

UC Davis

Research Reports

Title

Analysis of Light-Duty Vehicle Price Trends in the U.S.: How Vehicle Prices Changed Relative to Consumers, Compliance Costs and a Baseline Measure for 1975 - 2001

Permalink

<https://escholarship.org/uc/item/9vh435z2>

Author

Abeles, Ethan C.

Publication Date

2004-06-01

**ANALYSIS OF LIGHT -DUTY VEHICLE PRICE TRENDS
IN THE U.S.**

*How Vehicle Prices Changed Relative to Consumers,
Compliance Costs and a Baseline Measure for 1975 - 2001*

UCD-ITS-RR-04-15

June 2004

by

Ethan C. Abeles
Institute of Transportation Studies
University of California, Davis 95616, USA
Ph (530) 752-2570
Fax (530) 752-2570
ecabeles@ucdavis.edu

Institute of Transportation Studies
One Shields Avenue
University of California
Davis, California 95616
Tel: 530-752-0247 Fax: 530-752-6572
<http://www.its.ucdavis.edu/>
email: itspublications@ucdavis.edu

Analysis of Light Duty Vehicle Price Trends in the U.S.

**How Vehicle Prices Changed Relative to Consumers, Compliance Costs
and a Baseline Measure for 1975 – 2001**

By

Ethan C. Abeles

Institute of Transportation Studies

University of California

Ph. (530) 752-2570

Fax (530) 752-2570

ecabeles@ucdavis.edu

Abstract

This report details how new vehicle prices have changed historically. The main timeframe of interest is 1975 to 2001, although analysis of data before and after this period is also presented. The analysis shows that there have been significant price increases over time, but also significant variability across vehicle classes and time periods. Two price measures were used in the analysis: Manufacturer's Suggested Retail Price (MSRP) and Average Transaction Price (ATP). The data suggests these two measures are closely related and the same conclusions can be drawn from both. The historical record suggests that while compliance costs to meet new vehicle regulations have been significant, particularly for upfront costs, non-regulated quality improvements and price changes related to factors outside the vehicle itself have generally outpaced these regulatory costs. New vehicles have more or less maintained the same affordability index for consumers through the years, even as safety, emissions and fuel economy regulations have become a greater share of the overall vehicle cost. The important consideration for consumers is how good of a value automobiles and light trucks have been historically with respect to other goods and services. This report finds that despite relatively costly regulated emissions control and safety improvements to new vehicles, incomes have kept pace with prices.

Table of Contents

1. Introduction.....	3
2. Vehicle Pricing Policies of the Automobile Industry	4
3. The Consumer Price Index	5
4. Price Changes for New Vehicles from 1975-2001	8
5. Compliance Costs within the Context of Vehicle Price Increases	12
6. Vehicle Prices in the Context of the Consumer.....	17
7. Summary and Conclusion.....	18
References.....	19
Appendix: Annual MSRP Increases for Representative Automobile Models.....	21

Table of Figures and Tables

Figures

Figure 1 Trend Comparison between General CPI and New Vehicle CPI (1968-2003).....	5
Figure 2 Trend Comparison between Car and Light Truck CPI (1984-2003).....	6
Figure 3 Average Transaction Price for a New Car in 2001\$.....	14
Figure 4 Average Fleet-Wide Percentage Annual Increase in New Car Prices	16
Figure 5 Historical Vehicle Affordability Measures	17
Figure 6 Average amount financed and average loan maturity rate for new vehicle purchases.....	18

Tables

Table 1 CPI Comparison Table for a Number of Goods and Services	7
Table 2 Average New Car Transaction Price (1970-2001).....	8
Table 3 Average New Car MSRP and Transaction Price to the Consumer (1975-2001)	10
Table 4 Annual Average MSRP for Passenger Cars by Vehicle Class in 2001\$ (1975-2001).....	11
Table 5 Annual Average MSRP for Light Trucks by Vehicle Type in 2001\$ (1982-2002).....	12
Table 6 Cost of New Quality Improvements for Automobiles in 2001 \$ (1968-2002).....	15
Table A-1 Average Changes in MSRP in Current Year \$ (1975-2001).....	21
Table A-2 Average Changes in MSRP in Constant 2001 \$ Adjusted using New Vehicle Price Index (1975-2001).....	22
Table A-3 Average Changes in MSRP in Constant 2001 \$ Adjusted using the General Consumer Price Index (1975-2001).....	23

1. Introduction

Both the content and price of new cars and light trucks has changed a great deal since 1970. The amount of equipment on vehicles today to meet safety, emissions, and CAFE standards, as well as non-regulated improvements, has rendered these vehicles much different than their 1970 counterparts. Of course, these improvements, spurred by regulation and consumer demand, have happened gradually. Despite the incremental progression of new vehicle characteristics, there have been times (e.g. 1975 and 1981 for emissions control and the early 1990s for airbags) when a dramatic change occurs fleet wide from one model year to the next. The Bureau of Labor Statistics keeps track of vehicle quality changes from the previous model year. Estimates of the value of quality change are based on a review by the BLS of data supplied by producers for similarly equipped MY(0)¹ and MY(1) domestic models priced for the Producer Price Index (PPI). Utilizing these data, the relative effects of regulation on overall new quality improvement costs can be discerned (See Section 5).

The average price increases for new cars have stabilized recently for a couple reasons. First, the influx of light trucks, particularly SUVs, into the light-duty vehicle market has had a dampening effect on new car pricing. The competitive nature of the market and the introduction of Japanese automakers, and now Korean manufacturers, have been beneficial trends for the consumer, and have helped to keep price down. Luxury cars have continued to be popular, but now many light truck models also contain luxury attributes, which siphons demand from the automobile luxury market to that of light trucks. Advancements in production techniques and other areas of automaker's operations will not be discussed in great detail here, but do help to explain why great improvements to new vehicles have not been accompanied by equally great increases in price. With respect to added costs of regulation, automakers employ a number of strategies intended to minimize price increases. These include the increased scrutinizing of non-regulatory project proposals and the exploitation of redundancies, scale economies, and other economically favorable strategies in achieving compliance [Reference 1]. Tooling, manufacturing, and materials management costs are also minimized through standardization techniques across differentiated product lines. The effect of the Internet and much greater information dissemination (through websites such as Edmunds.com and publications such as *Consumer Reports*) has provided consumers more bargaining power, as well as, a greater ability to comparison shop. This cost transparency, in addition to the proliferation of rebate offers and other financial incentives, has made the MSRP an increasingly inexact measure of the actual transaction price paid for a vehicle. The purchase of optional equipment also complicates a new car price trend analysis.

The mechanisms used by auto manufacturers and dealers when setting MSRP is also problematic when looking at trends over time. Changes in MSRP continue throughout a model year after an initial change in the MSRP when the car is first introduced occurs. If a model undergoes major styling or design changes, or has number of new added features, the change in MSRP from the previous year can be quite large. Similarly, if the car is basically unchanged from the previous model year then no change

¹ MY(0) refers to the previous model year, while MY(1) refers to the current model year. For example, MY(0) = 2003 and MY(1) = 2004.

in MSRP may be recorded. Automotive News documents how automakers implemented interim price increases on 1998 model year cars.

Ford did not raise prices at 1998 model introduction. But seven interim increases totaling \$155, or 0.66 percent, followed during the model year. Chrysler cut 1998 introductory prices an average of \$13, or 0.6 percent. But it raised prices an average of \$183, or 1.61 percent, in a dozen interim price hikes. The net increase for the model year was \$170, or 1.55 percent. GM raised prices an average of \$293, or 1.3 percent, at 1998 model introduction. Then 24 interim increases followed, raising prices an average of \$116, or 0.52 percent. GM's total 1998 model-year price hike was \$409, or 1.82 percent. [Reference 2]

Despite these limitations, it is possible to determine general industry trends with respect to new vehicle prices. The CARBITS database explained in Burke, et al. [Reference 3] provides the data used for the price trend analysis presented in this paper. The Bureau of Economic Analysis (BEA) provides the other set of average price data for new cars. The BEA estimates average transaction prices for new cars, which uses an *average base price with adjustments for options, transportation charges, taxes, discounts, and rebates for each model, weighted by that model's share of sales (not at annual rate)* [Reference 4]. The calculated average MSRP from the CARBITS database is based on the initial MSRP set when the new model year is introduced by automakers without rebates, destination charges, and the like.

2. Vehicle Pricing Policies of the Automobile Industry

Pricing policy is one of the most guarded practices in the decision-making core of all automakers. For this reason, exact policies and approaches are not available. While an outsider could not adequately sketch a truly comprehensive review of pricing policy, some knowledge of pricing can be inferred from the literature and from the automakers' actions in the marketplace. Due to the extreme capital and labor intensiveness, in addition to slim profit margins, of the auto industry, pricing is an extremely important component of automakers' managerial operations.

