THE FAIR PRACTICES IN AUTOMOTIVE PRODUCTS ACT (H. R. 5133): AN ECONOMIC ASSESSMENT

Special Study (Unpublished)

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PREFACE

This paper reflects a preliminary examination of the Fair Practices in Automotive Products Act (H.R. 5133), which would sharply restrict the volume of imported cars and car parts that enter U.S. markets. The focus of the study is on certain major macroeconomic and microeconomic effects that could result from implementation of the act. In being confined to these aspects, the study is not a comprehensive analysis of the effects that domestic content legislation might have.

The study was undertaken at the request of the House Committee on Ways and Means, Subcommittee on Trade. In order to permit timely delivery of these preliminary results, the paper did not undergo the external and internal review process customarily required of papers published by the Congressional Budget Office. Staff members of the CBO who contributed to the analysis included Lloyd Atkinson, Damian Kulash, David Santucci, Suzanne Schneider, Emery Simon, and Stephan Thurman of CBO's Fiscal Analysis and Natural Resources and Commerce divisions. Frank Pierce and Johanna Zacharias edited the manuscript. Special thanks go to Dorothy Kornegay and Kathryn Quattrone, who typed the paper under strict time pressure. In keeping with CBO's mandate to provide objective analysis, this paper offers no recommendations.

Alice M. Rivlin
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CHAPTER 1. AN ECONOMIC ANALYSIS OF H.R. 5133: INTRODUCTION AND SUMMARY

Between December 1978 and April 1982, the number of jobs in automobile manufacturing plummeted, from 762,400 to 459,700. Four factors in particular have led to these declines:

- o Slow economic growth and record high interest rates;
- o Increased productivity growth in the U.S. automotive industry as manufacturers attempted to meet heightened foreign competition;
- o Increased auto imports as the U.S. market swung from standard-size cars toward subcompact models; and
- o Increased "offshore sourcing" of automobile components as automakers attempted to reduce production costs.

By itself, economic recovery cannot offset all of the automotive industry's employment declines. Demographic changes—for example, the passing of the "baby-boom" generation beyond its initial car-buying years—portend slower growth in the U.S. car market in the years ahead.

THE FAIR PRACTICES IN AUTOMOTIVE PRODUCTS ACT

It is against this background of deteriorating conditions in the automobile industry that The Fair Practices in Automotive Products Act (H.R. 5133) has been put forward for consideration by the Congress. The bill's objective is to restore auto industry jobs by restricting the number of imported cars and parts that enter the U.S. market.

Domestic Content Requirements

The act would institute minimum "domestic content" requirements for most passenger vehicles and light trucks sold in the United States,

beginning with model year 1983. The domestic content requirements—calculated as U.S. value added as a percentage of the wholesale price—would have to be met by each domestic and foreign auto manufacturer producing more than 100,000 units for sale in the U.S. market. These requirements would be graduated according to the volume of vehicles sold by each manufacturer. After the first year of implementation, increasingly stringent requirements would be imposed until 1985, when the provisions of the bill are to be fully phased in (see Table 1).

TABLE 1. DOMESTIC AUTO CONTENT REQUIREMENTS UNDER THE FAIR PRACTICES IN AUTOMOTIVE PRODUCTS ACT

No. of Vehicles Sold in the U.S.	Required Minimum Percentage U.S. Content Requirement 1983	1984	1985
Fewer than 100,000	0	0	0
100,000 to 149,999	8.3	16.7	25.0
150,000 to 199,999	16.7	33.3	50.0
200,000 to 499,999	25.0	50.0	75.0
500,000 or more	30.0	60.0	90.0

SOURCE: H.R. 5133.

Effects on Foreign Producers

H.R. 5133 would impose penalities on producers who failed to meet their domestic content requirements. Any manufacturer—foreign or domestic—that violated the requirement in any model year would have to reduce its total U.S. sales of vehicles and parts by 25 percent in the following model year. Thus, a manufacturer selling 400,000 units in the United States in 1985 but failing to meet its domestic content requirement would be forced to reduce its sales to the U.S. market to 300,000 units in 1986.

The greatest direct effect of this legislation would be on the six large-volume Japanese auto producers and one German firm—Toyota, Nissan, Honda, Toyo Kagyo, Subaru, Mitsubishi, and Volkswagen. If these firms desired to maintain a high sales volume in the U.S. market, they could realistically comply with the provisions of the bill only by relocating a significant proportion of production to the United States; otherwise they would each ultimately be forced to limit sales in the United States to 100,000 units a year. Even if these foreign auto producers were to relocate their production facilities to U.S. sites, they would need to meet a 75 percent domestic content requirement overall in order to sell as few as 200,000 units per year. This is a stringent requirement that would demand not only the relocation of assembly, stamping, engine, and transmission facilities to the United States, but also the purchase by these foreign producers of substantial amounts of domestically produced parts and materials as well.

Because these firms would probably thereby suffer the loss of the current cost advantages they enjoy, if the proposed domestic content requirement were implemented, no sizable shift of foreign production facilities to the United States would likely occur. Rather, the practical effect of the bill would be the imposition of a rigid import quota of 100,000 units per year on each foreign auto producer. By 1990, the bill would have the effect of reducing auto imports to the United States to about 1.3 million units, approximately one-third of the 3.75 million units that might otherwise have been imported for that year.

PRIMARY ECONOMIC EFFECTS OF DOMESTIC CONTENT REQUIREMENTS

The domestic content requirement legislation would undoubtedly have a profound effect on employment and output in the U.S. automotive and related industries. Assuming that domestic sales of new cars return to earlier high trend rates, H.R. 5133 would displace about 2.4 million foreign cars by 1990, increasing the demand for domestically produced vehicles by about 1.6 million units more than otherwise. Though sizable, this estimated increase in U.S. auto production is smaller than the reduction in imports, because the attendant rise in new U.S. auto prices would dampen domestic sales. Corresponding to this increase in domestic production, the Congressional Budget Office's results suggest that employment in auto and

auto-related industries would rise by about 211,000 jobs more than otherwise by 1990.

Despite these effects on the U.S. auto industry, the CBO's analysis of H.R. 5133 implies that the net effects for the U.S. economy in terms of real economic growth, inflation, and employment would be negative though small. In other words, the benefits that would probably accrue to the U.S. automotive industry could be more than offset by the costs imposed on the rest of the economy.

Possible Responses of U.S. Trading Partners

H.R. 5133 would adversely affect the performance of the U.S. economy for a number of reasons. The implied restrictions on auto imports invite retaliatory trade measures on the part of the United States' trading partners, a response sanctioned by the articles of the General Agreement on Tariffs and Trade (GATT). 1/ Such measures would raise domestic auto prices and with them, the overall rate of inflation; and they would depress our long-run economic growth potential by misallocating scarce economic resources. Even if foreign trade retaliation was not extensive, the domestic content bill represents a poor substitute for conventional macroeconomic policies. The positive employment and economic growth effects that could result from H.R. 5133 could be achieved better, with less cost and fewer risks, by the adoption of somewhat more expansionary U.S. monetary and fiscal policies.

Macroeconomic Effects

Assuming equivalent retaliatory trade restrictions on the part of our trading partners—a highly probable outcome—the CBO results show that by 1990, the U.S. price level (as measured by the Consumer Price Index—CPI) would be about 0.2 percent higher, real Gross National Product (GNP) would be about 0.3 percent lower, and the overall unemployment rate would be about 0.1 percentage points higher than otherwise. These adverse

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1. See Kenneth W. Dam, The GATT (University of Chicago Press, 1970), and Articles XI and XXIII of the General Agreement on Tariffs and Trade.

overall effects largely result from the displacement of resources caused by the assumed retaliatory trade restrictions imposed by U.S. trading partners. Given the importance of the auto industry to U.S. trading partners, and the current depressed condition of the world economy in general, it seems reasonable to assume that significant retaliatory steps would be taken.

Since the extent and nature of foreign trade retaliation that would occur in response to H.R. 5133 is uncertain, it is instructive to assess the effects of the proposed legislation in the absence of foreign trade retaliation. In this case, the combination of reduced auto imports and increased domestic auto production resulting from HR. 5133 would provide a direct but small stimulus to overall U.S. economic activity. According to the CBO's results, real GNP would be increased by about 0.4 percent by 1990, while the overall unemployment rate would be reduced by 0.2 to 0.4 percentage points. On the negative side, though, the CPI would rise by 0.3 to 0.7 percent in 1990—the result of higher auto prices and the induced increase in aggregate demand.

The net benefits to the U.S. economy implied by these results, however, are the consequence of the low levels of economic activity and resource utilization that many forecasters anticipate for the next several years. If the U.S. economy were operating closer to full capacity, the beneficial effects would be canceled out entirely. Indeed, in a fully employed economy, the net effects of H.R. 5133 would probably be negative. The employment and output gains in the U.S. auto industry would be at the expense of production and employment elsewhere in the economy. The consequent inefficiencies entailed by these shifts of resources, in combination with the higher overall rate of inflation, mean that real output would be lower than otherwise. Thus, even without retaliation, the net effect of H.R. 5133 on the U.S. economy could be negative.

SECONDARY ECONOMIC EFFECTS

In addition, H.R. 5133 would result in a number of secondary economic costs that could possibly offset the abovementioned stimulus to auto production and employment even if U.S. trading partners did not retaliate. These costs, which are both difficult to estimate and beyond the control of of U.S. policymakers, include:

- o A slowdown in foreign economic activity induced by the reduction in U.S. demand for foreign autos, which would slow foreign demand for U.S. exports;

- o Appreciation of the dollar on the world's currency exchanges caused by the improvement in the U.S. net export balance, which would hurt the relative competitive position of both our export-and import-competing industries;

- o Losses in U.S. auto production efficiency caused by reduced foreign competition; and

- o Larger auto industry wage rate increases than otherwise induced by the reduction in foreign competition, which would remove some of the wage discipline evident in recent wage settlements.

Even if these secondary costs are small, the H.R. 5133 is a poor substitute for more conventional macroeconomic policy initiatives. An equal real fiscal policy stimulus imposed under the same initial economic conditions, for example, would produce larger increases in real GNP and larger employment increases more evenly distributed among different sectors. It would also have a more moderate inflationary impact.

ALTERNATIVE ESTIMATES OF THE EFFECTS OF H.R. 5133

Significantly different estimates of the effects of H.R. 5133 on output, employment and prices in the automotive industry have been put forward by Administration and United Auto Workers (UAW) analysts, among others. Importantly, the magnitudes of these differences are of little consequence to CBO's evaluation of the macroeconomic effects of the proposed legislation. In view of the likelihood of foreign trade retaliation, and in further view of the fact that the production of U.S. export goods tends to be more labor intensive than the production of U. S. auto and auto-related products, the overall output and employment effects of H.R. 5133 are likely to be negative, though small, over wide ranges of estimates of the bill's effect on the automotive industry.

CHAPTER II. EMPLOYMENT IN THE U.S. AUTO INDUSTRY--RECENT EXPERIENCE AND OUTLOOK

In late July 1982, unemployment in the U. S. automotive industry approached the quarter-million mark. More than 213,000 hourly workers were on indefinite layoff. Another 20,000 were temporarily out of work. 1/ Statistics like these have been recurring news since 1979, when the present slump in U. S. auto sales and production began. Employment in automobile manufacturing has dropped dramatically--from 762,400 production workers in December 1978, to an average of 532,000 in 1981, down to just 459,700 in April 1982. 2/

CAUSES OF EMPLOYMENT DECLINES IN THE U. S. AUTO INDUSTRY

Five major factors contributed to this sharp decline in automotive employment:

- o The current recession and high interest rates;
- o Increases in domestic automakers' productivity;

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1. See Ward's Automotive Reports (July 26, 1982), p. 235.

2. Bureau of Labor Statistics, U. S. Department of Labor, Employment and Earnings Account. Figures cited are rounded totals for production workers in Standard Industrial Classifications (SIC) 3711 and 3714 (motor vehicles, car bodies, parts, and accessories). Two other motor vehicle and equipment categories--truck and bus bodies (SIC 3713) and truck trailers (SIC 3715)--have been omitted here. The number of total employees in SIC groups 3711 and 3714 also has declined by roughly one-third from 1978 to the present--from an annual average of 922,000 employees in 1978 to an April 1982 total of 631,000 employees.

- o Displacement of domestic car sales caused by increased sales of imports;

- o Growth in "offshore sourcing" (purchasing from foreign makers) of vehicle parts by U. S. manufacturers; and

- o A slowdown in the overall growth of the nation's automobile fleet, reflecting changes in the composition of the population.

As the Congress weighs policies to redress some of the economic damage associated with widescale unemployment in automaking regions, review of the causes of the current problem is critical for assessing the prospects of proposed relief measures--including the pending Fair Practices in Automotive Products Act (H. R. 5133).

Recession and High Interest Rates

The continuing recession and persisting high interest rates of 1981 and the first half of 1982 have reduced the automotive industry to some of its lowest production, sales, and employment levels in recent years. In 1981, U. S. auto production was the lowest it has been since the recession year 1961, and passenger car sales slipped for all the major domestic automakers except Chrysler. 3/ This decline continued in the first four months of 1982. 4/

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3. See Automotive News, 1982 Market Data Book Issue, pp. 8 and 21.

4. U. S. manufacturers' rebates and other buyer-incentive programs appear to have had a limited effect on passenger car sales: though sales dropped during the first four months of 1982 despite the proliferation of attractive incentive programs, a last-minute rush to save before the announced termination of these rebate offers may have helped trigger a 5.4 percent sales increase in May, with domestic sales rising 11.5 percent over May 1981 levels. New car sales fell back again in June, dropping 9.9 percent from last June's levels, while domestic sales were down almost 13 percent for the same period. Light truck sales were also down in 1981, but have moved up sharply in the first several months of 1982, largely because of a very strong showing by the newly introduced domestic compact pickups. (See Jack Faucett Associates, Motor Vehicles Industry Status Report, volume 1, numbers 2 and 4 (April 30, 1982 and June 24, 1982); see also Wall Street Journal (July 7, 1982), p. 4.

Recessions and high interest rates have always cut deeply into sales of new cars. When gross national product (GNP) growth slowed in 1974, sales of cars and light trucks plummeted from 14.1 million to 11.2 million vehicles (see Figure 1). Similarly, the current slump in sales began in 1979 with the onset of recession and higher interest rates.

