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An Evaluation of the Fluctuations in New Car Sales for Rapid City, Denver, and the U.S. from October 1973 Through March 1975

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AN EVALUATION OF THE FLUCTUATIONS IN NEW CAR SALES FOR RAPID CITY, DENVER, AND THE U.S. FROM OCTOBER 1973 THROUGH MARCH 1975

BY

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This thesis is approved as a creditable and independent investigation by a candidate for the degree, Master of Science, and is acceptable as meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Thesis Advisor Date

Head, Economics Department Date

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S. P. B.

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Chapter 1

INTRODUCTION

During the past three years the American economy in general and the automobile industry in particular was plagued with inflation, recession, and unemployment. With sales declining during those years, profits vanished and layoffs increased within the automobile industry.

One of the factors that contributed to this problem was the Arab Oil Embargo of November, 1973. In the last quarter of 1973, when the automobile industry started its prolonged decline in sales, most of the Oil Producing and Export Countries (OPEC) were redirecting the world economy for their own benefit through embargoes and price fixing on their oil.

Because of the dramatic ramifications the Arab Oil Embargo had on the U.S. automobile industry, this study focuses on the changes in consumer demand for automobiles during the embargo of November, 1973, and the recession and inflationary period that followed through the first quarter of 1975. The events that took place in the automobile industry during those periods are outlined below.

BACKGROUND

Steep increases in the price of crude oil were observed after the oil embargo was imposed in November of 1973.

Since higher prices were charged for oil, gasoline prices were also higher. These factors had a direct effect on inflation and real disposable income. Further, consumers who drove large cars found that driving was getting very expensive. From 1960 to 1965 the cost of gasoline increased by only .5 percent at a compound annual rate, while in 1974 it jumped 36 percent over 1973.[1]

While consumers worried about how much it cost to operate their automobiles, they found that the automobile manufacturers were raising new car prices. It is easy to understand why this could have a significant effect on demand for new cars. The average American consumer allocates a farily constant percentage of his personal outlays to auto transportation. This outlay averages about 10 percent, including car payments, parts, gas and oil.[2]

The total cost of car ownership went up at a rate of 3.6 percent per year from 1965 through 1973. This was a rate of increase less than that of the consumer price index, which averaged an annual increase of 4.4 percent over the same time period. However, by industry estimates, over the next seven years the cost of car ownership should rise by 8.2 percent a year, including a seven percent annual rise in new car prices.

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[1] Financial World, November 6, 1974, p. 13.

[2] Ibid.

The consumer price index during that period of time is expected to go up by an average of 6.7 percent per year.[3]

Coupled with the gasoline crisis and the rise in new car prices, only 3.9 million cars were sold during the first half of 1974. This was 24 percent below a year earlier, and was the lowest half-year figure recorded in 11 years.[4] The collapse of the big-car market caused the greatest majority of the loss in auto sales. This can be directly related to the dramatic increases in gasoline prices and shortages of supply observed during the critical time period.

The automobile manufacturers responded by embarking on a program to improve fuel economy and by reducing the overall weight of automobiles. One approach used to improve fuel economy was the catalytic converter in 1975 models. This resulted in a 12.4 percent improvement in fuel economy industry-wide, and cleaner air to please the environmentalists.[5] However, it must be stated that the catalytic converters were not introduced with the expressed intent of increasing fuel economy.

Rather, such a device was mandated by previous Congressional action. In this particular case it was an example

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[3] Ibid.

[4] Newsweek, July 15, 1974, p. 67.

[5] Financial World, loc. cit.

of "good timing", since the devices did result in the fortuitous improvements in fuel economy noted above.

After a crippling first and second quarter in automobile sales during 1974, sales picked up again during the summer. The automobile industry suffered sharp reverses again in mid-October, after most of the automobile manufacturers had introduced the new 1975 models. Part of the reason for this reversal was the $929 average price increase experienced during the 1974-75 model year. Over $400 of this average increase came with the introduction of the 1975 models. As a result, the public rushed to buy 1974 cars before the new price increases on the 1975 models came into effect. Their action produced a bulge in sales at the end of the summer in 1974 and a sharp reduction in auto sales by mid-October, when measured against 1973 sales during that period.[6]

Sales of American made cars had been dropping steadily during 1974, and were now well under 1973's levels, which in turn reflected the first impact of the Arab Oil Embargo. Further evidence that reveals how sales dropped in 1974 is the scrappage rate of automobiles per year. As recently as 1972 it was estimated that 8 million autos were scrapped during that year, either because they wore out or were damaged beyond repair. The auto industry estimated the scrappage rate

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[6] Ibid.

for 1974 was down to approximately 6.5 million cars a year.[7] When times are bad, owners keep their cars longer.

Since sales were down and profits were declining, automobile manufacturers were forced to lay off many employees. Auto sales were off by 38 percent and inventories of unsold cars were accumulating at alarming rates. Thus, the industry was forced to drastically reduce production schedules.[8]

The automobile industry was headed for an economic crisis with consumer demand dropping, production falling, and unemployment rising. Since the industry is a large component of the U.S. manufacturing sector, these factors had dramatic ramifications for the U.S. economy as a whole.

New automobiles were accumulating by the hundreds of thousands in factory parking lots and dealer showrooms across the country, and it was only a matter of time before car manufacturers were forced to implement new techniques to get them out of factory parking lots and into buyers' garages. One such technique was known as the cash rebate.

The first rebate plan, introduced by Chrysler Corporation was formally announced in television commercials during the 1975 Super Bowl Game in January of that year. This plan was called "Chrysler's Car Clearance Carnival". Chrysler

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[7] U.S. News and World Report, January 27, 1975, p. 60.

[8] Newsweek, December 2, 1974, p. 68.

designated certain cars and trucks each week for a cash rebate. After the buyer and dealer negotiated the sale of a particular car, such as a Dodge Dart, the buyer would receive a $200 cash rebate directly from Chrysler Corporation. Purchase of a larger car, such as a New Yorker, would bring a $300 rebate.[9] Reasons for offering a larger rebate on the bigger cars were: (1) these cars generally have a greater percentage mark-up price than the smaller cars, and (2) Chrysler had a larger inventory of big cars at that time. With respect to the first reason, this obviously gave them more variability in terms of a profit margin. The second reason relates to the fact that interest charges on these high priced models held in inventory by both manufacturers and dealers were severely damaging their already troubled financial positions.

Chrysler was the first to introduce such a rebate program, and Ford, General Motors, and American Motors were soon forced to follow. Rebate promotions were the chief instrument used by the industry in the first quarter of 1975 in an attempt to reverse their precarious positions.

PROBLEM STATEMENT

The background information presented above dealt with the United States as a whole. However, the question of whether this impact was equally distributed throughout the country is

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[9] Newsweek, January 20, 1975, p. 63.

also one of interest. To address this question directly, three different markets were identified: (1) Rapid City, South Dakota; (2) the greater Denver, Colorado, metropolitan area; (3) the aggregate United States market.

The Rapid City-United States pair represents the total market-small market comparison, while the Denver market represents an intermediate point of observation. This three market approach served as the structure for examining the question of impact distribution mentioned above. Comparing changes in new car sales within and among these individual markets during the Arab Oil Embargo of November, 1973, and the recession and inflationary period that followed served as the approach to the impact incidence problem.

Also, the problem of consumers switching from larger to smaller cars mentioned previously is one of concern to the automobile manufacturers as well as individual dealers. Thus, this area of concern is also addressed.

The effectiveness of the cash rebate system used to promote sales and move accumulated inventory during the first quarter of 1975 is the final problem area examined.

GENERAL OBJECTIVES

The problem areas mentioned above lead to the following general objectives:

1. To determine if Rapid City was relatively insulated in new car sales in comparison to the Denver and entire United States markets.

2. To assess the impact of buyers switching their preference from larger to smaller cars during the period in question.

3. To examine the effectiveness of cash rebates offered by automobile corporations during the first quarter of 1975.

Chapter 2

DEVELOPMENT OF METHOD OF DATA EVALUATION

Two principal areas are discussed in this chapter. The first area is the specific time frame that was used for the study and how the statistical information was gathered. The second is concerned with how the data was evaluated.

ANALYTICAL TIME FRAME AND DATA BASE

Specific Time Frame Used

The period of analysis covered in the study was October 1973 through March 1975. This period was chosen in order to capture the changes in consumer demand for automobiles resulting from three specific events: (1) the Arab Oil Embargo of 1973; (2) the recession and inflationary period of 1974; and (3) the cash rebates offered during the first quarter of 1975.

Data Used

Statistical information used was new automobile registration data compiled by R.L. Polk and Company for the Oldsmobile Division of General Motors Corporation. R.L. Polk and Company compiles all new car registrations reported by states within the United States. After the statistical information is compiled, R.L. Polk and Company distributes the data to

General Motors Corporation. General Motors then distributes this information to the different divisions within the corporation. The separate divisions of General Motors are Cadillac, Chevrolet, Pontiac, Buick, and Oldsmobile.

The statistics used in this analysis were received from the Oldsmobile Division Denver Zone Office.[1] These data were in the form of monthly reports of new car registrations concerned with the Rapid City area, the Denver metropolitan area, and the United States. These monthly statistics showed comparisons in new car automobile registrations dependent upon two factors: (a) size of the automobile and (b) the particular division or corporation from which the car came.

A sample of the data received from the Oldsmobile Division Denver Zone Office is presented in Table 1. This report shows the running totals of new car registrations for the Rapid City area for the month of October. Running totals are the cummulative sales that have taken place in each category during a particular year. For example, Table 1 illustrates total sales of new cars for the different size groups. These figures are the total cummulative sales for the months January through October 1973. By using these monthly reports an evaluation can be made to determine how many Oldsmobiles of a particular size were sold in 1973 through October of that

[1]Statistics were received from Mr. Gene Vaughn, Oldsmobile Division Denver Zone Manager.