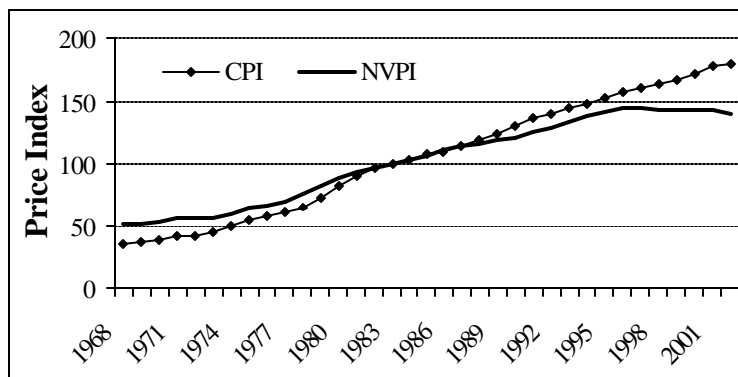
Pricing methods are based on an auto manufacturer's overall mission and purpose. The obvious primary objective of private firms is profit maximization. But in the auto industry with its highly differentiated product lines this does not necessarily translate to profit maximization strategy for each vehicle in its portfolio. In addition, firms may adopt a sales volume objective, which has traditionally been GM's approach for expanding, or at a minimum, maintaining market share. As the industry price leader, GM has traditionally been able to establish its own cost-based pricing that is denoted either by markup pricing or rate of return pricing [Reference 5]. GM has lost its ability to dominate automobile price setting as its market share has shrunk and foreign competitors such as Toyota and Honda have found ample territory aside from price on which to compete with GM. The results of an economic analysis, though, suggest pricing behavior in the automobile market is consistent with theory governing price leaders and followers, as opposed to a mutually independent pricing rule [Reference 6]. Competition-based pricing is another method automakers use when setting prices. In order to stay competitive in a

market segment, the price set by an automaker must coincide both with consumers' willingness to pay and be within the range of prices of comparable vehicle offerings. Better quality, reliability, comfort and safety attributes, and other characteristics that differentiate a vehicle from another vehicle in its segment allows for a higher price.

3. The Consumer Price Index

The new vehicle price index (NVPI) is a component of the overall consumer price index (CPI). The CPI represents changes in prices of all goods and services purchased for consumption by urban households [Reference 7]. Figure 1 shows the respective trends of the CPI for all urban consumers and the NVPI, which contributes to the overall index. The graph highlights the increasing value of new vehicle purchases relative to the average of all goods as expressed by the CPI. The NVPI is adjusted to remove the influence of quality change on prices [Reference 8]. If new quality changes, which include changes due to emissions control and safety regulation and unregulated attributes, were included in the index, it would not provide an accurate adjustment for inflation. When historical vehicle price analysis is being conducted, the NVPI, which produces smaller increases in vehicle prices than the general CPI is used. The general CPI, on the other hand, is used when analyzing consumers' ability to buy new vehicles.

Figure 1 Trend Comparison between General CPI and New Vehicle CPI (1968-2003)



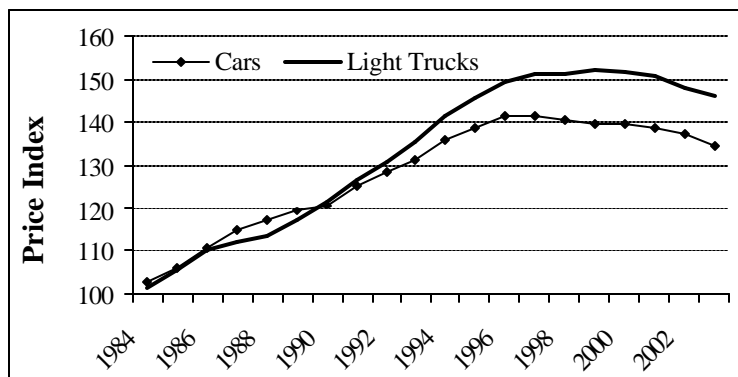
Source: BLS, Consumer Price Index, <http://www.bls.gov/cpi/home.htm>

Figures 1 and 2 show the relative comparisons between the general CPI and that for new vehicles, in addition to, the difference between new car and new light truck CPIs. The price of new vehicles has increased slowly relative to all other goods and services. This means new vehicles are a bargain to the consumer compared to an average bundle of goods and services. Similarly, according to Figure 2, the price of cars has risen more slowly than that of light trucks since the light truck index was first calculated beginning in 1984 (the base year is 1982-84 for both indices). The popularity of light trucks has led to greater and greater market share of all light-duty vehicle sales (more than half of all light-duty vehicles sold in the U.S.).

There is a significant difference in the historical vehicle price change obtained by using the CPI versus the NVPI. For example, the average transaction price for 1975 model year new cars adjusted to 2001 dollars is \$16,167 for the CPI and \$9,479 for the NVPI. In 2001, the price is \$21,605, which suggests that consumers are only paying about \$5,500 more on average than 1975, but are getting much more car for the money. On the other hand, the price has more than doubled in real terms when viewing the price increases from a vehicle perspective as opposed to a consumer one. This is because the prices of most other goods and services have risen at a faster rate than the price of new vehicles.

It is of interest to determine how the value of a new car increased over the years relative to the value of other products. One way of answering this question is to compare the general consumer price index (CPI) and the new vehicle consumer price index (NVPI). It is seen in Figure 1 and in Table 1 that the CPI increases more rapidly than the NVPI especially in the years after 1990. For the period 1975-2001, the ratio of the change in the two indices is 1.46 with the CPI showing the larger increase. This indicates that although the price of cars has increased significantly in real dollars over the period of interest, car buyers have gotten a better value for their money than purchasers of most other products.

Figure 2 Trend Comparison between Car and Light Truck CPI (1984-2003)



Source: BLS, Consumer Price Index, <http://www.bls.gov/cpi/home.htm>

Table 1 highlights the trends in CPI for a number motor vehicle related categories in addition to other unrelated goods and services. The CPI for new vehicles has grown more slowly than every other CPI except apparel, which is explainable by the shift from domestic manufacturing to cheap foreign labor markets. The slow growth in the new vehicle CPI is attributable to a great many factors. These include the increase in foreign competition, overcapacity in the domestic auto industry, automation and other advances in production lines, additional operational improvements, and others. These factors will not be explored here because our main concern is not answering the question of why price changes have occurred the way they have, but rather what is the extent of the price increases over time.

Table 1 CPI Comparison Table for a Number of Goods and Services

	<i>1970</i>	<i>1975</i>	<i>1980</i>	<i>1985</i>	<i>1990</i>	<i>199</i>
Transportation	37.5	50.1	83.1	106.4	120.5	139.
New Vehicles	53.1	63	88.5	106.1	121.4	141
Used Vehicles	31.2	43.8	62.3	113.7	117.6	156.
Motor Fuel	27.9	45.1	97.4	98.7	101.2	100
Motor Vehicle Maintenance and Repair	36.6	53.7	81.5	106.8	130.1	154
Motor Vehicle Insurance	42	48.4	82	119.2	177.9	234.
Food and Beverages	40.1	60.2	86.7	105.6	132.1	148.
Medical Care	34	47.5	74.9	113.5	162.8	220.
Housing	36.4	50.7	81.1	107.7	128.5	148.
Apparel	59.2	72.5	90.9	105	124.1	132
All Goods & Services	38.8	72.6	82.4	107.6	130.7	152.

Source: Bureau of Labor Statistics, Detailed CPI Statistics. See: <http://www.bls.gov/cpi/home.htm>

4. Price Changes for New Vehicles from 1975-2001

The price of new cars has risen more or less consistently from 1975 to the present. Improvements to vehicles prompted by emissions and safety regulations, as well as, consumer demand. The automobile market continues to be a highly competitive area where a number of vehicles within each class vie for consumer interest. So while vehicle quality improvements lead to price increases, the competitive nature of the auto industry stabilizes price increases, and even leads to so-called ‘price’ and ‘rebate’ wars.

