PROTECTIONISM AS AN INDUSTRIAL POLICY:

THE CASE OF THE UNITED STATES AUTOMOBILE INDUSTRY

by

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ABSTRACT:

This study examines the ability of protectionist measures to increase the political power of auto workers by improving their bargaining power. The study focuses on production workers in the leading U.S. auto firms and makes reference to workers in the supplier industry. A connection is made between the open economy on the one hand, displacement, earnings loss and weakened bargaining power on the other. By examining the impact of past protectionist measures, and the anticipated effects of removing them, the study finds that protectionism makes an important contribution to the bargaining power of automobile workers.

Given the conditionality of protectionist measures' ability to protect workers, the thesis concludes that while relatively fixed levels of import quotas have positive effects on workers' political power, the impact of increased protectionist measures is uncertain and possibly harmful to the interests of workers' long-term interests as part of a social class.

The conditions under which protectionism may be successful in aiding workers are reviewed by examining industrial restructuring in the auto industry and the character of international competition. Conclusions are drawn as to how import penetration would increase dramatically without trade controls and how protectionist measures are most effective when used in conjunction with supplementary industrial policies and labor strategies.

The study examines some of the major progressive and conservative objections to trade protection which bear on the ability of trade controls to project the interests of labor. It finds that objections to protection do not take full account of the opportunity costs of the open economy.

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TABLE OF CONTENTS

LIST OF TABLES

Introduction: Protectionism as an Industrial Policy

As the 1980s draw to a close workers in basic industry are confronted with what is perhaps their most serious crisis since the demise of industrial unionism and the collapse of a movement based on a wave of industrial strikes which shook the corporate order in World War II. The crisis threatens to erode the gains made by industrial workers in the post-War era. Jeremy Brecher, an observer of industrial restructuring in the U.S., summarizes the problem as follows:

> The U.S. economy is going through a transformation that is fundamentally altering the situation of American working people. It is removing the majority of workers from relatively secure job structures and thrusting them into a semi-casualized labor market. It is destroying the existing bases of power for both union and non-union workers (Brecher, 1984).

The victory of industrial unionism in the late 1930s and 1940s was made possible by the concentration of industry and workers in large industrial cities such as Detroit. Automobile workers were among the most militant of the new factory workers in these years. Workers organized innovations in conflict such as the sit down strike; later in the early 1970s, auto workers would engage in numerous wild cat strikes as a way to project political power. The mass production system, guided by scientific management, led to the development of highly integrated production systems "so that striking a key department could stop an entire factory, and closing a few plants could cripple a giant company." Capital flight was not a problem for workers because mechanized

production required large dedicated machinery which was difficult to move and investments were also relatively fixed (Ibid.).

One out of six jobs are tied directly or indirectly to the manufacture, distribution, repair or use of motor vehicles. In 1979, motor-vehicle related employment was 8.3 percent of the total civilian labor force. The strategic economic position of the auto industry helped give auto workers the power to force management to make new concessions in labor bargaining. For example, in 1948 the United Auto Workers (U.A.W.) and General Motors (G.M.) signed what was the first major industrial labor agreement that included a cost-of-living adjustment escalator as part of a multi-year contract. In 1955, the industry was the first to implement supplementary unemployment benefits; paid personal holidays were introduced in 1976 (Katz, 1985: 2).

In the late 1970s, the strategic position of the auto industry, together with the concentration of black workers in auto plants in Detroit and New Jersey, merged with civil rights activism and ghetto rebellions to produce a major rank-and-file movement. As late as 1976, the integrated production system at G.M. still left the company vulnerable to political disruption. The Hyatt Clark Roller Bearing plant in Clark, New Jersey, was one of three G.M. bearing manufacturing plants. The Clark local was perhaps the most militant in the whole G.M. system. Given production dependence on bearings, a 1976 strike over health and safety issues threatened to shut

down fully one third of G.M.'s production (Livingston, 1986).

Today, the mobility of capital and displacement linked to automation, increased import levels and productivity severely constrain the power of workers to disrupt production at the local plant level. While recent strikes among truck haulers of finished automobiles may prove a model for future industrial conflict, auto workers' options have been limited by the power of management to close down plants and layoff U.S. workers. As imports replace domestic production, unemployment in the auto industry makes low seniority and lower skilled workers vulnerable to management pressures for concessions. While it may be impossible to predict what leverage workers would have in a long drawn out strike in the auto industry, the mobility of capital and increased pools of unemployed workers clearly complicate strategies which hinge on militant rank-and-file actions or even coordinated national bargaining by the U.A.W.

As a result of auto industry restructuring, progressive planners and trade unionists have proposed legislation to regulate plant closings and the movement of capital in the auto industry. Increased government intervention is proposed as a means of mediating the impact of management decisions on workers. The U.A.W. and some progressive planners and academics have also proposed protectionist legislation such as increased tariffs on nations with major trade surpluses with the U.S., domestic content legislation and continuing quota restraints on Japanese imports. These proposals have met with

criticism from free traders on the right, and leftist critics who argue that government intervention in the form of trade controls hinges on labor-management cooperation, may encourage nationalism or provoke divisons between auto workers and other groups. Critics on the left and right have also argued that protectionism could provoke retaliation from Japan or raise car prices considerably. Free traders argue that protectionism may contribute to management inefficiency and by slowing competition would encourage waste or the production of vehicles of lower quality than foreign competitors.

Radical critics argue that labor-management cooperation needed to insure protectionist measures may obscure workers' needs to confront management on questions of corporate control of production or the disposition of technology. Critics claim that corporatism, or institutional arrangements where labor and management trade concessions in formal deals mediated by the State, is increasingly unfeasible as corporations find the domestic work force more and more superfluous.

This study attempts to examine whether present or increased levels of protectionism could increase the political power of workers. It examines the risks that outsourcing and increased and present import levels pose to workers and weighs them against the risks that protectionism might also pose. By analyzing the nature of foreign competition and industry restructuring, we also attempt to discover whether workers' bargaining power could be preserved without increased State

intervention or some level of protectionist barriers.

We begin by examining the potential links between protectionism and workers' power.

Chapter One: The Theoretical Links Between Protectionism and the Political Power of Workers

In order to make a case for how protectionism would advance the bargaining and political power of auto workers it is necessary to answer two essential questions. First, would auto workers be worse off without protectionism than with protectionism? Second, would "confounding variables" or potential obstacles to improving or preserving the power of workers seriously limit the usefulness of a protectionist measure, even if it could provide auto workers with significant power in the short-run?

The following analysis traces the logic of protectionism as a trade union strategy. The analysis explains the potential link between profits, the corporate environment and strategic choices, the demand for labor and the potential political power of workers under the protectionist regime. Briefly, the hypothesis is offered that protectionism could theoretically improve workers' power in one of two ways: First, protectionism might prevent or slow a squeeze on corporate profits, leading to less labor concessions and a more favorable attitude of business towards domestic investment. Second, protectionism might increase the demand for labor (or reduce the rate of increase in unemployment in the auto industry) by slowing import penetration and outsourcing. The favorable effects of protectionism on auto worker employment could contribute to increased power for auto workers by eroding the power of the "discipline effect"

(defined below) and improving bargaining power and general labor solidarity. These potential benefits must also be weighed against potential disadvantages and these are discussed in the pages that follow.

The first general question is whether protectionism preserves or extends the amount of sales made by domestic producers. We attempt to answer this question by looking at another: Does protectionism slow the rate at which imports are able to decrease the market share of the Big Three? We look to this question to find out how protectionist measures may preserve jobs or slow displacement given that labor demand is largely shaped by sales and output. We use market share rather than sales to examine the impact of imports because this measure addresses the full cost of import penetration on job loss (as discussed in Chapter Three). To answer this question it is necessary to establish a relationship between contracted domestic sales and import penetration. Did increased import penetration cut into the sales of the Big Three auto makers? The answer to this question generally seems to be accepted as positive. While G.M. suffered least from increased levels of imports in the 1970s and early 1980s, Chrysler and Ford clearly lost their market positions. A group at Harvard's John F. Kennedy School of Government contends in a 1982 American Economic Review article that despite increased import penetration in the 1980s, "U.S. car makers lost only a few percentage points of their share of the small car market, and they continued to dominate the large and

intermediate markets completely" (Gomez-Ibanez, 1982: 319) However, the authors admit that in 1980 and 1981 "imported cars accounted for approximately 27 percent of all domestic automobile sales, up from between 15 and 18 percent in the 1970s" (Ibid.).

Appendix One lists the market shares of domestic manufacturers and imports since World War II. Industry observers generally have pointed to the depressed car sales of U.S. auto makers following oil shocks in 1973 and 1979 (Fischer, 1982). 1980 was a particularly bad year for the industry. G.M. and Ford suffered record losses while government loan guarantees were required to save Chrysler from imminent bankruptcy (Winham and Kabashima, 1982: 73). About 300,000 auto workers were progressively laid off during the Spring months and "roughly double that number were idled in auto related industries" (Ibid.).

The first hypothesis then is that the depressed sales of domestic auto makers, or at least Ford and Chrysler, could be slowed by protectionist measures. As we shall see in Chapter Three, arguments against this hypothesis suggest that recession and dollar appreciation were more important factors in the depressed sales that caused diminished market share. Also, it has been suggested that the shift to foreign automobiles was based primarily on a quality and mileage advantage which foreign automobiles no longer enjoy, or that the small car market is less important now to building domestic market share and this is the source of foreigners'

comparative advantage. We must also take note of the differences between the 1970s and 1980s. For example, a U.S. Department of Commerce study last year estimated that 36% of the 1988 market for car sales would be comprised of imports (Sundstrom, 1985).

The utility of protectionist measures has been challenged by economists who argue that depressed sales and employment in the 1970s and early 1980s were more directly linked to a recession caused by increased interest rates and federal deficits. It is also argued that protectionist measures will not erode foreign nations' comparative advantage based on an over-valued dollar. More significantly, protectionism would not increase Big Three market share if Japanese and other foreign firms which relocated to the U.S. significantly expanded their domestic sales without a compensating growth in the over all market.

Assuming that protectionist measures increase market share by blocking foreign imports, we must determine whether or not this will lead to an increased demand for the labor of auto workers, will make layoffs less likely or slow the rate of layoffs. If a protectionist measure is successful in blocking parts outsourcing (defined below), it may also lead to less layoffs without affecting statistics on the market share of fully imported automobiles.

There are a number of ways to interpret the links between increased imports and the decreased demand for domestic labor. Reduced purchases from domestic firms could provoke layoffs in plants producing specific models when demand shifts to

comparable imports. Alternatively, increased foreign competition and import penetration could put a squeeze on profits which forces across the board cutbacks as firms attempt to cut variable labor costs and insecurity about the market slow investment in domestic auto production.

Our question about labor demand branches into two specific components representing our second and third hypotheses. The second hypothesis is that protectionism may slow or prevent a profit squeeze (or contribute to corporate profits) and thereby increase the demand for domestic labor. While economic analyses of protectionism have established that protectionism has led to increased profits for auto companies, we must again distinguish between whether the lessons from the past can be applied to proscriptions for the future. A profit squeeze might not be prevented by protectionism if demand for imports are relatively inelastic and demand shifts to higher priced luxury or larger sized imports. A profit squeeze at a particular firm would not be avoided if inter-firm rivalry increased substantially under protectionism or became a significant dilemma in the 1980s. One could also argue that if workers' political power increased under protectionism that this too might lead to a squeeze on profits and layoffs. Recent trends in auto bargaining precisely trade wage hikes for employment security.

Our third major hypothesis is that protectionism could create an environment suitable for corporate expectations (and capacity) for products to clear the market i.e. protectionism would decrease the likelihood of layoffs induced by foreign

competition. One would assume that if imports are significantly blocked, demand for U.S. autos would increase or be preserved. In public pronouncements, U.A.W. President Owen Bieber has noted predictions that there would be "750,000 additional Japanese car imports within just 12 months if the V.R.A. comes off" (News from the UAW , 1985). However, demand that would have led to foreign purchases could be met by increased sales of used cars. Also, the cross-elasticity between purchases of domestic automobiles and imports may be such that the two goods are not substitutes. The question is considerably complicated by the role played by foreign owned production facilities in the U.S. i.e. would imports blocked by protectionism simply be replaced by increased production from foreign-owned domestic plants? A significant increase in the market share of Japanese production based in the U.S. could lead to displacement among Big Three automakers.

Even under protectionism, jobs might be lost because of automation, capital flight from region specific plants, recession or diversification out of the industry. Also, the "downscaling" of domestic firms (discussed below) could lead to major unemployment in the supplier industries. The relevant question is whether protectionism would slow or accelerate these trends. If protectionism did not aggravate these problems, it has been argued that protectionism diverts workers from focusing on these problems or the more general question of the corporate control of production and location decisions.

The impact of protectionism on the economic environment

is also part of this question of how import controls might affect employment prospects of auto workers. We will discuss the links between foreign competition and the changing patterns of industrial relations in the auto industry in Chapters Two and Four. The main question is how a relatively isolated U.S. market would affect trends encouraged by foreign competition which weaken labor's power e.g. increased labor-management cooperation, automation and diversification.

Whether or not protectionism is a diversion leads us to our fourth major hypothesis: Protectionism would significantly contribute to the political power of auto workers. This argument depends on an analysis of how import penetration and outsourcing weaken workers by decreasing the demand for their labor. Also, if protectionism preserves corporate profits might less concessions be demanded from auto workers?

Protectionism may aid workers by changing the political and economic relationships between workers and managers at a micro-economic or plant level and at a macro-economic level by shaping national labor markets. To briefly summarize the argument, at the plant level, a depressed demand for labor leads to plant shutdowns and layoffs. Such events have encouraged union locals to bid against each other for work and lead to a "discipline" effect in which laid off workers and workers remaining on the job are less likely to advance political demands. On a macro-political level, increasing

unemployment in the auto industry strengthens the hand of management against workers by decreasing the likelihood of strikes, increasing the number of strike breakers and the ability of management to win concessions from workers. Trade-linked deindustrialization also pulls workers out of highly organized sectors and "pushes" a substantial number of them into unemployment or relatively low paying jobs. While the political dynamics resulting from unemployment at the plant and national levels are difficult to separate, the distinctions made above are offered as a means of explaining how political reactions to depressed labor demand may affect auto workers differently as members of a specific plant (with its own history of shutdowns and layoffs shaped by forces such as the car model or part it produces) and as members of the larger groups of auto workers subject to larger social forces. Let us examine each of the arguments presented above.

Assuming that protectionism increases the demand for labor or slows the rate of unemployment in the auto industry, how might protectionism increase the power of workers? The supply of parts from overseas, foreign outsourcing, has expanded since the 1960s as a weapon used by management to discipline labor. Multinationals are able to put constraints on U.S. workers and regulate their capital investments in Third World nations by playing auto parts' producing countries against each other. "Dual sourcing seeks to reduce the risk of a single bottleneck or broken supply line disrupting worldwide production" (Shaiken, 1982: 240). By relying on more than one nation for the supply of parts, transnational auto producers

are able to avoid any obstacles to the final supply of vehicles. They can use supplies from one nation while another country's auto workers go out on strike. Under "parallel production," the creation of production and assembly operations overseas which mirror domestic operations can be used to redirect production to non-union facilities (Bluestone and Harrison, 1984: 166). Also, even when overseas companies supplying parts are unionized, the importing firm can increase its power "by forcing the unionized work force in one country to compete for jobs with that of another" (Ibid.: 175).