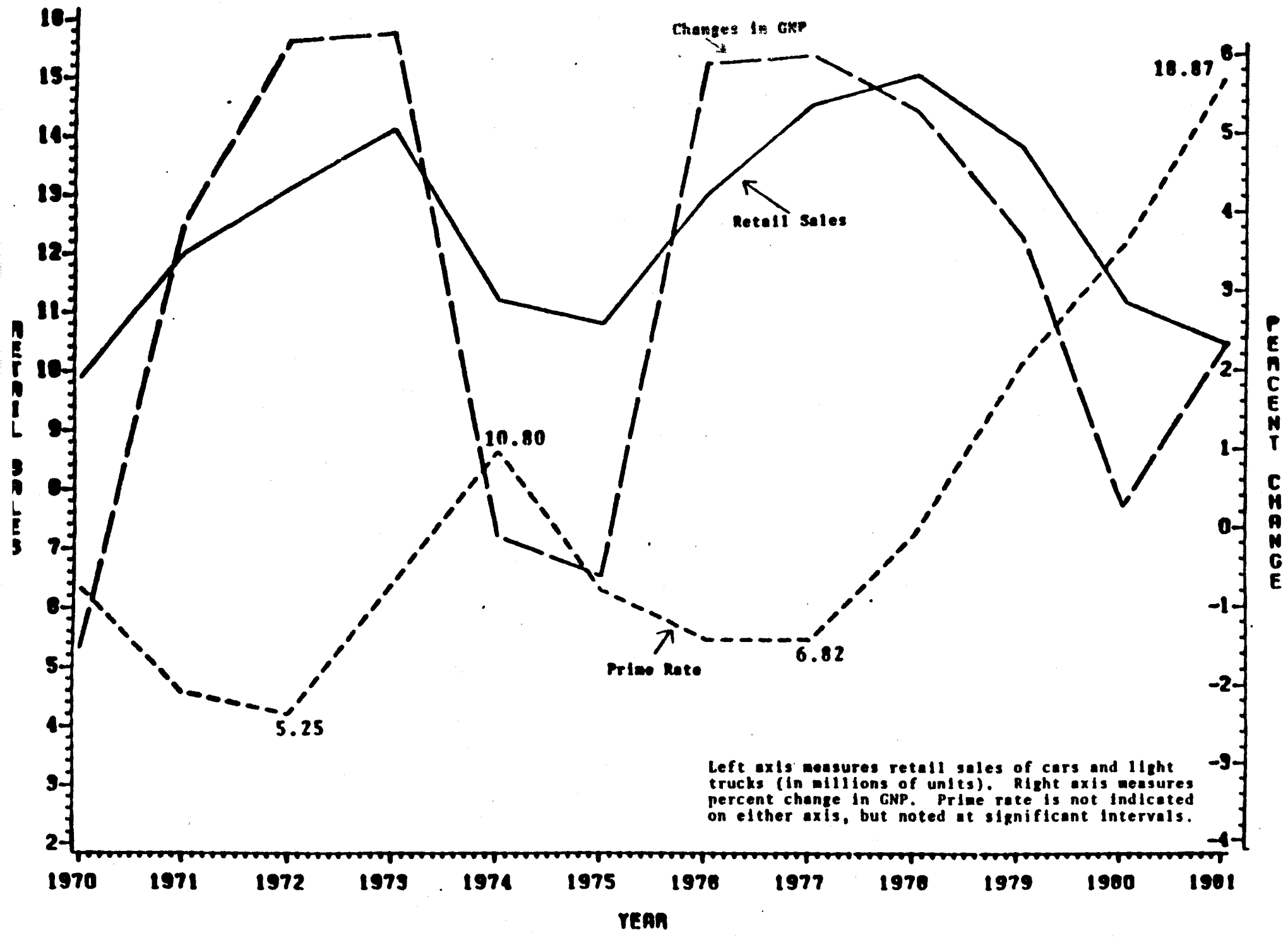
As the economy recovers from the present recession, automotive sales should improve, with some resulting restoration of auto-related jobs. Nevertheless, because this recovery promises to be gradual, and because of the employment implications of the other factors (discussed below), little immediate relief is in sight.

Increases in Productivity

After being largely insulated from foreign competition for many years because most of the cars produced and sold in the United States were substantially larger than those of other nations, the U. S. automobile industry suddenly found itself in the midst of intense international competition. High fuel prices induced Americans to turn, in record numbers, to foreign-built compact and subcompact cars. As a result, the U.S. automakers will remain under intense pressure to improve their productivity throughout the coming decade. While essential to the survival of the U.S. auto firms, accelerated productivity gains have substantial implications for future employment levels. Even if the automobile industry continued at its historic rate of productivity growth of 3.3 percent, employment in the auto industry in 1990 would remain below 600,000, and most of the workers currently laid off would not return to work. As increased international competition forces U. S. automakers to cut costs, productivity could increase above its historic rates. If productivity grew at just 1 percent above its historic rate, then auto industry employment in 1990 could fall below its current level of 532,000, even if total sales of new cars rose to 15 million in that year. Indeed, if the U. S. firms achieve the productivity that Japanese auto manufacturers have claimed, then future reductions in employment could be even greater.

Though exact forecasts are not possible, employment in the U. S. auto industry will probably not return to peak levels. Many of the jobs that have been lost would not be restored even if new car sales returned to peak

FIGURE 1. U.S. RETAIL SALES OF CARS AND LIGHT TRUCKS, COMPARED TO LEADING ECONOMIC INDICATORS, 1970–1981



levels, or even if the domestic auto companies regained the market share they held a decade ago. 5/

Increased Import Share

Displacement of domestic car sales by increased sales of imports has resulted in an additional loss of jobs among the U.S. automakers. Over the past decade, foreign auto manufacturers have nearly doubled their share of the U. S. passenger car market--from 15 percent in 1971 to 27 percent in 1981. Much of this erosion of domestic market share was stimulated by jumps in gasoline prices, which created a surge in demand for subcompact cars—the market segment in which imported cars were concentrated. As the demand for small, fuel-efficient vehicles climbed from 37 percent of the market in 1970 to around 65 percent today, the variety, quality, and fuel efficiency of many foreign models made them attractive to U. S. buyers.

Since 1981, import sales, like domestic sales, have been dampened by the continuing recession and high interest rates. But while the number of import sales has been dropping, the imports' share of the new car market in the United States continued to rise throughout 1981 and most of the first half of 1982. 6/ The imports' share of the light truck market increased in 1981 but declined in the first part of 1982, partly because of the great success of the newly introduced domestic compact pickup trucks. 7/

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5. For more general discussion of long-term displacement of U. S. industrial workers, see CBO, Dislocated Workers: Issues and Federal Options (July 1982).

6. Only in April and May of 1982 did import share decline together with volume of imported car sales; this trend has been reversed again in June.

7. See Motor Vehicles Industry Status Report, vol. 1, no. 2 (April 30, 1982). The import duty on trucks was raised to 25 percent in August 1980.

Throughout the 1980s, the imports' share of the market will probably not grow beyond its current level of around 25 percent for cars and light trucks combined. Although some forecasts assume continued growth in the imports' share of the new car market, further erosion of the domestic share appears unlikely for several reasons. 8/ First and most important, the large-scale shift to small cars that sent import sales booming in the 1970s has already occurred. With small cars currently accounting for about 63 percent of new cars sold, only modest additional growth in the small car market can be expected in the 1980s. Second, the U. S. firms are becoming more competitive by offering more models in the subcompact car and compact pickup truck markets. Even in the face of keen foreign competition in the 1970s, domestic automakers held a surprisingly constant share (about 60 percent) of the small car market. 9/ Now, with the new wider array of domestic subcompact cars and compact pickup trucks 10/ selling well, it seems reasonable to assume that U. S. manufacturers will at the least hold their ground in the 1980s. Third, the Japanese cost advantage could decline in future years if the value of the yen rises relative to the dollar, and as U. S. plants realize the economies of

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8. CBO's estimate is slightly higher than the current 24 percent import share of combined auto and light truck sales for the first five months of 1982. Though long-term forecasts of import share of the light truck market are unavailable, some analysts expect the imports' share of this market to decrease substantially in the future. One informal estimate (Michael Luckey, Merrill Lynch Economics) looks for a 7 to 8 percent import share of the light truck market by 1985.

9. See The American Auto Industry in 1981, p. 9.

10. In model year 1982, there were 17 different U. S.-produced subcompact cars, available in 90 different models, as compared to 64 models of 15 kinds of subcompacts available in 1981 (see Automotive News, 1982 Market Data Book Issue, p. 60). Four new kinds of domestic compact pickup trucks have entered the market in 1982, and one--the Chevrolet S-10--has taken over Toyota's place as number one in compact pickup truck sales (see Automotive News, July 19, 1982--"Compact Pickup Sales Up 46.3 Percent Over 1981," p. 20).

operating closer to full capacity. 11/ Nevertheless, even though the domestic automakers may not lose any additional market share, most analysts do not foresee any restoration of the share that the U.S. firms lost in the late 1970s (see Table 2). Accordingly, the loss of jobs associated with this diminished share promises to be another reality to contend with in the coming decade.

Growth in Offshore Sourcing

Increasingly, U. S. auto manufacturers have been turning to foreign suppliers to obtain a variety of vehicle parts and components at considerably lower prices than those charged by U. S. counterparts. In addition to this primary cost-cutting motive, inadequate lead time and/or capital for retooling have prompted domestic automakers to take advantage of existing foreign capacity in certain areas, such as the production of small diesel engines, four-cylinder engines, transaxles, and aluminum cylinder heads. 12/ The advent of a "world car" with standard components is expected to increase the international trade in auto parts and contribute to the growth in offshore sourcing by U. S. manufacturers. 13/ Also, many U. S. automakers with assembly plants in foreign nations are required to purchase components produced by the host country in order to meet minimum local content requirements for vehicles assembled there.

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11. See Jose A. Gomez-Ibanez and David Harrison, Jr., "Imports and the Future of the U. S. Automobile Industry," American Economic Review, vol. 72, no. 2 (May 1982), pp. 321-22.

12. See John O'Donnell, Restructuring of the Auto Industry and Its Impact on Employment, Transportation Systems Center, February 9, 1982, p. 15.

13. See Arthur Andersen and Co., U. S. Automotive Industry in the 1980s: Domestic and Worldwide Perspective, The Second Delphi Forecast (July 1981), pp. 11-13.

TABLE 2. PROJECTED IMPORTS' SHARE OF U.S. AUTO MARKET ACCORDING TO VARIOUS SOURCES
(1985 and 1990, in percents)

Sources	1985	1990
Merrill Lynch Economics a/	27.8	40.0
Merrill Lynch Securities Research b/	26.1	Not Available
Arthur Andersen, Second Delphi Forecast (average of four panels' forecasts), July 1981 c/	23.7	23.7
Data Resources, Inc. d/	24.1	25.4
Chase Econometrics e/	28.8	35.8
Townsend-Greenspan f/	26.6	24.9
Sanford C. Bernstein g/	30.0	30.0-35.0
Department of Commerce h/	28.0	28.0
United Auto Workers i/	35.0	35.0
Share (Cars and Light Trucks) Assumed in this Study	25.0	25.0

a. Michael Luckey, Vice President, Merrill Lynch Economics, July 1982. If minimum local content requirements of about 60 percent were in effect, he projects a 25 percent import share for 1990.

b. Harvey Heinbach, Vice President, Merrill Lynch Securities Research, July 1982.

(Notes continued on next page)

TABLE 2. (Notes Continued)

c. Arthur Andersen & Co., the Michigan Manufacturers Association, and the University of Michigan, U.S. Automotive Industry in the 1980s: A Domestic and Worldwide Perspective (The Second Delphi Forecast), July 1981. Panelists foresee a constant foreign market share but a decreasing imports' share (18.9 percent in 1985, 16.9 percent in 1990), which would be offset by increased foreign assembly in U.S. facilities.

d. Data Resources, Inc., Long Term Forecast (Moderate Growth), July 1982.

e. Chase Econometrics Long Term Forecast (Moderate Growth), June 1982.

f. Townsend-Greenspan Long Term Forecast, April 1982.

g. David Eisenberg, Research Director, Automotive and Capital Goods Group, Sanford C. Bernstein & Co., Inc., July 1982. Excluding captives and foreign-sponsored production, the 1985 forecast would be about 25 percent.

h. U.S. Department of Commerce, Domestic Content Requirements for U.S. Motor Vehicle Sales: An Economic Assessment. Assumed levels of imports' sales (cars and trucks) without minimum domestic content requirements; not forecasts for a specific sales year.

i. United Auto Workers (UAW), letter of Douglas A. Fraser to Congressman Sam M. Gibbons, July 7, 1982. Not projections for a specific sales year, these are the UAW's assumed levels for non-Big Three market share (cars and trucks) without minimum domestic content requirements.

Continued increases in offshore purchasing appear likely in the 1980s. The size of this increase is highly uncertain, however. 14/ Though the evidence suggests a current level of offshore content of roughly 5 percent, reliable statistics are unavailable, and there is wide range both within the industry and within the product lines of individual companies. 15/ Growth in offshore purchasing appears not to be a major cause of the current loss of employment in auto-related industries, but the possibility of increased offshore sourcing could substantially reduce future domestic employment in these industries.

SLOWER FUTURE SALES GROWTH

Even as the economy recovers, several factors suggest that the future growth in auto sales will be slower than it has been in the past. 16/ First,

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14. See U. S. Automotive Industry in the 1980s, The Second Delphi Forecast, pp. 11-13; John O'Donnell, Restructuring of the Auto Industry, pp. 15-17; and Edwin McDowell, "Made in U.S.A.--With Foreign Parts," The New York Times, November 9, 1980. O'Donnell's study and the Delphi Forecast both suggest an estimate of around 5 percent current offshore content for domestically produced vehicles. The UAW assumes a 5 percent average offshore content for the "big three" automakers in 1981 (letter of Douglas A. Fraser to Congressman Sam M. Gibbons, July 7, 1982).