Table 2 Average New Car Transaction Price (1970-2001)

<i>Year</i>	<i>Domestic Current \$</i>	<i>Domestic 2001 \$*</i>	<i>Domestic 2001 \$**</i>	<i>Import Current \$</i>	<i>Import 2001 \$*</i>
1970	\$3,708	\$16,925	\$9,923	\$2,648	\$12,087
1971	\$3,919	\$16,663	\$10,070	\$2,769	\$11,773
1972	\$4,034	\$16,619	\$10,460	\$2,994	\$12,334
1973	\$4,181	\$16,216	\$10,842	\$3,344	\$12,969
1974	\$4,524	\$15,802	\$11,084	\$4,026	\$14,062
1975	\$5,084	\$16,736	\$11,467	\$4,384	\$14,431
1976	\$5,506	\$16,663	\$11,678	\$4,923	\$14,899
1977	\$5,985	\$17,007	\$12,063	\$5,072	\$14,413
1978	\$6,478	\$17,109	\$12,128	\$5,934	\$15,672
1979	\$6,889	\$16,340	\$11,953	\$6,704	\$15,901
1980	\$7,609	\$16,354	\$12,217	\$7,482	\$16,081
1981	\$8,912	\$17,363	\$13,487	\$8,896	\$17,332
1982	\$9,865	\$18,105	\$14,378	\$9,957	\$18,273
1983	\$10,516	\$18,699	\$14,958	\$10,868	\$19,325
1984	\$11,079	\$18,884	\$15,344	\$12,336	\$21,027
1985	\$11,589	\$19,074	\$15,521	\$12,853	\$21,155
1986	\$12,319	\$19,906	\$15,828	\$13,670	\$22,089
1987	\$12,922	\$20,145	\$16,051	\$14,470	\$22,558
1988	\$13,418	\$20,087	\$16,367	\$15,221	\$22,786
1989	\$13,936	\$19,904	\$16,613	\$15,510	\$22,152
1990	\$14,489	\$19,633	\$16,960	\$16,640	\$22,547
1991	\$15,192	\$19,754	\$17,133	\$16,327	\$21,230
1992	\$15,644	\$19,747	\$17,206	\$18,593	\$23,470
1993	\$15,976	\$19,580	\$17,108	\$20,261	\$24,832
1994	\$16,930	\$20,231	\$17,484	\$21,989	\$26,277
1995	\$16,864	\$19,597	\$16,996	\$23,202	\$26,962
1996	\$17,468	\$19,717	\$17,274	\$26,205	\$29,579
1997	\$17,907	\$19,759	\$17,634	\$27,722	\$30,589
1998	\$18,479	\$20,077	\$18,311	\$29,614	\$32,176
1999	\$18,630	\$19,804	\$18,526	\$28,931	\$30,754
2000	\$18,684	\$19,216	\$18,592	\$27,767	\$28,557
2001	\$19,654	\$19,654	\$19,654	\$27,477	\$27,477
Average Annual Percentage Change					
% range (1970-2001)	5.6%	0.5%	2.3%	8.0%	2.8%
% range (1991-2001)	2.8%	0.0%	1.4%	4.8%	2.0%

Source: Adapted from Table 10.11, Reference 3.

When considering new car price, there are two related yet different prices to take into account: 1. Manufacturer’s Suggested Retail Price (MSRP) and 2. Average

Transaction Price (ATP). The MSRP is the price to consumers that an automaker will set when a car is introduced for a new model year (e.g. Fall 2003 for 2004 models). The MSRP does not typically include price reductions such as rebates or incentives offered by the dealer and/or the manufacturer, nor does it include price additions such as added charges and optional features. Car buyers rarely pay the MSRP for a new car, and instead typically pay much less. The ATP is estimated by the Bureau of Economic Analysis (BEA), which uses an *average base price with adjustments for options, transportation charges, taxes, discounts, and rebates for each model, weighted by that model's share of sales (not at annual rate)*. The ATP measures what car buyers actually pay for a new vehicle. The average manufacturer incentive per vehicle (cars and light trucks) sold in the U.S. is \$2,379 as of March 2004 [Reference 9]. The effect of rebates on average new vehicle price is uncertain. Many consumers simply purchase more optional equipment or move up to a more expensive model when large rebates are available. Hypothetically, if enough optional features are purchased on average to compensate for the rebates then it is possible for the original MSRP to be matched by the transaction price. Table 3 shows the average new car MSRP and ATP for 1975 through 2001. The average MSRP is calculated using a sales-weighted average from the CARBITS database. The database includes a large sample of the overall population of new cars sold in the U.S. including the top selling models, which have the greatest effect on the sales-weighted average. Each car model in the database may have a number of series (e.g. Honda Accord, EX, LX, V6, etc...), which is another factor that impacts the accuracy of the MSRP estimate. These different series within a model group have different MSRPs, but the sales data used to compute the average is by model only, so detail with respect to price is partially lost in the analysis. A formula was devised using the minimum, maximum and mean MSRP values for the series members in a model group.

$$\mathbf{MSRP}_{\text{calc}} = (2 \mathbf{MSRP}_{\text{min}} + \mathbf{MSRP}_{\text{mean}} + \frac{1}{2} \mathbf{MSRP}_{\text{max}}) / 3\frac{1}{2}$$

This formula weighs the base model MSRP more than the average or highest-priced MSRP because it is assumed such cars are higher selling members of the model group. Many models are comprised of just a single series, in which case, all of the MSRPs are equal. According to the analysis, since 1990 the calculated MSRP and the ATP as determined by the BEA have been within \$1,000 of each other with ATP typically being higher. MSRP is higher than ATP only for the years 1995 and 2000.

According to Edmunds.com, the ATP is typically lower than the MSRP. As of February 2004, the average ATP was roughly 19 percent lower for domestic automakers, and 6 and 9 percent lower for European and Japanese manufacturers respectively [Reference 9]. This reflects the greater use of rebates and incentives by the Big Three automakers. The industry trend now appears to be toward more accurate pricing of vehicles and a reduced role for financial incentives in vehicle marketing efforts.

Table 3 Average New Car MSRP and Transaction Price to the Consumer (1975-2001)

Year	average msrp ¹ (current \$)	average msrp (2001\$) ³	average transaction price ² (current \$)	average transaction price (2001\$)	Difference (ATP – MSRP) (Current \$)	(ATI)
1975	\$4,345	\$14,302	\$4,950	\$16,295	\$605	
1976	\$4,515	\$14,054	\$5,418	\$16,863	\$903	
1977	\$4,869	\$14,229	\$5,814	\$16,991	\$945	
1978	\$4,672	\$12,691	\$6,379	\$17,327	\$1,707	
1979	\$5,336	\$13,018	\$6,847	\$16,703	\$1,511	
1980	\$5,849	\$12,570	\$7,574	\$16,279	\$1,725	
1981	\$7,248	\$14,122	\$8,910	\$17,359	\$1,662	
1982	\$8,532	\$15,659	\$9,890	\$18,150	\$1,358	
1983	\$9,419	\$16,748	\$10,606	\$18,859	\$1,187	
1984	\$9,708	\$16,548	\$11,375	\$19,389	\$1,667	
1985	\$10,215	\$16,814	\$11,838	\$19,484	\$1,623	
1986	\$10,963	\$17,716	\$12,652	\$20,444	\$1,689	
1987	\$11,891	\$18,538	\$13,386	\$20,868	\$1,495	
1988	\$12,735	\$19,065	\$13,932	\$20,857	\$1,197	
1989	\$13,500	\$19,281	\$14,371	\$20,525	\$871	
1990	\$14,315	\$19,396	\$15,042	\$20,382	\$727	
1991	\$15,128	\$19,670	\$15,475	\$20,122	\$347	
1992	\$15,766	\$19,901	\$16,336	\$20,621	\$570	
1993	\$16,802	\$20,592	\$16,871	\$20,677	\$69	
1994	\$17,673	\$21,119	\$17,903	\$21,394	\$230	
1995	\$18,183	\$21,130	\$17,959	\$20,870	(\$224)	
1996	\$18,236	\$20,584	\$18,777	\$21,194	\$541	
1997	\$19,144	\$21,124	\$19,531	\$21,551	\$387	
1998	\$19,770	\$21,480	\$20,364	\$22,126	\$594	
1999	\$20,277	\$21,555	\$20,658	\$21,960	\$381	
2000	\$20,892	\$21,486	\$20,355	\$20,934	(\$537)	
2001	\$20,896	\$20,896	\$21,605	\$21,605	\$709	

Table Notes: Adjusted for inflation using the General CPI, which is how consumers view price changes.

Tables 4 and 5 show the results of the MSRP trend analysis described above for cars and light trucks segmented by vehicle class. Sales data for light trucks were only available from 1982 to 2002, but the rapid increase in light truck sales primarily occurred after 1982. The increase in light truck MSRP has outpaced that for cars by a relatively wide margin. Overall, the sales-weighted average MSRP for new light trucks has increased nearly 77 percent in real dollars between the 1982 and 2002 model years. The MSRP for cars on the other hand increased only by about 35 percent over the same period. The market share trends within the light truck market itself help explain the large increase price. For the 1982 model year, pickup trucks accounted for 75 percent of new light truck sales and SUVs made up about 8 percent with vans making up the remaining number [Reference 10]. Contrast that with the 2002 model year when over 50 percent of the new light truck sales were SUVs and only 32 percent were pickup trucks.