The possibilities of foreign sourcing as a weapon against domestic labor are highlighted by reference to data on corporate investments and profits overseas. While much production overseas is directed towards capturing growing markets outside the U.S. (as well as foreign subsidies and tax advantages), facilities based overseas can be used for exports to the U.S. (Ibid.). Among the incentives to source domestic markets from foreign operations are cheaper wage costs abroad, the need to maintain stable supply lines, and lower foreign costs based on subsidies and tax advantages available from foreign governments (Cohen, 1982, 1983a, 1983b). Production is also sourced overseas if foreign manufacturers are believed to produce higher quality parts than domestic producers. By the early 1970s, about one third of annual U.S. automobile company investment was being placed abroad (Bluestone and Harrison, op. cit.: 113). The growth of the foreign labor

forces of the Big Three in itself sends a message to auto workers of their potential vulnerability:

> ...A 1977 survey by the Department of Commerce reported that 38 percent of the employees of U.S. [multinational corporations] which produce motor vehicles and equipment were employers of their foreign affiliates...That perhaps 40% of their employers workforce was already offshore by [the] 1980's could not fail to effect the bargaining power of U.S. auto workers (Trachte and Ross, 1983).

Ford has duplicated production plants in Western Europe: "Their plants are designed normally to operate at half-capacity precisely so that managers can confront labor with a stronger hand" (Goldsmith, 1984: 349). The first question that should come to mind is the capacity of foreign operations to supply both their domestic and U.S. markets.[1] Are there limitations to foreigners supplying U.S. markets? In addition to the growing integration of U.S. and Japanese auto markets, we should take note of studies which indicate that increased levels of outsourcing is not only possible but likely.

Several studies have pointed to the dramatic increase in foreign sourcing of car parts. In the early 1980s, only five or six percent of the value of components used by U.S. companies came from foreign components. A 1985 report by Arthur Anderson & Co. stated "that industry executives expect foreign-made parts to account for 30% of the average domestically produced car in 1995--up from 15% now" (Hampton and Cook, 1985a: 79-80). Frost and Sullivan, a corporate consulting group, estimated that about 10 percent of the content of U.S. built cars will come from Mexico and Brazil

alone by 1985 (Shaiken, 1984: 242). Past forecasts have also argued that there would be a dramatic increase in the number of engines sourced from abroad, with one-third to one-half coming from nations such as Canada and Mexico (Cohen, 1983b: 546-47). The U.A.W. also predicts a dramatic rise in the number of "captive" imports, or cars imported from abroad and sold under U.S. firm nameplates. By 1988 more than a third of the cars sold in the U.S. will be imports i.e. approximately 4.3 million of the 11.2 million cars sold in that year could be imports. Thirty-six percent of these imports are expected to be captives, vehicles imported by Ford, G.M. and Chrysler. In addition, low-content U.S.-assembled vehicles made by Japanese producers in the U.S. could account for sales of over 1.4 million cars. If the low-content vehicles and imports are the first cars sold in 1988, "there will be a demand for only 5.5 million domestically-produced vehicles, down from 7.5 million in 1984" (U.A.W., 1985a). We will discuss the implications of such employment projections at length in Chapter Three. Table 1-1 shows U.A.W. projections for the rising number of captive and foreign import sales.

The increase in outsourcing is also expected to become a major source of job loss in the auto parts supplier industry. The Big Three are expected to buy more of their parts from outside suppliers although more of these parts are expected to come from abroad. As a result, the ranks of domestic suppliers will thin. Table 1-2 outlines the proposed impact on the U.S. auto supplier industry.

Table 1-1: Projected Import Sales

	1984	1988
Total Imports	2,439,000 100%	4,275,000 100%
Captives	105,000 4.3%	1,560,000 36.5%

SOURCE: U.A.W. Research Department, Research Bulletin, July-August, 1985, Detroit, MI.

Table 1-2: Changing Patterns Among U.S. Auto Suppliers

	Amount of Parts Bought Outside U.S. Original Equipment Manufacturers	Imports Share Of Total Parts	Number of Primary U.S. Suppliers
1985	47%	18%	2,500
1990	51%	23%	2,250
1995	56%	29%	2,000

Source: Arthur Anderson and Co., AIM Newsletter, December 1985.

Big Three auto companies can still rely on automation, agglomeration economies and "just in time sourcing" to make production economical within the U.S. (See: Chapter 4). However, they can always extend the threat to export jobs. In the Fall of 1984, during contract negotiations, "G.M. threatened to step up plans to produce parts and even whole cars overseas if U.A.W. leaders caved into rank-and-file demands for a rich contract" (Bensman, 1984). Even when workers are successful in negotiations, the threat of long-term foreign sourcing can be used against them. Industry observers claimed that an October 1985 labor agreement which

provided $5,650 a year in additional income for Chrysler workers would lead to increased outsourcing of cars and parts from low-cost foreign suppliers (Holusha, 1985d).

The ability of car makers to transfer production overseas is openly described as a management weapon to gain concessions on labor costs. After the Chrysler settlement, Business Week reported:

> ...Chrysler says it has to hold its breakeven point to about 1.1 million cars and trucks, mostly by loppping $2,000, or 30%, off the projected cost of building a car in 1990. Labor costs constitute 20% of the company's costs. But if it makes no headway there at all, Chrysler will move even further into the arms of foreign suppliers. The company, which imports 87,500 cars a year from Mitsubishi Motors Corp., plans to triple that amount (Edid, 1985b).

Similarly, the business press has argued that the United Auto Workers' leadership is compromised by the open economy; its options are limited by the threat of outsourcing. Describing the position of President Owen Bieber, Business Week wrote:

> ...If he pursues a militant path, Detroit is sure to expand its foreign network. If he accomodates the industry too easily, he risks an internal rebellion without stopping the loss of jobs (Edid, 1985a).

Can increased outsourcing and imports be linked to closings at specific plants? In the 1980s this question has been complicated by the shutdown of establishments in California and other regions and the redirection of production to the Midwest. On the other hand, import induced layoffs could also be viewed as a force for consolidation in fewer plants at times when imports have cut significantly into domestic car sales. The choice between layoffs overseas and in the U.S. can be seen in one incident involving a Chrysler

plant in the U.S.:

> ...Chrysler...manufactures the same 4-cylinder engine in Trenton, Michigan, as it does in the new Mexico plant. Saddled with excess capacity because of a weak market, the corporation chose to make its layoffs in Michigan because of lower costs in Mexico (Shaiken, 1984: 240-41).

Whether unemployment is due to shutdowns or layoffs, displacement has clear effects on the bargaining power and stance taken by workers. When employment has contracted in the auto industry, layoffs have been used to divide union locals:

> At auto plants throughout the country, management is pitting local against local in a scramble for the spots it chooses to refill (Junkerman, 1983).

It would be mechanistic to suggest that unions will always bid against each other for work in situations of contracted labor demand. In fact, shutdowns have lead to the mobilization of workers in places like California where a state-wide coalition organized to fight plant shutdowns. Some locals have raised demands that other plants not be closed if their plant remains open (Mann, 1986). However, as a general trend, increasing layoffs have made bargaining difficult. If plants close and then reopen, there is a "discipline" effect on workers. This effect can be seen in changes in labor and management relations at the reopened G.M. Framingham, Masssachusetts, auto plant:

> The shutdown seemed to convince both management and labor that business as usual would not be good enough in the future. Both sides say labor relations have improved in the past year (Stein, 1984).

The discipline effect also is generated by layoffs and affects both re-employed workers and those remaining on the job:

> ...Compelling evidence exists that the layoffs created by plant closings can actually improve the business climate. The swelling ranks of the unemployed creates a reserve of malleable workers and even potential strike breakers. The memory of such drastic dislocation can have what labor relations experts call a "chilling effect" on future labor management negotiations (Bluestone and Harrison, 1982: 79).

The bargaining power of management is increased as the potential costs to a union of disagreeing with management's position is raised by the "threat of unemployment, particularly when it is in the form of a possible plant shutdown" (Capelli, 1985: 100). As a result, if protectionism slows displacement, we would expect it to increase workers' political power.

This discussion leads us to an examination of how job loss affects the wages of employed and unemployed autoworkers, as well as the general bargaining climate under which a potential strike against management would take place. Various political-economists have argued that generally movements towards full employment improve workers' power in securing real wage increases, the likelihood of strikes and increases in quit rates i.e. a measure of autonomy from work (Boddy and Crotty, 1975). Such arguments have usually described the impact of cyclical unemployment or the "political business cycle." However, the present restructuring of the U.S. economy suggests that increasing structural unemployment in the 1970s and 1980s is playing the same role traditionally left to cyclical forces (Bluestone et. al., 1985).

The evidence for increasing structural unemployment has been documented in a series of economic studies:

> ...Long-term unemployment rates have been shown to exhibit a rising trend, the ratio of the number of unemployed job-seekers to the pool of vacancies has grown significantly since the 1960s, and the average length of a completed spell of unemployment in the 1970s was substantially longer than in the previous decade (Ibid.).

The relevance of such trends for protectionism can be seen in arguments which link trade controls to a deceleration or decrease in such unemployment and tie rising imports and foreign competition to recessionary or structural unemployment. The link between decreased structural unemployment and protectionism has been suggested in an econometric analysis carried out by Barry Bluestone, Bennett Harrison and Alan Matthews in 1985. The authors write that there was "a critical period of structural change for U.S. manufacturing, occurring (or at least first observable) during the years 1967-1973." During this period increased automation, the transfer of production overseas and increased foreign sourcing were "all structural shifts in business policy that could conceivably manifest themselves in a new employment trend line." A 1970-71 recession after more than ten years of uninterrupted expansion, together with the 1973 Arab oil embargo and the beginning of the U.S. retreat from Vietnam also suggest that this was a crisis period. The authors argue that while such trends might indicate the growth of increasing structural unemployment in the auto industry, protectionist--and other industrial policies--measures have

slowed, if not prevented, deindustrialization:

> ...Employment trends in both the motor vehicle industry and shipbuilding --often thought to be deindustrializing-- exhibit positive structural shifts after controlling for cycle and exchange rate. According to our analysis, the auto industry actually had 90,000 more jobs in 1984 than it would have if the pre-1973 trend had been maintained. This counterintuitive result, however, has a rather simple explanation. Part of the positive shift in autos is no doubt related to the voluntary export restrictions forced on Japanese auto manufacturers between 1981 and 1985. It may also be partly due to the federal loan guarantee that kept Chrysler in business after its near-bankruptcy in 1979 (Ibid.).

Our final general hypothesis is that protectionism can improve the relative power position of workers tied to the auto industry by improving their wage rates or slowing the decline in wages by making trade union concessions less likely. One possible link between wage cuts and protectionism was suggested above: if protectionism can slow or prevent a squeeze on profits, then concessions might be less likely as employer ability to pay increases. While wage hikes generally follow trade union demands, strike threats or actual strikes, would protectionism make the bargaining position of workers favorable to such wage hikes? The literature in this area is suggestive, strikes are less likely when the "cost of job loss" is high. This measure, as developed in the work of Juliet Schor and Samuel Bowles, represents "the income loss times the duration of unemployment expressed as a pre-loss stnadard of living of the worker" who becomes unemployed. "Workers are more likely to win strikes when the supply of available strikebreakers is small" (Schor and Bowles, 1984).

If protectionism can lower the cost of job loss, it could be conjectured that wages rates and protectionism are postively related. Such a proposition may be impossible to prove with reference to statistical analysis. What could be shown is that concession bargaining or a drop in the real wage rate are more likely in import sensitive industries. Or, it might be shown that increasing import levels cause a drop in wage rates. Chapter Five discusses the relationship between concession bargaining, wage levels and import penetration.

The most serious challenges to the protectionist argument for specific industries targetted with trade controls come from four sources. First, even if employment levels in the auto industry were favorably affected by protectionism, the movement of capital to areas where labor is weak within the U.S. seriously undermines its usefulness as a strategy for workers. Second, protectionism may help auto workers but hurts other workers who must pay more for automobiles as protectionism raises the price of foreign and or domestic autos. As a result, workers in the auto industry become divided from other workers who are consumers. Third, protectionism in the auto industry would provoke retaliation from targetted nations and thereby depress employment in export sensitive industries. Foreign reaction to protectionism, as well as the nationalistic feelings stirred up by protection, would contribute to divisions between U.S. auto workers, workers overseas and U.S. workers in export sensitive industries. Finally, it can be argued that

corporate opposition to protectionism makes trade union and labor efforts to push protectionism forward a wasted effort i.e. further protectionism is impossible and therefore policies design to encourage protection are diversionary. The other side of this argument is that there are other-more useful-strategies for labor to preserve or extend its share of corporate income. These arguments are addressed in Chapter Five and the conclusion to this study.

1-There are two major regulatory impediments to the substitution of foreign-built products of U.S. firms overseas production for domestic use. One obstacle is that vehicles must be "federalized" to meet the U.S. Government's requirements in terms of emissions and safety. Such requirements add 200 pounds and costs which producers are reluctant to pay for in advance of notification that products they produce abroad (geared for foreign markets) will also be directed to the U.S. If producers plan in advance to export a certain amount to the U.S., for markets which are guaranteed, this might not prove an obstacle.

Second, U.S. producers must meet Corporate Average Fuel Economy (CAFE) standards which set limits on a producer's fuel economy average for domestic and import production separately. There has been the danger that American manufacturers' fuel-efficient imports would displace their fuel-efficient domestic products. As a result, their U.S. output would be left with too high an average fuel consumption meet the government's fuel-economy regulations (Altshuler et. al., 1984: 172).

Chapter Two: The Changing Nature of Comparative Advantage in the Auto Industry

Introduction

Increasing import penetration by foreign producers is based on two sets of forces: first, conjunctural forces which favor different sized automobiles because of oil shocks and consumer desires for cars with better mileage ratings and quality performance. Second, larger forces which are based on the labor and production costs of foreign producers as well as the organization of work. Protectionist measures have been proposed to protect domestic suppliers from the effects of both forces. Therefore, it is important to understand the causes of increased import pentration in order to judge the economic arguments on which protectionist measures are based.

Today it is generally recognized by observers of the auto industry that Japanese and European producers are setting the standards for the design and production of automobiles. If the organization of work in these nations forms the basis for comparative advantage, then nations not following the practice of either Japan or Europe could be viewed as being at a disadvantage. The advantages of the Japanese system have already lead to changes in the U.S. automobile industry and promoted a number of trends such as: new arrangements between producers and suppliers, the relocation of Japanese producers to the U.S. and the development of corporate stategies to "recentralize" production within the Midwest. These tendencies are described in Chapter Four. Each tendency plays

an important role in defining the terms of the protectionist debate. Will the new supplier-producer relations make the ability of protectionism to preserve jobs less likely? Or, will these new relations make capital flight to the South and other labor weak areas less likely, making protectionism less of a "diversion"? Will the relocation of Japanese producers and suppliers to the U.S. weaken the ability of protectionism to preserve the Big Three's markets? Each of these questions can be answered definitively only in the future. However, by understanding the Japanese system we may be able to answer other questions which allow us to come to some tentative conclusions e.g. how might production economies affect capital flight? Or, how might the Japanese system further encourage a profitable relocation of assembly operations to the U.S. from Japan?