Table 1

Sample Data- Rapid City Area

	Make	Area Sales Registration	Area Sales % Grp	Effect. Index	+ or – Units
Total Olds Groups	Oldsmobile Div.	162	72	978	-4
	Chevrolet Div.	488	219	1029	13
	Pontiac Div.	138	61	925	-11
	Buick Div.	138	61	937	-9
	Cadillac Div.	46	20	792	-12
	Ford Div.	347	154	861	-56
	Lincoln-Mercury Div.	138	61	830	-28
	Plymouth Div.	260	115	1619	99
	Dodge Div.	95	42	851	-17
	Chrysler-Imperial Div.	124	55	2335	71
	Amer. Mtrs. Corp	110	49	1823	50
	Misc. Domestic	2	1	858	
	Imports	199	89	674	-96
	Total Olds Group	2247	749	1064	134
	Olds as % of T.O.G.		72		
	Effect Index vs Natl T.O.G.	3002		770	
Compact	Olds Omega	18	32	1291	4
	Chev Nova	89	154	859	-14
	Pont Ventura	13	23	607	-8
	Buick Apollo	10	18	973	
	Ford Maverick	79	138	961	-3
	Merc Comet	39	68	1240	8
	Ply Valiant	103	180	1502	34
	Dodge Dart	38	67	901	-4
	AMC Hornet	66	116	1919	32
	Imports	117	204	713	-47
	Total Group	571			
	Grp % Total Industry		190	1036	20
Intermediate	Oldsmobile	60	93	936	-4
	Chevrolet	170	265	1011	2
	Pontiac	31	48	725	-12
	Buick	49	76	928	-4
	Ford	98	152	995	-2
	Mercury	46	72	1025	1
	Plymouth	65	101	1693	27
	Dodge	33	52	1085	3
	Amer. Motors	19	30	1862	9
	Imports	67	104	769	-20
	Total Group	643			
	Grp % Total Industry		234	1023	14
Regular	Oldsmobile	49	60	960	-2
	Chevrolet	223	271	1083	17
	Pontiac	94	114	1026	2
	Buick	44	54	794	-11
	Ford	161	196	756	-52
	Mercury	36	44	602	-24
	Plymouth	92	112	1654	36
	Dodge	19	23	538	-16
	Chrysler	78	95	2186	42
	Amer. Motors	25	30	1566	9
	Misc. Domestic	1	1	395	-2
	Imports				
	Total Group	822			
	Grp % Total Industry		275	1177	124
Spec.	Oldsmobile-98 & Toronado	35	166	1075	2
	Toronado (Memo)	15	71	1000	
	Buick Electra & Riviera	35	166	1301	8
	Riviera (Memo)	4	19	687	-2
	Cadillac Cadillac & Eldorado	46	217	937	-3
	Eldorado (Memo)	15	70	1522	5
	Chevrolet	7	33	978	
	Ford	9	43	473	-10
	Lincoln	17	81	606	-11
	Chrysler	46	218	2606	28
	Misc. Domestic	1	5	25693	1
	Imports	15	71	492	-15
	Total Group	211			
	Grp % Total Industry		70	909	-23

	Make	Registration	% Grp	Effect. Index	+ or – Units
Total Industry	Oldsmobile Div.	162	54	1040	6
	Chevrolet Div.	674	224	1082	51
	Pontiac Div.	149	50	952	-6
	Buick Div.	138	46	996	
	Cadillac Div.	46	15	843	-9
	Ford Div.	480	160	840	-92
	Lincoln-Mercury Div.	150	50	885	-20
	Plymouth Div.	263	88	1692	107
	Dodge Div.	108	36	974	-16
	Chrysler-Imperial Div.	124	41	2483	74
	Amer. Mtrs. Corp.	198	66	1975	98
	Misc. Domestic	2	1	913	
	Imports	508	169	723	-195
	Total Industry	3002	1000		
	Olds as % of Industry*		54		
3 Others	E.S.P.**	197	261	1211	34
	Total Groups	755			
	Groups % Total Industry		251	846	-134
Station Wagons	Oldsmobile	17	42	1540	6
	Cutlass (Memo)	5	12	1089	
	Buick	14	34	1211	2
	Skylark (Memo)	5	12	1241	1
	Chevrolet	92	226	1055	5
	Chevelle (Memo)	15	37	1104	1
	Pontiac	8	20	717	-3
	LeMans (Memo)	1	2	329	-2
	Am. Mtrs.	38	93	1919	18
	Ford	101	249	789	-27
	Mercury	11	27	931	-1
	Chrysler	11	27	2514	7
	Dodge	12	29	1221	2
	Plymouth	27	66	2066	14
	Imports	75	187	766	-23
	Total Station Wagons	407	1000		

History	1972	1971	1970
Oldsmobile	236	142	126
Total Olds Grp	3161	1707	1750
Olds % Total Olds Grp	7.5	8.3	7.2
Zone % T.O.G.		10.0	8.0
Effect vs Zone		83.5	89.8
+ or – Units		-28	-14
National % T.O.G.		11.2	8.8
Effect vs Natl.		74.5	82.3
+ or – Units		-49	-27
Olds % Ind - Area	7.5	6.1	5.6
Olds % Ind - Zone	6.7	6.7	5.8
Effect vs Zone	111.7	91.4	96.3
+ or – Units	25	-13	-5
Olds % Ind. Natl.	8.2	8.0	6.5
Effect vs Natl.	91.4	75.3	86.2
+ or – Units	-22	-45	-20

Vehicles in Operation

1972	149	4 Yrs & Over	946
1971	123	Total Olds	1716
1970	156	Ind. 5 Yrs	13696
1969	163	Tot. Ind.	32190
1968	181	Olds 5 Yr Total	
Total 5 Yrs	772	% Ind 5 Yr Total*	5.6

** Economy, Sporty, Pass. Vans.

Caution on completeness of reporting by states

NA 2413-73

Region PACIFIC Zone DENVER District 3 Area RAPID CITY S.D.

year. Specifically, Table 1 shows that 18 compact Oldsmobile Omegas had been sold through October, 1973.

As mentioned before, the statistics are referenced with respect to the particular "brand name" of car and size group. For purposes of clarity and continuity throughout the remainder of the study, the terms used to identify the individual size groups are specified below.

Compact. The compact area represents only small size cars. Examples include Oldsmobile Omega, Chevrolet Nova, Pontiac Ventura, Buick Apollo, Ford Maverick, Mercury Comet, Plymouth Valiant, Dodge Dart, AMC Hornet, and all compact imports.

Mid-Size. This term denotes autos such as Oldsmobile Cutlass, Chevrolet Chevelle, Pontiac Tempest, Buick Skylark, Ford Granada, Mercury Montego, and Plymouth Duster.

Regular. This is a six passenger full-size car. Included are the Chevrolet Impala, Pontiac Catalina, Buick Le Sabre, Mercury Marquis, and Ford LTD.

High-Priced. Included in this category are the more expensive autos such as Oldsmobile Toronado, Buick Electra and Rivera, all Cadillac models, Ford Thunderbird, Lincoln Continental, Chrysler Imperial, and all expensive imports.

Total Group. This term represents the aggregate of all Compact, Mid-Size, Regular, and High-Priced models.

METHOD OF DATA EVALUATION

Data analysis was organized in an effort to evaluate the objectives of this study. The general objectives presented in Chapter 1 were as follows:

1. To determine if Rapid City was relatively insulated in new car sales when compared to the Denver and U.S. markets.

2. To assess the impact of buyers switching their preference from larger to smaller cars during the period in question.

3. To examine the effectiveness of cash rebates offered by automobile corporations during the first quarter of 1975.

The analysis initially focused upon the fluctuations in sales within each of the three markets. To evaluate these fluctuations, the analysis was organized by examining the changes in new car sales based on the size of the automobile. By listing all automobile divisions and corporations that sold that particular size automobile, it was possible to determine how many autos of that size were sold at various points in time.

Through such a framework the focus was directed at showing the changes in total automobile sales for the four different sizes of automobiles that were evaluated. Recall that the Total Group sales figure is the sum of the four individual groups: Compact, Mid-Size, Regular, and High-Priced. As a result of this organizational scheme, the chapter on data analysis that follows has five principal sections, one for each of the four auto size groups and a total group. The approach of analyzing these data groups is outlined below.

The first section of the analysis chapter is concerned with an evaluation of the changes in compact car sales in the three market areas under observation: Rapid City, Denver, and the U.S. Following the presentation of the statistics regarding the fluctuations in compact car sales for each market during the period under observation, the total compact group sales of each market is illustrated graphically by using the monthly running sales totals. By plotting compact group totals for each of the three markets, attention is then directed to how total compact sales fluctuated in each individual market area.

The question of whether Rapid City was relatively insulated as compared to Denver and the U.S. in demand for new compact cars during the crisis era is addressed after examining the fluctuations among the three separate markets.

The second, third, and fourth sections of the chapter evaluate the changes in total sales for Mid-Size, Regular, and High-Priced cars in the three market areas. The same analytical framework discussed above for compact cars was followed for each of these three groups.

The fifth section, total group sales, is examined following the four sections on individual size groups. These five sections are employed to focus directly on the objectives of this research.

DATA EVALUATION WITH RESPECT TO STATED OBJECTIVES

Insulation

Fluctuations in new car sales for the Rapid City, Denver, and U.S. market areas between 1973 and 1974 were used in determining whether Rapid City was relatively unaffected in the sales of new cars when compared to the other two market areas during this time period.

Specifically, percentage changes for the 1973-74 period were computed for each of the five car groups detailed previously. Rapid City's precentage change figures were then compared with those of Denver and the U.S. market areas. While no formal criterion was established to determine the insulation of one market from another, e.g., a three or five percentage point difference in the 1973-74 percentage change figures for any two markets, these percentage change figures obviously are indicative of the responsiveness in the three markets being compared during the period under observation.

Shift in Consumer Preference

After all four size groups are evaluated, an attempt can be made to show whether consumer preference shifted to smaller size cars during the energy crisis. This attempt was made by evaluating the fluctuations in market shares for larger and smaller cars during the fuel shortage.

Cash Rebates

An analysis of the overall effectiveness of cash rebates was the final area examined. The specific time frame used for the evaluation was December 1974 through March 1975. Total aggregate sales of new cars within the Rapid City, Denver, and U.S. market areas on a monthly basis for the four-month period was the specific data examined.

