and assembly have both declined slightly in recent years, while Mexican or overseas parts and assembly increased.

The corresponding statistics for automotive parts (SIC 3465, 3592, 3647, 3691, 3694 and 3714) are as follows<sup>5</sup>:

|      | Production | Imports | Exports |
|------|------------|---------|---------|
| 1992 | 104,109    | 21,055  | 22,437  |
| 1993 | 118,293    | 23,461  | 26,064  |
| 1994 | 134,462    | 27,267  | 27,927  |
| 1995 | 143,859    | 28,800  | 29,323  |
| 1996 | 148,201    | 30,837  | 30,285  |
| 1997 | 152,647    | 33,093  | 35,150  |
| 1998 | 157,074    | 34,913  | 38,489  |

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<sup>5</sup>*Ibid.*, p. 37-5.

|      | Net<br>Imports | Consumption | Import<br>Dependence (%) |
|------|----------------|-------------|--------------------------|
| 1992 | - 1,382        | 102,727     | - 1.35                   |
| 1993 | - 2,603        | 115,690     | - 2.25                   |
| 1994 | - 660          | 133,802     | - 0.49                   |
| 1995 | - 523          | 143,336     | - 0.36                   |
| 1996 | + 552          | 148,753     | +0.37                    |
| 1997 | - 2,057        | 150,090     | - 1.37                   |
| 1998 | - 3,576        | 153,498     | - 2.33                   |

The United States was a net exporter of parts in 1992-93, had close to a zero trade balance in 1994-96 and again became a net exporter in 1997-98. The balance of trade is much more favorable for parts than for finished motor vehicles, because many parts are “exported” to Canada and Mexico where they are assembled and then “re-imported” as finished vehicles. But the long-term trend is essentially the same: no dramatic change in import dependence.

These statistics for motor vehicles and parts were then compared to 27 other important consumer products from industries not regulated by the AALA, the U.S.-Japan Agreement on Autos and Auto Parts, etc. The criteria for selecting the products included:

- Availability of statistics in *Outlook '99* or, at least, *Outlook '98*.
- They should be manufactured goods. Raw materials such as coal or cement, and services such as education or financial management are not included.
- They should be final products, sold at least in substantial part to individual consumers. Intermediate products or goods purchased almost exclusively by manufacturers or corporations, such as semiconductors, airplanes or oilfield machinery, are excluded.
- They should be large industries, with annual sales of \$10 billion or more. In some cases, statistics for reasonably similar products with lower sales have been aggregated to add up to more than \$10 billion, even though they were listed in separate chapters in *Outlook* (e.g., power hand tools with lawn and garden equipment).
- Products that are unsuited for large-scale export or import because people intrinsically need a local product, such as newspapers, are excluded.

The purpose of these criteria is to generate many “control groups” of products that: (1) are bought by more or less the same people who buy new motor vehicles - consumers - and who may have a similar interest in “buying American”/“buying imported” whether the product is a car, a television or a suit. (2) are not regulated by the AALA, the U.S.-Japan Agreement on Autos and Auto Parts, etc. and did not introduce or significantly reformat their country-of-origin information in or near 1995. That is not to say the control group industries lack country-or-origin information or are unregulated. On the contrary, many if not most of these products carry optional “Made in

\_\_\_\_\_” labels and the Federal Trade Commission has detailed regulations specifying under what circumstances a product may be labeled “Made in U.S.A.” For textile, wool and fur products, labels have been mandatory since long before 1992 and subject to additional regulations<sup>6</sup>. In all the control groups, however, the labels were essentially the same in 1992-94 as in 1995-98. Thus, we will be able to investigate if the import-dependence trend in vehicles and parts diverged from the trend in the control groups after the introduction of AALA labels on vehicles in 1995.

The 27 groups of consumer products were defined as follows. Statistics are from *Outlook* ‘99, except groups marked with an asterisk are based on *Outlook* ‘98:

1. Plumbing parts - sinks, toilets, bathtubs and fixtures (SIC 3088, 3261, 3431 and 3432)
2. Lighting fixtures, lamps (SIC 3645, 3646 and 3648)\*
3. Carpets and rugs (SIC 227)
4. Paper napkins, towels and tissue (SIC 2676)\*
5. Drugs and pharmaceuticals (SIC 283)
6. Cosmetics, soap and detergents (SIC 284)\*
7. Tires (SIC 3011)
8. Power-driven hand tools plus lawn and garden equipment (SIC 3524 and 3546)
9. Air-conditioning and heating equipment (SIC 3585)
10. Farm machinery and equipment (SIC 3523)
11. Photographic equipment and supplies (SIC 3861)
12. Book publishing (SIC 2731)
13. Greeting cards, stationery, forms, looseleafs, bank checks, etc. (SIC 2771 plus 2782)
14. Computers and peripherals (SIC 3571, 3572, 3575 and 3577)
15. Telephone apparatus [customer and company equipment] (SIC 3661)
16. Apparel (SIC 23 minus SIC 239)
17. Curtains, household cloth furnishings and other non-apparel textile products (SIC 239)
18. Leather products [shoes, luggage, purses, gloves, etc.] (SIC 2386, 314, 315, 316 and 317)
19. Alcoholic beverages (SIC 2082, 2084 and 2085)
20. Meat, poultry and dairy products (SIC 2011, 2013, 2015 and 202)\*
21. Other processed foods [all processed foods except alcoholic beverages, meat, poultry and dairy products] (SIC 20 minus SIC 2011, 2013, 2015, 202, 2082, 2084 and 2085)\*
22. Household audio and video equipment (SIC 3651)\*
23. Household furniture (SIC 251)
24. Household appliances [cooking, refrigerators, laundry, vacuum cleaners, etc.] (SIC 363)
25. Recreational goods [sporting goods, dolls, toys, games, bicycles, motorcycles, recreational boats] plus musical instruments (SIC 3732, 3751, 3942, 3944, 3949, and 3931)
26. Jewelry [precious plus costume] (SIC 3911 plus 3961)
27. Medical instruments and supplies (SIC 384)

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<sup>6</sup>Senie, A.L., *Federal Laws on “MADE IN THE U.S.A.” Labeling*, U.S. Department of Commerce, [www.tradecompass.com/library/legal/fedus.htm](http://www.tradecompass.com/library/legal/fedus.htm). *Complying with the Made In the USA Standard*, Federal Trade Commission, [www.ftc.gov/bcp/online/pubs/buspubs/madeusa.htm](http://www.ftc.gov/bcp/online/pubs/buspubs/madeusa.htm). *Part 303 – Rules and Regulations under the Textile Fiber Products Identification Act (Footnote)*, Arent Fox, [www.webcom.com/%7Elewrose/trr/textile.html](http://www.webcom.com/%7Elewrose/trr/textile.html).

## 4.2 Basic statistics and trends, 1992-98

Table 4-1 shows the apparent U.S. consumption, production (value of product shipments), imports, exports and import dependence for each of these industries in calendar year 1998, and compares them to motor vehicles and parts. The size of these industries, as measured by apparent consumption, ranges from just under \$10 billion (plumbing parts; cards and stationery) to \$267 billion for "other processed foods," almost as large as motor vehicles (\$286 billion). However, the sum of the 27 control groups, \$1.256 trillion, far exceeds spending on motor vehicles.

Import dependence ranges from -11.87 percent for medical and dental instruments to 79.97 percent for leather goods. Net import dependence for the 27 control groups together is 11.55 percent. Thus, finished motor vehicles are higher than average, at 23.11 percent, while parts and accessories are lower than average, at -2.33 percent.

Manufactured products fall into four categories of import dependence. The United States is a major net exporter of air conditioners and medical/dental instruments (also aircraft, but they are excluded here since little of the product is purchased by individual consumers). Many products, including automotive parts, have net import dependence in the positive or negative single digits, indicating net self-sufficiency. Quite a few important industries, such as computers, furniture and appliances have moderate import dependence (14-26%), resembling finished motor vehicles. The United States is a heavy net importer of apparel, leather goods, audio and video, recreational goods and jewelry.

Table 4-2 ranks motor vehicles, auto parts and the 27 control group products from lowest to highest percent import dependence in each of the years 1992 to 1998. The industries are listed in the order of their 1992 ranking. Most industries stayed at about the same rank throughout 1992-98. Air conditioners and medical instruments had the two lowest rates of net imports (highest percent net exports) in each year. Recreational goods, jewelry, apparel, audio/video and leather products had the highest import dependence in all years. A few industries had major growth in import dependence during 1992-98: drugs (dropped from 9<sup>th</sup> to 16<sup>th</sup>), hand tools and garden equipment (4<sup>th</sup> to 10<sup>th</sup>), computers (19<sup>th</sup> to 24<sup>th</sup>), book publishing (3<sup>rd</sup> to 7<sup>th</sup>) and furniture (16<sup>th</sup> to 20<sup>th</sup>). Only telephone apparatus (18<sup>th</sup> to 12<sup>th</sup>) and farm machinery (8<sup>th</sup> to 4<sup>th</sup>) gained self-sufficiency by four or more ranks. Motor vehicles and parts were neither big gainers nor losers, but did slightly better than average: motor vehicles improved from 24<sup>th</sup> to 23<sup>rd</sup> and parts from 10<sup>th</sup> to 8<sup>th</sup>.

During 1992-98, import dependence for the composite of 27 control group industries gradually increased from 7.34 to 11.55 percent, while it increased a bit less in motor vehicles, 21.80 to 23.11 percent, and it decreased in parts from -1.35 to -2.33 percent (net exports increased):

TABLE 4-1: 1998 STATISTICS FOR 29 INDUSTRIES (in millions of Dollars)

|    | Product                         | Apparent<br>Consumption | Production | Imports | Exports | Import<br>Dependence (%) |
|----|---------------------------------|-------------------------|------------|---------|---------|--------------------------|
| 1  | Plumbing parts                  | 9,165                   | 8,685      | 780     | 300     | 5.24                     |
| 2  | Light fixtures                  | 10,713                  | 8,909      | 2,515   | 711     | 16.84                    |
| 3  | Carpets & rugs                  | 11,350                  | 11,210     | 950     | 810     | 1.23                     |
| 4  | Paper napkins, towels, tissue   | 17,543                  | 18,183     | 429     | 1,069   | - 3.65                   |
| 5  | Drugs                           | 89,937                  | 83,788     | 18,263  | 12,114  | 6.84                     |
| 6  | Cosmetics, soap, detergents     | 47,229                  | 49,651     | 2,511   | 4,933   | - 5.13                   |
| 7  | Tires                           | 15,574                  | 14,571     | 3,454   | 2,451   | 6.44                     |
| 8  | Hand tools & garden eqpt        | 10,289                  | 10,302     | 1,772   | 1,785   | - 0.13                   |
| 9  | A/C & heating eqpt              | 22,604                  | 25,198     | 2,857   | 5,451   | -11.48                   |
| 10 | Farm machinery & eqpt           | 14,411                  | 15,028     | 3,772   | 4,389   | - 4.28                   |
| 11 | Photo eqpt & supplies           | 24,750                  | 20,000     | 9,600   | 4,850   | 19.19                    |
| 12 | Book publishing                 | 19,800                  | 20,475     | 1,365   | 2,040   | - 3.41                   |
| 13 | Cards & stationery              | 8,601                   | 8,324      | 513     | 236     | 3.22                     |
| 14 | Computers & peripherals         | 136,700                 | 101,500    | 79,300  | 44,100  | 25.75                    |
| 15 | Telephone apparatus             | 34,467                  | 33,767     | 8,650   | 7,950   | 2.03                     |
| 16 | Apparel                         | 96,307                  | 52,679     | 51,883  | 8,255   | 45.30                    |
| 17 | Curtains, household cloth prods | 26,660                  | 22,930     | 4,925   | 1,195   | 13.99                    |
| 18 | Leather products                | 21,332                  | 4,272      | 17,875  | 815     | 79.97                    |
| 19 | Alcoholic beverages             | 32,504                  | 27,909     | 6,005   | 1,410   | 14.14                    |
| 20 | Meat & dairy products           | 157,985                 | 164,303    | 4,214   | 10,532  | - 4.00                   |
| 21 | Other processed foods           | 267,079                 | 268,615    | 19,209  | 20,745  | - 0.58                   |
| 22 | Household audio & video         | 25,189                  | 9,571      | 19,788  | 4,170   | 62.00                    |
| 23 | Household furniture             | 32,966                  | 27,591     | 7,058   | 1,683   | 16.30                    |
| 24 | Household appliances            | 24,480                  | 20,492     | 7,138   | 3,150   | 16.29                    |
| 25 | Recreational goods              | 40,228                  | 23,433     | 22,519  | 5,724   | 41.75                    |
| 26 | Jewelry                         | 10,160                  | 5,785      | 4,920   | 545     | 43.06                    |
| 27 | Medical/dental instruments      | 48,340                  | 54,080     | 7,010   | 12,750  | -11.87                   |
|    | ALL OF THE ABOVE                | 1,256,363               | 1,111,251  | 309,275 | 164,163 | 11.55                    |
|    | Finished motor vehicles         | 286,319                 | 220,141    | 94,032  | 27,854  | 23.11                    |
|    | Auto parts & accessories        | 153,498                 | 157,074    | 34,913  | 38,489  | -2.33                    |

TABLE 4-2: 29 INDUSTRIES RANKED FROM LOWEST TO HIGHEST IMPORT DEPENDENCE, 1992-98

| Product                             | 1992      | 1993      | 1994      | 1995      | 1996      | 1997      | 1998      |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| A/C & heating eqpt                  | 1         | 1         | 2         | 2         | 2         | 2         | 2         |
| Medical/dental instruments          | 2         | 2         | 1         | 1         | 1         | 1         | 1         |
| Book publishing                     | 3         | 3         | 3         | 5         | 6         | 6         | 7         |
| Hand tools & garden eqpt            | 4         | 4         | 5         | 6         | 9         | 9         | 10        |
| Cosmetics, soap, detergents         | 5         | 5         | 4         | 3         | 4         | 4         | 3         |
| Paper napkins, towels, tissue       | 6         | 7         | 6         | 7         | 7         | 7         | 6         |
| Meat & dairy products               | 7         | 9         | 7         | 4         | 5         | 5         | 5         |
| Farm machinery & eqpt               | 8         | 6         | 13        | 10        | 3         | 3         | 4         |
| Drugs                               | 9         | 10        | 8         | 11        | 13        | 14        | 16        |
| <b>Auto parts &amp; accessories</b> | <b>10</b> | <b>8</b>  | <b>10</b> | <b>9</b>  | <b>10</b> | <b>8</b>  | <b>8</b>  |
| Other processed foods               | 11        | 11        | 9         | 8         | 8         | 10        | 9         |
| Carpets & rugs                      | 12        | 12        | 11        | 12        | 11        | 11        | 11        |
| Plumbing parts                      | 13        | 13        | 14        | 15        | 15        | 15        | 14        |
| Cards & stationery                  | 14        | 14        | 12        | 13        | 14        | 13        | 13        |
| Tires                               | 15        | 16        | 16        | 16        | 16        | 16        | 15        |
| Household furniture                 | 16        | 17        | 18        | 20        | 20        | 20        | 20        |
| Curtains, household cloth prods     | 17        | 19        | 20        | 18        | 17        | 18        | 17        |
| Telephone apparatus                 | 18        | 15        | 15        | 14        | 12        | 12        | 12        |
| Computers & peripherals             | 19        | 23        | 23        | 23        | 23        | 23        | 24        |
| Alcoholic beverages                 | 20        | 18        | 17        | 17        | 18        | 19        | 18        |
| Light fixtures                      | 21        | 21        | 21        | 21        | 21        | 21        | 21        |
| Household appliances                | 22        | 20        | 19        | 19        | 19        | 17        | 19        |
| Photo eqpt & supplies               | 23        | 22        | 22        | 22        | 22        | 22        | 22        |
| <b>Finished motor vehicles</b>      | <b>24</b> | <b>24</b> | <b>24</b> | <b>24</b> | <b>24</b> | <b>24</b> | <b>23</b> |
| Recreational goods                  | 25        | 25        | 25        | 25        | 25        | 25        | 25        |
| Jewelry                             | 26        | 27        | 27        | 27        | 27        | 26        | 26        |
| Apparel                             | 27        | 26        | 26        | 26        | 26        | 27        | 27        |
| Household audio & video             | 28        | 28        | 28        | 28        | 28        | 28        | 28        |
| Leather products                    | 29        | 29        | 29        | 29        | 29        | 29        | 29        |

### Net Import Dependence (%)

|      | Motor<br>Vehicles | Automotive<br>Parts | 27 Other<br>Industries |
|------|-------------------|---------------------|------------------------|
| 1992 | 21.80             | - 1.35              | 7.34                   |
| 1993 | 22.65             | - 2.25              | 7.99                   |
| 1994 | 21.97             | - 0.49              | 8.79                   |
| 1995 | 23.31             | - 0.36              | 8.98                   |
| 1996 | 23.73             | +0.37               | 9.03                   |
| 1997 | 23.76             | - 1.37              | 10.03                  |
| 1998 | 23.11             | - 2.33              | 11.55                  |

### 4.3 Before vs. after the AALA labels: 1992-94 vs. 1995-98

Potentially the best single indicator of the possible impact of AALA labels and the U.S.-Japan Agreement on Autos and Auto Parts is to compare import dependence for 1995-98, when motor vehicles had the labels and the Agreement was in effect<sup>7</sup>, to 1992-94, the “before” period. If any of these measures made a really big difference in the marketplace, we would expect to see a change in import dependence for 1995-98 vs. 1992-94, perhaps not in absolute terms, but certainly relative to the 27 control group industries unaffected by the AALA labels (subject to the caveat that the import-dependence statistics in this chapter do not correspond exactly to the USCan parts information on the labels). In other words, we have a 2x2 experimental design where AALA labels and the Agreement are the “treatment” received only by the automotive industries in 1995-98:

|                          | 1992-94 | 1995-98 |
|--------------------------|---------|---------|
| Automotive industries    |         |         |
| Control group industries |         |         |

Table 4-3 ranks motor vehicles, parts and 27 control group industries from lowest to highest import dependence in 1992-94 and in 1995-98. Import dependence for 1992-94 [1995-98] is computed by adding up the production, exports and imports for 1992-94 [1995-98] and, as usual, dividing net imports by apparent consumption. Based on ranks, auto parts and accessories improved slightly relative to the control group industries, from 9<sup>th</sup> place in 1992-94 to 8<sup>th</sup> place in 1995-98. Finished motor vehicles ranked 24<sup>th</sup> in both time periods. There was no dramatic shift away from import dependence (like farm machinery, that changed from 11<sup>th</sup> to 3<sup>rd</sup>) or towards it (like drugs, moving from 8<sup>th</sup> to 14<sup>th</sup>).

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<sup>7</sup>The Agreement was signed on June 28, 1995 (see Section 1.3).

TABLE 4-3

**29 INDUSTRIES RANKED FROM LOWEST TO HIGHEST IMPORT DEPENDENCE  
BEFORE AALA (1992-94) VS. AFTER AALA (1995-98)**

| Product                             | Import Dependence |              |           |              |             |
|-------------------------------------|-------------------|--------------|-----------|--------------|-------------|
|                                     | 1992-94           |              | 1995-98   |              | Change      |
|                                     | Rank              | %            | Rank      | %            |             |
| Medical/dental instruments          | 1                 | -9.65        | 1         | -12.28       | -2.63       |
| A/C & heating eqpt                  | 2                 | -9.39        | 2         | -10.10       | -0.71       |
| Book publishing                     | 3                 | -4.43        | 6         | -3.20        | 1.24        |
| Hand tools & garden eqpt            | 4                 | -3.91        | 9         | -0.82        | 3.09        |
| Cosmetics, soap, detergents         | 5                 | -3.52        | 4         | -4.62        | -1.11       |
| Paper napkins, towels, tissue       | 6                 | -2.85        | 7         | -3.03        | -0.18       |
| Meat & dairy products               | 7                 | -2.38        | 5         | -3.93        | -1.56       |
| Drugs                               | 8                 | -1.34        | 14        | 3.95         | 5.29        |
| <b>Auto parts &amp; accessories</b> | <b>9</b>          | <b>-1.32</b> | <b>8</b>  | <b>-0.94</b> | <b>0.38</b> |
| Other processed foods               | 10                | -0.77        | 10        | -0.49        | 0.29        |
| Farm machinery & eqpt               | 11                | -0.09        | 3         | -5.10        | -5.01       |
| Carpets & rugs                      | 12                | 0.09         | 11        | 1.37         | 1.28        |
| Plumbing parts                      | 13                | 2.94         | 15        | 5.07         | 2.14        |
| Cards & stationery                  | 14                | 2.97         | 13        | 3.09         | 0.12        |
| Telephone apparatus                 | 15                | 8.26         | 12        | 2.78         | -5.48       |
| Tires                               | 16                | 9.18         | 16        | 7.02         | -2.16       |
| Household furniture                 | 17                | 9.68         | 20        | 13.95        | 4.28        |
| Alcoholic beverages                 | 18                | 9.95         | 17        | 11.81        | 1.86        |
| Curtains, household cloth prods     | 19                | 10.00        | 18        | 11.95        | 1.95        |
| Household appliances                | 20                | 10.50        | 19        | 12.77        | 2.26        |
| Light fixtures                      | 21                | 11.52        | 21        | 15.32        | 3.80        |
| Photo eqpt & supplies               | 22                | 14.58        | 22        | 18.30        | 3.73        |
| Computers & peripherals             | 23                | 15.90        | 23        | 22.60        | 6.70        |
| <b>Finished motor vehicles</b>      | <b>24</b>         | <b>22.14</b> | <b>24</b> | <b>23.48</b> | <b>1.34</b> |
| Recreational goods                  | 25                | 31.65        | 25        | 36.79        | 5.13        |
| Apparel                             | 26                | 35.19        | 27        | 41.16        | 5.97        |
| Jewelry                             | 27                | 36.07        | 26        | 40.15        | 4.08        |
| Household audio & video             | 28                | 58.67        | 28        | 60.29        | 1.62        |
| Leather products                    | 29                | 68.92        | 29        | 76.32        | 7.40        |
| <b>ALL EXCEPT AUTOS &amp; PARTS</b> |                   | <b>8.07</b>  |           | <b>9.95</b>  | <b>1.88</b> |

The right column of Table 4-3 indicates the change in import dependence: the arithmetic difference between the percent import dependence in 1995-98 and 1992-94. For auto parts and accessories, import dependence increased by 0.38 percent; for finished motor vehicles, by 1.34 percent. Both of these are slightly better, but not really very different from the 1.88 percent increase in the combined 27 control group industries. These numbers do not suggest a large impact for the AALA “treatment” when import dependence is measured relative to other industries “untreated” with the AALA/Agreement.

Table 4-4 ranks the 29 industries by their **change** in import dependence from 1992-94 to 1995-98 (the right column of Table 4-3). Eight products, ranging from telephone apparatus to paper napkins, towels and tissue, were able to reduce import dependence (or increase relative net exports) from 1992-94 to 1995-98. Five industries, ranging from recreational goods to leather products, slid 5 percent or more toward greater import dependence. Auto parts and finished motor vehicles are in neither extreme group. Instead, they are both close to the median of the 29 industries, parts ranking 11<sup>th</sup> and finished motor vehicles ranking 14<sup>th</sup>. They behaved like the “typical” industries unaffected by the AALA/Agreement.

#### **4.4 Short-term change: just before AALA (1994) vs. just after AALA(1995)**

Theoretically, the effect of the AALA, if there is any, could take place immediately, in 1995, or it could lag (if consumers are not initially aware of the labels) or even lead (if manufacturers move operations to North America in anticipation of the labels). It could be a one-time effect, or gradual and cumulative. But certainly one change we might look for is 1994 vs. 1995. We already saw in Section 2.2 that there was no dramatic shift, in absolute terms, from overseas to U.S./Canadian assembly between 1994 and 1995. Table 4-5 explores the short-term effect relative to other industries. It ranks the 29 consumer products based on the change in import dependence from 1994 to 1995.

There was no major shift in the direction of trade from 1994 to 1995. Only farm machinery, telephone apparatus and leather products changed import dependence by more than 2 percent in either direction. The 27 control group products, as a whole, increased import dependence by 0.19 percent. Auto parts were almost exactly at the median, increasing by 0.13 percent. Finished motor vehicles, on the other hand, had the 4<sup>th</sup> largest increase of import dependence among the 29 industries. Still, this increase, 1.34 percent, is only slightly larger than the median for the 29 products. In any case, Table 4-5 confirms that the AALA was not followed by an immediate reduction of import dependence for automotive products, relative to the rest of the economy.

#### **4.5 Longer-term change: 1992 vs. 1998**

A better way to study the possible longer-term, cumulative effects of the AALA, the U.S.-Japan Agreement on Autos and Auto Parts and other measures that have affected the international auto industry is to study import dependence in two widely separated years. Table 4-6 compares the automotive industry to other products over a longer period of time by ranking the 29 industries on the change in import dependence from the single year 1992 to the single year 1998. Nine

TABLE 4-4

**29 INDUSTRIES RANKED BY CHANGE IN IMPORT DEPENDENCE  
BEFORE AALA (1992-94) VS. AFTER AALA (1995-98)**

| Product                             | Change in Import<br>Dependence |             | Import Dependence (%) |              |
|-------------------------------------|--------------------------------|-------------|-----------------------|--------------|
|                                     | Rank                           | %           | 1992-94               | 1995-98      |
| Telephone apparatus                 | 1                              | -5.48       | 8.26                  | 2.78         |
| Farm machinery & eqpt               | 2                              | -5.01       | -0.09                 | -5.10        |
| Medical/dental instruments          | 3                              | -2.63       | -9.65                 | -12.28       |
| Tires                               | 4                              | -2.16       | 9.18                  | 7.02         |
| Meat & dairy products               | 5                              | -1.56       | -2.38                 | -3.93        |
| Cosmetics, soap, detergents         | 6                              | -1.11       | -3.52                 | -4.62        |
| A/C & heating eqpt                  | 7                              | -0.71       | -9.39                 | -10.10       |
| Paper napkins, towels, tissue       | 8                              | -0.18       | -2.85                 | -3.03        |
| Cards & stationery                  | 9                              | 0.12        | 2.97                  | 3.09         |
| Other processed foods               | 10                             | 0.29        | -0.77                 | -0.49        |
| <b>Auto parts &amp; accessories</b> | <b>11</b>                      | <b>0.38</b> | <b>-1.32</b>          | <b>-0.94</b> |
| Book publishing                     | 12                             | 1.24        | -4.43                 | -3.20        |
| Carpets & rugs                      | 13                             | 1.28        | 0.09                  | 1.37         |
| <b>Finished motor vehicles</b>      | <b>14</b>                      | <b>1.34</b> | <b>22.14</b>          | <b>23.48</b> |
| Household audio & video             | 15                             | 1.62        | 58.67                 | 60.29        |
| Alcoholic beverages                 | 16                             | 1.86        | 9.95                  | 11.81        |
| <b>ALL EXCEPT AUTOS AND PARTS</b>   |                                | <b>1.88</b> | <b>8.07</b>           | <b>9.95</b>  |
| Curtains, household cloth prods     | 17                             | 1.95        | 10.00                 | 11.95        |
| Plumbing parts                      | 18                             | 2.14        | 2.94                  | 5.07         |
| Household appliances                | 19                             | 2.26        | 10.50                 | 12.77        |
| Hand tools & garden eqpt            | 20                             | 3.09        | -3.91                 | -0.82        |
| Photo eqpt & supplies               | 21                             | 3.73        | 14.58                 | 18.30        |
| Light fixtures                      | 22                             | 3.80        | 11.52                 | 15.32        |
| Jewelry                             | 23                             | 4.08        | 36.07                 | 40.15        |
| Household furniture                 | 24                             | 4.28        | 9.68                  | 13.95        |
| Recreational goods                  | 25                             | 5.13        | 31.65                 | 36.79        |
| Drugs                               | 26                             | 5.29        | -1.34                 | 3.95         |
| Apparel                             | 27                             | 5.97        | 35.19                 | 41.16        |
| Computers & peripherals             | 28                             | 6.70        | 15.90                 | 22.60        |
| Leather products                    | 29                             | 7.40        | 68.92                 | 76.32        |

TABLE 4-5

**29 INDUSTRIES RANKED BY CHANGE IN IMPORT DEPENDENCE  
JUST BEFORE AALA (1994) VS. JUST AFTER AALA (1995)**

| Product                             | Change in Import<br>Dependence |             | Import Dependence (%) |              |
|-------------------------------------|--------------------------------|-------------|-----------------------|--------------|
|                                     | Rank                           | %           | 1994                  | 1995         |
| Farm machinery & eqpt               | 1                              | -3.88       | 3.64                  | -0.24        |
| Telephone apparatus                 | 2                              | -3.88       | 7.86                  | 3.99         |
| Tires                               | 3                              | -1.54       | 9.73                  | 8.18         |
| Meat & dairy products               | 4                              | -1.13       | -2.85                 | -3.98        |
| Medical/dental instruments          | 5                              | -1.01       | -10.95                | -11.96       |
| A/C & heating eqpt                  | 6                              | -0.77       | -8.20                 | -8.97        |
| Alcoholic beverages                 | 7                              | -0.14       | 9.96                  | 9.82         |
| Cards & stationery                  | 8                              | -0.13       | 3.29                  | 3.16         |
| Other processed foods               | 9                              | -0.12       | -0.73                 | -0.85        |
| Cosmetics, soap, detergents         | 10                             | 0.03        | -4.08                 | -4.04        |
| Jewelry                             | 11                             | 0.09        | 37.93                 | 38.02        |
| Curtains, household cloth prods     | 12                             | 0.10        | 10.87                 | 10.97        |
| <b>Auto parts &amp; accessories</b> | <b>13</b>                      | <b>0.13</b> | <b>-0.49</b>          | <b>-0.36</b> |
| ALL EXCEPT AUTOS AND PARTS          |                                | 0.19        | 8.79                  | 8.98         |
| Plumbing parts                      | 14                             | 0.43        | 4.08                  | 4.51         |
| Recreational goods                  | 15                             | 0.46        | 31.37                 | 31.83        |
| Household appliances                | 16                             | 0.53        | 10.58                 | 11.10        |
| Paper napkins, towels, tissue       | 17                             | 0.62        | -3.17                 | -2.55        |
| Computers & peripherals             | 18                             | 0.67        | 19.76                 | 20.43        |
| Book publishing                     | 19                             | 0.77        | -4.11                 | -3.34        |
| Light fixtures                      | 20                             | 0.84        | 12.36                 | 13.20        |
| Hand tools & garden eqpt            | 21                             | 0.90        | -3.59                 | -2.68        |
| Household furniture                 | 22                             | 1.25        | 10.49                 | 11.73        |
| Household audio & video             | 23                             | 1.31        | 60.15                 | 61.46        |
| Carpets & rugs                      | 24                             | 1.31        | 0.68                  | 1.99         |
| Apparel                             | 25                             | 1.32        | 36.25                 | 37.57        |
| <b>Finished motor vehicles</b>      | <b>26</b>                      | <b>1.34</b> | <b>21.97</b>          | <b>23.31</b> |
| Drugs                               | 27                             | 1.70        | -0.89                 | 0.81         |
| Photo eqpt & supplies               | 28                             | 1.91        | 16.51                 | 18.42        |
| Leather products                    | 29                             | 2.66        | 70.09                 | 72.75        |

TABLE 4-6

**29 INDUSTRIES RANKED BY LONG-TERM CHANGE IN IMPORT DEPENDENCE  
1992 VS. 1998**

| Product                             | Change in Import<br>Dependence |              | Import Dependence (%) |              |
|-------------------------------------|--------------------------------|--------------|-----------------------|--------------|
|                                     | Rank                           | %            | 1992                  | 1998         |
| Telephone apparatus                 | 1                              | -7.34        | 9.37                  | 2.03         |
| Medical/dental instruments          | 2                              | -2.82        | -9.06                 | -11.87       |
| Farm machinery & eqpt               | 3                              | -2.53        | -1.75                 | -4.28        |
| Tires                               | 4                              | -2.18        | 8.62                  | 6.44         |
| Cosmetics, soap, detergents         | 5                              | -1.98        | -3.15                 | -5.13        |
| Meat & dairy products               | 6                              | -1.83        | -2.17                 | -4.00        |
| A/C & heating eqpt                  | 7                              | -1.36        | -10.12                | -11.48       |
| Paper napkins, towels, tissue       | 8                              | -1.16        | -2.48                 | -3.65        |
| <b>Auto parts &amp; accessories</b> | <b>9</b>                       | <b>-0.98</b> | <b>-1.35</b>          | <b>-2.33</b> |
| Other processed foods               | 10                             | 0.17         | -0.75                 | -0.58        |
| Cards & stationery                  | 11                             | 0.47         | 2.75                  | 3.22         |
| Carpets & rugs                      | 12                             | 1.29         | -0.05                 | 1.23         |
| <b>Finished motor vehicles</b>      | <b>13</b>                      | <b>1.31</b>  | <b>21.80</b>          | <b>23.11</b> |
| Book publishing                     | 14                             | 1.45         | -4.86                 | -3.41        |
| Plumbing parts                      | 15                             | 3.53         | 1.71                  | 5.24         |
| Alcoholic beverages                 | 16                             | 3.97         | 10.17                 | 14.14        |
| Hand tools & garden eqpt            | 17                             | 4.20         | -4.32                 | -0.13        |
| <b>ALL EXCEPT AUTOS AND PARTS</b>   |                                | <b>4.21</b>  | <b>7.34</b>           | <b>11.55</b> |
| Household audio & video             | 18                             | 4.21         | 57.80                 | 62.00        |
| Curtains, household cloth prods     | 19                             | 4.84         | 9.15                  | 13.99        |
| Household appliances                | 20                             | 5.58         | 10.72                 | 16.29        |
| Light fixtures                      | 21                             | 6.51         | 10.33                 | 16.84        |
| Photo eqpt & supplies               | 22                             | 6.90         | 12.29                 | 19.19        |
| Household furniture                 | 23                             | 7.51         | 8.79                  | 16.30        |
| Drugs                               | 24                             | 8.20         | -1.36                 | 6.84         |
| Jewelry                             | 25                             | 9.49         | 33.57                 | 43.06        |
| Recreational goods                  | 26                             | 10.25        | 31.50                 | 41.75        |
| Apparel                             | 27                             | 11.24        | 34.06                 | 45.30        |
| Leather products                    | 28                             | 12.45        | 67.52                 | 79.97        |
| Computers & peripherals             | 29                             | 16.12        | 9.63                  | 25.75        |

industries, including auto parts were able to reduce import dependence (or increase net exports) from 1992 to 1998. But most industries became more import-dependent, including four that increased by more than 10 percent. For the 27 control group industries as a whole, import dependence increased by 4.21 percent. Finished motor vehicles did somewhat better than the median, with just a 1.31 percent increase; auto parts, substantially better, with a 0.98 percent reduction.

These statistics suggest that the auto industry had less increase in import dependence during the 1990's than other consumer goods, possibly in response to the combination of measures that have been applied over the years. Foreign-based auto manufacturers transplanted many parts and assembly operations to the United States or Canada, more so than in other industries. Thus, motor vehicles and parts were able to offset, at least to some extent, the economy-wide trend of sourcing in Mexico or other countries with lower manufacturing costs. Of course, from these statistics alone, it is impossible to tease out from the various other measures the specific contribution, if any, of the AALA labels.

## CHAPTER 5

### SURVEY BACKGROUND AND METHODS

To determine the extent of knowledge and use of the labels by consumers, manufacturers, and dealers, NHTSA commissioned the conduct of three surveys. All three surveys came under a single study, known as “Surveys of Consumer Information on the Domestic Content of New Cars and Light Trucks.” It targeted these three groups for new passenger motor vehicles:

- 1) consumers, who recently bought or planned to buy a passenger motor vehicle;
- 2) manufacturers, including the Big 3 and foreign-based manufacturers; and 3) dealers, of Big 3 and foreign-based vehicles in the United States. Computer Assisted Telephone Interviewing (CATI) was used to conduct the consumer survey. Vehicle manufacturers and dealers were surveyed by mail. The surveys were performed by Chilton Research, a NHTSA contractor, in mid-1998.

This chapter describes the objectives of the consumer, manufacturer, and dealer surveys, the characteristics of the respondent groups, the survey instruments, the methodologies, the pre-tests, and the data collection procedures.

#### 5.1 Objectives of the data collection

Consumer survey: Determine the extent to which potential and actual purchasers of new passenger cars, pickup trucks, vans, and sport utility vehicles think the national origin of the vehicle and its parts are important *vis a vis* other factors in selecting a vehicle; are knowledgeable about the origin of their own and other vehicles; know that the content label exists and have seen or read it; correctly interpret the information on the label and find it easy to follow; and take this information into account in their purchase decision making.

Manufacturer survey: Inquire about the effects of this regulation on manufacturers of these vehicles in terms of cost, manufacturing changes, parts sourcing and sales.

Dealer survey: Determine the extent to which dealers of passenger cars, pickup trucks, vans, and SUVs understand the content labels, and provide this new information to potential and actual customers, and find it useful or detrimental in marketing.

#### 5.2 Preparatory steps

Pursuant to 5 CFR 1320.8(d), NHTSA issued a notice soliciting public comments on the proposed data collection in the *Federal Register* on Thursday, July 24, 1997 (62 FR 39886). A copy of this notice appears in Appendix C. NHTSA received one public comment in response to this notice, from the National Automobile Dealers Association (NADA), requesting that the surveys be made shorter and less time-consuming. In response, the surveys were extensively streamlined.

This data collection effort was conducted in accordance with all relevant Federal regulations and requirements, including the Privacy Act of 1974 (5 USC 552a), the Privacy Act Regulations (34 CFR Part 5b), the Freedom of Information Act (5 USC 522), and related regulations (41 CFR Part 1-1, 45 CFR Part 5b, and 40 CFR 44502). Manufacturers who wished to submit information under a claim of confidentiality did so in accordance with 49 CFR Part 512, NHTSA's regulation concerning Confidential Business Information.

### 5.3 Consumer survey

Statistical methodology for stratification and sample selection: The consumer survey used a national probability sample, with a county-based stratification scheme in which telephone households are assigned to 20 sampling strata. It used a Random Digit Dialing (RDD) sample frame that includes a current file of approximately 40,000 telephone exchanges, each of which is coded for membership in a county, state, Metropolitan Statistical Area, and census region. For every county in the U.S., the total number of households, African-American households, Hispanic/Latino households, and median income has been recorded. The 20 sampling strata are defined using a two-way cross-classification of regional and metropolitan characteristics.

The study used a three-stage sampling process: (a) Sample telephone exchanges. (b) Sample households. (c) Select qualified respondents within households: people who had purchased/leased new vehicle in past six months or were planning to purchase/lease a new vehicle in the next three months.

In order to provide the ability to produce unbiased estimates at the regional and metropolitan/non-metropolitan levels, the contractor employed a national sample of telephone households stratified into 20 distinct and independent sampling strata. The 20 sampling strata are defined using a two-way cross-classification of regional and metropolitan characteristics. First, all states and counties are assigned to one of the ten regional strata as defined by the United States Bureau of the Census. Within the nine regions other than New England, counties are assigned to a metropolitan stratum if they are part of a Metropolitan Statistical Area (MSA) currently recognized by the Office of Management and Budget, and to a nonmetropolitan stratum, otherwise. In New England, the definition employed is that adopted in 1975 by OMB, wherein New England County Metropolitan Areas (NECMA's) were defined, replacing the MSA definition based on towns and townships.

The sampling procedures used provide an unbiased representative sample of virtually all telephone households including an unbiased sample of unlisted or unpublished residential numbers in their correct proportions. The sample selection process, at all stages, was based on the strict application of accepted sampling procedures and variance reduction methods.

It was expected that between 6 percent and 8 percent of households would have a qualified respondent.

Estimation procedure: Data were weighted to population characteristics for all U.S. households. These characteristics include number of adults living in the household, region, household income,

and characteristics of head of household. During the interviewing, this information was collected from all respondents completing the interview, and approximately 10 percent of the respondents who did not qualify for the survey. In this way, information was gathered about how closely the total screened sample represents U.S. households. Data on U.S. household demographic distributions throughout the nation were obtained from the Current Population Survey (CPS). All data were weighted, including screens, by the household characteristics. To correct for any over- or under-sampling by demographic groups a sample balancing technique called Raking Ratio Estimation, or iterative proportional fitting, was used.

Raking Ratio Estimation helps control the weight variation and allows control on numerous demographic groups without requiring a separate control count for each cell in the cross-classification of the demographic groups. Raking adjusts the sample counts to conform to one marginal distribution, such as household income, and then adjusts again to another marginal distribution, such as region. This continues for the marginal distributions for all characteristics used in the weighting scheme. Each adjustment throws off the accuracy of the previous adjustments so the procedure is repeated in an iterative fashion until there is close conformity for all the marginal distributions.

This procedure resulted in every case (completed purchaser or planner interview) being assigned a weight factor. All of the analyses in Chapter 6 are based on weighted data. However, most of the case weights are close to 1, because the contractor's RDD procedure produces samples that are already quite nationally representative and need only a slight adjustment. The "design effect" of using the weighted data was only 1.04 - i.e., both the point estimates and the variances with weighted data are for all practical purposes the same as they would have been with unweighted data.

Degree of accuracy: The sampling procedures were designed to achieve samples of 385 purchasers and 385 planners, and these would allow a margin of error of  $\pm 5$  percent at the 95 percent confidence level for purchasers and planners, separately. In other words, a yes/no question ( $1 = \text{yes}$ ,  $0 = \text{no}$ ) with a mean of .5 will have a sample standard deviation of .0255 for the planners, and also for the purchasers (95 percent confidence level = 1.96 standard deviations). The combined sample of planners and purchasers was originally anticipated to number 770, and the margin of error for the combined sample was expected to be  $\pm 3.5$  percent at the 95 percent confidence level. The actual sample turned out to be somewhat smaller, 646 people, allowing a  $\pm 3.9$  percent margin of error.

Questionnaire development and pretest: The consumer questionnaire was developed over a four-month period, beginning in June 1997, and pretested in October 1997. The survey instrument was formatted for use with an online Computer Assisted Telephone Interviewing (CATI) system. Ten interviews were completed as part of the pretest; six with purchasers and four with planners.

The average length of interview during the pretest was 10.5 minutes. None of the pretest respondents were aware of AALA, and therefore the true length of the survey could not be estimated because the series of questions about AALA was not administered. The survey was

reduced in length because it exceeded the 10-minute maximum proposed by NHTSA. The modified survey was approved by the Office of Management and Budget (OMB) in August 1998.

Survey procedure: The consumer survey was conducted using Computer Assisted Telephone Interviewing. The CATI system takes a question within a questionnaire and displays it on a computer terminal. The interviewer, who is on-line via telephone with the designated respondent, reads the question from the computer screen and enters the respondent's answer directly into the computer. Skip pattern logic is programmed into the computer so the computer program controls the sequence in which questions are asked and only questions that should be asked appear on the screen. As an answer is entered by the interviewer, the program conducts on-line editing operations including coding checks which reject ineligible codes entered by the interviewer for precoded questions and validation checks of any entered data that falls outside of an acceptable range.

The CATI system also includes computer programs that control the release of sample and perform all manual controls and clerical tasks such as scheduling callbacks, adjusting for time zone differences, executing the call rule and cycling and rotating calls through various time periods.

Consumer survey data was collected over a period of 5 ½ weeks, starting in September 1998. Interviewing for the study was conducted at the contractor's Indiana, Pennsylvania, and Youngstown, Ohio facilities coordinated through the Pennsylvania headquarters. Interviewing shifts ran on weekdays between the hours of 5:30 and midnight, allowing calls to be made until 9:00 p.m. local time on the West Coast, and on weekend afternoons and evenings. Households were never contacted after 9:30 p.m. local time.