The Small Car Advantage in the 1970s

We now turn to an examination of the conjunctural forces which lead to a rising market share for Japanese producers in the early 1970s. Before the recession of 1974-75 and a fourfold jump in oil prices, domestic auto sales of American automobile makers increased steadily, from 7.1 million units in 1970 to 9.67 million units in 1973. However, by 1974 sales dropped by 2.2 million units, a 23 percent decrease. In 1976, domestic sales again rose until 1978 when sales were 9.30 milllion units, slightly below the peak in 1973 of 9.67 million units. But with the overthrow of the Shah of Iran came

Table 2-1: Japan's Rising Share of Imports

Calendar Year	Japanese Imports	Total % Imports	% Japanese Imports
1984	1,906,204	23.5	18.3
1983	1,915,621	26.0	20.9
1982	1,801,969	27.9	22.6
1981	1,858,89	27.3	21.8
1980	1,905,968	26.7	21.2
1979	1,769,633	21.9	16.6
1978	1,357,337	17.7	12.0
1977	1,387,856	18.5	12.4
1976	941,665	14.8	9.3
1975	807,931	18.2	9.4
1974	592,113	15.8	6.7
1973	742,621	15.3	6.5
1972	628,898	14.7	5.7

Source: Motor Vehicle Manufacturers Association of the United States, Facts & Figures '85, Washington, D.C., 1985.

a second rapid increase in oil prices and uncertain product availability. Once again, automobile sales fell dramatically. By 1982, U.S. new car sales declined to 5.8 million units which was their lowest point since 1961 (Laffer et. al., 1985: 267). Table 2-1 examines how Japanese imports have taken a larger share of total import sales from the early 1970s to the early 1980s. The data reveal both a rising percentage of Japanese imports and an increase in the absolute sales of Japanese producers in the U.S.

From the peak sales year of 1973 until 1982, sales of

full-sized cars declined, losing more than 15 percent of their share of the total domestic automobile market. But while overall domestic automobile sales were declining, the market share of small cars increased over the 1970s by more than twenty percent, from 42.7 percent in 1973 to 63.8 percent in 1980. The shift in consumer demand to small cars at this time was paralleled by an increase in imports: In the past more than 97 percent of all imports into the U.S. were within the small-car market. As a result, the change in the past decade towards small cars sustained the sales of foreign cars. This occured even though there was a depression in total U.S. auto sales (Ibid.: 268, 269).

What accounts for the shift to imports? Five general factors have been offered by auto industry analysts for the change in the composition of car sales. The first three of these were generally caused by factors which uniquely combined in the 1970s to the detriment of U.S. producers. The last two are more deeply rooted and pose a lasting threat to U.S. manfacturers. Turning to the first of these factors, increases in income will increase the demand for transit services. The demand for transit services may be reflected in an increased demand for a variety of forms of transit. However, there is evidence that when economic growth slows and incomes decline, demand for new automobiles will also fall. A slowdown in economic growth which began in 1979 contributed significantly to the slowdown in sales of U.S. autos during the 1979 to 1982 period. Appendix 2 outlines the connection, showing that the annual percentage change in sales of automobiles is associated

with changes in real GNP in the U.S. (Ibid.: 272).

A second factor contributing to the shift in auto demand is the impact of government regulations. There is clear evidence that federal safety and emissions regulations have added substantially to the cost of U.S. produced automobiles. Appendix Three outlines the estimates of a Brookings study of the cost of automobile regulation. These regulations had an indirect impact on making imports more attractive. New safety requirements led manufacturers to incorporate weighty equipment; exhaust emission control devices used to comply with environmental regulations reduced engines' over all fuel efficiency. As a result, "Between 1967 and 1973 there was a substantial (around 20 percent) decline in the fuel economy of American cars" (OECD, 1983). U.S. large cars became more expensive and the cost constraints of regulation depressed over all demand for car sales (making any rise in import share more costly to domestic auto manufacturers) (Laffer et. al.: 273). Imports rose as foreign manufacturers could more readily (and cheaply) supply the smaller fuel efficient cars which they specialized in producing.

A third factor which has been linked to depressed sales of automobiles is the dramatic rise in oil prices, particularly after supply shocks in 1973 and 1979. According to one account, "The rise in the price of petroleum explains, in part, the substantial decline in sales of new cars at the time the oil embargo was imposed in the United States" (Ibid.: 274). Empirical evidence up to the mid-1970s had indicated that there was a relatively inelastic transportation demand

for fuel oil used for transportation in Western nations (Hensher, 1982: 100). Further, some research shows that the price of fuel oil has a greater impact on car size than car usage (Ibid.: 100-101). Appendix 4 highlights the strong relationship between the annual percentage change of small car sales and the percentage change in the real price of petroleum. During the last energy crisis, domestic and Japanese products were both beneficiaries of the shift to smaller, more fuel efficient vehicles. From 1978 to 1981 purchases of both domestic and Japanese small cars increased, indicating a secular trend of increased consumer interest in small cars in general (Hammond, 1983). However, imports consistently outpaced domestic automobiles share of the American subcompact market from 1971 to 1982 (Laffer et. al.: 270).

Two other causes have been linked to the rising share of imports in the 1970s. These factors are more deeply rooted in the nature of Japanese cost advantages and quality control (discussed below). One result of the Japanese cost advantage was the lower prices of Japanese cars. This advantage diminished in comparable models from 1977 to 1983 as can be seen in Table 2-2. However, a final factor explaining the shift to imports has been their superior quality. Table 2-3 shows that by 1976 Japanese cars had much better repair records than their U.S. counterparts (Crandall, 1984: 10).

Table 2-2: Prices of Japanese and U.S. Cars 1977-1983
A Comparasion of Comparable Models

Car Model	Price 1977	Price 1983	% Change
Datsun 8210/Sentra 2 door, delux	$3119	$5701	83
Mazda GLC 3 door, hatchback, custom	$2930	$5452	85
Toyota Corolla 2 door sedan, delux	$3224	$5663	76
Chevrolet Chevette 2 door hatchback, coupe	$3531	$5784	64
Ford Pinto, Escort 2 door, hatchback	$3583	$5922	65
Plymoth Horizon 4 door, hatchback	_____	$6254	

Source: Hammond, 1983.

Table 2-3: Average Consumer Reports Quality
Ratings for U.S. and Japanese Cars

Year	Japanese Imports	G.M.	Ford	Chrysler
1970	2.33	2.81	3.18	3.85
1976	1.13	3.03	2.80	3.91
1981	1.05	4.33	3.17	4.50

Source: Crandall, 1984. 1 indicates high rating, 5 low quality rating.

Price and quality considerations have been documented in market research which suggests that U.S. consumers regard Japanese cars as superior to U.S. products. In ranking their preferences, "vehicle price is central to this, followed by operating cost and quality" (Hammond, 1983).

Production Costs, Wages and Automation: A Comparative Look at the U.S. and Japan

An explanation for why the Japanese have enjoyed price and quality advantages over U.S. producers leads us to a discussion of the Japanese production system. U.S. auto makers have made political use of this system in their relations with U.S. labor, arguing the U.S. workers must follow the Japanese practice. Others say that management has no choice but to develop a labor relations system on the Japanese model. In fact, several economists have argued that the Japanese system has become the basis for comparative advantage in the auto industry.

Increasing product market competition in the auto industry has been linked to the impact of Japanese labor costs, plant organization and management on the price and cost picture of car sellers in the U.S. market. Several studies done in the early 1980s showed that Japanese cars have a significant cost advantage over U.S. firms:

> Japanese manufacturing costs are 33.3 percent (or $2,050 per vehicle) lower than U.S. costs. After an estimated transportation and tariff cost of $400 per vehicle, the Japanese still enjoy a landed cost advantage of 26.8 percent, or $1,650 per vehicle (Gomez-Ibanez et. al., 1982: 320).

Yet, cost estimates prepared by James Harbour which showed a widely publicized $2000 cost advantage for the Japanese have been challenged as an attempt to win concessions from the U.A.W. Industrial engineering expert Seymour Melman argues that the Harbour study did not make proper allowance for capacity utilization and unit costs in estimating the cost

differential. Also, Harbour did not even discuss the problem of inventory costs in making his comparisons (Melman, 1986). Former U.A.W. economist Lee Price suggests that most of the Japanese cost advantage is based on lower unit labor costs (Price, 1984). Harvard University researchers William J. Abernathy, Kim Clark and Alan Kantrow argue that about half of the Japanese producers' lower unit labor costs are due to lower compensation rates, and half to fewer hours needed per car (in their estimates 80 vs. 144) (Gomez-Ibanez et. al., op. cit.: 320). Data on compensation rates in 1975 and 1981 indicate that while Japanese and British workers are catching up to those in the U.S., American workers are paid much more than foreign auto workers (See: Table 2-4). Price notes that the Japanese have been able to convert some of the "savings" received in lower labor costs into improvements in product quality (Price, 1984).

One study in the early eighties found that the total annual compensation of production workers was $32,400 in the U.S. and $20,863 in Japan. Total cost per hour worked was $20 in the U.S. and $11.28 in Japan (Abernathy, et. al. 1983: 60). Assuming that wage competition from Japan is a reality, one link between labor relations and increased international competition can be seen by reference to industrial relations theory:

> ...the <u>motivation</u> to alter either existing collective bargaining outcomes or to avoid unions altogether is in part a function of the degree to which the parties have been able to take labor costs out of competition (Kochan et. al., 1984: 26).

Table 2-4: Hourly Compensation Costs
Production Workers in Motor-Vehicle and Equipment Industry

	1975		1981	
	US Dollars	Index (U.S.=100)	US Dollars	Index (U.S.=100)
United States	9.44	100	17.55	100
W. Germany	7.68	81	12.89	73
Sweden	7.44	79	11.50	66
France	5.22	55	9.20	52
Italy	5.10	54	7.86	45
U.K.	3.96	42	7.83	45
Japan	3.56	38	7.74	44

Figures include an assessment of the cost of fringe benefits as well as wages, bonuses, and deferred compensation.
Source: Office of Productivity and Technology, U.S. Department of Labor, B.L.S. as published in Altshuler, 1984: 208.

Table 2-5: Hourly Employees US Big Three Vs. Japan Big Six
1982 Data

	USA Worker	Japan Worker	Japan (230yen/$)	Japan (180yen/$)
Base Wages, bonus, COLA	$12.30	1748 yen	$7.60	$9.71
Housing, meals commuting	0	230	$1.00	$1.28
Medical, dental	$2.00	368	$1.60	$2.04
Pension	$1.50	161	$.70	$.89
Vacations, holidays	$1.80	230	$1.00	$1.28
Unemploy-ment, Soc. Sec.	$2.00	437	$1.90	$2.43
Shipping to USA	0	460	$2.00	$2.56
TOTALS	$19.50	3634y	$15.80	$20.19

Source: UAW Research Dept. as published in Labor Institute, 1984.

But the statistics which show a wage jap with Japan have been challenged by labor activists and economic researchers who argue that the difference in U.S. and Japanese wages has been overstated. Table 2-5 provides a different view of the Japanese wage gap. Differences in exchange rates and the inclusion of employee benefits narrows the gap considerably. Thus, to fully understand Japan's cost advantage we must look beyond any cost differences based on a hypothetical "wage gap." This is not to suggest that wages are not a source of competition for domestic labor and producers when it comes to non-Japanese imports and outsourced parts. We examine this issue in the final section of this chapter.

Abernaty et. al. trace productivity improvements in Japan less to higher levels of in-plant automation than to practices in management and work-place organization. According to one estimate about one half of the Japanese cost advantage comes from the "just in time" system (see below) and organization of auto production:

> If a Japanese car costs $1500 less to build, wages are responsible for at most half the problem. If there were no wage differences at all, the Japanese car would still cost at least $750 less, probably $1000 less (Krulwich, 1982).

However, data on productivity levels in the Japanese auto industry clearly indicate that lower wage rates in Japan do not fully explain the Japanese advantage:

> In the early 1970s the Japanese produced roughly 3 million vehicles per year and their work force consisted of about 450,000 workers. Today the Japanese produce well over 9 million vehicles a year with the same 450,000 workers (Westfall, 1982: 9).

Does Japan's greater use of robots explain the productivity and general competitive advantage of the Japanese? Auto industry observers William J. Abernathy, Kim B. Clark, and Alan M. Kantrow argue that automation levels in Japan are not the crucial factor in explaining their production advantage. In Industrial Renaissance, they write:

> The exemplary, productivity, cost, and quality record of Japanese automobile makers is explicable not in terms of "new plant" or "new technology" but, instead, in the way automobile production is managed (Abernathy, et. al, 1983: 69).

Evidence against competitive advantages based on "new plant" can be seen in data which show that "the Japanese actually use less capital per vehicle than do their American counterparts" (Ibid.: 69). Data collected by M. Ito, also shows that robotics applications in Japan and the U.S. are comparable (See: Table 2-6). Other data suggests that "robot" density, or the number of robots per 100,000 manufacturing workers is larger in other manufacturing countries than in the U.S. (See: Appendix Five). Whether this has made a critical difference to Japan's advantage is doubtful since Sweden has the most automated auto industry and has not been perceived as a major exporter to the U.S. or comparable to the "threat" posed by Korean auto makers. In 1982, Sweden had 1 and 1/2 times as many robots per manufacturing worker as the Japanese and 8 times as many as the United States (U.A.W. 1985b: 20). More importantly, the Japanese production advantage should not be attributed to robotics because some Japanese companies have used large

Table 2-6: ROBOT APPLICATION FIELDS

Figures in % of total applications.

	1980/81	
	USA	JAPAN
Spot Welding	40	30
Arc Welding	6	6
Painting	10	1
Assembly	10	18
Other*	34	45

*-Other includes material handling, maching, press.
Source: Present state and future trends of introducing robots into the automobile industry in Japan. M. Ito, Hakone 1982, using figures from Cincinnati Milicron and JIRA. Table appears is (OECD, 1983: 65).

numbers of robots while others have used almost none at all. In 1980, Toyota had 420 robots although Honda had only 5 (Shaiken, 1984: 156).

In seeking to explain the Japanese advantage in selling automobiles, the authors of Industrial Renaissance look to the Japanese system of manufacturing as producing the higher quality and lower cost automobiles which have led to an increased U.S. market share for Japan's auto producers. Data on labor and capital productivity in the Japanese auto industry both indicate Japan's advantages over the U.S. in labor hours per small car and "productivity of capital" in automobile production (Abernathy, et. al., op. cit.: 62-63). Other data reveal that Japanese cars are superior in terms of reliability, workmanship and durability (Ibid: 65-67).

The Japanese manufacturing system contributes to lower costs and improved quality through several components: the just-in-time production system (in-plant operations), total-

quality control, just-in-time purchasing (supplier-producer relations) and an overall system of labor and machine flexibility. An overview of the sources of Japanese and American productivity increases will help explain how Japan's advantage is rooted in production and labor processes.