Chapter 3

DATA ANALYSIS

Following the analytical framework specified in the preceding chapter, presented in the initial portion of this chapter is the statistical data dealing with the five car groupings under consideration for the Rapid City, Denver, and U.S. market area. The latter portion of the chapter uses this basis to address the three specific objectives of this research endeavor.

COMPACT

This size group includes the economical small size cars. A breakdown of this size group into three separate markets, Rapid City, Denver, and the U.S., respectively, is presented in Appendix Tables 10, 11, and 12. Running total sales increases that have taken place in each individual division or corporation within a market are included in the tables. Sales increases on a monthly basis can be computed by subtracting the preceding month's total sales from the month in question. The data might be used to answer the following question: "How many compact Chevrolets were sold in December 1973 for the Rapid City area?" The answer would be 110 minus 98, or 12. To give a more comprehensive representation of these statistics, the running total sales of compacts in each respective market for the months October 1973 through March 1975 are illustrated graphically in Figure 1.

Since the statistical data are presented in running monthly totals, the yearly figures for each market are derived from December, the last month of the year. These annual totals for the three markets for the years 1973 and 1974 are presented in Table 2.

Table 2

Total Sales of Compact Cars

Market	Total 1973	Total 1974	Percentage Change
Rapid City	647	660	+ 2.0
Denver	12,270	11,233	- 8.5
U.S.	1,920,503	1,709,052	-11.0

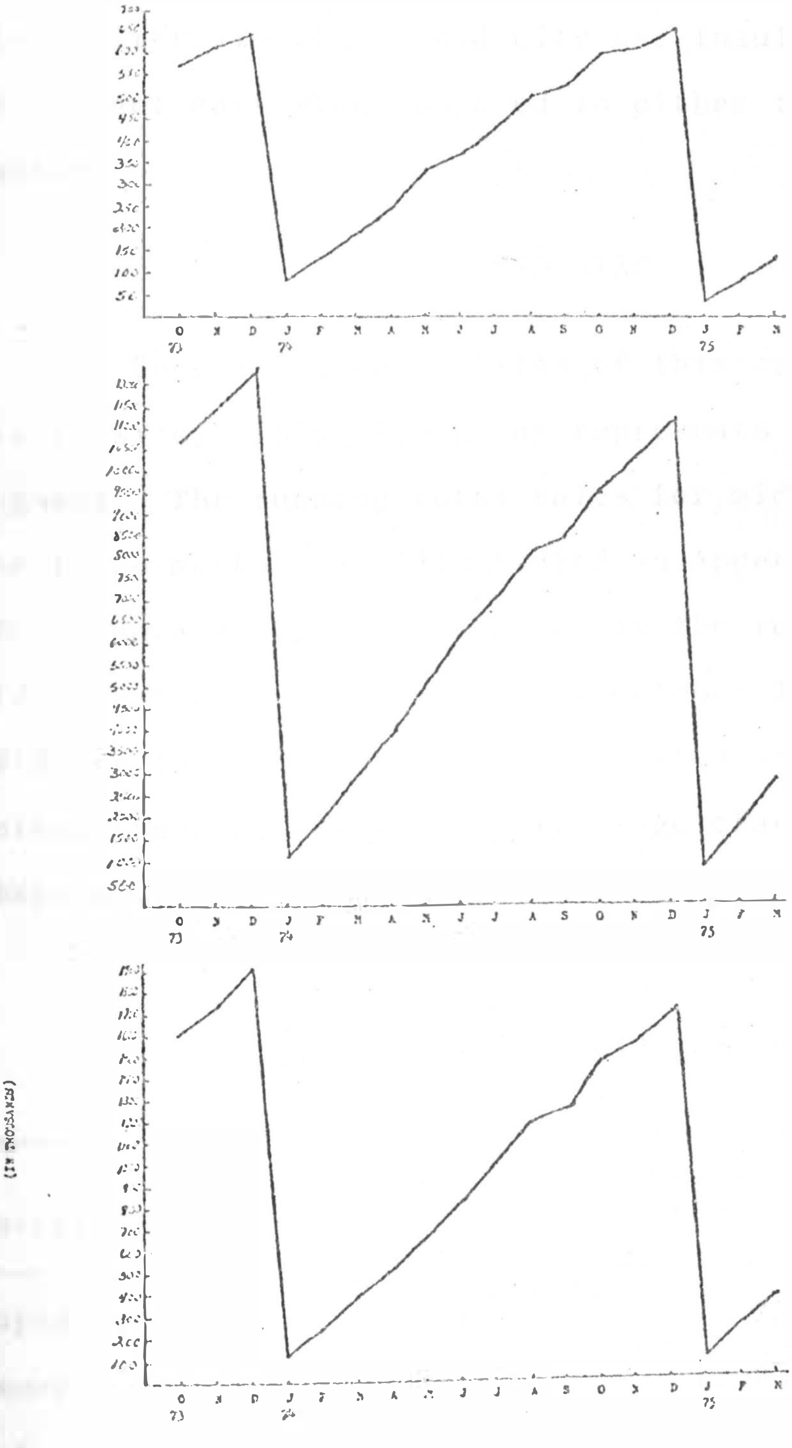
Rapid City's total compact car sales for 1973 and 1974 were 647 and 660, respectively. There was an increase of 13 units over 1973 sales, or a positive change of 2.0 percent.

Denver's total compact sales for the two years under observation were 12,270 and 11,233. Thus, total sales for Denver in 1974 had decreased by 1,037 units when compared to the 1973 level. This was a percentage change of -8.5 percent.

Total compact sales for 1973 and 1974 in the U.S. were 1,920,503 and 1,709,052 units, respectively. Total aggregate

Figure 1

Running Totals for Compact Cars



Rapid City

Denver

United States

sales for 1974 fell by 211,451 units. This was a change of -11.0 percent.

An examination of the last column of Table 2, percentage changes in compact car sales between 1973 and 1974, clearly reveals that Rapid City was insulated in the sales of compact cars when compared to either the Denver or the U.S. market.

MID-SIZE

Generally, automobiles of this category are intermediate in size. This size group represents the largest market segment. The running total sales for mid-size cars in each of the three markets is illustrated in Appendix Tables 13, 14, and 15. Figure 2 portrays graphically the running total sales of mid-size cars for the months of October 1973 through March 1975 for the three markets. Presented in Table 3 are the relevant annual sales and percentage change figures for the three markets.

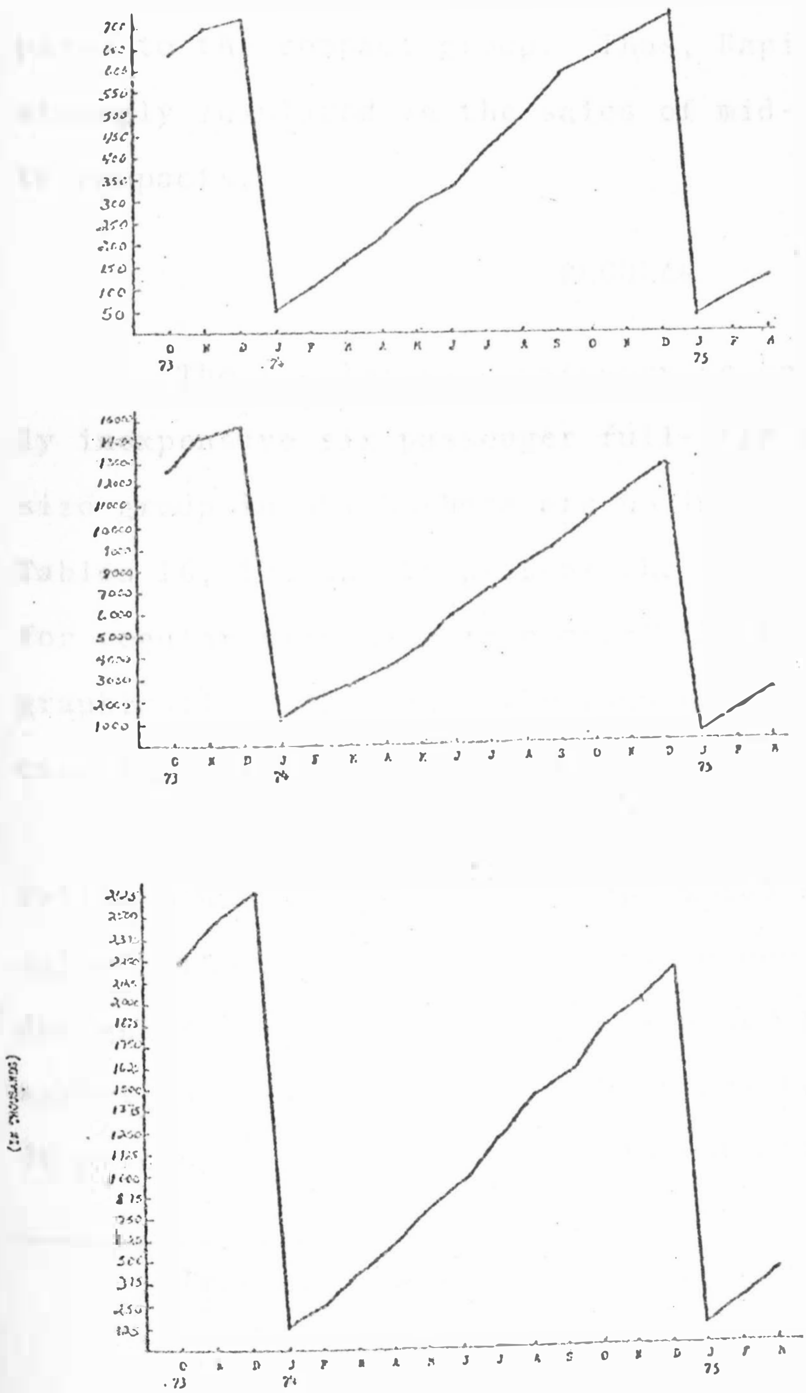
Table 3

Total Sales of Mid-Size Cars

Market	Total 1973	Total 1974	Percentage Change
Rapid City	714	730	+ 2.2
Denver	14,856	12,842	- 13.6
U.S.	2,637,770	2,203,529	- 16.5

Figure 2

Running Totals for Mid-Size Cars



Rapid City

Denver

United States

Once again, Rapid City was the only market of the three to surpass its 1973 level of sales. Rapid City had a positive percentage change in mid-size automobiles similar to that displayed in the compact group. Both Denver and the U.S., however, had a more dramatic negative change when compared to the compact group. Thus, Rapid City was even more strongly insulated in the sales of mid-size cars when compared to compacts.