Table 4 Annual Average MSRP for Passenger Cars by Vehicle Class in 2001\$ (1975-2001)

<i>Year</i>	<i>Compact and Subcompact</i>	<i>Midsize</i>	<i>Large</i>	<i>Luxury</i>	<i>Sports</i>	<i>Cars</i>
1975	\$10,790	\$12,621	\$17,349	\$32,205	\$13,200	
1976	\$10,711	\$12,149	\$16,088	\$32,846	\$12,549	
1977	\$10,908	\$12,544	\$15,663	\$33,245	\$15,080	
1978	\$11,077	\$12,325	\$17,108	\$41,085	\$13,321	
1979	\$11,030	\$12,275	\$15,780	\$32,945	\$12,932	
1980	\$10,779	\$12,049	\$19,127	\$31,754	\$12,154	
1981	\$11,559	\$13,852	\$19,688	\$38,277	\$13,365	
1982	\$12,229	\$15,367	\$18,408	\$34,658	\$14,619	
1983	\$13,174	\$16,175	\$21,218	\$34,392	\$15,907	
1984	\$13,502	\$16,343	\$19,264	\$34,988	\$16,318	
1985	\$14,323	\$16,806	\$21,280	\$34,774	\$15,897	
1986	\$13,638	\$17,406	\$23,012	\$38,399	\$16,739	
1987	\$14,117	\$17,944	\$22,763	\$40,655	\$18,512	
1988	\$15,047	\$18,754	\$22,544	\$39,948	\$16,907	
1989	\$14,511	\$19,601	\$22,753	\$40,395	\$18,453	
1990	\$14,487	\$20,168	\$23,189	\$39,907	\$18,719	
1991	\$14,635	\$20,570	\$23,472	\$39,931	\$18,686	
1992	\$14,121	\$20,847	\$25,463	\$40,341	\$18,635	
1993	\$14,920	\$20,261	\$24,946	\$43,928	\$18,663	
1994	\$15,381	\$21,383	\$25,094	\$42,423	\$19,178	
1995	\$15,161	\$21,582	\$24,484	\$42,627	\$19,722	
1996	\$15,046	\$20,870	\$24,127	\$42,469	\$19,276	
1997	\$15,480	\$20,465	\$24,992	\$40,439	\$20,562	
1998	\$14,940	\$20,667	\$25,248	\$42,181	\$21,031	
1999	\$15,246	\$20,271	\$24,523	\$39,400	\$20,022	
2000	\$15,523	\$19,740	\$23,275	\$36,825	\$20,238	
2001	\$14,836	\$19,309	\$23,058	\$37,012	\$19,418	
% change (1975- 2001)	37.5%	53.0%	32.9%	14.9%	47.1%	
% change (1982- 2001)	21.3%	25.7%	25.3%	6.8%	32.8%	

Table 5 Annual Average MSRP for Light Trucks by Vehicle Type in 2001\$ (1982-2002)

<i>Year</i>	<i>Pickups and Vans</i>	<i>SUVs</i>	<i>Minivan</i>	<i>All Light Trucks</i>	<i>All Light Utility Vehicles (Cars incl.)</i>
1982	\$13,051	\$18,786	\$19,716	\$13,897	\$15,120
1983	\$12,902	\$19,234	\$18,335	\$13,627	\$16,015
1984	\$14,131	\$19,463	\$15,748	\$15,111	\$16,280
1985	\$13,944	\$19,145	\$17,570	\$15,229	\$16,480
1986	\$14,248	\$18,517	\$17,074	\$15,370	\$17,154
1987	\$16,090	\$19,968	\$17,899	\$17,076	\$18,189
1988	\$15,688	\$22,303	\$17,556	\$17,263	\$18,605
1989	\$15,961	\$21,446	\$18,648	\$17,728	\$18,873
1990	\$16,055	\$21,791	\$20,010	\$18,249	\$19,105
1991	\$17,628	\$21,370	\$21,675	\$19,294	\$19,621
1992	\$17,908	\$23,660	\$22,135	\$20,181	\$20,123
1993	\$17,767	\$22,516	\$23,377	\$20,188	\$20,497
1994	\$18,212	\$23,617	\$23,115	\$20,613	\$20,980
1995	\$18,779	\$26,921	\$23,172	\$21,971	\$21,532
1996	\$18,948	\$24,542	\$24,144	\$21,708	\$21,183
1997	\$18,784	\$27,496	\$24,736	\$22,874	\$22,020
1998	\$19,432	\$28,203	\$23,184	\$23,374	\$22,428
1999	\$20,179	\$27,466	\$23,747	\$23,657	\$22,591
2000	\$19,800	\$27,513	\$24,202	\$23,723	\$22,573
2001	\$20,021	\$26,676	\$26,222	\$23,632	\$22,303
2002	\$21,110	\$27,374	\$24,185	\$24,585	-
%					
Change (1982-2002)	61.8%	45.7%	22.7%	76.9%	47.5%*

Table Notes: * - The percentage change is for 1982-2001.

5. Compliance Costs within the Context of Vehicle Price Increases

The added cost due to emissions control and safety regulation has accounted for more than half of the cost of all new quality improvements since 1968. Some years regulation accounts for the entire cost increase of new quality improvements, while other years there are no compliance costs at all. The high initial costs of new quality improvements reported by the BLS must quickly be reduced for automakers to maintain profitability. The competitive nature of the auto industry and the pressure OEMs place on suppliers achieves the learning effects and other business practices necessary to reduce cost over time. This explains how automakers are able to accompany continual improvements to their product lines with only modest increases in MSRP and still achieve profitability. Between 1968 and 2002 the share of new quality improvements to automobiles as defined by the Bureau of Labor Statistics spurred by regulation accounted for over half of the total new quality improvement costs (\$3786 to \$2869 when figures are tallied cumulatively). Quality improvements to meet new regulations accounted for 100 % of the total quality improvement cost eight times during this period. Costs to meet regulation accounted for less than 30 % of the total on thirteen occasions. The regulations by most admissions have led to huge improvements in emissions control and vehicle

safety. Meanwhile, cars today are much more comfortable and have many more standard amenities than their counterparts from 30-35 years ago.

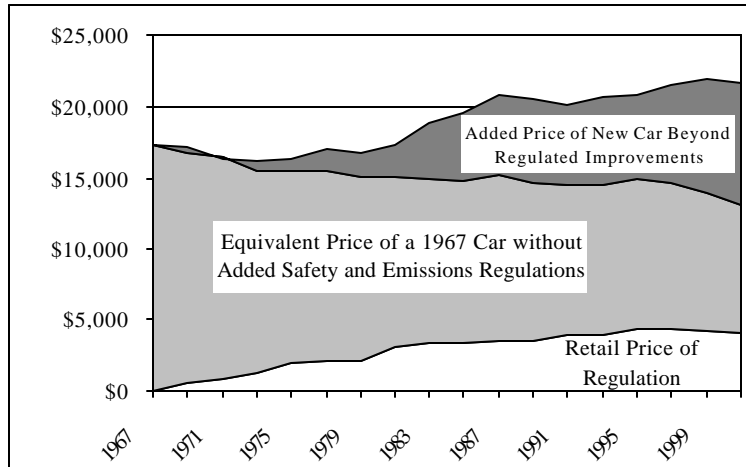
The average cost of new quality improvements for automobiles in adjusted dollars is shown in Table 6. For comparison, the cumulative totals are shown for safety, emissions control, and non-regulated quality improvements, but these figures can only be used to gauge the approximate cost of these improvements with respect to one another. By this estimation, emissions control is costlier than safety (31.4% to 25.5% of the total), and regulated new quality improvements account for about 57% of the total cost of new quality improvements. It should be emphasized that this is not a true measure of regulation cost because learning effects and a number of other factors are not included in the tally. The new quality improvement estimate only captures the added cost from one model year to the next, and does not factor in cost reductions from the previous year. As a result, the costs for regulated quality improvements may reduce faster on average than non-regulated improvements since compliance must be achieved on a timetable that is set by regulators and not automakers. The following analysis that utilizes the price index and changes over time does a better job at capturing the relative price increases due to regulated and non-regulated quality improvements.