The Productivity Difference: The Japanese and U.S. Manufacturing Systems Compared

In order to understand the Japanese production advantage, we will refer to an analogy employed by Japanese auto analyst Takahiro Fugimoto. Production resembles an information processing system in which workers and machines relate to workparts to add value and "information" to workparts. There are three components to the production process: operating time, up-time and non-operating time (See: Figure 2-1). Operating time is the time when materials flow on an assembly line, work is in process, or machines are running which directly contribute to value through assembly: "the time when technology element A (machines, workers, etc.) is connected to element B (work in process, materials, etc.)." Up-time is a

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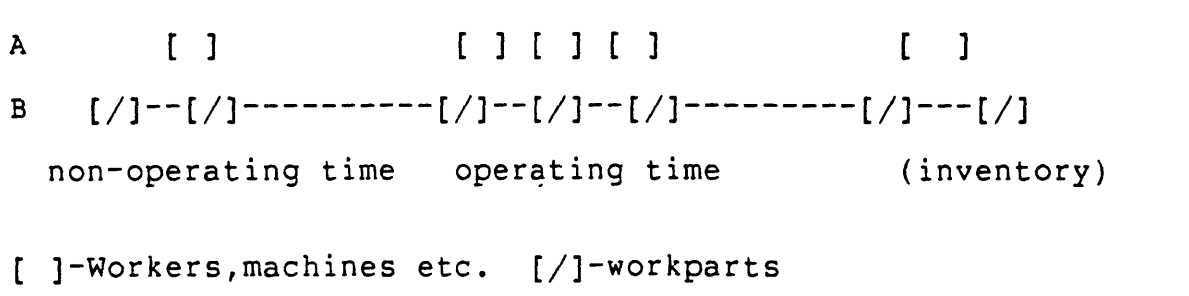
Figure 2-1: Operating Time, Up-Time and Non-Operating Time



SOURCE: (Fujimoto, March 1983: 7)

subset of operating time; it is when information from machines or workers is actually transfered to workparts. "This represents the information processing speed of element A (B absorbs the information from A)." Finally, "Non-operating time is the time when element A or B is not connected to anything" (Fujimoto, March 1983: 7).

Labor productivity can be defined as the number of labor hours per vehicle. This ratio can be divided into two components: up-time per vehicle and the up-time ratio. Takahiro Fujimoto defines these elements as follows:

$$\frac{\text{Labor Hours}}{\text{Vehicle}} = \frac{\text{Up-Time}}{\text{Vehicle}} \cdot \frac{\text{Up-Time}}{\text{Labor Hour}}$$

For any given product design and level of automation, up-time per vehicle is determined by the individual work pace or information processing speed of each individual worker. "Up-time ratio, on the other hand, represents the information processing efficiency of the total work system." According to Fujimoto, U.S. and Japanese basic product designs, automation levels and the workpace of an average worker are not significantly different (Fujimoto, 1983: 8-9). However, other observers of the Japanese auto industry suggest that line speed in the Japanese auto industry is very intense and point to industrial accident levels and the very few work stoppages which occur in Japan (Halliday and McCormack, 1973). A report in October 1982 noted that speed-ups were a serious problem at Nissan:

> ...Over the last five years Nissan has increased its output by 25 percent, but it hasn't hired any new workers. This increased production was accomplished by radically speeding up the assembly line... workers don't even have time to talk to each other--if they do, their managers will give them more work. Another worker said "If you drop a bolt, you don't even have time to pick it up" (Westfall, 1982b).

Assuming Fujimoto's assumptions are correct, we can trace the productivity difference between Japan and the U.S. to the up-time ratio. For example, assuming a total up-time per vehicle of 3.75 hours, we can see up-time ratios as the critical factor:

	Up-Time/Vehicle	/	Up-Time Ratio	=	Labor Hours/Vehicle
U.S.	3.75	/	.25	=	15 Hours
JAPAN	3.75	/	.75	=	5 Hours

(Fujimoto, March 1983: 9).

Auto technology analyst James Harbour estimates that body shop up-time is 70 percent in the U.S., but 95 percent in Japan. Press up-time is 50 percent in the U.S., but 90 percent in Japan. Harbour also estimates that midsized cars require 189 labor hours per vehicle in the U.S., but 115 in Japan. For compact cars, the U.S. requires 172 hours per vehicle but only 105 are required in Japan (Harbour, 1986).

There are two ways to enhance the up-time ratio. One way is to increase the line speed or reduce the cycle of time of the production process (the amount of movements/time which is needed to produce an automobile through a given cycle of man/machine interfaces). Another way to increase up-time is through job-enlargement. Productivity is improved "by

increasing the number of job elements each worker does within a given cycle time." This latter approach only becomes possible when "workers are multi-skilled and flexible as to job assignments." American automobile workers have traditionally emphasized the speed-oriented approach, while limiting one worker to one job. Japanese manufacturers tend to emphasize job enlargment rather than the speed-oriented productivity measures according to Fujimoto. More job elements are assigned to each worker in a given cycle term: "the job-enlargement (flexibility-oriented) approach appears to be more effective than the speed approach" (Fujimoto, op. cit.: 10).

The advantages to Japanese equipment productivity also are based on the same principles as labor productivity. The productivity of equipment is based on equipment costs per vehicle. This ratio is dependent on up-time per vehicle, up-time per machine hours and equipment life cycle cost per life time machine hours. Here, the U.S. auto industry emphasizes up-time per vehicle by speeding up the pace of each machine. In Japan, the technology system is oriented towards maximizing both the up-time ratio and the lifetime of a machine through machine flexibility to model changes (Ibid.: 10).

Japanese Economies in Manufacturing Techniques

The Japanese manufacturing advantages described above are rooted in a number of practices which affect the organization of technology, capital and labor. The just-in-time system contributes to productivity by eliminating non-operating time, inventory build-up and waste. Traditionally, U.S. management has emphasized the large costs associated with setting up equipment and paid slight attention to the need for eliminating carrying costs (which were regarded as relatively fixed) (Schonberger, 1982: 188 ff.). This emphasis is linked to a U.S. reliance on large batch as opposed to small batch production (which is favored by the Japanese).

The U.S. emphasis on large batch production was based on relatively stable product demand which favored production at a high volume. Large batch production leads to greater inventory accumulation as assembled intermediate goods or raw materials are taken from a storage area in an assembly plant after having been shipped by suppliers. When a company orders in large lots they have to pay more to inventory carrying charges such as "interest costs on capital tied up in inventory, plus the physical loading costs, such as warehouse rent and warehouse workers' wages" (Ibid.: 18).

Yet, producers who organize production around small batches face high set up costs. More frequent ordering leads to increased set up of equipment after intermediate goods and or raw materials are received. Costs come when heavy dies must be moved into place and adjustments must be made for each

production run. The Japanese producers have been willing to trade the advantages of small batch production for the disadvantages associated with these cost pressures. They have sought to reduce the costs associated with set up and machine changes. Commercial machine tools have been designed for quicker set up. "Commercial machines are sometimes retired and a company's own toolmakers build their own machines" (Ibid.: 21). In addition to lessening carrying charges, the Japanese machine set up times are cut so that it becomes economical to run small batches.

The costs associated with set up are more than balanced by the just-in-time advantages gained by limited inventories and a steady flow of production: "The ideal is to make one piece just in time for the next operation" (Ibid.: 1). This system contributes to both cost and quality control as follows. In the U.S. and traditional manufacturing systems, buffer stocks have been inserted between work stations "to cushion the shock of irregularities into the parts-feeder processes." By limiting these buffers, the problems in making a part are exposed at the source. Each worker becomes more dependent on his or her fellow worker up the assembly line for insuring that a product is not defective and will not slow down the line and thereby prevent their production quota from being met. Japanese manufacturing expert Richard J. Schonberger explains the rational for just-in-time as follows:

> The Japanese no longer accept the buffer principle. Instead of adding buffer stocks at the point of irregularity, Japanese production managers deliberately expose the work-force to the consequences. The response is that workers and foremen rally to root out the causes

> of irregularity. To ignore it is to face the consequences of work stoppages (Ibid.: 32).

The just-in-time process together with a total quality control system lead to the increased quality of Japanese goods. First, by relying on small batch production the danger that a manufacturer or supplier will accumulate batch after batch of defective parts hidden in inventories is eliminated. Also, "competitive checks can be maintained because at each stage of production the costs of the products and services being traded is fully known" (Altshuler et. al., 1984: 138). James Harbour estimates that the Japanese are able to produce first-time quality engines 98 percent of the time, whereas in the U.S. the figure is 80 percent (Harbour, op. cit.).

The total quality control system also increases product quality and reliability. It is based on one simple principle: by making each worker responsible for parts inspection, the responsibility for quality is no longer specialized into costly inspectors who are not directly tied to assembly and production lines. The Japanese also seek to maintain high quality goods at low cost by developing long-term relationships with suppliers whose own production is based on just-in-time and total quality control systems. By finding suppliers whose goods meet the high standards of Japanese manufacturers, the need for inventory inspection is eliminated and the quick and constant flow between supplier and manufacturers can be maintained as if the two processes were part of one larger integrated operation. An added advantage to this approach is that through cooperative networks,

"innovations in technology and management diffuse more quickly through a production chain and across the industry" (Ibid.: 139). By establishing closer realtions with workers and suppliers, management is able to come in direct contact with both groups' special knowledge about production. Cooperation helps form the basis for flexible labor which can be arranged to meet the requirements of new managerial directives or technological applications (see below).

The traditional U.S. system of quality control is quite different from that of the Japanese. Japanese auto makers prefer a "zero-defect" standard for parts production whereas Americans have often been willing to adopt the "acceptable quality level" criteria for parts production. While in Japan long term relationships are established between suppliers and manufacturers, in the U.S. the traditional practice has been for manufacturers to choose suppliers which submit the lowest bid. This practice leads to a sacrifice in product quality as suppliers which in the past submitted successful bids are taken off their learning curves. The Japanese manufacturers seek to find suppliers who do little business with other downstream industries so as to develop leverage with them in meeting their specific quality and cost requirements (Schonberger, op. cit.: 157 ff.).

Rather than emphasizing on the spot inspection, U.S. manufacturers prefer to "shorten the quality chain" by integrating technology elements. One example of this is the use of computer-aided design and manufacturing systems which "integrate some of the die design steps into a single computer

data base, making the chain shorter" (Fujimoto, March 1983: 12). This principle of quality control is based on automated processes which divorce product design from production, the execution of the design idea. While the Japanese attempt to build up the skill levels of auto workers through job rotation, Americans prefer specialized workers who remain dedicated to specific tasks. As a result, quality and innovativeness in the U.S. system may suffer. Technology and auto industry analyst Harley Shaiken explains the limits of the U.S. strategy:

> Success in removing conceptual skills from the shop floor-in further severing planning from execution-creates some new problems. The dialogue between the engineer and the person closest to the cutting and fabricating of metal is not mediated by the part programmer. Not only does this restrict the upward flow of design ideas, it may limit the engineers' awareness of problems involved in producing a certain design. The result can be the exploration of fewer design alternatives (Shaiken, 1984: 84-85).

Labor Flexibility: A Key to the Japanese Manufacturing System

Earlier we discussed how the flexibility of Japanese labor lead to productivity gains as labor handled more parts per worker than in the American system. Similarly, parts inspection by Japanese auto workers depends on the flexibility of labor. In Japanese manufacturing, "When one worker is having problems and experiencing delays, other workers move in to help, partly to avoid being idled themselves." Labor flexibility is also neeeded after management pulls workers off

the assembly line when it is running too smoothly i.e.

management wants to create tension in the system to gain maximum productivity. Whole crews are also moved from one "dedicated" line to another as the model mix changes. Also, "flexibility is needed to rebalance lines when there is a changeover from one part to another, which tends to occur often in a Japanese JIT [just-in-time] factory" (Schonberger, 1982: 135).

The absence of labor flexibility in the U.S. is rooted in trade union demands and work rules designed to protect workers from working too many tasks and management attempts to fragment the labor process (by dividing conception from execution as described above). The U.S. industry has relied more on bureaucratization to formalize and stabilize the production process. The goal is to make the work process less vulnerable to disruptions caused by reliance on the "information" stored in a workers. The Japanese, however, have formal policies or even pay systems that reward or recognize flexibility (Fugimoto, op. cit.).

The use of labor flexibility in the Japanese system and its limited use in the U.S. is partially based on the historical conditions and socio-political relations in both countries. Labor flexibility has been accepted in Japan in part because there is less fear among workers that job rotation will lead to unemployment. Here it is critical to note the link between labor displacement and quality control. If production workers are treated more as professionals and "given the skills and responsibility to diagnose problems, repair equipment, and spot defects, then the ranks of

supervisors and machine repairmen can be greatly thinned as quality is improved" (Altshuler, et. al.: 137).

The development of a permanent employment system in Japan helped insure greater acceptance for labor flexibility. Permanent employment in Japan was extended to the majority of semi-skilled blue-collar workers in large-scale industry after World War II. At that time workers demanded through "enterprise" unions a means of preventing massive dislocation from contracted employment caused by a peace economy (Cole, 1979: 12). Over-population in the countryside also led to the need for a system to be created which would provide security for urban workers. Workers were rewarded according to age and length of job service; workers who left a firm in the middle of their work cycle were penalized. But workers who remained in their firm had the security that they would not be forced to return to the rural areas (Ibid.: 19). Another reason for flexible labor practices through job redesign has been the need to make work attractive to workers in industries with recruitment and turnover problems e.g. the steel and auto industries in Japan (Ibid.: 129).

However, an underlying political factor behind labor flexibility in Japan is the political weakness of unions; their inability to prevent a practice clearly favored by management. Robert Cole, a student of Japanese labor practices describes the history behind labor acquiescence to management design of work roles as follows:

> Among Japanese unions there was considerably less interest in crystallizing the rights, duties, and boundaries of jobs than in the U.S. In the

> pre-World War II period the unions had trouble simply establishing their legitimacy. Furthermore, Japan experienced a labor surplus rather than labor shortage throughout much of its industrialization. Consequently control over job opportunities and the job specification that follows from this, was less feasible as a union strategy (Ibid.: 103).

Similarly, other commentators have observed that Japanese trade unions are part of a larger management structure. A 1973 study of the Japanese economy noted:

> Nissan, in which all 118 permanent officials of the union are members of the supervisory staff, is simply one of the most advanced examples of a very widely-based trend in Japanese industry (Halliday and McCormack, 1973: 186).

More recently, Business Week described Toyota's labor-management relations as follows:

> Every Toyota worker belongs to the company union, but it's almost part of the administrative structure. There has been no strikes since Toyota fired 25% of its work force in a dispute in the early 1950s (Helm, 1985b).