REGULAR

The regular size category is composed of the relatively inexpensive six passenger full-size cars. This is the only size group in which there are no imported cars. Appendix Tables 16, 17, and 18 present the running total sales increases for regular size cars in each of the three markets. Figure 3 graphically illustrates the running total sales of regular size cars for the months under observation.

The Arab Oil Embargo, and the gasoline shortages that followed would appear to have prompted a decline in large car sales. The heavy, roomy, six passenger autos that the industry designates as "full-size" or "regular" held 34 percent of the market in 1973, but in 1974 was predicted to fall far below 20 percent.[1] In support of this estimated downward trend,

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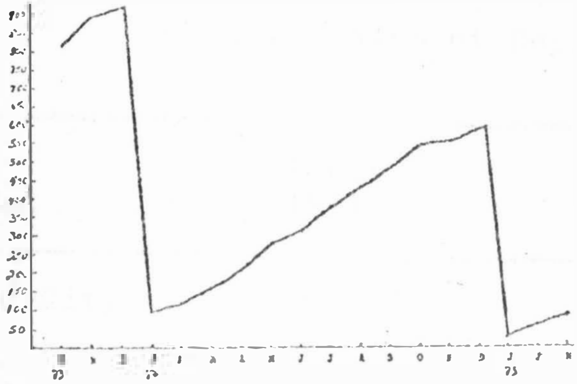
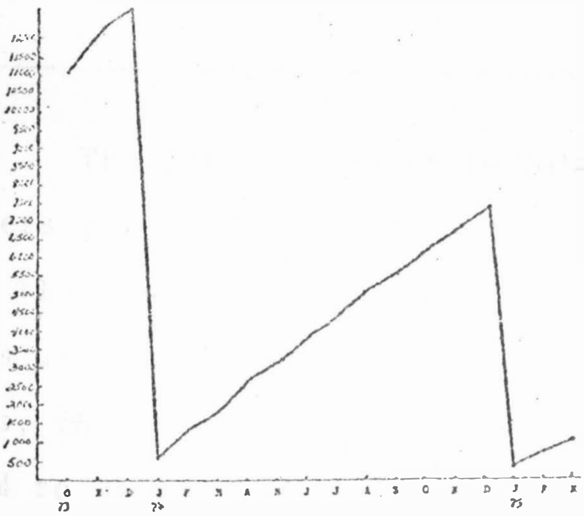
[1] _Fortune_, July 1974, p. 80.

Figure 3

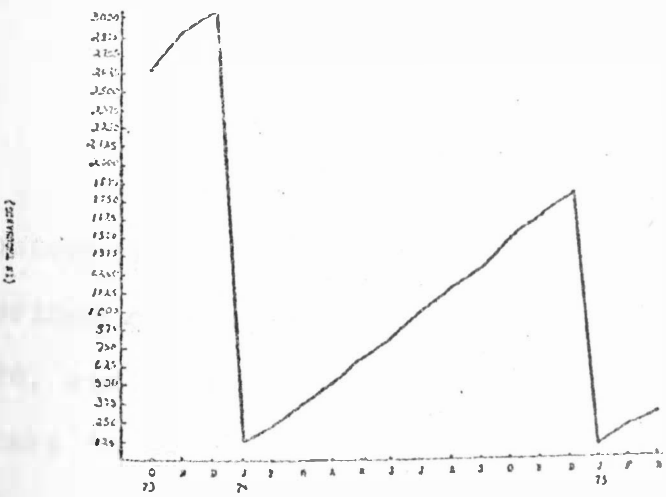
Running Totals for Regular Cars



Rapid City



Denver



United States

the data utilized in this study revealed that in December 1974, the regular size group held 20.4 percent of the market.

Table 4

Total Sales of Regular Size Cars

Market	Total 1973	Total 1974	Percentage Change
Rapid City	916	596	- 34.9
Denver	12,852	7,511	- 41.6
U.S.	3,089,509	1,778,932	- 42.4

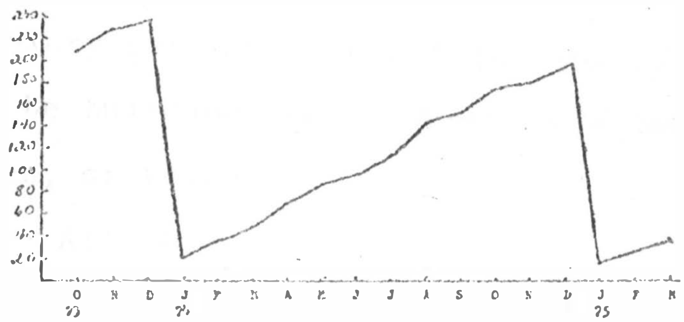
The data presented in Table 4 reveal that all three markets reacted in a similar negative manner. Further, unlike the case in compact and mid-size cars, Rapid City's sales dropped in regular size cars. However, on a percentage basis, this market was still relatively insulated when compared to Denver and the U.S., since the percentage decline was not as severe in the Rapid City market area.

HIGH-PRICED

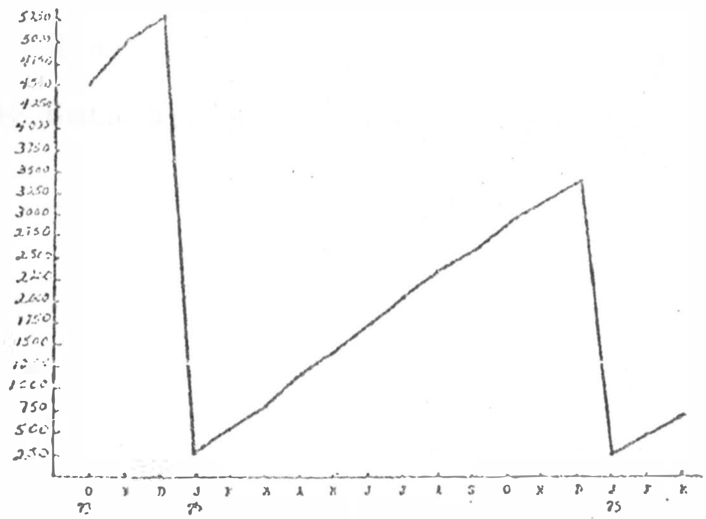
The term high-priced includes all expensive luxury automobiles. In terms of number of automobiles sold, high-priced cars ranked last in total sales. Appendix Tables 19, 20, and 21 present the running total sales for high-priced cars in each market under observation. Figure 4 graphically

Figure 4

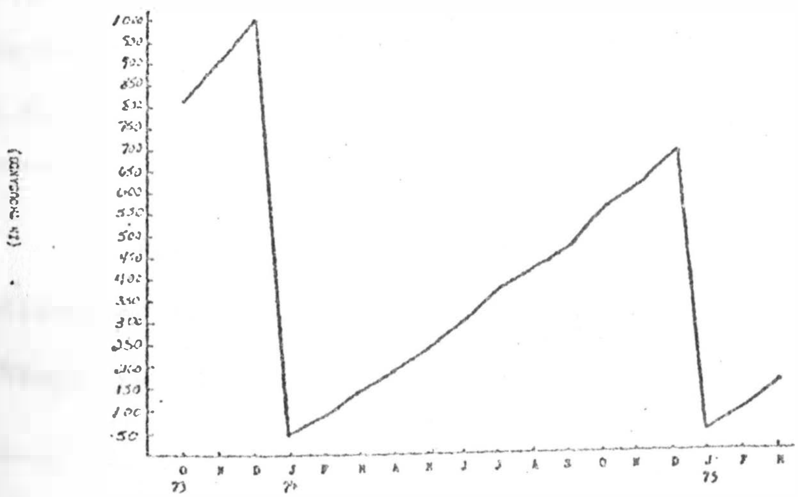
Running Totals for High-Priced Cars



Rapid City



Denver



United States

illustrates the running total sales of high-priced cars for the months under evaluation.

During the energy crisis observers of the auto market were predicting that within a decade Cadillac, Lincoln, Buick, Oldsmobile, Pontiac, and Chrysler may no longer be making the big luxury cars that bear their name-plates. Instead, they would be building small luxury cars, much like the Mercedes, Citroen, or Volvo.[2]

All three markets failed to reach their 1973 levels in 1974 for sales of high-priced cars, which was also the case for regular size cars. The actual numbers and percentage change data are presented in Table 5.

Table 5

Total Sales of High-Priced Cars

Market	Total 1973	Total 1974	Percentage Change
Rapid City	236	206	- 12.7
Denver	5,314	3,413	- 35.8
U.S.	997,758	701,284	- 29.7

Relative insulation for the Rapid City market is evidenced by the fact that Rapid City's negative percentage change is significantly less than the two other markets

[2] *Business Week*, November 24, 1973, p. 38.

being compared. Also, for the first time within the analysis Denver fell below the U.S. market in percentage change between the years.

TOTAL GROUP

This area is concerned with total sales of all four car sizes within each market. Appendix Tables 22, 23, and 24 provide the running total sales for all four sizes with respect to the three individual markets being analyzed. Figure 5 graphically illustrates these running total sales.

The U.S. sales of all new domestic and imported autos reached an all time high of 11.5 million in 1973. In 1974, new car sales fell to 8.9 million. These reduced demands for new cars put the U.S. auto industry in its deepest slump since World War II.[3]

After examining how total sales fluctuated for all new cars from October 1973 to March 1975, the statistics reveal that the auto industry was in deep trouble. These fluctuations in total sales are employed below to focus directly on the first objective of this research.