Households were screened to determine if any household member had bought or leased a new motor vehicle in the last six months or planned to buy or lease on in the next three months. For the purposes of the survey, "new" motor vehicle was defined as a Model Year 1998, 1999, or 2000 vehicle. Respondents were also instructed not to include the purchase of a used vehicle. If either of these criteria were met, the interviewer asked to speak to the person in the household most responsible for making the purchase or lease decision and conducted the interview with that person. If the primary decision-maker was not available, the interviewer asked for his/her first name and the best time to call back to reach him/her.

Interviewers attempted to complete the full interview at the time of screening. However, when necessary, interviewers offered to call back at a more convenient time to accommodate respondents' time constraints. When this occurred, interviewers recorded the date and time of the appointment in CATI. That sample piece was then delivered to an interviewer's computer terminal on the specified date and time for the call back.

One out of ten who were not eligible for participation in the study was asked a short series of demographic questions (referred to as "short completes"). Data obtained from these interviews were used to develop sample weights.

Sample control: Up to ten attempts, spread over ten separate interviewing sessions, were made to reach a respondent. These attempts varied as to the day of the week and the time of the day. After each call, interviewers recorded the disposition of the call in the CATI system. "Live" numbers that still had the potential to produce a completed interview were prioritized for future calls in the following order: 1) respondent requested a callback, 2) no answer, busy signal, answering machine, and 3) unused sample.

Telephone numbers that were consistently busy, didn't answer, or answered by a machine were called on weekday mornings and afternoons. If these numbers still remained busy or didn't answer, CATI has a device to identify if they were non-working or non-residential and stop further calls.

Refusal conversion: In order to minimize the loss of eligible respondents and to improve the overall response rate, a follow-up "refusal conversion" was made on all initial refusals (with the exception of those designated as so irate that further attempts would be fruitless).

For each initial eligible refusal, interviewers recorded in CATI the reasons for refusal (if known) and the level of hostility the respondent had when refusing. This information was then used by specially trained conversion interviewers when calling back a respondent to encourage him/her to participate in the study. Respondents who were classified as "hard" refusals by the original interviewer were not re-contacted by the refusal conversion interviewers.

Two weeks into the field period, refusal conversions efforts began. Eligible respondents who refused on first contact were taken out of the general sample and routed to refusal conversion interviewers. Fresh refusals were held for a minimum of three days before the conversion attempt was made. The refusal conversion interviewer read the comments entered into the CATI by the original interviewer to understand why the person refused before re-contacting the person.

Completed interviews: A total of 17,839 numbers were called, yielding 646 fully-completed interviews with purchasers or planners:

|                                           |       |       |
|-------------------------------------------|-------|-------|
| Full interviews completed                 | 646   |       |
| Purchasers                                |       | 425   |
| Planners                                  |       | 221   |
| Other successful contacts                 | 6,558 |       |
| "Short complete" - demographics only      |       | 651   |
| Terminations - not a purchaser or planner |       | 5,892 |
| Over quota                                |       | 15    |
| Failed contacts                           | 839   |       |
| Refusals                                  |       | 813   |
| Early terminations                        |       | 26    |

|                                          |       |
|------------------------------------------|-------|
| Other calls that did not produce data    | 9,796 |
| No answer, busy, answering machine       | 1,288 |
| Left message, did not call back          | 1,175 |
| Head of household not available          | 10    |
| Non-working number, FAX, modem, etc.     | 4,766 |
| Not a household, language problems, etc. | 2,557 |

Total numbers called 17,839

Successful contacts were made with 7,204 households. Among the 6,543 who had not purchased a vehicle recently or planned to buy one shortly, 5,892 interviews were terminated and 651 were asked only demographic questions for sampling purposes (“short completes”). The ratio of full interviews to successful contacts,  $646/7,204 = 9$  percent, is slightly higher than the 6-8 percent anticipated in the sample design. Only 813 people still refused to participate after the various refusal-conversion strategies and 26 terminated the interview early: a gratifyingly small number relative to the 7,204 successful contacts. Not surprisingly, 9,796 calls produced no data because they were left unanswered, were non-working numbers, FAX machines, etc.

Quality control: The contractor implemented quality control procedures for telephone supervisors and monitors, including:

- Routine monitoring of interviews to ensure proper administration of the questionnaire. When necessary, supervisors re-briefed interviewers on segments of the interview that indicated weaknesses.
- “Listen-In” validation. Supervisors used visual and audio monitoring of interviews to validate that responses were entered correctly into the CATI system by the interviewer. Approximately 10 percent of every interviewer’s work was validated.
- Supervisor reports - a standard form was used to keep a daily record of study progress and document problems. The report included the number of completed interviews, number of interviewing hours, completion rate, average length of interview, sample status, results of monitoring sessions and any problems encountered.

In addition to conducting the initial training, the Project Director monitored telephone interviews throughout the data collection to ensure the quality of the data collected. Additional briefings and clarification of interviewing procedures were provided by the Project Director as needed.

Coding: When questions required content analysis, interviewers typed the respondent’s answer directly into the computer. Following each interview, the interviewer reviews the open-ended responses, correcting any typographical errors. At the end of each interviewing day, the interviews are retrieved by the Coding Department for code development.

Trained coders reviewed the verbatim responses from the first 190 completed interviews (30 percent of the completes required for this project). Individual codes were constructed for any

statement mentioned approximately 3 or more times. This list of preliminary codes was used to code the first 450 interviews (70 percent of the completes required for this project). After 70 percent were coded, all mentions that did not fit into one of the existing codes were reviewed. From these, individual codes were created for any statement that was mentioned 3 or more times. These newly created codes were added to the original list, and these are the codes that were applied to the remaining interviews. All mentions that did not fit into one of the existing codes were given a “miscellaneous” or “other” code.

Data processing: After interviewing and data maintenance, data were passed through a cleaning program to ensure that all data are correct. The cleaning program is a generalized software, parameter-driven instrument that edits and checks the machine-readable records for data inconsistencies. The cleaning parameters included the following kinds of questionnaire edits:

- 1.6 Edits for Missing Records. The program edits for missing records by checking the sequential identification number for any missing numbers. After the entire file is passed, the program prints the identification numbers that are missing from the file. The listing is referred to as the validation list.
- 1.7 Edits for Proper Skip Patterns. Each field was edited for the presence or absence of data. For example, if the data fields for questions two, three and four are contingent on having a “yes” response to question one, then the fields of questions 2-4 must have data present if question one is “yes.” Conversely, the fields of questions 2-4 must have a missing data code if question one is other than a “yes.” If the above condition is not met, the program lists the identification number, field of error, and error type on the validation list.
- 1.8 Edits for Eligible Codes. The program edits each data field for eligible codes. If an ineligible code appears, the program lists the identification number, field and ineligible code on the validation list.
- 1.9 Edits for Number Quantities. Numeric limits may be predetermined to check on the ranges of quantity type answers. This edit is extremely helpful in sorting out responses that seem suspicious. Responses which fall outside of these limits are printed on the validation list.

If the validation listings indicated that there were missing records, ineligible codes, improper skip patterns, or value ranges which have been exceeded, the questionnaire bearing these errors was retrieved for a review of discrepancies. When needed, an interviewer made callbacks to retrieve any missing information or clear up any discrepancies.

Survey instrument: The instrument contained five introductory questions, 33 purchasing-related questions, and 17 demographic questions. The survey took approximately 10 minutes to administer. The survey was constructed with skip pattern logic programmed into the computer which controls the sequence in which the questions are asked. The complete survey instrument may be found in Appendix D. Here is an overview of the questions for recent planners and purchasers:

Introductory questions: Did you purchase or lease a new vehicle in the past six months? Are you planning to purchase or lease one in the next three months? May I speak with the household resident responsible for making the purchase decision?

Values: Here is a list of factors people consider in selecting a new vehicle - which of them do you consider important? How important (rate them)? Which is most important? Is it important to know the country of origin of a vehicle's parts; what percentage was made in various countries; where the vehicle was assembled? How often do you make a point to "Buy American" for vehicles or other items?

Knowledge of vehicle origin: What make-model(s) did you buy or are you planning to buy? In what country was your new vehicle(s) assembled? I will now name seven popular make-models: in what countries are they assembled?

Knowledge of the existence of the AALA label: How would you find out in what country a vehicle was assembled? Have you heard of the law requiring manufacturers to place label showing country of origin for vehicles and parts? Have you heard of the parts content label? Have you seen it? Have you read it?

Understanding of the AALA label (for people who have seen or read it): What do the numbers on the parts content label mean? Do you understand it includes parts made in U.S. or Canada, but not Mexico or other countries? Do you understand it does not include assembly labor? Does the label list transplants as "assembled in US/Canada" or elsewhere? Is the information on the label easy to understand?

Influence of label: Did the information on the label influence your purchase decision? If so, how? Did a salesperson point out or explain the parts content label? Did salesperson make the label an important part of the sales presentation? Now that we've talked about the label, do you think it would influence your future purchase decisions?

Demographic questions: Age, gender, education, race/ethnicity, occupation of head of household/respondent; household size and income [geographical region and urban/rural are known from the telephone area code and exchange]

## **5.4 Manufacturer survey**

NHTSA surveyed by mail all 21 Big 3 and foreign-based manufacturers that sell passenger vehicles in the United States. The Association of International Automobile Manufacturers (AIAM) assisted by providing a list of the names and key contacts for all foreign-based manufacturers. All 21 manufacturers mailed in a questionnaire. Since NHTSA conducted a census of the entire manufacturing population, there is no issue of error estimation.

Questionnaire development, pretest and data collection: The manufacturer questionnaire was developed over a four-month period, beginning in June 1997. The contractor worked with NHTSA to identify the survey topics and select questions for the draft survey instrument. Draft

questionnaires were reviewed by the American Automobile Manufacturers Association (AAMA), American International Automobile Manufacturers (AIAM) and John McElroy, Editor in Chief of Automotive Industries magazine and modified in response to their comments.

The survey was pretested by one Big 3 and one foreign-based manufacturer in October-November 1997. Based on the pretest, the survey was modified slightly and then submitted to and approved by OMB. Since the final questionnaire was quite similar to the pretest, the two pretest completes were used for the actual study so those two manufacturers would not have to complete another questionnaire.

The survey instrument was printed on DOT letterhead and mailed to the remaining 19 manufacturers in August 1998, addressed to each manufacturer's government liaison. All of them mailed in their questionnaire. Four manufacturers did not answer the questions about the cost of complying with the AALA.

The questionnaires were encoded by keypunch and 100 percent verified. The data processing included quality control procedures similar to those in the consumer survey.

Survey instrument: The complete survey instrument may be found in Appendix E. Here is an overview of the questions:

Introductory questions: Job title(s) of person(s) filling out the questionnaire

Market analysis: How important do you rate US/Canadian parts content as a factor in selling vehicles in the United States? What percentage of customers are probably aware of the existence of the parts content label?

Guidance to dealers: What guidelines or materials do you provide dealers for training staff to explain information on parts content label? Do you encourage or require dealers to make customers aware of parts content label? Do you provide dealers with any guidance or recommendations for using parts content information label as a selling point? Have you developed a consumer guide to US/Canadian parts content for dealers to give customers?

Marketing: Do you provide customers with information about US/Canadian parts content in addition to the label? How do you show this information (in-store displays, brochures, newspaper ads, magazine ads, television ads, radio ads, 800 number, etc.)? Is "Built-in -America" used in advertising strategies?

Comments on the labels: Are parts content information labels understandable to the customer? What feedback have customers, dealers, or suppliers given about the labels? Any suggestions for making the parts content information label clearer, more understandable, or more useful to consumers?

Changes in U.S./Canadian parts content or assembly: Did you significantly shift parts content or assembly during 1990-98? Were any of these shifts in content or assembly motivated by AALA?

What factors motivated you to shift product lines or component parts from imported to domestic production or vice versa? How much of a factor is the currency exchange rate relationship? By the AALA definitions, what is your estimate of the US/Canadian parts content of your Model Year 1994 vehicles?

Fleet purchasers: Have any fleet vehicle purchasers expressed an interest in the parts content information labels? Have any fleet vehicle purchasers indicated a preference for vehicles with high US/Canadian parts content?

Cost of AALA: Please estimate and explain costs to date for implementing the AALA. What were the start-up cost and number of hours? What are the annual recurring costs and hours? What is your estimate of the overall cost of this program to suppliers? How will your costs change following the end of the two-year provision allowing flexibility in estimates of content determinations where outside suppliers have not responded to requests for content information?

AALA and other record-keeping requirements (NAFTA, CAFE): How do the costs of AALA compare to the costs of gathering and reporting information on compliance with NAFTA and CAFE? Do your suppliers use a single form for reporting information required for the NAFTA, CAFE, and the AALA?

Information obtained from suppliers: Do all of your purchase orders to suppliers include a requirement to furnish US/Canadian parts content information? What percent of suppliers furnish US/Canadian parts content information?

## **5.5 Dealer survey**

Sample design: A list comprising 90 percent of the new car dealers in the United States was acquired. A simple random sample of 500 dealers was selected and mailed questionnaires. It was expected that 200 would return them (40 percent completion rate). In fact, 195 questionnaires were returned by the end of the study.

Estimation procedure: Since the dealer survey was conducted primarily for anecdotal information, with nationally representative statistics only a secondary consideration, the data were treated as a simple random sample and no weighting or stratification was applied.

Degree of accuracy: For the actual sample of 195 dealers, the degree of accuracy is  $\pm 7.0$  percent at the 95 percent confidence level. A yes/no question with a mean of .5 will have a sample standard deviation of .0358.

Questionnaire development and pretest: The dealer questionnaire was developed over a four-month period, beginning in June 1997. The draft survey instrument was reviewed by the National Dealers Association (NADA) and the American International Automobile Dealers Association (AIADA). Revisions were made based on their suggestions, greatly reducing the length of the questionnaire. A pretest was conducted from October to November 1997. The survey was mailed to a simple random sample of 50 dealers; 14 completed the survey. This was a satisfactory

response rate considering there were no follow-up measures such as post-card reminders and re-mails for non-respondents. After the pretest, some parts of the survey were simplified. It was submitted to OMB and approved.

Data collection: Dealers were mailed a packet containing a questionnaire, a personalized cover letter on NHTSA stationery, and a postage-paid reply envelope. Data collection took place over a 14-week period, beginning with the first mailing to all 500 dealers in late August 1998. One week later, postcards reminding respondents to complete the survey and thanking those who already did, were mailed out to all 500 dealers. These mailings netted 107 completed surveys. In addition, five companies stated they were not new-vehicle dealers and a 13 packets were returned by the Post Office as “undeliverable.” In mid-September, a second survey packet was mailed to the non-responders. By mid-October, 181 completed surveys were in hand. Telephone calls to non-respondents over a four-week period netted 14 more completions. By the close of data collection (December 11, 1998), a total of 195 completed questionnaires had been received.

Coding and data processing: The questionnaires were encoded by keypunch and 100 percent verified. The strategy for converting verbatim responses to numerical codes was similar to the one used in the consumer survey. The data processing included quality control procedures similar to those in the consumer and manufacturer surveys.

Survey instrument: The complete survey instrument may be found in Appendix F. Here is an overview of the questions:

Introductory questions: Job title(s) of person(s) filling out the questionnaire; nameplates sold; annual sales volume; size of new-vehicle sales staff

Dealer/staff knowledge of AALA: How aware are you of the AALA and the US/Canadian parts content information label? Is your sales staff aware of the parts content information labels? Do they understand the information on the labels? Can they effectively explain the labels to customers? What training are they given to explain the information on the label?

Consumer knowledge of AALA: Are customers aware of the existence of parts content information labels? Do they read the labels? Do they ask questions about them? Do they understand them? Which aspect of the label do you think customers are most interested in? Have customers expressed concern because the label combines US and Canadian content into a single percentage?

Consumer attitudes: Do customers consider US/Canadian parts content an important factor for selecting a vehicle? Do they consider the information on the label when making a purchase decision? Do they show a preference for “Buying American”/buying foreign? Are they more interested in the price of an automobile than the information on the label? Has a customer ever decided or declined to purchase a vehicle as a result of the kind of information provided on the label? How often?

Guidance received from manufacturers: Did manufacturers give you any guidelines or materials for training sales staff to explain the information on the parts content label? For using the parts content information label as a selling point?

Presentation of parts content information to customers: Under what circumstances are sales staff told to point out/explain the labels to customers? Do they make the labels an important part of sales presentations to customers? Does your franchise show parts content information through in-store displays, brochures, newspaper ads, television ads, or radio ads? How often sales staff inform customers about the final assembly point of the vehicle, the country of origin of engine or transmission parts, the percentage of US/Canadian parts that comprise the vehicle, or the major sources of non-US/Canadian parts? Are sales staff more likely to use the label in sales presentations if vehicle was assembled in the United States or outside the United States?

Suggestions: Do you have any suggestions for making the labels clearer, more understandable, or more useful to consumers?

## CHAPTER 6

### CONSUMER SURVEY

The objectives of the consumer information collection are to determine the extent to which potential and actual purchasers of new passenger cars, pickup trucks, vans, and sport utility vehicles (SUV) think the country of assembly of the vehicle and its U.S./Canadian parts content are important *vis a vis* other factors in selecting a vehicle; are knowledgeable about the origin of their own and other vehicles; know that the American Automobile Labeling Act (AALA) and the content label exist and have seen or read the label; correctly interpret the information on the label and find it easy to follow; and take this information into account in their purchase decision making.

Consumer survey data collection was collected over a period of 5 ½ weeks, beginning in September 1998. As explained in Section 5.3, a total of 1,297 interviews were conducted for the study; 425 interviews were conducted with purchasers of new vehicles, 221 interviews with potential purchasers (planners) and 651 interviews collecting only demographic information were conducted in households that had not purchased and did not intend to purchase a new vehicle. A total of 7,240 households were screened to obtain the sample of 646 purchasers and planners. Section 5.3 describes a procedure for weighting the cases to make sample statistics nationally representative. All statistics in this chapter, except where specified, are based on weighted cases. Appendix D presents the entire survey instrument and Section 5.3 summarizes it.

A principal finding of the survey is a disconnect between consumers' values and their knowledge and use of the AALA labels. Although many consumers think the country of assembly of vehicles and their U.S./Canadian parts content are relatively unimportant, there is a large subgroup that considers them critically important and strives to "buy American" all of the time. Yet, the vast majority of this subgroup, as well as other consumers don't know the labels exist and, as a result, could not have been influenced by them. Many purchasers of transplants were not aware that their vehicle was assembled in the U.S. or Canada, and don't necessarily think of them as "American" vehicles. Ironically, the group most likely to read the label is purchasers of vehicles assembled overseas and imported into the United States, the group that cares least about U.S./Canadian content or assembly, as we shall see in Table 6-1.

#### 6.1 Purchasers, planners and subgroups

Purchasers: the 425 interviewees who had purchased a new car, pickup truck, van, or SUV of model year 1998-2000 during the last six months before the interview. (Long-term leases are included among the "purchases.") Up to three new vehicle make-models were recorded: 367 of these people had bought one new vehicle within the time frame, 37 had bought two vehicles, and 21 had bought three. Seventy-three percent of the vehicles were Big 3 and 27 percent were foreign-based nameplates (close to the distribution of new vehicle sales for the entire United States - see Section 2.3).

In the study, we compared the purchasing values, knowledge and understanding of the label and the AALA, buying preferences, and influence of the label for Big 3 purchasers, transplant purchasers, and import purchasers. These subgroups are defined for the people who had bought exactly one new vehicle, and who specified its make-model during the interview:

Big 3 purchasers: 261 people had purchased exactly one vehicle, and it had a Big 3 nameplate (General Motors, Ford, or Chrysler). This subgroup includes make-models defined in Section 2.4 as “true domestic vehicles” such as Buick LeSabre, “international design cars built in Big 3 factories and sold with Big 3 nameplates” such as Ford Escort, and “transplants sold with Big 3 nameplates” such as Chrysler Sebring. Our sample did not include a single purchaser of a “captive import” (assembled overseas for the Big 3), such as Cadillac Catera. Thus, all 261 Big 3 vehicles were assembled in the United States, Canada or Mexico.

Transplant purchasers: 61 people bought one make-model that is exclusively or primarily assembled in the United States or Canada and sold under a foreign-based nameplate. In the language of Section 2.4, that includes “true transplants” such as Toyota Camry or Honda Accord, and a few “Big 3 designed and built vehicles sold with foreign-based nameplates” such as Isuzu Hombre.

Import purchasers: 32 people bought a make-model carrying a foreign-based nameplate, designed and assembled overseas - a “true import” in the nomenclature of Section 2.4, such as Lexus LS-400 or Hyundai Accent.

People who bought two or more vehicles during the past six months, or who didn’t report the make-model, or who bought a vehicle that does not fit neatly in the preceding categories (such as Volkswagen Jetta) are not included in the three subgroups.

Planners: the 221 interviewees who said they intended to purchase or lease a new vehicle of model years 1998-2000 within the next three months after the interview.

The staunch “Buy-American” subgroup: We identified a subgroup of purchasers and planners that especially stresses buying vehicles with U.S./Canadian content and assembly and, more generally, strives to “Buy American” in all products. Responses to four of the survey questions were used to identify them: they said they “always” try to buy American when they go shopping, they said “built in the U.S. or Canada” is an important factor in selecting a vehicle, and moreover, they gave it the highest importance rating (a 7) and/or said it was the single most important factor for them. This subgroup contains 110 of the 646 interviewees in our sample, more than one-sixth. Given new-vehicle sales of 15 million per year in the United States, our sample suggests that this staunch “Buy-American” subgroup apparently purchases 2.5 million new vehicles annually. Moreover, in our sample, this subgroup’s actions squared with their values. Among those who purchased one vehicle and reported its make-model, 100 percent bought vehicles assembled in North America: 96 percent were Big 3 vehicles assembled in the United States, Canada or Mexico and 4 percent were transplants assembled in the United States.

TABLE 6-1: FACTORS PEOPLE CONSIDER IMPORTANT WHEN BUYING OR LEASING A NEW VEHICLE  
(Average numerical score: 0 = not important at all; 100 = very important)

| <b>Factor</b>                       | <b>All Purchasers<br/>and Planners</b> | <b>Big 3<br/>Purchasers</b> | <b>Transplant<br/>Purchasers</b> | <b>Import<br/>Purchasers</b> | <b>Staunch<br/>“Buy-American “<br/>Purch. &amp; Plan.</b> |
|-------------------------------------|----------------------------------------|-----------------------------|----------------------------------|------------------------------|-----------------------------------------------------------|
| <b>Reliability</b>                  | 93                                     | 93                          | 96                               | 90                           | 97                                                        |
| <b>How the vehicle drives</b>       | 89                                     | 90                          | 91                               | 94                           | 94                                                        |
| <b>Safety</b>                       | 85                                     | 84                          | 86                               | 85                           | 91                                                        |
| <b>Price</b>                        | 76                                     | 72                          | 84                               | 70                           | 68                                                        |
| <b>Manufacturer reputation</b>      | 76                                     | 76                          | 81                               | 67                           | 90                                                        |
| <b>Style or look</b>                | 70                                     | 72                          | 76                               | 86                           | 76                                                        |
| <b>Vehicle size</b>                 | 70                                     | 76                          | 64                               | 57                           | 78                                                        |
| <b>Dealer reputation</b>            | 61                                     | 65                          | 58                               | 49                           | 73                                                        |
| <b>Fuel economy</b>                 | 60                                     | 57                          | 75                               | 47                           | 71                                                        |
| <b>Optional equipment</b>           | 55                                     | 58                          | 47                               | 59                           | 67                                                        |
| <b>Cargo capacity</b>               | 54                                     | 59                          | 42                               | 43                           | 70                                                        |
| <b>Made in the USA/Canada</b>       | 43                                     | 57                          | 26                               | 11                           | 100                                                       |
| <b>Brand image</b>                  | 35                                     | 37                          | 39                               | 34                           | 46                                                        |
| <b>Brand I always buy</b>           | 34                                     | 35                          | 34                               | 27                           | 57                                                        |
| <b>That it is a foreign vehicle</b> | 17                                     | 12                          | 23                               | 18                           | 21                                                        |

## 6.2 Values: importance of vehicle content/"buying American"

Since a goal of the AALA labels is to inform consumers about where a vehicle was assembled and what countries produced its parts, a natural first question is whether consumers have any interest in such information, and to what extent they care about where a vehicle was built.

Purchasers and planners were read a list of 15 factors or attributes that *people might consider important* when buying or leasing a new vehicle. Two of the factors on the list were "that it is made in the U.S. or Canada" and "that it is a foreign vehicle." The other 13 are attributes likely to be important to a wide segment of vehicle buyers, such as reliability, safety, price, etc. This is not meant to be an exhaustive list. For example, it does not include factors that might be critical to some people, although not necessarily to the average buyer, such as a vehicle's horsepower, color, or sound system; its warranty; or the dealer financing and customer service.

Initially, respondents were asked to say what factors they considered "important" and which ones were "unimportant" in their own selection process. If they said a factor was "important" they were then asked to rate "how important" using a subjective scale from 1 to 7 where "1" means it is not at all a factor and "7" means it is a very important factor to them when they bought or will buy their next vehicle. The two responses for each factor were combined into a single numerical score ranging from 0 to 100, as follows: if the factor was "unimportant" their score was 0; if the factor was "important" and the rating a 7, the score was 100, and if the factor was "important" and the score was 1, 2, 3, 4, 5 or 6, the rating was 14, 29, 43, 57, 71, or 86, respectively. These scores can be averaged, on each factor, for any group of survey participants. (On each factor, the small number of respondents who did not answer whether it was important or unimportant, or who did not give a scale number if they said it was important, are not included in the computation of averages.)

Average scores were computed and compared for the full sample of all purchasers and planners; Big 3 purchasers, transplant purchasers, import purchasers, and the staunch "Buy-American" subgroup of purchasers and planners. Table 6-1 presents all the ratings, listing the factors in descending order of importance in the full sample. Purchasers and planners, on the whole consider reliability (average score 93), performance ("how it drives" - 89) and safety (85) to be the most important attributes for selecting a new vehicle. Next, scoring in the 70's, were price, manufacturer reputation, the style or look of the vehicle and its size. Factors such as dealer reputation, fuel economy, optional equipment, and cargo capacity were important to some but not necessarily to others, and had lower average ratings, from 61 to 54. By comparison to these widely valued factors, "that it is made in the USA or Canada," rated at 43, is not too important for the average planner or purchaser. Only "brand image" and "it's the brand I always buy" rated lower (35, 34). "That it is a foreign vehicle" scored the lowest by far, 17.

The full sample includes buyers of imports from overseas, who presumably consider "made in the U.S. or Canada" of little or no importance. But the subgroup of Big 3 purchasers, over 70 percent of the new-vehicle market, attached substantially more value than other buyers to a vehicle being made in the U.S. or Canada, averaging a score of 57. That's about as important as the vehicle's optional equipment (58), fuel economy (57), cargo capacity (59) and the dealer's reputation (65): a solid member of the "second tier" of selection factors. The "first tier" includes

reliability, drive quality, safety, manufacturer reputation, price, styling and size, ranging from 72 to 93. Vehicle size is another factor that Big 3 purchasers considered more important than other consumers. Big 3 buyers indicated adamantly that they are not interested in “foreign” vehicles, and rated this attribute a 12.

Transplant buyers gave “made in the U.S./Canada” and “that it is a foreign vehicle” nearly identical, although rather low scores: 26 and 23. This interesting result could reflect several characteristics of transplant purchasers. Many of them, as will be shown in Section 6.3, are unaware their vehicle was assembled in North America and actually think they acquired an overseas-built vehicle. Others, who are aware of its North American assembly may still consider it a “foreign” vehicle in terms of its design, engine, transmission, etc. - and they like it. Thus, efforts by transplant manufacturers to increase public awareness of their North American assembly and parts content could be helpful in some markets, but not necessarily in all. Other attributes that transplant purchasers consider more important than the average consumer are price, fuel economy (a surprising 75) and, to a lesser extent, reliability (a very high 96, but this is high for all subgroups) and manufacturer reputation. This is a practicality-seeking group.

Import buyers rate “made in the U.S./Canada” a very low 11, well below the 26 rating it gets from transplant buyers and the 57 from Big 3 buyers. As we shall see in Section 6.3, most of them know they are buying an imported vehicle - and they don’t care. But they rate “that it is a foreign vehicle” only at a low 18. In other words, few of them appear to buy imports specifically because they are imported. Two attributes this group really cares about are “how the vehicle drives” (94) and its “style or look” (86). Of course, safety and reliability are also crucial, as in other groups.

By definition, the staunch “Buy-American” subgroup rated “made in the U.S./Canada” at 100, since these were people who gave it a maximum 7 on the subjective scale. Table 6-1 suggests that this large group of consumers rates that attribute on a par with reliability, performance, safety and manufacturer reputation as a criterion for selecting (or not selecting) a new vehicle. They are also the only subgroup to give a high rating to “it’s the brand I always buy” (57).

Interviewees were asked how often they make it a point to “buy American” when they shop for products in general, not necessarily motor vehicles or automotive equipment. Table 6-2 shows attitudes that closely parallel consumers’ views on vehicle purchasing. Among all 646 purchasers and planners, 32 percent always strive to “buy American” and 50 percent sometimes. Among Big 3 purchasers, that rises to 40 percent who always try to “buy American.” For transplant purchasers, it is only 15 percent, and for import buyers, just 6 percent. In other words, there are clear differences in the attitudes of Big 3, transplant and import buyers, but the transplant buyers’ attitudes are somewhat closer to import buyers’ than to the Big 3. Again, by definition, our staunch “Buy-American” group is limited to people who say they always try to “buy American.”

TABLE 6-2

HOW OFTEN DO YOU MAKE IT A POINT TO "BUY AMERICAN"?  
(In percent)

| Buying Preference     | All Purchasers and Planners | Big 3 Purchasers | Transplant Purchasers | Import Purchasers | Staunch "Buy-American" Planners and Purchasers |
|-----------------------|-----------------------------|------------------|-----------------------|-------------------|------------------------------------------------|
| Always "Buy American" | 32                          | 40               | 15                    | 6                 | 100                                            |
| Sometimes             | 50                          | 47               | 60                    | 61                | 0                                              |
| Rarely or never       | 18                          | 14               | 25                    | 33                | 0                                              |

### 6.3 Knowledge of where vehicles are assembled

Since the AALA labels tell consumers in what country vehicles are assembled, it is appropriate to investigate the current (1998) level of consumer knowledge on that subject. We shall see if consumers know where their **own** vehicle was assembled, and if they can identify the country of assembly for a list of other make-models. The survey also asked consumers if they knew where to obtain such information.

The first analysis - knowledge of where one's own vehicle was assembled - is based on the 261 Big 3 purchasers, the 61 transplant purchasers and the 32 import purchasers who had bought exactly one vehicle and named its make-model. The survey did not get Vehicle Identification Numbers that would have allowed exact identification of the country of assembly. Nevertheless, the make-model alone is usually enough to identify a unique country of assembly (based on sales and production data of the sort analyzed in Chapter 2), and even in the cases where two countries were possible, those two were almost always "U.S. or Canada" or "U.S. or Mexico." The survey then asked the purchaser in what country his or her vehicle was assembled. Thus, it becomes possible to compare the actual assembly nation(s) to the country where the purchaser thinks it was assembled. Table 6-3 presents this information in four sections.

The upper section of Table 6-3 is limited to Big 3 make-models that we know, based on sales and production data, were assembled in either the United States or Canada. Nearly all (94 percent) of their purchasers correctly stated that their car or truck was made in the U.S./Canada; 5 percent didn't know, and only 1 percent believed they had bought an overseas-assembled vehicle.

TABLE 6-3

PURCHASERS' ANSWERS TO: "WHERE WAS YOUR OWN VEHICLE ASSEMBLED?"  
(In percent)

**Big 3 Models Actually Assembled in the U.S. or Canada**

| Purchasers said: | Percent |
|------------------|---------|
| U.S./Canada      | 94 *    |
| Overseas         | 1       |
| Don't know       | 5       |

**Big 3 Models Actually Assembled in the U.S. or Mexico**

|                  |      |
|------------------|------|
| U.S./Canada      | 88 * |
| Mexico           | 8 *  |
| Don't know/other | 4    |

**Transplants (Foreign-Based Models Actually Assembled in the U.S. or Canada)**

|                  |      |
|------------------|------|
| U.S./Canada      | 54 * |
| Overseas         | 26   |
| Don't know/other | 20   |

**Imports (Foreign-Based Models Actually Assembled Overseas)**

|                                        |      |
|----------------------------------------|------|
| Overseas, identifying correct country  | 64 * |
| Overseas, but identified wrong country | 17   |
| U.S./Canada                            | 11   |
| Don't know/other                       | 8    |

\* Correct answers

The second section of Table 6-3 addresses Big 3 make-models that are actually assembled in both the U.S. and Mexico. Typically (e.g., Ford Escort), more of the U.S. sales are assembled in the U.S. than in Mexico. Here, too, nearly all purchasers (96 percent) correctly believed their vehicle had been assembled in North America. Moreover, with 88 percent saying U.S./Canada and 8 percent saying Mexico, we can see that a fair proportion of purchasers are aware of the Big 3's Mexican assembly operations.

Thus, nearly all Big 3 purchasers either know for a fact that their vehicles were assembled in North America or they assume and take for granted that this is so. (Our survey sample did not include any "captive imports" such as Cadillac Catera, so we couldn't investigate where consumers think those are assembled.)

The third section of Table 6-3 indicates transplant purchasers have much lower, but still substantial knowledge about their vehicle's country of assembly. Just over half (54 percent) correctly stated that their car or truck was assembled in the U.S./Canada; 26 percent believed it was assembled overseas (usually in Japan); and 20 percent didn't know. Here is a cup half full and half empty at the same time: is it more surprising that the majority of transplant purchasers know that their own vehicle is assembled in North America, or that so many purchasers think they are built overseas and presumably view them as thoroughly "foreign" vehicles?

The last section of Table 6-3 shows that 81 percent of the purchasers of "true imports" (assembled overseas and sold by foreign-based companies) correctly stated their vehicle was assembled overseas; only 11 percent thought they were assembled in North America, and only 8 percent didn't know. (However, 17 percent identified the wrong overseas country.) These statistics differ from transplant purchasers in two ways: (1) a much higher percent of import purchasers know or think their vehicle is built overseas; (2) a higher percent of import purchasers answered the question correctly, or at least got the hemisphere right. Thus, when it comes to perceptions of **their own vehicles**, there is a clear distinction between transplant and import purchasers: only 26 percent of transplant purchasers believed they bought an import, and only 11 percent of import purchasers believed they bought a transplant.

Table 6-4 repeats the statistics of Table 6-3 but limited to purchasers in the **staunch "Buy-American"** subgroup, specifically the 61 individuals belonging to that subgroup who were purchasers (not planners), bought exactly one vehicle, and identified its make-model. As stated in Section 6.1, all of them bought Big 3 or transplant models that were actually assembled in North America. Table 6-4 shows their perceptions mesh with reality: 60 of the 61 correctly stated their vehicle was assembled in North America, and 1 didn't know. Specifically, among the 50 people who bought Big 3 vehicles assembled in the U.S. or Canada, 49 (98 percent) correctly identified the U.S./Canadian assembly, and 1 didn't know. Nine people bought Big 3 make-models assembled in the U.S. or Mexico: 8 (89 percent) thought their vehicle was assembled in the U.S. and 1 (11 percent) thought it was built in Mexico. Presumably, this last individual considers a Big 3 vehicle assembled in Mexico consistent with his or her "Buy-American" values and/or learned of the Mexican assembly only subsequent to the purchase. The two (100 percent) staunch "Buy-American" buyers who purchased transplants did so in the correct belief that they were assembled in the United States or Canada.

TABLE 6-4

STAUNCH "BUY-AMERICAN" PURCHASERS'  
ANSWERS TO: "WHERE WAS YOUR OWN VEHICLE ASSEMBLED?"  
(In percent)

**Big 3 Models Actually Assembled in the U.S. or Canada**

| Purchasers said: | Percent |
|------------------|---------|
| U.S./Canada      | 98 *    |
| Don't know       | 2       |

**Big 3 Models Actually Assembled in the U.S. or Mexico**

|             |      |
|-------------|------|
| U.S./Canada | 89 * |
| Mexico      | 11 * |

**Transplants (Foreign-Based Models Actually Assembled in the U.S. or Canada)**

|             |       |
|-------------|-------|
| U.S./Canada | 100 * |
|-------------|-------|

**Imports (Foreign-Based Models Actually Assembled Overseas)**

The staunch "Buy-American" group did not buy any vehicles assembled overseas

\* Correct answers

As might be expected, consumers' knowledge of the assembly country is considerably weaker for make-models other than their own vehicle. All 646 purchasers and planners in our survey were read a list of various make-models of cars and trucks - Toyota Camry, Acura Integra, Jaguar, Volkswagen Jetta, BMW Z3, Chevrolet Blazer, and Ford Explorer - and were asked if they could name the countries in which they were assembled. Table 6-5 summarizes the responses for all purchasers and planners, and for the staunch "Buy-American" subgroup.

The first two sections of Table 6-5 compare consumer awareness of the Toyota Camry, one of the top-selling transplants, and Acura Integra, a high-volume import. Most consumers didn't know the difference. In fact, a higher percentage thought the Camry was assembled in Japan (59) than the Integra (46). Nearly the same proportion of consumers thought the Camry and the Integra were assembled in North America. In other words, even though Table 6-3 shows that many transplant purchasers learn at some point that their own vehicle is a transplant, the average consumer probably will not distinguish the transplants from the imports - in a list of popular foreign-based make-models - or on the showroom floor. In the staunch "Buy-American" subgroup, 63 percent thought the Camry was assembled in Japan and only 23 percent thought it was assembled in the U.S. or Canada. In other words, the group that cares most about where vehicles are built may be even less aware of transplants than the average consumer.

The next section of Table 6-5 concerns a European-built luxury car, Jaguar (now owned by Ford but still sold under its own nameplate). Many people realize it is imported from overseas and only a few think it is assembled in North America. Just over a third of the sample could identify the correct country of assembly, England.

The next two cars in Table 6-5 are produced by German-based companies and are now assembled in North America: Volkswagen Jetta (Mexico) and BMW Z3 (United States). Here, only 5 to 13 percent can identify the country of assembly, and the majority of consumers think they are built in Germany.

The last two make-models in Table 6-5, Chevrolet Blazer and Ford Explorer, are popular Big 3 SUVs. Unlike the other make-models, the overwhelming majority of interviewees, 90 percent or more, correctly stated that they are assembled in the United States. It would appear that a large proportion of consumers automatically associate "Chevrolet," "Ford" and other Big 3 nameplates with North American assembly.

Sources of country-of-origin information: The survey asked purchasers and planners how would they find out if a vehicle was assembled in the U.S./Canada or elsewhere. The interviewer did not read off a list of possibilities, but rather allowed the respondent to volunteer up to three sources on their own. Of course, an excellent method, at least in the showroom, would be to "look at the AALA label." However, only 13 percent of respondents said that they would look at the AALA label. That proportion is quite consistent with the data in the next section: Table 6-6 indicates that only 15 percent of new-vehicle buyers have ever seen an AALA label - i.e., most of those who have seen it know it specifies the country of assembly. But the percentage who know they can get the information from the label is well below the proportion of consumers who care, at least to some extent, about where the vehicle was assembled.

TABLE 6-5: CONSUMERS' ANSWERS TO  
 "WHERE WERE THE FOLLOWING VEHICLES ASSEMBLED?"  
 (In percent)

|                         | All Purchasers<br>and Planners | Staunch "Buy-American"<br>Purchasers & Planners |
|-------------------------|--------------------------------|-------------------------------------------------|
| <b>Toyota Camry</b>     |                                |                                                 |
| U.S.*/Canada            | 33                             | 23                                              |
| Japan                   | 59                             | 63                                              |
| Don't know/other        | 8                              | 14                                              |
| <b>Acura Integra</b>    |                                |                                                 |
| Japan*                  | 46                             | 43                                              |
| U.S./Canada             | 29                             | 23                                              |
| Don't know/other        | 25                             | 34                                              |
| <b>Jaguar</b>           |                                |                                                 |
| England*                | 38                             | 31                                              |
| U.S./Canada             | 12                             | 8                                               |
| Don't know/other        | 50                             | 61                                              |
| <b>Volkswagen Jetta</b> |                                |                                                 |
| Mexico*                 | 5                              | 6                                               |
| Germany                 | 65                             | 66                                              |
| U.S./Canada             | 16                             | 12                                              |
| Don't know/other        | 14                             | 16                                              |
| <b>BMW Z3</b>           |                                |                                                 |
| U.S.*/Canada            | 13                             | 12                                              |
| Germany                 | 55                             | 53                                              |
| Don't know/other        | 32                             | 35                                              |
| <b>Chevrolet Blazer</b> |                                |                                                 |
| U.S.*/Canada            | 93                             | 90                                              |
| Don't know/other        | 7                              | 10                                              |
| <b>Ford Explorer</b>    |                                |                                                 |
| U.S.*/Canada            | 93                             | 90                                              |
| Don't know/other        | 7                              | 10                                              |

\* Correct answers

The largest number of people, 20 percent, said that they would ask the dealer where the vehicle was assembled. Thirteen percent said that they would find out where the vehicle was made by discussing this with other people. A surprising number of people, 11 percent, said that they would use the Internet, and 7 percent would look at magazines. Interestingly, nobody explicitly volunteered the method that seems to be most common in actual practice: buying a Big 3 vehicle and assuming that it's assembled in North America.

#### **6.4 Awareness of the AALA law and label**

The next part of the survey examined purchasers' and planners' awareness and knowledge about the parts content label, and the influence of the label on their purchase decision-making. First, the survey asked if they had heard or read about a law that requires car and truck dealers and manufacturers to place a label on all new vehicles showing in what country the vehicle and its parts were made. An overwhelming 78 percent of all purchasers and planners said no, and only 21 percent said that they had heard or read about the law.

Next, the survey asked respondents whether they were aware of the existence of the AALA label: had they heard of it or read about it somewhere? Have they ever seen one of the labels? Did they read one in a dealership? Table 6-6 summarizes the findings for all respondents, and for the various subgroups. Only 23 percent of purchasers and planners know of the existence of the label, 15 percent have seen one, and 7 percent have read one. (In other words, 23 percent of the [weighted] 646 survey participants knew of the existence of the label; 15 percent of the 646, and they are a subset of the first group, not only knew the label existed but had actually seen a label somewhere; and 7 percent of the 646, and they are a subset of the second [and the first] group, had seen and read the label while at the dealership. These percentages are not additive!) Yet, these are all people who recently bought or imminently would buy a new vehicle, people who likely visited showrooms and saw new vehicles with all their labels and stickers, or already have the vehicle in their garages, or at least are studying about new vehicles. Clearly, planners and purchasers, let alone the general public, were not well informed about the AALA label in 1998. Nevertheless, the labels are hardly going completely unnoticed: given 15 million new vehicle sales per year, over 2 million customers per year see the labels (15 percent) and over 1 million read them (7 percent).

It might be thought that purchasers are more aware of the labels than planners, since purchasers have already been through the showrooms to see new vehicles, while planners may just be starting the process. Table 6-6, however, shows minimal difference: 23 percent of purchasers and 22 percent of planners have heard of the label; 16 vs. 13 percent have seen it (not a statistically significant difference, given  $N = 425$  purchasers and 221 planners); and an identical 7 percent have read it.