15. For example, domestic content ratios for Chrysler's present fleet (including its so-called "captive" imports) range from over 99 percent to less than 20 percent, and even two of Chrysler's best-selling small fuel-efficient cars--the Dodge Omni and Plymouth Horizon--currently have less than 90 percent domestic content. Chrysler's fleet average, including captives, is about 89.7 percent domestic content. (From data supplied by Chrysler to the Environmental Protection Agency for use in the Corporate Average Fuel Economy Program, March 1982. Domestic content is computed differently for the CAFE Program than it would be under the terms of H. R. 5133.)

16. See CBO, "Current Problems of the U.S. Automobile Industry and Policies to Address Them" (July 1980), pp. 26-28; Leonard Sherman, Booz-Allen & Hamilton, "The U.S. Automobile Industry: From Growth to Maturity."

the driving-age population will increase more slowly. The baby-boom generation has already grown to auto-owning age; there is no corresponding wave of new car buyers to replace them. Second, as car ownership and second-car ownership have become extremely widespread, the market for new cars is increasingly becoming a replacement-car market, rather than a rapidly expanding first-purchase market. Third, consumers have been keeping cars longer. While partly a reflection of current economic conditions, this also reflects reductions in driving, perhaps caused by fuel-price increases.

For these reasons, the growth in auto sales will probably not return to the high rates (around 5 percent per year) that have been typical during the 1970s. Rather, most forecasts of future passenger car sales range from 10.6 to 12 million vehicles in 1985, and from 11.2 to 13.2 million in 1990 (see Table 3). When light trucks are included in the calculations as well, forecasts of total vehicle sales in 1985 range from 13.4 to 15.5 million units, with 1990 projections ranging from 14.5 to 16.9 million. Throughout this study, it is assumed that retail sales volume for new passenger cars and light trucks will reach about 13 million units in 1985 and 15 million by 1990--a figure typical of the forecasts summarized in Table 3. These higher sales levels will help preserve jobs in U. S. automobile manufacturing and related industries.

Because progress toward these levels promises to be gradual, however, and because the domestic automakers will need to continue to make rapid increases in productivity to remain competitive, major near-term recovery in auto-related employment appears unlikely. Several of the causes of this bleak outlook are the slow-growth nature of the market, the depth of the current recession and the improbability of a quick recovery, and the prospect of productivity gains.

These three causes are not directly addressed by H. R. 5133. Two other causes--increased importation of cars and offshore sourcing of parts--are the focus of H. R. 5133, which would control these through legislated limits.

The remaining chapters assess the likely effects of H. R. 5133 in restoring jobs. Chapter III focuses on the automobile industry and its suppliers. The final chapter explores the effects of H. R. 5133 on the U. S. economy in general.

TABLE 3. PROJECTIONS OF U.S. SALES OF PASSENGER CARS AND LIGHT TRUCKS ACCORDING TO VARIOUS SOURCES (1985 and 1990, in millions of units)

Sources	Vehicle Types	1985	1990
Data Resources, Inc. a/	Autos	10.6	11.6
	Light Trucks	2.8	3.5
	Total	13.4	15.1
Chase Econometrics b/	Autos	11.3	12.3
	Light Trucks	3.3	3.2
	Total	14.6	15.5
Wharton Econometric Forecasting Associates c/	Autos	11.8	12.5
	Light Trucks	3.0	3.9
	Total	14.8	16.4
Merrill Lynch Economics d/	Autos	11.5	11.2
	Light Trucks	3.2	3.3
	Total	14.7	14.5
Merrill Lynch Securities Research e/	Autos	11.5	11.5
	Light Trucks	3.2	3.5
	Total	14.7	15.0
Arthur Andersen, Second Delphi Forecast f/ Parts Supplier Panel	Autos	11.5	12.0
	Light Trucks	2.7	2.7
	Total	14.2	14.7
Government Panel	Autos	11.6	12.6
	Light Trucks	2.5	2.7
	Total	14.1	15.3
Financial Panel	Autos	11.5	12.2
	Light Trucks	2.2	2.5
	Total	13.7	14.7
Marketing Panel	Autos	12.0	13.2
	Light Trucks	3.4	3.7
	Total	15.4	16.9

(Continued)

TABLE 3. (Continued)

Sources	Vehicle Types	1985	1990
Sanford C. Bernstein g/	Autos	12.0	12.0
	Light Trucks	3.5	4.0
	Total	15.5	16.0
CBO (sales levels assumed in this study)	Autos	10.5	12.0
	Light Trucks	2.5	3.0
	Total	13.0	15.0

a. Data Resources, Inc. Long Term Forecast (Moderate Growth), July 1982.

b. Chase Econometrics Long Term Forecast (Moderate Growth), June 1982.

c. Wharton Econometric Forecasting Associates, derived from Wharton Annual and Industry Model Forecast, June 1982.

d. Michael Luckey, Vice President, Merrill Lynch Economics, July 1982.

e. Harvey Heinbach, Vice President, Merrill Lynch Securities Research, July 1982.

f. Arthur Andersen & Co., the Michigan Manufacturers Association, and the University of Michigan, U.S. Automotive Industry in the 1980s: A Domestic and Worldwide Perspective (The Second Delphi Forecast), July 1981.

g. David Eisenberg, Research Director, Automotive and Capital Goods, Sanford C. Bernstein & Co., Inc., July 1982.

CHAPTER III. POTENTIAL MICROECONOMIC EFFECTS

Once fully phased in, H. R. 5133 would require that foreign automotive firms manufacture 90 percent of their vehicles in the United States and Canada in order to be allowed to sell more than 500,000 imports a year in the United States. The chief purpose of this legislation is to preserve and create domestic jobs in automobile manufacturing.

Estimates of the bill's potential consequences on automotive employment vary widely, however. The Administration projects that 252,000 or fewer jobs would be saved in automobile manufacturing. In sharp contrast, the United Automobile Workers (UAW) estimates that 941,000 jobs would be preserved or created. These widely divergent estimates derive from different assumptions about how automobile manufacturers and consumers would respond to the restriction, as well as from varying views of how employment in automobile manufacturing relates to numbers of vehicles produced. Though there are some unanswered questions about these considerations, the range of likely outcomes appears far narrower than these divergent estimates suggest. To project the effects of H. R. 5133 on jobs in automobile manufacturing and related industries, this chapter examines four questions:

- How would production and sales of imported cars be affected by H. R. 5133?
- How much would car prices increase due to curtailment of imports?
- How much would sales of domestic cars increase as a result of import restrictions and related price increases?
- How many additional jobs would be created because of this increase in domestic sales?

These questions are addressed in the following four sections, which review the evidence and estimate the likely response in each case. The final section compares the Administration and UAW estimates to those

developed here, and evaluates them on the basis of the information presented in the first four sections.

Throughout this chapter, two general limitations should be kept in mind:

- The estimates of impacts on auto sales and automotive jobs assume that no retaliatory actions are taken by Japan or other nations. The effects of retaliation are examined in the following chapter.

- The examination of employment impacts focuses exclusively on the automobile manufacturing industry, suppliers of automotive parts, and other direct and indirect inputs to automobile manufacturing. It excludes any gain in jobs elsewhere in the economy because of increases in economic activity within the auto sector. General economic effects of this type are discussed in the following chapter, as are changes in auto industry productivity.

HOW WOULD PRODUCTION AND SALES OF IMPORTS BE AFFECTED?

While H. R. 5133, as written, could be interpreted in various ways, its clear intent is to require foreign automobile producers to locate in the United States if they sell in this country. 1/ The bill stipulates that, in order to sell more than 100,000 units (cars or light trucks) in the United States, a foreign vehicle producer must have to perform part of the manufacturing of these vehicles in the United States or Canada.

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1. As H. R. 5133 is written, some analysts believe that no firm could meet its terms because of a possible technical problem in the wording. As measured in the bill, the domestic content ratio is defined as 100 x added domestic content divided by wholesale price to U. S. dealers. If the numerator excludes advertising and domestic transportation costs, then the resulting ratio could be less than 90 percent even for vehicles whose every part was produced in the country. This analysis assumes that if such technical problems exist in the wording of H. R. 5133, they will be corrected, and that domestic transportation, advertising, and overhead would be included among the items counted as potential domestic content.

In 1981, seven foreign firms imported more than 100,000 cars and light trucks:

Toyota	714,000
Nissan (Datsun)	580,000
Honda	371,000
Toyo Kogyo (Mazda)	247,000
Subaru	152,000
Mitsubishi (Chrysler)	145,000
Volkswagen	144,000
Total, Seven Firms Above	2,353,000

In addition, another 400,000 cars and light trucks were imported by a dozen low-volume importers, each of whose sales were less than 100,000 units in 1981.

As is apparent from these sales statistics, the greatest direct effect of the bill would be on two large-volume Japanese firms--Toyota and Nissan (Datsun)--which could meet the terms of the bill in two distinct ways. Either they could relocate production facilities in the United States, or they could limit imports to under 100,000 units per year, so that no domestic-content restrictions would apply. Even if they built facilities in the United States, they would need to produce cars with at least 75 percent domestic content in order to sell more than 200,000 units. This is a stringent test, and it could not be met simply by assembling cars here. Indeed, assembly of finished cars, manufacturing of engines and transmissions, and stamping of body parts together account for less than half of the number of worker hours required to produce a car. This means that not only would Toyota and Nissan have to relocate their assembly, stamping, engine, and transmission facilities in the United States; they would also need to purchase substantial amounts of domestic parts and materials or get their suppliers to locate here as well.

While one of the bill's objectives is to encourage foreign automakers to locate production facilities in the United States, such a major relocation appears improbable for several reasons. First, of the cost advantage that the Japanese currently enjoy, as much as $1,400 per car comes from lower wage rates in Japan. Much of this component of their cost advantage would disappear if the Japanese located plants here and faced higher

U. S. wage schedules. Second, another $600 of the Japanese cost advantage derives from the requirement of substantially fewer labor hours per car under Japanese production practices. These savings, which stem from a variety of management techniques and labor practices, could probably not be fully captured if Japanese plants relocated here. For example, part of the savings come from close coordination with and proximity to numerous parts suppliers--patterns that minimize the costs of inventory, inbound transportation, materials handling, and warehousing. The U. S. market--which purchased 2.3 million passenger cars and light trucks out of more than 11 million Japanese automobiles produced in 1981--simply could not support a second, complete set of suppliers to Japanese cars. Even if Japanese firms located some facilities here, they would not enjoy the full advantage of close coordination and proximity that they now have in Japan. Third, the low valuation of the yen in terms of dollars has contributed to the Japanese cost advantage. As the Japanese automakers produced more of their car in the United States, this exchange-rate would be partially eroded. Fourth, the marketing advantage of Japanese automobiles could diminish if they were produced here. Much of the appeal of these cars to consumers appears linked to an image of quality part of which is supported by statistics on defect and repair rates. 2/ To the extent that it also derives from the "made in Japan" label, this image could be harmed by locating production facilities here. The recent difficulties experienced by Volkswagen of America in marketing the U. S.-built Rabbit illustrate this marketing risk. 3/ Finally, the U. S. firms themselves are getting more competitive in the subcompact car market and in production practices generally. By the time a Japanese complex was up and running, U. S. competition could be more severe than it is today.

For all these reasons, it appears unlikely that the Japanese response to H. R. 5133 would be to relocate massive production facilities here. Rather, the practical effect of the bill would ultimately be equivalent to a

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2. For example, a survey of readers conducted by Consumer Reports found that, in 1981, all Toyota and Datsun models showed a "trouble index" much better than average, while the leading domestic subcompact models generally showed a rating of average or worse than average on this index. See "Frequency-of-Repair Records," Consumer Reports, vol. 47, no. 4 (April 1982), pp. 198-207.

3. "Volkswagen's U. S. Sales Decline Sharply as Firm Gets Hurt by Image, Competition," Wall Street Journal (July 8, 1982), p. 21.

rigid import quota of 100,000 units per manufacturer per year. Under the provisions of the bill, any importer violating the appropriate domestic content requirement in some year would have a restriction imposed on it the following year limiting its sales to 75 percent of the number of motor vehicles that were entered during the year that the violation occurred. In effect, this penalty provision means that, if they did not relocate here or in Canada, the high-volume importers would face a series of successively more restrictive quotas as each year's sales were restricted to 75 percent of the previous year's sales, continuing until the imports from these firms fell to under 100,000 units per year. Under these penalty provisions, each of the seven high-volume importers listed earlier would eventually be bound by a limit of 100,000 units; this limit would be reached in 1985 by Volkswagen, Subaru, and Mitsubishi, in 1990 by Toyota and Nissan, and in the intervening years by the other high-volume importers. 4/

Low-volume importers, who bring in fewer than 100,000 units per year, would not be directly affected by H. R. 5133, although they might experience a surge in sales as other imports become unavailable.

Whether low-volume imports would capture a disproportionate share of sales of imported cars displaced by H. R. 5133 is unclear. This paper simply assumes that low-volume importers, together with U. S. firms, would capture an increment of sales proportional to their current sales volumes. This assumption probably overstates the additional auto sales and auto-related jobs that would be experienced by U. S. firms. Further, the paper assumes that, in the absence of price increases, each unit of import curtailed would be replaced by the sale of an additional unit by a domestic car producer or by a low-volume importer.

Foreign firms with U. S. auto plants would be particularly hard hit by H. R. 5133. At present, the chief firm of this sort is Volkswagen, which operates a plant in Westmoreland, Pennsylvania, whose capacity is around

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4. Dick K. Nanto, "Automobile Domestic Content Requirements (Revised)," Congressional Research Service Memorandum (undated); "Automobile Domestic Content Requirements (Revised)," (1982); and "Automobile Domestic Content Requirements," Congressional Research Service, (updated June 11, 1982).

240,000 Rabbits per year. 5/ Under H. R. 5133, these cars (which currently contain less than 75 percent domestic content) would be limited to sales of 200,000 in 1984 and after. Volkswagen would be forced to run its U. S. plant at less than capacity. In addition, unless it cut its U. S. production even further, it would also have to curtail its imported Audi and Porsche models. Relative to foreign firms that have no facilities in the United States, Volkswagen would be placed at a comparative disadvantage by H. R. 5133.

Among the major U. S. producers, GM would have the least difficulty complying with the 90 percent domestic requirement; Ford would come next, and Chrysler and American Motors would have the most difficulty complying. Each of the Big Four domestic firms has increasingly used foreign-produced components in recent years, and this trend is expected to continue in the future.