Insulation

The first objective was to examine whether Rapid City was relatively insulated from the Denver and U.S. markets. The analysis found, as illustrated in Table 6, that Rapid City

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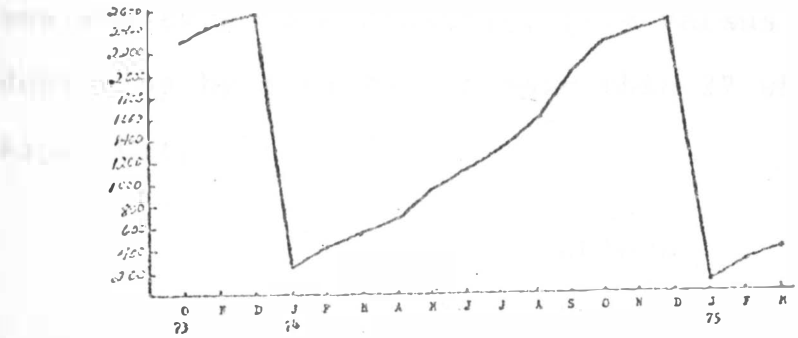
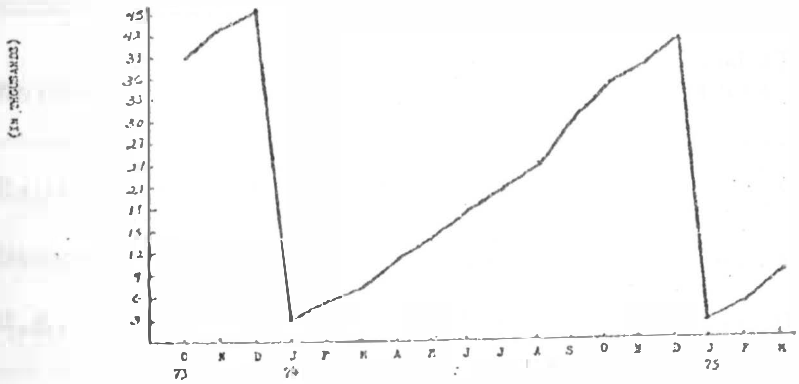
[3]*U.S. News and World Report*, January 27, 1975, p. 60.

Figure 5

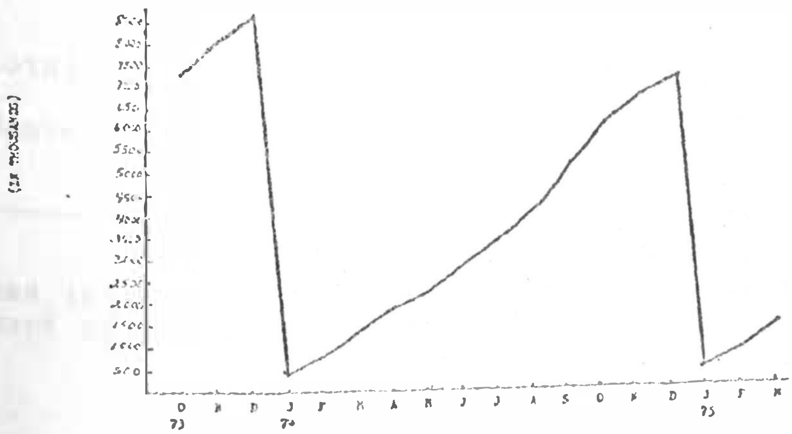
Running Totals for Total Group



Rapid City



Denver



United States

was definitely insulated from Denver and the U.S. in total group sales of Compact, Mid-Size, Regular, High-Priced and Sporty Group cars.[4] While Rapid City showed only a slight decline from the preceeding year, Denver sales declined by a factor greater than 12 in comparison to Rapid City (-.6 percent versus -7.5 percent). The Rapid City-U.S. comparison was even more dramatic, (-.6 versus -16.3), with the U.S. declining by a factor of more than 27 when compared to the Rapid City market area.

Table 6

Total Group Sales

Market	Total 1973	Total 1974	Percentage Change
Rapid City	2,515	2,501	- .6
Denver	45,292	41,882	- 7.5
U.S.	8,645,540	7,237,930	- 16.3

To broaden the basis of the insulation question, total aggregate sales of all new cars sold in the Rapid City, Denver, and U.S. market areas are presented in Table 7.

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[4]When the Sporty Group, defined and discussed below, was introduced in September of 1974, it became an integral part of the Total Group.

Included in these aggregate totals are Compact, Mid-Size, Regular, High-Priced, Sporty Group, Sub-Compact, and Passenger Vans. For purpose of clarity, the terms used to identify the last three individual size groups are specified below.

Sporty Group. This group represents such autos as Oldsmobile Starfire, Chevrolet Monza, Buick Skyhawk, and Ford Mustang II.

Sub-Compact. Included in this category are Chevrolet Vega, Ford Pinto, and AMC Gremlin.

Passenger Vans. This term represents vans that are built for the exclusive use of passengers, not cargo.

Prior to September, 1974, an individual analysis of Sporty Group, Sub-Compact, and Passenger Vans was not possible. The reason was that these three groups were at that time individual components of an all inclusive category. Statistics for Sporty Group, Sub-Compact, and Passenger Vans could be used only in total aggregate sales. R.L. Polk and Company, the original source of data used in this study, did not compile these statistics in separate groups until September 1974. At that time, Oldsmobile introduced their first Sporty Group automobile. Since Oldsmobile did not competitively enter the Sporty Group size until September of 1974, they were not concerned with those separate statistics.

In terms of total aggregate sales of new cars in 1973 and 1974, Rapid City sold 3,355 and 3,128, respectively. This gave Rapid City a percentage change of -6.8 percent.

Table 7

Total Aggregate Sales

Market	Total 1973	Total 1974	Percentage Change
Rapid City	3,355	3,128	- 6.8
Denver	67,578	55,109	- 18.5
U.S.	11,292,278	8,701,094	- 23.0

Denver sold 67,578 in 1973, and 55,109 in 1974, with a percentage change between years of -18.5. Auto sales in the U.S. fell dramatically, with sales of 8,701,094 in 1974 as compared with 11,292,278 in 1973. These totals gave the U.S. a -23.0 percent change. The total aggregate sales figures reveal that Rapid City was insulated in total sales of new cars. Denver and the U.S. markets fell by a factor of almost three and four times, respectively, when compared with Rapid City.

Switching to Smaller Cars

The second objective of this study relates to the relative market shares of the size groups within the three markets under observation. Table 8 indicates the market shares of large versus small cars within the market areas of Rapid City, Denver, and the U.S. For this analysis, large cars are defined as High-Priced and Regular, while small cars are defined as Mid-Size, Compact, Sub-Compact, and Sporty Group.

Table 8

Monthly Market Shares for Large and Small Cars, October 1973 Through August 1974

	Rapid City		Denver		U.S.	
	Large	Small	Large	Small	Large	Small
Oct 73	34.5	65.5	27.0	73.0	36.5	63.5
Nov 73	34.6	65.4	27.1	72.9	36.6	63.4
Dec 73	34.4	65.6	26.9	73.1	36.2	63.8
Jan 74	30.1	69.9	19.6	80.4	27.8	72.2
Feb 74	27.9	72.4	19.2	80.8	27.8	72.2
Mar 74	25.5	74.5	19.3	80.7	27.8	72.2
Apr 74	25.3	74.7	20.1	79.9	27.9	72.1
May 74	24.5	75.5	19.5	80.5	27.8	72.2
Jun 74	25.0	75.0	19.7	80.3	27.7	72.3
Jul 74	25.3	74.7	19.7	80.3	27.9	72.1
Aug 74	25.7	74.3	19.6	80.4	28.0	72.0

These figures capture the changes in consumer preference for large cars. The particular time series that was used in Table 8 illustrates the effect that the Arab Oil Embargo had on the composition of the auto market.

Rapid City's market share for large cars declined from 34.5 percent in October 1973 to 25.7 in August 1974, while small size cars increased from 65.5 to 74.3 percent over the same time period.

The U.S. market had very similar ratios of large versus small car sales when compared to Rapid City. These market shares changed from 36.5 to 28.0 percent in large cars, and 63.5 to 72.0 percent in small cars.

Denver, on the other hand, had a higher market share for smaller cars in October 1973 than did the Rapid City and U.S. markets. Denver's ratio at that time was 73.0 percent for small and 27.0 for large. Since Denver is a large metropolitan area, it would be logical to assume that many people preferred small cars because of their fuel economy in city traffic. By August, 1974, the ratio of large versus small in the Denver market had shifted to 19.6 and 80.4 percent, respectively.

In conclusion, while the large to small ratios for each of the three markets were not equal in the October, 1973, period, the percentage shift to smaller cars observed by August of 1974 was quite similar for each of the markets.

Cash Rebates

The analysis of the third objective deals with the fluctuations in total monthly sales for the Rapid City, Denver, and U.S. market areas during the cash rebate period. The months of November, 1974, through March, 1975, were chosen to capture the fluctuations in sales both before and during the cash rebate program. Data for this period are presented in Table 9.

Table 9

Monthly Sales During the Cash Rebate Program

Market	Dec 74	Jan 75	Feb 75	Mar 75
Rapid City	217	214	193	200
Denver	3,782	3,890	3,559	4,628
U.S.	626,981	567,381	587,716	632,648

During the cash rebate program Rapid City's sales for the months December 1974 through March 1975 were 217, 214, 193, and 200, respectively. Even though cash rebates were offered in Rapid City, no significant sales increases were noted. However, this information in and of itself does not mean that the rebate program in the Rapid City market was not effective. For example, the rebates could have been effective in preventing a significant decline in sales, i.e., the rebates held sales volume up. Unfortunately, the type of data available did not permit the detailed analysis necessary to evaluate this possibility.

U.S. total sales for the months under observation were 626,981, 567,381, 587,716, and 632,648, respectively. Worth noting from these figures is the fact that total U.S. sales did not decline in the January-February period, a result not achieved in the Rapid City and Denver markets.