Interesting and perhaps ironic differences show up in the three subgroups of purchasers. Big 3 buyers are almost as familiar with the label as the average purchaser. Transplant purchasers were slightly less likely to have heard, seen, or read the label, and were less likely to know that they were buying a car or truck made in the United States or Canada, even though this group is targeted by transplant manufacturers for "made in the U.S.A." campaigns. Import purchasers

TABLE 6-6

HAVE YOU HEARD OF, SEEN, OR READ THE AALA LABEL?  
(In percent)

|                        | All<br>Purchasers<br>& Planners | All<br>Purchasers | All<br>Planners | Big 3<br>Purchasers | Transplant<br>Purchasers | Import<br>Purchasers | Staunch "Buy-<br>American"<br>Purchasers and<br>Planners |
|------------------------|---------------------------------|-------------------|-----------------|---------------------|--------------------------|----------------------|----------------------------------------------------------|
| Have heard<br>of label | 23*                             | 23                | 22              | 22                  | 17                       | 38                   | 20                                                       |
| Have seen<br>label     | 15*                             | 16                | 13              | 13                  | 12                       | 33                   | 11                                                       |
| Have read<br>label     | 7*                              | 7                 | 7               | 5                   | 6                        | 19                   | 9                                                        |

\*In other words, 23 percent of the [weighted] 646 survey participants knew of the existence of the label; 15 percent of the 646, and they are a subset of the first group, not only knew the label existed but had actually seen a label somewhere; and 7 percent of the 646, and they are a subset of the second [and the first] group, had seen and read the label while at the dealership. These percentages are not additive!

were, overall, the most informed about the label. Import purchasers were more aware of the label than any other group, and they were 2 to 3 times as likely to have seen and/or read the label - even though, as shown in Table 6-1, they are the group least interested in where vehicles or their parts come from. As we shall see in Section 6.7, this probably has more to do with demographic characteristics of import purchasers than their intrinsic interest in the material on the labels.

Conceptually, the staunch "Buy-American" subgroup ought to be especially responsive to the AALA labels. But in reality they are no more cognizant of the labels than the average consumer: 20 percent of them had heard of the label, 11 percent had seen it and 9 percent had read it. Rather than using the labels to identify vehicles assembled in North America and containing a high share of U.S./Canadian parts, they mostly feel they have "bought American" merely by acquiring any Big 3 vehicle assembled in North America.

## **6.5 Understanding of the AALA label**

The survey included several questions that explored to what extent the AALA label was understood by those 41 purchasers and planners who had been to a dealership and who had read a label. First, they were asked their subjective opinion whether the label as a whole, without reference to any specific portion of it, was "easy to understand." Eighty-six percent said that they found the label "very easy" or "somewhat easy" to understand, whereas only 14 percent said that the label was "not too easy" or "not easy at all" to understand.

However, specific quizzing revealed these consumers' understanding of the numerical scores on the label is, in fact, quite shaky (as opposed to the label's simple declaration of the country of assembly). People who had read the label were asked what they thought the numerical scores meant. Fifty-seven percent correctly replied that the first score meant the U.S./Canadian parts content and the other scores indicate parts content from other countries. Sixteen percent replied more vaguely that the numbers represented where the car was built/the point of origin. Nine percent said that the numbers pertain to parts numbers for identification and ordering parts, and the remainder had various answers such as paint color numbers, serial number of the car, and quality standards for the car.

People who had read the label were asked whether parts made in Canada or Mexico are included in the principal numerical score on the parts content label. The correct answer is that Canadian parts are included and Mexican parts are excluded. However, only 35 percent of respondents said that parts made in Canada are included on the label, whereas 23 percent incorrectly said that parts made in Mexico are included on the label.

## **6.6 Influence of the AALA label on past and future purchasing decisions**

Of the 41 purchasers and planners who had read the AALA label at the dealerships, most (33 people) came across the label on their own, and only six said that the salesperson pointed it out and explained to them the meaning of the U.S./Canadian parts content label. Three individuals said that the salesperson made the label an important part of the sales presentation. From these

data it appears that the salespeople seldom provide prospective buyers with information about the label at the dealership.

The same 41 people who had read the label were asked how much influence, if any, the information had on their purchase or lease consideration. They were asked to rate the label's influence on them using a subjective scale of 1 to 7, where 1 means no influence at all and 7 means a great deal of influence. The distribution (weighted) was:

| Score                           | Percent |
|---------------------------------|---------|
| 1 (no influence at all)         | 26      |
| 2-4 (slight/moderate influence) | 25      |
| 5-6 (stronger influence)        | 34      |
| 7 (a great deal of influence)   | 15      |

The mean and median were both 4, indicating that the label had perhaps a moderate influence on the average person who read it. Given that 7 percent of all purchasers and planners had read the label at the dealership (Table 6-6) and 26 percent of these were "not influenced at all," we may infer that approximately 5 percent of all purchasers and planners are currently influenced by the AALA label at the dealership, at least to some extent.

Next, the 20 respondents that gave a score of 5, 6 or 7 were asked to describe in their own words how the information on the label influenced their purchase. Fourteen gave specific, relevant answers: 8 said they learned that "the vehicle was made in the U.S./Canada," 4 "would not have bought a 'foreign' made car," 1 discovered that the vehicle "was 'foreign' made," and 1 "bought it because it was not American made." Interestingly, all of these answers appear to draw upon the country-of-assembly information on the label. Not a single person explicitly stated they had used the numerical parts-content scores to comparison-shop among make-models, or that they had selected or rejected a specific vehicle because of its high or low percentage of U.S./Canadian parts content. Nor did anybody say they were influenced by the AALA label's information on the country of origin of the engine or the transmission.

Potential future influence: People who initially said they were unaware of the existence of the AALA label were asked, towards the end of the survey, "Now that you are aware of the label, would the label influence your future purchase of a vehicle?" Fifty-six percent said yes. That is a much larger proportion of the purchasers and planners than the current 5 percent who had read and were influenced by the label in their recently past purchase decision. This should not be dismissed as merely "people trying to please the interviewer" because respondents were quite candid on the other parts of the interview - e.g., most people freely admitted they had never heard of the labels, or frankly stated they did not care where a vehicle was assembled. It indicates that the AALA information could have substantially more impact if consumers were more widely aware of it.

## 6.7 Influence of demographic factors

Metropolitan vs. nonmetropolitan: Purchasers and planners' responses were examined by their geographic location - i.e., according to the areas in which the respondent lives: large city, suburb of large city, small town, or rural area. The respondents' answers were separated into two categories: metropolitan and nonmetropolitan, to determine if there were any differences in the respondent's choices or knowledge and influence of U.S./Canadian content by demographic areas.

The data indicates that nonmetropolitan purchasers and planners have a stronger propensity to "buy American" (always make it a point to "buy American" whether it's cars or any other items) than metropolitan purchasers (42 percent compared to 28 percent). However, roughly 50 percent of both groups said that one of the reasons why they would buy or lease a new vehicle is that it is made in the USA or Canada. Both groups agreed that reliability was the most important reason why they would choose to buy or lease a new vehicle (although nonmetropolitan buyers placed a greater importance on this attribute than metropolitan buyers), followed by safety. That a vehicle is made in the USA or Canada scored very low, between one and 3 percent, by both groups as the *most important* reason why they would choose to buy a vehicle.

Metropolitan purchasers and planners were more often aware of the existence of the AALA than nonmetropolitan consumers (26 percent compared with 22 percent) and a higher percentage had seen an AALA label (21 percent compared with 9 percent). In both groups, low percentages said that the label had influenced their purchase considerations; however, a greater proportion of the metropolitan purchasers said that now that they are aware of the label, it would influence their future purchases.

Education: Purchasers and planners were divided into two categories according to their educational status: people who had completed school from 8<sup>th</sup> grade through technical school, and people who had completed college or post-graduate school.

Nearly one-half of purchasers and planners with 8<sup>th</sup> grade or technical school education said that they always try to buy American, compared with one-third of buyers with college or post-graduate school. Both groups said that safety and reliability were the most important reasons why they would choose to buy or lease a new vehicle. That it is made in the USA or Canada was a minor reason for both to purchase a vehicle.

More people in the college-educated group knew about the AALA compared with the non-college-educated group. Roughly the same percentage of both groups knew about the label. A greater percentage of a non college-educated buyers said that the label would influence them in the future compared with college-educated buyers.

Younger vs. older consumers: Responses from purchasers and planners who were at least 50 years of age were compared with responses from those less than 50 years old to determine whether there were any differences in opinions and purchasing choices between the two categories. A greater percentage of purchasers and planners over 50 (63 percent) than under 50 (48 percent) said that an important reason why they would buy or lease a vehicle is that it is made in the USA or Canada. Conversely, a greater percentage of those under 50 compared with over

50 said that a reason they would buy is that it is a foreign vehicle (28 percent compared to 18 percent).

An equal percentage of purchasers and planners over 50 and under 50 knew of the AALA and the label (24 percent for both), although a greater percentage of those under 50 had seen the label (18 percent compared with 12 percent of all purchasers and planners). Purchasers over 50 said that the label influenced them more, compared with buyers under 50 (on a scale of zero to 100, they rated influence as 57 compared with 41 for purchasers under 50). More purchasers over 50 (63 percent) said that the label would influence them in the future compared with younger purchasers (53 percent). Finally, a greater percentage of purchasers and planners over 50 make it a point to "buy American" whether it is cars or any other item (89 percent said always or sometimes, compared with 76 percent of buyers under 50).



## CHAPTER 7

### MANUFACTURER SURVEY

The objectives of the manufacturer information collection are to: inquire about the effects of the AALA on manufacturers of vehicles in terms of cost, manufacturing changes, parts sourcing and sales. The survey was sent to all 21 manufacturers selling vehicles in the United States. Survey data collection took place over a 21-week period. All manufacturers responded to the survey; 17 manufacturers completed the survey and 4 returned partially completed surveys. Subject areas covered in the manufacturer survey include knowledge of customer awareness of the existence of the parts content label, guidance or information provided to dealers and customers regarding the labels, shifts in parts sourcing and assembly of vehicles from one country to another, factors affecting shifts in sourcing and manufacturing, costs to start up implementation of the AALA, annual costs for data collection and maintenance of databases, overall costs to manufacturers, cost of the program to suppliers, and manufacturers' estimate of U.S./Canadian (USCan) parts content in their model year 1994 vehicles.

A principal finding is that only two manufacturers stated that the AALA labels, or a desire to increase USCan parts content motivated them to relocate production facilities or sources of component parts. Most manufacturers believe that consumers have little interest in the labels. The great majority of manufacturers see little value in the label information as a marketing tool or selling point for their vehicles.

#### **7.1 Dissemination and perceived importance of the labels**

Part A of the survey questionnaire was completed by the sales/customer relations offices within the vehicle manufacturing company. Job titles of the respondents were fairly evenly divided among the following: principal engineer, sales planning/training manager, safety engineering department manager, program manager tax staff, compliance manager/director/engineer, vehicle safety and legislation function leader, inter-company pricing and trade issues specialist, and national customer relations manager. Manufacturers reported the makes and models of vehicles they produced.

Importance of USCan parts content: The manufacturers were asked to rate on a scale of 1 to 7, where 1 means "not at all a factor" and 7 means "a very important factor," how much USCan parts content is a factor in selling vehicles in the United States. Of 21 respondents, 15 rated parts content as a "1" and six ranked parts content a "2" or "3."

Are customers aware of the label?: Manufacturers reported their perception of what percentage of customers is aware of the existence of the parts content label, as shown in Table 7-1. The mean is 10.81 percent, the median is 5 percent. Manufacturer's perceptions can be compared to the actual experience of consumers: in our consumer survey (Table 6-6), 23 percent of customers said they knew of the existence of the label, but only 15 percent had seen a label and only 7

percent had read a label at a dealership. Thus, manufacturers' perceptions are lower than the percentage of consumers who knew of the existence of the label, but quite similar to the percentage who had read the label.

TABLE 7-1

PERCENTAGE OF CUSTOMERS WHOM MANUFACTURERS  
THINK ARE AWARE OF THE EXISTENCE OF  
PARTS CONTENT INFORMATION LABELS

| PERCENTAGE | NUMBER OF MANUFACTURERS |
|------------|-------------------------|
| 0          | 4                       |
| 1          | 2                       |
| 2          | 2                       |
| 4          | 1                       |
| 5          | 2                       |
| 10         | 5                       |
| 12         | 1                       |
| 25         | 1                       |
| 30         | 1                       |
| 40         | 1                       |
| 50         | 1                       |

Guidelines and materials provided to dealers: Manufacturers were asked whether they had ever given dealers any guidelines or materials for training sales staff to explain the information on the label. Eighteen manufacturers responded that they had not given dealers guidelines or materials, while two manufacturers responded yes. One manufacturer did not respond.

One manufacturer prepared an explanation of the requirements in 1994 when the AALA was first introduced, but provided nothing in subsequent years. Another manufacturer developed and provided a guide that was made available at the 1994 dealers' meeting; however, there was no mass mailing to dealers. Another manufacturer prepared and sent a letter of explanation to all dealers with the instructions that the label has to be on the vehicle.

Manufacturers were asked if they had ever encouraged or required dealers to make customers aware of the parts content label. Nineteen manufacturers reported no. Only one manufacturer responded yes, but said that they discontinued this practice because the selling point has declined in importance except for trucks. When asked if they had ever provided dealers with any guidance or recommendations for using the parts label as a selling point, 18 manufacturers said no, and two reported yes. One manufacturer repeated that they discontinued this practice because the selling point has declined in importance except for trucks.

Manufacturers were asked if they had ever provided customers with information about USCan parts content in addition to the label. Sixteen manufacturers responded no, and four responded yes. One manufacturer said that they prepared customer and dealer information when the law first went into effect; however, they found that none of their customers was interested in the label, and so they discontinued distribution of the information.

Advertising strategies: Regarding whether “Built in America” or some other reference to America is used or had ever been used in their advertising strategies, 15 manufacturers responded no, while five responded yes. One manufacturer reported that the “Built in America” approach did not seem to have an impact on their customers, so they changed to another advertising campaign. Another manufacturer said that this selling point has declined in importance.

As regards advertising methods in various media, only two responded. One manufacturer showed parts content information in brochures, newspaper ads, magazine ads, and television ads. A second manufacturer showed parts content information in brochures and magazine ads. Manufacturers were asked if they had any data or experience that suggests USCan parts content is important to consumers; 19 manufacturers responded no, and one said yes. Manufacturers were asked if they had developed a consumer guide to USCan parts content for dealers to give to customers; 19 manufacturers responded no, and two didn’t know. Regarding whether they think parts content information labels are understandable to the customer, ten manufacturers said no, eight responded yes, and two didn’t know.

## **7.2 Factors that affect decisions where to locate facilities or buy parts**

A principal finding of Chapter 2 is that foreign-based manufacturers substantially increased USCan parts content from 1995 to 1998 in the transplant vehicles they assemble in North America, whereas the Big 3 tended to reduce USCan and increase Mexican parts content. This section of the survey gave each manufacturer an opportunity to declare explicitly whether AALA and/or other factors influenced the shifts in USCan content.

Part B of the questionnaire supplied the data for this section and the remaining sections of this chapter. It was completed by the finance/accounting office within the vehicle manufacturing company. Job titles of the respondents were fairly evenly divided among the following: principal engineer, sales planning/training manager, safety engineering department manager, program manager tax staff, compliance manager/director/engineer, vehicle safety and legislation function leader, inter-company pricing and trade issues specialist, national customer relations manager.

Production shifts before AALA: Manufacturers were first asked what significant shifts in content or assembly, if any, they undertook in the five years **prior to 1995** - i.e., before AALA took effect. Two manufacturers reported an increase in U.S. production of vehicles and sourcing local content during the 1990's. A few manufacturers shifted parts sourcing and vehicle assembly to North America. A few manufacturers reported various shifts in production and sourcing within North America. No manufacturer said that any of their pre-1995 shifts were motivated by the AALA.

Production shifts to and from the manufacturer's home country - after AALA: Manufacturers were next asked if they had "recently"<sup>1</sup> shifted any of their product lines or component parts from production outside their "home" country to production within their "home" country. The Big 3 might interpret this as shifting production from outside of the U.S. to within the U.S.; foreign-based manufacturers might interpret this as shifting production from a nation (perhaps but not necessarily the U.S./Canada) outside the home country to within the home country (definitely not the U.S./Canada). Six manufacturers responded yes, and nine said no. Those that said yes were shown a list of 19 possible motivational factors, including "parts content information labels" and "wanted vehicles to have higher US/Canadian parts content." They were asked to check any factor that applied, and identify the three most important factors.

Manufacturers were similarly asked if they had "recently" shifted product lines or component parts from inside their home country to outside. For the Big 3, this could mean shifting production from the U.S. to other countries; for foreign-based manufacturers, this means shifting production from their home country to outside (and possibly, but not necessarily, to the U.S./Canada). Six manufacturers responded yes, and 10 said no. Those that said yes were shown 16 possible motivational factors (3 factors, including "wanted vehicles to have higher US/Canadian parts content" from the previous list were omitted). Again, they checked all factors that applied, and identified the three most important factors.

The format of these questions can leave it unclear if a shift involved the U.S./Canada and also may have confused some respondents (what country does the employee of a North American subsidiary of a foreign-based company call "home"?). Therefore, the data from both sets of questions have been combined into a single analysis. Table 7-2 lists the 19 motivational factors cited in the questionnaire. It counts how many times each factor was checked on either set of questions, and how many times it was listed in the top three on either set of questions.

Only a single Big 3 manufacturer, and no foreign-based company said that the "parts content information label" was a specific factor in shifting production or component parts from one country to another. This Big 3 manufacturer and one foreign-based manufacturer also said, more generally, that they shifted operations because they "wanted vehicles to have higher USCan parts content." One of them said that this was one of the top three reasons for the shift. Ironically, neither of these two companies particularly increased their actual overall USCan content during

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<sup>1</sup>The questionnaire did not specify a time frame (see Appendix E, Part B, Questions 3-4). We may surmise that manufacturers could interpret "recently" as the 1995-98, post-AALA time frame, since the preceding question referred to the five years prior to 1995.

TABLE 7-2

FACTORS THAT CONTRIBUTED TO THE SHIFT OF PRODUCT LINES  
OR COMPONENT PARTS TO OR FROM THE MANUFACTURERS' HOME COUNTRY

| FACTORS CONTRIBUTING<br>TO SHIFT                                      | ALL<br>RESPONSES | THREE MOST<br>IMPORTANT FACTORS |
|-----------------------------------------------------------------------|------------------|---------------------------------|
| <b>Parts content information labels</b>                               | 1                |                                 |
| <b>Wanted vehicles to have higher<br/>U.S./Canadian parts content</b> | 2                | 1                               |
| Cost of labor                                                         | 4                | 1                               |
| Quality of labor                                                      | 2                |                                 |
| Availability of human resources                                       | 1                | 1                               |
| Cost of materials                                                     | 7                | 3                               |
| Quality of materials                                                  | 4                | 1                               |
| Availability of materials                                             | 2                |                                 |
| Availability of physical plant/equipment                              | 6                | 3                               |
| Operating costs                                                       | 5                | 3                               |
| Distribution costs                                                    | 3                | 1                               |
| Wanted to create jobs for Americans                                   | 2                |                                 |
| Customer demand                                                       | 4                | 3                               |
| Currency exchange rate                                                | 6                | 2                               |
| Import duties                                                         | 3                | 1                               |
| Taxes                                                                 | 2                |                                 |
| Availability of credit to invest in<br>physical plant                 | 2                |                                 |
| Government policies of home country                                   | 2                | 1                               |
| Federal, State or local incentives to<br>invest in the United States  | 2                |                                 |

1995-98. It is noteworthy that, on this questionnaire, **none** of the foreign-based manufacturers that substantially increased North American assemblies and/or USCan content in their transplant vehicles, as shown in Section 2.7, stated that the AALA labels, or a desire for higher USCan content motivated their action.

Above all, Table 7-2 shows that manufacturers portray cost factors as reasons to shift product lines or parts: cost of labor, cost of materials, operating costs, distribution costs, currency exchange rates, import duties and taxes. Availability and quality of equipment, materials and human resources were also rated important.

**Influence of exchange rates:** Manufacturers were asked to rate, on a scale of 1 to 7 where 1 means "not at all a factor" and 7 means "a very important factor" how much of a factor the currency exchange rate relationship is in the manufacturer's decision regarding where to produce auto parts and vehicles. Five manufacturers rated exchange rate as 2 or 3, six manufacturers rated 4 or 5, and two manufacturers rated 6 or 7. Three manufacturers said that they did not know.

**Influence of fleet vehicle purchasers:** Manufacturers were asked if any fleet vehicle purchasers expressed an interest in the parts content information labels. Twelve manufacturers reported no, two said yes, and three manufacturers did not know. Manufacturers were asked if any fleet vehicle purchasers indicated a preference for vehicles with high USCan parts content. Eleven manufacturers responded no, two reported yes, and four did not know.

### **7.3 Cost of AALA to manufacturers**

**Overall cost of AALA to date:** Manufacturers were asked to estimate their overall cost to implement the AALA, and reported a range of costs from less than \$250,000 to over \$6 million, as shown in Table 7-3. These costs represent cumulative costs from the implementation of the AALA in late 1994 until the time of the survey in September 1998. According to manufacturers, these costs include programming systems; developing processes; labor costs for additional people; administrative and training; sending and receiving supplier information; tracking origin of all parts; performing calculations and currency conversions; providing AALA information to their U.S. importer; incorporating information into the Monroney label<sup>2</sup>; computer hardware and software and associated service personnel; manpower to obtain supplier certificates and calculate parts content value; procure and distribute labels and apply them to the vehicles. It appears that no single factor seems to account for a majority of the cost. The estimated median cost among the 21 manufacturers was \$1.0 million.

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<sup>2</sup>The Monroney label is a sticker on the vehicle window required by law that shows the base price, options, retail price, destination charges, and fuel economy.

TABLE 7-3

MANUFACTURERS' ESTIMATED OVERALL  
COST TO IMPLEMENT THE AALA

| COST TO IMPLEMENT THE AALA           | NUMBER OF RESPONSES |
|--------------------------------------|---------------------|
| Less than \$250,000                  | 3                   |
| \$250,000 to less than \$500,000     | 4                   |
| \$500,000 to less than \$1 million   | 3                   |
| \$1 million to less than \$2 million | 1                   |
| \$2 million to less than \$3 million | 1                   |
| \$3 million to less than \$4 million | 0                   |
| \$4 million to less than \$5 million | 0                   |
| \$5 million to less than \$6 million | 2                   |
| Over \$6 million                     | 1                   |
| Don't know/no response               | 6                   |

Based on the costs from Table 7-3, manufacturers' estimated total cumulative costs to implement the AALA ranges from \$37,875,000 to over \$47,500,000 (assuming the manufacturers with unreported costs had the same distribution as those not reporting their costs). The total estimated overall cost per vehicle to implement the AALA ranges from \$0.63 to over \$0.79 per vehicle, based on 21 manufacturers' total estimated overall cost to implement the AALA and sales of approximately 60 million passenger cars and light trucks during the period October 1994 to September 1998.

Manufacturers attributed their costs to implement the AALA to the factors listed in Table 7-4.

TABLE 7-4  
FACTORS AFFECTING COSTS

| FACTORS AFFECTING COSTS                         | NUMBER OF RESPONSES |
|-------------------------------------------------|---------------------|
| Incremental manpower/number of manpower hours   | 3                   |
| Systems development                             | 1                   |
| Administrative and training                     | 1                   |
| Label inventory/distribution                    | 1                   |
| Tracking of parts/information                   | 1                   |
| Calculations/calculations of final percentages  | 2                   |
| Obtaining/sending information from/to suppliers | 0                   |
| Labor costs                                     | 1                   |
| Miscellaneous factors                           | 5                   |
| No factors cited                                | 13                  |

**Hours for startup:** As regards to the number of hours spent on the startup to implement the AALA, manufacturers provided the responses shown in Table 7-5. The median is 850 hours and the mean is 5,698 hours for the 10 manufacturers that responded.

**Startup costs:** Startup costs are a one-time cost to begin implementation of procedures for collecting information to meet AALA requirements. Manufacturers offered the following explanation for the AALA startup costs: systems development, administrative and training, incremental manpower, new computer based systems used to prepare, calculate, and retain AALA information, tracking AALA regulations, company discussions, changes in purchasing database, obtaining and entering data from suppliers, developing reporting routines, and undergoing major changes for a few years because of constant changes in the law.

Table 7-6 indicates that manufacturers' median startup cost is an estimated \$250,000. The sum of the estimated startup costs for the 21 manufacturers range from \$5,200,000 to over \$6,050,000.

**TABLE 7-5: NUMBER OF HOURS MANUFACTURERS SPENT  
ON THE STARTUP TO IMPLEMENT THE AALA**

| NUMBER OF HOURS        | NUMBER OF RESPONSES |
|------------------------|---------------------|
| 100                    | 1                   |
| 200                    | 1                   |
| 500                    | 1                   |
| 600                    | 1                   |
| 800                    | 1                   |
| 900                    | 1                   |
| 2500                   | 1                   |
| 7500                   | 1                   |
| 13000                  | 1                   |
| 30880                  | 1                   |
| Don't know/no response | 11                  |

**TABLE 7-6: MANUFACTURERS' STARTUP COSTS FOR THE AALA**

| STARTUP COST                     | NUMBER OF RESPONSES |
|----------------------------------|---------------------|
| Less than \$100,000              | 2                   |
| \$100,000 to less than \$200,000 | 2                   |
| \$200,000 to less than \$300,000 | 4                   |
| \$300,000 to less than \$400,000 | 0                   |
| \$400,000 to less than \$500,000 | 0                   |
| Over \$500,000                   | 4*                  |
| Don't know/no response           | 9                   |

\* Adjusted for assumptions.

Annual staff hours spent on AALA: Table 7-7 shows how many staff hours the manufacturers spend each year to maintain compliance with AALA. The median number of annual hours spent is 576 and the mean is 1,601 hours for the 12 respondents.

TABLE 7-7: MANUFACTURERS' ANNUAL HOURS SPENT FOR OPERATING AND MAINTENANCE OF AALA

| NUMBER OF HOURS        | NUMBER OF RESPONSES |
|------------------------|---------------------|
| 36                     | 1                   |
| 40                     | 1                   |
| 80                     | 1                   |
| 100                    | 1                   |
| 160                    | 1                   |
| 325                    | 1                   |
| 830                    | 1                   |
| 1000                   | 1                   |
| 1250                   | 1                   |
| 1500                   | 1                   |
| 3760                   | 1                   |
| 10125                  | 1                   |
| Don't know/no response | 9                   |

Annual costs for operating and maintenance: Manufacturers were asked to indicate how much they spent annually for continued operating and maintenance costs associated with the AALA. Their responses are shown in Table 7-8. Manufacturers' estimated annual costs for operating and maintenance of AALA range from \$20,000 to over \$100,000.

**TABLE 7-8: MANUFACTURERS' ANNUAL COSTS  
FOR OPERATING AND MAINTENANCE OF AALA**

| ANNUAL COSTS                    | NUMBER OF RESPONSES |
|---------------------------------|---------------------|
| Less than \$20,000              | 2                   |
| \$20,000 to less than \$40,000  | 1                   |
| \$40,000 to less than \$60,000  | 4                   |
| \$60,000 to less than \$80,000  | 1                   |
| \$80,000 to less than \$100,000 | 0                   |
| Over \$100,000                  | 6                   |
| Don't know/no response          | 7                   |

Manufacturers offered the following explanations for annual costs for data collection and maintaining the database for the content reporting requirements for the AALA: the AALA does not include systems maintenance costs associated with the generation of stickers; additional costs include label inventory and applying the correct labels to every vehicle year before dealer shipments; number of manpower hours multiplied by applicable labor rate determined annually; labor costs, review bill material, initiate, review, follow-up, and data entry of supplier responses; calculation of final percentages and analysis; continued operation and maintenance costs; obtaining information from suppliers; daily tracking of information. The estimated median annual cost for operating and maintenance is \$70,000. If 21 manufacturers spent \$70,000 each, the total cost would be \$1,470,000, and the marginal cost per new car or truck would be \$0.098. Even if the mean is 2 or 3 times higher than the median the marginal cost (excluding startup costs) would not exceed \$0.295 per vehicle.

**AALA costs vs. NAFTA and CAFE:** Manufacturers were asked if the cost for data collection and maintaining the database for the content reporting requirements for the AALA are higher, lower, or about the same as the costs incurred for the North American Free Trade Agreement. Two manufacturers reported higher costs, three manufacturers reported lower, and five reported the same. Eleven manufacturers did not respond or said they did not know.

Manufacturers were asked if the cost for data collection and maintaining the database for the content reporting requirements for the AALA are higher, lower, or about the same as the costs incurred for data collection for assigning passenger cars to domestic or import fleets for Corporate Average Fuel Economy. Eight manufacturers reported that the costs were higher, one reported lower, two reported that the costs were the same, and ten did not know or did not respond.

USCan content in model year 1994: Manufacturers were asked to consider the model year 1994 vehicles they manufactured and to provide an estimate of each carline's USCan parts content, using AALA definitions. The purpose of this question was to find out if any major changes in USCan content occurred from 1994 to 1995, even before the AALA took effect. (Such changes would not have been revealed in the Chapter 2 analysis, which is based only on AALA compliance data from 1995 through 1998.)

Two large manufacturers provided data that indicated no changes in USCan content from MY94 to MY95, while a few smaller manufacturers reported small increases in USCan content during this period. While it is difficult to draw conclusions from this limited response, it would appear there was no substantial increase in overall USCan content between model year 1994 and 1995.

Cost of AALA to suppliers: Manufacturers were asked if their suppliers use a single form for reporting information required for the NAFTA, CAFE, and the AALA, thus reducing suppliers' reporting costs. Twelve manufacturers said no, two reported yes, and eight did not know or did not answer.

Table 7-9 indicates what kinds of costs manufacturers say AALA imposes on suppliers.

TABLE 7-9

COSTS IMPOSED ON SUPPLIERS AS A RESULT OF THE AALA

| COSTS                                       | NUMBER OF RESPONSES |
|---------------------------------------------|---------------------|
| Annual employee hours                       | 10                  |
| Payroll costs                               | 11                  |
| Set-up and maintenance of computer database | 10                  |
| Cost of paper certificates                  | 6                   |
| Don't know/no response                      | 10                  |

Manufacturers reported their estimates of the overall cost of this program to suppliers to date, as shown in Table 7-10. Manufacturers' estimated median cost to suppliers is \$200,000, and the mean is \$475,167 for the six manufacturers that responded.

TABLE 7-10: MANUFACTURERS' ESTIMATE OF COST TO SUPPLIERS

| COST                   | NUMBER OF RESPONSES |
|------------------------|---------------------|
| \$999                  | 1                   |
| \$150,000              | 1                   |
| \$200,000              | 1                   |
| \$500,000              | 1                   |
| \$1,000,000            | 2                   |
| Don't know/no response | 15                  |

Manufacturers were asked whether all of their purchase orders to suppliers include a requirement to furnish USCan parts content information. Seven manufacturers responded yes, seven responded no, and seven did not know or did not answer.

Table 7-11 presents manufacturers' reports on what percent of their suppliers furnish USCan parts content information. The median percentage of suppliers that furnish USCan information is 92.5.

TABLE 7-11: PERCENT OF SUPPLIERS THAT FURNISH  
U.S./CANADIAN PARTS CONTENT INFORMATION

| PERCENT                | NUMBER OF RESPONSES |
|------------------------|---------------------|
| 1                      | 1                   |
| 35                     | 1                   |
| 80                     | 2                   |
| 90                     | 2                   |
| 95                     | 1                   |
| 97                     | 1                   |
| 99                     | 1                   |
| 100                    | 2                   |
| Don't know/no response | 10                  |

Manufacturers were asked by what percentage their costs will change following the end of the 2-year provision which allows flexibility in making estimates of content determinations where outside suppliers have not responded to requests for content determination. Manufacturers' costs would presumably increase when the provision allowing flexibility in making estimates expires. Four manufacturers responded they did not expect any cost increase, two expected a 10 percent increase, one each expected 12, 25, and 50 percent increases, and 12 did not know or did not respond.

## CHAPTER 8

### DEALER SURVEY

The objectives of the dealer information collection are to: inquire about the extent to which new-vehicle dealers understand the content labels, provide this information to potential and actual customers, and find it useful or detrimental in marketing.

Subject areas surveyed in the dealer questionnaire included dealer awareness of the AALA and label, dealer advertising of the label through various media, dealer franchise and sales volume, customer knowledge and understanding of the label, customer consideration of information on the label in purchase decisions, customer buying preferences, sales staff awareness and understanding of the label, sales staff training, guidelines and materials provided by manufacturers to dealers and staff, and use of information on the label in sales presentations.

While most dealers see little value in the label information as a marketing tool for the average consumer, quite a few dealers acknowledge that there is a substantial group of consumers that cares about "Buying American," and that this group finds the AALA label useful, especially for identifying a vehicle's country of final assembly.

#### **8.1 Description of the sample**

Survey data collection took place over a 14-week period. The survey was mailed to 500 dealers in August 1998, and 195 completed surveys were returned, as explained in Section 5.5. Job titles of the respondents included dealer/principal (50 percent), general manager (31 percent), sales manager (14 percent), owner (1 percent), and salesman (1 percent).

Sixty-four percent of the respondents had franchise total gross annual new vehicle sales volumes of less than \$25 million, 11 percent reported sales volumes of \$25 to \$49 million, 7 percent reported sales of \$50 million to \$100 million, and 2 percent reported sales of over \$100 million.

Sixty-seven percent of dealer respondents had one to ten persons on their new vehicle sales staff. Twenty-two percent of dealers had new vehicle sales staffs of 11 to 20 persons, and 4 percent had staffs of 21 to 60 persons.

#### **8.2 Dealer awareness of the label**

The survey began by asking dealers how aware they are of the AALA and the parts content label. An overwhelming 81 percent of dealers had at least some knowledge of the AALA regulation and the label. This is distributed as follows: 53 percent of dealers said that they were very aware of the regulation and the label, 28 percent responded that they were somewhat aware. Seventeen percent said that they were not very aware or not at all aware of the AALA and the label.

### 8.3 Dealer advertisement of the label

Dealers were asked to report what media they used for presenting parts content information. Approximately 80 percent of dealers said they do not advertise parts content information or did not specify a medium. Of those dealers who do advertise, information is conveyed primarily through in-store displays and brochures, as shown below:

| <b>MEDIA<br/>PRESENTATION</b> | <b>PERCENT OF<br/>DEALERS</b> |
|-------------------------------|-------------------------------|
| In-store Displays             | 10                            |
| Brochures                     | 8                             |
| Newspaper Ads                 | 2                             |
| Magazine Ads                  | 1                             |
| Television Ads                | 1                             |
| Radio Ads                     | 0                             |
| Other                         | 4                             |
| None                          | 58                            |
| Don't Know                    | 21                            |

### 8.4 Dealers' perceptions of customer response to the labels/buying preferences

Customer awareness and understanding of the label: Dealers were asked to rate customer awareness and comprehension of the parts content information on the label on a scale of 1 to 7, where 1 means "describes none of my customers" and 7 means "describes all of my customers." The responses were distributed along a scale of zero to 100, for ease of comparison, where zero corresponds to 1 and 100 corresponds to 7. Dealer responses to the scale that fell between 2 and 6 were distributed along the zero to 100 scale, based on the assumption of linear gradation of intermediate values on a scale from 17 through 83.

Regarding customer awareness of the existence of the label, dealers scored customers a moderately low 36, with a standard error of 1.8. Dealers scored customers an even lower 25 when asked if they read the label on the vehicle window (standard error of 1.7). Furthermore, dealers rated customers at a low 16 regarding whether customers ask questions about the information on the label (standard error of 1.6). However, of the customers who read the label, dealers indicated that a fair number understand the label (score of 40, standard error of 2.6). The number of dealers that responded to these questions ranges from 155 to 172, out of a total of 195 dealers.

These data indicate that dealers presume that a fairly low number of customers know of the regulation and label, and a few are sufficiently interested to read and ask particulars about the information on the label. In fact, the consumer survey (Table 6-6) indicated that only 23 percent of customers actually knew of the existence of the label and only 7 percent had read it. If the preceding numerical scores in the dealer survey are equivalent to percentages (although it is not clear that they should be), it may be inferred that dealers, if anything, slightly overestimate the level of customer awareness of the labels.

The dealers were divided into two subgroups: the 120 dealers selling exclusively Big 3 nameplates; and the 42 "foreign-based" dealers selling exclusively nameplates of foreign-based companies. (The 21 dealers selling both Big 3 and foreign-based nameplates and the 12 dealers who did not specify what nameplates they sold were not included in the subgroups, but were included in the analyses of all 195 dealers.) The two subgroups were analyzed to evaluate whether any variations exist between the dealerships, their sales staff and customers, and their survey responses. The responses for the subgroups were calculated the same as above, by converting the 1 to 7 scale to zero to 100.

With respect to the dealers' perception of customer awareness of the existence of the label, customer reading the label on the window of the vehicle, customer asking questions regarding information on the label, and customer understanding of the label, both Big 3 and foreign-based dealers responded similarly, except that a few more foreign-based dealers than Big 3 said that customers read the label on the vehicle window (score of 27 compared to 24), and slightly more foreign-based dealers said that customers understand the label (score of 43 compared to 38). It appears that more customers in foreign-based dealerships are curious about parts content information, but perhaps this is because these customers are aware that vehicles of foreign-based companies could be assembled either in North America or overseas and they are seeking particular information, whereas the customer in the Big 3 dealership may take for granted that the vehicle is assembled in North America and has a high level of U.S./Canadian (USCan) content, or is loyal to and interested in a Big 3 vehicle, and the label information is not a consideration among buying factors.

Buying preferences: Dealers were asked to rate customer buying preferences and factors affecting their decisions in selecting a vehicle on a scale of 1 to 7 where 1 means "strongly disagree" and 7 means "strongly agree." The responses were distributed along a scale of zero (corresponding to 1) to 100 (corresponding to 7), to facilitate the comparison of scores, and we assumed a linear gradation of intermediate values between 17 through 83.

Dealers scored 21 (standard error of 1.9) in their responses to the following statement: "Customers consider U.S./Canadian parts content an important factor for selecting a vehicle." This low score indicates that dealers think that, generally, customers do not consider USCan content as a top priority in choosing a vehicle. Dealers scored an even lower 16 (standard error of 1.7) in response to whether they believe that customers consider the information on the parts content label when making a purchase decision. The results of this follow-up statement emphasize that dealers believe that USCan content plays an even smaller role when customers are ready to buy a vehicle.

Big 3 dealers rated customer consideration of USCan parts content an important factor for selecting a vehicle higher (score of 23) than did foreign-based dealers (score of 15), which is expected. However, both Big 3 and foreign dealers scored the same, at 16-17 in response to the customer's consideration of the label information when making a purchase decision, which supports the finding that in the customer's final analysis, the label is a relatively unimportant factor when the time comes to purchase from either a Big 3 or a foreign-based dealer.

Dealers were asked to rate on a scale from 1 (strongly disagree) to 7 (strongly agree) the statements: "Customers show a preference in buying American" and "Customers show a preference in buying foreign." The responses were distributed the same way as the data above. Dealers scored each of these statements in the mid- to upper 30's (each with a standard error of about 2.4).

However, Big 3 dealers scored much higher (score of 48, standard error of 3.0) in response to the statement about preference in buying American, compared to customer preferences in buying foreign (score of 16, standard error of 3.3), which is reasonable. Dealers with foreign-based franchises roughly paralleled a preference for foreign vehicles (score of 43, standard error of 5.7) compared to preferences in buying American (score of 28, standard error of 2.6); again, this appears reasonable. It is evident that Big 3 dealers strongly believe that customers are particularly interested in and make a point of buying the vehicles they sell; at the same time, dealers of Big 3 vehicles know that some customers are also interested in imported vehicles. Correspondingly, dealers of vehicles manufactured by foreign-based companies firmly believe that their customers strongly want to purchase imported vehicles. There appears to be a definite sense of customer loyalty to both North American and overseas-built vehicles.

Dealers scored very high (score of 89, standard error of 1.9) in their opinion that customers are more interested in the purchasing or leasing price of an automobile than the information on the parts content label. Big 3 dealers scored this question high (score of 88, standard error of 2.5), and foreign-based dealers scored even higher (score of 93, standard error of 2.8). The survey underscores that price greatly predominates issues and concerns regarding USCan content when consumers consider both factors.

Label influence: Dealers were asked which aspect of the AALA label customers are most interested in. Final assembly point was clearly the most important component of the parts content label for consumers, according to dealers (29 percent). Sixteen percent of dealers said USCan parts content was the most important aspect, and 3 percent each referred to major sources of non-USCan parts content, and country of origin of engine parts. It appears that dealers think that customers are interested mainly in the primary information on the label, without additional details, perhaps concluding that the location of assembly is the most important piece of information, and the most critical to the vehicle's intrinsic and monetary value.

Customers have not expressed concern because the numerical parts content score combines U.S. and Canadian parts, according to 84 percent of dealers. Only 7 percent of dealers reported that customers were concerned about combining the countries. Dealers do not consider this a significant issue.

Customers have never declined to purchase a vehicle as a result of the kind of information provided on the parts content label, according to 82 percent of dealers. Nine percent of dealers (16 dealers) reported that at least one of their customers has declined to purchase because of the information.

Dealers were asked whether customers have ever decided to purchase a vehicle as a result of the kind of information provided on the parts content label, and 75 percent reported no, while 5 percent (nine dealers) indicated yes, at least one customer has purchased the vehicle based on the label information.

It appears from the responses that the information on the parts content label has little influence on most customers' purchase decision-making. Dealers believe that there are stronger considerations that customers take into account, particularly price, when purchasing a vehicle. Nevertheless, dealers acknowledge that occasionally a customer decides to buy a vehicle after taking the label information into account.

## **8.5 Sales staff knowledge, training and presentation of the labels**

Awareness and understanding: The survey polled the extent to which sales staff is aware of the label, understands the label, and can explain the information to customers, on a scale of 1 to 7, adjusted to a zero to 100 scale, as explained above. Dealers (including Big 3 and foreign-based) rated their sales staff fairly high, at about 70 for all of the above; except that foreign dealers rated their staff slightly higher in awareness (score of 79) and understanding the label (score of 74). Since foreign manufacturers have raised concerns about a number of issues, including how the USCan content score is calculated, distinguishing between countries of production within a particular carline, the definition of final assembly, and have expressed additional comments from the inception of the regulation, they are more likely concerned that their dealers and sales staff should be knowledgeable about and prepared to explain the label. Foreign-based manufacturers probably make a stronger effort to achieve this result.

Dealers (including foreign-based and Big 3) rate their staff at about 48 in keeping updated on parts content information, which is rather high considering the modifications in the intricacies and complexities of the regulation during the past few years.

Sales staff training: Although dealers indicated optimistically that their staff is informed about the information on the label, it does not appear that many dealers offer various types of training to sales staff, as shown below:

| TRAINING               | PERCENT OF DEALERS<br>OFFERING TRAINING |
|------------------------|-----------------------------------------|
| Sales meeting          | 44                                      |
| Brochure               | 12                                      |
| Seminar                | 2                                       |
| Workshop               | 2                                       |
| Other                  | 2                                       |
| No training            | 32                                      |
| Don't know/no response | 6                                       |

In fact, 51 percent of dealers said that manufacturers provided them with no guidelines or materials for training sales staff to explain the information on the parts content label. Only 23 percent of dealers indicated that manufacturers had supplied training assistance.

Similarly, manufacturers are lacking in providing any guidelines or recommendations for using the parts content information label as a selling point. Sixty percent of dealers said they have not been provided with materials, and only 15 percent indicated yes.

Label use in sales presentation: Dealers were asked under what circumstances are sales staff told to explain parts content information labels to customers. One-half of the dealers reported that sales staff give the information to customers only when they inquire about it. Only 2 percent (five dealers) said that sales staff give the information to customers without being asked. Forty-four percent of dealers indicated that sales staff are not given any guidelines as to when to give customers information. The responses indicate that virtually none of the sales staff voluntarily offers the label information to customers.