But beyond the advantages of the Japanese production system one must also look to larger financial and political realities which support Japanese industry. Japanese automobile companies are part of larger financial trusts which readily provide finanicial support and management advice when auto firms develop economic problems (Alstshuler et. al., op. cit.). Government subsidies may also provide the Japanese with advantages although economist Paul Krugman has argued that subsidized competition does not necessarily hurt U.S. industry: "A protected domestic market that serves as a spingboard for exports is more characteristic of innovative, high-technology sectors than of mature sectors like auto and steel" (Krugman, 1984| 83-84). Finally, Japan's advantages are also based on the role women play in the economy:

> Exporters and their low-margin suppliers use women to fend off low-cost Third World competitors--and to maintain big profit margins in U.S. markets. Some 30% of women work in exporting companies...the growth of the female work force has held down wages across Japan by creating a labor surplus (Helm and Takahashi, 1985).

This suggests that in one respect "low wages" may be a source of Japan's advantage in production with the U.S. Yet, the U.S. auto industry has its own pockets of lower paid workers in the supplier industry. Such low wages are supported by the use of migrant labor as we will discuss in Chapter Five.

Flexible Production and Changing Markets

The changes which have taken place in U.S. markets and the advantages of Japanese techniques in lowering costs and producing higher quality goods since the 1970s suggests that comparative advantage in the auto industry now also depends on the implementation of flexible production systems and production geared for higher valued added autos e.g. capturing sales for large and luxury cars. As explained by Nissan Motor Co. Executive Vice-President Yoshitada Uchigama:

> This is the second phase...with small cars, we had an advantage because of the oil crisis. The real competition will be in mid-sized cars. That will decide the fate of the Japanese auto industry (Treece and Hampton, 1985b).

In fact, Toyota and Nissan have made more money on larger cars than subcompacts. They clear almost $5,800 on each intermediate car they sell in the U.S., compared with only $933 for a subcompact. A report at the close of last year noted that the Japanese auto makers are shifting production for U.S. markets away from smaller cars. The change comes as

the market in the U.S. has shifted to more luxurious cars. The rise of an affluent "baby boom" consumer market, the shift to two-income households and smaller families have all increased demand for larger cars. Luxury models have only accounted for 10 percent of the cars sold in the U.S., but the figure could could grow to at least 15 percent by 1990 (Hampton, 1985c).

But while the Japanese producers are now building larger and more luxurious cars than they did in the 1970s, Americans have sold smaller cars (although they are increasingly imported) and scaled down the larger models. Traditionally, U.S. production of large vehicles and the lack of foreign alternatives blocked foreign entry in key product markets (Altshuler, et. al., op. cit.). However, the difference between size categories of cars produced at home and abroad are rapidly narrowing. As a result, U.S. producers are increasingly vulnerable in markets which are critical to their profit posture. Luxury cars by one estimate account for about one-third of the Big Three's profits each year. Car makers also admit that they clear about $5,000 on each luxury car that sells for $17,000 or more, while they barely break even on small cars (Hampton, op. cit.).

In addition to the growing importance of luxury cars, some argue that the instability and segmentation of markets makes it imperative for U.S. producers to adopt a system of flexible specialization in automobile production. Under this system firms "<u>specialize</u> in certain <u>types</u> of outputs, but not in the production of outputs in large quantities...as in mass

production". Although firms can make use of relatively sophisticated technologies, they do so "in the form of general purpose machines rather than large scale integrated machine systems". As can be seen in the example of Japanese auto production, the flexibility of the system has two components: management and labor. With supplier operations divorced from assembly, the costs of model changes are no longer absorbed by one integrated operation. Product lines can be switched more easily when production is not based on integrated machine systems, which are dedicated to one narrowly defined output (Christopherson and Strorper, 1985). In the U.S. die mold transition (or set up) time is eight to twenty four hours, in Japan five to twenty minutes (Harbour, 1986).

The changing structure of Western markets also has made dedicated large scale manufacturing systems a distinct disadvantage. This was particularly clear during the oil shortage. At that time rapidly fluctuating demands for fuel-efficient cars made it difficult to use dedicated large scale equipment geared to a certain product line. The costs of not using a flexible manufacturing labor/production system were highlighted by both business uncertainty and contracted markets i.e. there were no longer large guaranteed markets in which consumers were certain to purchase a specific kind of automobile (Piore and Sabel, 1984: 176). The jumbled flow operation is also more flexible to product and volume changes (Hayes and Wheelright, 1979: 138). Flexible production allows Japanese firms to meet rapid change in the form of strategic moves by competitors. The Japanese producers have begun to

fragment the market for standard cars into a series of distinct submarkets. They produce a distinct chasis, engine, and finishing package for each submarket. Thus, they have a "production strategy of flexibility" which matches "a marketing strategy of real product differentiation" (Friedman, 1983: 351).

The need for product flexibility has also become critical in the auto industry because of the "dematurity" of the auto industry. This term, coined by the authors of Industrial Renaissance, suggests an increase in the diversity of product technology offered in the market in response to consumer demands for improved quality products and product improvements associated with process innovations that make the use of cars easier, cheaper or more attractive. Among the new innovations in the works are fluorescent dashboards, computerized gears and raindrop detectors which automatically activate the windshield wipers (Petre, 1985). As product markets are increasingly fragmented and based on demand in key product niches, flexible specialization has become an important element in capturing markets:

> Because the automobile is probably the most complex consumer good and provides such services for the buyer as status, recreation, entertainment, and comfort in addition to basic transportation, a producer always faces a challenge in successfully combining product designs, production systems, and market placement in a mix that is right for all times (Altshuler, 1984: 128).

Will Japanese Technology Systems Reshape the U.S.?

It could be argued that the tremendous productivity advantages in the Japanese technology/manufacturing system

will reshape the organization of production in the U.S. auto industry. Past increases in energy prices and the lower sales price of Japanese imports are both important forces promoting technological organization which reduces costs. A review of technologies which improve gasoline mileage by the Organisation for Economic Cooperation and Development (OECD) such as diesel engine technology, increased use of ceramics and plastics, increased compression ratios and the use of more durable steels all involved heavy outlays for research and devlopment and high initial production costs. Such product innovations are rooted in the need to reduce vehicle fuel consumption (OECD, 1983: 54 ff.).

The innovations which improve mileage are costly, putting pressure on management in Western nations to lower their costs in any way possible. In the U.S. and other Western nations, auto manufacturers have turned to the use of flexible manufacturing systems (F.M.S.) and robotics. Robotics replace labor with machines, reducing wage costs. F.M.S.:

> consist of a line of machine tools and transfer machinery which can easily be reprogrammed to manufacture several types of components, or the same type of component of different size specification (OECD, 1983: 64).

F.M.S., like Japanese quality control systems, save on labor costs by improving product quality as the number of quality inspectors can be reduced. The increased use of robots is based on simple economics: In 1980, the total cost for an automaker to buy and operate a robot over two shifts for eight years was about $6 per hour. As we have seen, total compensation for U.S. autoworkers runs at about $20 per hour

(Shaiken, 1984: 162-63). In short, there are two opposing trends in the U.S. auto industry: product innovations which add value to autos and make them more expensive and process innovations which reduce labor and manufacturing costs (OECD, 1983: 66).

The preference for F.M.S. and robotics rather than more extensive use of Japanese techniques as suggested earlier is rooted in management's desire for stability and labor control as well as accumulated traditions. Some have argued that U.S. management's preference for outsourcing parts is also based on a strategy of limiting workers' power and moving production to cheap wage areas overseas. As a result, outsourcing limits the use of just-in-time economies dependent on the close proximity between supplier and assembler (Piore and Sable, 1984). The conservatism of Japan's unions and lower wage rates in Japan have made just-in-time more feasible than in the U.S. In the past, American trade unions also have resisted the flexible labor system of Japan.

Yet, there are several forces at work which make the use of Japanese manufacturing techniques in the U.S. increasingly likely. The Big Three U.S. automakers are beginning to follow Japanese manufacturing practices.[1] For example, the number of steel suppliers used by G.M. has been cut back, and G.M. is also choosing suppliers based on their proximity to G.M. fabrication plants and their ability to produce high quality steel products (Schonberger, 1982: 179). A recent report noted that "The industry's usual one-year, multiple source contracts...are giving way to exclusive agreements that run

for five years or longer" (Hampton, 1985b). The use of Kan Ban or just-in-time techniques has been applied at General Motors' Buick Motor Division. A March 1985 report noted that the inventory on hand and in process at Buick was reduced from $48 million to $25 million through Kan Ban techniques. Buick planned to further cut its inventory to $13 million once its massive "Buick City" program had begun by the end of last year (Westfall, 1985). The U.S. automakers are also experimenting with job rotation and flexibile work rules in some of their plants. Japanese auto and motorcycle plants in the U.S. have already successfully introduced just-in-time, quality control and flexible labor arrangements to their plants (Schonberger, 1982). We will return to an examination of these issues in Chapter Four.

What forces will promote these trends? First, there are clear limits to the increased use of automation. Harley Shaiken notes that the expensive automated equipment increasingly used by the automakers is very vulnerable to sabotage and has at times been foiled by worker resistance to automation (Shaiken, 1984). However, it is not clear that a technology policy which deskills workers or removes them from the process of quality control will produce the quality products demanded by consumers (Abernathy et. al., 1983). This suggests again that automation and F.M.S. can not be counted on to deliver the quality products increasingly demanded by auto consumers.

Whether or not labor flexible practices will be introduced in the U.S. depends in part on U.S. labor and trade

union response to management initiatives. Some observers of the labor movement believe that the advantages of the flexible manufacturing system portend problems for workers who resist flexible labor arrangements:

> Changes in the conditions of international competition are forcing producers to increase the flexibility of production while reducing the costs. These adjustments entail changes in work tasks, job ladders, and employment security...Where unions are resisting change, they may pay a ruinous share of their industries' defeat in international competition. Where they are cooperating, they may be the the victims of the very successes they encourage (Katz and Sabel, 1985).

This assessment implicates workers in the process of making companies competitive. It bears a striking resemblance to another view in which workers must pay a price if they resist technology:

> If you resist technology, you'll lose jobs because of uncompetitiveness with competitors that didn't. If you don't resist technology, you'll lose jobs because technical progress will raise productivity in excess of the growth rate of output (Luria, 1982).

Both of these approaches assume a relatively open economy and the costs that entails for workers unless they are able to renogiate the terms on which they work with management. Would protectionism isolate workers from automation which is needed to compete with foreign producers? We address this question at length in Chapter Four. At this juncture it should be noted that the choices are not so clear as laid out above. If workers' or management resistance to new technology increased dramatically, then the introduction of automated production systems would hardly make us more competitive in the world market. There is evidence that worker sabotage and machine failure clearly limit the usefullness of some forms of new

technology (Shaiken, 1984). More importantly, if protectionism provided companies with increased profits it would make it easier for workers' to demand and management to provide a shortened work week to provide full employment in the face of technology-based productivity increases. In recent years management at the German Manufacturer IG Metall claimed that to shorten the work week would be too costly. An open economy precisely raises such relative costs. On the other hand, management would not have its backs against the wall and workers would have confidence that companies could make greater concessions if corporate profit rates stabilized or markets were relatively sheltered by protectionism.

Turning to the dilemma rooted in flexible labor, it is unclear whether or not this is a "dilemma" at all. Flexible labor systems hinge clearly on labor-management cooperation. In the American context, such cooperation has usually proven detrimental to production workers at the Big Three auto companies. U.A.W. activist Eric Mann, based on his observations of labor-management relations at the G.M.'s Van Nuys plant, argues that the "team concept" in which work groups attack production problems will be used to speed up production. Such speed-ups will result in labor displacement. This pattern can be seen in Quality of Work Life (Q.W.L.) experiments at G.M.'s Tarrytown, N.Y. plant where quality circles were introduced as a management device to co-opt workers faced with a speed-up. Mann argues that the team will be used to get workers involved in discipline if workers don't show up to work as managers put pressures on workers to

meet production quotas. Team members, subject to racial or sexual biases, can work against fellow workers in greivance proceedings as well (Mann, 1986).

Mann's thesis that labor-management cooperation and displacement are linked is supported by an internal document prepared by G.M.'s Vice-President of Industrial Relations Alfred Warren and leaked by a union activist. The document detailed G.M.'s plans to reduce man-hours per car by continuing its assault on local work practices. The Warren memo suggested that plant management and supervisors "actively support local changes in work practices and seniority bumping procedures that increase productivity" (Russo, 1984). There is also no guarantee that management will use productivity gains reaped from worker cooperation in a way that will benefit labor. Knowledge shared by workers with managers can easily be transported across national boundaries. Flexible labor schemes can be used to intensify competition among workers, a problem seen in Q.W.L.:

> ...the more worker knowledge is articulated, polished and presented in a formal package to management, as happens in QWL, the more likely that those techniques will be used in the "competing " operation (Parker, 1985: 86).

The strategy adopted by the U.A.W. at G.M.'s Saturn project suggests that labor leaders are willing to cooperate with mangement to do whatever is necessary to save jobs and enhance productivity. Last July, the U.A.W. negotiated a labor agreement which followed the Japanese practice of supplementing salaried pay with bonuses and involved greater worker participation. Labor flexibility was a central

element:

> Workers will not be restricted in their tasks. Job classifications will be reduced from scores to a maximum of six--one for all unskilled workers and up to five for skilled employes. Production will be by "work groups" of six to 15 people, and groups will interact (Maynard, 1985).

The Saturn deal even includes provisions for job guarantees, another practice resembling the Japanese auto industry.

It is not clear how far the Saturn model will go towards reshaping U.S. labor and technology in the image of Japan. Labor may resist any attempt to use flexible work rules or manufacturing techniques in ways which bring speed-ups or the intense fragmentation of work. The history of G.M. at Lordstown tell us this much.

Outsourcing and Cheap Labor Overseas: A Divergence from the Japanese Pattern of Competition

Changing patterns in the U.S. automobile markets have lead Japanese producers to target the large and medium sized car markets (especially with U.S. production). However, the small car market is now being threatened by other foreign producers such as the Koreans. Korean auto workers make considerably less than their Japanese counterparts. Here, wages play an important role in driving down costs. As a result, the Korean "Hyundai Pony" has surpassed Japanese models as the best-selling car in Canada (Proper, 1986). The Korean producers have begun to plan a major import drive in the U.S. The U.A.W. estimates that by 1988 U.S. imports of Korean produced cars could reach 430,000 or 10 percent of the total import share (U.A.W., 1985a).

U.S. parts outsourcing is also supported by the cheaper wages paid to foreign workers engaged in the motor vehicle industry. As a large and stable demand for small cars emerged in the 1970s, U.S. multinationals were able to supply the home market with parts from Latin America and European subsidiaries geared to more fuel efficient production. With dedicated production machinery, the start up costs of new models has been enormous. In the past this limitation favored the adoption by car manufacturers of a "world car." Under this strategy, limiting the number of models produced offered car producers a means of reaping economies of scale in design and production. There were a limited number of models with high production runs. According to Ford executives, the world car was a vehicle "with a uniform engineering philosophy and sufficient commonality in component design to permit optimum use of the productive resources of the company" (Jenkins, 1984).