Denver's total monthly sales were 3,782, 3,890, 3,559, and 4,628, respectively. Except for the month of March, Denver reacted similar to Rapid City in response to the cash rebate program. The difference, as illustrated, was the fact that sales for the month of March increased dramatically in the Denver market while Rapid City showed only a slight increase. One possible reason for sharp increases in sales for Denver and the U.S. during the month of March was many corporations and divisions had advertised the end of the rebate program on March 31, 1975.

No conclusions can be drawn from the results presented. Further, one must keep in mind that Rapid City was found to be insulated in total sales during 1974 in comparison to the Denver and U.S. markets, which could lead to the expectation that the rebate program would have less of an impact in the insulated market.

Chapter 4

SUMMARY AND COMMENTS

SUMMARY

An immediate result of the Arab Oil Embargo in the fall of 1973 was a sharp increase in the price of gasoline. Combined with these increased prices in gasoline, automobile manufacturers were also increasing car prices. With these increases the American consumer found that auto transportation was becoming more and more expensive. It is easy to understand why this could have a significant effect on new car sales. So, in January 1974, the automobile industry entered into a prolonged decline in sales.

For the next 15 months the auto industry was plagued by inflation, recession, and unemployment. The decrease in sales and reduced or negative profits signaled an economic crisis in the auto industry.

With new automobile inventories accumulating by the hundreds of thousands, the auto manufacturers were forced to implement new techniques to sell automobiles. One such new technique was known as the cash rebate.

Relative to this situation, the purpose of this study was to examine the dramatic ramifications the Arab Oil Embargo had on the U.S. automobile industry. Supplementary objectives were to determine if Rapid City's auto market had been insulated during the crisis era, to determine the changes in market shares for large versus small cars, and to examine the effectiveness of the cash rebates. Changes in auto sales and market shares of Rapid City, Denver, and U.S. from October 1973 to March 1975, were compared in order to achieve the above objective.

Conclusions

Based on the analysis and evaluation of the material presented in this study, the following conclusions were reached.

Insulation. It was found in the analysis that Rapid City was insulated from Denver and the U.S. in total sales of Compact, Mid-Size, Regular, and High-Priced cars. Further, in total aggregate sales of all new cars in 1973 and 1974, Rapid City sold 3,355 and 3,128, respectively. Those figures gave Rapid City a change of -6.8 percent. Denver sold 67,578 in 1973, and 55,109 in 1974, with a percentage change between years of -18.5 percent. U.S. market car sales fell dramatically with sales of 8,701,094 in 1974 as compared with 11,292,278 in 1973. This gave the U.S. a -23.0 percent change. Denver and U.S. automobile sales decreased by a factor of almost three and four times, respectively, when compared with Rapid City.

Switching to Small Cars. This objective was related to the relative market shares of large versus small cars within Rapid City, Denver, and the U.S. Rapid City's market share for large cars declined from 34.5 percent in October, 1973, to 25.7 in August 1974, while the small size cars increased from 65.5 to 74.3 percent over the same time period. The U.S. market shares changed from 36.5 to 28.0 percent in large cars, and 63.5 to 72.0 percent in small cars. Denver changed from 73.0 percent for small and 27.0 for large to 80.4 for small and 19.6 for large.

While the large to small ratios for each market was not equal in October, 1973, the percentage shift to smaller cars observed by August of 1974 was very similar for each of the three markets.

Cash Rebates. Monthly sales in the Rapid City market for the period examined, November 1974 through March 1975, were nearly constant. Comparatively, the Denver and U.S. markets showed significantly more variation for the months examined. However, no conclusions can be drawn from the data examined. Further, the fact that Rapid City was found to be insulated in total sales during 1974 in comparison to the Denver and U.S. markets would possibly lead to the expectation that a rebate program would have a reduced impact in the insulated Rapid City market.

COMMENTS

The Arab Oil Embargo of 1973 had dramatic ramifications on U.S. automobile manufacturers. Not only did sales decline dramatically and profits vanish, but Detroit finally had to switch to a new era and learn to produce small cars. It appeared that the days of the big, gasoline guzzling car were numbered.

However, for all the stress on fuel economy and thinking small that followed the 1973 Middle East oil embargo, the public is now spurning the small models.[1] Sales are not coming in the areas where Detroit's auto-makers might have expected them. It seems that the American consumer is willing to sacrifice economy for more leg room and comfort.

Consumers have been buying fewer small cars and more large ones than expected. This result is throwing production schedules out of line with prior expectations and causing inventory problems within the auto industry. The slowest sellers have been sub-compacts. If this new trend persists producers could face another painful period.

As one might expect in an overall auto sales recovery, many workers who lost their jobs up to two years ago are gradually being recalled, and some are even working overtime. But others are getting layoff slips as production in small car plants is slashed.[2]

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[1] Time, April 5, 1976, p. 63.

[2] Wall Street Journal, February 11, 1976, p. 1.

Similar to cash rebates, through costly dealer incentives and customer giveaways, automakers are having to push small cars that used to sell themselves. Detroit is being forced to build more of the larger models, when a year ago larger cars were viewed by consumers as losers.[3]

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[3] *Ibid.*

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BIBLIOGRAPHY

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Statistics received from Oldsmobile Division Denver Zone Office. They are compiled by R.L. Polk and Company.

APPENDIX

APPENDIX

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Table 10

Running Total of Compact Car Sales in Rapid City

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	18	19	19	2	3	4	5	9	11
Chevrolet	88	98	110	15	19	27	34	53	55
Pontiac	13	13	13	2	3	6	6	8	11
Buick	10	10	10	3	4	6	9	11	13
Ford	79	86	89	8	10	12	29	39	41
Mercury	39	43	48	9	14	18	19	21	24
Plymouth	103	115	116	21	36	52	68	83	94
Dodge	38	40	42	2	5	8	10	16	21
American Motors	66	71	73	8	14	24	33	42	49
Imports	117	122	127	19	28	34	40	49	54
Total	571	617	647	90	136	191	253	331	373

Table 10 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	13	16	17	24	24	26	1	2	10
Chevrolet	61	69	75	86	88	89	6	12	17
Pontiac	12	14	16	18	18	19	1	3	6
Buick	16	18	19	21	21	22	0	0	5
Ford	50	58	67	75	77	85	5	12	19
Mercury	28	38	47	53	56	60	3	5	6
Plymouth	110	126	136	145	150	158	12	16	25
Dodge	25	29	31	32	34	36	2	3	5
American Motors	57	60	65	72	73	75	4	4	8
Imports	66	83	66	74	80	90	12	22	33
Total	433	509	539	600	621	660	46	84	134

Table 11

Running Total of Compact Car Sales in Denver

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	194	216	218	58	78	87	113	143	160
Chevrolet	1834	1949	2054	172	292	407	551	694	834
Pontiac	339	363	399	19	46	65	83	106	122
Buick	193	257	265	20	39	56	82	118	126
Ford	1463	1588	1702	142	253	385	499	616	748
Mercury	369	404	434	45	74	105	154	184	221
Plymouth	[illegible]	1380	1510	164	280	418	594	752	1006
Dodge	[illegible]	801	853	89	179	318	493	731	889
American Motors	756	840	922	129	233	295	379	467	534
Imports	3450	3728	3913	303	575	839	1096	1352	1580
Total	10569	11526	12270	1146	2049	2975	4044	5263	6230

Table 11 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	175	205	219	231	245	257	9	17	22
Chevrolet	995	1220	1391	1524	1625	1663	66	162	346
Pontiac	140	164	172	188	222	232	13	30	51
Buick	158	174	205	233	257	280	23	49	92
Ford	882	1012	1139	1376	1577	1822	293	510	742
Mercury	269	327	381	467	521	580	74	126	194
Plymouth	1176	1351	1530	1700	1797	1857	108	216	342
Dodge	981	1052	1151	1228	1297	1339	70	172	251
American Motors	613	674	754	814	866	1000	93	151	269
Imports	1818	2062	1668	1825	1921	2103	137	264	481
Total	7206	8241	8610	9586	10368	11233	886	1697	2790

Table 12

Running Total of Compact Car Sales in U.S.

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	43822	47391	50707	3296	6322	9637	13382	17343	21363
Chevrolet	278004	302487	328868	20724	38688	59296	83781	108817	137218
Pontiac	65110	70026	75333	4694	9086	13834	18932	24601	30547
Buick	28754	32669	36424	3040	6241	9698	13356	17467	21966
Ford	236400	257717	280259	16678	30888	46035	63839	84065	105820
Mercury	65490	71071	78239	6212	11377	17203	23660	31007	38890
Plymouth	283770	30906	332595	25906	47962	73703	102390	134764	170096
Dodge	205562	224299	245136	18347	34235	51918	72696	94253	118984
American Motors	112143	124338	138188	10559	19251	28784	38722	48285	59573
Imports	298088	319984	340754	24139	47131	72498	93681	111914	132741
Total	1617143	1759069	1920503	133595	251181	382606	524449	673516	837198

Table 12 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	25359	29234	32227	37160	39756	41979	2887	6740	10002
Chevrolet	167942	201481	229849	270351	282878	302811	18159	43541	66299
Pontiac	36446	41767	45592	53092	56414	59280	3741	8641	12490
Buick	26816	31606	35445	41067	44256	47413	3815	8995	13248
Ford	128178	149991	169985	207633	234352	264845	26049	51394	78816
Mercury	46667	54914	63692	76714	88764	99443	9618	18233	26829
Plymouth	202381	234496	262200	303517	321107	332521	18167	37825	55487
Dodge	143374	164505	182416	209794	221844	232848	11791	26114	39346
American Motors	70225	80909	90823	105299	111244	118006	8542	19890	33313
Imports	155672	181143	150369	172422	187168	204856	13940	28767	47472
Total	1003060	1170046	1262603	1479049	1592283	1709052	116709	250140	383892