Currently, net imports of automotive parts represent about 5 percent of all parts produced in the United States, and many analysts expect the import share to grow in future years. 6/ As a result, one direct effect of H. R. 5133 on the Big Four would be to limit the future growth in use of foreign-produced parts. Another direct effect, which would be more substantial, would be the impact on U. S. car prices and sales volumes as competition from imports was reduced.

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5. Volkswagen plans to add a second plant in 1982, with an additional capacity of 185,000 vehicles. Honda's new U. S. plant in Marysville, Ohio, is scheduled to open in fall 1982; by May 1984, it is expected to produce 150,000 Accords annually. Nissan will open its Smyrna, Tennessee, truck manufacturing facility (with an ultimate capacity of 150,000 vehicles) by the end of 1983. Toyota, which already operates a truck bed plant in Long Beach, California, recently discussed with GM the possibility of using an idle GM factory in California to produce more than 200,000 vehicles, which would be distributed through GM dealerships.

6. Arthur Andersen and Co., The Michigan Manufacturers Association, and the University of Michigan, U. S. Automotive Industry in the 1980s: A Domestic and Worldwide Perspective (The Second Delphi Forecast--July 1981), pp. 11-13.

Before considering the impact of H. R. 5133 on car prices, it will be helpful to summarize its impact on future sales levels assuming that there were no resulting increases in vehicle price. These estimates will be developed further after the discussion of price effects.

Without any restriction of imports, total U. S. sales of cars and light trucks are assumed to grow to around 13 million units in 1985 and around 15 million units in 1990, and imported vehicles are assumed to capture about 25 percent of this market. 7/ Assuming that low-volume imports and high-volume imports shared proportionally in the growth of the number of imports, then sales of high-volume imports would grow from 2.35 million units in 1981 to 3.2 million units in 1990 (see top half of Table 4). Domestic manufacturers would sell 11.25 million units under these assumptions.

If imports were restricted through enactment of H. R. 5133, then sales of high-volume imports would decrease and sales of domestic vehicles and low-volume imports would rise. On the other hand, retaliatory actions by other nations would create economic disruptions that would offset some of the increase in domestic vehicle sales. This retaliatory impact is not addressed in this chapter, but is analyzed for the economy as a whole in the following chapter. Assuming that the restricted imports were replaced, unit for unit, by domestic vehicles and low-volume imports, the number of domestic vehicles sold would rise to 13.6 million units in 1990 (see bottom half of Table 4). Sales of imports would fall to 1.4 million units in 1990, only 700,000 of which would be supplied by the high-volume importers. 8/

The estimates shown in Table 4 are not a forecast of the sales effects of H. R. 5133 because they do not reflect the price increases that would probably result from this legislation, as discussed next.

HOW MUCH WOULD NEW CAR PRICES INCREASE?

Determining the effect of H. R. 5133 on the price of new vehicles is a crucial step in assessing its impact. Not only are prices the key

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7. See Chapter II for a discussion of these sales and market share assumptions.

8. The figures for high-volume imports are taken from Nanto.

TABLE 4. ESTIMATES OF AUTO AND LIGHT TRUCK SALES WITH AND WITHOUT H. R. 5133, ASSUMING NO INCREASE IN PRICES (In thousands of units)

	1985	1990
Base Case: No Restraint of Imports		
Low-volume imports	482	556
High-volume imports	2,768	3,194
Total imports	3,250	3,750
Total domestic	9,750	11,250
Total auto and light truck sales	13,000	15,000
H. R. 5133, Assuming No Price Increases a/		
Low-volume imports	553	682
High-volume imports	1,365	700
Total imports	1,918	1,382
Total domestic	11,082	13,618
Total auto and light truck sales	13,000	15,000

SOURCE: Congressional Budget Office.

a. These sales estimates assume no retaliatory actions by other nations. For net impacts including those caused by retaliation, please refer to Chapter IV.

determinant of the consumer cost of the bill; they are also the key determinant of the amount by which domestic car sales would increase, and thus central to estimating the impact on domestic employment. At present, Japanese producers tend to take the lead in setting prices for subcompact cars, and U. S. producers adjust their prices in response to Japanese actions. 9/ Without the restraining influence of Japanese cars,

9. Harbridge House, Inc., The Imported Automobile Industry (June 1979), p. 51; and Congressional Budget Office, Current Problems and Prospects of the U. S. Automobile Industry and Policies to Address Them (July 1980), p. 51.

which appear to enjoy a substantial cost advantage over U. S. cars, domestic car prices could rise and the profitability of domestic firms could increase.

The size of this price increase cannot be closely predicted, but several considerations can help guide judgments about it. The Japanese are thought to have a cost advantage of around $1,000 to $2,000 per subcompact car, according to widely publicized estimates made by William Abernathy and James Harbour, who trace the cost advantage chiefly to two sources. 10/ First, Japanese wages are lower than U. S. wages: in 1981, U. S. auto workers earned $17.55 per hour according to the Bureau of Labor Statistics; Japanese workers earned around $7.74. 11/ Assuming 200 hours

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10. See, for example: William J. Abernathy, Kim B. Clark, and Alan M. Kantrow, "The New Industrial Competition," Harvard Business Review, vol. 59, no. 5 (September-October, 1981), pp. 68-81; William J. Abernathy, James E. Harbour, and Jay M. Henn, "Productivity and Cost Advantages: Some Estimates for Major Automotive Producers," Harvard Business School Working Paper (February 13, 1981); Harbour and Associates, Inc., "Productivity Analysis of the North American and Japanese Automotive Manufacturers in the Manufacture of Subcompact and Compact Cars," and "Can Detroit Catch Up?," Fortune, vol. 105, no. 3 (February 8, 1982), pp. 34-9.

11. Bureau of Labor Statistics, "Hourly Compensation for Production Workers in Motor Vehicles and Equipment Manufacturing: 1981" (Provisional Estimates). The figures quoted are for hourly compensation, including overtime premiums, bonuses, vacations, and insurance. The corresponding estimates for all manufacturing are $11.06 per hour for the United States and $6.23 per hour for Japan. If the rates for all manufacturing are typical of the suppliers to the automobile industry, then the labor of U. S. suppliers is 37 percent less costly than that of the auto manufacturers, while that of Japanese suppliers is only 19.5 percent less costly than their auto manufacturers. Thus, the apparent cost advantage due to labor rates observed among auto producers cannot be assumed to apply directly to suppliers. Some recent observations on Japanese suppliers are reported by John Hartley, "How Supplier System Cuts Japanese Costs," Automotive News (July 12, 1982), p. 2.

per vehicle, these figures would imply a differential of over $1,900 per vehicle if all labor hours were paid at these rates. However, many of the hours embedded in a car are furnished by suppliers whose labor rates, both in the United States and in Japan, fall below those of the vehicle manufacturers themselves. The absolute difference between U. S. and Japanese rates is probably smaller for these suppliers than for the auto manufacturers. Adjusting for this, the differential due to labor rates could be around $1,400 per car (Table 5).

In addition, the Japanese can build a subcompact car with only about 56 percent of the labor hours used in U. S. production, according to Abernathy and Harbour. This conclusion, based upon observations of the U. S. auto manufacturing firms themselves, has frequently been extended to cover their suppliers as well, although much less evidence is available concerning the labor content of vehicle components. This is a sizable extension, since the observed data are less than half of the total. Nevertheless, assuming that the same labor advantage extends through all stages of the production process, a Japanese car would require about 111 labor hours instead of the 200 required in a U. S. car. 12/ Most of the difference is attributed to a variety of management and worker practices, rather than to differences in plant and equipment. If all Japanese workers were paid at the rate of $7.74 per hour, this would imply a saving of around $700 per car. As above, however, the saving would be smaller since wage scales are lower in supplier industries. Thus, the saving due to reduced labor content could be around $600 per car (Table 5).

The Japanese cost advantage has increased in recent months because of further devaluation of the yen. The wages upon which the above estimates are based were converted to dollars when the yen traded at 220.1 yen to the dollar; it has traded recently around 255. Assuming that 75 percent of a Japanese car is produced in Japan from Japanese parts, labor, and materials, this shift in exchange rates adds around $500 more to the Japanese advantage computed earlier. Offsetting this, the Japanese

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12. The numbers developed here do not match those of the Abernathy/Harbour work cited above, which reported that 80 hours were required for a Japanese subcompact and 144 for a U. S. subcompact. For consistency with assumptions applied later in this chapter, the Abernathy/Harbour estimates were increased proportionally to yield a total labor content of 200 hours per car.

TABLE 5. ILLUSTRATION OF JAPANESE COST ADVANTAGE IN THE MANUFACTURING OF SUBCOMPACT CARS

Total Advantage	Hours per Subcompact Car	Compensation per Hour	Labor Cost per Car
		(in dollars)	
Japan			
Automobile manufacturers	53	7.74	410
Suppliers, materials, etc.	58	6.23	361
Total	111		771
U.S.A.			
Automobile manufacturers	82	17.55	1,439
Suppliers, materials, etc.	118	11.06	1,305
Total	200		2,744
Difference in Labor Cost per Car			1,973
Transportation and Customs Duties			(400)
Yen Devaluation Since 1981			500
Total Japanese Cost Advantage			2,073

Wage-Rate Advantage	Hours per Subcompact Car (U.S.)	Difference in Wage Rate: U.S. Less Japan	Advantage Gained at Japanese Rates
Automobile manufacturers	82	9.81	804
Suppliers, materials, etc.	118	4.83	570
Total Wage-Rate Advantage			1,374

Productivity Advantage	Difference in Hours per Subcompact Car: U.S. Less Japan	Japanese Compensation per Hour	Japanese Advantage
Automobile manufacturing	29	7.74	224
Suppliers, materials, etc.	60	6.23	374
Total Productivity Advantage	89		598

SOURCE: CBO computation based upon:
Wage rates: Bureau of Labor Statistics
Total hours per car: CBO assumption
Relative Productivity: Abernathy and Harbour (see text).

have a cost disadvantage of about $400 per vehicle attributable to ocean shipping costs and U. S. customs duties. Taken together, wage rates, productivity, yen develuation, and shipping and duty costs result in a net cost advantage of over $2,000 per subcompact car, if the Abernathy/Harbour findings are updated, as summarized in Table 5.

No specific adjustment has been made in the Abernathy/Harbour analysis for any additional Japanese capital expenditures to achieve higher productivity. To the extent such capital investment is required, it would offset some of the reported cost advantage. However, except in the stamping of body parts, the Japanese do not appear to have a technological advantage. Rather, the difference in productivity has been traced to a number of management practices, including just-in-time inventory systems, defect prevention systems, an organization pyramid with many fewer tiers between workers and executives, and nonadversarial union and supplier relations. These practices do not necessarily involve additional capital expenditures. Hence, the Japanese cost advantage would probably not be much diminished if capital expenditures were included in the analysis.

Part of the estimated Japanese cost advantage is based upon relatively well-documented differences in wage rates and labor productivity within the automobile companies. Part is based upon an application of this observed difference to the operations of parts and materials suppliers. All of it is subject to considerable interpretation, and different analysts have attributed it variously to Japanese management techniques, production practices, labor relations conditions, and cultural attitudes. The U. S. automobile companies have not attacked the claims that the Japanese enjoy a cost advantage of $1,000 to $2,000; but neither have they offered much additional analysis to support it.

One critique of the Abernathy-Harbour estimates concludes that they are too high for several reasons. First, the study is based upon data from 1979, a year when U. S. auto firms were in a slump and when Japanese firms were increasing their production. Thus, part of the observed productivity difference may be traced to temporary efficiency advantages related to capacity utilization. Second, the estimates are national averages in which each of the U. S. Big Four is given equal weight. A sales-weighted average would have given much greater weight to GM, whose production costs are beneath those of the other three. Similarly, it averages together both new and old plants, and so does not necessarily reflect the difference between a new U. S. plant and its Japanese counterpart. Third, the

production of automobile parts may be less labor-intensive than production of cars, so that the extension of similar labor savings to the suppliers may be overstated as a result. 13/

Under the chairmanship of William Abernathy, a recent review of this question by the National Academy of Engineering found sizable differences in productivity and total employee costs per unit, depending upon the data used. Nevertheless, it concluded that "the results point to a significant differential ranging from $1,000 to more than $1,400." 14/

Even if the Japanese do enjoy this large cost advantage, if is not known to what extent they pass this through to consumers via lower prices as against absorbing it in higher profits per unit. While the retail price differentials for U. S. and Japanese subcompact cars are generally smaller than the reported price advantage, any attempt to relate this difference to production costs is confounded by uncertainties as to how U. S. firms allocate costs and profits among the different car size groups, and by uncertainty as to the effective costs of various inputs to Japanese vehicles.

Whatever the amount of the Japanese cost advantage, U. S. firms have clearly not been the price leaders in the subcompact field but have responded to Japanese price changes. Restrictions on Japanese imports would relieve this restraining force on U. S. subcompact car prices. Indeed, if the number of Japanese imports was restricted, the Japanese firms themselves would likely raise prices in order to compensate for the loss in sales volume with higher profits per car sold.

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13. Jose A. Gomez-Ibanez and David Harrison, Jr., "Imports and the Future of the U. S. Automobile Industry," American Economic Review, vol. 72, no. 2 (May 1982), pp. 319-23.

14. Automobile Panel, Committee on Technology and International Economic and Trade Issues of the Assembly of Engineering, National Research Council, and the Office of the Foreign Secretary, National Academy of Engineering, The Competitive Status of the U. S. Auto Industry: A Study of the Influences of Technology in Determining International Industrial Competitive Advantage (July 1982), p. 156.

It has been suggested that one way of gauging the extent of potential Japanese and U. S. price increases is to analyze and extrapolate the response of Japanese and U. S. firms to the voluntary import restrictions imposed by the Japanese in 1981. This experience does not convincingly demonstrate that vehicle prices would rise, however. There is some evidence that the Japanese upgraded the average car imported under these voluntary restrictions by adding on additional features, and that this upgrading was reflected in higher prices. At the same time, this upgrading appears to be part of a longer trend, possibly unrelated to the import restrictions. In addition, the recession-induced slump in sales may have forced the Japanese to keep prices low in order to sell their planned volume under a voluntary import quota enacted by the Japanese in 1981. Furthermore, the recent drop in the value of the yen relative to the dollar makes it difficult to interpret any pricing shifts. In short, the experience provided by the voluntary import restrictions does not offer much guidance about what would happen in response to H. R. 5133, since it is too brief and too riddled with major changes in economic conditions to allow a confident assessment of the role of the import restrictions.