The same approach as the one taken by Ward's to arrive at the results presented in Figure 3 can be used to compare average transaction price for 1975 and 2001, and to determine how much of the price increase has been due to government regulations and how to other factors, particularly non-regulated quality improvements of vehicles. This has been estimated in the following manner. In current dollars, the sales-weighted average price of vehicles sold in 1975 was \$4345 and in 2001 it was \$20896. Applying the NVPI to the 1975 price, the price of the car of the same quality as 1975 would be \$9820 in 2001\$. Hence the price difference between the 1975 and 2001 quality cars would be \$11076. It has been estimated in Ward's Automotive Yearbook (2002) that the price of regulations in 1975 was \$586 resulting in a cost of \$1324 in 2001\$ [Reference 10]. Hence without government regulations the cost of the 1975 vehicle in 2001 would have been \$8496 and the price difference with the 2001 models would have been \$12400. The estimated total price of regulations in 2001 has been estimated by Ward's to be \$4018. It should be noted that this figure may be somewhat exaggerated. An industry expert who argues against automobile regulation (and might offer inflated estimates as a result) contends that safety and emissions regulations added about \$2,500 to price of an average new car as of 2000[Reference 11]. Following with the Ward's analysis, the price of the 1975 vehicle with 2001 regulations would have been \$12514 resulting in a price difference of \$8382 due to quality improvements between 1975 and 2001. Hence the fraction of the price increase in 2001 due to quality improvements is **67.6%** and due to government regulation is **32.4%**.

It can be calculated what the price of the average vehicle sold would have been if the prices of vehicles had increased between 1975-2001 as fast as the general commodity index CPI. Without government regulations, the price of the 1975 vehicle in 2001 would have been \$12368 (3.29 x \$3759). Adding the same \$12400 price differential determined previously, the price of a 2001 vehicle would be \$24748. Hence the actual price in 2001 was 18.5% or \$3872 less than it would have been had the auto industry price increases followed the general consumer price index. The average price of vehicles sold in constant dollars have increased by 46% between 1975-2001 rather than by 73% that

would have been the case if the prices of the cars had increased the same as general sales items.

Figure 3 Average Transaction Price for a New Car in 2001\$



Source: Reference 9.

Figure 3 shows how much average transaction price for new cars has changed over time with respect to compliance cost and to the price of a 1967 model year car. The light gray area represents the estimated average transaction price for a 1967 comparable car with no regulated or non-regulated quality improvements. Since there are no quality improvements factored in over time, the price goes down in 2001 dollars from just over \$17,000 in 1967 to a little over \$9,000 in 2001. The white area represents the value of added safety and emissions equipment as determined by the U.S. Bureau of Labor Statistics (BLS), all inflated to current dollars using the BLS, “New Car Consumer Price Index - All Urban Consumers.” For example, 1969 is equal to the 1968 value plus the BLS stated value of added safety and emissions equipment for the 1969 model year multiplied by 1968-1969 monthly changes in the New Car Consumer Price Index. Note that the cost to improve fuel economy, which prior to 1980 was included with “Other Quality Adjustments”, has since been included by the BLS with the cost of emissions improvements. The dark gray area shows the change in transaction price accounted for by non-regulated improvements as well as straight price increases.

Figure 4 shows the industry trend among domestic automakers toward smaller annual price increases. Note that in the early 1990s, relatively large price increases were needed to recover the cost of a new regulated technology, namely airbags. The trends for foreign automakers are similar to those for domestic automakers.

Table 6 Cost of New Quality Improvements for Automobiles in 2001 \$ (1968-2002)

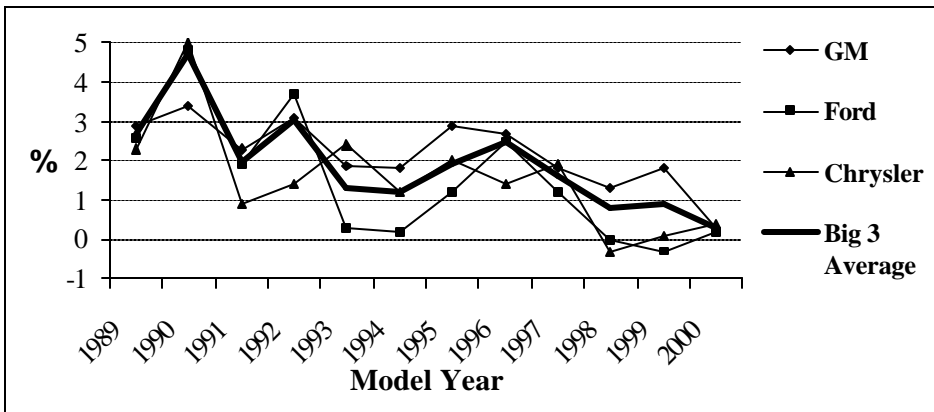
Model Year	Model	Safety	Emissions	Other	Total	% of Total
1968	4	\$81.6	\$44.06	\$1.93	\$123.77	100.0%
1969	5	\$37.9	\$0.00	\$35.24	\$2.71	100.0%
1970	5	\$19.7	\$14.49	\$86.92	\$121.16	28.3%
1971		\$0.00	\$48.05	\$63.22	\$15.17	100.0%
1972		\$5.10	\$15.31	\$30.63	\$51.04	40.0%
1973	06	\$218.	\$70.56	\$26.75	\$315.37	91.5%
1974	43	\$259.	\$3.38	\$21.46	\$284.26	92.5%
1975	5	\$23.7	\$264.5	\$0.00	\$288	100.0%
1976	6	\$27.9	\$15.86	\$11.27	\$32.55	100.0%
1977	8	\$13.7	\$28.36	\$75.15	\$117.29	35.9%
1978		\$0.00	\$18.40	\$73.91	\$92.31	19.9%
1979		\$9.81	\$20.65	\$48.64	\$79.10	38.5%
1980	9	\$20.9	\$186.4	\$173.99	\$381.39	54.4%
1981		\$6.39	\$695.2	\$89.26	\$790.89	88.7%
1982		\$0.00	\$121.3	\$59.68	\$181.05	67.0%
1983		\$0.00	\$90.34	\$88.58	\$178.92	50.5%
1984		-	\$79.97	\$85.93	\$149.49	42.5%
1985		\$0.00	\$26.41	\$172.86	\$199.27	13.3%
1986	1	\$34.6	\$0.00	\$200.79	\$235.40	14.7%
1987		\$0.00	\$0.00	\$57.41	\$57.41	0.0%
1988	2	\$78.1	\$0.00	\$215.12	\$293.24	26.6%
1989	1	\$27.1	\$0.00	\$187.08	\$214.19	12.7%
1990	26	\$205.	\$0.00	\$44.41	\$249.66	82.2%

1	199	60	\$239.	\$0.00	0	\$0.0	\$239	100.
2	199	8	\$37.6	\$0.00	.77	\$244	\$282	13.3
3	199		\$0.00	\$0.00		\$94.	\$94.	0.0%
4	199	94	\$188.	\$40.50	.81	\$143	\$373	61.5
5	199	36	\$120.	\$53.74	0	\$0.0	\$174	100.
6	199	1	\$16.3	\$87.23	90	\$86.	\$190	54.4
7	199		\$8.97	\$20.45	.35	\$153	\$182	16.1
8	199		\$0.00	\$51.73	.27	\$177	\$229	22.6
9	199		\$0.00	\$15.50	0	\$0.0	\$15.	100.
0	200		\$5.39	\$9.87	.79	\$153	\$169	9.0%
1	200	6	\$25.1	\$67.65	.86	\$119	\$212	43.6
2	200		\$0.00	\$0.00	23	\$68.	\$68.	0.0%
Cumulative Total		6	\$1,6	\$2,09	59	\$2,	\$6,	52.
		(25.5%)	(31.4%)	(43.1%)			655	0%

Average Change (1975-2002)

Source: U.S. Bureau of Labor Statistics as reported in Ward's Automotive Yearbook [Reference 9].

Figure 4 Average Fleet-Wide Percentage Annual Increase in New Car Prices



Source: Numerous issues of *Automotive News* (1988-2000). The percentage change is strictly price increases (i.e. Cost of quality improvements like those generated by BLS to a car are not factored into the change).

6. Vehicle Prices in the Context of the Consumer

The historical impact of new vehicle prices on consumer's budgets is a good measure of overall personal transportation affordability. Figure 5 shows how the ratio of incomes to average transaction price of a new car has remained fairly constant over the timeframe of interest. At the same time, automobile financing has become more flexible, which results in greater affordability for consumers. The historical affordability index represents disposable personal income as a multiple of out-of-pocket new car costs, and has consistently risen since 1971. The affordability index relates directly to Figure 6, which shows how the average amount financed when purchasing new cars and the length of those financing terms has moved steadily upward. The average maturity rate has gone from about 3 years in 1971 to roughly 5 years in 2001. Over the same period, the amount financed has gone from about \$15,000 to over \$25,000, and the ratio of average transaction price to average amount financed has declined somewhat.