Table 13

Running Total of Mid-Size Car Sales in Rapid City

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	60	63	63	13	19	31	39	49	59
Chevrolet	170	187	191	24	32	44	51	62	74
Pontiac	31	35	35	2	2	5	8	13	15
Buick	49	51	52	2	3	9	13	26	27
Ford	98	108	111	5	10	16	22	33	38
Mercury	46	53	54	3	6	11	15	22	25
Plymouth	65	71	72	5	7	12	32	41	47
Dodge	38	38	39	6	12	14	16	19	20
American Motors	19	20	20	0	8	8	10	12	15
Imports	67	73	77	5	7	9	15	20	23
Total	643	699	724	65	106	159	221	297	343

Table 13 (continued)

Oldsmobile	75	87	96	102	114	124	7	12	23
Chevrolet	95	117	134	146	155	168	8	15	22
Pontiac	20	21	21	22	23	23	1	2	5
Buick	29	31	33	41	41	44	2	5	9
Ford	50	61	66	73	75	82	6	7	9
Mercury	28	38	46	50	50	54	2	2	2
Plymouth	63	71	83	87	92	95	10	15	19
Dodge	22	26	32	35	36	38	2	5	6
American Motors	16	19	24	27	28	30	0	5	5
Imports	31	37	55	64	69	72	7	15	24
Total	429	508	590	647	683	730	45	83	124
	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR

Table 14

Running Total of Mid-Size Car Sales in Denver

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	1073	1191	1236	99	163	225	305	392	488
Chevrolet	3456	3822	4043	270	466	649	882	1119	1416
Pontiac	899	992	1027	31	66	100	151	185	236
Buick	997	1092	1140	53	93	128	177	226	269
Ford	2048	2230	2332	172	417	549	734	906	1100
Mercury	604	698	753	48	108	152	200	281	337
Plymouth	688	759	794	46	90	129	210	268	372
Dodge	555	643	688	74	91	117	161	207	234
Chrysler	—	—	—	—	—	—	—	—	—
American Motors	260	282	296	43	203	318	381	435	650
Imports	2216	2406	2542	167	318	513	692	863	1032
Total	12796	14125	14856	1005	2015	2880	3893	4882	6134

Table 14 (continued)

Oldsmobile	639	747	837	948	1056	1258	112	159	219
Chevrolet	1729	2038	2256	2474	2693	2916	258	392	543
Pontiac	276	316	344	373	415	501	30	66	97
Buick	316	362	408	441	465	496	52	86	121
Ford	1287	1509	1681	1833	2075	2236	138	224	320
Mercury	425	511	585	676	722	756	38	59	91
Plymouth	453	506	542	599	642	669	33	63	107
Dodge	267	301	330	354	376	388	16	52	100
Chrysler	—	—	0	11	25	40	34	62	112
American Motors	729	840	871	895	912	1040	63	224	304
Imports	1252	1471	1908	2159	2388	2542	184	327	561
Total	7373	8601	9262	10763	11769	12842	958	1714	2575
	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR

Table 15

Running Total of Mid-Size Car Sales in U.S.

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	310647	341223	362077	16844	31347	48171	67176	90862	117883
Chevrolet	540476	605795	656429	35017	68712	108693	155261	207858	268296
Pontiac	190499	207330	221580	9168	17110	26157	36245	47724	61138
Buick	223687	243091	258688	10295	18743	28376	40281	54366	70091
Ford	375300	405825	432123	21591	43825	68911	99147	133529	170962
Mercury	118901	133022	146292	11064	21333	31822	43495	56569	71327
Plymouth	152049	164617	177524	9474	18634	29012	40532	52972	66524
Dodge	136010	142050	157202	8115	16294	25327	35612	46294	57580
Chrysler	—	—	—	—	—	—	—	—	—
American Motors	41973	46653	51833	5920	12352	18536	24697	30396	37224
Imports	143467	156854	169022	8997	17784	28567	39845	50576	62217
Total	2242009	2451460	2632770	136485	266134	413572	583296	771146	983742

Table 15 (continued)

Oldsmobile	146132	173723	194436	229805	250962	271324	16905	33461	52697
Chevrolet	336862	405667	453723	524014	565242	608855	34511	64404	98478
Pontiac	75042	89230	98955	115496	122566	129922	6680	12380	18910
Buick	86353	102316	113396	131315	141324	152101	9472	19248	30168
Ford	211118	249064	278524	325426	351065	379707	20282	35994	53894
Mercury	87104	101912	113267	130542	139252	148282	7680	13265	19362
Plymouth	79677	91507	100819	115591	123903	132875	6877	14770	23293
Dodge	69160	79651	87786	101773	109541	117124	7464	15224	22978
Chrysler	—	—	360	3400	7439	12590	5708	12574	21333
American Motors	43405	50056	55851	63252	67556	72230	5789	12306	17528
Imports	75368	89416	126824	148552	163474	178516	13494	27075	45673
Total	1210221	1432542	1623941	1889176	2042329	2203529	134862	260791	404314
	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR

Table 16

Running Total of Regular Size Car Sales in Rapid City

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	49	51	51	6	11	19	22	34	42
Chevrolet	223	238	246	26	31	35	48	61	65
Pontiac	94	106	110	24	26	34	39	43	45
Buick	44	54	55	8	10	14	18	19	22
Ford	161	173	179	12	24	28	37	45	50
Mercury	36	44	46	3	5	5	9	13	17
Plymouth	92	99	100	9	10	14	19	24	31
Dodge	19	20	20	3	3	3	4	5	6
Chrysler	78	83	84	2	4	7	15	23	31
American Motors	25	25	25	2	2	2	4	5	7
Imports	0	0	0	0	0	0	0	0	0
Total	821	893	916	95	126	161	215	272	316

Table 16 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	51	56	58	65	65	67	1	3	6
Chevrolet	79	100	112	126	128	139	7	11	18
Pontiac	46	59	56	59	60	63	7	12	17
Buick	27	30	32	34	37	39	4	4	6
Ford	64	74	87	95	96	104	9	17	23
Mercury	19	25	26	29	30	31	3	4	4
Plymouth	37	41	48	55	57	60	2	4	8
Dodge	7	9	11	12	12	13	0	0	0
Chrysler	39	47	53	66	66	71	1	6	10
American Motors	8	9	9	9	9	9	0	0	0
Imports	0	0	0	0	0	0	0	0	0
Total	377	441	492	550	560	596	34	61	92

Table 17

Running Total of Regular Size Car Sales in Denver

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	570	625	652	32	64	105	141	158	178
Chevrolet	2595	2923	3072	183	318	483	731	865	1020
Pontiac	1194	1354	1395	44	95	145	222	279	331
Buick	724	776	796	37	69	88	118	140	167
Ford	3121	3465	3658	216	325	533	742	885	1039
Mercury	622	697	737	34	60	79	105	124	160
Plymouth	692	755	793	32	78	140	224	297	381
Dodge	575	601	630	65	102	118	133	145	216
Chrysler	408	446	464	20	43	77	109	130	155
American Motors	445	458	534	51	111	118	135	143	206
Misc. Domestic	116	120	121	1	13	31	48	63	76
Imports	—	—	—	—	—	—	—	—	—
Total	11062	12220	12852	715	1328	1917	2708	3229	3929

Table 17 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	221	249	274	297	323	338	18	25	45
Chevrolet	1220	1407	1603	1751	1895	2058	116	188	295
Pontiac	409	480	515	572	630	690	57	89	138
Buick	193	207	224	243	264	283	16	27	42
Ford	1208	1392	1549	1772	1909	2123	150	225	288
Mercury	189	217	250	279	302	368	32	46	60
Plymouth	417	464	494	524	551	569	9	25	52
Dodge	226	246	257	266	318	339	5	21	31
Chrysler	187	207	240	257	278	292	17	37	49
American Motors	235	248	257	261	264	266	2	3	3
Misc. Domestic	76	99	106	145	181	184	1	4	6
Imports	—	—	—	—	—	—	—	—	—
Total	4577	5216	5769	6367	6915	7511	428	690	1009

Table 18

Running Total of Regular Size Car Sales in U.S.

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	197430	215098	228460	7912	14849	22603	31050	39998	50323
Chevrolet	725385	797033	855767	35283	69522	110306	153875	196409	244733
Pontiac	391295	429491	458464	17919	33388	51413	71102	91425	114043
Buick	190918	208782	222039	8313	15804	24312	33550	43217	54214
Ford	596081	647285	691211	28296	57906	86595	118160	151355	187677
Mercury	126771	138464	147269	6093	11686	17261	24013	30787	38378
Plymouth	186265	199224	211414	10524	18921	28733	38147	47423	57530
Dodge	100724	106872	112689	5262	10102	15649	21197	26842	33420
Chrysler	106133	113720	120239	4613	8960	14209	19620	24737	30057
American Motors	32231	34137	36303	1998	3645	5576	7486	9092	11191
Misc. Domestic	4795	5182	5654	383	663	1422	2022	2399	2788
Imports	—	—	—	—	—	—	—	—	—
Total	2658028	2895261	3089509	126546	245446	378029	520222	663734	824354

Table 18 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	62530	73510	81541	96440	105722	114836	7280	13872	21616
Chevrolet	290216	358852	405188	477465	515690	552051	28211	52925	79146
Pontiac	137644	159732	176682	207814	226752	244651	14534	26669	39215
Buick	65886	77243	85466	99378	107751	115693	6607	12677	19467
Ford	228037	268062	299095	349603	377148	408192	22671	40170	59138
Mercury	46788	53983	59696	69332	75540	82009	5355	9306	13371
Plymouth	68560	78831	86824	98090	103468	108631	4399	10146	16985
Dodge	39214	45495	49712	56390	60046	63530	3628	7249	11041
Chrysler	36717	44203	50395	59034	63397	66878	3847	7908	11998
American Motors	13155	14691	15481	16795	17109	17569	205	330	443
Misc. Domestic	3022	3433	3771	4252	4647	4892	361	579	818
Imports	—	—	—	—	—	—	—	—	—
Total	1000769	1178035	1313851	1534593	1657270	1778932	97098	181831	273239