While estimates must remain highly uncertain, car prices could possibly increase by $500 per unit (about 6 percent) as a result of H. R. 5133, relative to what they would have been otherwise. This judgment reflects the fact that U. S. production costs appear higher than Japanese costs, and assumes that, if Japanese competition was restricted, U. S. firms would respond partly by raising prices. Because the magnitude of the price increase cannot be predicted, this chapter also discusses the implications of two other conceivable outcomes--no price increase, and a price increase of $1,000 per unit.

HOW MUCH WOULD SALES OF DOMESTIC CARS INCREASE?

H. R. 5133 would increase the sale of new domestic cars by restricting competition from imports, but the increase would be tempered by the increases in new car prices it would stimulate. This study assumes that an increase of 1 percent in price would cause a decrease of 1 percent in the number of new vehicles sold, a response that is consistent with a number of

economic analyses of the automobile market. 15/ It also assumes that the demand for automobiles would not be affected by any retaliatory actions taken by Japan or other nations in response to H. R. 5133. This latter assumption, which is unrealistic, will be withdrawn in the following chapter when the full effects of the bill are discussed. For the present, however, estimates of automobile sales and automotive employment will be developed assuming no retaliatory actions by other nations so that the direct industry impacts of the bill, as estimated by this analysis, can be meaningfully compared with those of other analyses, notably those of the Administration and the UAW.

Under the above assumptions, if new car prices rose by $500 per unit after H. R. 5133 was enacted, then sales of domestic cars would be around 10.5 million units in 1985 and 12.9 million units in 1990. Compared to what would happen if H. R. 5133 was not enacted, this means that total sales, domestic plus import, would fall from a potential 15.0 million to 14.2 million in 1990. Since imports would be restricted, sales of domestic vehicles would be around 12.9 million units, up from the approximately 11.3 million domestic vehicles that would have been sold without H. R. 5133. Thus, although total sales would fall under H. R. 5133, domestic sales would increase by about 733,000 units in 1985 and 1,632,000 in 1990 (Table 6). These sales increases are highly sensitive to assumptions about prices, however. If prices increased by $1,000 per vehicle, fewer than one million additional sales would result in 1990. If no price increases occurred, more than two million additional cars would be sold--although this appears unlikely.

HOW MANY ADDITIONAL JOBS WOULD BE CREATED?

The increase in domestic car sales created by H. R. 5133 would create additional jobs in three ways through:

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15. See, for example, Jose A. Gomez-Ibanez, Robert A. Leone, and Stephen X. O'Connell, "Restraining Foreign Competition: Is Bad Policy Also Bad Business?" (May 1982), p. 10; Sorrel Wildhorn et al., How to Save Gasoline: Public Policy Alternatives for the Automobile (Rand Corporation, 1974), p. 68; and Lawrence J. White, The Automobile Industry Since 1945 (Harvard University Press, 1971), pp. 94-5.

TABLE 6. ASSUMED AUTO AND LIGHT TRUCK SALES WITH ENACTMENT OF H. R. 5133, UNDER ALTERNATIVE ASSUMPTIONS ABOUT NEW CAR PRICES (In thousands of units)

	1985	1990
High (Assuming No Price Increases) a/		
Low-volume imports	553	682
High-volume imports	1,365	700
Total imports	1,918	1,382
Total domestic	11,082	13,618
Total auto and light truck sales	13,000	15,000
Increase in domestic sales due to bill	1,332	2,368
Middle (Assuming Price Increase of $500)		
Low-volume imports	523	645
High-volume imports	1,365	700
Total imports	1,888	1,345
Total domestic	10,483	12,882
Total auto and light truck sales	12,371	14,227
Increase in domestic sales due to bill	733	1,632
Low (Assuming Price Increase of $1,000)		
Low-volume imports	495	610
High-volume imports	1,365	700
Total imports	1,860	1,310
Total domestic	9,915	12,184
Total auto and light truck sales	11,775	13,494
Increase in domestic sales due to bill	165	934

SOURCE: Congressional Budget Office.

a. These sales estimates assume no retaliatory actions by other nations. For net impacts including those caused by retaliation, see Chapter IV.

- Direct increases in employment among motor vehicle manufacturing companies;

- Indirect increases in employment among the firms that supply the auto manufacturers, the firms that supply these suppliers, etc.; and

- Additional increases in employment stimulated by increased income and employment in auto-related industries, as well as employment stimulated by overall increases in aggregate output.

This chapter examines only the first two groups--jobs directly and indirectly tied to automobile production. The third group is discussed in the following chapter, as is the impact of foreign retaliation on employment levels. This chapter also makes no provision for future increases in productivity, which could be substantial between now and 1990. This restriction is also removed in the following chapter.

This chapter analyzes two different techniques for estimating the additional hours of employment that would be created within current manufacturing processes for each new domestic vehicle sale stimulated by H. R. 5133. The first technique is based upon employment estimates compiled by the Bureau of Labor Statistics (BLS). The second technique relies on industry studies of automobile manufacturing. These studies have estimated the additional productive worker hours required to produce a car. Both the BLS-based approach and the industry analyses include indirect as well as direct employment.

Neither approach includes jobs involved in distributing, retailing, financing, or insuring the manufactured vehicles. H.R. 5133 could profoundly affect the firms involved in those activities. For example, U.S. car dealerships might gain employment while imported car dealerships might lose jobs; longshoremen might lose jobs unloading foreign cars while employment within U.S. railroads and trucking could rise as domestic transportation of vehicles increased. Nevertheless, the total number of these jobs would probably decline only slightly, because the total number of vehicles sold, both U.S. and imported, would decline by only 5 to 10 percent. No loss of retailing jobs or other post-production jobs has been included in any of the estimates discussed here.

BLS-Based Technique. According to the BLS, about 716,100 workers were directly employed in the motor vehicle industry in 1981. 16/ In addition, the BLS estimates that, for each direct job in automobile manufacture, there are 2.35 indirect jobs in industries that provide parts, supplies, or services to the automobile manufacturing industry. These indirect jobs chiefly provide basic steel products, iron and steel forgings, truck transportation, wholesaling, and other business services (Table 7). Applying the 2.35 ratio to the BLS count of direct employment results in total auto-related employment of 2.4 million workers in 1981--716,100 directly employed in the automobile industry and 1,682,835 more indirectly employed in associated industries. At the 1981 domestic production level of 7.8 million vehicles (cars and light trucks) this implies a total labor content (direct and indirect) of 523 hours per vehicle. 17/

Nevertheless, this aggregate computation overstates the number of labor hours that would be created by each additional sale stimulated by H. R. 5133, for several reasons. First, the BLS number is an average and includes many jobs that must be done regardless of sales volume. When sales volumes increase, some employment would not increase proportionally. For example, setting up the plant and tools for a specific model must be done once whether it is a high sales year or as a low sales year. Statistics for domestic output and domestic employment of Ford Motor Company show that one Ford worker produced 12 to 17 vehicles per year between 1976 and 1980--an average of around 15 cars per worker per year. But between 1976 and 1978--when production grew rapidly--Ford added only 37,000 more employees to produce 875,000 more vehicles--an average of 24 additional vehicles per additional worker. Similarly, when production fell sharply by 1,940,000 vehicles between 1978 and 1980, the number of workers dropped by 77,000--a decline of 25 vehicles per employee reduction (Table 8). These figures show that much of the employment associated with automobile manufacturing does not vary directly with output. That is, much of the automobile-industry employment reflected in the BLS numbers would not change with normal fluctuations in output. Indeed, if the statistics from Ford are typical, the average employment per car as

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16. This includes 352,400 in motor vehicles and car bodies (SIC 3711) and 363,700 in motor vehicle parts and accessories (SIC 3714).

17. Assumes 1,700 hours per worker per year.

TABLE 7. COMPOSITION OF LABOR FOR MOTOR VEHICLE MANUFACTURING

Economic Sector	Jobs per $1,000,000 in Sales (In 1972 prices)
Blast Furnaces and Basic Steel Products	2.2
Iron and Steel Foundries and Forging	2.1 2.0
Non-Electrical Machinery, N.E.C.	1.0
Motor Vehicles	15.1
Truck Transportation	1.0
Wholesale Trade	4.3
Business Services, N.E.C.	1.4
Total, Non-Automotive Manufacturing	35.5
Total, All Sectors	50.6
Ratio: Non-Automotive Manufacturing/Motor Vehicles	2.35

SOURCE: Bureau of Labor Statistics, 1979 Employment Requirements Table, October 23, 1981.

TABLE 8. AVERAGE AND MARGINAL VEHICLES PER WORKER, AS ILLUSTRATED BY DOMESTIC OPERATIONS OF FORD MOTOR COMPANY

	U. S. Payroll (thousands)	U. S. Production Cars and Trucks (thousands)	Vehicles per Worker
Average, by Year			
1976	220	3,215	15
1977	239	3,970	17
1978	257	4,090	16
1979	239	3,227	14
1980	180	2,150	12
Marginal Changes			
Change between 1976 and 1978	+37	+875	24
Change between 1978 and 1980	-77	-1,940	25

SOURCE: Unit Factory Sales of Cars and Trucks, Ford U. S.; and Average Number of U. S. Employees, Moody's Industrial Manual, 1981, Vol. I, p. 1,193.

derived from the BLS figures overstates the marginal increase in employment per additional vehicle sold by about 60 percent.

Second, the BLS numbers include many jobs that produce parts or supplies for the aftermarket--that is, not for new cars, but for the fleet of more than 125 million vehicles now operating. If the BLS estimate of automotive employment is assigned only to new cars, then the resulting hours per car could be overstated by about 30 percent because much of

this employment is unrelated to new cars. 18/ Eventually, once H. R. 5133 has been fully phased in for many years, the bill would increase domestic aftermarket activity by about the same percentage that it increases the domestic new car sales market. But in 1990, the full effect of the bill on aftermarket employment would be smaller than this, and this employment impact is overestimated by about 20 percent if the BLS number is applied.

Third, the BLS estimate includes all automobile-related workers and does not differentiate by the size of car they are building. Estimates from the Transportation Systems Center show that large and intermediate cars require about 17 percent and 40 percent more labor hours, respectively, than subcompact cars. Because H. R. 5133 would curtail subcompact cars, their domestic replacements would most likely be subcompact cars also. As a result, the BLS average, which includes larger cars, overstates the labor content of affected vehicles by roughly 10 percent.

Finally, the BLS numbers include some jobs in the production of heavy trucks and motor buses. Including these non-automotive jobs in the basis used to estimate the job per vehicle causes the resulting figure to overstate the appropriate number somewhat.

As a result of these four considerations, the 523 hours per car developed earlier on the basis of BLS numbers appear to overstate significantly the likely number of jobs that would be created by each new car sale stimulated by H. R. 5133. While the magnitude of overstatement attributable to each of the four considerations discussed above can only be roughly approximated, the combined effect could reduce the BLS estimate from 523 hours per vehicle to about 225 hours per subcompact

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18. There are few reliable statistics on the fraction of parts that go into new cars and those that go to cars in use. One recent report estimated that replacement parts accounted for about $36 billion in retail sales in 1981. (David Zola, "Aftermarket, Caught in Recession, Awaits Rebound; Is There Danger?," Ward's Automotive Reports, May 3, 1982.) Relative to the new car market, in which 10.5 vehicles were sold at roughly $9,000 each, this implies that dollar sales of new cars and replacement parts combined were $130.5 billion--38 percent higher than dollar sales of new cars.

vehicle. 19/ While this adjustment is extremely rough, it illustrates that the BLS statistics, unless carefully applied, may vastly overstate the extent to which additional employment would be generated by H. R. 5133. Indeed, when adjusted for known overstatements, the BLS-based approach yields an estimated labor content per car that is generally consistent with the estimates of the industry studies discussed next.

Industry Studies. Several analysts have attempted to trace through the supplier chain and estimate the labor content embedded in a subcompact car through detailed examination of industry practices. These studies have generally focused on "productive hours," which exclude over-

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19. This computation assumes four adjustments:

Reason for Adjustment	Adjustment Factor
1. Marginal labor requirements are less than average labor inputs	1.60
2. Some auto workers make replacement parts, not new cars	1.20
3. Some auto workers make heavy trucks and buses	1.10
4. U. S. plants make some intermediate and standard-size cars	1.10
Total effect (1.6 x 1.2 x 1.1 x 1.1)	2.32

Revised Labor Requirement per Car: 523/2.32 = 225 hours per car

head and fixed costs. One of these studies estimated the labor content (in hours) of a U. S. subcompact car as follows: a/

Assembly	31.1
Stamping	9.6
Engine	6.8
Transaxle	6.6
Other Body and Chassis Components, Including Parts Suppliers	91.2
Total Hours, Excluding Materials	145.3

a. Harbour and Associates, Inc., The Analysis of Japanese Landed Cost Advantage for the Manufacturer of Subcompact Cars (1982).

Assuming that 28 additional hours are embedded in the purchased materials, this leads to a total labor content of 173 hours per subcompact car.

Similarly, General Motors, the most vertically integrated of the U. S. automobile manufacturers, has estimated that it produces one million cars per 75,000 employees. This implies about 193 total hours per subcompact car. 20/ Another industry study estimated that, in 1983-1985, U. S.-produced motor vehicles (excluding heavy trucks) will contain 150 labor hours, excluding materials. 21/ Again, when materials are included, this implies a total of about 178 hours per vehicle. Informal estimates from the Transportation Systems Center show a range of 175 to 180 productive hours per subcompact car, including materials.

20. This computation assumes that 55 percent of the value added is supplied by GM, and that the number of jobs is proportional to value added. It also assumes that there are 1,700 hours per worker year and that the average GM car requires 20 percent more labor than a subcompact car.