However, all of the dealers, (including Big 3 and foreign-based) scored their sales staff at 20 for pointing out the parts content label to customers. Interestingly, foreign-based dealers scored lower (score of 9) than Big 3 dealers (score of 12) for sales staff making the parts content information label an important part of the sales presentation, although staff in foreign-based dealers are more aware and have greater understanding than their counterparts in the Big 3 dealerships.

All dealers (including Big 3 and foreign-based) scored "labels are used as a sales tool" and "labels are not used in the sales process" at 14 and about 63, respectively, emphasizing that the labels generally do not play an active role in the sales process.

If, however, there is particular information that may be of interest to the customer and would advance a sale, the survey shows that this information is offered to the customer. For example, sales staff at Big 3 dealers are more likely to furnish customers with the percentage of USCan parts content (score of 18) than sales staff at foreign-based dealers (score of 11). Interestingly, both Big 3 and foreign-based dealers' sales staff nearly equally (score of 32 compared to 28) are likely to use the labels in sales presentation if the vehicle was assembled in the United States. It appears that foreign-based dealers' staff is sensitive to the "made in the U.S.A." issue in marketing and provides this information to customers at about the same competitive rate as the Big 3 sales staff.

Dealers generally did not believe that sales staff would likely use the label in a sales presentation if a high percentage of parts were manufactured outside of the United States, and scored their staff low at 16 on the scale of zero to 100. Big 3 dealers rated their staff lower, at 15, and foreign-based dealers rated their staff higher, at 20. The relative difference in Big 3 - foreign-based ratings seems reasonable, since Big 3 dealers' sales staff is unlikely to point out foreign parts content in a Big 3 vehicle, which may dissuade a customer, while a sales presentation at a foreign-based dealer may benefit from emphasizing high content from overseas countries esteemed for quality engineering.

Interestingly, more Big 3 dealers (score of 40) than foreign-based dealers (score of 27) thought that parts content information can be harmful to making a sale. Perhaps Big 3 dealers believe that consumers of Big 3 vehicles (who may have strong brand loyalty) would be more discouraged from a sale if the label indicates non-USCan assembly or substantial non-USCan parts content.

Also, Big 3 dealers scored lower (15) compared to foreign-based dealers (score of 21) when asked if their sales staff is likely to point out the label if the U.S. is country of origin of the transmission. This may indicate that regardless of the information on the label (even if the information may be helpful to making a sale) the Big 3 sales staff is unlikely to point out the label. Conversely, the foreign-based dealer may make more of an effort to inform the customer.

Assembly/content information apart from the AALA label: The last series of questions had to do with how much information about the vehicle the sales staff provides apart from the label. In nearly all cases, the foreign-based dealers believed that their sales staff provided more information than did the Big 3 dealers, which is concurrent with earlier results that the sales staff at foreign-based dealers has greater awareness and understanding of the label, is more likely to point out certain parts of the label, and does not believe that the information can be harmful to making a sale. For example, foreign-based dealers scored 47, and Big 3 dealers 35, with respect to whether the sales staff provides information apart from the label concerning the final assembly point of the vehicle. Also, foreign-based dealers scored 31 and 28, compared to a Big 3 score of 20 and 18, on whether the sales staff provides information apart from the label about the country of origin of the engine and transmission parts, respectively.

Regarding providing information apart from the label about percentages of USCan parts that comprise the vehicle, Big 3 dealers scored their sales staff at 23, while foreign-based dealers scored 14. Conversely, the scores for sales staff providing information apart from the label when

the major sources are not the U.S. or Canada are almost reversed, with foreign dealers scoring their staff at 21, and Big 3 dealers scoring sales staff at 16, which is reasonable.

In general, these responses suggest that dealers do not frequently discuss country of origin as part of their sales presentation. One exception is that the country of final assembly, especially if it is the United States or Canada, is sometimes emphasized, using both the information on the label and apart from the label. There is less interest in parts than in the final assembly.

## DISCUSSION OF FINDINGS

The macro-finding of the statistical analysis of sales data is that the introduction of American Automotive Labeling Act (AALA) labels in model year 1995 was not followed by a massive immediate or subsequent change in U.S./Canadian (USCan) parts content in new vehicles sold in the United States. In fact, it declined slightly, from an average of 70 percent in model year 1995 to 67.6 percent in model year 1998. Similarly, the percent of new vehicles sold in the United States that were assembled in the United States or Canada declined from 82 percent in model year 1994 to 80 percent in 1998 (Section 2.2).

One of the most important findings is that transplant vehicles substantially increased their proportion of USCan parts: from 47 percent in model year 1995 to 59 percent in 1998 (Section 2.4), with even larger increases by some manufacturers (Section 2.7). At first glance that could be a response to the consumer information on USCan parts content.

Nevertheless, this report hardly claims that the AALA labels caused all or even a large part of the increase. Nearly simultaneous with the AALA, a 1995 U.S.-Japan Agreement on Autos and Auto Parts was dedicated to increasing North American parts content in the transplant vehicles of the Japanese-based companies (Section 1.3). Even before the 1995 Agreement, in fact since the 1960's, a series of laws, regulations, international agreements and incentives had already spurred foreign-based manufacturers to transplant assembly and parts facilities to the U.S. (Section 1.2).

Under the circumstances, it is virtually impossible to quantify the relative effects of AALA, the 1995 Trade Agreement, and the earlier measures. The strong, explicit terms of the Agreement and the current near absence of consumer interest in the numerical scores of the AALA (Section 6.6) intuitively suggest that the Agreement has had more direct effect than the AALA labels. The fact that it takes lead-time to shift production and parts-sourcing suggests the pre-1995 measures could still have been influential in 1995-98. Moreover, only one of 21 manufacturers in our survey (and that company did not dramatically increase USCan content in 1995-98) stated that parts-content information labels influenced a shift in their production or parts facilities (Section 7.2). However, one benefit of the AALA labels has been that U.S. Government agencies use the numerical parts-content scores to monitor progress under the Agreement.

Section 2.3 shows the gain in USCan parts among transplants was offset by a loss among the Big 3, from 89 percent in model year 1995 to 84 percent in 1998. (Since the Big 3 account for a lot more sales than transplants, the net result is a decline of USCan content for the entire new-vehicle fleet.) But it appears that most of these non-USCan parts are coming from Mexico rather than overseas, consistent with the North American Free Trade Act (NAFTA). (In this context, Section 6.5 showed that consumers are often unaware that the numerical score on the AALA label includes Canadian parts but excludes Mexican parts: 35 percent of those who had read the label knew it included Canadian parts, while 23 percent mistakenly thought it also included Mexican parts.)

The trend in import dependence in motor vehicles and parts is no more, and if anything slightly less than the trends in other consumer goods such as refrigerators, carpets, cosmetics, furniture, etc. In 1992-98 there was unprecedented prosperity and a strong dollar in the United States while several other large countries experienced recessions or reduced buying power. That by itself would tend to increase net imports for all types of consumer goods. Chapter 4 and especially Table 4-4 show that even though the AALA, the U.S.-Japan Agreement, etc. did not massively reverse an economy-wide trend, the growth in import dependence for motor vehicles and parts was just a bit smaller than the average for the other consumer goods.

The regression analyses of Chapter 3 showed that make-models that increased USCan content from one year to the next more often than not increased their sales. Regression results do not, by themselves, establish a causal relationship between USCan content and sales. Given that few if any consumers are using the numerical USCan content scores for "comparison shopping," it is most unlikely that increased USCan content "caused" the sales growth. Nevertheless, make-models that increased USCan content have not been suffering in the market place.

The macro-finding of the consumer survey is that the great majority of the public knows little or nothing about the labels. Among 425 new car **purchasers** - people who had acquired a new vehicle with all its labels and stickers within the past six months - only 23 percent were aware of the existence of the AALA label on new vehicles, only 16 percent had seen it, and only 7 percent had read it at the dealership<sup>1</sup>. Over half of those who read the label said they were influenced by it, but they were primarily swayed by its country-of-assembly information. Not a single person explicitly stated they had used AALA's numerical parts-content score to comparison-shop among make-models according to their percentages of USCan parts, or that they were influenced by the country of origin of the engine or the transmission (Sections 6.4 and 6.6).

The two macro-findings of this report are quite consistent with one another: if few people read the labels, it is understandable that they would not have a massive net impact on sales. However, the macro survey findings do not reveal that rather large groups of consumers think the country of origin of vehicles and parts is important and could potentially derive more value from the labels than they do today.

Although "only" 7 percent of new-vehicle purchasers are currently reading the labels at dealerships, given new-vehicle sales of 15 million per year, that implies slightly over a million new-vehicle buyers are reading the labels each year: a not insubstantial group. In the survey, about a third of the people who read the label explicitly stated they were moderately or strongly influenced by its information on the vehicle's country of assembly (Sections 6.4 and 6.6). In other words, the AALA is already benefitting at least 300,000 consumers per year by furnishing easily readable and influential country-of-assembly information. (Country-of-assembly information was available to consumers before the AALA, but not necessarily in a standardized and conveniently

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<sup>1</sup>In other words, 23 percent of the 425 survey participants knew of the existence of the label; 16 percent of the 425, and they are a subset of the first group, not only knew the label existed but had actually seen a label somewhere; and 7 percent of the 425, and they are a subset of the second (and the first) group, had seen and read the label while at the dealership.

accessible form like the AALA labels.) Nevertheless, the current effect of the labels in general, and their numerical parts-content scores in particular, is limited because they are not well known to consumers, especially those who care about in what country goods are produced.

Our survey allowed consumers to rank the importance of various factors in their selection of a new vehicle. Table 6-1 shows that the average new-car purchaser ranked "made in the U.S. or Canada" less important than most of the other attributes that people typically consider when buying a vehicle (reliability, safety, price, etc.). But that includes buyers of vehicles imported from overseas, who obviously consider "made in the U.S. or Canada" of little or no importance. People who bought Big 3 vehicles, over 70 percent of the new-vehicle market, attached somewhat more value to a vehicle and/or its parts being made in the U.S. or Canada. They considered it about as important as the vehicle's optional equipment, fuel economy, cargo capacity and the dealer's reputation: a solid member of the "second tier" of selection factors (the "first tier" being reliability, drive quality, safety, manufacturer reputation, price, styling and size).

Furthermore, the survey identified a considerable subgroup of consumers that staunchly believes in "buying American." One-sixth of the survey participants were in that group. That proportion would extrapolate to 2,500,000 new-vehicle sales per year. They rate it critically important that vehicles be made in the U.S. or Canada and, more generally, they always try to "buy American" when they go to a store. Their actions square with their values. In our survey, 100 percent of them bought vehicles made in North America: 96 percent bought Big 3 vehicles assembled in the United States, Canada or Mexico and 4 percent bought transplants assembled in the U.S.

Conceptually, a group that cares so deeply ought to be especially responsive to the AALA labels. But they are currently no more cognizant of the labels than the average consumer: 20 percent of them had heard of the label, 11 percent had seen it and 9 percent had read it at the dealership. Rather than perusing the numerical USCan content scores and comparison-shopping for the highest percentages of USCan content, they mostly feel they have "bought American" merely by acquiring any Big 3 vehicle assembled in North America.

If the staunch "buy American" consumers or other groups of consumers were more keenly aware of the labels - e.g., if they had convenient access to tabular listings of the USCan content of make-models in each vehicle class - they might conceivably be more likely to use this information as a factor in selecting vehicles.

Another sign that the AALA labels could have more impact if consumers were better informed about them is that 56 percent of our survey participants said, after the interviewer had explained the label to them, that it would influence their future vehicle purchases - in contrast to the just 5 percent who said the label had influenced their recent purchase (Section 6.6). This promising response is somewhat vague: consumers did not specify exactly how they would be influenced. Nevertheless, it should not be dismissed as merely "people trying to please the interviewer" because respondents were quite candid on the other parts of the interview.

But at this time no organization, government or private, makes a sustained effort to inform and educate the consumer about the AALA labels (nor does the AALA law mandate any organization

to make such an effort). That stands in contrast, for example, to NHTSA's crash test ratings. The agency not only disseminates them directly to the public through its web site<sup>2</sup> and brochures, but also provides them regularly to the press and the safety community, where they are extensively published in magazines such as *Consumer Reports*, insurance companies' customer gazettes, and newspaper articles. It also contrasts with fuel economy (CAFE) ratings. They may be viewed at a Federal web site<sup>3</sup> in an easy-to-understand format: ranking the fuel economy of each make-model within the various vehicle classes. At least in past years, they were also widely printed in newspapers and magazines in that format.

NHTSA could study the potential impacts and appropriate media for expanding public information and education about the labels in general and the numerical USCan parts-content scores in particular. A basic approach would be to display the AALA label information at the NHTSA web site, listing make-models in each vehicle classes by percent USCan content. Other strategies could include a more extensive media outreach - e.g., in cooperation with organizations that have an interest in this issue, or via media widely read by demographic groups that care about the issue. Of course, there is no guarantee that making consumers more aware of the labels would necessarily influence many of them to use the information in their purchasing decisions (notwithstanding even that 56 percent of the consumers in our survey said they would be influenced in the future). It might be appropriate to conduct preliminary market research (e.g., focus groups) on that question before attempting any extensive outreach program.

The manufacturer and dealer surveys showed the auto industry thinks customers have only a limited awareness of the labels, at best a modest general interest in where vehicles are assembled and little or no specific interest in parts content. Given those perceptions, manufacturers are unlikely to expound on parts content to customers, advertise make-models' USCan content, or compete on the basis of USCan content - in contrast to safety and fuel economy, where they have done all of these things, at least to some extent. The manufacturers' attitudes cannot be expected to change unless they witness a major increase of consumer awareness and interest in the labels, and not necessarily even then.

In summary, this evaluation suggests that the AALA so far has had two definite and one doubtful impact. One definite impact is that a substantial proportion of the consumers who read the AALA labels at a dealership find them convenient and influential for identifying in what country a vehicle was assembled. Also, definitely, Federal agencies have used the parts content scores for monitoring progress under the U.S.-Japan Agreement on Autos and Auto Parts. The doubtful impact is that the labels may have contributed to the increase of USCan content in transplant vehicles during 1995-98: while there is no doubt that USCan content increased substantially, it is uncertain to what extent, if any, the labels contributed to the increase - given that the U.S.-Japan Agreement on Autos and Auto Parts, as well as earlier measures, intuitively seem to have been quite a bit more influential.

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<sup>2</sup>[www.nhtsa.dot.gov/cars/testing/ncap](http://www.nhtsa.dot.gov/cars/testing/ncap)

<sup>3</sup>[www.fueleconomy.gov](http://www.fueleconomy.gov) jointly maintained by the Department of Energy and the Environmental Protection Agency.

The two major shortcomings of the AALA at this time are: (1) The overwhelming majority of consumers are completely unaware of the existence of the AALA labels. (2) Even those who are aware of the labels hardly ever use the numerical parts-content scores for comparison shopping among make-models; the information about engines and transmissions is also rarely used.

The following alternatives might be considered for enhancing the current impact of the AALA, or at least redressing its present shortcomings and burdens:

- (1) Expanded public information and education: Explore ways to disseminate the AALA information more extensively to consumers. Conduct market research (e.g., focus groups) to diagnose if any of these strategies are likely to increase consumer awareness or affect their purchase decisions. Possible strategies could include placing the AALA information on NHTSA's web site, with make-models in each vehicle class listed by percent USCan content; brochures; and/or national media outreach.
- (2) Leave the program unchanged: The program would continue to supply a modest proportion of consumers with country-of-assembly information they find useful. If the numerical USCan content scores have had any influence on manufacturers to date, that influence could continue. However, it would be unreasonable to expect any large increase in consumer awareness and use of the labels.
- (3) Modify the AALA to require only country-of-assembly information (or repeal AALA): The evaluation indicates that country-of-assembly is currently the only information on the AALA label widely used by consumers. That is unlikely to change in the absence of a strong public information and education program. Congress may wish to delete the numerical parts-content score and the information on the engine and transmission from the AALA. That would basically eliminate the cost and record-keeping burden of the AALA. Or, Congress could simply repeal the AALA since country-of-assembly information can be obtained elsewhere. This alternative risks losing any impact the numerical score may be having on manufacturers today, and any potential impact it could have if it were more widely known to consumers.



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## APPENDIX A

### U.S./CANADIAN CONTENT, REGISTRATION, PRICE AND ASSEMBLY DATA FOR CARS AND LIGHT TRUCKS

|          |   |                                                                                                                                                                                                                                                    |
|----------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MM2 & CG | = | 8-digit numerical make-model code used in NHTSA evaluation reports                                                                                                                                                                                 |
| MMNAME   | = | make-model name (abbreviated)                                                                                                                                                                                                                      |
| REGS94   | = | VIN-model-year 1994 registrations for this make-model, based on 1993-96 Polk new-vehicle registration files (REGS95 - REGS98 are similarly defined) - or - manufacturer-supplied statistics on model-year production for sale in the United States |
| PLOW94   | = | lowest base retail (sticker) price of this make-model in model year 1994 (PLOW95 - PLOW98 are similarly defined)                                                                                                                                   |
| ASUC94   | = | percent of model year 94 vehicles of this make-model sold in the United States that were assembled in the United States or Canada (ASUC95 - ASUC98 are similarly defined)                                                                          |
| USCAN95  | = | percent U.S./Canadian parts content in model year 1995 for this make-model, as shown on the AALA label and reported to NHTSA by the manufacturer (USCAN96 - USCAN98 are similarly defined)                                                         |



| C    | M    | R    | P    | A      | R     | P   | S      | A     | R  | P   | S      | A     | R  | P   | S      | A     | R  | P   | S      | A     | R  | P   | S    | A    | U    |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|------|------|------|------|--------|-------|-----|--------|-------|----|-----|--------|-------|----|-----|--------|-------|----|-----|--------|-------|----|-----|------|------|------|------|--------|-------|-----|--------|-------|------|------|--------|-------|-------|-------|--------|-------|-------|-----|--------|-------|-------|-----|------|-------|-------|------|--------|-------|-------|--------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|-----|------|-------|-------|------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-----|--------|-------|-------|-----|------|-------|-------|------|-------|-------|-----|-------|-------|----|-----|-------|-------|----|-----|---|------|------|------|------|-------|-------|-----|---|---|---|---|---|---|---|------|------|------|------|--------|-------|-----|--------|-------|----|-----|-------|-------|----|-----|---|------|------|------|------|-------|-------|-----|-------|-------|----|-----|-------|-------|----|------|--------|-------|------|------|-------|-------|-----|-------|-------|------|------|-------|--------|-------|-----|--------|-------|----|-----|-------|-------|----|-----|------|------|------|------|--------|-------|-----|--------|-------|----|-----|-------|-------|----|-----|-------|-------|------|------|-------|-------|----|-----|------|------|------|------|--------|-------|-----|-------|-------|----|-----|-------|-------|----|-----|-------|-------|---|---|---|---|---|------|------|------|------|------|-------|---|-------|-------|------|------|-------|--------|-------|-----|--------|-------|----|-----|--------|-------|----|-----|-------|-------|------|------|--------|-------|----|-------|-------|----|----|-------|-------|----|----|-------|-------|----|----|
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      | U    |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
| M    | C    | E    | 4    | 4      | 9     | 9   | C      | N     | 9  | 9   | 9      | 6     | 6  | 7   | 7      | 9     | 9  | C   | N      | 9     | 9  | 8   | 8    | 9    | 8    |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      | M    | N      | A     | M   | 2      | G     | 1302 | 1237 | Linc   | MV8   | 26781 | 38050 | 100    | 19960 | 38800 | 90  | 100    | 13282 | 39650 | 95  | 100  | 16298 | 37950 | 80   | 100    | 14243 | 38500 | 90     | 100   |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       | 1305 | 1236 | Linc  | Con   | 49619 | 33750 | 100   | 32589 | 40750 | 90  | 100   | 27740 | 41800 | 95  | 100  | 32124 | 37950 | 80   | 100   | 38447 | 38600 | 90    | 100   |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       | 1404 | 1237 | Merc  | Coug  | 70868 | 16360 | 100   | 60001 | 16860 | 90  | 100    | 38700 | 17430 | 90  | 100  | 35195 | 18340 | 80   | 100   | 0     | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0 |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   | 1415 | 1234 | Merc | Topz | 50462 | 11420 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 0    | 0    | 0      | 0     | 0   | 0      | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0 |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   | 1416 | 1228 | Merc | GrdM | 94740 | 20330 | 100 | 93760 | 21270 | 80 | 100 | 94678 | 21975 | 85 | 100  | 127549 | 23100 | 80   | 100  | 87302 | 22695 | 85  | 100   |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       | 1417  | 1235 | Merc | Sab1  | 103336 | 17840 | 100 | 102037 | 18210 | 90 | 100 | 0     | 0     | 0  | 0   | 0    | 0    | 0    | 0    | 0      | 0     | 0   | 0      | 0     | 0  | 0   | 0     | 0     | 0  | 0   |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     | 1417  | 1240  | Merc | Sab1 | 0     | 0     | 0  | 0   | 0    | 0    | 0    | 0    | 0      | 0     | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0 | 0 | 0 | 0 | 0 |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   | 1431 | 6501 | Merc | Capr | 3657 | 13190 | 0 | 63413 | 11380 | 75   | 0    | 13177 | 11755  | 75    | 14  | 65601  | 11560 | 80 | 100 | 35508  | 11920 | 80 | 100 |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     | 1436  | 4117  | Merc | Trac | 45937  | 10350 | 0  | 66161 | 13855 | 80 | 83 | 51587 | 14330 | 80 | 87 | 23285 | 14495 | 75 | 85 |
| 1437 | 1239 | Merc | Myst | 0      | 0     | 0   | 163195 | 20724 | 95 | 100 | 51980  | 21380 | 95 | 100 | 210773 | 22620 | 95 | 100 | 142547 | 23070 | 86 | 100 |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     | 1802 | 1852 | Buic | LeSa | 148896 | 21080 | 100 | 60333  | 27236 | 95   | 100  | 46794  | 28205 | 95    | 100   | 58919  | 30660 | 95    | 100 | 61444  | 31340 | 90    | 100 |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     | 1803 | 1852  | Buic  | PKAv | 60930  | 27164 | 100   | 28183  | 24390 | 92   | 100  | 21242 | 25560 | 92    | 100   | 18041 | 30775 | 90    | 100 | 10344 | 33165 | 87    | 100 |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     | 1804 | 1839  | Buic  | Rdma | 34753 | 24184 | 100   | 39368 | 28195 | 96   | 100  | 17262 | 30010 | 95    | 100   | 53283 | 18425 | 91    | 100 | 127650 | 18965 | 86    | 100 |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     | 1805 | 1865  | Buic  | Rive | 0     | 0     | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0 | 0    | 0    | 0    | 0    | 0     | 0     | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0 |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   | 1807 | 1871 | Buic | Cent | 130050 | 15800 | 79  | 109780 | 15815 | 85 | 100 | 91975 | 16720 | 82 | 100 | 0 | 0    | 0    | 0    | 0    | 0     | 0     | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0  | 0    |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      | 1817   | 1850  | Buic | Cent | 56443 | 13734 | 100 | 52554 | 14570 | 91   | 100  | 41623 | 15495  | 92    | 100 | 57385  | 16495 | 90 | 100 | 18856 | 16755 | 80 | 100 |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     | 1818 | 1854 | Buic | Sky1 | 78078  | 18324 | 100 | 89155  | 18690 | 90 | 100 | 99729 | 19445 | 95 | 100 | 21310 | 21095 | 91   | 100  | 69306 | 21595 | 86 | 100 |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     | 1820 | 1859 | Buic | Rega | 0      | 0     | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 0    | 0    | 0    | 0     | 0 | 0     |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       | 1820  | 1871 | Buic | Rega  | 113558 | 32990 | 100 | 105062 | 34900 | 96 | 100 | 107213 | 35995 | 95 | 100 | 94833 | 37660 | 92   | 100  | 103725 | 38360 | 86 | 100   |       |    |    |       |       |    |    |       |       |    |    |
| 1903 | 1864 | Cad1 | Dev1 | 23636  | 33990 | 100 | 13491  | 35595 | 95 | 100 | 8346   | 36995 | 91 | 100 | 0      | 0     | 0  | 0   | 0      | 0     | 0  | 0   |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       | 0     | 0  | 0  | 0     | 0     | 0  | 0  | 0     |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     | 1904 | 1842 | Cad1 | Fltw | 23772  | 37690 | 100 | 24374  | 38220 | 95   | 100  | 19909  | 39595 | 95    | 100   | 19197  | 38660 | 92    | 100 | 17780  | 39160 | 86    | 100 |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     | 1905 | 1855  | Cad1  | Eldr | 41315  | 41430 | 100   | 35481  | 41935 | 96   | 100  | 33357 | 42995 | 95    | 100   | 37023 | 40660 | 92    | 100 | 27287 | 43160 | 86    | 100 |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     | 1914 | 1863  | Cad1  | Sev1 | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0   | 0      | 0     | 0     | 0   |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       | 0     | 0  | 0  |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     | 1917 | 6202  | Cad1  | Cat  | 87073 | 19153 | 100 | 55459 | 20310 | 92 | 100 | 60201 | 19905 | 92 | 100 | 0 | 0    | 0    | 0    | 0    | 0     | 0     | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0 |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   | 2002 | 1839 | Chev | Capr | 21835  | 36285 | 100 | 19500  | 36785 | 90 | 100 | 20645 | 37225 | 87 | 100 | 0 | 0    | 0    | 0    | 0    | 0     | 0     | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0  | 0    |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      | 2004   | 1851  | Chev | Corv | 0     | 0     | 0   | 0     | 0     | 0    | 0    | 0     | 0      | 0     | 0   | 0      | 0     | 0  | 0   | 0     | 0     | 0  | 0   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     | 2004 | 1872 | Chev | Corv | 119906 | 13499 | 100 | 121609 | 14495 | 91 | 100 | 60733 | 14990 | 86 | 100 | 54419 | 16740 | 91   | 100  | 47521 | 17150 | 86 | 100 |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     | 2009 | 1849 | Chev | Cama | 263607 | 8970  | 100 | 0     | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0 | 0 | 0 | 0 | 0 | 0    | 0    | 0    | 0    | 0    | 0     | 0 | 0     |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       | 2016  | 1848 | Chev | Cava  | 0      | 0     | 0   | 0      | 0     | 0  | 0   | 0      | 0     | 0  | 0   | 0     | 0     | 0    | 0    | 0      | 0     | 0  | 0     |       |    |    |       |       |    |    |       |       |    |    |
| 2016 | 1866 | Chev | Cava | 198808 | 12585 | 100 | 212971 | 13095 | 91 | 100 | 189385 | 13490 | 95 | 100 | 0      | 0     | 0  | 0   | 0      | 0     | 0  | 0   |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       | 0     | 0  | 0  | 0     | 0     | 0  | 0  | 0     |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     | 2019 | 1856 | Chev | CoBe | 82574  | 15305 | 100 | 241259 | 15760 | 90   | 100  | 222977 | 16355 | 95    | 100   | 233305 | 17495 | 91    | 100 | 184357 | 17945 | 86    | 100 |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     | 2020 | 1859  | Chev  | Lumi | 107461 | 11070 | 100   | 103537 | 11675 | 50   | 100  | 72797 | 12495 | 55    | 100   | 62536 | 13245 | 51    | 100 | 44568 | 12563 | 62    | 100 |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     | 2032 | 1830  | Chev  | GeoP | 92231 | 7295  | 100   | 75280 | 8085  | 45   | 100  | 83892 | 8380  | 50    | 100   | 64536 | 8920  | 50    | 100 | 31866  | 9095  | 50    | 100 |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     | 2032 | 1863  | Cad1  | Sev1 | 0     | 0     | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0 | 0    | 0    | 0    | 0    | 0     | 0     | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0 |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   | 2034 | 5304 | Chev | GeoM | 0      | 0     | 0   | 0      | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0 | 0    | 0    | 0    | 0    | 0     | 0     | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0  |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    | 2036 | 1859   | Chev  | MteC | 0    | 0     | 0     | 0   | 0     | 0     | 0    | 0    | 0     | 0      | 0     | 0   | 0      | 0     | 0  | 0   | 0     | 0     | 0  | 0   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       | 0     | 0  | 0  |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     | 2037 | 1868 | Chev | Mali | 0      | 0     | 0   | 0      | 0     | 0  | 0   | 0     | 0     | 0  | 0   | 0     | 0     | 0    | 0    | 0     | 0     | 0  | 0   |      |      |      |      |        |       |     |       |       |    |     |       |       |    |     |       |       |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |
|      |      |      |      |        |       |     |        |       |    |     |        |       |    |     |        |       |    |     |        |       |    |     |      |      |      |      |        |       |     |        |       |      |      |        |       |       |       |        |       |       |     |        |       |       |     |      |       |       |      |        |       |       |        |       |      |      |       |       |       |       |       |       |       |     |       |       |       |     |      |       |       |      |       |       |       |       |       |      |      |       |       |       |       |       |       |       |     |        |       |       |     |      |       |       |      |       |       |     |       |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |   |   |   |   |   |   |   |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |   |      |      |      |      |       |       |     |       |       |    |     |       |       |    |      |        |       |      |      |       |       |     |       |       |      |      |       |        |       |     |        |       |    |     |       |       |    |     |      |      |      |      |        |       |     |        |       |    |     |       |       |    |     |       |       |      |      |       |       |    |     | 2102 | 1852 | Olds | 88   | 74472  | 19420 | 100 | 70104 | 20815 | 95 | 100 | 53637 | 20405 | 95 | 100 | 65639 | 23200 |   |   |   |   |   |      |      |      |      |      |       |   |       |       |      |      |       |        |       |     |        |       |    |     |        |       |    |     |       |       |      |      |        |       |    |       |       |    |    |       |       |    |    |       |       |    |    |





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|      | M    | R         | P      | A      | U     | R   | P      | U     | A  | R   | P      | U     | A  | R   | P       | U     | A  | R   | P      | U     |    |     |
|------|------|-----------|--------|--------|-------|-----|--------|-------|----|-----|--------|-------|----|-----|---------|-------|----|-----|--------|-------|----|-----|
|      | M    | E         | L      | S      | S     | E   | L      | S     | S  | E   | L      | S     | S  | E   | L       | S     | S  | E   | L      | S     |    |     |
|      | N    | G         | O      | U      | C     | G   | O      | A     | A  | G   | O      | A     | A  | G   | O       | A     | A  | G   | O      | A     |    |     |
|      | A    | S         | W      | C      | N     | S   | W      | N     | C  | S   | W      | N     | C  | S   | W       | N     | C  | S   | W      | N     |    |     |
| M    | M    | S         | 9      | 9      | 9     | 9   | 9      | 9     | 9  | 9   | 9      | 9     | 9  | 9   | 9       | 9     | 9  | 9   | 9      | 9     |    |     |
| M    | M    | 4         | 4      | 4      | 5     | 5   | 5      | 5     | 5  | 6   | 6      | 6     | 6  | 7   | 7       | 7     | 7  | 8   | 8      | 8     |    |     |
| 2    | G    | 4         | 4      | 4      | 5     | 5   | 5      | 5     | 5  | 6   | 6      | 6     | 6  | 7   | 7       | 7     | 7  | 8   | 8      | 8     |    |     |
| 7302 | 7119 | Chry T&C  | 0      | 591355 | 12348 | 0   | 668480 | 13287 | 90 | 100 | 105423 | 24600 | 89 | 100 | 78502   | 27260 | 82 | 100 | 62452  | 27260 | 81 | 100 |
| 7403 | 7402 | Ford Fser | 0      | 591355 | 12348 | 0   | 668480 | 13287 | 90 | 100 | 478801 | 14150 | 90 | 100 | 0       | 0     | 0  | 0   | 499970 | 15475 | 95 | 98  |
| 7403 | 7424 | Ford Fser | 0      | 591355 | 12348 | 0   | 668480 | 13287 | 90 | 100 | 478801 | 14150 | 90 | 100 | 1031960 | 15145 | 90 | 98  | 499970 | 15475 | 95 | 98  |
| 7417 | 7407 | Ford Brnc | 32249  | 32249  | 21725 | 100 | 36705  | 21985 | 95 | 100 | 33444  | 22840 | 95 | 100 | 0       | 0     | 0  | 0   | 0      | 0     | 0  | 0   |
| 7429 | 7411 | Ford Aero | 132933 | 132933 | 15150 | 100 | 109275 | 16725 | 85 | 100 | 59782  | 16725 | 85 | 100 | 53466   | 17815 | 80 | 100 | 0      | 0     | 0  | 0   |
| 7442 | 7414 | Ford Expl | 362083 | 362083 | 17470 | 100 | 259271 | 18985 | 80 | 100 | 0      | 0     | 0  | 0   | 0       | 0     | 0  | 0   | 0      | 0     | 0  | 0   |
| 7442 | 7420 | Ford Expl | 0      | 198034 | 16348 | 100 | 205047 | 17085 | 90 | 100 | 420403 | 19570 | 75 | 100 | 401046  | 20610 | 75 | 100 | 444656 | 20405 | 80 | 100 |
| 7444 | 7415 | Ford Econ | 198034 | 198034 | 16348 | 100 | 205047 | 17085 | 90 | 100 | 145794 | 17640 | 95 | 100 | 160253  | 19370 | 90 | 100 | 152703 | 19885 | 90 | 100 |
| 7452 | 7416 | Ford Rang | 448881 | 448881 | 9449  | 100 | 217175 | 10224 | 80 | 100 | 281707 | 10425 | 85 | 100 | 296485  | 11480 | 80 | 100 | 295522 | 11995 | 80 | 100 |
| 7456 | 7419 | Ford Wind | 0      | 132700 | 16525 | 100 | 321897 | 17745 | 95 | 100 | 232360 | 18270 | 90 | 100 | 37530   | 19665 | 90 | 100 | 337106 | 18790 | 90 | 100 |
| 7466 | 7423 | Ford Expd | 0      | 54007  | 18375 | 100 | 87628  | 19045 | 70 | 100 | 57337  | 19385 | 70 | 100 | 201171  | 28160 | 85 | 100 | 237205 | 28865 | 95 | 100 |
| 7501 | 7418 | Merc Vill | 54007  | 54007  | 18375 | 100 | 87628  | 19045 | 70 | 100 | 57337  | 19385 | 70 | 100 | 61523   | 20540 | 60 | 100 | 37184  | 21030 | 60 | 100 |
| 7503 | 7420 | Merc Mtnr | 0      | 244063 | 9655  | 100 | 244718 | 10520 | 95 | 100 | 206481 | 11270 | 92 | 100 | 65192   | 27765 | 90 | 100 | 50447  | 27255 | 90 | 100 |
| 7601 | 7613 | Chev STPU | 244063 | 244063 | 9655  | 100 | 244718 | 10520 | 95 | 100 | 206481 | 11270 | 92 | 100 | 179418  | 12113 | 90 | 100 | 247140 | 12508 | 90 | 100 |
| 7609 | 7604 | Chev STB1 | 156955 | 156955 | 16931 | 100 | 220363 | 18470 | 95 | 100 | 253866 | 19444 | 91 | 100 | 211103  | 21031 | 91 | 100 | 240606 | 22178 | 90 | 100 |
| 7616 | 7608 | Chev Astr | 132700 | 132700 | 16525 | 100 | 153088 | 17885 | 95 | 100 | 82104  | 19176 | 95 | 100 | 116664  | 19639 | 95 | 100 | 98778  | 19925 | 90 | 100 |
| 7618 | 7609 | Chev GVan | 81464  | 81464  | 15905 | 100 | 142813 | 16908 | 95 | 100 | 0      | 0     | 0  | 0   | 0       | 0     | 0  | 0   | 0      | 0     | 0  | 0   |
| 7618 | 7626 | Chev GVan | 0      | 593893 | 12354 | 100 | 537465 | 13437 | 95 | 100 | 44844  | 18639 | 95 | 100 | 62392   | 19687 | 95 | 100 | 61391  | 20127 | 90 | 100 |
| 7631 | 7615 | Chev CKPU | 593893 | 593893 | 12354 | 100 | 537465 | 13437 | 95 | 100 | 425437 | 14016 | 95 | 100 | 500190  | 15157 | 92 | 100 | 519238 | 15655 | 90 | 100 |
| 7643 | 8702 | Chev GeOT | 47596  | 47596  | 11015 | 100 | 51253  | 11920 | 40 | 100 | 53731  | 12970 | 40 | 100 | 24258   | 13755 | 40 | 100 | 20513  | 13995 | 40 | 100 |
| 7652 | 7619 | Chev APV  | 47605  | 47605  | 15685 | 100 | 58705  | 16235 | 92 | 100 | 23461  | 17870 | 95 | 100 | 0       | 0     | 0  | 0   | 0      | 0     | 0  | 0   |
| 7662 | 7623 | Chev Taho | 26802  | 26802  | 21330 | 100 | 82207  | 22030 | 95 | 88  | 99096  | 22886 | 95 | 80  | 113711  | 24147 | 90 | 90  | 72088  | 24540 | 86 | 89  |
| 7663 | 7624 | Chev Subu | 98232  | 98232  | 20406 | 100 | 93244  | 21887 | 95 | 92  | 76042  | 24027 | 95 | 60  | 94041   | 25323 | 95 | 47  | 51951  | 26320 | 85 | 40  |
| 7679 | 7630 | Chev Vent | 0      | 53232  | 9806  | 100 | 59166  | 10540 | 95 | 100 | 50188  | 11290 | 92 | 100 | 71469   | 20495 | 95 | 100 | 91652  | 20739 | 75 | 100 |
| 7701 | 7613 | GMC STPU  | 53232  | 53232  | 9806  | 100 | 59166  | 10540 | 95 | 100 | 50188  | 11290 | 92 | 100 | 38491   | 12127 | 90 | 100 | 58943  | 12522 | 90 | 100 |
| 7709 | 7604 | GMC STJm  | 59089  | 59089  | 15842 | 100 | 71494  | 18599 | 95 | 100 | 82696  | 19573 | 91 | 100 | 73189   | 21154 | 91 | 100 | 78915  | 22301 | 90 | 100 |
| 7716 | 7608 | GMC Safa  | 44361  | 44361  | 15661 | 100 | 51082  | 17662 | 95 | 100 | 28050  | 18405 | 95 | 100 | 39277   | 19703 | 95 | 100 | 30112  | 19989 | 90 | 100 |
| 7718 | 7609 | GMC GVan  | 29204  | 29204  | 16006 | 100 | 49060  | 16978 | 95 | 100 | 0      | 0     | 0  | 0   | 0       | 0     | 0  | 0   | 0      | 0     | 0  | 0   |
| 7718 | 7626 | GMC Sava  | 0      | 194120 | 12424 | 100 | 180158 | 13507 | 95 | 100 | 18871  | 18709 | 95 | 100 | 27746   | 19751 | 95 | 100 | 29726  | 20191 | 90 | 100 |
| 7731 | 7615 | GMC CKPU  | 194120 | 194120 | 12424 | 100 | 180158 | 13507 | 95 | 100 | 141519 | 14086 | 95 | 100 | 163700  | 15227 | 90 | 100 | 160567 | 15722 | 90 | 100 |
| 7762 | 7623 | GMC CKYu  | 9963   | 9963   | 21400 | 100 | 30315  | 22100 | 95 | 88  | 29855  | 22886 | 95 | 89  | 36750   | 24211 | 90 | 93  | 22231  | 30559 | 86 | 95  |
| 7763 | 7624 | GMC Subu  | 36836  | 36836  | 20476 | 100 | 35270  | 21957 | 95 | 94  | 35368  | 24027 | 95 | 65  | 40811   | 25387 | 95 | 49  | 23965  | 26294 | 85 | 33  |
| 7801 | 7619 | Olds Slho | 14861  | 14861  | 19665 | 100 | 17278  | 20660 | 92 | 100 | 6091   | 21355 | 95 | 100 | 0       | 0     | 0  | 0   | 0      | 0     | 0  | 0   |
| 7801 | 7630 | Olds Slho | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 20809   | 22245 | 95 | 100 | 35532  | 24635 | 75 | 100 |
| 7802 | 7621 | Olds Brav | 17620  | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
| 7901 | 7619 | Pont Trnt | 34354  | 34354  | 17469 | 100 | 42818  | 17889 | 92 | 100 | 16283  | 19394 | 95 | 100 | 0       | 0     | 0  | 0   | 0      | 0     | 0  | 0   |
| 7901 | 7630 | Pont Trnt | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           | 0      | 17620  | 24820 | 100 | 0      | 0     | 0  | 0   | 12465  | 29505 | 91 | 100 | 27628   | 30900 | 91 | 100 | 31026  | 31230 | 90 | 100 |
|      |      |           |        |        |       |     |        |       |    |     |        |       |    |     |         |       |    |     |        |       |    |     |