Figure 5 Historical Vehicle Affordability Measures

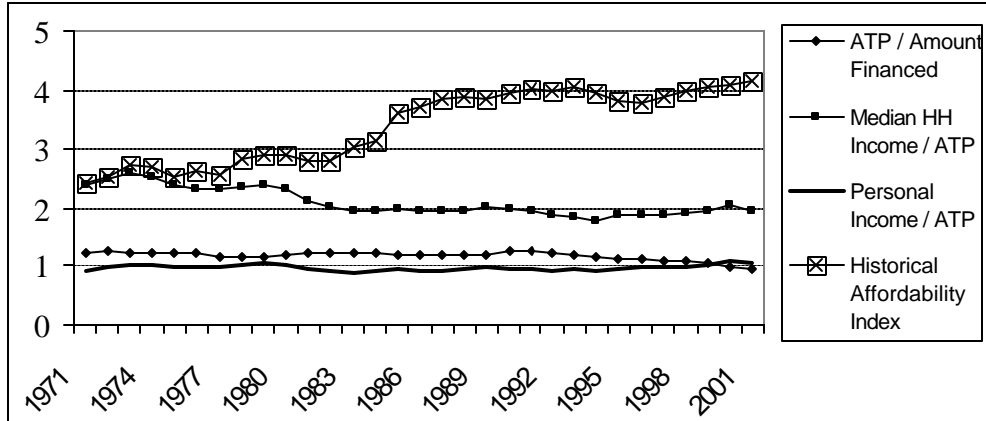
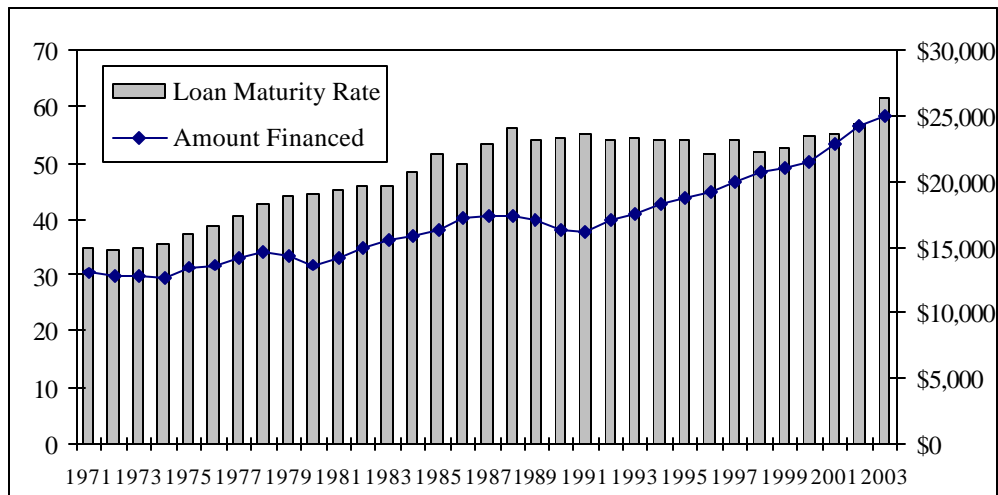


Figure 6 Average amount financed and average loan maturity rate for new vehicle purchases



Sources for Figures 5 & 6: Reference 4; Reference 12.

7. Summary and Conclusion

Since 1970, there have been great changes in automobiles and light trucks in the U.S. Regulated emissions control, safety and fuel economy improvements have made vehicles far less polluting, a great deal safer, and more fuel efficient. These environmental, safety, and energy benefits have come at a significant cost to consumers, as have the myriad new quality improvements added without the influence of regulation. Automobiles and light trucks today resemble their 1970 counterparts in only the most general sense, but the affordability of new vehicles has remained more or less constant over time. The affordability may have even steadily risen over this period due to flexible financing arrangements and other incentives that have resulted in the need for less out-of-pocket capital to land a consumer in the new vehicle of their choice. The rise of leasing as another means of obtaining a new vehicle has further heightened this flexibility.

This report detailed the manner in which average new vehicle prices have changed over time. Even without performing explicit benefit-cost analyses, it is still clear that the sweeping regulations that have made so many improvements mandatory have not led to the unintended consequence of pricing vehicles out of reach of consumers. Moreover, the continued strength of the automobile industry has time and again shown the resiliency and adaptability of this important component of the economy.

References

- [1] Schnapp, John B., *Corporate Strategies of the Automotive Manufacturers*, Prepared for U.S. DOT, NHTSA. Contract No. DOT HS-7-01783, November 1978.
- [2] Automotive News “Interim Price Hikes.” 17 August 1998, p. 1.
- [3] Burke, Andrew, Ethan Abeles and Belinda Chen. “The Response of the Auto Industry and Consumers to Changes in the Exhaust Emission and Fuel Economy Standards (1975-2003): A Historical Review of Changes in Technology, Prices and Sales of Various Classes of Vehicles.” *ITS-Davis*. June 2004. Publication No. UCD-ITS-RR-04-4.
- [4] Davis, S.C., *Transportation Energy DataBook*, Edition 23, published by the Center for Transportation Analysis, Oak Ridge National Laboratory. Table 10-11. See: <http://www-cta.ornl.gov/cta/data/Index.html>
- [5] McFarland, Floyd B. (1982) “Markup Pricing and the Auto Industry,” *The American Journal of Economics and Sociology*, 41(1), 1-15.
- [6] Roy, A., D. M. Hanssens, et al. (1994) “Competitive pricing by a price leader.” *Management Science* 40, No. 7, 809-823.
- [7] Bureau of Labor Statistics, Overview of Consumer Price Index, BLS Website: <http://www.bls.gov/cpi/cpiovrw.htm>. Accessed: May 24, 2004.
- [8] Moran, Larry and Clinton McCully. “Trends in Consumer Spending 1959-2000.” Survey of Current Business, Bureau of Economic Analysis, March 2001, See: <http://www.bea.gov/bea/articles/national/nipa/2001/0301pce.pdf>.
- [9] Fallon, Jeannine, “Edmunds New Vehicle Automotive Market Report.” March 2004. Available at: <http://www.edmunds.com/products/newsletter/market/2004/03/02.html>. Accessed: May 28, 2004.
- [10] Ward’s Communications, Ward’s Automotive Yearbook 2002. Annual. New York: Primedia, Inc., 2002.
- [11] Weidenbaum, Murray, “Auto regulations are a hodgepodge.” *Automotive News*, v. 74, May 22, 2000, p. 14.
- [12] Federal Reserve Board. Federal Reserve Statistical Release, G19, Consumer Credit. See: http://www.federalreserve.gov/releases/g19/hist/cc_hist_tc.html. Accessed: 12 May 04.

Appendix: Annual MSRP Increases for Representative Automobile Models

Table A-1 Average Changes in MSRP in Current Year \$ (1975-2001)