21. Martin Anderson, "Smaller Cars, Higher Risks," Technology Review (forthcoming).

In summary, most analyses that have focused on actual automotive plant experience, including those of the chief automotive suppliers, estimate that between 150 and 200 productive hours are required to manufacture a subcompact car. While this range is far beneath the 523 hours that can be derived from BLS data, the preceeding section noted that several adjustments to the BLS data are necessary in order to describe the likely impacts of marginal changes in domestic subcompact sales that would occur if H. R. 5133 is enacted. When these adjustments are made, the BLS data indicate a total labor content of about 225 hours per subcompact car.

Estimated Impact on Jobs. For consistency with both the adjusted BLS data and the industry studies, this paper assumes that 200 hours are required per subcompact car. In line with the BLS ratio, it assumes that 60 of these hours are furnished directly by the automobile manufacturing companies, and that 140 are provided indirectly by the chain of suppliers.

In addition, as more domestic cars are sold, year after year, the number of domestic cars in use would also increase above the number that would otherwise have been in use. This would result in a greater demand for domestic replacement parts, and employment in industries that manufacture these parts would increase, adding about 5 percent to the increase in the number of auto-related jobs in 1985, and about 10 percent in 1990. These additional employment requirements are included in the totals presented here.

Together with the middle estimate of increased domestic sales that would be generated by H. R. 5133 (shown back in Table 6) these labor-content assumptions imply that about 64,000 additional direct jobs in automobile manufacturing would be created by H. R. 5133 in 1990, and about 147,000 additional indirect jobs in supplier industries (Table 9). The total number of jobs that would be created in 1990, assuming no retaliation by other countries and ignoring general economic effects stemming from increases in auto-related employment and production, would be 211,000. The figure would be different at different levels of car prices, ranging from 121,000 jobs if prices increased by $1,000 per vehicle to 307,000 jobs if prices did not increase.

This analysis assumes that the chief effect of H. R. 5133 on jobs would be through increased sales of domestic cars rather than through increases in the domestic content of U. S. cars. The increase in jobs created by

TABLE 9. ESTIMATED INCREASES IN EMPLOYMENT AFTER ENACTMENT OF H. R. 5133 UNDER ALTERNATIVE ASSUMPTIONS ABOUT NEW CAR PRICES (In thousands of jobs) a/

New Car Prices	Direct Jobs in Automobile Manufacturing		Indirect Jobs in Supplying Industries		Total Jobs	
	1985	1990	1985	1990	1985	1990
High (Assuming No Price Increases)	49	92	116	215	165	307
Middle (Assuming Price Increase of $500)	27	64	63	147	90	211
Low (Assuming Price Increase of $1,000)	6	36	15	85	21	121

SOURCE: Congressional Budget Office.

a. The estimates shown do not account for the employment impacts of retaliatory actions taken by other nations, nor do they include increases stimulated by the effect of increases in auto-related production on the economy generally, nor do they allow for productivity increases. For discussion of these effects, see the following chapter.

increased domestic content in U. S. cars could be negligible for two reasons. First, it is generally felt that the net importation of automobile parts for U. S. manufacturers, which now represents about 5 percent of total parts, will continue to be less than 10 percent in 1990 even without domestic content laws, according to a survey of parts supplier executives,

government administrators, and marketing executives. 22/ Second, U. S. manufacturers could increase their average domestic content by terminating captive imports such as the Dodge Colt, which is manufactured by Mitsubishi. These models could still be imported by their manufacturers as separate makes, subject to the 100,000 vehicle limit at which domestic content requirements first apply. In short, although H. R. 5133 sets clear limits on the amount of imported parts that could be used by U. S. automakers, there is no reason to assume that imported content would rise above these limits in any case. Accordingly, this paper assumes that the number of jobs created by H. R. 5133 through increased use of domestic parts by U. S. automakers would be negligible compared to the increase in jobs that would be created through larger sales volumes.

Comparison with Other Analyses

Both the Administration and the UAW have analyzed H. R. 5133, coming to widely divergent conclusions about its effects on jobs. 23/ As in this chapter, their analyses have not included the impacts of retaliation. Nor have they included the increases in general employment that would be stimulated by the increased production and earnings in automobile manufacturing and supplier industries. Nor have they allowed for future increases in productivity. Accordingly, this is a convenient juncture at

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22. Arthur Andersen and Co., The Michigan Manufacturers Association, and the University of Michigan, U. S. Automotive Industry in the 1980s: A Domestic and Worldwide Perspective (The Second Delphi Forecast--July 1981) pp. 11-13. One of the panels (the technology experts) estimated a much higher net trade deficit in parts by 1990--possibly 17 to 20 percent.

23. The Administration analysis is contained in the brief description, "Domestic Content Requirements for U.S. Motor Vehicle Sales: An Economic Assessment," reproduced as Appendix A. The UAW analysis is described in correspondence from Douglas A. Fraser to the Honorable Sam M. Gibbons dated July 7, 1982 (see Appendix B).

which to compare the estimates of the Administration and the UAW to those presented here.

The UAW estimates that 941,000 jobs would be created or preserved by H. R. 5133; the Administration's midrange projection shows an increase of 98,800 jobs. The middle of the three estimates presented in this chapter is 211,000, between the other two estimates, although much closer to the forecast of the Administration.

The UAW estimates are based upon BLS counts of workers in motor vehicle manufacturing, adjusted to include two things:

- Additional direct employment in automobile manufacturing that would be created or preserved by H. R. 5133; and
- Indirect jobs in supplier industries that would be associated with the direct job gains.

The UAW approach overstates the likely increase of jobs for several reasons. First, it relies almost exclusively on BLS estimates of average employment. As discussed earlier, this approach vastly overstates--by 132 percent--the marginal impact on employment associated with the sale of an additional subcompact. Second, the UAW includes in its base employment 37,100 workers employed manufacturing truck and bus bodies and 25,800 workers employed manufacturing truck trailers. Although some of these workers are engaged in making bodies for light trucks, the base employment upon which the UAW estimate is built is about 8 percent too high, relative to the BLS numbers discussed earlier. Third, the UAW assumes that the import share will increase from about 25 percent currently to about 35 percent in 1990 without the bill. If instead the import share is assumed to remain at current levels, then the number of imports curtailed by H. R. 5133 would be about 2,500 instead of the 3,800 or so implied by the UAW assumption. In other words, the UAW assumption about import share increases the estimated employment impact by about 50 percent. Fourth, the UAW implicitly assumes that H. R. 5133 would not increase prices and therefore not alter the total number of cars sold. Under the middle assumptions of Table 6, price increases would cause about 30 percent of curtailed imports not to be replaced by a domestic sale. Fifth, the UAW approach implicitly assumes that total new car sales would be unaffected by H. R. 5133, although likely price increases in response to this bill would probably reduce total sales somewhat.

These factors account for most of the exceptionally large labor impact shown by the UAW analysis. If the UAW estimate is adjusted for these four factors, it becomes close to the middle estimate of Table 9. 24/

The share of sales that would be captured by imports in 1990 is highly uncertain, and the UAW estimate is clearly a possible outcome. However, the other UAW assumptions, which create the huge discrepancy in estimated employment, appear far less defensible. As a result, the UAW analysis of H. R. 5133 appears to overstate significantly the number of new jobs that this bill would create.

The Administration analysis departs from the assumptions of this paper in two important respects. First, the Administration estimates of additional sales and additional jobs reflect a labor content of 265 hours per

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24. This adjustment involves four factors:

		Adjustment Factor
1.	Overstatement implicit in using BLS averages to estimate the impact of H. R. 5133	2.32
2.	Inclusion of truck manufacturing employees in base	1.08
3.	Higher import share assumed by UAW	1.50
4.	Assumption of no price effects by UAW	1.30

Combined effect (2.32 x 1.08 x 1.5 x 1.3) = 4.89

$$\frac{\text{UAW Estimated Job Gain}}{\text{Combined Adjustment Factor}} = \frac{941{,}000}{4.89} = 192{,}000$$

car. 25/ This estimate, which is nearly a third higher than the 200 hours assumed here, leads to an estimated employment impact of H. R. 5133 that is also about a third higher. Second, and more importantly, the Administration assumes that a substantial reduction in new car sales would result from H. R. 5133. The Administration's mid-range forecast for a good sales year shows that of the 2.850 million Japanese vehicle sales curtailed by H. R. 5133, only 0.634 million would be captured by U. S. firms. The other 2.2 million sales are apparently lost due to price increases, which average about $700 per vehicle. This estimated loss of sales appears remarkably high: it implies that a loss of sales of more than 2 percent is associated with an increase in price of 1 percent--a price sensitivity much higher than found in most studies of automobile demand. The effect of this large reduction in sales is to reduce the extent to which employment would increase in response to H. R. 5133. That is, the difference between the Administration's estimate of 98,800 new jobs and the estimate of 211,000 new jobs shown in Table 9 is attributable chiefly to the Administration's assumption that new vehicle sales would be very hard hit by the price increases that would accompany H. R. 5133.

25/ This estimate of labor hours per car is not explicitly presented by the Administration, but is implied by the forecasts that it provided, assuming that each job is equivalent to 1,700 worker hours. Various combinations of direct and indirect labor content could have been assumed to reach this total labor content, but no breakdown into these categories is supplied in the Administration's description.

CHAPTER IV. POTENTIAL MACROECONOMIC CONSEQUENCES

The Congressional Budget Office's analysis of the macroeconomic consequences of H.R. 5133 examines the direct effects of the bill on U.S. auto and auto-related industries and its indirect effects on other sectors of the economy. The analysis suggests that the net effects for the U.S. economy in terms of real growth, inflation, and employment, though small, could be negative.

Domestic content restrictions as prescribed by H.R. 5133 pose a number of economic costs and risks for the United States. The analysis concentrates on three areas of possible risk:

- Inviting retaliatory trade restrictions from our trading partners, a response sanctioned by the articles of the General Agreement on Tariffs and Trade (GATT);
- Raising domestic auto prices and hence, the overall U.S. rate of inflation; and
- Lowering the United States' long-run economic growth potential by misallocating economic resources.

Even assuming limited foreign trade retaliation, H.R. 5133 represents a poor substitute for conventional stimulative monetary and fiscal macroeconomic policies.

THE CBO ANALYSIS

The analysis of the effects of H.R. 5133 discussed in Chapters III concentrates on the changes that could occur in the auto and auto-related industries only. Though important, this focus is limited in that it disregards the chain of events the restrictions could initiate both in other sectors of the U.S. economy, and in the economies of U.S. trading partners. Owing to the size of the automotive industry relative to the U.S. econ-

omy's entire manufacturing sector and to the increasing importance of trade within the economy as a whole, these indirect effects can be significant. Using a model that calculates both the direct and indirect effects of economic policy changes, the analysis that follows provides a consistent set of estimates of the full impact of the proposed legislation on the economy as a whole. This analysis, which examines the overall effects under various alternative assumptions, suggests that H.R. 5133 could adversely—though in relatively small ways—affect the performance of the U.S. economy in general.

Assumptions

In Chapter III, the estimates of possible employment, output, and price effects on U.S. auto and auto-related industries constitute the starting point for the macroeconomic analysis. For the CBO's simulation analysis, the reductions in foreign auto sales—amounting to 1.4 million units in 1985 and 2.4 million units in 1990—were transformed into reductions in real merchandise imports of $4.9 billion in 1985 and $7.6 billion in 1990. The supply price increase of $500 per unit assumed for domestic automobiles was transformed into a near 6 percent increase in the durable goods auto consumption price deflator.

Control Simulation

The model used for the macroeconomic analysis was the Wharton Annual and Industry Model. Relevant sectors of this model were modified slightly to conform with the underlying assumptions developed in Chapter III. 1/ These modifications essentially involved an adjustment to the model's automobile labor sector to reflect an approximate 3 percent annual rate of growth in labor productivity over the simulation period, and to

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1. Under the direction of the Annual Model managers from Wharton Econometrics, a number of adjustments were made to the model's price sector to obtain more accurate real output and employment responses induced by stimulative policy measures. Accordingly, the simulated price changes reported in Table 10 are presented in terms of fairly wide ranges of possible effects.

allow for a 1 percent increase in the rate of productivity growth in response to the induced increase in production. With these adjustments, the model was simulated over the period 1982-1990 under alternative assumptions regarding domestic auto production levels, auto price changes, and foreign trade retaliation. The results of these simulations, contrasted to the model's control economic outlook, are presented in Table 10.

The projections contained in the control economic scenario shown in the first sets of figures in Table 10 represent a modest recovery from the constrained economic environment of 1982, and hence they portray an economy operating initially far below normal capacity. In this control case, real output growth begins from a 1982 recession low and gradually returns to an average annual real GNP growth rate of 2.7 percent through 1990. The unemployment rate starts from a 1982 nationwide annual average of 9.2 percent and moderates slowly to a 6.5 percent rate by 1990. These initial conditions are critical in determining the magnitude of changes in macroeconomic variables resulting from the changed assumptions. In the control scenario, there exists significant unused capacity within the economy as a whole, and particularly within the auto industry. Consequently, any stimulative policy would improve real economic activity. The resulting multiplier effects therefore exhibit larger potential economic benefits at less economic cost than if the economy were in a healthier condition.