Common design of cars allowed a tremendous saving in pre-production costs: "Ford estimates that it saved $150 million and 15,000 man-years in engineering time through its worldwide approach to developing the Escort" (Ibid.). Such standardized design and decentralized production has grown with advances in computer technology and telecommunications. "Computer technology enhances the ability to decentralize without the price of operations becoming disorganized" (Shaiken, 1984: 235). Production of jointly designed cars can also be decentralized even though manufacturing operations are in different nations. In the case of the Escort:

> The basic design parameters of the car were determined at Ford World Headquarters in Dearborn, after which teams of Ford engineers throughout the world developed the major components (Ibid.: 238).

The uncertainty associated with changing consumer demand and oil shocks and the advantages of flexible specialization have made the dedicated production scheme of the world car obsolete. The advantages of supplier-producer proximity have also placed limits on decentralized production. However, outsourcing and the just-in-time system are not mutually exclusive (Sabel, 1986). Production located in low-wage areas such as Mexico can still be considered "close" to the U.S. More fixed components such as engines can be made there, while other components subject to changing consumer tastes (e.g. car bodies) can still be located in the U.S. Also, parts manufactured under flexible production can always be supplied from the U.S. although assembled with less skilled workers abroad.

Despite the demise of the world car, coordinated design has lead to coordinated supply of parts to the U.S. from Latin America, Asia, Europe and Japan. The demand for small cars and increased competition from Japan has expanded the number of joint production agreements between U.S. and Japanese auto makers (See: Chapter Three). Under such agreements the Big Three have imported more parts and entire vehicles from Japanese auto makers. U.S. auto makers have sought such agreements because even as U.S. cars have improved in gas mileage, they have not matched Japanese autos' quality. U.S. firms can also make more money by selling cars with Japanese

parts (or entire vehicles) because of Japan's cost advantage in producing smaller cars.

U.S. sourcing from Third World nations has also increased. Third World nations seeking to protect their native auto industries have placed local content limits on U.S. multinationals. Nations such as Brazil and Mexico have also encouraged the expansion of engine plants in multinational subsidiaries through export subsidies and tax concessions. Such inducements have at times made overseas production more profitable than U.S.-based operations (Cohen, 1983b: 547). The cheaper costs of parts production (as opposed to fully aseembled autos) in the Third World has also encouraged multinationals to expand overseas operations (Kronish, 1984: 83-84).

U.S. workers also face competition from exports based in the "maquiladoras" or assembly plants in border regions in Mexico. In the mid-1960s Mexico instituted a Border Industrialization program. The Goverment allowed duty-free imports of machinery, equipment, and components for processing or assembly within a 12-mile strip on the border. Under the plan all imported products were to be re-exported. $2.5 billion was exported from the maquiladoras in 1980, with $2.3 billion going to the U.S. About half of the exports was value added (including material) in Mexico, the balance was primarily U.S. components. European and Japanese firms are starting to set up operations in the assembly plants (Grunwald, 1983).

U.S. auto companies have set up many operations in such

regions in Mexico. G.M. has three Packard-Electric division plants located in Juarez, Mexico, employing 1,077 workers. The plants produce 20,000 wiring harnesses per day which are shipped across the border to the U.S. where they are installed in G.M. trucks and auto dashboards. Fisher body, also in Juarez, makes seat covers and trim. There is also a Delco-Remy plant where workers assemble fuel management devices for computer-controlled auto systems.

The importance of Juarez production for U.S. markets can be seen in the scale of production and labor cost advantages. There are 150 plants in Juarez, where the average wage per day is $3.54. The work week runs 48 hours and plants have no unions. A September 1983 report noted that 80 to 90 percent of engines produced at a new plant in Chihuahua were destined for use in the U.S. in Ford-Tempo and Mercury-Topaz compacts. While 10.3 million cars were sold in the U.S. in 1984, a 1983 estimate suggested that "G.M.'s enormous, modern engine plant near Mexico City will have a maximum delivery capacity of two and one half million V-6 engines per year by 1986" (Westfall, 1983).

Domestic Implications of Foreign Competition

The cost advantages of foreign production and the superiority of Japanese manufacturing techniques to those in the U.S., as well as the politically constrained conditions of labor overseas, help explain the advantages of foreign producers in U.S. markets. This pattern is not uniform, as Brazilian industry has expanded in spite of a wave of militant

strike activity in the 1970s and could conceivably become a major exporter to the U.S. Korean auto workers in 1985 have struck successfully for higher pay although they are still paid considerably less than their U.S. counterparts (Proper, 1986). Others argue that low wages do not explain all of the cost advantages of outsourcing and see subsidies and foreign government incentives as more important (Cohen, 1982; Jenkins, 1985). Land costs are also a factor in the relocation of supplier firms from Los Angeles to Mexico (Morales, 1983). Nevertheless, the relatively constrained labor and lower wages paid overseas, as well as foreign subsidies, and production advantages combine to provide foreign producers with advantages in the U.S. market. Such advantages suggest that "free trade" would be detrimental to U.S. producers.

The advantages of the Japanese system also raise questions about how labor and production relations will be reshaped within the U.S. One question that emerges is whether the Japanese system will change the relationship between labor and management by producing more flexible labor in the U.S. This could weaken the power of U.S. workers considerably as suggested above. It is not clear whether protectionism could slow the process of management demands for flexible labor. However, by removing cost pressure from other nations which adopt flexible labor there may be limited space provided for U.S. workers. Given that the Saturn plant is already in place, it seems likely that U.S. producers are committed to highly automated systems which require interchangeable labor.

Another question raised by the Japanese system and the

rise of flexible production systems is their role in shaping the location of U.S. production i.e. the movement of Japanese producers to the U.S. and the building of new plants by the Big Three in the U.S. As we will see in Chapter Three the advantages of Japanese producers can be transferred to the U.S. to reap cost economies within the U.S. market. Automation and flexible production may also make outsourcing less feasible. As a result, protectionism could be irrelevant as more and more production moved back to the United States. Or, protectionism would have to redefined to address how the domestic cost advantages of domestic Japanese producers affect the Big Three. We discuss this issue in Chapter Three.

Also, as Japanese production systems reshape the relationship between U.S. suppliers and assembly operations, cost competition increases parts outsourcing and the number of captive imports from Japan. We have shown through our description of foreign auto production suggests that protectionism might limit outsourcing and captives by removing foreign companies' cost advantages i.e. taking such costs out of competition with domestic market production.

1-It should be noted that some "Japanese practices," such as low inventory accumulation, "zero defects," and quality-of-work life programs had their origins in U.S. management practice. The successful Japanese perfection of these techniques has created a dynamic situation in which the search for higher market share (through lower costs/prices and higher quality products) has lead the U.S. to re-examine ideas and practices now favored in Japan. However, it seems unlikely that the U.S. would have been forced to implement these techniques by the market without the competition from Japanese producers.

Chapter Three: Changing Market Share, The Demand for Labor and the Protectionist Regime

Imports, Job Loss and Recession

We have already indicated that the changing nature of comparative advantage in the auto industry presents a serious challenge to domestic auto makers and threatens to dramatically increase market share of foreign producers within the U.S. Having reviewed the nature of the Japanese trade advantage, we can better evaluate the ability of protectionist measures to increase labor demand and market share of domestic producers. We now return to the analytical framework described in Chapter One.

Our first hypothesis argues that rising import levels were responsible for depressed U.S. sales of automobiles and resulting unemployment among workers in domestic industry. The link between unemployment and the growth of trade can be seen by examining trade statistics describing imports and exports in the motor vehicle industry. The U.S. trade deficit for autos, trucks and buses, and bodies and chasis increased from $10.9 billion in 1979 to $23.8 billion in 1983. Table 3-1 shows the trade deficit for these products in millions of dollars. The data indicate that trade patterns in the motor vehicle industry were not conducive to employment growth. In fact, one study of the motor vehicles industry from 1970 to 1980 revealed that the decline in employment due to trade was larger than the increase due to domestic use i.e. consumption, government purchases and investment (Lawrence, 1983: 137).

Table 3-1: The Trade Deficit in Autos, Trucks, and Buses (Bodies and Chassis): 1979-1983 in Millions of Dollars

Year	Imports	Exports	Trade Deficit
1979	18,466	7,563	10,903
1980	21,039	6,550	14,489
1981	22,588	6,697	15,891
1982	25,539	5,029	20,330
1983	29,906	6,108	23,798

Source: "Summary of Trade and Tariff Information: Automobiles, Trucks, Buses and Bodies and Chassis of the foregoing Motor Vehicles," USITC Publication 841, June 1984, United States International Trade Commission, Washington, D.C.

We have already seen that increased imports of small cars increased throughout the 1970s. How much did the shift to small cars come at the expense of domestic auto makers? On the intuitive level it may be possible to separate the effects of rising import penetration and recession by reference to Appendix One. Of all the Big Three car makers General Motors had the largest share of larger cars as a percentage of total sales. Ford and Chrysler, having a larger percentage of smaller cars, were more sensitive to imports throughout the 1970s. As can be seen in Appendix One, G.M.'s market share increased throughout the 1970s, while Ford and Chrysler's fell. Yet, one could argue that G.M. was more "recession proof" than Chrysler and Ford as those who buy larger cars have higher incomes and are affected less by a recession. Several studies have argued that G.M. has unique advantages

because of its size and market power, as compared with its smaller rivals, Ford, Chrysler and American Motors Corporation (Kwoka, 1984).

Critics of protectectionist policies argue that the number of jobs lost from recessionary effects in the auto industry outweigh the jobs lost from increased import share (MacEwan, 1986). Robert Z. Lawrence, an economist at the Brookings Institute also argued that changes in domestic use of motor vehicles, rather than imports, contributed most to declining employment levels throughout the 1970s (Lawrence, op. cit.). He found that radical changes in the world economy after 1973, with increased stagflation, volatile exchange rates and increasing government intervention in trade produced different findings for the auto industry than when 1970 is used as a base year to measure employment and output changes up to 1980. In a trade study employing input-output techniques, Lawerence found that:

> ...of the 24.1 percent decline in the output of the U.S. automobile industry from 1973 to 1980, 18.6 percent could be attributed to a decline in domestic use and 5.5 percent to changes in net trade balance. Even if Japanese imports had remained constant during this period, the problems faced by the U.S. automobile industry would have been severe (Ibid.: 138).

Table 3-2 describes Lawrence's findings on the impact of changes in domestic use and trade on employment and value added in the Motor Vehicle and Equipment industry. Lawrence found that imports reduced employment in auto assembly and parts by .91 percent per year between 1973 and 1980, leading to a total loss of 6.6 percent of the jobs in the auto

Table 3-2: Percent Change in Employment and Value Added Resulting From Foreign Trade and Domestic Use, U.S. Motor Vehicles and Equipment Industry, 1970-80, 1973-80

	1970-1980		
	Total	Change Due To Foreign Trade	Change Due To Domestic Use
Value Added	21.6	-15.4	37.0
Employment	-1.3	-11.1	9.9
	1973-1980		
	Total	Change Due To Foreign Trade	Change Due To Domestic Use
Value Added	-24.1	-5.5	-18.6
Employment	-19.2	-6.4	-12.8

Source: Lawrence, 1983.

industry i.e. approximately 61,700 jobs (Scott, 1985: 7).

Lawrence's findings have been challenged by other economists who question his use of the input-output technique to model trade-induced job loss. Robert Scott, in a study for the Office of Technology Assessment, found that:

> Lawrence's technique seriously underestimates the number of auto workers who were actually or potentially displaced by vehicle imports because it focuses on changes in the number of imports rather than the market share of imports (Ibid.: 9).

Rising market shares of imports represent an opportunity cost for domestic production. By this line of reasoning, if

imports in 1980 had held their 1973 market share, domestic auto sales would have been approximately 1,015,000 units higher, "rather than the 635,000 suggested by the Lawrence-type analysis" (Ibid.: 10).

To separate out the cyclical from the trade impacts on employment, the fall in domestic production from the 1973 peak year must be adjusted by the percent total motor vehicles fell i.e. assuming domestic motor vehicles held their peak 1973 market share, how much would they produce in a depressed 1980 market? Using this technique Scott found that employment fell by 204,000 workers between 1973 and 1980 for purely cyclical reasons. In contrast to Lawrence's findings that there were 819,000 units in direct sales losses from trade, Scott found that the increase in market share by foreign producers represented 1.238 million units (at 1980 levels of total sales) i.e. an opportunity cost of 1.238 million in sales to U.S. production. Changes in inventories linked to increased imports accounted for the loss of another 50,500 workers in the 1973-80 period (Ibid.).

Our analysis of Japan's competitive edge through lower costs and flexible specialization in Chapter Two suggests that Scott's method has clear advantage's over Lawrence's. For example, Scott linked job loss from increased outsourcing and automation to job loss, modeling the indirect loss of jobs from rising import penetration. Lawerence's method is not able to account for such indirect import-induced job loss.

Even if rising import levels are associated with job loss and depressed market share, critics of protectionism contend that it is not the open economy which is primarily responsible for the penetration of U.S. markets by imports. Rather, recession, high federal deficits, inflated interest rates and the appreciation of the dollar are blamed for contracted domestic sales and the attractiveness of imports (Dollars and Sense Collective, 1986; MacEwan, 1986). Trade problems are primarily linked to "Reaganomics," rather than the open economy. Job loss is traced primarily to recession and the appreciated dollar rather than manufacturing or labor cost advantages of the Japanese. However, while the appreciated dollar has created trading problems for the U.S., protectionist critics have not fully accounted for the limits of dollar devaluation in changing import levels; they also seriously underestimate import-induced job loss.

An article in Dollars & Sense expressed the view of many progressive critics of protectionism, linking import penetration and reduced domestic sales to the problems descibed above. The real value of the dollar rose approximately 60 percent between 1980 and March 1985. This rise in the dollar prompted domestic demand to shift to less expensive imports. Exports fell because foreigners found U.S. goods more expensive to purchase. High budget deficits have lead to an increased demand for credit but exacerbated lenders' fears that inflation would increase in the future. Resulting tight credit policies (through high interest rates)

have attracted foreign investment capital into the U.S. However, as U.S. goods increase in price, they are less attractive to foreign nations as imports. The rise in the dollar increases the price of goods priced in dollars and purchased overseas. This "exports inflation" to other countries who react with deflationary policies which serve to contract overall world demand and trade. As a result, there may be less purchases of U.S. goods by foreigners (Dollars and Sense Collective, 1986).

It is certainly true that recessionary policies and dollar appreciation complicate the ability of domestic manufacturers to sell their products at home and abroad. However, the argument that the open economy bears no responsibility for job loss is clearly open to question. We have already seen that rising import levels in the 1970s were linked to serious job loss in the auto industry. There is a problem with extending the above analysis to the auto industry as well. Exports have not played a significant role in U.S. automotive sales. While it could be argued that this has something to do with an over-valued dollar (e.g. prior to 1985), the more significant factor is that local content agreements abroad do not encourage the servicing of foreign markets for autos with production based in the U.S. The rise in export platforms in numerous industries, where products are assembled overseas from U.S. components, has created a long-term problem for the U.S. trade balance as has the rise of multinational enterprise (Bluestone and Harrison, 1982; Block,

1977a). Recent changes in trade policy, such as Reagan Administration efforts to lower the value of the dollar in 1986, indicate that devaluation and Reaganomics are not at odds i.e. recessionary fiscal and monetary policies can be complemented with dollar depreciation. Progressive critics of protectionism also fail to address how changes in the value of the dollar have occured without new macroeconomic policies.