Table 19

Running Total of High-Priced Car Sales in Rapid City

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	35	37	39	2	7	10	10	15	16
Buick	35	39	40	0	0	1	4	5	6
Cadillac	46	54	56	8	11	13	21	28	30
Chevrolet	7	7	7	2	2	3	5	5	5
Ford	9	9	10	3	3	3	4	5	5
Lincoln	17	19	19	3	5	7	11	11	12
Chrysler	46	49	49	5	8	10	11	12	15
Imports	15	16	16	2	2	2	5	5	8
Total	210	230	236	25	38	49	71	86	97

Table 19 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	18	21	23	26	27	30	4	4	7
Buick	6	10	12	17	21	22	5	7	8
Cadillac	37	47	51	59	61	66	3	8	11
Chevrolet	7	7	7	7	7	9	1	1	1
Ford	6	7	8	8	8	8	0	1	1
Lincoln	14	15	15	17	18	19	0	0	0
Chrysler	21	25	26	28	28	30	3	4	5
Imports	10	13	15	18	18	22	1	4	5
Total	119	145	157	180	188	206	17	29	38

Table 20

Running Total of High-Priced Car Sales in Denver

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	585	631	652	41	85	114	143	161	185
Buick	451	499	527	20	42	60	87	113	133
Cadillac	1095	1211	1259	106	162	207	282	345	425
Chevrolet	164	183	203	12	22	39	60	73	97
Ford	505	559	584	19	42	67	108	139	160
Lincoln	589	671	722	33	59	93	138	177	217
Chrysler	245	262	273	11	22	41	55	72	92
Misc, Domestic	1	1	1	0	0	0	1	2	2
Imports	948	1024	1093	91	153	221	286	358	441
Total	4583	5041	5314	333	587	842	1160	1440	1752

Table 20 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	214	239	263	292	325	347	32	45	69
Buick	151	163	178	205	226	243	17	28	43
Cadillac	523	612	652	713	783	865	101	159	211
Chevrolet	115	123	125	137	150	159	15	31	56
Ford	183	203	221	251	276	290	16	30	38
Lincoln	254	292	341	406	439	464	48	74	97
Chrysler	105	129	144	165	172	182	6	17	27
Misc. Domestic	2	2	2	2	3	3	0	0	0
Imports	516	609	680	752	825	860	66	114	166
Total	2063	2372	2606	2923	3199	3413	301	498	707

Table 21

Running Total of High-Priced Car Sales in U.S.

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	135116	150211	160901	6176	11474	17489	24240	30841	37615
Buick	146451	163603	177367	8014	14924	22464	30953	39206	48086
Cadillac	230583	259674	285259	15835	28083	41716	58572	76135	94001
Chevrolet	23257	26499	29249	2043	4188	6768	9445	12181	15332
Ford	66764	73570	79199	3574	6631	9707	13301	17040	21065
Lincoln	93809	106222	115790	6628	11728	17157	23030	28444	34564
Chrysler	45976	50495	55472	3412	6473	9986	13443	16688	20062
Misc. Domestic	255	275	311	18	47	86	117	156	190
Imports	79286	86447	94210	5293	10455	16239	22403	28862	36417
Total	821997	916996	997258	50993	94035	141612	195504	249553	307332

Table 21 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	44601	50368	56346	69201	78945	88043	7032	12715	19005
Buick	57433	66324	74277	89304	99975	110011	7494	13969	20921
Cadillac	113599	132221	145292	172119	196194	219993	18431	33286	50070
Chevrolet	18034	19176	20201	23899	26330	29114	2230	5382	8762
Ford	25421	29015	32445	38492	42389	46365	3193	5298	7601
Lincoln	40962	46462	54006	66331	75525	84693	7107	11570	16681
Chrysler	23916	27515	30074	35016	37962	40586	2478	4653	6642
Misc. Domestic	214	238	274	297	317	348	25	41	63
Imports	45057	52864	59583	68405	75003	82131	6253	11804	20040
Total	369237	424183	472498	563064	632640	701284	54743	98718	149290

Table 22

Running Total of Total Group Car Sales in Rapid City

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	162	170	172	23	40	64	76	107	128
Chevrolet	488	530	554	68	84	109	138	181	199
Pontiac	138	154	158	28	31	45	53	64	71
Buick	138	154	157	13	17	30	44	61	68
Cadillac	46	54	56	8	11	13	21	28	30
Ford	347	376	389	28	47	59	92	122	134
Lincoln-Mercury	138	159	167	18	30	41	54	67	78
Plymouth	260	285	288	35	53	78	119	148	172
Dodge	95	98	101	11	20	25	30	40	47
Chrysler-Imperial	124	132	133	7	12	17	26	35	46
American Motors	110	116	118	10	24	34	47	59	71
Imports	199	211	220	26	37	45	60	74	85
Total	2245	2439	2515	275	406	560	760	986	1129

Table 22 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	157	180	194	218	231	248	13	26	48
Chevrolet	242	293	349	388	401	430	25	47	69
Pontiac	78	85	111	117	122	127	11	21	34
Buick	78	89	96	113	120	129	11	17	31
Cadillac	37	47	51	59	61	66	3	8	11
Ford	120	200	313	343	350	380	30	56	76
Lincoln-Mercury	89	116	134	149	154	164	8	11	12
Plymouth	210	238	270	290	302	316	24	35	52
Dodge	54	64	78	83	86	92	4	8	11
Chrysler-Imperial	60	72	79	94	95	104	9	21	31
American Motors	76	88	113	124	126	130	4	9	13
Imports	107	131	240	274	288	315	32	63	91
Total	1358	1603	2028	2252	2336	2501	174	322	479

Table 23

Running Total of Total Group Car Sales in Denver

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	2422	2633	2758	230	390	531	702	854	1011
Chevrolet	8049	8877	9372	637	1098	1578	2224	2751	3367
Pontiac	2432	2714	2821	94	207	310	456	570	689
Buick	2365	2629	2728	130	243	332	464	597	705
Cadillac	1095	1211	1259	106	162	207	282	345	425
Ford	7137	7842	8281	554	1087	1534	2083	2546	3047
Lincoln-Mercury	2184	2470	2646	160	301	429	597	766	935
Plymouth	2621	2894	3097	244	448	687	1028	1317	1759
Dodge	1860	2045	2171	228	372	553	787	1083	1339
Chrysler-Imperial	653	708	737	31	65	118	164	202	247
American Motors	1461	1580	1752	223	547	731	895	1045	1390
Misc. Domestic	117	121	122	1	13	31	49	65	78
Imports	6614	7158	7548	561	1046	1573	2074	2523	3053
Total	39010	42912	45292	3199	5979	8614	11805	14714	18045

Table 23 (continued)

	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR
Oldsmobile	1249	1440	1593	1768	1954	2212	179	268	398
Chevrolet	4059	4788	5966	6510	7020	7510	522	942	1555
Pontiac	825	960	1206	1337	1504	1682	119	221	342
Buick	818	906	1015	1122	1216	1316	122	216	352
Cadillac	523	612	652	713	783	865	101	159	211
Ford	3560	4116	6601	7448	8183	8926	709	1293	1867
Lincoln-Mercury	1137	1347	1560	1831	1987	2221	197	305	442
Plymouth	2045	2321	2603	2860	3027	3132	150	304	501
Dodge	1474	1599	1785	1895	2038	2113	91	245	382
Chrysler-Imperial	288	336	384	433	475	514	57	116	188
American Motors	1577	1762	2092	2188	2263	2532	162	384	583
Misc. Domestic	78	101	108	147	184	187	1	4	6
Imports	3586	4142	6742	7439	8138	8622	599	1214	2069
Total	21219	24430	32307	35741	38722	41882	3009	5671	8896

Table 24

Running Total of Total Group Car Sales in U.S.

	OCT 73	NOV	DEC	JAN 74	FEB	MAR	APR	MAY	JUN
Oldsmobile	687015	753923	807145	34228	63992	97900	135853	179044	227184
Chevrolet	1576622	1731814	1870313	93067	181110	285063	402862	525265	666079
Pontiac	646904	706847	755327	31281	59584	91404	126284	163800	205228
Buick	589810	648145	694518	29662	55712	84850	118640	154256	194357
Cadillac	230583	259674	285259	15835	28083	41216	58572	76135	94001
Ford	1274545	1384370	1482792	70139	139250	211248	294447	385989	485524
Lincoln-Mercury	404971	448729	487590	29997	56174	83443	114198	146802	183159
Plymouth	622084	672928	726533	45904	85517	131448	181069	235159	294150
Dodge	442296	478221	515027	31724	60631	92894	129510	167889	209984
Chrysler-Imperial	152109	164215	175711	8025	15433	24195	33063	41425	50119
American Motors	186347	205128	226324	18427	35248	52896	70905	88273	107988
Misc. Domestic	5050	5457	5965	401	710	1508	2139	2555	2928
Imports	520841	563285	612986	38429	75370	117304	155929	191352	231375
Total	7339177	8022286	8645540	447669	856814	1315869	1823471	2357949	2952625

Table 24 (continued)

Oldsmobile	278622	326835	364567	433021	476256	519082	36654	73213	112980
Chevrolet	822054	985176	1208014	1410101	1518560	1627389	96322	196186	301516
Pontiac	249132	290729	368161	430709	465001	499156	29359	56366	84910
Buick	236488	272489	308600	361453	394639	428194	29991	61156	93507
Cadillac	113599	132221	145292	172119	196194	210993	18431	33286	50020
Ford	592754	696132	994302	1169533	1268315	1326184	90274	173910	259460
Lincoln-Mercury	221521	257271	291365	345702	379864	415206	29260	52374	76243
Plymouth	350618	404834	455812	523258	555069	585725	29462	62786	95830
Dodge	251748	280651	328744	372471	401021	423174	22915	48641	73539
Chrysler-Imperial	60633	71718	80829	97450	108798	120054	12033	25135	39974
American Motors	126785	145656	178549	203729	214612	226283	14685	32881	51638
Misc. Domestic	3236	3671	4045	4549	4964	5240	386	620	881
Imports	276097	323423	529598	622098	730431	791750	58260	120610	195830
Total	3583287	4204806	5307878	6201693	6714224	7237930	468532	932164	1436328
	JUL 74	AUG	SEP	OCT	NOV	DEC	JAN 75	FEB	MAR