ASUCOB  
USCANOB

## APPENDIX B: LISTING OF THE DATA FILE FOR THE REGRESSION ANALYSES

|          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MMG      | = | make-model group                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| NAME_PLT | = | nameplate: Big 3, transplant or import                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| VEH_TYP  | = | vehicle type: passenger car, pickup truck, van or SUV                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CURR_YR  | = | current model year: 1995, 1996, 1997 or 1998                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| SALES_CY | = | "model year" sales for this make-model group in the current model year (all vehicles sold between October 1 of the preceding year and September 30 of this year, regardless of their production-model-year)                                                                                                                                                                                                                                                                      |
| SALES_PY | = | sales for this make-model group in the model year immediately preceding the current model year                                                                                                                                                                                                                                                                                                                                                                                   |
| SALES_2Y | = | SALES_CY + SALES_PY (regression case-weight factor)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| D_SALES  | = | $\log(\text{SALES\_CY} / \text{SALES\_PY})$ , the dependent variable (sales growth from the preceding to the current model year)                                                                                                                                                                                                                                                                                                                                                 |
| PRICE_CY | = | average of the base retail (sticker) prices of the make-models in this make-model group, in the current model year                                                                                                                                                                                                                                                                                                                                                               |
| PRICE_PY | = | average of the base retail (sticker) prices of the make-models in this make-model group, in the model year preceding the current model year                                                                                                                                                                                                                                                                                                                                      |
| D_PRICE  | = | $\log(\text{PRICE\_CY} / \text{PRICE\_PY})$ , price growth from the preceding to the current model year                                                                                                                                                                                                                                                                                                                                                                          |
| USCAN_CY | = | average % U.S./Canadian parts content of the make-models in this make-model group, as reported on the AALA labels, in the current model year                                                                                                                                                                                                                                                                                                                                     |
| USCAN_PY | = | average % U.S./Canadian parts content of the make-models in this make-model group, as reported on the AALA labels, in the model year preceding the current model year (unknown if CURR_YR = 1995, since there were no AALA labels in 1994)                                                                                                                                                                                                                                       |
| D_USCAN  | = | $.01 [\text{USCAN\_CY} - \text{USCAN\_PY}]$ if CURR_YR = 1996, 1997 or 1998<br>$.01 [\text{USCAN\_CY} - 90.09]$ for Big 3 vehicles if CURR_YR = 1995<br>$.01 [\text{USCAN\_CY} - 48.39]$ for transplants if CURR_YR = 1995<br>$.01 [\text{USCAN\_CY} - 4.69]$ for imports if CURR_YR = 1995<br>= growth in U.S./Canadian parts content from the preceding to the current model year - or, in 1995, deviation of actual parts content from the average for a vehicle of this type |

| M<br>M<br>G           | N<br>A<br>M<br>E<br>-<br>P<br>L<br>T | V<br>E<br>H<br>I<br>C<br>L<br>E<br>-<br>T<br>Y<br>P<br>E | C<br>U<br>R<br>R<br>E<br>N<br>T<br>Y<br>E<br>A<br>R | C<br>H<br>A<br>N<br>G<br>E<br>-<br>M<br>O<br>D<br>E<br>L | S<br>A<br>L<br>E<br>-<br>C<br>Y<br>C<br>L<br>E | S<br>A<br>L<br>E<br>-<br>P<br>R<br>I<br>C<br>E | S<br>A<br>L<br>E<br>-<br>2<br>Y<br>E<br>A<br>R | D<br>I<br>S<br>C<br>O<br>N<br>T<br>R<br>A<br>C<br>T<br>P<br>R<br>I<br>C<br>E | P<br>R<br>I<br>C<br>E<br>-<br>C<br>Y<br>C<br>L<br>E | P<br>R<br>I<br>C<br>E<br>-<br>P<br>R<br>I<br>C<br>E | D<br>I<br>S<br>C<br>O<br>N<br>T<br>R<br>A<br>C<br>T<br>P<br>R<br>I<br>C<br>E | U<br>S<br>C<br>A<br>N<br>I<br>A<br>N | U<br>S<br>C<br>A<br>N<br>I<br>A<br>N | D<br>I<br>S<br>C<br>O<br>N<br>T<br>R<br>A<br>C<br>T<br>P<br>R<br>I<br>C<br>E |
|-----------------------|--------------------------------------|----------------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|------------------------------------------------------------------------------|
| CHRYSLER LeBARON      | BIG 3                                | CAR                                                      | 1995                                                | LAST YR IT EXIST                                         | 34792                                          | 38416                                          | 73208                                          | -0.099                                                                       | 17469                                               | 16551                                               | 0.054                                                                        | 84.0                                 | .                                    | -0.061                                                                       |
| CONCORDE/LHS          | BIG 3                                | CAR                                                      | 1995                                                | NO CHANGE                                                | 105741                                         | 137106                                         | 242847                                         | -0.260                                                                       | 23043                                               | 22939                                               | 0.005                                                                        | 94.0                                 | .                                    | 0.039                                                                        |
| CONCORDE/LHS          | BIG 3                                | CAR                                                      | 1996                                                | NO CHANGE                                                | 89154                                          | 105741                                         | 194895                                         | -0.171                                                                       | 22739                                               | 23043                                               | -0.013                                                                       | 90.3                                 | 94.0                                 | -0.037                                                                       |
| CONCORDE/LHS          | BIG 3                                | CAR                                                      | 1997                                                | NO CHANGE                                                | 83672                                          | 89154                                          | 172826                                         | -0.063                                                                       | 25326                                               | 22739                                               | 0.108                                                                        | 87.0                                 | 90.3                                 | -0.033                                                                       |
| CONCORDE/LHS          | BIG 3                                | CAR                                                      | 1998                                                | ONE NAME DROPPED                                         | 52261                                          | 83672                                          | 135933                                         | -0.471                                                                       | 21855                                               | 25326                                               | -0.147                                                                       | 85.0                                 | 87.0                                 | -0.020                                                                       |
| SEBRING/AVENGER       | BIG 3                                | CAR                                                      | 1996                                                | 2ND YR IT EXIST                                          | 68872                                          | 51198                                          | 120070                                         | 0.297                                                                        | 15157                                               | 14086                                               | 0.073                                                                        | 71.1                                 | 71.3                                 | -0.002                                                                       |
| SEBRING/AVENGER       | BIG 3                                | CAR                                                      | 1997                                                | NO CHANGE                                                | 65520                                          | 68872                                          | 134392                                         | -0.050                                                                       | 16147                                               | 15157                                               | 0.063                                                                        | 61.0                                 | 71.1                                 | -0.101                                                                       |
| SEBRING/AVENGER       | BIG 3                                | CAR                                                      | 1998                                                | NO CHANGE                                                | 60428                                          | 65520                                          | 125948                                         | -0.081                                                                       | 16732                                               | 16147                                               | 0.036                                                                        | 69.3                                 | 61.0                                 | 0.083                                                                        |
| SEBRING CONVERTIBLE   | BIG 3                                | CAR                                                      | 1997                                                | 2ND YR IT EXIST                                          | 55594                                          | 45395                                          | 100989                                         | 0.203                                                                        | 20685                                               | 19460                                               | 0.061                                                                        | 45.0                                 | 50.0                                 | -0.050                                                                       |
| SEBRING CONVERTIBLE   | BIG 3                                | CAR                                                      | 1998                                                | NO CHANGE                                                | 51286                                          | 55594                                          | 106880                                         | -0.081                                                                       | 21110                                               | 20685                                               | 0.020                                                                        | 40.0                                 | 45.0                                 | -0.050                                                                       |
| CIRRUS/STRATUS/BREEZE | BIG 3                                | CAR                                                      | 1996                                                | ADDL NAME INTROD                                         | 187143                                         | 115542                                         | 302685                                         | 0.482                                                                        | 15030                                               | 15840                                               | -0.053                                                                       | 79.2                                 | 80.8                                 | -0.016                                                                       |
| CIRRUS/STRATUS/BREEZE | BIG 3                                | CAR                                                      | 1997                                                | NO CHANGE                                                | 192501                                         | 187143                                         | 379644                                         | 0.028                                                                        | 15935                                               | 15030                                               | 0.059                                                                        | 78.5                                 | 79.2                                 | -0.006                                                                       |
| CIRRUS/STRATUS/BREEZE | BIG 3                                | CAR                                                      | 1998                                                | NO CHANGE                                                | 221703                                         | 192501                                         | 414204                                         | 0.141                                                                        | 16156                                               | 15935                                               | 0.014                                                                        | 76.4                                 | 78.5                                 | -0.021                                                                       |
| SPIRIT/ACCLAIM        | BIG 3                                | CAR                                                      | 1995                                                | LAST YR IT EXIST                                         | 43711                                          | 133656                                         | 177367                                         | -1.118                                                                       | 14323                                               | 13649                                               | 0.048                                                                        | 76.0                                 | .                                    | -0.141                                                                       |
| NEON                  | BIG 3                                | CAR                                                      | 1996                                                | 2ND YR IT EXIST                                          | 248226                                         | 239153                                         | 487379                                         | 0.037                                                                        | 9495                                                | 9500                                                | -0.001                                                                       | 80.0                                 | 92.0                                 | -0.120                                                                       |
| NEON                  | BIG 3                                | CAR                                                      | 1997                                                | NO CHANGE                                                | 201092                                         | 248226                                         | 449318                                         | -0.211                                                                       | 11300                                               | 9495                                                | 0.174                                                                        | 75.7                                 | 80.0                                 | -0.043                                                                       |
| NEON                  | BIG 3                                | CAR                                                      | 1998                                                | NO CHANGE                                                | 210792                                         | 201092                                         | 411884                                         | 0.047                                                                        | 11600                                               | 11300                                               | 0.026                                                                        | 71.0                                 | 75.7                                 | -0.047                                                                       |
| INTREPID/VISION       | BIG 3                                | CAR                                                      | 1995                                                | NO CHANGE                                                | 173974                                         | 147235                                         | 321209                                         | 0.167                                                                        | 18238                                               | 17985                                               | 0.014                                                                        | 94.0                                 | .                                    | 0.039                                                                        |
| INTREPID/VISION       | BIG 3                                | CAR                                                      | 1996                                                | NO CHANGE                                                | 158443                                         | 173974                                         | 332417                                         | -0.094                                                                       | 18515                                               | 18238                                               | 0.015                                                                        | 89.1                                 | 94.0                                 | -0.049                                                                       |
| INTREPID/VISION       | BIG 3                                | CAR                                                      | 1997                                                | NO CHANGE                                                | 143566                                         | 158443                                         | 302009                                         | -0.099                                                                       | 20033                                               | 18515                                               | 0.079                                                                        | 88.0                                 | 89.1                                 | -0.011                                                                       |
| INTREPID/VISION       | BIG 3                                | CAR                                                      | 1998                                                | ONE NAME DROPPED                                         | 88679                                          | 143566                                         | 232245                                         | -0.482                                                                       | 20235                                               | 20033                                               | 0.010                                                                        | 86.0                                 | 88.0                                 | -0.020                                                                       |
| MUSTANG               | BIG 3                                | CAR                                                      | 1995                                                | 2ND YR AFT REDES                                         | 138867                                         | 147744                                         | 286611                                         | -0.062                                                                       | 14530                                               | 13365                                               | 0.084                                                                        | 90.0                                 | .                                    | -0.001                                                                       |
| MUSTANG               | BIG 3                                | CAR                                                      | 1996                                                | NO CHANGE                                                | 129718                                         | 138867                                         | 268585                                         | -0.068                                                                       | 15180                                               | 14530                                               | 0.044                                                                        | 90.0                                 | 90.0                                 | 0.000                                                                        |
| MUSTANG               | BIG 3                                | CAR                                                      | 1997                                                | NO CHANGE                                                | 112311                                         | 129718                                         | 242029                                         | -0.144                                                                       | 15880                                               | 15180                                               | 0.045                                                                        | 80.0                                 | 90.0                                 | -0.100                                                                       |
| MUSTANG               | BIG 3                                | CAR                                                      | 1998                                                | NO CHANGE                                                | 136488                                         | 112311                                         | 248799                                         | 0.195                                                                        | 16675                                               | 15880                                               | 0.049                                                                        | 90.0                                 | 80.0                                 | 0.100                                                                        |
| T-BIRD/COUGAR         | BIG 3                                | CAR                                                      | 1995                                                | COMPETITOR INTRO                                         | 175276                                         | 211845                                         | 387121                                         | -0.189                                                                       | 17214                                               | 16714                                               | 0.029                                                                        | 90.0                                 | .                                    | -0.001                                                                       |
| T-BIRD/COUGAR         | BIG 3                                | CAR                                                      | 1996                                                | NO CHANGE                                                | 121347                                         | 175276                                         | 296623                                         | -0.368                                                                       | 17468                                               | 17214                                               | 0.015                                                                        | 90.0                                 | 90.0                                 | 0.000                                                                        |
| T-BIRD/COUGAR         | BIG 3                                | CAR                                                      | 1997                                                | LAST YR IT EXIST                                         | 107558                                         | 121347                                         | 228905                                         | -0.121                                                                       | 18378                                               | 17468                                               | 0.051                                                                        | 80.0                                 | 90.0                                 | -0.100                                                                       |
| ESCORT/TRACER         | BIG 3                                | CAR                                                      | 1995                                                | NO CHANGE                                                | 359138                                         | 380211                                         | 739349                                         | -0.057                                                                       | 9952                                                | 9306                                                | 0.067                                                                        | 79.2                                 | .                                    | -0.109                                                                       |
| ESCORT/TRACER         | BIG 3                                | CAR                                                      | 1996                                                | NO CHANGE                                                | 342996                                         | 359138                                         | 702134                                         | -0.046                                                                       | 10312                                               | 9952                                                | 0.035                                                                        | 83.5                                 | 79.2                                 | 0.043                                                                        |
| ESCORT/TRACER         | BIG 3                                | CAR                                                      | 1997                                                | NO CHANGE                                                | 326187                                         | 342996                                         | 669183                                         | -0.050                                                                       | 11448                                               | 10312                                               | 0.105                                                                        | 80.0                                 | 83.5                                 | -0.035                                                                       |
| ESCORT/TRACER         | BIG 3                                | CAR                                                      | 1998                                                | NO CHANGE                                                | 331673                                         | 326187                                         | 657860                                         | 0.017                                                                        | 11853                                               | 11448                                               | 0.035                                                                        | 71.1                                 | 80.0                                 | -0.089                                                                       |
| CROWN VIC/GR MARQUIS  | BIG 3                                | CAR                                                      | 1995                                                | NO CHANGE                                                | 189259                                         | 197113                                         | 386372                                         | -0.041                                                                       | 20704                                               | 19815                                               | 0.044                                                                        | 80.0                                 | .                                    | -0.101                                                                       |
| CROWN VIC/GR MARQUIS  | BIG 3                                | CAR                                                      | 1996                                                | NO CHANGE                                                | 204406                                         | 189259                                         | 393665                                         | 0.077                                                                        | 21445                                               | 20704                                               | 0.035                                                                        | 85.0                                 | 80.0                                 | 0.050                                                                        |
| CROWN VIC/GR MARQUIS  | BIG 3                                | CAR                                                      | 1997                                                | NO CHANGE                                                | 216291                                         | 204406                                         | 420697                                         | 0.057                                                                        | 22632                                               | 21445                                               | 0.054                                                                        | 80.0                                 | 85.0                                 | -0.050                                                                       |
| CROWN VIC/GR MARQUIS  | BIG 3                                | CAR                                                      | 1998                                                | NO CHANGE                                                | 222260                                         | 216291                                         | 438551                                         | 0.027                                                                        | 22228                                               | 22632                                               | -0.018                                                                       | 85.0                                 | 80.0                                 | 0.050                                                                        |

|                          | N<br>A<br>M<br>E<br>-<br>P<br>L<br>T | V<br>E<br>H<br>I<br>C<br>L<br>E<br>-<br>T<br>Y<br>P<br>E | C<br>U<br>R<br>R<br>E<br>N<br>T<br>Y<br>R | H<br>G<br>R<br>A<br>D<br>E<br>-<br>M<br>O<br>D<br>E<br>L | S<br>A<br>L<br>E<br>S<br>-<br>C<br>Y | S<br>A<br>L<br>E<br>S<br>-<br>P<br>Y | S<br>A<br>L<br>E<br>S<br>-<br>Y | D<br>I<br>S<br>C<br>A<br>L<br>T<br>S | P<br>R<br>I<br>C<br>E<br>-<br>Y | P<br>R<br>I<br>C<br>E<br>-<br>Y | D<br>I<br>S<br>C<br>A<br>L<br>T<br>S | U<br>S<br>C<br>A<br>N<br>-<br>Y | U<br>S<br>C<br>A<br>N<br>-<br>Y | D<br>I<br>S<br>C<br>A<br>N<br>-<br>Y |
|--------------------------|--------------------------------------|----------------------------------------------------------|-------------------------------------------|----------------------------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|--------------------------------------|---------------------------------|---------------------------------|--------------------------------------|---------------------------------|---------------------------------|--------------------------------------|
| TAURUS/SABLE             | BIG 3                                | CAR                                                      | 1995                                      | LAST YR BF REDES                                         | 503503                               | 491889                               | 995392                          | 0.023                                | 17716                           | 16601                           | 0.065                                | 90.0                            | .                               | -0.001                               |
| TAURUS/SABLE             | BIG 3                                | CAR                                                      | 1996                                      | REDES SAME NAME                                          | 495076                               | 503503                               | 998579                          | -0.017                               | 18231                           | 17716                           | 0.029                                | 85.0                            | 90.0                            | -0.050                               |
| TAURUS/SABLE             | BIG 3                                | CAR                                                      | 1997                                      | 2ND YR AFT REDES                                         | 477469                               | 495076                               | 972545                          | -0.036                               | 18904                           | 18231                           | 0.036                                | 85.0                            | 85.0                            | 0.000                                |
| TAURUS/SABLE             | BIG 3                                | CAR                                                      | 1998                                      | NO CHANGE                                                | 481823                               | 477469                               | 959292                          | 0.009                                | 19225                           | 18904                           | 0.017                                | 86.1                            | 85.0                            | 0.011                                |
| FORD PROBE               | BIG 3                                | CAR                                                      | 1996                                      | NO CHANGE                                                | 35457                                | 63513                                | 98970                           | -0.583                               | 13930                           | 14180                           | -0.018                               | 60.0                            | 65.0                            | -0.050                               |
| FORD PROBE               | BIG 3                                | CAR                                                      | 1997                                      | LAST YR IT EXIST                                         | 20922                                | 35457                                | 56379                           | -0.528                               | 14755                           | 13930                           | 0.058                                | 65.0                            | 60.0                            | 0.050                                |
| CONTOUR/MYSTIQUE         | BIG 3                                | CAR                                                      | 1996                                      | 2ND YR IT EXIST                                          | 242645                               | 209436                               | 452081                          | 0.147                                | 13915                           | 13456                           | 0.034                                | 80.0                            | 80.0                            | 0.000                                |
| CONTOUR/MYSTIQUE         | BIG 3                                | CAR                                                      | 1997                                      | NO CHANGE                                                | 196883                               | 242645                               | 439528                          | -0.209                               | 14106                           | 13915                           | 0.014                                | 75.0                            | 80.0                            | -0.050                               |
| CONTOUR/MYSTIQUE         | BIG 3                                | CAR                                                      | 1998                                      | NO CHANGE                                                | 184103                               | 196883                               | 380986                          | -0.067                               | 15412                           | 14106                           | 0.089                                | 75.0                            | 75.0                            | 0.000                                |
| FORD ASPIRE              | BIG 3                                | CAR                                                      | 1996                                      | NO CHANGE                                                | 40849                                | 60212                                | 101061                          | -0.388                               | 8790                            | 8440                            | 0.041                                | 5.0                             | 5.0                             | 0.000                                |
| FORD ASPIRE              | BIG 3                                | CAR                                                      | 1997                                      | LAST YR IT EXIST                                         | 34922                                | 40849                                | 75771                           | -0.157                               | 9530                            | 8790                            | 0.081                                | 5.0                             | 5.0                             | 0.000                                |
| LINCOLN TOWN CAR         | BIG 3                                | CAR                                                      | 1995                                      | NO CHANGE                                                | 103045                               | 118300                               | 221345                          | -0.138                               | 36400                           | 34750                           | 0.046                                | 90.0                            | .                               | -0.001                               |
| LINCOLN TOWN CAR         | BIG 3                                | CAR                                                      | 1996                                      | NO CHANGE                                                | 88451                                | 103045                               | 191496                          | -0.153                               | 36910                           | 36400                           | 0.014                                | 90.0                            | 90.0                            | 0.000                                |
| LINCOLN TOWN CAR         | BIG 3                                | CAR                                                      | 1997                                      | NO CHANGE                                                | 94565                                | 88451                                | 183016                          | 0.067                                | 37950                           | 36910                           | 0.028                                | 80.0                            | 90.0                            | -0.100                               |
| LINCOLN TOWN CAR         | BIG 3                                | CAR                                                      | 1998                                      | NO CHANGE                                                | 98346                                | 94565                                | 192911                          | 0.039                                | 38700                           | 37950                           | 0.020                                | 85.0                            | 80.0                            | 0.050                                |
| LINCOLN CONTINENTAL      | BIG 3                                | CAR                                                      | 1995                                      | NO CHANGE                                                | 40337                                | 29333                                | 69670                           | 0.319                                | 40750                           | 33750                           | 0.188                                | 90.0                            | .                               | -0.001                               |
| LINCOLN CONTINENTAL      | BIG 3                                | CAR                                                      | 1996                                      | NO CHANGE                                                | 36054                                | 40337                                | 76391                           | -0.112                               | 41800                           | 40750                           | 0.025                                | 95.0                            | 90.0                            | 0.050                                |
| LINCOLN CONTINENTAL      | BIG 3                                | CAR                                                      | 1997                                      | NO CHANGE                                                | 27702                                | 36054                                | 63756                           | -0.264                               | 37950                           | 41800                           | -0.097                               | 80.0                            | 95.0                            | -0.150                               |
| LINCOLN CONTINENTAL      | BIG 3                                | CAR                                                      | 1998                                      | NO CHANGE                                                | 35748                                | 27702                                | 63450                           | 0.255                                | 38600                           | 37950                           | 0.017                                | 90.0                            | 80.0                            | 0.100                                |
| LeSABRE/88/BONNEVILLE    | BIG 3                                | CAR                                                      | 1995                                      | NO CHANGE                                                | 286857                               | 324363                               | 611220                          | -0.123                               | 20767                           | 20498                           | 0.013                                | 95.0                            | .                               | 0.049                                |
| LeSABRE/88/BONNEVILLE    | BIG 3                                | CAR                                                      | 1996                                      | NO CHANGE                                                | 275640                               | 286857                               | 562497                          | -0.040                               | 21224                           | 20767                           | 0.022                                | 95.0                            | 95.0                            | 0.000                                |
| LeSABRE/88/BONNEVILLE    | BIG 3                                | CAR                                                      | 1997                                      | NO CHANGE                                                | 290750                               | 275640                               | 566390                          | 0.053                                | 22810                           | 21224                           | 0.072                                | 95.0                            | 95.0                            | 0.000                                |
| LeSABRE/88/BONNEVILLE    | BIG 3                                | CAR                                                      | 1998                                      | NO CHANGE                                                | 263611                               | 290750                               | 554361                          | -0.098                               | 23170                           | 22810                           | 0.016                                | 86.0                            | 95.0                            | -0.090                               |
| PARK AVE/98              | BIG 3                                | CAR                                                      | 1995                                      | NO CHANGE                                                | 74403                                | 89955                                | 164358                          | -0.190                               | 27049                           | 26436                           | 0.023                                | 95.0                            | .                               | 0.049                                |
| PARK AVE/98              | BIG 3                                | CAR                                                      | 1996                                      | NO CHANGE                                                | 61354                                | 74403                                | 135757                          | -0.193                               | 28194                           | 27049                           | 0.041                                | 95.0                            | 95.0                            | 0.000                                |
| PARK AVE/98              | BIG 3                                | CAR                                                      | 1997                                      | LAST YR BF REDES                                         | 65046                                | 61354                                | 126400                          | 0.058                                | 30660                           | 28194                           | 0.084                                | 95.0                            | 95.0                            | 0.000                                |
| PARK AVE/98              | BIG 3                                | CAR                                                      | 1998                                      | REDES SAME NAME                                          | 60330                                | 65046                                | 125376                          | -0.075                               | 31340                           | 30660                           | 0.022                                | 90.0                            | 95.0                            | -0.050                               |
| CAPRICE/ROADMASTER       | BIG 3                                | CAR                                                      | 1995                                      | NO CHANGE                                                | 106396                               | 131305                               | 237701                          | -0.210                               | 21386                           | 20491                           | 0.043                                | 92.0                            | .                               | 0.019                                |
| CAPRICE/ROADMASTER       | BIG 3                                | CAR                                                      | 1996                                      | LAST YR IT EXIST                                         | 72358                                | 106396                               | 178754                          | -0.386                               | 21467                           | 21386                           | 0.004                                | 92.0                            | 92.0                            | 0.000                                |
| BUICK CENTURY            | BIG 3                                | CAR                                                      | 1995                                      | NO CHANGE                                                | 98421                                | 138634                               | 237055                          | -0.343                               | 15815                           | 15800                           | 0.001                                | 85.0                            | .                               | -0.051                               |
| BUICK CENTURY            | BIG 3                                | CAR                                                      | 1996                                      | LAST YR BF REDES                                         | 87322                                | 98421                                | 185743                          | -0.120                               | 16720                           | 15815                           | 0.056                                | 82.0                            | 85.0                            | -0.030                               |
| BUICK CENTURY            | BIG 3                                | CAR                                                      | 1997                                      | REDES SAME NAME                                          | 71107                                | 87322                                | 158429                          | -0.205                               | 18425                           | 16720                           | 0.097                                | 91.0                            | 82.0                            | 0.090                                |
| BUICK CENTURY            | BIG 3                                | CAR                                                      | 1998                                      | 2ND YR AFT REDES                                         | 122655                               | 71107                                | 193762                          | 0.545                                | 18965                           | 18425                           | 0.029                                | 86.0                            | 91.0                            | -0.050                               |
| GRAND AM/SKYLARK/ACHIEVA | BIG 3                                | CAR                                                      | 1995                                      | NO CHANGE                                                | 341077                               | 363540                               | 704617                          | -0.064                               | 13365                           | 12880                           | 0.037                                | 91.0                            | .                               | 0.009                                |
| GRAND AM/SKYLARK/ACHIEVA | BIG 3                                | CAR                                                      | 1996                                      | NO CHANGE                                                | 307269                               | 341077                               | 648346                          | -0.104                               | 13782                           | 13365                           | 0.031                                | 92.0                            | 91.0                            | 0.010                                |
| GRAND AM/SKYLARK/ACHIEVA | BIG 3                                | CAR                                                      | 1997                                      | NO CHANGE                                                | 335576                               | 307269                               | 642845                          | 0.088                                | 15584                           | 13782                           | 0.123                                | 90.0                            | 92.0                            | -0.020                               |

| M<br>M<br>G              | N     |     | C    |                  | S      | S      | S      |        | P     | P     |        | U    | U    |        |
|--------------------------|-------|-----|------|------------------|--------|--------|--------|--------|-------|-------|--------|------|------|--------|
|                          | A     | V   | C    | H                | A      | A      | A      | D      | R     | R     | D      | S    | S    | D      |
|                          | M     | E   | U    | G                | L      | L      | L      | _      | I     | I     | _      | C    | C    | _      |
|                          | E     | H   | R    | _                | E      | E      | E      | S      | C     | C     | P      | A    | A    | U      |
|                          | _     | _   | R    | M                | S      | S      | S      | A      | E     | E     | R      | N    | N    | S      |
| P                        | T     | Y   | O    | _                | C      | P      | 2      | L      | _     | _     | I      | _    | _    | C      |
| L                        |       |     | D    |                  | Y      | Y      | Y      | E      | C     | P     | C      | C    | P    | A      |
| G                        | T     | P   | R    | L                |        |        |        | S      | Y     | Y     | E      | Y    | Y    | N      |
| GRAND AM/SKYLARK/ACHIEVA | BIG 3 | CAR | 1998 | LAST YR BF REDES | 204237 | 335576 | 539813 | -0.497 | 16569 | 15584 | 0.061  | 80.0 | 90.0 | -0.100 |
| BUICK REGAL              | BIG 3 | CAR | 1995 | NO CHANGE        | 91938  | 72522  | 164460 | 0.237  | 18690 | 18324 | 0.020  | 90.0 | .    | -0.001 |
| BUICK REGAL              | BIG 3 | CAR | 1996 | LAST YR BF REDES | 93465  | 91938  | 185403 | 0.016  | 19445 | 18690 | 0.040  | 95.0 | 90.0 | 0.050  |
| BUICK REGAL              | BIG 3 | CAR | 1997 | REDES SAME NAME  | 49362  | 93465  | 142827 | -0.638 | 21095 | 19445 | 0.081  | 91.0 | 95.0 | -0.040 |
| BUICK REGAL              | BIG 3 | CAR | 1998 | 2ND YR AFT REDES | 64012  | 49362  | 113374 | 0.260  | 21595 | 21095 | 0.023  | 86.0 | 91.0 | -0.050 |
| CADILLAC DeVILLE         | BIG 3 | CAR | 1995 | 2ND YR AFT REDES | 110830 | 116155 | 226985 | -0.047 | 34900 | 32990 | 0.056  | 96.0 | .    | 0.059  |
| CADILLAC DeVILLE         | BIG 3 | CAR | 1996 | NO CHANGE        | 108349 | 110830 | 219179 | -0.023 | 35995 | 34900 | 0.031  | 95.0 | 96.0 | -0.010 |
| CADILLAC DeVILLE         | BIG 3 | CAR | 1997 | NO CHANGE        | 103723 | 108349 | 212072 | -0.044 | 37660 | 35995 | 0.045  | 92.0 | 95.0 | -0.030 |
| CADILLAC DeVILLE         | BIG 3 | CAR | 1998 | NO CHANGE        | 101224 | 103723 | 204947 | -0.024 | 38360 | 37660 | 0.018  | 86.0 | 92.0 | -0.060 |
| CADILLAC ELDORADO        | BIG 3 | CAR | 1995 | NO CHANGE        | 22562  | 25400  | 47962  | -0.118 | 38220 | 37690 | 0.014  | 95.0 | .    | 0.049  |
| CADILLAC ELDORADO        | BIG 3 | CAR | 1996 | NO CHANGE        | 21527  | 22562  | 44089  | -0.047 | 39595 | 38220 | 0.035  | 95.0 | 95.0 | 0.000  |
| CADILLAC ELDORADO        | BIG 3 | CAR | 1997 | NO CHANGE        | 16111  | 21527  | 37638  | -0.290 | 38660 | 39595 | -0.024 | 92.0 | 95.0 | -0.030 |
| CADILLAC ELDORADO        | BIG 3 | CAR | 1998 | NO CHANGE        | 21117  | 16111  | 37228  | 0.271  | 39160 | 38660 | 0.013  | 86.0 | 92.0 | -0.060 |
| CADILLAC SEVILLE         | BIG 3 | CAR | 1995 | NO CHANGE        | 35528  | 39832  | 75360  | -0.114 | 41935 | 41430 | 0.012  | 96.0 | .    | 0.059  |
| CADILLAC SEVILLE         | BIG 3 | CAR | 1996 | NO CHANGE        | 34949  | 35528  | 70477  | -0.016 | 42995 | 41935 | 0.025  | 95.0 | 96.0 | -0.010 |
| CADILLAC SEVILLE         | BIG 3 | CAR | 1997 | LAST YR BF REDES | 35225  | 34949  | 70174  | 0.008  | 40660 | 42995 | -0.056 | 92.0 | 95.0 | -0.030 |
| CADILLAC SEVILLE         | BIG 3 | CAR | 1998 | REDES SAME NAME  | 30102  | 35225  | 65327  | -0.157 | 43160 | 40660 | 0.060  | 86.0 | 92.0 | -0.060 |
| CADILLAC CATERA          | BIG 3 | CAR | 1998 | 2ND YR IT EXIST  | 25759  | 20680  | 46439  | 0.220  | 30635 | 30635 | 0.000  | 4.0  | 3.0  | 0.010  |
| CHEVROLET CORVETTE       | BIG 3 | CAR | 1995 | NO CHANGE        | 19224  | 22137  | 41361  | -0.141 | 36785 | 36285 | 0.014  | 90.0 | .    | -0.001 |
| CHEVROLET CORVETTE       | BIG 3 | CAR | 1996 | LAST YR BF REDES | 21560  | 19224  | 40784  | 0.115  | 37225 | 36785 | 0.012  | 87.0 | 90.0 | -0.030 |
| CHEVROLET CORVETTE       | BIG 3 | CAR | 1997 | REDES SAME NAME  | 16116  | 21560  | 37676  | -0.291 | 38060 | 37225 | 0.022  | 85.0 | 87.0 | -0.020 |
| CHEVROLET CORVETTE       | BIG 3 | CAR | 1998 | 2ND YR AFT REDES | 29331  | 16116  | 45447  | 0.599  | 38560 | 38060 | 0.013  | 82.0 | 85.0 | -0.030 |
| CAMARO/FIREBIRD          | BIG 3 | CAR | 1995 | NO CHANGE        | 140753 | 170620 | 311373 | -0.192 | 14676 | 13663 | 0.072  | 91.0 | .    | 0.009  |
| CAMARO/FIREBIRD          | BIG 3 | CAR | 1996 | NO CHANGE        | 126128 | 140753 | 266881 | -0.110 | 15171 | 14676 | 0.033  | 86.0 | 91.0 | -0.050 |
| CAMARO/FIREBIRD          | BIG 3 | CAR | 1997 | NO CHANGE        | 88611  | 126128 | 214739 | -0.353 | 17070 | 15171 | 0.118  | 91.0 | 86.0 | 0.050  |
| CAMARO/FIREBIRD          | BIG 3 | CAR | 1998 | NO CHANGE        | 82384  | 88611  | 170995 | -0.073 | 17717 | 17070 | 0.037  | 86.0 | 91.0 | -0.050 |
| CAVALIER/SUNFIRE         | BIG 3 | CAR | 1995 | REDES SAME NAME  | 220277 | 333721 | 553998 | -0.415 | 10324 | 9213  | 0.114  | 90.0 | .    | -0.001 |
| CAVALIER/SUNFIRE         | BIG 3 | CAR | 1996 | 2ND YR AFT REDES | 362667 | 220277 | 582944 | 0.499  | 10774 | 10324 | 0.043  | 90.0 | 90.0 | 0.000  |
| CAVALIER/SUNFIRE         | BIG 3 | CAR | 1997 | NO CHANGE        | 409884 | 362667 | 772551 | 0.122  | 11746 | 10774 | 0.086  | 90.0 | 90.0 | 0.000  |
| CAVALIER/SUNFIRE         | BIG 3 | CAR | 1998 | NO CHANGE        | 346563 | 409884 | 756447 | -0.168 | 12332 | 11746 | 0.049  | 81.0 | 90.0 | -0.090 |
| CORSICA/BERETTA          | BIG 3 | CAR | 1995 | NO CHANGE        | 207547 | 204335 | 411882 | 0.016  | 13095 | 12585 | 0.040  | 91.0 | .    | 0.009  |
| CORSICA/BERETTA          | BIG 3 | CAR | 1996 | LAST YR IT EXIST | 187592 | 207547 | 395139 | -0.101 | 13490 | 13095 | 0.030  | 95.0 | 91.0 | 0.040  |
| CHEVROLET MALIBU         | BIG 3 | CAR | 1998 | 2ND YR IT EXIST  | 221405 | 108649 | 330054 | 0.712  | 16195 | 15995 | 0.012  | 80.0 | 90.0 | -0.100 |
| CHEVROLET LUMINA         | BIG 3 | CAR | 1995 | NO CHANGE        | 209646 | 111609 | 321255 | 0.630  | 15760 | 15305 | 0.029  | 90.0 | .    | -0.001 |
| CHEVROLET LUMINA         | BIG 3 | CAR | 1996 | NO CHANGE        | 246824 | 209646 | 456470 | 0.163  | 16355 | 15760 | 0.037  | 95.0 | 90.0 | 0.050  |
| CHEVROLET LUMINA         | BIG 3 | CAR | 1997 | NO CHANGE        | 232888 | 246824 | 479712 | -0.058 | 17495 | 16355 | 0.067  | 91.0 | 95.0 | -0.040 |

| M<br>M<br>G           | N<br>A<br>M<br>E<br>-<br>P<br>L<br>T | V<br>E<br>H<br>I<br>C<br>L<br>E<br>P | C<br>U<br>R<br>R<br>-<br>Y<br>R | C<br>H<br>G<br>-<br>M<br>O<br>D<br>L | S<br>A<br>L<br>E<br>-<br>C<br>Y | S<br>A<br>L<br>E<br>-<br>P<br>Y | S<br>A<br>L<br>E<br>-<br>2<br>Y | D<br>-<br>S<br>A<br>L<br>E<br>S | P<br>R<br>I<br>C<br>E<br>-<br>C<br>Y | P<br>R<br>I<br>C<br>E<br>-<br>P<br>Y | D<br>-<br>P<br>R<br>I<br>C<br>E | U<br>S<br>C<br>A<br>N<br>-<br>C<br>Y | U<br>S<br>C<br>A<br>N<br>-<br>P<br>Y | D<br>-<br>U<br>S<br>C<br>A<br>N |
|-----------------------|--------------------------------------|--------------------------------------|---------------------------------|--------------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|--------------------------------------|--------------------------------------|---------------------------------|--------------------------------------|--------------------------------------|---------------------------------|
| CHEVROLET LUMINA      | BIG 3                                | CAR                                  | 1998                            | NO CHANGE                            | 176505                          | 232888                          | 409393                          | -0.277                          | 17945                                | 17495                                | 0.025                           | 86.0                                 | 91.0                                 | -0.050                          |
| GEO PRIZM             | BIG 3                                | CAR                                  | 1996                            | NO CHANGE                            | 84856                           | 100084                          | 184940                          | -0.165                          | 12495                                | 11675                                | 0.068                           | 55.0                                 | 50.0                                 | 0.050                           |
| GEO PRIZM             | BIG 3                                | CAR                                  | 1997                            | NO CHANGE                            | 59605                           | 84856                           | 144461                          | -0.353                          | 13245                                | 12495                                | 0.058                           | 51.0                                 | 55.0                                 | -0.040                          |
| GEO PRIZM             | BIG 3                                | CAR                                  | 1998                            | NO CHANGE                            | 49842                           | 59605                           | 109447                          | -0.179                          | 12563                                | 13245                                | -0.053                          | 62.0                                 | 51.0                                 | 0.110                           |
| GEO METRO             | BIG 3                                | CAR                                  | 1996                            | NO CHANGE                            | 91888                           | 69908                           | 161796                          | 0.273                           | 8380                                 | 8085                                 | 0.036                           | 50.0                                 | 45.0                                 | 0.050                           |
| GEO METRO             | BIG 3                                | CAR                                  | 1997                            | NO CHANGE                            | 60958                           | 91888                           | 152846                          | -0.410                          | 8920                                 | 8380                                 | 0.062                           | 50.0                                 | 50.0                                 | 0.000                           |
| GEO METRO             | BIG 3                                | CAR                                  | 1998                            | NO CHANGE                            | 33965                           | 60958                           | 94923                           | -0.585                          | 9095                                 | 8920                                 | 0.019                           | 50.0                                 | 50.0                                 | 0.000                           |
| CHEVROLET MONTE CARLO | BIG 3                                | CAR                                  | 1996                            | 2ND YR IT EXIST                      | 81170                           | 73119                           | 154289                          | 0.104                           | 17255                                | 16770                                | 0.029                           | 95.0                                 | 90.0                                 | 0.050                           |
| CHEVROLET MONTE CARLO | BIG 3                                | CAR                                  | 1997                            | NO CHANGE                            | 73595                           | 81170                           | 154765                          | -0.098                          | 17995                                | 17255                                | 0.042                           | 91.0                                 | 95.0                                 | -0.040                          |
| CHEVROLET MONTE CARLO | BIG 3                                | CAR                                  | 1998                            | NO CHANGE                            | 63222                           | 73595                           | 136817                          | -0.152                          | 18495                                | 17995                                | 0.027                           | 86.0                                 | 91.0                                 | -0.050                          |
| CIERA/CUTLASS         | BIG 3                                | CAR                                  | 1995                            | NO CHANGE                            | 130876                          | 138133                          | 269009                          | -0.054                          | 14865                                | 13670                                | 0.084                           | 85.0                                 | .                                    | -0.051                          |
| CIERA/CUTLASS         | BIG 3                                | CAR                                  | 1996                            | LAST YR BF RENAM                     | 107065                          | 130876                          | 237941                          | -0.201                          | 13955                                | 14865                                | -0.063                          | 82.0                                 | 85.0                                 | -0.030                          |
| CIERA/CUTLASS         | BIG 3                                | CAR                                  | 1997                            | REDES NEW NAME                       | 17392                           | 107065                          | 124457                          | -1.817                          | 17850                                | 13955                                | 0.246                           | 90.0                                 | 82.0                                 | 0.080                           |
| CIERA/CUTLASS         | BIG 3                                | CAR                                  | 1998                            | 2ND YR AFT REDES                     | 50375                           | 17392                           | 67767                           | 1.063                           | 18325                                | 17850                                | 0.026                           | 80.0                                 | 90.0                                 | -0.100                          |
| SUPREME/INTRIGUE      | BIG 3                                | CAR                                  | 1995                            | NO CHANGE                            | 100984                          | 101738                          | 202722                          | -0.007                          | 17665                                | 16670                                | 0.058                           | 90.0                                 | .                                    | -0.001                          |
| SUPREME/INTRIGUE      | BIG 3                                | CAR                                  | 1996                            | NO CHANGE                            | 80856                           | 100984                          | 181840                          | -0.222                          | 17455                                | 17665                                | -0.012                          | 95.0                                 | 90.0                                 | 0.050                           |
| SUPREME/INTRIGUE      | BIG 3                                | CAR                                  | 1997                            | LAST YR BF RENAM                     | 55477                           | 80856                           | 136333                          | -0.377                          | 19500                                | 17455                                | 0.111                           | 91.0                                 | 95.0                                 | -0.040                          |
| SUPREME/INTRIGUE      | BIG 3                                | CAR                                  | 1998                            | REDES NEW NAME                       | 83626                           | 55477                           | 139103                          | 0.410                           | 21440                                | 19500                                | 0.095                           | 86.0                                 | 91.0                                 | -0.050                          |
| OLDS AURORA           | BIG 3                                | CAR                                  | 1996                            | 2ND YR IT EXIST                      | 22957                           | 31727                           | 54684                           | -0.324                          | 34360                                | 33065                                | 0.038                           | 95.0                                 | 96.0                                 | -0.010                          |
| OLDS AURORA           | BIG 3                                | CAR                                  | 1997                            | NO CHANGE                            | 25264                           | 22957                           | 48221                           | 0.096                           | 36400                                | 34360                                | 0.058                           | 90.0                                 | 95.0                                 | -0.050                          |
| OLDS AURORA           | BIG 3                                | CAR                                  | 1998                            | NO CHANGE                            | 26411                           | 25264                           | 51675                           | 0.044                           | 36825                                | 36400                                | 0.012                           | 87.0                                 | 90.0                                 | -0.030                          |
| PONTIAC GRAND PRIX    | BIG 3                                | CAR                                  | 1995                            | NO CHANGE                            | 123057                          | 131658                          | 254715                          | -0.068                          | 16634                                | 16254                                | 0.023                           | 90.0                                 | .                                    | -0.001                          |
| PONTIAC GRAND PRIX    | BIG 3                                | CAR                                  | 1996                            | LAST YR BF REDES                     | 100512                          | 123057                          | 223569                          | -0.202                          | 17089                                | 16634                                | 0.027                           | 95.0                                 | 90.0                                 | 0.050                           |
| PONTIAC GRAND PRIX    | BIG 3                                | CAR                                  | 1997                            | REDES SAME NAME                      | 144392                          | 100512                          | 244904                          | 0.362                           | 18769                                | 17089                                | 0.094                           | 91.0                                 | 95.0                                 | -0.040                          |
| PONTIAC GRAND PRIX    | BIG 3                                | CAR                                  | 1998                            | 2ND YR AFT REDES                     | 119512                          | 144392                          | 263904                          | -0.189                          | 19345                                | 18769                                | 0.030                           | 86.0                                 | 91.0                                 | -0.050                          |
| SATURN                | BIG 3                                | CAR                                  | 1995                            | NO CHANGE                            | 286926                          | 267450                          | 554376                          | 0.070                           | 9995                                 | 9995                                 | 0.000                           | 95.0                                 | .                                    | 0.049                           |
| SATURN                | BIG 3                                | CAR                                  | 1996                            | NO CHANGE                            | 286155                          | 286926                          | 573081                          | -0.003                          | 10495                                | 9995                                 | 0.049                           | 95.0                                 | 95.0                                 | 0.000                           |
| SATURN                | BIG 3                                | CAR                                  | 1997                            | NO CHANGE                            | 260102                          | 286155                          | 546257                          | -0.095                          | 10995                                | 10495                                | 0.047                           | 95.0                                 | 95.0                                 | 0.000                           |
| SATURN                | BIG 3                                | CAR                                  | 1998                            | NO CHANGE                            | 232109                          | 260102                          | 492211                          | -0.114                          | 11035                                | 10995                                | 0.004                           | 95.0                                 | 95.0                                 | 0.000                           |
| VW JETTA              | IMPORT                               | CAR                                  | 1995                            | NO CHANGE                            | 73252                           | 50882                           | 124134                          | 0.364                           | 13475                                | 13750                                | -0.020                          | 10.0                                 | .                                    | 0.053                           |
| VW JETTA              | IMPORT                               | CAR                                  | 1996                            | NO CHANGE                            | 82118                           | 73252                           | 155370                          | 0.114                           | 14250                                | 13475                                | 0.056                           | 15.0                                 | 10.0                                 | 0.050                           |
| VW JETTA              | IMPORT                               | CAR                                  | 1997                            | NO CHANGE                            | 87808                           | 82118                           | 169926                          | 0.067                           | 15070                                | 14250                                | 0.056                           | 10.0                                 | 15.0                                 | -0.050                          |
| VW JETTA              | IMPORT                               | CAR                                  | 1998                            | LAST YR BF REDES                     | 95489                           | 87808                           | 183297                          | 0.084                           | 15095                                | 15070                                | 0.002                           | 15.0                                 | 10.0                                 | 0.050                           |
| VW GOLF               | IMPORT                               | CAR                                  | 1995                            | NO CHANGE                            | 16885                           | 14517                           | 31402                           | 0.151                           | 12500                                | 12325                                | 0.014                           | 10.0                                 | .                                    | 0.053                           |
| VW GOLF               | IMPORT                               | CAR                                  | 1996                            | NO CHANGE                            | 23928                           | 16885                           | 40813                           | 0.349                           | 13150                                | 12500                                | 0.051                           | 15.0                                 | 10.0                                 | 0.050                           |
| VW GOLF               | IMPORT                               | CAR                                  | 1997                            | NO CHANGE                            | 22935                           | 23928                           | 46863                           | -0.042                          | 13970                                | 13150                                | 0.060                           | 5.0                                  | 15.0                                 | -0.100                          |