Year	Average MSRP Calculated from CARBITS)	Average Transaction Price	Average Price	B Ford Century	B Ford LeSabre	B Cadillac Eldorado	C Cadillac Seville	C Chevrolet Camaro	C Chevrolet Corvette	Chevrolet Monte Carlo/Lumina	F Ford Mustang	H Honda Civic	T Toyota Corolla
975	\$4,345	\$4,950	\$4,3828	\$4,4911	\$4,9948	\$11,788	\$3,553	\$6,810	\$3,553	\$3,529	\$2,798	\$2,711	\$
976	\$4,515	\$4,418	\$5,4105	\$4,871	\$10,586	\$12,479	\$3,283	\$7,605	\$3,283	\$3,525	\$2,939	\$2,849	\$
977	\$4,869	\$4,814	\$5,4363	\$5,092	\$11,187	\$13,359	\$4,113	\$8,647	\$4,113	\$3,702	\$2,779	\$3,708	\$
978	\$4,672	\$4,379	\$6,4486	\$5,459	\$11,921	\$14,267	\$4,414	\$9,352	\$4,414	\$3,555	\$2,969	\$4,213	\$
979	\$5,336	\$4,847	\$6,4699	\$5,780	\$14,955	\$15,646	\$5,073	\$10,220	\$5,073	\$4,071	\$3,649	\$4,758	\$
980	\$5,849	\$4,574	\$7,5646	\$6,769	\$13,800	\$19,662	\$5,499	\$13,140	\$5,499	\$4,884	\$3,699	\$4,758	\$
981	\$7,248	\$4,910	\$8,7094	\$7,805	\$16,492	\$21,088	\$6,780	\$15,248	\$6,780	\$6,171	\$4,599	\$4,828	\$
982	\$8,532	\$4,890	\$9,9581	\$8,886	\$18,716	\$23,433	\$7,630	\$18,750	\$7,630	\$6,345	\$4,799	\$5,448	\$
983	\$9,419	\$0,606	\$1,9416	\$9,869	\$19,334	\$21,440	\$8,450	\$21,800	\$8,450	\$7,101	\$4,899	\$5,448	\$
984	\$9,708	\$1,375	\$1,9697	\$10,615	\$20,842	\$22,962	\$8,409	\$23,835	\$8,409	\$7,472	\$7,099	\$6,498	\$
985	\$1,0215	\$1,838	\$1,9959	\$11,078	\$21,431	\$23,759	\$8,399	\$24,878	\$8,399	\$7,259	\$7,295	\$6,938	\$
986	\$1,0963	\$2,652	\$1,10642	\$13,026	\$24,751	\$27,256	\$9,349	\$27,502	\$9,349	\$7,563	\$6,699	\$7,148	\$
987	\$1,1891	\$3,386	\$1,11403	\$15,199	\$23,740	\$26,326	\$10,409	\$28,474	\$10,409	\$8,645	\$8,455	\$8,178	\$
988	\$1,2735	\$3,932	\$1,12218	\$16,520	\$25,416	\$28,152	\$11,409	\$29,955	\$11,409	\$9,209	\$8,795	\$8,998	\$
989	\$1,3500	\$4,371	\$1,12879	\$16,530	\$27,288	\$30,300	\$11,934	\$32,045	\$11,934	\$9,956	\$8,445	\$9,453	\$
990	\$1,4315	\$5,042	\$1,13700	\$16,555	\$29,045	\$28,090	\$11,434	\$32,479	\$11,434	\$10,300	\$10,695	\$9,013	\$

991	5,128	\$1	5,475	\$1	14,265	\$	17,715	\$	31,825	\$	34,545	\$	12,649	\$	32,985	\$	12,649	\$	10,587	\$	9,750	\$	9,273	\$
992	5,766	\$1	6,336	\$1	14,295	\$	19,125	\$	33,070	\$	32,340	\$	12,565	\$	33,635	\$	12,565	\$	11,163	\$	9,940	\$	9,713	\$
993	6,802	\$1	6,871	\$1	14,705	\$	20,490	\$	34,490	\$	37,590	\$	13,399	\$	35,145	\$	13,399	\$	11,285	\$	11,385	\$	11,803	\$
994	7,673	\$1	7,903	\$1	16,020	\$	21,435	\$	37,915	\$	41,615	\$	13,989	\$	36,735	\$	13,989	\$	13,365	\$	12,100	\$	12,303	\$
995	8,183	\$1	7,959	\$1	17,220	\$	21,309	\$	38,855	\$	42,570	\$	14,995	\$	37,345	\$	14,995	\$	15,030	\$	12,360	\$	12,775	\$
996	8,236	\$1	8,777	\$1	17,260	\$	22,620	\$	41,135	\$	43,635	\$	15,495	\$	37,790	\$	15,495	\$	15,680	\$	10,360	\$	13,148	\$
997	9,144	\$1	9,531	\$1	18,225	\$	22,620	\$	38,660	\$	40,660	\$	16,740	\$	38,060	\$	16,740	\$	15,880	\$	10,650	\$	13,418	\$
998	9,770	\$1	0,364	\$2	18,765	\$	23,070	\$	39,160	\$	43,160	\$	17,150	\$	38,460	\$	17,150	\$	16,595	\$	11,045	\$	12,328	\$
999	0,277	\$2	0,658	\$2	19,335	\$	23,340	\$	39,905	\$	44,025	\$	17,160	\$	38,777	\$	17,160	\$	16,995	\$	13,200	\$	12,638	\$
000	0,892	\$2	0,355	\$2	20,440	\$	25,000	\$	39,815	\$	44,775	\$	17,490	\$	39,730	\$	17,490	\$	17,070	\$	13,300	\$	12,873	\$
001	0,896	\$2	1,605	\$2	20,895	\$	24,762	\$	40,756	\$	42,655	\$	17,560	\$	40,475	\$	17,560	\$	17,380	\$	13,400	\$	13,048	\$
Change (1975-2001)	81%	3	36%	3	46%	4	04%	4	10%	3	62%	2	94%	3	94%	4	94%	3	92%	3	79%	3	81%	3

Table A-2 Average Changes in MSRP in Constant 2001 \$ Adjusted using New Vehicle Price Index (1975-2001)

Year	Average MSRP (calculated from CARBITS)	Average Transaction Price	A Ford Century	B Ford LeSabre	B Cadillac Eldorado	C Cadillac Seville	C Chevrolet Camaro	C Chevrolet Corvette	Crolet Monte Carlo/ Lumina	Ford Mustang	Ford Civic	Honda Corolla	T
975	8,800	1,165	8,634	11,077	22,438	26,588	8,014	15,360	8,014	7,960	6,311	6,115	\$
976	8,576	1,491	8,706	10,331	22,452	26,467	6,963	16,129	6,963	7,476	6,233	6,042	\$
977	8,814	1,719	8,794	10,263	22,549	26,926	8,290	17,429	8,290	7,462	5,601	7,474	\$

978	,747	\$8	\$1	1,943	\$	8,399	\$	10,220	\$	22,318	\$	26,711	\$	8,264	\$	17,509	\$	8,264	\$	6,656	\$	5,559	\$	7,888	\$
979	,258	\$9	\$1	1,880	\$	8,153	\$	10,029	\$	25,948	\$	27,146	\$	8,802	\$	17,732	\$	8,802	\$	7,063	\$	6,331	\$	8,255	\$
980	,391	\$9	\$1	2,161	\$	9,065	\$	10,869	\$	22,158	\$	31,570	\$	8,829	\$	21,098	\$	8,829	\$	7,842	\$	5,939	\$	7,640	\$
981	0,968	\$1	\$1	3,484	\$	10,735	\$	11,811	\$	24,958	\$	31,913	\$	10,260	\$	23,075	\$	10,260	\$	9,339	\$	6,960	\$	7,306	\$
982	2,435	\$1	\$1	4,414	\$	13,964	\$	12,951	\$	27,277	\$	34,152	\$	11,120	\$	27,327	\$	11,120	\$	9,247	\$	6,994	\$	7,940	\$
983	3,398	\$1	\$1	5,086	\$	13,394	\$	14,038	\$	27,501	\$	30,497	\$	12,019	\$	31,009	\$	12,019	\$	10,101	\$	6,968	\$	7,749	\$
984	3,445	\$1	\$1	5,754	\$	13,430	\$	14,702	\$	28,866	\$	31,802	\$	11,646	\$	33,011	\$	11,646	\$	10,349	\$	9,832	\$	9,000	\$
985	3,681	\$1	\$1	5,855	\$	13,338	\$	14,837	\$	28,703	\$	31,820	\$	11,249	\$	33,319	\$	11,249	\$	9,722	\$	9,770	\$	9,292	\$
986	4,085	\$1	\$1	6,255	\$	13,673	\$	16,736	\$	31,800	\$	35,019	\$	12,012	\$	35,335	\$	12,012	\$	9,717	\$	8,607	\$	9,184	\$
987	4,770	\$1	\$1	6,627	\$	14,164	\$	18,879	\$	29,488	\$	32,700	\$	12,929	\$	35,368	\$	12,929	\$	10,738	\$	10,502	\$	10,158	\$
988	5,533	\$1	\$1	6,993	\$	14,903	\$	20,150	\$	31,001	\$	34,338	\$	13,916	\$	36,537	\$	13,916	\$	11,233	\$	10,728	\$	10,975	\$
989	6,094	\$1	\$1	7,132	\$	15,353	\$	19,706	\$	32,530	\$	36,121	\$	14,227	\$	38,201	\$	14,227	\$	11,869	\$	10,067	\$	11,269	\$
990	6,756	\$1	\$1	7,607	\$	16,036	\$	19,378	\$	33,997	\$	32,880	\$	13,384	\$	38,017	\$	13,384	\$	12,056	\$	12,519	\$	10,550	\$
991	7,061	\$1	\$1	7,452	\$	16,088	\$	19,979	\$	35,892	\$	38,959	\$	14,265	\$	37,200	\$	14,265	\$	11,940	\$	10,996	\$	10,458	\$
992	7,340	\$1	\$1	7,967	\$	15,722	\$	21,035	\$	36,372	\$	35,569	\$	13,820	\$	36,993	\$	13,820	\$	12,278	\$	10,932	\$	10,683	\$
993	7,992	\$1	\$1	8,066	\$	15,747	\$	21,941	\$	36,933	\$	40,253	\$	14,348	\$	37,635	\$	14,348	\$	12,084	\$	12,191	\$	12,639	\$
994	8,251	\$1	\$1	8,488	\$	16,544	\$	22,136	\$	39,155	\$	42,976	\$	14,446	\$	37,936	\$	14,446	\$	13,802	\$	12,496	\$	12,705	\$
995	8,325	\$1	\$1	8,099	\$	17,354	\$	21,475	\$	39,158	\$	42,902	\$	15,112	\$	37,636	\$	15,112	\$	15,147	\$	12,456	\$	12,875	\$
996	8,033	\$1	\$1	8,568	\$	17,068	\$	22,368	\$	40,677	\$	43,149	\$	15,322	\$	37,369	\$	15,322	\$	15,505	\$	10,245	\$	13,002	\$
997	8,852	\$1	\$2	9,233	\$	17,947	\$	22,275	\$	38,071	\$	40,040	\$	16,485	\$	37,480	\$	16,485	\$	15,638	\$	10,488	\$	13,213	\$