Simulation With Restricted Auto Imports, Auto Price Increases, and Foreign Trade Retaliation

In light of the importance of the auto industry to U.S. trading partners, and because the GATT sanctions retaliatory trade restrictions in response to the imposition of quota restrictions, it is not unreasonable to assume that U.S. trading partners would reduce real U.S. exports by an amount equivalent to the reduction in U.S. real imports of autos and auto parts. The results of such retailiation are presented in Table 10. The differences from the control case show that the potential economy-wide costs of foreign trade retaliation exceed the benefits that would accrue to the automotive sector. As a result of the combined import and export quotas, real GNP is suppressed by 0.3 percent by 1990, and the CPI is approximately 0.2 percent above its control level. The simulated employment differences in this exercise indicate that, by 1990 some 70,000 auto

TABLE 10. CBO ESTIMATES OF MACROECONOMIC EFFECTS OF H. R. 5133

	Control			Change from Control with Retaliation		Change from Control with No Retaliation	
	1981	1985	1990	1985	1990	1985	1990
Total Auto Sales (in thousands)	10,538	13,000	15,000	-600	-800	-500	-700
Domestic	7,761	9,750	11,250	+700	+1,600	+800	+1,700
Imports	2,777	3,250	3,750	-1,300	-2,400	-1,300	-2,400
Real Gross National Product (in billions of 1972 dollars)	1,511.0	1,676.8	1,923.2	-0.3%	-0.3%	+0.2%	+0.4%
Consumer Price Index (1972 = 100)	272.4	354.6	486.4	+0.2 to +0.4%	+0.1 to +0.3%	+0.2 to +0.4%	+0.3 to +0.7%
Employment (in thousands)	100,414	106,840	115,134	-130	-150	+170	+520
Auto	722	801	803	+30	+70	+40	+80
Non-Auto	99,692	106,039	114,331	-160	-220	+130	+440
Unemployment Rate (in percents)	7.6	6.9	6.5	+0.1	+0.1	-0.1 to -0.2	-0.2 to -0.4
Productivity Growth in Auto Sector (in percents)	---	3.3	2.8	+0.3	+0.7	+0.3	+0.7
Auto Prices (in percents)	---	---	---	+5.75	+6.04	+5.75	+6.04

SOURCE: Wharton Annual and Industry Model and Congressional Budget Office.

jobs are created as a result of the quota-induced U.S. domestic auto production increase, while some 220,000 non-auto jobs are eliminated because of the restrictions imposed on non-auto exports. This asymmetric employment response indicates that the number of jobs lost through restrictions on U.S. exports exceeds the number of jobs created because of reduced auto imports—an outcome consistent with the fact that U.S. export industries are more labor- and skill-intensive than U.S. automotive and related industries.

The export-retaliation scenario in the table clearly shows a loss to the U.S. economy from the domestic content legislation. Less than full foreign trade retaliation could be assumed instead, which would still show risks to economic activity attending the legislation. An assumption that foreign nations retaliate against U. S. exports by only half of the restricted import volume, for example, would nullify all of the economic output and employment benefits derived from simulated auto-import restrictions and increased domestic auto production while retaining some increase in inflation by the end of the period.

Simulation With No Foreign Trade Retaliation

The second of the two simulations contrasted to the control case imposes only the import restrictions and the 6 percent domestic auto price increase assumed to result from the legislation. As expected, the combination of decreased merchandise imports and increased automobile production directly stimulates economic activity. The level of real GNP increases by about 0.2 percent by 1985 and by 0.4 percent by 1990, while the unemployment rate falls by 0.2 to 0.4 percentage points by 1990. Total employment rises by about 500,000 workers, some 80,000 of whom are direct automobile industry employees. 2/ The increase induced in non-auto

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2. The direct auto industry employment increases derived from this macro multiplier exercise are roughly consistent with the 64 thousand job microeconomic point estimate developed in the previous chapter. The SIC 3715 and SIC 3713 labor categories were excluded from the microanalysis figure which also excludes indirect macroeconomic feedback employment effects.

industry employment is a direct result of increased production and employment in auto related industries and also a result of the stimulated employment increases in other industries from the overall rise in aggregate output. The economic costs exhibited in this scenario are a 0.2 to 0.4 percent increase in the CPI in 1985 and a 0.3 to 0.7 percent increase in 1990—resulting from assumed increase in auto prices and the induced aggregate demand stimulus to inflation.

POSSIBLE SECONDARY EFFECTS

A number of possible secondary costs could also result from the domestic content legislation that would alter significantly any potential benefits originating from the bill. Many of these are beyond the control of U.S. policymakers and are difficult to weigh without introducing some rather tenuous assumptions. Besides the direct effects posed by prospect of foreign trade retaliation, these could include such secondary indirect macroeconomic effects as:

- Foreign activity—the severe reduction in U.S. demand for foreign autos would depress growth in other nations, in turn depressing foreign demand for U.S. export products;

- Exchange rate appreciation—the quota-induced improvement in the U.S. trade balance would strengthen the value of the U.S. dollar on international exchange rate markets which would hurt the price competitive position of U.S. export and import-competing industries;

- Auto industry efficiency losses—the incentives for increased modernization and efficiency through increased investment by domestic auto manufacturers would diminish with the loss of foreign competition, and additional less efficient auto production would be encouraged, which would not otherwise have taken place; and

- Larger auto industry wage rate increases than otherwise because reduced foreign competition would remove some of the wage discipline evident in recent wage settlements.

Though the exact magnitude of all of these possible outcomes is difficult to assess, each is potentially costly to U.S. output and employment.

CAUTIONARY NOTE

Considerable care must be exercised in evaluating the changes in real output, employment, and inflation that emerge from these model simulations. First, existing macroeconomic models are not well-suited for assessing the economic effects of this kind of proposed policy change. Second, the simulation experiment was performed on only one model. Accordingly, the derived estimates reflect only the structure of that model (including the recommended adjustments by the managers of that model), and do not represent a consensus view of the economics profession. Under the circumstances, the estimates provided here must be viewed as tentative.

APPENDIX A.

Domestic Content Requirements for U.S. Motor Vehicle Sales: An Economic Assessment

Participants in the Auto Task Force have assessed the economic and policy consequences for the motor vehicle sector of domestic content requirements for cars and light trucks sold in the United States as embodied in H.R. 5133. The results of that analysis are discussed below and summarized in Table A. All figures cited here relate to the complete implementation of the schedule of local content requirements in 1985.

Japanese producers are assumed unable to comply even with the least stringent content requirements and therefore to be limited to 100,000 units of exports to the United States per producer. With five major Japanese auto producers and several minor ones, this corresponds to total imports from Japan of about 0.6 million units -- a roughly 65 percent reduction from current levels. The Japanese are also assumed to view this restraint as temporary, removing any incentive that might otherwise arise to shift their own production to the United States. European exports to the United States are, by contrast, assumed to be only weakly affected; they are assumed to retain a constant share (about seven percent) of non-Japanese vehicles sold in the United States. Europeans, thus, are assumed to share proportionately in any sales increase for U.S. producers.

The U.S. auto industry faces unquestionably serious problems, due in large part to the weakness of the economy. The purpose of the proposed domestic content requirements is to revive employment and production in the industry, and to allow the industry to restructure itself along internationally competitive lines. Hence, a major focus of this memorandum is the employment and production gains that might result from the proposed legislation. These gains, however, must be viewed in light of the costs to consumers and the economy that arise from the effective trade restraint implicit in the proposed legislation, and of their implications for economic policy.

I. Effects on Motor Vehicle Industry Employment

A. Short-run Impacts

The domestic content requirement of H.R. 5133 if fully implemented would undoubtedly have some consequences that increase auto-related employment. The amount of that gross increase could vary from 63,000 to 250,000 depending on the strength of the economy and the behavior of U.S. manufacturers. If the economy is sluggish or if manufacturers increase both price and volume, rather than just volume, the gross auto-related employment effect would be closer to the lower end of this range.

But other consequences not examined here would tend to reduce auto-related employment. These employment estimates do not account for the loss of jobs in port facilities and vehicle dealerships as a result of the restraint on Japanese autos. Nor do they fully reflect either improvements in labor productivity, which are expected to decrease the labor content of U.S. autos by 1985, or jobs that are filled by transfers from other employment. Thus, net auto-related employment gains may be well below the gross figures presented above.

B. Long-run Considerations

In the long run, domestic content requirements could impair the competitive position of our motor vehicle industry in a variety of ways. First, as long as it is believed that government might provide import protection, the competitive pressure on the domestic industry and unions to improve labor productivity and management practices is reduced. Productivity improvements and wage moderation are critical to this industry, since new investment alone will not be sufficient to reduce U.S. manufacturing costs to levels competitive with the Japanese.

Second, local content requirements would involve the Federal Government deeply in monitoring the auto industry. Regulations to implement the law would be necessary, along with a bureaucracy to enforce it. The past record of Federal efforts in this sphere make it likely that extensive government involvement would hurt rather than help the industry.

Last, the effective trade restraint implied by local-content requirements would create a substantial incentive for Japanese producers to seek aggressively the higher-margin luxury small car markets in meeting the restraint level. These markets are expected to be the mainstay of the U.S. auto industry profits in the future. Thus, the imposition of such requirements could unintentionally undermine the long-run competitive position of U.S. producers in that segment of the market.

II. Public Policy Perspective

A. Short-run Impacts

This legislation would raise average new vehicle prices by between 2 and 13 percent and that alone would increase inflation as measured by the CPI by .1 to .5 percentage points (depending upon assumptions about the strength of the economy and the behavior of U.S. manufacturers).

There are other effects of these price increases on consumers and producers. Higher vehicle prices impose real costs on consumers, who are forced to forgo purchases altogether, or to purchase vehicles different from those they would otherwise have preferred, or to pay higher prices for the vehicles they do buy. These losses to consumers may be at least partially offset, however, by gains to domestic auto producers in the form of higher profits and increased employment. If all consumer losses were matched by producer benefits, the transfer that would thus take place would have no net effect on the domestic economy. But in the present case these "consumer costs" exceed producer gains.

This net real loss to the economy (so-called "deadweight loss") could range from $1 billion to over $5 billion per year (1980 dollars), with the actual figure close to the upper end of this range if the economy were growing strongly and manufacturers raised only prices, not volume. If manufacturers increased price in proportion to volume, this net real loss would be about $3 billion per year.

Another indicator of the cost of protection is the consumer cost of each job created in the industry: the total loss to consumers divided by the number of jobs created. Estimates of the consumer cost per job vary depending primarily on the response of domestic manufacturers. These costs escalate rapidly if there is <u>any</u> price component to the domestic manufacturers' response. A proportional increase in price and volume would yield an annual cost of about $100,000 per job gained -- roughly four times the average salary of auto-related workers.

B. Broader Issues

Broader policy issues are also raised by legislative measures that effectively limit imports. These must be weighed in with the relatively narrow set of economic issues addressed here. Internationally, such measures clearly violate our obligations in the GATT, thereby requiring that we pay compensation for others' lost vehicle exports, or expect retaliation. Domestically, a decision to impose such restraints may be perceived as reflecting the Administration's lack of confidence in the ability of its recovery program to deal with major problem sectors. Moreover, the adoption of these requirements may in itself be viewed as inconsistent with the Administration's economic philosophy: by "bailing out" one industry, it will only encourage other industries to press hard for bailouts of their own. Finally, government support of actions that directly worsen inflation could adversely influence inflationary expectations.

III. Summary

The potential benefits of this form of import protection to the domestic motor vehicle industry and the long-run strength of the U.S. economy are small, whether measured in terms of employment or cash flow generation. The potential costs of such action are large in the near term, whether measured by the added costs to consumers, the adverse impact on inflationary expectations or disruptions to present international trading practices. The potential costs are also large in the long run, whether measured by the competitive, international or domestic policy consequences.

Table A summarizes analytic results for the short-run impact of the proposed domestic content requirements.

Attachment

TABLE A

Summary of Results: Effective Restraint Level of 0.6 Million Japanese Units[1]

	Poor Sales Year (10.5 million Units)	Good Sales Year (15.0 million Units)
Assumed Level of Vehicle Sales Before Restraint (thousands)		
U.S. manufacturers	7,560	10,800
Japanese manufacturers	2,415	3,450
European manufacturers	525	750
Total	10,500	15,000
Scenario I: U.S. manufacturers respond by increasing volume only		
Inc. in U.S. manufacturers sales (thousands of vehicles)	1,028	1,614
Inc. in U.S. manufacturers net cash flow (pretax, $B)	1.07	1.68
Inc. in consumer cost ($B)	2.03	2.54
Inc. in U.S. auto employment (thousands)	160.2	251.6
Inc. in CPI Inflation Rate (points)	0.10	0.08
Annual Consumer Cost per Job Gained ($ thousands)	12.7	10.1
Scenario II: U.S. manufacturers respond by increasing both prices and volume		
Inc. in U.S. manufacturers sales (thousands of vehicles)	403	634
Inc. in U.S. manufacturers net cash flow (pretax, $B)	3.55	5.60
Inc. in consumer cost ($)	6.41	9.15
Inc. in U.S. auto employment (thousands)	62.9	98.8
Inc. in CPI Inflation Rate (points)	0.31	0.31
Annual Consumer Cost per Job Gained ($ thousands)	101.9	92.6

1 All dollar figures are expressed in 1980 dollars.

Table A Continued

	Poor Sales Year (10.5 million Units)	Good Sales Year (15.0 million Units)
Scenario III: U.S. manufacturers respond by increasing prices only		
Inc. in U.S. manufacturers sales (thousands of cars)	0	0
Inc. in U.S. manufacturers net cash flow (pretax, $B)	4.87	7.65
Inc. in consumer cost ($B)	9.11	13.12
Inc. in U.S. auto employment (thousands)	0	0
Inc. in CPI Inflation Rate (points)	0.45	0.46

APPENDIX B.

INTERNATIONAL UNION, UNITED AUTOMOBILE, AEROSPACE & AGRICULTURAL IMPLEMENT WORKERS OF AMERICA—

DOUGLAS A. FRASER, PRESIDENT RAY MAJERUS, SECRETARY-TREASURER

VICE-PRESIDENTS

VEN BIEBER • DON EPHLIN • MARTIN GERBER • ODESSA KOMER • MARC STEPP • ROBERT WHITE • STEPHEN

IN REPLY REFER TO

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WASHINGTON, D.C. 20036
TELEPHONE: (202) 828-8500

July 7, 1982

The Honorable Sam M. Gibbons, Chairman
Subcommittee on Trade
Committee on Ways and Means
Cannon House Office Building, Room 233
Washington, D.C. 20515

Dear Mr. Chairman:

This is in response to your communication requesting our analysis of H.R. 5133, the proposed Fair Products in Automotive Products Act.

Enclosed please find two items pertinent to the analysis you have requested to be done by the CBO. First is a fact sheet describing the methods, assumptions, and calculations utilized in the derivation of our jobs estimate. Second is a response sent to Congressman Solarz who asked us to analyze studies done by the Congressional Research Service.

The UAW initially estimated that, if enacted into law as introduced, H.R. 5133 would preserve or create 868,000 jobs for American workers by the mid-1980s. New information leads us to revise our estimate up to 941,000. This figure relates only to jobs in the auto industry and its suppliers, such as parts suppliers, steel companies, tire companies, etc. The total macroeconomic job-creating impact — including employment at non-auto retail and service sector establishments dependent upon the flow of spending associated with a healthy domestic auto industry — would be greater.