| M<br>M<br>G   | N          |     | V    | C                | H      | S      | S      | S      |       | P     | P      |      | U    | U      |   |
|---------------|------------|-----|------|------------------|--------|--------|--------|--------|-------|-------|--------|------|------|--------|---|
|               | A          |     | E    | C                | G      | A      | A      | A      | D     | R     | R      | D    | S    | S      | D |
|               | M          |     | H    | U                |        | L      | L      | L      | _     | I     | I      | _    | C    | C      | _ |
|               | E          |     | R    | R                | _      | E      | E      | E      | S     | C     | C      | P    | A    | A      | U |
|               | _          |     | T    | R                | M      | S      | S      | S      | A     | E     | E      | R    | N    | N      | S |
| P             |            | Y   | Y    | O                | _      | P      | 2      | L      | _     | _     | _      | C    | _    | C      | C |
| L             |            |     |      | D                | C      | Y      | Y      | Y      | E     | C     | P      | C    | C    | P      | A |
| T             |            | P   | R    | L                | Y      | Y      | Y      | S      | Y     | Y     | Y      | E    | Y    | Y      | N |
| VW GOLF       | IMPORT     | CAR | 1998 | LAST YR BF REDES | 20391  | 22935  | 43326  | -0.118 | 13995 | 13970 | 0.002  | 10.0 | 5.0  | 0.050  |   |
| BMW 300       | IMPORT     | CAR | 1995 | NO CHANGE        | 54006  | 50351  | 104357 | 0.070  | 24975 | 24675 | 0.012  | 5.0  | .    | 0.003  |   |
| BMW 300       | IMPORT     | CAR | 1996 | NO CHANGE        | 62222  | 54006  | 116228 | 0.142  | 20560 | 24975 | -0.195 | 5.0  | 5.0  | 0.000  |   |
| BMW 300       | IMPORT     | CAR | 1997 | COMPETITOR INTRO | 31975  | 62222  | 94197  | -0.666 | 21960 | 20560 | 0.066  | 5.0  | 5.0  | 0.000  |   |
| BMW 300       | IMPORT     | CAR | 1998 | NO CHANGE        | 50029  | 31975  | 82004  | 0.448  | 21960 | 21960 | 0.000  | 5.0  | 5.0  | 0.000  |   |
| BMW 500       | IMPORT     | CAR | 1995 | NO CHANGE        | 23520  | 22901  | 46421  | 0.027  | 35300 | 34900 | 0.011  | 5.0  | .    | 0.003  |   |
| BMW 500       | IMPORT     | CAR | 1996 | LAST YR BF REDES | 23143  | 23520  | 46663  | -0.016 | 37900 | 35300 | 0.071  | 5.0  | 5.0  | 0.000  |   |
| BMW 500       | IMPORT     | CAR | 1997 | REDES SAME NAME  | 28525  | 23143  | 51668  | 0.209  | 39470 | 37900 | 0.041  | 5.0  | 5.0  | 0.000  |   |
| BMW 500       | IMPORT     | CAR | 1998 | 2ND YR AFT REDES | 34893  | 28525  | 63418  | 0.202  | 39470 | 39470 | 0.000  | 5.0  | 5.0  | 0.000  |   |
| BMW Z3        | TRANSPLANT | CAR | 1998 | 2ND YR IT EXIST  | 21075  | 29737  | 50812  | -0.344 | 29995 | 29995 | 0.000  | 40.0 | 40.0 | 0.000  |   |
| NISSAN MAXIMA | IMPORT     | CAR | 1995 | REDES SAME NAME  | 128784 | 116994 | 245778 | 0.096  | 19999 | 22429 | -0.115 | 5.0  | .    | 0.003  |   |
| NISSAN MAXIMA | IMPORT     | CAR | 1996 | 2ND YR AFT REDES | 129284 | 128784 | 258068 | 0.004  | 20999 | 19999 | 0.049  | 5.0  | 5.0  | 0.000  |   |
| NISSAN MAXIMA | IMPORT     | CAR | 1997 | NO CHANGE        | 124639 | 129284 | 253923 | -0.037 | 21969 | 20999 | 0.045  | 5.0  | 5.0  | 0.000  |   |
| NISSAN MAXIMA | IMPORT     | CAR | 1998 | NO CHANGE        | 116860 | 124639 | 241499 | -0.064 | 21989 | 21969 | 0.001  | 5.0  | 5.0  | 0.000  |   |
| NISSAN SENTRA | TRANSPLANT | CAR | 1995 | REDES SAME NAME  | 165663 | 175441 | 341104 | -0.057 | 10999 | 10199 | 0.076  | 45.0 | .    | -0.034 |   |
| NISSAN SENTRA | TRANSPLANT | CAR | 1996 | 2ND YR AFT REDES | 167508 | 165663 | 333171 | 0.011  | 11499 | 10999 | 0.044  | 45.0 | 45.0 | 0.000  |   |
| NISSAN SENTRA | TRANSPLANT | CAR | 1997 | NO CHANGE        | 154147 | 167508 | 321655 | -0.083 | 11969 | 11499 | 0.040  | 45.0 | 45.0 | 0.000  |   |
| NISSAN SENTRA | TRANSPLANT | CAR | 1998 | NO CHANGE        | 107049 | 154147 | 261196 | -0.365 | 11989 | 11969 | 0.002  | 45.0 | 45.0 | 0.000  |   |
| NISSAN ALTIMA | TRANSPLANT | CAR | 1995 | NO CHANGE        | 158842 | 163522 | 322364 | -0.029 | 14969 | 13999 | 0.067  | 40.0 | .    | -0.084 |   |
| NISSAN ALTIMA | TRANSPLANT | CAR | 1996 | NO CHANGE        | 149260 | 158842 | 308102 | -0.062 | 15649 | 14969 | 0.044  | 40.0 | 40.0 | 0.000  |   |
| NISSAN ALTIMA | TRANSPLANT | CAR | 1997 | NO CHANGE        | 139728 | 149260 | 288988 | -0.066 | 16319 | 15649 | 0.042  | 45.0 | 40.0 | 0.050  |   |
| NISSAN ALTIMA | TRANSPLANT | CAR | 1998 | NO CHANGE        | 144287 | 139728 | 284015 | 0.032  | 15480 | 16319 | -0.053 | 55.0 | 45.0 | 0.100  |   |
| HONDA CIVIC   | TRANSPLANT | CAR | 1995 | NO CHANGE        | 273441 | 265871 | 539312 | 0.028  | 9890  | 9400  | 0.051  | 45.0 | .    | -0.034 |   |
| HONDA CIVIC   | TRANSPLANT | CAR | 1996 | NO CHANGE        | 287718 | 273441 | 561159 | 0.051  | 10350 | 9890  | 0.045  | 70.0 | 45.0 | 0.250  |   |
| HONDA CIVIC   | TRANSPLANT | CAR | 1997 | NO CHANGE        | 318091 | 287718 | 605809 | 0.100  | 10945 | 10350 | 0.056  | 60.0 | 70.0 | -0.100 |   |
| HONDA CIVIC   | TRANSPLANT | CAR | 1998 | NO CHANGE        | 328748 | 318091 | 646839 | 0.033  | 11045 | 10945 | 0.009  | 70.0 | 60.0 | 0.100  |   |
| HONDA ACCORD  | TRANSPLANT | CAR | 1995 | 2ND YR AFT REDES | 345845 | 362407 | 708252 | -0.047 | 14940 | 14130 | 0.056  | 50.0 | .    | 0.016  |   |
| HONDA ACCORD  | TRANSPLANT | CAR | 1996 | NO CHANGE        | 367137 | 345845 | 712982 | 0.060  | 15100 | 14940 | 0.011  | 65.0 | 50.0 | 0.150  |   |
| HONDA ACCORD  | TRANSPLANT | CAR | 1997 | NO CHANGE        | 365800 | 367137 | 732937 | -0.004 | 15495 | 15100 | 0.026  | 60.0 | 65.0 | -0.050 |   |
| HONDA ACCORD  | TRANSPLANT | CAR | 1998 | NO CHANGE        | 413628 | 365800 | 779428 | 0.123  | 15495 | 15495 | 0.000  | 75.0 | 60.0 | 0.150  |   |
| MAZDA PROTEGE | IMPORT     | CAR | 1995 | REDES SAME NAME  | 71833  | 93102  | 164935 | -0.259 | 12295 | 9495  | 0.258  | 4.0  | .    | -0.007 |   |
| MAZDA PROTEGE | IMPORT     | CAR | 1996 | 2ND YR AFT REDES | 62018  | 71833  | 133851 | -0.147 | 11695 | 12295 | -0.050 | 4.0  | 4.0  | 0.000  |   |
| MAZDA PROTEGE | IMPORT     | CAR | 1997 | NO CHANGE        | 52786  | 62018  | 114804 | -0.161 | 12595 | 11695 | 0.074  | 4.0  | 4.0  | 0.000  |   |
| MAZDA PROTEGE | IMPORT     | CAR | 1998 | NO CHANGE        | 55009  | 52786  | 107795 | 0.041  | 12595 | 12595 | 0.000  | 5.0  | 4.0  | 0.010  |   |
| MAZDA 626     | TRANSPLANT | CAR | 1995 | NO CHANGE        | 99086  | 81210  | 180296 | 0.199  | 14995 | 14495 | 0.034  | 65.0 | .    | 0.166  |   |
| MAZDA 626     | TRANSPLANT | CAR | 1996 | NO CHANGE        | 81638  | 99086  | 180724 | -0.194 | 15495 | 14995 | 0.033  | 65.0 | 65.0 | 0.000  |   |

| M<br>M<br>G    | N<br>A<br>M<br>E<br>-<br>P<br>L<br>T | V<br>E<br>H<br>-<br>T<br>Y<br>P | C<br>U<br>R<br>-<br>Y<br>R | C<br>H<br>G<br>-<br>M<br>O<br>D<br>L | S<br>A<br>L<br>E<br>S<br>-<br>C<br>Y | S<br>A<br>L<br>E<br>S<br>-<br>P<br>Y | S<br>A<br>L<br>E<br>S<br>-<br>2<br>Y | D<br>-<br>S<br>A<br>L<br>E<br>S | P<br>R<br>I<br>C<br>E<br>-<br>C<br>Y | P<br>R<br>I<br>C<br>E<br>-<br>P<br>Y | D<br>-<br>P<br>R<br>I<br>C<br>E | U<br>S<br>C<br>A<br>N<br>-<br>C<br>Y | U<br>S<br>C<br>A<br>N<br>-<br>P<br>Y | D<br>-<br>U<br>S<br>C<br>A<br>N |
|----------------|--------------------------------------|---------------------------------|----------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|--------------------------------------|--------------------------------------|---------------------------------|--------------------------------------|--------------------------------------|---------------------------------|
| MAZDA 626      | TRANSPLANT                           | CAR                             | 1997                       | LAST YR BF REDES                     | 75847                                | 81638                                | 157485                               | -0.074                          | 16145                                | 15495                                | 0.041                           | 65.0                                 | 65.0                                 | 0.000                           |
| MAZDA 626      | TRANSPLANT                           | CAR                             | 1998                       | REDES SAME NAME                      | 89104                                | 75847                                | 164951                               | 0.161                           | 16000                                | 16145                                | -0.009                          | 65.0                                 | 65.0                                 | 0.000                           |
| MERCEDES E     | IMPORT                               | CAR                             | 1995                       | LAST YR BF REDES                     | 22641                                | 27983                                | 50624                                | -0.212                          | 41000                                | 40000                                | 0.025                           | 2.0                                  | .                                    | -0.027                          |
| MERCEDES E     | IMPORT                               | CAR                             | 1996                       | REDES SAME NAME                      | 35898                                | 22641                                | 58539                                | 0.461                           | 39900                                | 41000                                | -0.027                          | 2.0                                  | 2.0                                  | 0.000                           |
| MERCEDES E     | IMPORT                               | CAR                             | 1997                       | 2ND YR AFT REDES                     | 41873                                | 35898                                | 77771                                | 0.154                           | 40495                                | 39900                                | 0.015                           | 0.0                                  | 2.0                                  | -0.020                          |
| MERCEDES E     | IMPORT                               | CAR                             | 1998                       | NO CHANGE                            | 45585                                | 41873                                | 87458                                | 0.085                           | 42395                                | 40495                                | 0.046                           | 0.0                                  | 0.0                                  | 0.000                           |
| MERCEDES C     | IMPORT                               | CAR                             | 1995                       | 2ND YR IT EXIST                      | 27753                                | 17358                                | 45111                                | 0.469                           | 30950                                | 29900                                | 0.035                           | 2.0                                  | .                                    | -0.027                          |
| MERCEDES C     | IMPORT                               | CAR                             | 1996                       | NO CHANGE                            | 26687                                | 27753                                | 54440                                | -0.039                          | 29900                                | 30950                                | -0.035                          | 2.0                                  | 2.0                                  | 0.000                           |
| MERCEDES C     | IMPORT                               | CAR                             | 1997                       | NO CHANGE                            | 30562                                | 26687                                | 57249                                | 0.136                           | 31045                                | 29900                                | 0.038                           | 0.0                                  | 2.0                                  | -0.020                          |
| MERCEDES C     | IMPORT                               | CAR                             | 1998                       | NO CHANGE                            | 36638                                | 30562                                | 67200                                | 0.181                           | 31045                                | 31045                                | 0.000                           | 0.0                                  | 0.0                                  | 0.000                           |
| SAAB 900       | IMPORT                               | CAR                             | 1995                       | 2ND YR AFT REDES                     | 19927                                | 14116                                | 34043                                | 0.345                           | 23375                                | 21990                                | 0.061                           | 1.0                                  | .                                    | -0.037                          |
| SAAB 900       | IMPORT                               | CAR                             | 1996                       | NO CHANGE                            | 21151                                | 19927                                | 41078                                | 0.060                           | 23995                                | 23375                                | 0.026                           | 1.0                                  | 1.0                                  | 0.000                           |
| SAAB 900       | IMPORT                               | CAR                             | 1997                       | NO CHANGE                            | 22917                                | 21151                                | 44068                                | 0.080                           | 25995                                | 23995                                | 0.080                           | 2.0                                  | 1.0                                  | 0.010                           |
| SAAB 900       | IMPORT                               | CAR                             | 1998                       | NO CHANGE                            | 25684                                | 22917                                | 48601                                | 0.114                           | 26050                                | 25995                                | 0.002                           | 2.0                                  | 2.0                                  | 0.000                           |
| SUBARU LEGACY  | TRANSPLANT                           | CAR                             | 1995                       | REDES SAME NAME                      | 68322                                | 60545                                | 128867                               | 0.121                           | 14364                                | 13999                                | 0.026                           | 35.0                                 | .                                    | -0.134                          |
| SUBARU LEGACY  | TRANSPLANT                           | CAR                             | 1996                       | 2ND YR AFT REDES                     | 91559                                | 68322                                | 159881                               | 0.293                           | 16495                                | 14364                                | 0.138                           | 40.0                                 | 35.0                                 | 0.050                           |
| SUBARU LEGACY  | TRANSPLANT                           | CAR                             | 1997                       | NO CHANGE                            | 93999                                | 91559                                | 185558                               | 0.026                           | 17390                                | 16495                                | 0.053                           | 40.0                                 | 40.0                                 | 0.000                           |
| SUBARU LEGACY  | TRANSPLANT                           | CAR                             | 1998                       | NO CHANGE                            | 89682                                | 93999                                | 183681                               | -0.047                          | 17390                                | 17390                                | 0.000                           | 40.0                                 | 40.0                                 | 0.000                           |
| SUBARU IMPREZA | IMPORT                               | CAR                             | 1995                       | NO CHANGE                            | 24838                                | 31389                                | 56227                                | -0.234                          | 11850                                | 11200                                | 0.056                           | 1.0                                  | .                                    | -0.037                          |
| SUBARU IMPREZA | IMPORT                               | CAR                             | 1996                       | NO CHANGE                            | 22843                                | 24838                                | 47681                                | -0.084                          | 13495                                | 11850                                | 0.130                           | 1.0                                  | 1.0                                  | 0.000                           |
| SUBARU IMPREZA | IMPORT                               | CAR                             | 1997                       | NO CHANGE                            | 26288                                | 22843                                | 49131                                | 0.140                           | 14290                                | 13495                                | 0.057                           | 1.0                                  | 1.0                                  | 0.000                           |
| SUBARU IMPREZA | IMPORT                               | CAR                             | 1998                       | NO CHANGE                            | 19754                                | 26288                                | 46042                                | -0.286                          | 16390                                | 14290                                | 0.137                           | 1.0                                  | 1.0                                  | 0.000                           |
| TOYOTA COROLLA | TRANSPLANT                           | CAR                             | 1995                       | NO CHANGE                            | 203980                               | 206942                               | 410922                               | -0.014                          | 12498                                | 12098                                | 0.033                           | 45.0                                 | .                                    | -0.034                          |
| TOYOTA COROLLA | TRANSPLANT                           | CAR                             | 1996                       | NO CHANGE                            | 216167                               | 203980                               | 420147                               | 0.058                           | 12728                                | 12498                                | 0.018                           | 50.0                                 | 45.0                                 | 0.050                           |
| TOYOTA COROLLA | TRANSPLANT                           | CAR                             | 1997                       | NO CHANGE                            | 219165                               | 216167                               | 435332                               | 0.014                           | 13418                                | 12728                                | 0.053                           | 50.0                                 | 50.0                                 | 0.000                           |
| TOYOTA COROLLA | TRANSPLANT                           | CAR                             | 1998                       | NO CHANGE                            | 237621                               | 219165                               | 456786                               | 0.081                           | 12328                                | 13418                                | -0.085                          | 55.0                                 | 50.0                                 | 0.050                           |
| TOYOTA TERCEL  | IMPORT                               | CAR                             | 1995                       | NO CHANGE                            | 83344                                | 88083                                | 171427                               | -0.055                          | 10198                                | 8958                                 | 0.130                           | 10.0                                 | .                                    | 0.053                           |
| TOYOTA TERCEL  | IMPORT                               | CAR                             | 1996                       | NO CHANGE                            | 60104                                | 83344                                | 143448                               | -0.327                          | 10348                                | 10198                                | 0.015                           | 10.0                                 | 10.0                                 | 0.000                           |
| TOYOTA TERCEL  | IMPORT                               | CAR                             | 1997                       | NO CHANGE                            | 39130                                | 60104                                | 99234                                | -0.429                          | 11118                                | 10348                                | 0.072                           | 10.0                                 | 10.0                                 | 0.000                           |
| TOYOTA TERCEL  | IMPORT                               | CAR                             | 1998                       | LAST YR IT EXIST                     | 3210                                 | 39130                                | 42340                                | -2.501                          | 13110                                | 11118                                | 0.165                           | 10.0                                 | 10.0                                 | 0.000                           |
| TOYOTA CAMRY   | TRANSPLANT                           | CAR                             | 1995                       | NO CHANGE                            | 319807                               | 319317                               | 639124                               | 0.002                           | 16128                                | 16428                                | -0.018                          | 55.0                                 | .                                    | 0.066                           |
| TOYOTA CAMRY   | TRANSPLANT                           | CAR                             | 1996                       | LAST YR BF REDES                     | 354035                               | 319807                               | 673842                               | 0.102                           | 16468                                | 16128                                | 0.021                           | 55.0                                 | 55.0                                 | 0.000                           |
| TOYOTA CAMRY   | TRANSPLANT                           | CAR                             | 1997                       | REDES SAME NAME                      | 385814                               | 354035                               | 739849                               | 0.086                           | 16868                                | 16468                                | 0.024                           | 55.0                                 | 55.0                                 | 0.000                           |
| TOYOTA CAMRY   | TRANSPLANT                           | CAR                             | 1998                       | 2ND YR AFT REDES                     | 398548                               | 385814                               | 784362                               | 0.032                           | 17358                                | 16868                                | 0.029                           | 55.0                                 | 55.0                                 | 0.000                           |
| TOYOTA AVALON  | TRANSPLANT                           | CAR                             | 1996                       | 2ND YR IT EXIST                      | 72033                                | 56161                                | 128194                               | 0.249                           | 23418                                | 22988                                | 0.019                           | 60.0                                 | 60.0                                 | 0.000                           |
| TOYOTA AVALON  | TRANSPLANT                           | CAR                             | 1997                       | NO CHANGE                            | 71040                                | 72033                                | 143073                               | -0.014                          | 24028                                | 23418                                | 0.026                           | 55.0                                 | 60.0                                 | -0.050                          |

| M<br>M<br>G        | N<br>A<br>M<br>E<br>-<br>P<br>L<br>T | V<br>E<br>H<br>-<br>T<br>P | C<br>U<br>R<br>-<br>Y<br>R | C<br>H<br>G<br>-<br>M<br>O<br>D<br>L | S<br>A<br>L<br>E<br>S<br>-<br>C<br>Y | S<br>A<br>L<br>E<br>S<br>-<br>P<br>Y | S<br>A<br>L<br>E<br>S<br>-<br>2<br>Y | D<br>-<br>S<br>A<br>L<br>E<br>S | P<br>R<br>I<br>C<br>E<br>-<br>C<br>Y | P<br>R<br>I<br>C<br>E<br>-<br>Y | D<br>-<br>P<br>R<br>I<br>C<br>E | U<br>S<br>C<br>A<br>N<br>-<br>C<br>Y | U<br>S<br>C<br>A<br>N<br>-<br>P<br>Y | D<br>-<br>U<br>S<br>C<br>A<br>N |
|--------------------|--------------------------------------|----------------------------|----------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|--------------------------------------|---------------------------------|---------------------------------|--------------------------------------|--------------------------------------|---------------------------------|
| TOYOTA AVALON      | TRANSPLANT                           | CAR                        | 1998                       | NO CHANGE                            | 78080                                | 71040                                | 149120                               | 0.094                           | 24828                                | 24028                           | 0.033                           | 60.0                                 | 55.0                                 | 0.050                           |
| VOLVO 850/70       | IMPORT                               | CAR                        | 1995                       | NO CHANGE                            | 58688                                | 43584                                | 102272                               | 0.298                           | 24935                                | 24680                           | 0.010                           | 2.0                                  | .                                    | -0.027                          |
| VOLVO 850/70       | IMPORT                               | CAR                        | 1996                       | NO CHANGE                            | 66591                                | 58688                                | 125279                               | 0.126                           | 26300                                | 24935                           | 0.053                           | 2.0                                  | 2.0                                  | 0.000                           |
| VOLVO 850/70       | IMPORT                               | CAR                        | 1997                       | LAST YR BF RENAM                     | 34061                                | 66591                                | 100652                               | -0.670                          | 27560                                | 26300                           | 0.047                           | 2.0                                  | 2.0                                  | 0.000                           |
| VOLVO 850/70       | IMPORT                               | CAR                        | 1998                       | REDES NEW NAME                       | 82406                                | 34061                                | 116467                               | 0.884                           | 27560                                | 27560                           | 0.000                           | 2.0                                  | 2.0                                  | 0.000                           |
| VOLVO 900/90       | IMPORT                               | CAR                        | 1995                       | NO CHANGE                            | 28381                                | 35097                                | 63478                                | -0.212                          | 23360                                | 22900                           | 0.020                           | 2.0                                  | .                                    | -0.027                          |
| VOLVO 900/90       | IMPORT                               | CAR                        | 1996                       | NO CHANGE                            | 19910                                | 28381                                | 48291                                | -0.354                          | 33960                                | 23360                           | 0.374                           | 2.0                                  | 2.0                                  | 0.000                           |
| VOLVO 900/90       | IMPORT                               | CAR                        | 1997                       | LAST YR BF RENAM                     | 16268                                | 19910                                | 36178                                | -0.202                          | 34875                                | 33960                           | 0.027                           | 2.0                                  | 2.0                                  | 0.000                           |
| VOLVO 900/90       | IMPORT                               | CAR                        | 1998                       | LAST YR IT EXIST                     | 11031                                | 16268                                | 27299                                | -0.388                          | 34875                                | 34875                           | 0.000                           | 0.0                                  | 2.0                                  | -0.020                          |
| MITSUBISHI GALANT  | TRANSPLANT                           | CAR                        | 1995                       | 2ND YR AFT REDES                     | 62884                                | 54816                                | 117700                               | 0.137                           | 14349                                | 13600                           | 0.054                           | 46.0                                 | .                                    | -0.024                          |
| MITSUBISHI GALANT  | TRANSPLANT                           | CAR                        | 1996                       | NO CHANGE                            | 66373                                | 62884                                | 129257                               | 0.054                           | 14920                                | 14349                           | 0.039                           | 45.0                                 | 46.0                                 | -0.010                          |
| MITSUBISHI GALANT  | TRANSPLANT                           | CAR                        | 1997                       | NO CHANGE                            | 47986                                | 66373                                | 114359                               | -0.324                          | 15840                                | 14920                           | 0.060                           | 45.0                                 | 45.0                                 | 0.000                           |
| MITSUBISHI GALANT  | TRANSPLANT                           | CAR                        | 1998                       | NO CHANGE                            | 40537                                | 47986                                | 88523                                | -0.169                          | 16100                                | 15840                           | 0.016                           | 47.0                                 | 45.0                                 | 0.020                           |
| MITSUBISHI MIRAGE  | IMPORT                               | CAR                        | 1995                       | NO CHANGE                            | 51702                                | 37452                                | 89154                                | 0.322                           | 9799                                 | 9179                            | 0.065                           | 5.0                                  | .                                    | 0.003                           |
| MITSUBISHI MIRAGE  | IMPORT                               | CAR                        | 1996                       | NO CHANGE                            | 25875                                | 51702                                | 77577                                | -0.692                          | 10440                                | 9799                            | 0.063                           | 5.0                                  | 5.0                                  | 0.000                           |
| MITSUBISHI MIRAGE  | IMPORT                               | CAR                        | 1997                       | NO CHANGE                            | 34033                                | 25875                                | 59908                                | 0.274                           | 10990                                | 10440                           | 0.051                           | 5.0                                  | 5.0                                  | 0.000                           |
| MITSUBISHI MIRAGE  | IMPORT                               | CAR                        | 1998                       | NO CHANGE                            | 34016                                | 34033                                | 68049                                | -0.000                          | 11250                                | 10990                           | 0.023                           | 5.0                                  | 5.0                                  | 0.000                           |
| MITSUBISHI ECLIPSE | TRANSPLANT                           | CAR                        | 1995                       | REDES SAME NAME                      | 51296                                | 50616                                | 101912                               | 0.013                           | 14359                                | 12099                           | 0.171                           | 72.0                                 | .                                    | 0.236                           |
| MITSUBISHI ECLIPSE | TRANSPLANT                           | CAR                        | 1996                       | 2ND YR AFT REDES                     | 61469                                | 51296                                | 112765                               | 0.181                           | 14970                                | 14359                           | 0.042                           | 71.0                                 | 72.0                                 | -0.010                          |
| MITSUBISHI ECLIPSE | TRANSPLANT                           | CAR                        | 1997                       | NO CHANGE                            | 61310                                | 61469                                | 122779                               | -0.003                          | 14250                                | 14970                           | -0.049                          | 56.0                                 | 71.0                                 | -0.150                          |
| MITSUBISHI ECLIPSE | TRANSPLANT                           | CAR                        | 1998                       | NO CHANGE                            | 59231                                | 61310                                | 120541                               | -0.034                          | 16160                                | 14250                           | 0.126                           | 72.0                                 | 56.0                                 | 0.160                           |
| ACURA INTEGRA      | IMPORT                               | CAR                        | 1995                       | NO CHANGE                            | 60428                                | 67928                                | 128356                               | -0.117                          | 15700                                | 14820                           | 0.058                           | 5.0                                  | .                                    | 0.003                           |
| ACURA INTEGRA      | IMPORT                               | CAR                        | 1996                       | NO CHANGE                            | 50554                                | 60428                                | 110982                               | -0.178                          | 16100                                | 15700                           | 0.025                           | 5.0                                  | 5.0                                  | 0.000                           |
| ACURA INTEGRA      | IMPORT                               | CAR                        | 1997                       | NO CHANGE                            | 43245                                | 50554                                | 93799                                | -0.156                          | 16535                                | 16100                           | 0.027                           | 5.0                                  | 5.0                                  | 0.000                           |
| ACURA INTEGRA      | IMPORT                               | CAR                        | 1998                       | NO CHANGE                            | 34292                                | 43245                                | 77537                                | -0.232                          | 16635                                | 16535                           | 0.006                           | 0.0                                  | 5.0                                  | -0.050                          |
| ACURA LEGEND       | IMPORT                               | CAR                        | 1995                       | LAST YR IT EXIST                     | 21203                                | 38485                                | 59688                                | -0.596                          | 36100                                | 33800                           | 0.066                           | 5.0                                  | .                                    | 0.003                           |
| ACURA TL           | IMPORT                               | CAR                        | 1997                       | 2ND YR IT EXIST                      | 24004                                | 25363                                | 49367                                | -0.055                          | 28885                                | 27900                           | 0.035                           | 0.0                                  | 0.0                                  | 0.000                           |
| ACURA TL           | IMPORT                               | CAR                        | 1998                       | LAST YR BF REDES                     | 23119                                | 24004                                | 47123                                | -0.038                          | 31135                                | 28885                           | 0.075                           | 0.0                                  | 0.0                                  | 0.000                           |
| ACURA CL           | TRANSPLANT                           | CAR                        | 1998                       | NO CHANGE                            | 27249                                | 29873                                | 57122                                | -0.092                          | 22745                                | 22545                           | 0.009                           | 70.0                                 | 65.0                                 | 0.050                           |
| HYUNDAI ELANTRA    | IMPORT                               | CAR                        | 1995                       | LAST YR BF REDES                     | 37375                                | 44665                                | 82040                                | -0.178                          | 10299                                | 9799                            | 0.050                           | 5.0                                  | .                                    | 0.003                           |
| HYUNDAI ELANTRA    | IMPORT                               | CAR                        | 1996                       | REDES SAME NAME                      | 37703                                | 37375                                | 75078                                | 0.009                           | 10899                                | 10299                           | 0.057                           | 5.0                                  | 5.0                                  | 0.000                           |
| HYUNDAI ELANTRA    | IMPORT                               | CAR                        | 1997                       | 2ND YR AFT REDES                     | 39298                                | 37703                                | 77001                                | 0.041                           | 11514                                | 10899                           | 0.055                           | 1.0                                  | 5.0                                  | -0.040                          |
| HYUNDAI ELANTRA    | IMPORT                               | CAR                        | 1998                       | NO CHANGE                            | 42086                                | 39298                                | 81384                                | 0.069                           | 11934                                | 11514                           | 0.036                           | 1.0                                  | 1.0                                  | 0.000                           |
| EXCEL/ACCENT       | IMPORT                               | CAR                        | 1995                       | REDES NEW NAME                       | 46878                                | 52831                                | 99709                                | -0.120                          | 8079                                 | 7290                            | 0.103                           | 10.0                                 | .                                    | 0.053                           |
| EXCEL/ACCENT       | IMPORT                               | CAR                        | 1996                       | 2ND YR AFT REDES                     | 52746                                | 46878                                | 99624                                | 0.118                           | 8285                                 | 8079                            | 0.025                           | 5.0                                  | 10.0                                 | -0.050                          |
| EXCEL/ACCENT       | IMPORT                               | CAR                        | 1997                       | NO CHANGE                            | 38552                                | 52746                                | 91298                                | -0.313                          | 9014                                 | 8285                            | 0.084                           | 1.0                                  | 5.0                                  | -0.040                          |

| M<br>M<br>G         | N      |     | C    |                  | S      | S      | S       |        | P     | P     | U      | U    |      |        |
|---------------------|--------|-----|------|------------------|--------|--------|---------|--------|-------|-------|--------|------|------|--------|
|                     | A      | V   | C    | H                | A      | A      | A       | D      | R     | R     | D      | S    | S    | D      |
|                     | M      | E   | U    | G                | L      | L      | L       | _      | I     | I     | _      | C    | C    | _      |
|                     | E      | H   | R    | _                | E      | E      | E       | S      | C     | C     | P      | A    | A    | U      |
|                     | -      | -   | R    | M                | S      | S      | S       | A      | E     | E     | R      | N    | N    | S      |
|                     | P      | T   | O    |                  | -      | -      | -       | L      | -     | -     | I      | -    | -    | C      |
|                     | L      | Y   | D    |                  | C      | P      | 2       | E      | C     | P     | C      | C    | P    | A      |
|                     | T      | P   | R    | L                | Y      | Y      | Y       | S      | Y     | Y     | E      | Y    | Y    | N      |
| EXCEL/ACCENT        | IMPORT | CAR | 1998 | NO CHANGE        | 36439  | 38552  | 74991   | -0.056 | 9534  | 9014  | 0.056  | 1.0  | 1.0  | 0.000  |
| INFINITI I30        | IMPORT | CAR | 1997 | 2ND YR IT EXIST  | 29062  | 27839  | 56901   | 0.043  | 29295 | 28420 | 0.030  | 5.0  | 5.0  | 0.000  |
| INFINITI I30        | IMPORT | CAR | 1998 | NO CHANGE        | 27389  | 29062  | 56451   | -0.059 | 29395 | 29295 | 0.003  | 5.0  | 5.0  | 0.000  |
| LEXUS ES            | IMPORT | CAR | 1995 | NO CHANGE        | 40265  | 37855  | 78120   | 0.062  | 31500 | 31200 | 0.010  | 10.0 | .    | 0.053  |
| LEXUS ES            | IMPORT | CAR | 1996 | LAST YR BF REDES | 42195  | 40265  | 82460   | 0.047  | 32400 | 31500 | 0.028  | 10.0 | 10.0 | 0.000  |
| LEXUS ES            | IMPORT | CAR | 1997 | REDES SAME NAME  | 59887  | 42195  | 102082  | 0.350  | 30485 | 32400 | -0.061 | 15.0 | 10.0 | 0.050  |
| LEXUS ES            | IMPORT | CAR | 1998 | 2ND YR AFT REDES | 48891  | 59887  | 108778  | -0.203 | 31285 | 30485 | 0.026  | 10.0 | 15.0 | -0.050 |
| LEXUS LS            | IMPORT | CAR | 1995 | REDES SAME NAME  | 22230  | 22736  | 44966   | -0.023 | 51200 | 51200 | 0.000  | 5.0  | .    | 0.003  |
| LEXUS LS            | IMPORT | CAR | 1996 | 2ND YR AFT REDES | 23460  | 22230  | 45690   | 0.054  | 52900 | 51200 | 0.033  | 5.0  | 5.0  | 0.000  |
| LEXUS LS            | IMPORT | CAR | 1997 | NO CHANGE        | 19524  | 23460  | 42984   | -0.184 | 53395 | 52900 | 0.009  | 0.0  | 5.0  | -0.050 |
| LEXUS LS            | IMPORT | CAR | 1998 | NO CHANGE        | 21189  | 19524  | 40713   | 0.082  | 53695 | 53395 | 0.006  | 0.0  | 0.0  | 0.000  |
| KIA SEPHIA          | IMPORT | CAR | 1995 | NO CHANGE        | 15521  | 8629   | 24150   | 0.587  | 8895  | 8495  | 0.046  | 5.0  | .    | 0.003  |
| KIA SEPHIA          | IMPORT | CAR | 1996 | NO CHANGE        | 25679  | 15521  | 41200   | 0.503  | 9495  | 8895  | 0.065  | 5.0  | 5.0  | 0.000  |
| KIA SEPHIA          | IMPORT | CAR | 1997 | NO CHANGE        | 30259  | 25679  | 55938   | 0.164  | 10220 | 9495  | 0.074  | 5.0  | 5.0  | 0.000  |
| KIA SEPHIA          | IMPORT | CAR | 1998 | LAST YR BF REDES | 55867  | 30259  | 86126   | 0.613  | 10445 | 10220 | 0.022  | 1.0  | 5.0  | -0.040 |
| JEEP CHEROKEE       | BIG 3  | SUV | 1995 | NO CHANGE        | 114928 | 119085 | 234013  | -0.036 | 13900 | 13427 | 0.035  | 84.0 | .    | -0.061 |
| JEEP CHEROKEE       | BIG 3  | SUV | 1996 | NO CHANGE        | 145742 | 114928 | 260670  | 0.238  | 14745 | 13900 | 0.059  | 79.0 | 84.0 | -0.050 |
| JEEP CHEROKEE       | BIG 3  | SUV | 1997 | NO CHANGE        | 124949 | 145742 | 270691  | -0.154 | 15825 | 14745 | 0.071  | 76.0 | 79.0 | -0.030 |
| JEEP CHEROKEE       | BIG 3  | SUV | 1998 | NO CHANGE        | 143786 | 124949 | 268735  | 0.140  | 16065 | 15825 | 0.015  | 74.0 | 76.0 | -0.020 |
| JEEP WRANGLER       | BIG 3  | SUV | 1995 | NO CHANGE        | 68619  | 72584  | 141203  | -0.056 | 11995 | 11480 | 0.044  | 90.0 | .    | -0.001 |
| JEEP WRANGLER       | BIG 3  | SUV | 1996 | NO CHANGE        | 74183  | 68619  | 142802  | 0.078  | 12985 | 11995 | 0.079  | 90.0 | 90.0 | 0.000  |
| JEEP WRANGLER       | BIG 3  | SUV | 1997 | NO CHANGE        | 84270  | 74183  | 158453  | 0.127  | 13995 | 12985 | 0.075  | 86.0 | 90.0 | -0.040 |
| JEEP WRANGLER       | BIG 3  | SUV | 1998 | NO CHANGE        | 82098  | 84270  | 166368  | -0.026 | 14615 | 13995 | 0.043  | 81.0 | 86.0 | -0.050 |
| JEEP GRAND CHEROKEE | BIG 3  | SUV | 1995 | NO CHANGE        | 248418 | 238893 | 487311  | 0.039  | 23143 | 21156 | 0.090  | 93.0 | .    | 0.029  |
| JEEP GRAND CHEROKEE | BIG 3  | SUV | 1996 | NO CHANGE        | 269511 | 248418 | 517929  | 0.081  | 24093 | 23143 | 0.040  | 92.0 | 93.0 | -0.010 |
| JEEP GRAND CHEROKEE | BIG 3  | SUV | 1997 | NO CHANGE        | 267609 | 269511 | 537120  | -0.007 | 26070 | 24093 | 0.079  | 85.0 | 92.0 | -0.070 |
| JEEP GRAND CHEROKEE | BIG 3  | SUV | 1998 | COMPETITOR INTRO | 238478 | 267609 | 506087  | -0.115 | 26470 | 26070 | 0.015  | 84.0 | 85.0 | -0.010 |
| DODGE RAM VAN       | BIG 3  | VAN | 1995 | NO CHANGE        | 73470  | 86539  | 160009  | -0.164 | 14561 | 13412 | 0.082  | 90.8 | .    | 0.007  |
| DODGE RAM VAN       | BIG 3  | VAN | 1996 | NO CHANGE        | 77007  | 73470  | 150477  | 0.047  | 16893 | 14561 | 0.149  | 87.0 | 90.8 | -0.038 |
| DODGE RAM VAN       | BIG 3  | VAN | 1997 | NO CHANGE        | 82166  | 77007  | 159173  | 0.065  | 18194 | 16893 | 0.074  | 86.3 | 87.0 | -0.007 |
| DODGE RAM VAN       | BIG 3  | VAN | 1998 | NO CHANGE        | 64626  | 82166  | 146792  | -0.240 | 19074 | 18194 | 0.047  | 87.8 | 86.3 | 0.015  |
| DODGE DAKOTA        | BIG 3  | P/U | 1995 | NO CHANGE        | 116396 | 105909 | 222305  | 0.094  | 10286 | 9600  | 0.069  | 93.0 | .    | 0.029  |
| DODGE DAKOTA        | BIG 3  | P/U | 1996 | NO CHANGE        | 105929 | 116396 | 222325  | -0.094 | 11075 | 10286 | 0.074  | 89.0 | 93.0 | -0.040 |
| DODGE DAKOTA        | BIG 3  | P/U | 1997 | NO CHANGE        | 125236 | 105929 | 231165  | 0.167  | 13235 | 11075 | 0.178  | 85.0 | 89.0 | -0.040 |
| DODGE DAKOTA        | BIG 3  | P/U | 1998 | NO CHANGE        | 150745 | 125236 | 275981  | 0.185  | 13485 | 13235 | 0.019  | 86.0 | 85.0 | 0.010  |
| CARAVAN/VOYAGER/T&C | BIG 3  | VAN | 1995 | LAST YR BF REDES | 486213 | 532860 | 1019073 | -0.092 | 17044 | 16300 | 0.045  | 89.0 | .    | -0.011 |