There is a link between federal budget deficits and trade deficits as increased federal deficit spending has lead to increased purchases abroad (Lawrence and Litan, 1985: 6). However, there is also clear evidence that the effects of recession and the effects of trade on employment can not be neatly divided. For example, Data Resources Incorporated, a Boston based consulting group, found that imports of Japanese cars could increase to three million by 1987, boosting the current trade deficit with Japan by $6 billion (Hampton, 1985a). As noted earlier, optimistic projections for U.S. car sales in 1988 suggested a market for 11.2 million cars.

The links between recession and import penetration run deeper than the direct and indirect loss from trade in just the auto sector. Sector specific trade deficits contribute to structural reactions by the government to set in motion a deflation in response to trade imbalances. While the U.S. has followed the course of "exceptionalism," letting foreign debts accumulate and making foreign nations take the loss from our devaluations, there are clear limits to this policy in the long run. The structural constraint on deficits, as described

by British economist John Eatwell, is worth describing at length:

> But if there is a systematic tendency for a country to be in deficit--to be a borrower from the rest of the world--something has to be done. Reserves will eventually run out, and debt cannot be accumulated indefinitely. Ultimately, creditors will not be willing to lend any more to a delinquent borrower, and the borrowing country will not be able to buy more on international markets than it can pay for directly with its exports. It will be forced to cut imports, both by limiting the purchases of foreign goods by consumers and by slowing down the output of import-using industries--perhaps precipitating a major cut in living standards. Since this dire outcome must be avoided, the need to preserve, on average, balanced international payments is a fundamental constraint on any government's freedom of manoeuvre in economic affairs (Eatwell, 1982: 92).

The usefullness of protectionist measures as a means to reflation has been discussed at lenght by British economists associated with the Cambridge Economic Policy Group (CEPG) and the Alternative Economic Strategy. While the British model is not directly applicable to the U.S., it does indicate how protectionism can support a reflation. The U.S. may also find itself having to pay off trade deficits if foreign nations shift to non-dollar currencies. The rise of Japanese multinational capital suggests the yen as one replacement for the dollar and the power of Japanese banks is growing.

A dramatic rise in the values of Britain's oil imports after the OPEC price rise in 1973 and Britain's entry into the European Economic Community (EEC) that same year helped accelerate worsening trade deficits linked to growing import shares (CSE Working Group, 1982: 40-41). The government's response to the worsening balance of trade led the British government in the 1970s to adopt restrictive fiscal and

monetary policies. The objective of the deflation was to avoid large balance of payments deficits by depressing import purchases. However, the deflation only served to reinforce the depressing effect of a weak trade performance (Ward, 1981: 94).

Both the Cambridge Economomic Policy Group and Alternative Economic Strategy models were developed as alternatives to this kind of government sponsored deflation. These proposals were developed as a way to bring economic growth that would not aggravate the balance of payments problem and as vehicles for limiting the spread of import-linked unemployment. Both the U.S. and Britain have faced the problem that rising income or growth levels lead to increased import purchases. An October 1980 Department of Labor report stated that there was strong empirical evidence that: "The U.S. propensity to spend extra income on imports [was] higher than that of our major trading partners" (Bureau of International Labor Affairs, 1980: 10). In the U.K., a similar pattern emerges:

> ...as home demand expands, imports (particularly of manufactured goods) have risen by a far greater proportion--roughly a 1% increase in demand has brought a 4% in the volume of manufactured imports (CSE Working Group, 1982: 92).

The AES and CEPG model both begin the case for import controls by arguing that deflation will not bring long term economic health to Britain; deflation will not create the economic expansion required to make the U.K. competitive in

the world market. Deflations used to control imports (and import purchases themselves) both lead to an underutilization of productive capacity and foster unemployment and stagnation. Devaluations can lead to a viscious cycle of underdevelopment, trade cycle deflation. This form of deflation arises because if output is growing slowly or declining and there is little prospect of sales growth, investment in new plant and technology will be hampered. This restrained investment weakens trade performance by making industry less competitive; decreased competition causes loss in market share, further recession and completes the trade cycle (Ward, 1981: 96).

AES strategists also believe that devaluations are generally unsuccessful in limiting imports. They cite data which shows that a 2% depreciation leads to only a 1% fall in the volume of exported manufactures: "In other words a massive devaluation of some 15-20% would be necessary to offset the stimulus to imports of a 4% expansion of home demand." Devaluations are of limited use since "import prices tend to get built fairly quickly into wage claims." Consumers as workers demand higher wages to compensate for the increased price of imported goods (CSE Working Group, 1982: 94). By blocking limiting import penetration, protection holds open the possibility of reduced deficits without a wage-price spiral especially if used in conjunction with price controls (See: Chapter Five).

Given the problems associated with the established trade control mechanisms of deflation and devaluation, both

the CEPG and AES groups go on to propose alternative methods of controlling balance of payments problems. Under the CEPG model, economists Francis Cripps and Wynne Godley suggest, "the use of uniform tariffs on imports of services and manufactures, or alternatively some form of auction of quotas to make a predetermined amount of foreign currency available for...imports." Imports of food and raw materials would not be affected under this plan and controls would be applied "so as to maintain the shares of different foreign countries in imports and manufactures and services the same as they would have been." Selective controls could be applied to preserve strategic industries such as steel, "infant" industries at the early stages of their development, or "transitional" industries which would require protection until they are able to adjust to import competition through technological development and restructuring (Cripps and Godley, 1978: 329).

The "infant industry" notion has also been applied to the U.S. auto industry. Harvard's William J. Abernathy has argued that the impact of foreign competition on the ability of Ford and Chrysler to develop competitive vehicles warranted protected markets. While some believe that import penetration restrains competition, others argue that a serious depression in auto makers domestic market share would block technological development. As described in Chapter Two, part of auto makers problems hinge on management inefficiency. Protectionism would not eliminate competitiveness if the U.S. used existing technology more efficiently. The incentive for such efficient

practices could be found in Japanese producers located in the U.S. or through competition in European markets.

One formulation of the AES indicates that import controls could include "action by government such as negotiation of voluntary export restraints, imposition of quotas and the use of public purchasing agreements" (CSE Working Group, 1982: 97). Another left formulation of import controls is that the specific form of protection--tariffs or quotas--makes little difference, provided that the balance of payments constraint on economic expansion is removed (Ward, 1981: 102). A fundamental principle is that a ceiling be placed on imports such that they can be paid for with exports in a full employment economy (Rowthorn and Currie, 1981).

If a successful import control strategy was able to break trade cycle deflation, then protection could lead to economic expansion. Protectionist advocates suggest that learning economies would arise with expanded output and that productivity would also increase with a reflation. Profit margins would rise not from price hikes (inflation) but from lower costs reaped through scale and learning economies. Industrial policies could provide financial assistance for firms whose development was hindered by trade cycle deflation and non-competitive technology (Rowthorn and Currie, 1981; Cripps and Godley, 1978; Ward, 1981).

Appreciation, Devaluation and Limit Pricing

While recessionary policies administered in Washington, D.C. have certainly contracted auto sales, we must ask who would be the primary beneficiary of economic expansion. The Japanese quality advantage and the trajectory of rising import sales suggests that imports would benefit substantially from reflation. As income rises and demand shifts to more luxurious goods, the Japanese ability to supply such high quality automobiles in greater numbers would become a pressing trade problem. If recessionary policies can be linked to a government and corporate reaction to growing successes by workers in raising wage and workplace demands (Bowles, et. al., 1983), then the problem of achieving a reflation becomes in part strategic i.e. how can real income levels and economic expansion be maintained in the face of recessionary pressures? MacEwan (1986) argues that protectionist measures are too divisive to build the political alliance required to increase workers' bargaining power and income levels. Thus, whether recessionary (policies) or lowered income levels can be resisted under the protectionist regime hinges in part on questions of power discussed in Chapters Four and Five.

Will devaluation improve trade balances with Japan? In 1983 and 1984, the trade deficit rose dramatically. Japan contributed 31 percent of the total trade deficit of $170 billion. Yet, "the dollar rose only 7 percent against the yen in those two years, and increased by just 3.8 percent between the end of 1979 and the middle of 1985" (Karczmar, 1985).

Would a strengthened yen or depreciated dollar make Japanese goods less competitive? An examination of Japan's currency reserves provides evidence that it would not:

> ...many items needed in Japanese production (including process energy to run the factory , practically all the new materials in the vehicle, and a number of components manufactured by Toyota affiliates in East Asia) can be purchased by Toyota with non-yen currencies earned in profitable export sales. These transactions would largely mitigate the effects of a strengthened yen (Altshuler, et. al., 1984: 158).

The view expressed above is supported by estimates made by Japanese researchers who concluded earlier this year that even a 30 to 40 percent rise in the yen's value would cut Japan's total export volume only four to five percent (Wysocki, 1986). However, we must assume here that the currencies of "Toyota affiliates in East Asia" e.g. Korea, are not tied to the Yen.

The rapid appreciation of other currencies against the dollar during the course of 1985 has tested the views of those who claim that America's lack of competitiveness hinges most strongly on the value of the dollar against other currencies. The price of Japanese subcompacts such as the Honda Civic rose 9.6 percent from 1985 to 1986, as prices were raised to compensate for the falling value of the dollar. Comparable U.S. models such as the Ford Escort L rose only 3.3 percent and cost $1,700 less (See: Appendix Six). But despite such price hikes, it is not clear that U.S. market share will increase. In the past, domestic producers followed a strategy of dynamic limit pricing against foreign small car competition. According to the theory of limit pricing, if a

cooperating core of firms have little or no cost advantage over a rival fringe, their "long-run profit-maximizing strategy is to raise price and thereby permit the growth of the fringe" (Kwoka, 1984: 512-13). We have already seen clear evidence of the Japanese cost advantage. Evidence in the late 1970s shows that after Japanese firms raise their prices in response to dollar depreciation, U.S. firms will follow a limit pricing strategy by raising prices and conceding market share (Ibid.). An article in the March 28, 1986 New York Times noted a planned 2.9 percent increase in car prices by G.M., following a pattern of Japanese price hikes carried out in response to the falling value of the dollar (Holusha, 1986b). Devaluation and dollar depreciation have proven relatively ineffectual in creating price competition as domestic producers raise prices in response to the pricing policy of import firms.

Even if U.S. auto firms were to reject limit pricing as competition between domestic auto makers may have increased in response to increased import penetration, other factors indicate that devaluation will prove of limited use. Consumers have shown that their demand for Japanese cars is relatively inelastic, as quality considerations remain high in spite of price hikes. In the recent past, while domestic auto makers were offering rebates and having trouble selling their cars, distributors of Japanese imports were charging premiums and facing problems meeting demand for their products (Hammond, 1986). The rapid depreciation of the dollar against

the yen may change this pattern, although the distributors of imports can still remove high priced accessories to make their vehicles competitive (Nag, 1986). Producers also want higher quality Japanese supplied parts. Demand for Japanese parts is also relatively immune to currency fluctuations because "in auto parts, many U.S. plants have meshed imports into their production system so thoroughly that they are now indispensible" (Wysocki, 1986).

Nevertheless, the appreciated dollar has played an important role in declining U.S. competitiveness. Part of the Japanese cost advantage has certainly been based on the past high-value of the dollar. For example, U.S. unit labor costs rose steeply in 1981 and 1982 largely because of dollar appreciation (Alvarez and Cooper, 1984). However, the problems associated with dollar depreciation to do not prove that trade problems will be resolved under an open economy regime or with relatively uncompetitive (e.g. lower quality) U.S. goods.

The Relocation of Japanese Producers to the U.S.

The movement of Japanese auto producers to the U.S. provides the most serious challenge to arguments that protecting U.S. markets will preserve the market share of domestic producers. The rise of Japanese auto producers in the U.S. has been linked to a variety of factors. First among them have been protectionist pressures within the U.S. Several Japanese auto officials have described how their

decisions to relocate within the U.S. have followed protectionist pressure applied in Congress. On November 1, 1979, former U.A.W. President Douglas Fraser "declared that UAW members would boycott Japanese cars unless Toyota and Nissan build assembly plants in the United States" (Winham and Kabashima, 1982: 83). Early pressures by Japanese unions had placed limits on the relocation of production to the U.S. For example, Toyota union leader Shiro Umemura argued that if Toyota began to produce 200,000 cars in the United States, approximately 40,000 Toyota workers would become jobless (Ibid.: 84).

By setting up operations in the U.S., the Japanese are able to avoid both tariffs and the quotas imposed under the Voluntary Restraint Agreement. A pattern can already be detected whereby protectionist pressures against Japanese producers have encouraged the movement of assembly divisions to the U.S. e.g. the creation of Japanese-owned assembly operations for VCRs in the U.S. has followed a pattern already established in the auto industry (Gabor, 1985). Table 3-3 lists foreign cars built in the U.S.

Several trends indicate that increasing foreign investment in the U.S. will be a growing phenomena, indicating the seriousness of the problem of increased Japanese investment in the U.S. for the protectionist argument. First, despite the "wage gap" between the U.S. and foreign nations, wage costs are not a major deterent for some forms of foreign investment in the U.S. In 1974, the share of

Table 3-3: Foreign Cars Built in the U.S.

Manufacturer	Plant Site
Toyota-General Motors	Freemont, California
American Honda Motor Co.	Marysville, Ohio
Nissan	Smryna, Tennessee
Mitsubishi-Chrysler	Illinois
Mazda-Ford	Flatrock, Michigan
Volkswagen of America	New Stanton, Pennsylvania
Renault-American Motors Corp.	Kenosha, Wisconsin

Source: New York Times April 21, 1985, March 19, 1986.

direct labor costs in total costs was only 12.1 percent for all foreign manufacturers (Schoenberger, 1985: 253). The low value of the dollar in the 1970s also encouraged manufacturing investment in the U.S. Japanese investment in the U.S. rose from $0.7 billion in 1979 to $2.7 billion in 1981 (Armstrong et. al., 1984: 376). Japanese investment in the U.S. was $1.7 billion dollars in 1983. Whether financial or physical capital, such investment has been associated with an increase in manufacturing purchases. Between 1980 and 1983, Japanese investment in the U.S. manufacturing facilities rose 63 percent (Sease, 1985).

The fluctuation of currency values together with the growing convergence of U.S. wages with those of foreign nations help explain why Volkswagen opened production facilities in 1979 at a plant in New Stanton, Pennsyvlania. V.W. was able to open operations in the U.S. because the

difference in wage costs between the U.S. and Germany was no longer a deterent to locating closer to its U.S. market:

> As of January 1976, U.S. auto workers received hourly compensation (including benefits) of $10.75 as compared to $8.38 for VW's employees, but the latter also get six weeks vacation a year at 150 percent pay (Dollars and Sense Collective, 1976).

Table 3-4 below examines the costs of labor for foreign nations when compared with the United States in the early 1970s.