Copies of this letter and two attachments are being sent directly to CBO. If members of your staff or the CBO analysts have any questions or need further assistance in this matter, please do not hesitate to contact Sheldon Friedman, Dan Luria or Lee Price at the UAW Research Department, (313) 926-5261.

Sincerely,

Douglas A. Fraser

DAF:dw
D1/opeiu494

cc: Dick Warden

The Auto Domestic Content Bill

This memo explains the method by which the UAW initially estimated that enactment of H.R. 5133 would create or preserve 868,000 jobs in the U.S. auto industry and its supplier industries. However, new information now leads us to revise our estimate upward by 8.4 percent to 941,000. The effect on jobs is simply the additional employment that would result from compliance with the bill compared with what would occur if no government action is taken.

H.R. 5133 sets minimum levels for an auto company's domestic content, measured by its total domestic value-added as a percentage of the total cost of all the cars and trucks it sells in the U.S. Our employment estimate is derived by determining the number of jobs associated with different percentages of overall domestic content. Instead of assuming a specific future market size, we make the conservative assumption that output per worker (productivity) will rise enough to offset any increase in auto industry sales. We further assume that each company will maintain its 1981 market share or, alternatively, that the combined market share of all companies in the 90 percent category will remain at 84.8 percent, those in the 75 percent category will keep 11.1 percent, and the 25 percent category 1.3 percent.

Based on the definition of "common control" included in the bill, we combine sales of GM with Isuzu, those of Nissan (Datsun) with Fuji (Subaru), and those of AMC with Renault. On the other hand, Ford is counted separately from Toyo Kogyo (Mazda) and Chrysler separately from Mitsubishi.

Step 1. We use Bureau of Labor Statistics (BLS) information to determine how many U.S. jobs were directly or indirectly required for the production of cars and trucks in the U.S. last year. In 1981 the motor vehicle and equipment industry (SIC 371) employed 783,900 workers, but we initially used preliminary BLS data indicating 723,200 workers.[1] According to the latest estimate by the BLS, for each job in SIC 371, the industries supplying SIC 371 provided another 2.36 jobs.[2] Thus the suppliers employed some 1,850,000 workers, bringing the total direct and indirect jobs in making cars and trucks in 1981 to 2,634,000.

Step 2. We next estimate the average domestic content for last year (1981). The Big Three held 71.4 percent of the car and truck market with an average content of 95 percent. The remaining companies had a 28.6 percent share and only 10.5 percent domestic content.[3] The weighted average domestic content for all the companies was 70.8 percent.[4]

Step 3. Now we can determine how many jobs would be provided if all the cars and trucks sold here had been entirely made here. Since 2,634,000 jobs accounted for 70.8

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1. The data in BLS, Employment and Earnings, March 1982, p. 48 have been revised upward 8.4 percent to reflect new benchmarks in unpublished computer printouts dated June 15, 1982.
2. "BLS 1979 Employment Requirements Table," October 23, 1981 (unpublished).
3. This assumes AMC/Renault at 80 percent domestic content, VW/Audi/Porsche at 40 percent, and the rest at 0 percent.
4. That is, (.714 x 0.95) + (.286 x 0.105) = .708.

percent of total value-added, then 3,720,000 jobs would have been required to supply the entire market.

Step 4. The number of jobs that would result after full implementation of H.R. 5133 is derived by estimating the ultimate average domestic content for the industry as a whole. The Big Three would maintain their 71.4 percent share and meet the 90 percent content requirement. The remaining companies will attain an average of 72.3 percent content.[5] The weighted average for domestic content overall would then be 85.0 percent.[6] That means that the U.S. would have 3,162,000 direct and indirect auto jobs by the time H.R. 5133 became fully implemented.

Step 5. Without the implementation of H.R. 5133, jobs will continue to fall due to imports of vehicles and parts. We predict that vehicles sold by the Big Three will have a 65 percent market share[8] and that those vehicles will have 85 percent domestic content. Modest investment by Honda and Nissan will[9] bring the domestic content of the remaining 35 percent of vehicles up to 12.8 percent. The overall domestic content will fall to 59.7 percent,[10] equivalent to 2,221,000 jobs.

Step 6. The additional employment from H.R. 5133 of 941,000 represents the difference between the 3,162,000 jobs that would occur if it is implemented and the 2,221,000 that would remain if it is not. This estimate is 8.4 percent higher than our earlier estimate of 868,000 due to the recent revision in BLS data on auto industry employment.

1981 Vehicle Sales (Cars and Trucks) and Shares

Company	1981 Sales (000)	1981 Market Share
GM, incl. 79,000 Isuzu	4,673	43.30%
Ford	2,148	19.91
Chrysler	883	8.18
Big Three	7,704	71.4%
Nissan (Datsun), incl. 152,000 Fuji (Subaru)	736	6.82%
Toyota	714	6.62
Honda	371	3.44
VW, incl. Audi-Porsche	340	3.15
Toyo Kogyo (Mazda)	247	2.29
Renault/AMC	231	2.14
Mitsubishi (handled by Chrysler)	145	1.34
Others (with sales below 100,000)	303	2.81
	3,087	28.6%
Total	10,791	100.0%

5. This is based on Nissan/Fuji and Toyota at 90 percent; Honda, VW/Audi/Porsche, Toyo Kogyo and Renault/AMC at 75 percent; Mitsubshi at 25 percent; and the rest at 0 percent.
6. That is (.714 x .90) + (.286 x .723) = .85
7. Their share was 80.3 percent in 1978 and 71.4 percent in 1981.
8. This is based on current information about the Big Three's plans to import vehicles and parts. For more on the latter, see Arthur Andersen, "U.S. Automotive Industry in the 1980s: A Domestic and Worldwide Perspective," (1981), pp. 12-13.
9. This assumes Renault/AMC at 50 percent, VW/Audi/Porsche at 40 percent, Honda at 25 percent, Nissan at 7 percent and the rest at 0 percent.
10. That is, (.65 x .85) + (.35 x .128) = .597

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July 7, 1982

The Honorable Stephen Solarz, Chairman
Subcommittee on Asian and Pacific Affairs
House Committee on Foreign Affairs
Cannon House Office Building, Room 707
Washington, D.C. 20515

Dear Congressman Solarz:

The UAW appreciates this opportunity to comment on the three Congressional Research Service documents on automobile domestic content requirements, Report No. 81-191E of August 20, 1981 (Document I), Issue Brief No. 1B82056 of May 18, 1981 (Document II), and the memo to you of May 28, 1982 (Document III). While these set forth some of the arguments for and against domestic content legislation, on balance the analysis of the issue was disappointing, both in terms of what it contained, and what it left out. The case for H.R. 5133 is much stronger than the CRS documents suggest. H.R. 5133 would lead to foreign auto investment in the U.S.; it would accomplish its employment-creating mission with a net gain to the average American consumer-taxpayer; and this action can be readily justified internationally.

Before beginning our examination of the CRS analyses, we should clarify a fundamental difference in our approaches. On the one hand, the CRS tends to assume that H.R. 5133 will result in lower market shares for foreign manufacturers. We, on the other hand, assume that substantial investment in the U.S. auto industry by those manufacturers would occur.

Employment Gain

CRS Document II estimates that enactment of H.R. 5133 would lead to 425,000 additional auto-related jobs in the U.S. in contrast to the current UAW estimate of 941,000 jobs. Several explanations account for the different results. Most importantly, CRS compares the phased-in bill with 1981, but we compare the state of the industry after the phase-in with what it would be without enactment of the bill. Roughly half of the jobs in our estimate are saved from erosion due to further increases in imported parts and vehicles.

The partisan approach taken in the CRS analysis becomes most apparent in its inconsistent treatment of the U.S. companies' parts outsourcing. Document I (pp.6-7) emphasizes the extent of such outsourcing to buttress an argument that U.S. companies would be hurt by a local content law on the grounds that they need outsourcing to remain competitive. Documents II and III drop this fallacious argument and never

mention the facts of outsourcing given in the first document. In our estimates, increased outsourcing accounts for about a quarter of the jobs at stake.

CRS also cites unnamed "major economic forecasts" which predict that the market share of imports will decline in coming years. We know of no such forecasts and every indication of which we are aware points otherwise. In our estimates, we predict the market share of the Big Three will fall to 65 percent (compared to their 1981 share of 71.4 percent) and that an increased portion of them will be imported. In total we believe that a quarter of the jobs at stake with the bill are those spared from displacement by increased vehicle imports.

Another major discrepancy in assumptions comes in the ratio of jobs to vehicles. CRS Document II asserts, without citation, that the Big Four employ 550,000 persons and that each vehicle company job is backed by 2.2 supplier jobs. He seems to be using old data for production workers alone. As the attached memo explains, the latest data from the Bureau of Labor Statistics indicate that the motor vehicle and equipment industry employed 783,900 workers last year and that suppliers have 2.36 times as many workers. Thus, whereas CRS finds only 1.76 million jobs in producing autos, we find fifty percent more jobs: 2.63 million.

The CRS tries to guess how low-volume foreign producers stand to gain from lower exports by their high-volume counterparts. In effect, it assumes that the consumer who wanted a 100% Japanese-made Toyota rejects a Toyota with 90% U.S. content because he wants the complete "foreign-ness" of a Fiat or a Volvo. The fact that sales of European cars in the U.S. have fallen along with those of domestics as Japanese models' sales and share soared suggests that this is not the case.1

Price Effects

There are other assertions in the CRS analysis that are poorly founded. On price effects, for example (p. 7 of Document III), consumers' taste (again) for "foreign-ness" per se means "shortages of imported cars." Prices rise, and quantity demanded falls. However, this analysis relies on research done by the Council of Economic Advisers in early 1980. The CEA concluded at that time that, due to a shortage of capacity for small cars, the U.S.-based companies would be able to pick up "about half" the shortage and raise prices "about 12 percent or $850" for small, and "about $350" for large, cars. But now, more than two years later, with 2.5 million units of excess domestic small car production capacity in place, that conclusion is outdated. There is no longer any likelihood of small car shortages.

Today a small car can be built in Japan at a lower dollar cost than in the U.S., although we reject the "estimate" of a $1,500 landed cost advantage which has become widely accepted more from repetition than solid evidence. There are, however, three very good reasons to believe that any price hikes due to H.R. 5133, whether by foreign- or U.S.-based firms would be quite modest. First, for U.S.-based vehicle and parts producers, increased volume is the best way to simultaneously cut fixed cost per unit and to recapture market share lost since 1978. Second, the situation with regard to

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1. The CRS "Issue Brief" says that Japanese car sales here "remained constant while sales of American cars fell off." The facts: Japanese car sales in the U.S. went up 37.1%, or

U.S. labor costs is promising. Third, the yen can be expected to appreciate substantially by the time the content bill is fully phased in.

Moreover, two recent pieces of evidence indicate that U.S. production of Japanese-designed vehicles will not lead to higher prices on the U.S. firms' vehicles. First, in the year since Japanese export restraints were imposed in April 1981, domestic car list prices have risen only 6.5% — less than in any year since 1973. And that overstates auto price hikes: rebates, subsidized loans, and special free extended warranty programs have held the increase in prices actually paid in the 3-4% range, well below the 6.3% general inflation rate of the period. Second, a price war between imported and recently-introduced domestic small pickup trucks has erupted.

Japan's rising trade surplus and the widening overall U.S. deficit should eventually cause the yen to appreciate relative to the dollar, reducing the U.S.-Japan auto production cost gap. That gap would, we estimate, be all but closed by a return to a more appropriate 180 yen per dollar exchange rate. That would create more pressure for Japanese direct automotive investment here. But the process may take a long time — particularly if current monetarist policies endure — and by then the U.S. auto-centered manufacturing base might well be damaged beyond repair.

Social and Fiscal Benefits

Whatever one concludes about increased prices, they must be compared with the benefits of employing an additional 941,000 workers. After a decade of high unemployment even at cyclical peaks, that kind of job creation must be considered extremely valuable from a social standpoint. The benefits most readily measured in dollar terms are those to the federal budget. The CBO estimates that each one percent of unemployment costs the federal Treasury $25 billion to $30 billion in lost revenues and additional expenses. Thus, H.R. 5133 could bring the budget at least $23.5 billion closer toward balance ($10.6 billion even with the lower CRS employment estimates). With total sales in the range of 10 to 16 million a year, the deficit reduction would be equivalent to $1,500 to $2,500 per car.

The International Context

The CRS discussion of the GATT implications of automobile domestic content regulations fails to take account of the world auto context. Presently, over 30 nations have domestic motor vehicle content requirements, none of which to our knowledge has ever been challenged before a GATT tribunal. Arguments that enactment of content legislation in the U.S. would undercut our government's effort to reduce this kind of requirement in other countries ignores reality: for years the U.S. government has been pursuing that goal without success. Quite the contrary, efforts to negotiate reduction or elimination of other nations' damaging trade policies might well be bolstered by enactment of H.R. 5133.

It would appear unlikely that H.R. 5133 would result in retaliation under the GATT. European auto-producing nations have more restrictive practices themselves. Japanese imports are held to ten percent of the German and British markets, 2.5 percent of the French market, and 0.1 percent of the Italian market. Unless Hondas made in Britain have 50 percent EC content, France and Italy will include them in their tight quota on Japanese autos. The two European manufacturers with U.S. sales in excess of 100,000, VW and Renault, can satisfy the requirements of the bill. Two manufacturers based in Japan, Toyota and Nissan will have the most difficult time in meeting the requirements of the bill. If Japan chooses to bring a GATT complaint, the U.S. could

make a series of counterclaims, much as it did when complaints were filed against the DISC. The more restrictive practices abroad — and Japanese cooperation with them — could then be thoroughly investigated and shown to have necessitated defensive action by the U.S. An acceptable international policy toward the auto industry can be negotiated only when the U.S. shows that it is prepared to counteract the policies of others. As the last major auto producer to take action to assure the viability of its auto industry, the U.S. can hardly be considered to have initiated a "trade war."

In conclusion, the CRS analysis has understated the employment gain from H.R. 5133, overstated the price effect, ignored the social and fiscal benefits, and presented a naive view of the situation internationally.

We appreciate this opportunity to set the record straight. If you have any questions or if we can be of further assistance in this matter, please do not hesitate to contact us.

Sincerely,

Lee Price

Lee Price
Research Associate
Research Department

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