|                        | N<br>A<br>M<br>E<br>-<br>P<br>L<br>T | V<br>E<br>H<br>I<br>C<br>L<br>E<br>-<br>T<br>Y<br>P | C<br>H<br>R<br>O<br>M<br>O<br>D<br>L |                  | S<br>A<br>L<br>E<br>S<br>-<br>C<br>Y | S<br>A<br>L<br>E<br>S<br>-<br>P<br>Y | S<br>A<br>L<br>E<br>S<br>-<br>2<br>Y | D<br>I<br>S<br>C<br>A<br>L<br>E<br>S | P<br>R<br>I<br>C<br>E<br>-<br>C<br>Y | P<br>R<br>I<br>C<br>E<br>-<br>P<br>Y | D<br>I<br>S<br>C<br>R<br>I<br>C<br>E | U<br>S<br>A<br>N<br>-<br>C<br>Y | U<br>S<br>A<br>N<br>-<br>P<br>Y | D<br>I<br>S<br>C<br>A<br>N |
|------------------------|--------------------------------------|-----------------------------------------------------|--------------------------------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|---------------------------------|----------------------------|
| CARAVAN/VOYAGER/T&C    | BIG 3                                | VAN                                                 | 1996                                 | REDES SAME NAME  | 542715                               | 486213                               | 1028928                              | 0.110                                | 17875                                | 17044                                | 0.048                                | 86.2                            | 89.0                            | -0.028                     |
| CARAVAN/VOYAGER/T&C    | BIG 3                                | VAN                                                 | 1997                                 | 2ND YR AFT REDES | 521649                               | 542715                               | 1064364                              | -0.040                               | 19184                                | 17875                                | 0.071                                | 80.3                            | 86.2                            | -0.059                     |
| CARAVAN/VOYAGER/T&C    | BIG 3                                | VAN                                                 | 1998                                 | NO CHANGE        | 522710                               | 521649                               | 1044359                              | 0.002                                | 19320                                | 19184                                | 0.007                                | 80.1                            | 80.3                            | -0.001                     |
| DODGE RAM PICKUP       | BIG 3                                | P/U                                                 | 1995                                 | 2ND YR AFT REDES | 253189                               | 206370                               | 459559                               | 0.204                                | 13188                                | 12734                                | 0.035                                | 86.0                            | .                               | -0.041                     |
| DODGE RAM PICKUP       | BIG 3                                | P/U                                                 | 1996                                 | NO CHANGE        | 369073                               | 253189                               | 622262                               | 0.377                                | 13741                                | 13188                                | 0.041                                | 77.0                            | 86.0                            | -0.090                     |
| DODGE RAM PICKUP       | BIG 3                                | P/U                                                 | 1997                                 | NO CHANGE        | 350037                               | 369073                               | 719110                               | -0.053                               | 14715                                | 13741                                | 0.068                                | 76.0                            | 77.0                            | -0.010                     |
| DODGE RAM PICKUP       | BIG 3                                | P/U                                                 | 1998                                 | NO CHANGE        | 394958                               | 350037                               | 744995                               | 0.121                                | 15125                                | 14715                                | 0.027                                | 74.0                            | 76.0                            | -0.020                     |
| FORD F-SERIES          | BIG 3                                | P/U                                                 | 1995                                 | NO CHANGE        | 698418                               | 630409                               | 1328827                              | 0.102                                | 13287                                | 12348                                | 0.073                                | 90.0                            | .                               | -0.001                     |
| FORD F-SERIES          | BIG 3                                | P/U                                                 | 1996                                 | LAST YR BF REDES | 767141                               | 698418                               | 1465559                              | 0.094                                | 14150                                | 13287                                | 0.063                                | 90.0                            | 90.0                            | 0.000                      |
| FORD F-SERIES          | BIG 3                                | P/U                                                 | 1997                                 | REDES SAME NAME  | 751492                               | 767141                               | 1518633                              | -0.021                               | 15145                                | 14150                                | 0.068                                | 90.0                            | 90.0                            | 0.000                      |
| FORD F-SERIES          | BIG 3                                | P/U                                                 | 1998                                 | 2ND YR AFT REDES | 807604                               | 751492                               | 1559096                              | 0.072                                | 15475                                | 15145                                | 0.022                                | 95.0                            | 90.0                            | 0.050                      |
| BRONCO/EXPEDTN/NAVIGTR | BIG 3                                | SUV                                                 | 1995                                 | NO CHANGE        | 34825                                | 34406                                | 69231                                | 0.012                                | 21985                                | 21725                                | 0.012                                | 95.0                            | .                               | 0.049                      |
| BRONCO/EXPEDTN/NAVIGTR | BIG 3                                | SUV                                                 | 1996                                 | LAST YR BF RENAM | 44655                                | 34825                                | 79480                                | 0.249                                | 22840                                | 21985                                | 0.038                                | 95.0                            | 95.0                            | 0.000                      |
| BRONCO/EXPEDTN/NAVIGTR | BIG 3                                | SUV                                                 | 1997                                 | REDES NEW NAME   | 217403                               | 44655                                | 262058                               | 1.583                                | 28929                                | 22840                                | 0.236                                | 85.3                            | 95.0                            | -0.097                     |
| BRONCO/EXPEDTN/NAVIGTR | BIG 3                                | SUV                                                 | 1998                                 | 2ND YR AFT REDES | 260119                               | 217403                               | 477522                               | 0.179                                | 30712                                | 28929                                | 0.060                                | 94.2                            | 85.3                            | 0.088                      |
| FORD AEROSTAR          | BIG 3                                | VAN                                                 | 1995                                 | COMPETITOR INTRO | 98239                                | 177944                               | 276183                               | -0.594                               | 16725                                | 15150                                | 0.099                                | 85.0                            | .                               | -0.051                     |
| FORD AEROSTAR          | BIG 3                                | VAN                                                 | 1996                                 | NO CHANGE        | 81403                                | 98239                                | 179642                               | -0.188                               | 16725                                | 16725                                | 0.000                                | 85.0                            | 85.0                            | 0.000                      |
| FORD AEROSTAR          | BIG 3                                | VAN                                                 | 1997                                 | LAST YR IT EXIST | 55071                                | 81403                                | 136474                               | -0.391                               | 17815                                | 16725                                | 0.063                                | 80.0                            | 85.0                            | -0.050                     |
| EXPLORER/MOUNTAINEER   | BIG 3                                | SUV                                                 | 1995                                 | LAST YR BF REDES | 345427                               | 299245                               | 644672                               | 0.144                                | 18985                                | 17470                                | 0.083                                | 80.0                            | .                               | -0.101                     |
| EXPLORER/MOUNTAINEER   | BIG 3                                | SUV                                                 | 1996                                 | REDES SAME NAME  | 404658                               | 345427                               | 750085                               | 0.158                                | 19570                                | 18985                                | 0.030                                | 75.0                            | 80.0                            | -0.050                     |
| EXPLORER/MOUNTAINEER   | BIG 3                                | SUV                                                 | 1997                                 | ADDL NAME INTROD | 431795                               | 404658                               | 836453                               | 0.065                                | 21376                                | 19570                                | 0.088                                | 76.6                            | 75.0                            | 0.016                      |
| EXPLORER/MOUNTAINEER   | BIG 3                                | SUV                                                 | 1998                                 | NO CHANGE        | 454059                               | 431795                               | 885854                               | 0.050                                | 21125                                | 21376                                | -0.012                               | 81.1                            | 76.6                            | 0.044                      |
| FORD ECONOLINE         | BIG 3                                | VAN                                                 | 1995                                 | NO CHANGE        | 199896                               | 198212                               | 398108                               | 0.008                                | 17085                                | 16348                                | 0.044                                | 90.0                            | .                               | -0.001                     |
| FORD ECONOLINE         | BIG 3                                | VAN                                                 | 1996                                 | NO CHANGE        | 178979                               | 199896                               | 378875                               | -0.111                               | 17640                                | 17085                                | 0.032                                | 95.0                            | 90.0                            | 0.050                      |
| FORD ECONOLINE         | BIG 3                                | VAN                                                 | 1997                                 | NO CHANGE        | 185946                               | 178979                               | 364925                               | 0.038                                | 19370                                | 17640                                | 0.094                                | 90.0                            | 95.0                            | -0.050                     |
| FORD ECONOLINE         | BIG 3                                | VAN                                                 | 1998                                 | NO CHANGE        | 200695                               | 185946                               | 386641                               | 0.076                                | 19885                                | 19370                                | 0.026                                | 90.0                            | 90.0                            | 0.000                      |
| FORD RANGER            | BIG 3                                | P/U                                                 | 1995                                 | NO CHANGE        | 315201                               | 350900                               | 666101                               | -0.107                               | 10224                                | 9449                                 | 0.079                                | 80.0                            | .                               | -0.101                     |
| FORD RANGER            | BIG 3                                | P/U                                                 | 1996                                 | NO CHANGE        | 290133                               | 315201                               | 605334                               | -0.083                               | 10425                                | 10224                                | 0.019                                | 85.0                            | 80.0                            | 0.050                      |
| FORD RANGER            | BIG 3                                | P/U                                                 | 1997                                 | LAST YR BF REDES | 292987                               | 290133                               | 583120                               | 0.010                                | 11480                                | 10425                                | 0.096                                | 80.0                            | 85.0                            | -0.050                     |
| FORD RANGER            | BIG 3                                | P/U                                                 | 1998                                 | REDES SAME NAME  | 323086                               | 292987                               | 616073                               | 0.098                                | 11995                                | 11480                                | 0.044                                | 80.0                            | 80.0                            | 0.000                      |
| FORD WINDSTAR          | BIG 3                                | VAN                                                 | 1996                                 | 2ND YR IT EXIST  | 198456                               | 228620                               | 427076                               | -0.141                               | 18270                                | 17745                                | 0.029                                | 90.0                            | 95.0                            | -0.050                     |
| FORD WINDSTAR          | BIG 3                                | VAN                                                 | 1997                                 | NO CHANGE        | 209717                               | 198456                               | 408173                               | 0.055                                | 19665                                | 18270                                | 0.074                                | 90.0                            | 90.0                            | 0.000                      |
| FORD WINDSTAR          | BIG 3                                | VAN                                                 | 1998                                 | NO CHANGE        | 195983                               | 209717                               | 405700                               | -0.068                               | 18790                                | 19665                                | -0.046                               | 90.0                            | 90.0                            | 0.000                      |
| MERCURY VILLAGER       | BIG 3                                | VAN                                                 | 1995                                 | NO CHANGE        | 74704                                | 73070                                | 147774                               | 0.022                                | 19045                                | 18375                                | 0.036                                | 70.0                            | .                               | -0.201                     |
| MERCURY VILLAGER       | BIG 3                                | VAN                                                 | 1996                                 | NO CHANGE        | 67795                                | 74704                                | 142499                               | -0.097                               | 19385                                | 19045                                | 0.018                                | 70.0                            | 70.0                            | 0.000                      |
| MERCURY VILLAGER       | BIG 3                                | VAN                                                 | 1997                                 | NO CHANGE        | 59807                                | 67795                                | 127602                               | -0.125                               | 20540                                | 19385                                | 0.058                                | 60.0                            | 70.0                            | -0.100                     |

| M<br>M<br>G          | N<br>A<br>M<br>E<br>-<br>P<br>L<br>T | V<br>E<br>H<br>I<br>C<br>L<br>E<br>P | C<br>U<br>R<br>Y<br>R | C<br>H<br>A<br>N<br>G<br>E<br>M<br>O<br>D<br>E<br>L | S<br>A<br>L<br>E<br>S<br>Y | S<br>A<br>L<br>E<br>S<br>Y | S<br>A<br>L<br>E<br>S<br>Y | D<br>I<br>S<br>C<br>A<br>L<br>E<br>S | P<br>R<br>I<br>C<br>E<br>Y | P<br>R<br>I<br>C<br>E<br>Y | D<br>I<br>S<br>C<br>R<br>I<br>M<br>I<br>N<br>A<br>L<br>I<br>T<br>Y | U<br>S<br>C<br>A<br>N<br>I<br>A<br>N<br>Y | U<br>S<br>C<br>A<br>N<br>I<br>A<br>N<br>Y | D<br>I<br>S<br>C<br>R<br>I<br>M<br>I<br>N<br>A<br>L<br>I<br>T<br>Y |
|----------------------|--------------------------------------|--------------------------------------|-----------------------|-----------------------------------------------------|----------------------------|----------------------------|----------------------------|--------------------------------------|----------------------------|----------------------------|--------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------------------------------|
| MERCURY VILLAGER     | BIG 3                                | VAN                                  | 1998                  | NO CHANGE                                           | 40183                      | 59807                      | 99990                      | -0.398                               | 21030                      | 20540                      | 0.024                                                              | 60.0                                      | 60.0                                      | 0.000                                                              |
| GM S/T PICKUP        | BIG 3                                | P/U                                  | 1995                  | NO CHANGE                                           | 275726                     | 288280                     | 564006                     | -0.045                               | 10524                      | 9685                       | 0.083                                                              | 95.0                                      | .                                         | 0.049                                                              |
| GM S/T PICKUP        | BIG 3                                | P/U                                  | 1996                  | NO CHANGE                                           | 234491                     | 275726                     | 510217                     | -0.162                               | 11274                      | 10524                      | 0.069                                                              | 92.0                                      | 95.0                                      | -0.030                                                             |
| GM S/T PICKUP        | BIG 3                                | P/U                                  | 1997                  | NO CHANGE                                           | 240719                     | 234491                     | 475210                     | 0.026                                | 12116                      | 11274                      | 0.072                                                              | 90.0                                      | 92.0                                      | -0.020                                                             |
| GM S/T PICKUP        | BIG 3                                | P/U                                  | 1998                  | NO CHANGE                                           | 268649                     | 240719                     | 509368                     | 0.110                                | 12511                      | 12116                      | 0.032                                                              | 90.0                                      | 90.0                                      | 0.000                                                              |
| BLAZER/JIMMY/BRAVADA | BIG 3                                | SUV                                  | 1995                  | NO CHANGE                                           | 319486                     | 226175                     | 545661                     | 0.345                                | 18708                      | 17044                      | 0.093                                                              | 95.0                                      | .                                         | 0.049                                                              |
| BLAZER/JIMMY/BRAVADA | BIG 3                                | SUV                                  | 1996                  | NO CHANGE                                           | 322365                     | 319486                     | 641851                     | 0.009                                | 19758                      | 18708                      | 0.055                                                              | 91.0                                      | 95.0                                      | -0.040                                                             |
| BLAZER/JIMMY/BRAVADA | BIG 3                                | SUV                                  | 1997                  | NO CHANGE                                           | 337750                     | 322365                     | 660115                     | 0.047                                | 21895                      | 19758                      | 0.103                                                              | 91.0                                      | 91.0                                      | 0.000                                                              |
| BLAZER/JIMMY/BRAVADA | BIG 3                                | SUV                                  | 1998                  | NO CHANGE                                           | 325842                     | 337750                     | 663592                     | -0.036                               | 23001                      | 21895                      | 0.049                                                              | 90.0                                      | 91.0                                      | -0.010                                                             |
| ASTROVAN/SAFARI      | BIG 3                                | VAN                                  | 1995                  | NO CHANGE                                           | 164897                     | 177767                     | 342664                     | -0.075                               | 17828                      | 16302                      | 0.090                                                              | 95.0                                      | .                                         | 0.049                                                              |
| ASTROVAN/SAFARI      | BIG 3                                | VAN                                  | 1996                  | NO CHANGE                                           | 163207                     | 164897                     | 328104                     | -0.010                               | 18995                      | 17828                      | 0.063                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| ASTROVAN/SAFARI      | BIG 3                                | VAN                                  | 1997                  | NO CHANGE                                           | 155764                     | 163207                     | 318971                     | -0.047                               | 19655                      | 18995                      | 0.034                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| ASTROVAN/SAFARI      | BIG 3                                | VAN                                  | 1998                  | NO CHANGE                                           | 126946                     | 155764                     | 282710                     | -0.205                               | 19941                      | 19655                      | 0.014                                                              | 90.0                                      | 95.0                                      | -0.050                                                             |
| GM G VAN             | BIG 3                                | VAN                                  | 1995                  | LAST YR BF REDES                                    | 127690                     | 122986                     | 250676                     | 0.038                                | 16927                      | 15931                      | 0.061                                                              | 95.0                                      | .                                         | 0.049                                                              |
| GM G VAN             | BIG 3                                | VAN                                  | 1996                  | REDES SAME NAME                                     | 114140                     | 127690                     | 241830                     | -0.112                               | 18658                      | 16927                      | 0.097                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| GM G VAN             | BIG 3                                | VAN                                  | 1997                  | 2ND YR AFT REDES                                    | 115723                     | 114140                     | 229863                     | 0.014                                | 19704                      | 18658                      | 0.055                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| GM G VAN             | BIG 3                                | VAN                                  | 1998                  | NO CHANGE                                           | 118237                     | 115723                     | 233960                     | 0.021                                | 20148                      | 19704                      | 0.022                                                              | 90.0                                      | 95.0                                      | -0.050                                                             |
| GM C/K PICKUP        | BIG 3                                | P/U                                  | 1995                  | NO CHANGE                                           | 720269                     | 775057                     | 1495326                    | -0.073                               | 13454                      | 12371                      | 0.084                                                              | 95.0                                      | .                                         | 0.049                                                              |
| GM C/K PICKUP        | BIG 3                                | P/U                                  | 1996                  | NO CHANGE                                           | 723791                     | 720269                     | 1444060                    | 0.005                                | 14033                      | 13454                      | 0.042                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| GM C/K PICKUP        | BIG 3                                | P/U                                  | 1997                  | NO CHANGE                                           | 715316                     | 723791                     | 1439107                    | -0.012                               | 15174                      | 14033                      | 0.078                                                              | 91.5                                      | 95.0                                      | -0.035                                                             |
| GM C/K PICKUP        | BIG 3                                | P/U                                  | 1998                  | LAST YR BF RENAM                                    | 729239                     | 715316                     | 1444555                    | 0.019                                | 15671                      | 15174                      | 0.032                                                              | 90.0                                      | 91.5                                      | -0.015                                                             |
| GEO TRACKER          | BIG 3                                | SUV                                  | 1996                  | NO CHANGE                                           | 47546                      | 41566                      | 89112                      | 0.134                                | 12970                      | 11920                      | 0.084                                                              | 40.0                                      | 40.0                                      | 0.000                                                              |
| GEO TRACKER          | BIG 3                                | SUV                                  | 1997                  | NO CHANGE                                           | 36726                      | 47546                      | 84272                      | -0.258                               | 13755                      | 12970                      | 0.059                                                              | 40.0                                      | 40.0                                      | 0.000                                                              |
| GEO TRACKER          | BIG 3                                | SUV                                  | 1998                  | NO CHANGE                                           | 21672                      | 36726                      | 58398                      | -0.527                               | 13995                      | 13755                      | 0.017                                                              | 40.0                                      | 40.0                                      | 0.000                                                              |
| GM U VAN             | BIG 3                                | VAN                                  | 1995                  | NO CHANGE                                           | 96585                      | 92768                      | 189353                     | 0.040                                | 17404                      | 16943                      | 0.027                                                              | 92.0                                      | .                                         | 0.019                                                              |
| GM U VAN             | BIG 3                                | VAN                                  | 1996                  | LAST YR BF RENAM                                    | 70573                      | 96585                      | 167158                     | -0.314                               | 18915                      | 17404                      | 0.083                                                              | 95.0                                      | 92.0                                      | 0.030                                                              |
| GM U VAN             | BIG 3                                | VAN                                  | 1997                  | REDES NEW NAME                                      | 120237                     | 70573                      | 190810                     | 0.533                                | 20957                      | 18915                      | 0.102                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| GM U VAN             | BIG 3                                | VAN                                  | 1998                  | 2ND YR AFT REDES                                    | 193582                     | 120237                     | 313819                     | 0.476                                | 21659                      | 20957                      | 0.033                                                              | 75.0                                      | 95.0                                      | -0.200                                                             |
| TAHOE/YUKON          | BIG 3                                | SUV                                  | 1995                  | NO CHANGE                                           | 80773                      | 32556                      | 113329                     | 0.909                                | 22048                      | 21349                      | 0.032                                                              | 95.0                                      | .                                         | 0.049                                                              |
| TAHOE/YUKON          | BIG 3                                | SUV                                  | 1996                  | NO CHANGE                                           | 159471                     | 80773                      | 240244                     | 0.680                                | 22886                      | 22048                      | 0.037                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| TAHOE/YUKON          | BIG 3                                | SUV                                  | 1997                  | NO CHANGE                                           | 155198                     | 159471                     | 314669                     | -0.027                               | 24163                      | 22886                      | 0.054                                                              | 90.0                                      | 95.0                                      | -0.050                                                             |
| TAHOE/YUKON          | BIG 3                                | SUV                                  | 1998                  | NO CHANGE                                           | 182918                     | 155198                     | 338116                     | 0.164                                | 26066                      | 24163                      | 0.076                                                              | 86.0                                      | 90.0                                      | -0.040                                                             |
| GM SUBURBAN          | BIG 3                                | SUV                                  | 1995                  | NO CHANGE                                           | 117217                     | 120102                     | 237319                     | -0.024                               | 21907                      | 20425                      | 0.070                                                              | 95.0                                      | .                                         | 0.049                                                              |
| GM SUBURBAN          | BIG 3                                | SUV                                  | 1996                  | NO CHANGE                                           | 125474                     | 117217                     | 242691                     | 0.068                                | 24027                      | 21907                      | 0.092                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| GM SUBURBAN          | BIG 3                                | SUV                                  | 1997                  | NO CHANGE                                           | 138912                     | 125474                     | 264386                     | 0.102                                | 25343                      | 24027                      | 0.053                                                              | 95.0                                      | 95.0                                      | 0.000                                                              |
| GM SUBURBAN          | BIG 3                                | SUV                                  | 1998                  | NO CHANGE                                           | 151066                     | 138912                     | 289978                     | 0.084                                | 26313                      | 25343                      | 0.038                                                              | 85.0                                      | 95.0                                      | -0.100                                                             |

| M<br>M<br>G        | N<br>A<br>M<br>E<br><br>-<br>P<br>L<br>T | V<br>E<br>H<br>I<br>C<br>L<br>E<br>T<br>Y<br>P<br>E | C<br>U<br>R<br>R<br>E<br>N<br>T<br>Y<br>R | C<br>H<br>A<br>N<br>G<br>E<br>M<br>O<br>D<br>E<br>L | S<br>A<br>L<br>E<br>S<br><br>-<br>C<br>Y | S<br>A<br>L<br>E<br>S<br><br>-<br>P<br>Y | S<br>A<br>L<br>E<br>S<br><br>-<br>2<br>Y | D<br>I<br>S<br>C<br>A<br>L<br>E<br>S | P<br>R<br>I<br>C<br>E<br><br>-<br>C<br>Y | P<br>R<br>I<br>C<br>E<br><br>-<br>P<br>Y | D<br>I<br>S<br>C<br>R<br>I<br>P<br>T<br>I<br>C<br>E | U<br>S<br>C<br>A<br>N<br>-<br>C<br>Y | U<br>S<br>C<br>A<br>N<br>-<br>P<br>Y | D<br>I<br>S<br>C<br>A<br>N |        |
|--------------------|------------------------------------------|-----------------------------------------------------|-------------------------------------------|-----------------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------|-----------------------------------------------------|--------------------------------------|--------------------------------------|----------------------------|--------|
|                    | NISSAN PICKUP                            | TRANSPLANT                                          | P/U                                       | 1995                                                | NO CHANGE                                | 134101                                   | 120721                                   | 254822                               | 0.105                                    | 9999                                     | 9459                                                | 0.056                                | 30.0                                 | .                          | -0.184 |
|                    | NISSAN PICKUP                            | TRANSPLANT                                          | P/U                                       | 1996                                                | NO CHANGE                                | 121240                                   | 134101                                   | 255341                               | -0.101                                   | 10999                                    | 9999                                                | 0.095                                | 30.0                                 | 30.0                       | 0.000  |
|                    | NISSAN PICKUP                            | TRANSPLANT                                          | P/U                                       | 1997                                                | NO CHANGE                                | 123619                                   | 121240                                   | 244859                               | 0.019                                    | 11469                                    | 10999                                               | 0.042                                | 40.0                                 | 30.0                       | 0.100  |
|                    | NISSAN PICKUP                            | TRANSPLANT                                          | P/U                                       | 1998                                                | NO CHANGE                                | 93362                                    | 123619                                   | 216981                               | -0.281                                   | 12480                                    | 11469                                               | 0.084                                | 45.0                                 | 40.0                       | 0.050  |
| PATHFINDER/QX4     | IMPORT                                   | SUV                                                 | 1995                                      | LAST YR BF REDES                                    | 69523                                    | 58242                                    | 127765                                   | 0.177                                | 21019                                    | 19669                                    | 0.066                                               | 0.0                                  | .                                    | -0.047                     |        |
| PATHFINDER/QX4     | IMPORT                                   | SUV                                                 | 1996                                      | REDES SAME NAME                                     | 71914                                    | 69523                                    | 141437                                   | 0.034                                | 22399                                    | 21019                                    | 0.064                                               | 5.0                                  | 0.0                                  | 0.050                      |        |
| PATHFINDER/QX4     | IMPORT                                   | SUV                                                 | 1997                                      | ADDL NAME INTROD                                    | 93598                                    | 71914                                    | 165512                                   | 0.264                                | 25424                                    | 22399                                    | 0.127                                               | 5.0                                  | 5.0                                  | 0.000                      |        |
| PATHFINDER/QX4     | IMPORT                                   | SUV                                                 | 1998                                      | NO CHANGE                                           | 85650                                    | 93598                                    | 179248                                   | -0.089                               | 26893                                    | 25424                                    | 0.056                                               | 5.0                                  | 5.0                                  | 0.000                      |        |
| NISSAN QUEST       | TRANSPLANT                               | VAN                                                 | 1995                                      | NO CHANGE                                           | 53668                                    | 48794                                    | 102462                                   | 0.095                                | 19839                                    | 19079                                    | 0.039                                               | 70.0                                 | .                                    | 0.216                      |        |
| NISSAN QUEST       | TRANSPLANT                               | VAN                                                 | 1996                                      | NO CHANGE                                           | 47526                                    | 53668                                    | 101194                                   | -0.122                               | 20899                                    | 19839                                    | 0.052                                               | 70.0                                 | 70.0                                 | 0.000                      |        |
| NISSAN QUEST       | TRANSPLANT                               | VAN                                                 | 1997                                      | NO CHANGE                                           | 45913                                    | 47526                                    | 93439                                    | -0.035                               | 21719                                    | 20899                                    | 0.038                                               | 60.0                                 | 70.0                                 | -0.100                     |        |
| NISSAN QUEST       | TRANSPLANT                               | VAN                                                 | 1998                                      | NO CHANGE                                           | 32706                                    | 45913                                    | 78619                                    | -0.339                               | 23589                                    | 21719                                    | 0.083                                               | 60.0                                 | 60.0                                 | 0.000                      |        |
| ISUZU RODEO        | TRANSPLANT                               | SUV                                                 | 1995                                      | NO CHANGE                                           | 59560                                    | 58161                                    | 117721                                   | 0.024                                | 15840                                    | 15089                                    | 0.049                                               | 35.0                                 | .                                    | -0.134                     |        |
| ISUZU RODEO        | TRANSPLANT                               | SUV                                                 | 1996                                      | NO CHANGE                                           | 63997                                    | 59560                                    | 123557                                   | 0.072                                | 17340                                    | 15840                                    | 0.090                                               | 40.0                                 | 35.0                                 | 0.050                      |        |
| ISUZU RODEO        | TRANSPLANT                               | SUV                                                 | 1997                                      | LAST YR BF REDES                                    | 61931                                    | 63997                                    | 125928                                   | -0.033                               | 17785                                    | 17340                                    | 0.025                                               | 40.0                                 | 40.0                                 | 0.000                      |        |
| ISUZU RODEO        | TRANSPLANT                               | SUV                                                 | 1998                                      | REDES SAME NAME                                     | 59336                                    | 61931                                    | 121267                                   | -0.043                               | 18440                                    | 17785                                    | 0.036                                               | 55.0                                 | 40.0                                 | 0.150                      |        |
| MAZDA PICKUP       | TRANSPLANT                               | P/U                                                 | 1995                                      | 2ND YR IT EXIST                                     | 47244                                    | 58177                                    | 105421                                   | -0.208                               | 10270                                    | 9460                                     | 0.082                                               | 80.0                                 | .                                    | 0.316                      |        |
| MAZDA PICKUP       | TRANSPLANT                               | P/U                                                 | 1996                                      | NO CHANGE                                           | 42627                                    | 47244                                    | 89871                                    | -0.103                               | 9925                                     | 10270                                    | -0.034                                              | 85.0                                 | 80.0                                 | 0.050                      |        |
| MAZDA PICKUP       | TRANSPLANT                               | P/U                                                 | 1997                                      | LAST YR BF REDES                                    | 38656                                    | 42627                                    | 81283                                    | -0.098                               | 10980                                    | 9925                                     | 0.101                                               | 75.0                                 | 85.0                                 | -0.100                     |        |
| MAZDA PICKUP       | TRANSPLANT                               | P/U                                                 | 1998                                      | REDES SAME NAME                                     | 39715                                    | 38656                                    | 78371                                    | 0.027                                | 11395                                    | 10980                                    | 0.037                                               | 80.0                                 | 75.0                                 | 0.050                      |        |
| TOYOTA PICKUP      | TRANSPLANT                               | P/U                                                 | 1995                                      | REDES NEW NAME                                      | 160737                                   | 195380                                   | 356117                                   | -0.195                               | 10348                                    | 10118                                    | 0.022                                               | 25.0                                 | .                                    | -0.234                     |        |
| TOYOTA PICKUP      | TRANSPLANT                               | P/U                                                 | 1996                                      | 2ND YR AFT REDES                                    | 144499                                   | 160737                                   | 305236                                   | -0.106                               | 12028                                    | 10348                                    | 0.150                                               | 45.0                                 | 25.0                                 | 0.200                      |        |
| TOYOTA PICKUP      | TRANSPLANT                               | P/U                                                 | 1997                                      | NO CHANGE                                           | 139963                                   | 144499                                   | 284462                                   | -0.032                               | 12658                                    | 12028                                    | 0.051                                               | 45.0                                 | 45.0                                 | 0.000                      |        |
| TOYOTA PICKUP      | TRANSPLANT                               | P/U                                                 | 1998                                      | NO CHANGE                                           | 153873                                   | 139963                                   | 293836                                   | 0.095                                | 12958                                    | 12658                                    | 0.023                                               | 45.0                                 | 45.0                                 | 0.000                      |        |
| TOYOTA 4-RUNNER    | IMPORT                                   | SUV                                                 | 1995                                      | LAST YR BF REDES                                    | 76351                                    | 68208                                    | 144559                                   | 0.113                                | 21518                                    | 20308                                    | 0.058                                               | 5.0                                  | .                                    | 0.003                      |        |
| TOYOTA 4-RUNNER    | IMPORT                                   | SUV                                                 | 1996                                      | REDES SAME NAME                                     | 93056                                    | 76351                                    | 169407                                   | 0.198                                | 19488                                    | 21518                                    | -0.099                                              | 10.0                                 | 5.0                                  | 0.050                      |        |
| TOYOTA 4-RUNNER    | IMPORT                                   | SUV                                                 | 1997                                      | 2ND YR AFT REDES                                    | 124176                                   | 93056                                    | 217232                                   | 0.288                                | 20408                                    | 19488                                    | 0.046                                               | 10.0                                 | 10.0                                 | 0.000                      |        |
| TOYOTA 4-RUNNER    | IMPORT                                   | SUV                                                 | 1998                                      | NO CHANGE                                           | 116577                                   | 124176                                   | 240753                                   | -0.063                               | 21078                                    | 20408                                    | 0.032                                               | 10.0                                 | 10.0                                 | 0.000                      |        |
| TOYOTA T-100       | IMPORT                                   | P/U                                                 | 1995                                      | NO CHANGE                                           | 32051                                    | 14032                                    | 46083                                    | 0.826                                | 13788                                    | 12998                                    | 0.059                                               | 10.0                                 | .                                    | 0.053                      |        |
| TOYOTA T-100       | IMPORT                                   | P/U                                                 | 1996                                      | NO CHANGE                                           | 37587                                    | 32051                                    | 69638                                    | 0.159                                | 14448                                    | 13788                                    | 0.047                                               | 20.0                                 | 10.0                                 | 0.100                      |        |
| TOYOTA T-100       | IMPORT                                   | P/U                                                 | 1997                                      | NO CHANGE                                           | 33806                                    | 37587                                    | 71393                                    | -0.106                               | 15098                                    | 14448                                    | 0.044                                               | 15.0                                 | 20.0                                 | -0.050                     |        |
| TOYOTA T-100       | IMPORT                                   | P/U                                                 | 1998                                      | LAST YR IT EXIST                                    | 10702                                    | 33806                                    | 44508                                    | -1.150                               | 15318                                    | 15098                                    | 0.014                                               | 15.0                                 | 15.0                                 | 0.000                      |        |
| TOYOTA RAV4        | IMPORT                                   | SUV                                                 | 1997                                      | 2ND YR IT EXIST                                     | 66732                                    | 41242                                    | 107974                                   | 0.481                                | 15538                                    | 14948                                    | 0.039                                               | 10.0                                 | 5.0                                  | 0.050                      |        |
| TOYOTA RAV4        | IMPORT                                   | SUV                                                 | 1998                                      | NO CHANGE                                           | 65260                                    | 66732                                    | 131992                                   | -0.022                               | 15858                                    | 15538                                    | 0.020                                               | 5.0                                  | 10.0                                 | -0.050                     |        |
| MITSUBISHI MONTERO | IMPORT                                   | SUV                                                 | 1995                                      | NO CHANGE                                           | 19114                                    | 13263                                    | 32377                                    | 0.365                                | 27625                                    | 24225                                    | 0.131                                               | 2.0                                  | .                                    | -0.027                     |        |
| MITSUBISHI MONTERO | IMPORT                                   | SUV                                                 | 1996                                      | NO CHANGE                                           | 13352                                    | 19114                                    | 32466                                    | -0.359                               | 28470                                    | 27625                                    | 0.030                                               | 2.0                                  | 2.0                                  | 0.000                      |        |

| M<br>M<br>G | N<br>A<br>M<br>E<br><br>P<br>L<br>T | V<br>E<br>H<br>I<br>C<br>L<br>E<br>T<br>Y<br>P<br>E | C<br>U<br>R<br>R<br>E<br>N<br>T<br>Y<br>R | C<br>H<br>A<br>N<br>G<br>E<br>M<br>O<br>D<br>E<br>L | S<br>A<br>L<br>E<br>S<br><br>C<br>Y | S<br>A<br>L<br>E<br>S<br><br>P<br>Y | S<br>A<br>L<br>E<br>S<br><br>Y | D<br>I<br>S<br>C<br>O<br>N<br>T<br>R<br>I<br>B<br>U<br>T<br>I<br>O<br>N | P<br>R<br>I<br>C<br>E<br><br>C<br>Y | P<br>R<br>I<br>C<br>E<br><br>P<br>Y | D<br>I<br>S<br>C<br>O<br>N<br>T<br>R<br>I<br>B<br>U<br>T<br>I<br>O<br>N | U<br>S<br>C<br>A<br>N<br>C<br>Y | U<br>S<br>C<br>A<br>N<br>C<br>Y | D<br>I<br>S<br>C<br>O<br>N<br>T<br>R<br>I<br>B<br>U<br>T<br>I<br>O<br>N |
|-------------|-------------------------------------|-----------------------------------------------------|-------------------------------------------|-----------------------------------------------------|-------------------------------------|-------------------------------------|--------------------------------|-------------------------------------------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------------------------------|---------------------------------|---------------------------------|-------------------------------------------------------------------------|
|             | IMPORT                              | SUV                                                 | 1997                                      | ADDL NAME INTROD                                    | 31566                               | 13352                               | 44918                          | 0.860                                                                   | 18065                               | 28470                               | -0.455                                                                  | 7.0                             | 2.0                             | 0.050                                                                   |
|             | IMPORT                              | SUV                                                 | 1998                                      | NO CHANGE                                           | 40892                               | 31566                               | 72458                          | 0.259                                                                   | 18475                               | 18065                               | 0.022                                                                   | 1.0                             | 7.0                             | -0.060                                                                  |
|             | TRANSPLANT                          | SUV                                                 | 1995                                      | 2ND YR IT EXIST                                     | 29016                               | 17148                               | 46164                          | 0.526                                                                   | 16330                               | 15660                               | 0.042                                                                   | 35.0                            | .                               | -0.134                                                                  |
|             | TRANSPLANT                          | SUV                                                 | 1996                                      | NO CHANGE                                           | 29006                               | 29016                               | 58022                          | -0.000                                                                  | 17990                               | 16330                               | 0.097                                                                   | 40.0                            | 35.0                            | 0.050                                                                   |
|             | TRANSPLANT                          | SUV                                                 | 1997                                      | LAST YR BF REDES                                    | 24619                               | 29006                               | 53625                          | -0.164                                                                  | 21865                               | 17990                               | 0.195                                                                   | 40.0                            | 40.0                            | 0.000                                                                   |
|             | TRANSPLANT                          | SUV                                                 | 1998                                      | REDES SAME NAME                                     | 24677                               | 24619                               | 49296                          | 0.002                                                                   | 23095                               | 21865                               | 0.055                                                                   | 55.0                            | 40.0                            | 0.150                                                                   |
|             | IMPORT                              | VAN                                                 | 1996                                      | 2ND YR IT EXIST                                     | 29101                               | 19096                               | 48197                          | 0.421                                                                   | 23560                               | 23215                               | 0.015                                                                   | 5.0                             | 5.0                             | 0.000                                                                   |
|             | IMPORT                              | VAN                                                 | 1997                                      | NO CHANGE                                           | 21897                               | 29101                               | 50998                          | -0.284                                                                  | 23955                               | 23560                               | 0.017                                                                   | 5.0                             | 5.0                             | 0.000                                                                   |
|             | IMPORT                              | VAN                                                 | 1998                                      | LAST YR BF REDES                                    | 16029                               | 21897                               | 37926                          | -0.312                                                                  | 24205                               | 23955                               | 0.010                                                                   | 5.0                             | 5.0                             | 0.000                                                                   |
|             | IMPORT                              | SUV                                                 | 1998                                      | 2ND YR IT EXIST                                     | 91700                               | 50959                               | 142659                         | 0.588                                                                   | 18745                               | 19695                               | -0.049                                                                  | 5.0                             | 0.0                             | 0.050                                                                   |
|             | IMPORT                              | SUV                                                 | 1995                                      | NO CHANGE                                           | 17901                               | 9179                                | 27080                          | 0.668                                                                   | 28650                               | 27900                               | 0.027                                                                   | 0.0                             | .                               | -0.047                                                                  |
|             | IMPORT                              | SUV                                                 | 1996                                      | NO CHANGE                                           | 23362                               | 17901                               | 41263                          | 0.266                                                                   | 29950                               | 28650                               | 0.044                                                                   | 0.0                             | 0.0                             | 0.000                                                                   |
|             | IMPORT                              | SUV                                                 | 1997                                      | NO CHANGE                                           | 24704                               | 23362                               | 48066                          | 0.056                                                                   | 32625                               | 29950                               | 0.086                                                                   | 0.0                             | 0.0                             | 0.000                                                                   |
|             | IMPORT                              | SUV                                                 | 1998                                      | NO CHANGE                                           | 20686                               | 24704                               | 45390                          | -0.178                                                                  | 35625                               | 32625                               | 0.088                                                                   | 0.0                             | 0.0                             | 0.000                                                                   |



## APPENDIX C

### REQUEST FOR PUBLIC COMMENT ON PROPOSED COLLECTION OF INFORMATION

[Federal Register: July 24, 1997 (Volume 62, Number 142)]  
[Notices]  
[Page 39886]  
From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
[DOCID:fr24jy97-134]

[[Page 39886]]

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DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration  
[Docket No. 92-64; Notice 12]

Reports, Forms, and Recordkeeping Requirements

AGENCY: National Highway Traffic Safety Administration (NHTSA),  
Department of Transportation (DOT).

ACTION: Request for public comment on proposed collections of  
information.

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SUMMARY: Before a Federal agency can collect certain information from  
the public, it must receive approval from the Office of Management and  
Budget (OMB). Under procedures established by the Paperwork Reduction  
Act of 1995, before seeking OMB approval, Federal Agencies must solicit  
public comment on the proposed collections of information, including  
extensions and reinstatements of previously approved collections.

DATES: Comments must be received on or before September 22, 1997.

ADDRESSES. Comments must refer to the docket and notice numbers cited  
at the beginning of this notice and be submitted to the Docket Section,  
Room 5109, 400 Seventh Street, SW., Washington, DC 20590. It is  
requested, but not required, that one original plus two copies of the  
comments be provided. The Docket hours are from 9:30 a.m. to 4 p.m.,  
Monday through Friday.

FOR FURTHER INFORMATION CONTACT: Complete copies of each NHTSA request  
for collection of information may be obtained at no charge from Mr.  
Edward Kosek, NHTSA Information Collection Clearance Officer, NHTSA,  
400 Seventh Street SW, Washington, DC 20590. Mr. Kosek's telephone  
number is (202) 366-2589. Please identify the relevant collection of  
information by referring to its OMB Clearance Number.

SUPPLEMENTARY INFORMATION: Under the Paperwork Reduction Act of 1995,  
before an agency submits a proposed collection of information to OMB  
for approval, it must publish a document in the Federal Register  
providing a 60-day comment period and otherwise consult with members of  
the public and affected agencies concerning each proposed collection of  
information. The OMB has promulgated regulations describing what must  
be included in such a document. Under OMB's regulations (at 5 CFR  
1320.8(d)), an agency must ask for public comment on the following:

(i) Whether the proposed collection of information is necessary for  
the proper performance of the functions of the agency, including  
whether the information will have practical utility;

(ii) The accuracy of the agency's estimates of the burden of the  
proposed collection of information, including the validity of the  
methodology and assumptions used;

(iii) How to enhance the quality, utility, and clarity of

information to be collected; and

(iv) How to minimize the burden of the collection of information on those who are to respond, including the use of appropriate automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses. In compliance with these requirements, NHTSA asks public comment on the following proposed collections of information:

Title--American Automobile Labeling Act.

Type of Request--New collection.

OMB Clearance Number--New collection.

Form Number--This collection of information uses no standard forms.

Requested Expiration Date of Approval--Three years from approval date.

Summary of the Collection of Information--NHTSA will conduct three surveys to collect information from potential and actual purchasers of new passenger cars, light trucks, and multipurpose passenger vehicles; new vehicle dealers; and domestic and foreign-based manufacturers of these vehicles.

Description of the Need for the Information and Proposed Use of the Information--Under Executive Order 12866, "Regulatory Planning and Review" NHTSA is required to conduct periodic evaluations to assess the effectiveness of its existing regulations and programs. Since this regulation has been in effect for at least a full year, NHTSA intends to collect data through the administration of three surveys, to evaluate the effectiveness of the American Automobile Labeling Act.

Description of the Likely Respondents (Including Estimated Number, and Proposed Frequency of Response to the Collection of Information--NHTSA estimates that at least 6,250 telephone calls will be made to consumers, with a target for successfully completed responses of 800 persons. NHTSA estimates that 300 vehicle dealers will be contacted to obtain 200 completed responses. NHTSA anticipates that about 23 vehicle manufacturers will be affected by the reporting requirements. NHTSA does not believe any of these manufacturers is a small business (i.e., one that employs less than 500 persons) since each manufacturer employs more than 500 persons. Each of the surveys is a one-time collection.

Estimate of the Total Annual Reporting and Recordkeeping Burden Resulting from the Collection of Information--NHTSA estimates that the total reporting burden for consumers will amount to approximately 224 hours. The total information collection burden on dealers will amount to approximately 1,650 hours, and the total information collection burden on all manufacturers will amount to approximately 230 hours. The total reporting burden for this project is estimated at 2,104 hours; the total recordkeeping costs for the one-time collection of information is estimated at \$53,705.00

.Issued on: July 18, 1997.

William H. Walsh,

Associate Administrator for Plans and Policy.

[FR Doc. 97-19518 Filed 7-23-97; 8:45 am]

BILLING CODE 4910-59-P



## APPENDIX D

### CONSUMER SURVEY QUESTIONNAIRE

Questions nos. 22 and 24 in the consumer survey were omitted from the analyses in this report subsequent to legislation amending domestic content cost procedures (Transportation Equity Act For the 21<sup>st</sup> Century, TEA-21) and industry discussions.

New Vehicle Labeling Study-- Consumer Survey Questionnaire

(INTERVIEWER: IF NECESSARY, VERIFY YOU ARE SPEAKING TO AN ADULT, 18+)

INTRODUCTION: Hello, I'm \_\_\_\_\_  
calling from Chilton Research Services. We are conducting a survey  
about automobiles and would like to include you or someone in your  
household among the people who get to express their opinion.

[IF Q.S5 WAS ASKED ON A PREVIOUS CALL, INSERT BEFORE INTRODUCTION: May I  
please speak to (FILL NAME FROM Q.S5)?

[GOVERNMENT CODING: DON'T KNOW = 8 OR 98 AND REFUSED = 9 OR 99]

[1 OUT OF 10 RESPONDENTS WHO DO NOT SCREEN IN (Q.S1=2/D/R AND  
Q.S2=2/D/R) WILL BE ASKED DEMOGRAPHIC QUESTIONS ONLY. THESE ARE  
CONSIDERED SHORT COMPLETES.]

2/70

QUOTAS:

- 1 PURCHASERS (Q.S1=1 AND Q.S3=1)
- 2 WILL PURCHASE (PLANNERS) (Q.S2=1 AND Q.S3=1)
- 3 SHORT COMPLETES (Q.S1=2/D/R, Q.S2=2/D/R AND COMPLETED DEMOGRAPHICS)

[AFTER WE HAVE REACHED THE QUOTA FOR EITHER ONE OF THESE CATEGORIES, WE DO  
NOT WANT TO ASK THAT QUESTION ANYMORE. FOR EXAMPLE, IF WE REACH OUR  
COMPLETES FOR **PURCHASERS**, WE DO NOT WANT TO ASK Q.S1 ANYMORE. WE WILL JUST  
ASK Q.S2 FOR ALL RESPONDENTS FROM THAT POINT ON.]