998	9,591	0,179	18,595	22,861	38,805	42,769	16,995	38,111	16,995	16,445	10,945	12,216
	\$2	\$2	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
999	0,163	0,542	19,227	23,209	39,682	43,779	17,064	38,560	17,064	16,900	13,126	12,567
	\$2	\$2	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
000	0,790	0,255	20,340	24,877	39,620	44,556	17,404	39,535	17,404	16,986	13,235	12,810
	\$2	\$2	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
001	0,896	1,605	20,895	24,762	40,756	42,655	17,560	40,475	17,560	17,380	13,400	13,048
Change	1	9	1	1	8	6	1	1	1	1	1	1
(1975-2001)	13%	4%	42%	24%	2%	0%	19%	64%	19%	18%	12%	13%

Table A-3 Average Changes in MSRP in Constant 2001 \$ Adjusted using the General Consumer Price Index (1975-2001)

Year	Average MSRP Calculated from CARBITS)	Average Transaction Price	Average Price	Buick Century	Buick LeSabre	Buick Wildcat Eldorado	Cadillac Seville	Chevrolet Camaro	Chevrolet Corvette	Cadillac Monte Carlo/ Lumina	Ford Mustang	Honda Civic	Honda Corolla	T
975	4,302	\$1	\$1	12,601	\$ 16,166	\$ 32,747	\$ 38,804	\$ 11,696	\$ 22,417	\$ 11,696	\$ 11,617	\$ 9,211	\$ 8,924	\$
976	4,054	\$1	\$1	12,777	\$ 15,161	\$ 32,949	\$ 38,841	\$ 10,218	\$ 23,670	\$ 10,218	\$ 10,971	\$ 9,148	\$ 8,867	\$
977	4,229	\$1	\$1	12,751	\$ 14,881	\$ 32,693	\$ 39,041	\$ 12,020	\$ 25,270	\$ 12,020	\$ 10,819	\$ 8,121	\$ 10,836	\$
978	2,691	\$1	\$1	12,185	\$ 14,828	\$ 32,381	\$ 38,753	\$ 11,990	\$ 25,402	\$ 11,990	\$ 9,656	\$ 8,065	\$ 11,444	\$
979	3,018	\$1	\$1	11,463	\$ 14,100	\$ 36,481	\$ 38,167	\$ 12,375	\$ 24,931	\$ 12,375	\$ 9,931	\$ 8,901	\$ 11,607	\$
980	2,570	\$1	\$1	12,135	\$ 14,548	\$ 29,660	\$ 42,259	\$ 11,819	\$ 28,241	\$ 11,819	\$ 10,497	\$ 7,950	\$ 10,226	\$
981	4,122	\$1	\$1	13,821	\$ 15,206	\$ 32,131	\$ 41,086	\$ 13,209	\$ 29,708	\$ 13,209	\$ 12,023	\$ 8,960	\$ 9,406	\$
982	5,659	\$1	\$1	17,583	\$ 16,308	\$ 34,348	\$ 43,005	\$ 14,003	\$ 34,411	\$ 14,003	\$ 11,645	\$ 8,807	\$ 9,998	\$
983	6,748	\$1	\$1	16,743	\$ 17,548	\$ 34,378	\$ 38,123	\$ 15,025	\$ 38,763	\$ 15,025	\$ 12,626	\$ 8,711	\$ 9,687	\$
984	6,548	\$1	\$1	16,529	\$ 18,094	\$ 35,526	\$ 39,139	\$ 14,333	\$ 40,627	\$ 14,333	\$ 12,736	\$ 12,100	\$ 11,076	\$
985	6,814	\$1	\$1	16,392	\$ 18,233	\$ 35,274	\$ 39,105	\$ 13,824	\$ 40,947	\$ 13,824	\$ 11,948	\$ 12,007	\$ 11,419	\$
986	7,716	\$1	\$2	17,196	\$ 21,048	\$ 39,995	\$ 44,042	\$ 15,107	\$ 44,440	\$ 15,107	\$ 12,221	\$ 10,825	\$ 11,550	\$
987	8,538	\$1	\$2	17,777	\$ 23,695	\$ 37,010	\$ 41,042	\$ 16,227	\$ 44,390	\$ 16,227	\$ 13,477	\$ 13,181	\$ 12,749	\$
988	9,065	\$1	\$2	18,291	\$ 24,731	\$ 38,049	\$ 42,145	\$ 17,080	\$ 44,844	\$ 17,080	\$ 13,786	\$ 13,166	\$ 13,470	\$
989	9,281	\$1	\$2	18,394	\$ 23,609	\$ 38,973	\$ 43,275	\$ 17,044	\$ 45,767	\$ 17,044	\$ 14,219	\$ 12,061	\$ 13,501	\$
990	9,396	\$1	\$2	18,564	\$ 22,432	\$ 39,356	\$ 38,062	\$ 15,493	\$ 44,009	\$ 15,493	\$ 13,957	\$ 14,492	\$ 12,213	\$
991	9,670	\$1	\$2	18,549	\$ 23,035	\$ 41,382	\$ 44,919	\$ 16,447	\$ 42,890	\$ 16,447	\$ 13,766	\$ 12,678	\$ 12,058	\$

992	9,901	\$1	0,621	\$2	18,045	\$	24,141	\$	41,744	\$	40,823	\$	15,861	\$	42,457	\$	15,861	\$	14,091	\$	12,547	\$	12,261	\$					
993	0,592	\$2	0,677	\$2	18,023	\$	25,113	\$	42,271	\$	46,071	\$	16,422	\$	43,074	\$	16,422	\$	13,831	\$	13,954	\$	14,466	\$					
994	1,119	\$2	1,394	\$2	19,144	\$	25,615	\$	45,309	\$	49,730	\$	16,717	\$	43,899	\$	16,717	\$	15,971	\$	14,460	\$	14,702	\$					
995	1,130	\$2	0,870	\$2	20,011	\$	24,763	\$	45,152	\$	49,469	\$	17,425	\$	43,398	\$	17,425	\$	17,466	\$	14,363	\$	14,845	\$					
996	0,584	\$2	1,194	\$2	19,482	\$	25,532	\$	46,431	\$	49,253	\$	17,490	\$	42,655	\$	17,490	\$	17,699	\$	11,694	\$	14,841	\$					
997	1,124	\$2	1,551	\$2	20,110	\$	24,960	\$	42,658	\$	44,865	\$	18,471	\$	41,996	\$	18,471	\$	17,522	\$	11,751	\$	14,806	\$					
998	1,480	\$2	2,126	\$2	20,388	\$	25,066	\$	42,547	\$	46,893	\$	18,634	\$	41,787	\$	18,634	\$	18,031	\$	12,000	\$	13,394	\$					
999	1,555	\$2	1,960	\$2	20,554	\$	24,811	\$	42,420	\$	46,800	\$	18,242	\$	41,221	\$	18,242	\$	18,066	\$	14,032	\$	13,435	\$					
000	1,486	\$2	0,934	\$2	21,022	\$	25,711	\$	40,948	\$	46,049	\$	17,988	\$	40,861	\$	17,988	\$	17,556	\$	13,678	\$	13,239	\$					
001	0,896	\$2	1,605	\$2	20,895	\$	24,762	\$	40,756	\$	42,655	\$	17,560	\$	40,475	\$	17,560	\$	17,380	\$	13,400	\$	13,048	\$					
Change (75-2001)		4	3	3	6	5	2	1	5	8	5	5	5	5	4	4	6%	3%	6%	3%	4%	0%	0%	1%	0%	0%	5%	6%	4