[IF QUOTA FOR PURCHASERS IS FULL, SKIP TO Q.S2]

2/71

- S1. In the past six months have you or someone else in your household  
purchased or leased a NEW car, truck, van, or sport utility vehicle?  
By new we mean Model Year 1998, 1999 or 2000. Please do not include  
the purchase of a "used" vehicle.

- |   |            |
|---|------------|
| 1 | Yes        |
| 2 | No         |
| 8 | Don't know |
| 9 | Refused    |

[IF Q.S1 = 1, SKIP TO Q.S3.]

2/72

S2. In the next three months, do you or does anyone else in your household plan to purchase or lease a NEW car, truck, van, or sport utility vehicle? Remember, by new we mean Model Year 1998, 1999 or 2000. Please do not include the purchase of a "used" vehicle.

- |   |            |
|---|------------|
| 1 | Yes        |
| 2 | No         |
| 8 | Don't know |
| 9 | Refused    |

[IF S2 = 1, CONTINUE. IF Q.S2 = 2, 3, D OR R, SKIP 1 OUT OF EVERY 10 RESPONDENTS TO Q.D1, TERMINATE ALL OTHERS.]

2/75

[IF Q.S2 = 1, FILL VERBIAGE IN PARENTHESES]

S3. Are you the person who was (will be) most responsible for making that purchase or lease decision? (INTERVIEWER: IF MORE THAN ONE PERSON RESPONSIBLE, ASK TO SPEAK TO THE ONE WHO LAST HAD A BIRTHDAY).

- |   |            |
|---|------------|
| 1 | Yes        |
| 2 | No         |
| 8 | Don't know |
| 9 | Refused    |

[IF Q.S3 = 1, SKIP TO Q.1. IF Q.S3 = D OR R, TERMINATE]

[IF Q.S2 = 1, FILL VERBIAGE IN PARENTHESES]

S4. May I please speak to the person who was (will be) most responsible for making that purchase or lease decision?

- |   |                                       |
|---|---------------------------------------|
| 1 | Yes, person is coming to the phone    |
| 2 | No, person is not available right now |
| 8 | Don't know                            |
| 9 | Refused                               |

[IF Q.S4 = 1, REPEAT INTRODUCTION AND RE-ASK Q.S1 AND Q.S2.]

[If Q.S4 = D OR R, TERMINATE.]

S5. May I please have that person's name so that when I call back I know who to ask for? (INTERVIEWER: ASK WHEN IS THE BEST TIME TO REACH THIS PERSON.)

[SET UP CALL BACK]

01. I am going to read you a number of reasons why people choose to buy or lease a new vehicle. For each one, please tell me whether or not it is an important reason why you would buy or lease a new vehicle?  
(READ ITEM) Is that an important reason or not an important reason why you would buy or lease a new vehicle?

|                   |   |
|-------------------|---|
| Yes, important    | 1 |
| No, not important | 2 |
| Don't know        | 8 |
| Refused           | 9 |

[ROTATE LIST OF ATTRIBUTES]

3/8 A. How the vehicle drives  
3/9 B. The style or look of the vehicle  
3/10 C. That it is made in the USA or Canada  
3/11 D. That it is a foreign vehicle  
3/12 E. The price of the vehicle  
3/13 F. The reliability  
3/14 G. The fuel economy  
3/15 H. The vehicle size  
3/16 I. Optional equipment  
3/17 J. It's the brand I always buy  
3/18 K. Brand Image  
3/19 L. Safety  
3/20 M. Dealer Reputation  
3/21 N. Manufacturer Reputation  
3/22 O. Cargo Capacity

[REPRESENT ATTRIBUTES CHOSEN AS IMPORTANT IN Q.01 (ATTRIBUTE=CODE 1); IF ONLY ONE RESPONSE IN Q.01, INSERT RESPONSE FROM Q.01 INTO Q.02 AND SKIP TO Q.03]

[ACCEPT ONLY ONE RESPONSE]

3/23-24

02. Of those you mentioned as important, what is the most important reason you would choose to buy or lease a new vehicle? (INTERVIEWER: READ LIST, IF NECESSARY. ACCEPT ONLY ONE RESPONSE.)

- 01 How the vehicle drives
- 02 The style or look of the vehicle
- 03 That it is made in the USA or Canada
- 04 That it is a foreign vehicle
- 05 The price of the vehicle
- 06 The reliability
- 07 The fuel economy
- 08 The vehicle size
- 09 Optional equipment
- 10 It's the brand I always buy
- 11 Brand Image
- 12 Safety
- 13 Dealer Reputation
- 14 Manufacturer Reputation
- 15 Cargo Capacity
- 16 Other (SPECIFY)
- 98 Don't know
- 99 Refused

For the next few questions, I'd like you to answer by using a scale from 1 to 7, where "1" means not at all important and "7" means very important. You may use any number in between.

3/25

03. When buying or leasing a new vehicle, how important is it to you to know in what country the vehicle's parts are manufactured? (IF NECESSARY READ: Please use a scale from 1 to 7, where "1" means not at all important and "7" means very important.)

- 1 Not at all important
- 2
- 3
- 4
- 5
- 6
- 7 Very important
- 8 Don't know
- 9 Refused

[ASK HALF OF THE RESPONDENTS Q.04 AND HALF Q.05]

3/27

04. Again, using the same 1 to 7 scale, please rate how important it is to you to know the percentage of the parts that were manufactured in one country versus another country? For example, 70 percent of the parts were manufactured in Country A and 30 percent of the parts were built in Country B. (IF NECESSARY, READ: A "1" means not at all important and "7" means very important).

- |   |                      |
|---|----------------------|
| 1 | Not at all important |
| 2 |                      |
| 3 |                      |
| 4 |                      |
| 5 |                      |
| 6 |                      |
| 7 | Very important       |
| 8 | Don't know           |
| 9 | Refused              |

[IF ASKED Q.04, SKIP TO Q.06]

3/28

05. Again, using the same 1 to 7 scale, please rate how important it is to you to know the percentage of the parts that were manufactured in one country versus another country? For example, 70 percent of the parts were manufactured in the United States and 30 percent of the parts were built in Japan. (IF NECESSARY, READ: A "1" means not at all important and "7" means very important).

- |   |                      |
|---|----------------------|
| 1 | Not at all important |
| 2 |                      |
| 3 |                      |
| 4 |                      |
| 5 |                      |
| 6 |                      |
| 7 | Very important       |
| 8 | Don't know           |
| 9 | Refused              |

3/29

06. Using the same 1 to 7 scale, please rate how important it is to you to know in what country the entire vehicle is built? (IF NECESSARY, READ: A "1" means not at all important and "7" means very important).

- |   |                      |
|---|----------------------|
| 1 | Not at all important |
| 2 |                      |
| 3 |                      |
| 4 |                      |
| 5 |                      |
| 6 |                      |
| 7 | Very important       |
| 8 | Don't know           |
| 9 | Refused              |

[IF Q.S1=1 ASK Q.07, OTHERWISE SKIP TO Q.11]

3/30-36

3/37-43

3/44-50

[ACCEPT UP TO 3 RESPONSES]

07. What is the make and model of the vehicle that you bought or leased in the last six months? Please tell me about new vehicles only, that is Model Year 1998, 1999 or 2000 vehicles. (IF RESPONDENT PURCHASED/LEASED MORE THAN ONE VEHICLE IN THE LAST SIX MONTHS RECORD ALL.)

INSERT NEW CARS AND LIGHT TRUCKS MAKE/MODEL LIST

[IF ONE RESPONSE IN Q.07, SKIP TO Q.09]

[IF MORE THAN ONE RESPONSE IN Q.07 ASK Q.08; REPRESENT RESPONSES FROM Q.07]

3/75

08. Which of these vehicles did you purchase most recently? (IF RESPONDENT SAYS VEHICLES WERE PURCHASED ON THE SAME DAY ASK: Which vehicle do you drive most often?)

3/76-77

09. What country do you think this vehicle was made in? (DO NOT READ LIST)

- 01 United States/U.S./America
- 02 Japan
- 03 Germany
- 04 Korea
- 05 Mexico
- 06 Italy
- 07 England/Great Britain
- 08 Canada
- 09 Venezuela
- 10 France
- 11 Other (SPECIFY)
- 98 Don't know
- 99 Refused

4/18

10. Did you purchase or lease this vehicle directly from a dealer or did you go through a service where you didn't have to go to a dealer?

- 1 Through dealer
- 2 Not through dealer
- 8 Don't Know
- 9 Refused

[IF Q.S2=1 ASK Q11. OTHERWISE, SKIP TO Q.13]

4/19-25

4/26-32

4/33-39

[ACCEPT UP TO 3 RESPONSES]

11. What are the makes and models of the vehicles that you are thinking about buying or leasing in the next three months? Please tell me about new vehicles only, that is Model Year 1998, 1999 or 2000 vehicles.

INSERT NEW CARS AND LIGHT TRUCKS MAKE/MODEL LIST

4/64

12. Are you planning to purchase or lease your vehicle directly from a dealer or do you plan to go through a service where you wouldn't have to go to a dealer?

- |   |                    |
|---|--------------------|
| 1 | Through dealer     |
| 2 | Not through dealer |
| 8 | Don't Know         |
| 9 | Refused            |

[REPRESENT ATTRIBUTES CHOSEN AS IMPORTANT (ATTRIBUTE=CODE 1) IN Q.01 AND ITEM P (US/CANADIAN PARTS CONTENT LABEL.) ITEM P SHOULD APPEAR FOR EVERY RESPONDENT. ROTATE ATTRIBUTES. USE VERBIAGE IN PARENTHESES IF Q.S2=1]

13. I am going to read you a list of factors people consider when buying or leasing a new vehicle. Please rate each one using a 1 to 7 scale, where "1" means it was (is) not at all a factor and "7" means it was(is) a very important factor to you when you bought (will buy) your last (next) vehicle. Here's the first: (READ ITEM:)

- |   |                       |
|---|-----------------------|
| 1 | Not at all a factor   |
| 2 |                       |
| 3 |                       |
| 4 |                       |
| 5 |                       |
| 6 |                       |
| 7 | Very important factor |
| 8 | Don't know            |
| 9 | Refused               |

- 4/67 A. How the vehicle drives
- 4/68 B. The style or look of the vehicle
- 4/69 C. That it is made in the USA or Canada
- 4/70 D. That it is a foreign vehicle
- 4/71 E. The price of the vehicle
- 4/72 F. The reliability
- 4/73 G. The fuel economy
- 4/74 H. The vehicle size
- 4/75 I. Optional equipment
- 4/76 J. It's the brand I always buy
- 4/77 K. Brand Image
- 4/78 L. Safety
- 4/79 M. Dealer Reputation
- 4/80 N. Manufacturer Reputation
- 5/08 O. Cargo Capacity
- 5/09 P. The U.S./Canadian parts content label

5/10

14. Are there any other factors that I did not mention that you consider to be very important?

- |            |   |
|------------|---|
| Yes        | 1 |
| No         | 2 |
| Don't know | 8 |
| Refused    | 9 |

[IF Q.14 = 2, D OR R, SKIP TO Q.16.]

8/46-47 thru 8/52-53

15. What are these factors?

(INTERVIEWER: TYPE IN RESPONSE. PROBE AND CLARIFY.)

16. I am now going to read you a list of different makes of cars and trucks. For each, please tell me in what country that vehicle is built? Just give me your best guess. Here's the first:

- 01 United States/U.S./America
- 02 Japan
- 03 Germany
- 04 Korea
- 05 Mexico
- 06 Italy
- 07 England/Great Britain
- 08 Canada
- 09 Venezuela
- 10 France
- 11 Other, SPECIFY
- 98 Don't know
- 99 Refused

[ROTATE LIST]

- 5/15-16 A. Acura Integra
- 5/17-18 B. Jaguar
- 5/19-20 C. Toyota Camry
- 5/21-22 D. Volkswagon Jetta
- 5/23-24 E. BMW Z3
- 5/25-26 F. Chevy Blazer
- 5/27-28 G. Ford Explorer

5/50-51

5/52-53

5/54-55

[ACCEPT UP TO THREE RESPONSES]

17. How would you find out if a vehicle was built in U.S./Canada or elsewhere? (DO NOT READ LIST)

- 01 Parts Content Label
- 02 Advertisement
- 03 Sales Brochure
- 04 Internet
- 05 Magazine Article
- 06 Newspaper Article
- 07 Discussions with other people
- 08 Other (SPECIFY)
- 98 Don't know
- 99 Refused

5/61

18. Have you heard or read about a law that requires car and truck dealers and manufacturers to place a label on all new vehicles showing in what country the vehicle and its parts were made?

- 1 Yes, have heard or read
- 2 No, have not heard or read
- 8 Don't know
- 9 Refused

5/62

19. Have you heard or read about the parts content label?

- 1 Yes, have heard or read
- 2 No, have not heard or read
- 8 Don't know
- 9 Refused

[IF Q.19 = 2, D OR R, SKIP TO Q.32.]

5/63

20. Have you ever seen this label?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

9/8-9 thru 9/14-15

21. What do you think the numbers on the label mean?

(INTERVIEWER: TYPE IN RESPONSE. PROBE AND CLARIFY.)

8 Don't know

9 Refused

22. To the best of your knowledge, is a part made in (READ COUNTRY) included on the parts content label as being made in America, or not?

1 Yes

2 No

8 Don't know

9 Refused

5/68 A. Canada

5/69 B. Mexico

5/77

23. To the best of your knowledge, if a foreign car is built in the United States, does the U.S./Canadian parts content label list it as a U.S.-made or foreign-made vehicle?

1 U.S. made

2 Foreign-made

8 Don't know

9 Refused

5/78

24. In fact, the labor hours of workers in U.S. plants owned by foreign companies does not count as U.S. content. Knowing that, would that have made a difference to you when considering the type of vehicle to purchase?

1 Yes

2 No

8 Don't know

9 Refused

5/79

25. When you went to the dealership did you read the U.S./Canadian parts content label, or not?

- 1 Yes
- 2 No
- 3 Did not go to a dealership
- 8 Don't know
- 9 Refused

[IF Q.25 = 2, 3, D OR R, SKIP TO Q.33.]

5/80

26. How easy was the label to understand? Was it very easy to understand, somewhat easy, not too easy, or not easy at all?

- 4 Very easy
- 3 Somewhat easy
- 2 Not too easy
- 1 Not easy at all
- 8 Do not recall/Don't Know
- 9 Refused

[USE VERBIAGE IN PARENTHESES IF Q. 08 WAS ASKED; INSERT RESPONSE FROM Q.8]

6/08

27. (When answering the following questions, please think only about the purchase/lease of your [insert response from Q.08].)

Did the salesperson point out the U.S./Canadian parts content label to you or did you come across it on your own?

- 1 Salesperson pointed it out
- 2 Came across it on own
- 8 Don't know
- 9 Refused

[IF Q.27 = 2, D OR R, SKIP TO Q.29.]

6/09

28. Did the salesperson explain to you what the U.S./Canadian parts content label means?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[IF Q.S2 = 1, USE VERBIAGE IN PARENTHESES]

6/10

29. How much influence did (has) the information on the label have (had) on your purchase or lease considerations? On a scale of 1 to 7, where "1" means no influence at all and a "7" means a great deal of influence, please rate how much influence the label had (has had) on your purchase or lease consideration?

- 1 No influence at all
- 2
- 3
- 4
- 5
- 6
- 7 A great deal of influence
- 8 Don't know
- 9 Refused

[ASK Q. 30 IF Q.29 = 5, 6, OR 7. OTHERWISE SKIP TO Q.31.]

9/16-17 thru 9/22-23

30. In what ways did the information on the label influence your purchase considerations?

(INTERVIEWER: TYPE IN RESPONSE. PROBE AND CLARIFY.)

[Ask Q.31 if Q. 27 = 1. OTHERWISE SKIP TO Q.32]

6/14

31. Did the salesperson make it an important part of his/her sales presentation to you, or not?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[ASK Q. 32 IF Q.19= 2, D, OR R. OTHERWISE, SKIP TO Q.33.]

6/15

32. Now that you are aware of the label, would the label influence your future purchase of a vehicle?

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

6/16

33. How often do you make it a point to "buy American" whether its cars **or any other items**? Would you say always, sometimes, rarely or never?

- 1 Always
- 2 Sometimes
- 3 Rarely
- 4 Never
- 8 Don't know
- 9 Refused

The following questions are for classification purposes only:

6/17

D1. Do you consider yourself to be the head of household? (INTERVIEWER: IF RESPONDENT SAYS HE/SHE IS "CO-HEAD" OF HOUSEHOLD, ENTER A "1")

- 1 Yes
- 2 No
- 8 Don't know
- 9 Refused

[IF Q.D1 = 1, SKIP TO Q.D6.]

6/18-19

[ONLY ACCEPT 18 TO 97]

D2. What is the age of the person whom you consider to be the head of your household? (IF NEEDED: Just your best estimate is fine.)

\_\_\_ (ENTER NUMBER 18 TO 97; ENTER 97 IF R IS 97 YEARS OLD OR OLDER)

99 Refused

6/20

D3. What gender is that person?

- 1 Male
- 2 Female
- 9 Refused

6/21

D4. What is the last grade of school that the head of household completed? (IF NEEDED: Just your best estimate is fine.)

- 1 8th Grade or Less
- 2 Some High School
- 3 Graduated High School
- 4 Trade or Technical School
- 5 Some College
- 6 Graduated College
- 7 Post-graduate
- 8 Don't Know
- 9 Refused

6/22-23

D5. Is that person of Hispanic origin or background?

(IF "YES," ASK:) Is that person White Hispanic or Black Hispanic?

(IF "NO," ASK:) Is that person white, black or African-American, or some other race?

- 01 White/Caucasian
- 02 Black/African American
- 03 White Hispanic
- 04 Black Hispanic
- 05 Hispanic (no race given)
- 06 Other (SPECIFY)
- 99 Refused

6/24-25

[DO NOT ALLOW 00 FOR NUMBER OF ADULTS]

D6. Counting yourself, how many adults live in your household? (PROBE:  
DID THAT INCLUDE YOURSELF?)

\_\_ \_\_ ADULTS (CANNOT BE LESS THAN ONE)

99 Refused

6/26-28

D7. Of those adults, how many are male?

\_\_ \_\_ MALES

99 Refused

6/29-31

D7. Of those adults, how many are female?

\_\_ \_\_ FEMALES

99 Refused

[AFTER RESPONSE, CALCULATE: NUMBER OF MALES PLUS NUMBER OF FEMALES IN  
Q.D7 MUST EQUAL TOTAL NUMBER OF ADULTS IN Q.D6]

[IF SHORT COMPLETE (S2=2, 3, D or R) **AND** Q.D1 = 2, 3, D OR R, SKIP TO  
Q.D14.]

6/32

D8. What was the last grade of school you completed?

- 1 8th Grade or Less
- 2 Some High School
- 3 Graduated High School
- 4 Trade or Technical School
- 5 Some College
- 6 Graduated College
- 7 Post-graduate
- 8 Don't Know
- 9 Refused

[VALID RANGE IS 1900 - 1980; AFTER RESPONSE, CALCULATE AGE AND INSERT IN Q.D10]

6/35-36

Calculated Age

0 to 97

98 Don't know

99 Refused

6/37-40

D9. In what year were you born?

- - - -

9998 Don't Know

9999 Refused

6/41

D10a. Just to confirm, you are [INSERT AGE] years old?

1 Yes

2 No

9 Refused

[IF Q. D10a = 2, CONTINUE. OTHERWISE, SKIP TO INSTRUCTION ABOVE D.11a.]

6/42

D10b. Then you must be [INSERT AGE] years old?

1 Yes

2 No

9 Refused

[IF SHORT COMPLETE (Q.S2 =2, 3, D, OR R), SKIP TO Q.D13\*\*

9/26-28

D11a. What is your occupation or job title?

(INTERVIEWER: TYPE IN RESPONSE. PROBE AND CLARIFY.)

98 Don't know

99 Refused

NOT CODED

D11b. What are your duties?

(INTERVIEWER: TYPE IN RESPONSE. PROBE AND CLARIFY.)

8 Don't know

9 Refused

9/29-31

D11c. In what business or industry is this?

(INTERVIEWER: TYPE IN RESPONSE. PROBE AND CLARIFY.)

98 Don't know

99 Refused

6/52

D12. Would you describe the area in which you live as a: (READ LIST)

1 Large city

2 Suburb of a large city

3 Small town

4 Or rural area

---DO NOT READ BELOW---

8 Don't Know

9 Refused

6/53-54

D13. Are you of Hispanic origin or background?

(IF "YES," ASK:) Are you White Hispanic or Black Hispanic? (IF "NO," ASK:) Are you white, black or African-American, or some other race?

01 White/Caucasian

02 Black/African American

03 White Hispanic

04 Black Hispanic

05 Hispanic (no race given)

06 Other, SPECIFY

99 Refused

6/55

D14. If you added together the yearly incomes, before taxes, of all the members of your household for last year, 1997, would the total be:  
(READ LIST)

- 1 Less than \$30,000, or
- 2 More than \$30,000

---DO NOT READ BELOW---

- 8 Don't Know
- 9 Refused

[IF Q.D14 = 2, SKIP TO Q. D16. IF Q.D14 = D OR R, SKIP TO Q.D17.]

6/56

D15. Would that be: (READ LIST)

- 1 Under \$20,000
- 2 Over \$20,000 but less than \$30,000

(---DO NOT READ BELOW---

- 8 Don't Know
- 9 Refused

[IF Q.D15 WAS ASKED, SKIP TO Q.D17]

6/57

D16. Would that be: (READ LIST)

- |                                  |   |
|----------------------------------|---|
| \$30,000 but less than \$50,000  | 1 |
| \$50,000 but less than \$75,000  | 2 |
| \$75,000 but less than \$100,000 | 3 |
| Or more than \$100,000           | 4 |

---DO NOT READ BELOW---

- 8 Don't Know
- 9 Refused

6/58

D17. (INTERVIEWER: RECORD GENDER. IF NECESSARY SAY: I am recording that you are INSERT GENDER.)

- 1 Male
- 2 Female

Those are all the questions I have. Thank you very much for your time and cooperation. Have a good evening.

## APPENDIX E

### MANUFACTURER SURVEY QUESTIONNAIRE

Questions no. 17 in Part A and no. 20 in Part B of the manufacturer survey were not used in the analyses of this report.

# **National Highway Traffic Safety Administration**

## **New Vehicle Labeling Study Manufacturer Survey**

Thank you very much for taking the time to fill out this survey. Your input is important to us. Please read each question carefully and check the response that most closely represents your views or record your response in the space provided. You will also find specific instructions in bold print; please read them carefully.

OMB NO: 2127-0593  
EXPIRATION DATE: 8/31/2001

## Part A. Sales/Customer Relations

1. What is your job title?

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2. What make(s) of vehicle(s) do you manufacture?

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3. On a scale of 1 to 7 where 1 means "not at all a factor" and 7 means "a very important factor", in your opinion, how much is US/Canadian parts content a factor in selling vehicles in the United States?

| Not at all<br>a factor     |                            |                            |                            |                            |                            |                            | Very<br>important<br>factor | Don't Know |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|------------|
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y  |            |

4. What percentage of customers do you think is aware of the existence of parts content information labels?

\_\_\_\_\_ %

5. Did you give dealers any guidelines or materials for training sales staff to explain the information on the parts content label?

- ☐ 1 Yes  
☐ 2 No → Skip to Question 6  
☐ Y Don't know

5a. What did you provide them with? Please enclose if available.

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6. Do you encourage or require dealers to make customers aware of parts content information labels?

- ☐ 1 Yes → Skip to Question 7  
☐ 2 No  
☐ Y Don't know

6a. Have you ever done this?

- ☐ 1 Yes  
☐ 2 No → Skip to Question 7  
☐ Y Don't know

6b. In what month and year did you discontinue this practice?

\_\_\_\_ / \_\_\_\_  
Month Year

Why?

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7. Do you provide dealers with any guidance or recommendations for using the parts content information label as a selling point?

- ☐ 1 Yes → Skip to Question 8  
☐ 2 No  
☐ Y Don't know

7a. Have you ever done this?

- ☐ 1 Yes  
☐ 2 No → Skip to Question 8  
☐ Y Don't know

7b. In what month and year did you discontinue this practice?

\_\_\_\_ / \_\_\_\_  
Month Year

Why?

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8. Do you provide customers with information about US/Canadian parts content in addition to the label?

- ☐ 1 Yes → Skip to Question 9  
☐ 2 No  
☐ Y Don't know

8a. Have you ever done this?

- ☐ 1 Yes  
☐ 2 No → Skip to Question 10  
☐ Y Don't know

8b. In what month and year did you discontinue this practice?

\_\_\_\_ / \_\_\_\_  
Month Year

Why?

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9. How do/did you provide information to customers about US/Canadian parts content?  
(Please check all that apply.)

- ☐ 1 Through a brochure/guide  
☐ 2 Provide an 800 number on the label inviting questions  
☐ 3 Through advertising  
☐ 0 Other, Please specify: \_\_\_\_\_  
☐ Y Don't know

10. Is "Built in America" or some other reference to America used in your advertising strategies?

- ☐ 1 Yes → Skip to Question 11  
☐ 2 No  
☐ Y Don't know

10a. Have you ever done this?

- ☐ 1 Yes  
☐ 2 No → Skip to Question 12  
☐ Y Don't know

10b. In what month and year did you discontinue this practice?

\_\_\_\_ / \_\_\_\_  
Month Year

Why?

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11. In which of the following do/did you show parts content information ?  
(Please check all that apply.)

- ☐ 1 In-store displays
- ☐ 2 Brochures
- ☐ 3 Newspaper ads
- ☐ 4 Magazine ads
- ☐ 5 Television ads
- ☐ 6 Radio ads
- ☐ 0 Other, Please specify: \_\_\_\_\_
- ☐ 9 None
- ☐ Y Don't know

12. Do you have any data or experience that suggests US/Canadian parts content is important to consumers?

- ☐ 1 Yes
- ☐ 2 No
- ☐ Y Don't know

13. Have you developed a consumer guide to US/Canadian parts content for dealers to give to customers?

- ☐ 1 Yes
- ☐ 2 No
- ☐ Y Don't know

14. Do you think parts content information labels are understandable to the customer?

- ☐ 1 Yes
- ☐ 2 No
- ☐ Y Don't know

15. What feedback, if any, have customers, dealers or suppliers given to your company about the labels?

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16. What suggestions do you have for making the parts content information label clearer, more understandable, or more useful to consumers?

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17. In the future, do you think the labeling regulation should be maintained, changed or eliminated?

- ☐ 1 Maintained
- ☐ 2 Changed
- ☐ 3 Eliminated
- ☐ Y Don't know

Please explain:

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## Part B. Finance/Accounting

1. What is your job title?

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2. What significant shifts in content or assembly, if any, did you undertake in the five years prior to 1995?

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- 2a. Were any of these motivated by American Automobile Labeling Act?

- ☐ 1 Yes  
☐ 2 No  
☐ Y Don't know

3. Have you recently shifted any of your product lines, or component parts from production outside your country to production in your country?

- ☐ 1 Yes  
☐ 2 No → Skip to Question 4  
☐ Y Don't know

3a. What factors contributed to this shift? You may add a narrative explanation below.  
(Please check all that apply.)

- ☐ 1 Cost of labor
  - ☐ 2 Quality of labor
  - ☐ 3 Availability of human resources
  - ☐ 4 Cost of materials
  - ☐ 5 Quality of materials
  - ☐ 6 Availability of materials
  - ☐ 7 Availability of physical plant/equipment
  - ☐ 8 Operating costs
  - ☐ 9 Distribution costs
  - ☐ 0 Wanted to create jobs for Americans
  - ☐ 1 Wanted vehicles to have higher US/Canadian parts content
  - ☐ 2 Customer demand
  - ☐ 3 Parts content information labels
  - ☐ 4 Currency exchange rate
  - ☐ 5 Import duties
  - ☐ 6 Taxes
  - ☐ 7 Availability of credit to invest in physical plant
  - ☐ 8 Government policies of home country
  - ☐ 9 Federal, State or local incentives to invest in the United States
  - ☐ 0 Other reasons. Please specify: \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Answer 3b if you checked more than one response in question 3a.

3b. What were the three most important factors contributing to the decision to shift from production outside of your country to production in your country?

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_

4. Have you recently shifted any of your product lines, or component parts from production in your country to production outside of your country?

- ☐ 1 Yes
- ☐ 2 No → Skip to Question 5
- ☐ Y Don't know

4a. What factors contributed to this shift? You may add a narrative explanation below.

(Please check all that apply.)

- ☐ 1 Cost of labor
- ☐ 2 Quality of labor
- ☐ 3 Availability of human resources
- ☐ 4 Cost of materials
- ☐ 5 Quality of materials
- ☐ 6 Availability of materials
- ☐ 7 Availability of physical plant/equipment
- ☐ 8 Operating costs
- ☐ 9 Distribution costs
- ☐ 0 Customer demand
- ☐ 1 Parts content information labels
- ☐ 2 Currency exchange rate
- ☐ 3 Import duties
- ☐ 4 Taxes
- ☐ 5 Availability of credit to invest in physical plant
- ☐ 6 Government policies of home country
- ☐ 0 Other reasons. Please specify: \_\_\_\_\_

Answer 4b if you checked more than one response in question 4a.

4b. What were the three most important factors contributing to the decision to shift from production in your country to production outside of your country?

- 1) \_\_\_\_\_
- 2) \_\_\_\_\_
- 3) \_\_\_\_\_

5. On a scale of 1 to 7 where 1 means not at all a factor and 7 means a very important factor, how much of a factor is the currency exchange rate relationship in your decision on where to produce auto parts and vehicles?

- |                            |                            |                            |                            |                            |                            |                            |                             |            |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-----------------------------|------------|
| Not at all<br>a factor     |                            |                            |                            |                            |                            |                            | Very<br>important<br>factor | Don't Know |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y  |            |

6. Have any fleet vehicle purchasers expressed an interest in the parts content information labels?

- ☐ 1 Yes
- ☐ 2 No
- ☐ Y Don't know

7. Have any fleet vehicle purchasers indicated a preference for vehicles with high US/Canadian parts content?

- ☐ 1 Yes
- ☐ 2 No
- ☐ Y Don't know

8. What is your estimate of the overall cost to implement the American Automobile Labeling Act?

- ☐ 1 Less than \$250,000
- ☐ 2 \$250,000 to less than \$500,000
- ☐ 3 \$500,000 to less than \$100,000
- ☐ 4 \$1 million to less than \$2 million
- ☐ 5 \$2 million to less than \$3 million
- ☐ 6 \$3 million to less than \$4 million
- ☐ 7 \$4 million to less than \$5 million
- ☐ 8 \$5 million to less than \$6 million
- ☐ 9 Over \$6 million
- ☐ Y Don't Know

8a. Please explain costs, with confidential information if desired.

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9. How many hours were spent on the startup to implement the AALA?

\_\_\_\_\_ Hours

9a. How much did the AALA startup cost?

- ☐ 1 Less than \$100,000
- ☐ 2 \$100,000 to less than \$200,000
- ☐ 3 \$200,000 to less than \$300,000
- ☐ 4 \$300,000 to less than \$400,000
- ☐ 5 \$400,000 to less than \$500,000
- ☐ 6 Over \$500,000
- ☐ Y Don't Know

9b. Please explain costs, with confidential information if desired.

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10. How many hours are spent annually for continued operating and maintenance costs?

\_\_\_\_\_ Hours

10a. How much do you spend annually on ongoing data collection and maintaining the database for the content reporting requirements for the American Automobile Labeling Act?

- ☐ 1 Less than \$20,000
- ☐ 2 \$20,000 to less than \$40,000
- ☐ 3 \$40,000 to less than \$60,000
- ☐ 4 \$60,000 to less than \$80,000
- ☐ 5 \$80,000 to less than \$100,000
- ☐ 6 Over \$100,000
- ☐ Y Don't Know

10b. Please explain costs, with confidential information if desired.

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11. Is the cost for data collection and maintaining the database for the content reporting requirements for the American Automobile Labeling Act higher, lower or about the same as the costs incurred for the North American Free Trade Agreement?

- ☐ 1 Higher
- ☐ 2 Lower
- ☐ 3 About the same
- ☐ Y Don't know

- |                          |   |                |
|--------------------------|---|----------------|
| <input type="checkbox"/> | 1 | Higher         |
| <input type="checkbox"/> | 2 | Lower          |
| <input type="checkbox"/> | 3 | About the same |
| <input type="checkbox"/> | Y | Don't know     |

- Carline** **US/Canadian Parts Content**

[illegible]

14. Do your suppliers use a single form for reporting information required for the NAFTA, CAFE, and the AALA, thus reducing suppliers' reporting costs?

- ☐ 1 Yes
- ☐ 2 No
- ☐ Y Don't know

15. Based on information received from suppliers, what kinds of costs are imposed on suppliers as a result of this American Automobile Labeling Act?  
(Please check all that apply.)

- ☐ 1 Annual employee hours
- ☐ 2 Payroll costs
- ☐ 3 Set-up and maintenance of computer database
- ☐ 4 Cost of paper certificates
- ☐ 0 Other. Please specify: \_\_\_\_\_
- ☐ Y Don't know

16. What is your estimate of the overall cost of this program to suppliers?

\_\_\_\_\_ \$

17. Do all of your purchase orders to suppliers include a requirement to furnish US/Canadian parts content information?

- ☐ 1 Yes
- ☐ 2 No
- ☐ Y Don't know

18. What percent of suppliers furnish US/Canadian parts content information?

\_\_\_\_\_ %

19. By what percentage will your costs change following the end of the two-year provision which allows flexibility in making estimates of content determinations where outside suppliers have not responded to requests for content information?

\_\_\_\_\_ %

20. In the future, do you think the labeling regulation should be maintained, changed or eliminated?

- ☐ 1 Maintained
- ☐ 2 Changed
- ☐ 3 Eliminated
- ☐ Y Don't know

Please explain:

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Thank you for taking the time to fill out this survey.

Please return it in the enclosed, postage-paid envelope.

If you should misplace the return envelope, please mail your questionnaire to:

**Chilton Research Services**  
**410 Horsham Road, P.O. Box 189**  
**Horsham, PA 19044-9399**



## APPENDIX F

### DEALER SURVEY QUESTIONNAIRE

Questions no. 22 in the dealer survey was not used in the analyses of this report.

# **National Highway Traffic Safety Administration**

## **New Vehicle Labeling Study Dealer Survey**

Thank you very much for taking the time to fill out this survey. Your input is important to us. Please read each question carefully and check the response that most closely represents your views or record your response in the space provided. You will also find specific instructions in bold print; please read them carefully.

OMB NO: 2127-0593  
EXPIRATION DATE: 8/31/2001

The American Automobile Labeling Act (AALA) provides that all new passenger cars and light trucks manufactured on or after October 1, 1994, bear labels providing information regarding their US/Canadian and non-US/Canadian parts content. The AALA does **not** require dealers or sales staff to make customers aware of the parts content label, use parts content information as part of their sales presentation or provide customers with additional parts content information. However, we are interested in learning the extent to which dealers and sales staff use the content label information.

The next several questions will be about the parts content information label. Please read each question carefully and check the response that most closely represents your and your franchise's views. You will also find specific instructions next to several questions; please read them carefully.

1. How aware are you of the AALA and the US/Canadian parts content information label?

- ☐ 1 Very aware  
☐ 2 Somewhat aware  
☐ 3 Not very aware  
☐ 4 Not aware at all → If you checked "not aware at all" skip to Q.14.

2. Please rate each of the following statements on a scale of 1 to 7 where 1 means the statement "describes none of my customers" and 7 means the statement "describes all of my customers." (You may also use any number in between.)

|                                                                               | None of my<br>customers    |                            |                            |                            |                            |                            |                            | All of my<br>customers     | Don't<br>Know |
|-------------------------------------------------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|---------------|
| a. Customers are aware of the existence of parts content information labels.  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |               |
| b. Customers read the parts content information label on the vehicle window.  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |               |
| c. Customers ask questions about the information on the parts content labels. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |               |
| d. Customers understand the parts content label.                              | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |               |

3. Please rate each of the following statements on a scale of 1 to 7 where 1 means "strongly disagree" and 7 means "strongly agree." (You may also use any number in between.)

|                                                                                                                                       | Strongly<br>disagree       |                            |                            |                            |                            |                            |                            | Strongly<br>agree | Don't<br>Know              |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|-------------------|----------------------------|
| a. Customers consider US/Canadian parts content an important factor for selecting a vehicle.                                          | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |                   | <input type="checkbox"/> Y |
| b. Customers consider the information on the parts content label when making a purchase decision.                                     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |                   | <input type="checkbox"/> Y |
| c. Customers show a preference in "buying American."                                                                                  | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |                   | <input type="checkbox"/> Y |
| d. Customers show a preference in buying foreign.                                                                                     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |                   | <input type="checkbox"/> Y |
| e. Customers are more interested in the purchasing or leasing price of an automobile than the information on the parts content label. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |                   | <input type="checkbox"/> Y |

4. Which aspect of the parts content label do you think customers are most interested in? (Please check just one response.)

☐ 1 United States/Canadian parts content  
☐ 2 Major sources of non-US/Canadian parts content  
☐ 3 Final assembly point  
☐ 4 Country of origin of engine parts  
☐ 5 Country of origin or transmission parts  
☐ 0 Other, please specify: \_\_\_\_\_  
☐ 9 None  
☐ Y Don't Know

5. Have customers expressed concern because the parts content information label combines US and Canadian as domestic content?

☐ 1 Yes  
☐ 2 No  
☐ Y Don't Know

6. Has a customer ever **declined** to purchase a vehicle as a result of the kind of information provided on the parts content label?

☐ 1 Yes  
☐ 2 No  
☐ Y Don't know

**Answer 6a if you checked "Yes" in question 6.**

6a. To the best of your knowledge, how many times has this happened?

7. Has a customer ever **decided** to purchase a vehicle as a result of the kind of information provided on the parts content label?

☐ 1 Yes  
☐ 2 No  
☐ Y Don't know

**Answer 7a if you checked "Yes" in question 7.**

7a. To the best of your knowledge, how many times has this happened?

8. Please rate each of the following statements on a scale of 1 to 7 where 1 means the statement "does not describe my sales staff at all" and 7 means the statement "describes my sales staff completely." (You may also use any number in between.)

|                                                                                               | Does not<br>describe at all |                            |                            |                            |                            |                            | Describes<br>completely    | Don't<br>Know              |
|-----------------------------------------------------------------------------------------------|-----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| a. The sales staff is aware of the parts content information labels.                          | <input type="checkbox"/> 1  | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| b. The sales staff understands the information on parts content information labels.           | <input type="checkbox"/> 1  | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| c. The sales staff can effectively explain the parts content information labels to customers. | <input type="checkbox"/> 1  | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| d. The sales staff keeps updated on parts content information.                                | <input type="checkbox"/> 1  | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |

9. Under what circumstances are sales staff told to explain parts content information labels to customers?
- ☐ 1 Sales staff give the information to customers only when they inquire about it.
  - ☐ 2 Sales staff give the information to customers without being asked.
  - ☐ 3 Sales staff are not given any guidelines.
  - ☐ Y Don't Know
10. What type of training are sales staff given to explain the information on the parts content label? (Please check all that apply.)
- ☐ 1 Seminar
  - ☐ 2 Workshop
  - ☐ 3 Brochure
  - ☐ 4 Sales Meetings
  - ☐ 0 Other, please specify: \_\_\_\_\_
  - ☐ 9 None
  - ☐ Y Don't Know
11. Did manufacturers give you any guidelines or materials for training sales staff to explain the information on the parts content label?
- ☐ 1 Yes
  - ☐ 2 No
  - ☐ Y Don't know
12. Did manufacturers provide any guidance or recommendations for using the parts content information label as a selling point?
- ☐ 1 Yes
  - ☐ 2 No
  - ☐ Y Don't know

13. Please rate each of the following statements on a scale of 1 to 7 where 1 means "the sales staff does this none of the time" and 7 means "the sales staff does this all of the time."  
(You may also use any number in between.)

None of  
the time

All of  
the time

Don't  
Know

a. The sales staff points out the parts content information label to customers.

☐ 1   ☐ 2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7   ☐ Y

b. The sales staff makes the parts content information label an important part of its sales presentations.

☐ 1   ☐ 2   ☐ 3   ☐ 4   ☐ 5   ☐ 6   ☐ 7   ☐ Y

14. Does your franchise show parts content information in:  
(Please check all that apply.)

☐ 1 In-store displays

☐ 2 Brochures

☐ 3 Newspaper ads

☐ 4 Magazine ads

☐ 5 Television ads

☐ 6 Radio ads

☐ 0 Other. Please specify: \_\_\_\_\_

☐ 9 None

☐ Y Don't Know

15. On a scale of 1 to 7 scale, where 1 means "none of the time" and 7 means "all of the time," please rate how often sales staff give customers the following information, apart from the label.  
(You may also use any number in between.)

|                                                                   | None of<br>the time        |                            |                            |                            |                            |                            | All of<br>the time         | Don't<br>Know              |
|-------------------------------------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| a. The final assembly point of the vehicle.                       | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| b. The country of origin of the engine parts.                     | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| c. The country of origin of the transmission parts.               | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| d. The percentage of US/Canadian parts that comprise the vehicle. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| e. The major sources of non-US/Canadian parts content.            | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |

16. Please rate the following statements on a scale of 1 to 7 where 1 means "strongly disagree" and 7 means "strongly agree." (You may also use any number in between.)

|                                                                                                                                                                                         | Strongly<br>disagree       |                            |                            |                            |                            |                            | Strongly<br>agree          | Don't<br>Know              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| a. Parts content information labels are used as a sales tool.                                                                                                                           | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| b. Parts content information labels are not involved in the sales process.                                                                                                              | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| c. The percentage of US/Canadian parts content is used as a sales tool.                                                                                                                 | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| d. The sales staff is likely to use the parts content information label in its sales presentation if the vehicle was assembled in the United States.                                    | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| e. The sales staff is likely to use the parts content information label in its sales presentation if a high percentage of vehicle parts were manufactured outside of the United States. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| f. Parts content information can be harmful to making a sale.                                                                                                                           | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |
| g. The sales staff is likely to point out the parts content information label if the United States is the country of origin of the transmission.                                        | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 | <input type="checkbox"/> Y |

## CLASSIFICATION QUESTIONS

17. What is your job title?

☐ 1 Sales Manager

☐ 2 General Manager

☐ 3 Dealer/Principal

☐ 0 Other. Please specify: \_\_\_\_\_

18. In Column A, please record the franchises you represent. In Column B, please record the annual new vehicle sales revenue for each franchise.

| Column A         | Column B                   |
|------------------|----------------------------|
| Franchise: _____ | \$ _____, _____, _____ .00 |
| Franchise: _____ | \$ _____, _____, _____ .00 |
| Franchise: _____ | \$ _____, _____, _____ .00 |
| Franchise: _____ | \$ _____, _____, _____ .00 |
| Franchise: _____ | \$ _____, _____, _____ .00 |
| Franchise: _____ | \$ _____, _____, _____ .00 |
| Franchise: _____ | \$ _____, _____, _____ .00 |
| Franchise: _____ | \$ _____, _____, _____ .00 |

19. What is the total gross annual new vehicle sales volume of your franchise?

☐ 1 Less than \$25 million

☐ 2 \$25 million to \$49 million

☐ 3 \$50 million to \$100 million

☐ 4 Over \$100 million

☐ Y Don't Know

20. How many people are on your new vehicle sales staff?

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21. What suggestions do you have for making the parts content information label clearer, more understandable, or more useful to consumers?

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22. In the future, do you think the labeling regulation should be maintained, changed or eliminated?

☐ 1 Maintained

☐ 2 Changed

☐ 3 Eliminated

☐ Y Don't Know

Please explain.

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Thank you very much for taking the time to fill out this survey. Please return it in the enclosed, postage-paid envelope by September 21, 1998.