Table 3-4: Unit Labor Costs and Their International Meaning 1970-1975

	Exchange Rate Vs. U.S. Dollar	% Rise in Hourly Compensation		% Rise in Unit Labor Costs	
		Local Money	US$	Local Money	US$
U.S.	0%	48%	48%	34%	34%
Japan	21%	148%	199%	99%	141%
W. Germany	48%	86%	176%	44%	114%

Source: Dollars and Sense, October 1976.

Table 3-5: Labor Costs as a Percentage of Sales

Year	Percentage
1977	30.0
1978	29.6
1979	31.4
1980	31.3
1981	30.1

Source: Standard and Poors' Industry Surveys, Nov. 11, 1982. "Labor Costs," as published in Slaughter, 1983: 53.

By locating in the U.S. Volkswagen was also developing a means of dealing with increasing exchange rate fluctuations. Investments were made in the U.S. for middle line products, upper to middle lines were kept in Germany. By keeping higher priced production in Germany, Volkswagen was able to "pass through" the impact of exchange rate movements to both foreign and domestic consumers who are less sensitive to price increases because of relatively inelastic demand for higher quality cars:

> On the other hand, placing plants in Mexico, Brazil, and the United States for primarily local sales reflected the greater restraint on a complete pass through in the case of the lower line of cars (Kogut, 1985: 31).

As can be seen in Table 3-4, Japanese labor costs rose during the 1970s, making the opportunity costs of shifting to the U.S. that much less. An appreciated yen narrows the wage gap between U.S. and Japanese auto workers considerably. Table 3-5 also shows that labor costs as a percentage of sales in the auto industry has remained relatively constant.

Among the other trends making foreign auto production the U.S. more feasible are the successes the Japanese have had in transferring their industrial system to the U.S. A study of Japanese manufacturing plants in the U.S. by Martin K. Starr, a professor at Columbia University, found that "just in time" inventory reduction practices, "lifetime employment" for workers and consensus-decision-making were not major factors explaining Japanese competitiveness in the U.S. Other factors, transferred from the Japanese industrial system <u>were</u> considerations. These included cutting back the number of

defective parts, the rate of absenteeism and labor turnover. Also, Japanese managers attempted to pay closer attention to workers and consumers than is usual in U.S. (Sease, 1985). Other advantages are based on labor costs. The Japanse "can hire mostly young, healthy workers and not be saddled with hefty pension and health benefit costs borne by older companies" (Holusha, 1985b). Another related factor, discussed in Chapter Four, is that some of the Japanese firms have been able to avoid union representation.

Evidence of Japanese production successes in the U.S. can be seen in production and quality ratings for Japanese cars produced here. While G.M. production ratings run from a low of 75 to a high of 145, with an average of 110, cars co-produced with Toyota, consistently have received ratings of 145. The cars are manufactured at a Freemont, California, plant entirely under Japanese management. Honda's Sayama, Japan, auto factory requires 2.6 man days per car to manufacture Accords (including welding, assembly, checking-out and associated tasks). The Marysville, Ohio, Honda plant has recently achieved the ability to produce Accords at the superior rate of 2.1 man days per car. Test drives could not tell the two models, Japanese and U.S. made, apart. Thus, quality autos can be manufactured in the U.S. indicating that relocation of production does not remove a central basis of Japanese comparative advantage (Womack, 1986).

Some observers of the auto industry have argued that the Japanese are able to achieve high quality and production ratings precisely because their plants are new. However, the

Freemont plant was the same basic facility used previously by G.M. and industry analysts suggest that improvements under Japanese control came from superior management and manufacturing techniques. However, it is also true that the Japanese have the financial resources to make new plant investments. U.S. competitors claim that the Japanese are able to beat U.S. firms in domestic competition because with their export revenues "only they can afford state of the art plants" (Sease, 1985).

A report by the Auto In Michigan (AIM) project at the University of Michigan this year said that "If all automakers stick to announced plans, North America will host 1.3 million more low-North American locally-assembled light vehicles than the 540,000 made here in 1985." The AIM forecast suggested that the market share of low-content vehicles could rise from 3 percent in 1985 to 10 to 15 percent in 1992. Imports are projected to rise from 22 percent of the market in 1985 to 25 to 35 percent by 1992. The combined result of rising import shares and increased transplants will be a glut of cars on the market (Andrea et. al, 1986: 6).

Auto industry observers predict that U.S. plants which ran at more than 90 percent of their capacity during the past two years could drop to capacity levels of 62 percent by 1990. According to John Hammond, auto analyst for Data Resources Inc., six to ten plants may be closed in the next few years, although 10 new plants are expected to open. Employment will shift to new plants, particularly those owned by the Japanese. Over the next five years Japanese producers will have lower

cost levels than U.S. producers. As a result they will be able to lower prices to clear demand, U.S. producers constrained by older plants will not be able to lower costs and will concede market share. While G.M.'s Saturn plant will reduce costs to comparable Japanese plant levels, it will only be on line by 1990 and represents a small percentage of G.M.'s future production (Hammond, 1986). The Philadelphia Autofacts, Inc. group projects that ten plants of domestic producers will close, leading to a loss of 40,000 jobs (Hammond, 1986; Ingrassia and Levin, 1986).

The rise in assembly transplants means that protectionist efforts in the form of quotas and tariffs will be limited in preserving the employment of production workers in the Big Three. However, protectionist measures would be able to block some of the imports which take market share. There would be a friction in transferring the market share taken by imports to transplants. As a result, protectionist measures would be able to block some measure of share lost to imports. Also, other jobs will be created as Japanese producers turn to Japanese suppliers relocating to the U.S.:

> ...made-in-Ohio Hondas will have made-in-Ohio steering wheels from Niho Plast Co., and U.S.-built Nissan vehicles will soon get dashboards and radiator grilles from a Lewisburg, Tenn., plant set up by Kanto Seiko Co. (Sease, 1985).

This relocation is based on political and economic ties between suppliers and assemblers, the desire of Japanese suppliers to get "high quality" parts and protectionist pressures discussed earlier.

Despite the relocation of suppliers to the U.S., most of

the higher value added products involved in the Japanese assembly operations are imported from Japan. The Japanese auto firms tend to buy energy-intensive components like glass, tires and steel in the U.S., but labor-intensive elements of production tend to remain in Japan (Holusha, 1985b). Dan Luria, a researcher with AIM, estimated last year that 95 percent of the jobs involved in supplying components to American-owned plants are domestic, for Japanese plants in the U.S. the figure is 30 percent (Holusha, Ibid.).

The rise in assembly transplants suggests that protectionist efforts may be limited in preserving employment in the Big Three, especially for production workers whose jobs are taken by "imports" made in the U.S. It is possible that some employment will be retained among suppliers who are able to link up with the Japanese assembly plants. As the AIM project points out, if suppliers do not build bridges with the transplants or form alliances with Japan-based suppliers, "these suppliers will use the transplant business to get a toe-hold here, and then move to take Big Three business as well" (Andrea et. al, 1986: 7). Some auto industry analysts believe that Japanese-based suppliers relocating to the U.S. are planning to co-opt U.S. suppliers with their superior technology, management and organization through licensing agreements. The plan is to split the U.S. market with them so as to build a <u>political</u> alliance against a protectionist backlash directed against their <u>U.S.</u> operations (Womack, 1986). The rise of both assembly and supplier operations indicates that the usefulness of protectionism in preserving

market share depends on how the protectionist measure is implemented and defined. While quotas and tariffs as currently proposed would fail to block transplant penetration, other forms of protectionism such as local content could limit such domestic "imports". But the ability of content measures to do this would depend on a friction to the relocation of suppliers from Japan to the U.S. Content proposals would create jobs in non-Big Three assembly plants. Also, as implied earlier, this proposal would form a base for extending employment by bringing supplier jobs which might have been left in Japan to the U.S.

Local content proposals in the early 1980s by the U.A.W. would have required companies selling more than 100,000 vehicles in the U.S. to achieve a "minimum domestic content ratio." This ratio compares U.S. auto-related costs with a company's U.S. sales. As defined by the U.A.W. in the Fair Practices Automotive Products Act (S. 707):

> ...the content requirement is based on a vehicle manufacturer's trade balance in automotive products. For example, a 90 percent content requirement would permit a company to have net automotive imports (imports minus exports) worth up to 10 percent of its wholesale auto sales here. Thus, a company gets credit for all its U.S. costs, including such items as shipping, advertising, taxes, etc. (Bieber, 1984a: 14).

One version of the local content (or "domestic content") bill passed the U.S. House of Representatives on November 3, 1983. Beyond local content, protectionism can be redefined so as to extend tariffs and quotas to <u>domestic</u> products. This pattern is beginning to take form in Europe:

> ...But overseas investment, and even cooperation with domestic producers, may only push the problem one

> stage back. There has been pressure inside the EEC to redefine 'domestic products' so as to extend tariffs and quotas to Japanese cars produced by joint ventures with European producers (such as that between Honda and BL) (Armstrong, et. al., 198 : 377).

Profits and Labor Demand Under Protectionism

Our second hypothesis examines the ability of protectionist measures to slow or prevent a profit squeeze and thereby reduce labor displacement. One means of examining the links between protectionism and profits is to examine how increased import penetration has affected company profitability. On the intuitive level one might argue that since high market share is associated with high rates of return (Gale, 1972), increasing import penetration which cut into share will depress profits. The market share connection to profitability has been linked to both monopoly power and efficiency gains reaped by scale economies. With the advent of flexible manufacturing systems profit per unit is less likely to be associated with scale economies. This conclusion is implied by Michael Storper who notes that some studies "indicate that medium-sized firms have systematically higher profit rates than larger corporations" (Storper, 1985: 265).

Market share dependent on monopoly power is still conceivably an issue in tracing profit rates to firm size. However, the link between company profit rates and domestic market share is complicated by the international economy. Protected firms can still maintain a high market share even with economic losses by redirecting profits from "winner" to

"loser" regions i.e. Protected firms can gain market share but still lose money. For example, G.M.'s market share of motor vehicle production in Europe jumped from 8.3 percent in 1981 to 11.4% in 1985, making it the fifth largest producer in Europe. However, "the company's European auto and truck operations lost more than $1 billion during that period" (Miller et. al., 1986). This story indicates another lesson for protectionism: Protected companies can still shift their profits gained domestically into foreign operations. In this case, record G.M. profits from domestic U.S. operations in 1983 and 1984 were exported to Europe. A report prepared in the early 1980s noted that G.M. planned to increase foreign investments from $4.5 billion in the 1975-79 period, to $8 billion in the 1980-84 period (a 78 percent increase). Domestic investments were expected to have increased from $26.5 billion to $32 billion from the two time periods (a 21 percent increase) (Assembler, 1981-82). Other data reveal that protectionism under the V.R.A. did not affect Big Three decisions to invest in the United States. G.M.'s capital spending in the U.S. was $5.552 billion in 1981, $4.534 billion in 1982, and $3.125 billion in 1983 (Labor Institute, 1984). Therefore, the preservation of Big Three profits may be weakly associated with protectionist measures' provision of employment in the long run. During these three years the company's net income rose dramatically (See: Table 3-6).

Table 3-6: Net Income (Loss) in Big Three Auto Firms (Millions of Dollars)

Year	General Motors	Ford	Chrysler
1974	950.1	327.1	(52)
1975	1,253.1	227.5	(260)
1976	2,902.8	983.1	423
1977	3,337.5	1,672.8	163
1978	3,508.0	1,588.9	(205)
1979	2,892.7	1,169.3	(1,097)
1980	762.5	(1,543.3)	(1,710)
1981	333.4	(1,060.1)	(476)
1982	962.7	(657.8)	170
1983	3,730.2	1,866.9	701
1984	4,516.5	2,906.8	2,380
1985	3,999.0	2,515.4	1,635

Source: Company Annual Reports

Table 3-7: After Tax Return on Sales: Ford and G.M. Operations

	Ford US	Ford Europe	GM US	GM Europe
1973	4.6	3.2	6.8	4.0
1974	2.0	*	3.3	*
1975	0.4	1.4	3.7	0.4
1976	2.1	5.1	6.0	5.8
1977	3.4	7.0	6.3	4.3
1978	2.6	7.5	5.7	4.8
1979	*	9.8	4.2	
1980	*	2.8	*	

*-Indicates a negative return.
Source: Bhakskar, 1980: 76 (for 1973-78 data), subsequent data from company annual reports as published in Jones, 1982: 157.

The other side of the picture can be seen when domestic companies use profits from European operations domestically. Ford Motor Co., more dependent on foreign operations than G.M. received 94 percent of its profits from overseas operations in 1979 (Bluestone and Harrison, 1982, p. 42). In this case, profits reaped abroad could be used to finance domestic operations even as U.S. market share fell. The relationship between the two sources of profit can be seen in Table 3-7.

Despite the complications discussed above depressed domestic profit rates can be linked to rising import penetration. In a 1971 paper on "Foreign Competition and Domestic Industry Profitability," Louis Esposito and Frances Ferguson Esposito conclude that foreign competition "as represented by the level of imports, appears to exert a significant negative effect on industry profit rates" (Esposito and Esposito, 1971: 343). Several political economists have linked Japanese import penetration to a profit squeeze on domestic companies. In examining a list of industries suffering depressed profits, Barry Bluestone and Bennett Harrison argued that, "Those sectors that have suffered most from the Japanese `invasion' the most--radio and television equipment (consumer electronics) and motor vehicles--show the greatest lost" (Bluestone and Harrison, 1982: 148). The net pre-tax profit rate for the motor vehicles and parts industry during the period from 1963 to 1968 was 16.3 percent. This profit rate dropped two-thirds to 6.7 percent for the period 1969 to 1975 (Ibid.). Ann Markusen, in Profit Cycles, Oligopoly and Regional Development

links import penetration to depressed profit rates in the auto industry's "profit cycle." Here, import penetration is responsible for denying the role market power plays in linking increased market share to profit rates:

> ...From a highly innovative and competitive sector at the turn of the century, an effective oligopoly has emerged that has lasted to the present and whose profits were to become squeezed only by the competitive pressure from imports (Markusen, 1985: 171-74).

One could also look to the role increased foreign competition between Japan and the U.S. in third markets plays in depressing the potential profits reaped by U.S. automakers e.g. Ford's market share in Scandanavian nations has dropped precipitously since the end of 1979, while Japanese share grew rapidly (Cohen, 1983b: 544).

The argument that imports played a major role in damaging the U.S. auto industry's sales levels, has been challenged by the U.S. International Trade Commission (ITC). The ITC commissioners, in a split decision, found that "the maximum potential loss to U.S. producers resulting from declining consumption was greater in the period January 1979-June 1980 than that resulting from increasing import penetration" (Cohen, 1983b: 531). However, the ITC assumed that consumption levels and the ratio of imports to consumption change independently; critics of the ITC finding argue that "because U.S. car lines differed substantially from Japanese, this would not be true" (Ibid.). We have already described how changes in the 1970s promoted a shift to smaller imported vehicles. As noted earlier, blaming falling demand for Big Three autos on recession fails to address independent problems

raised by an open economy.

The link between depressed profits and import penetration can be seen most clearly after evaluating how increased import penetration and recession lead to lower sales. Operating together the two forces would be expected to raise firm costs. Productivity in the auto industry is pro-cyclical, "because firms hold on to more workers than they need during downturns to avoid loosing their highly trained people to other jobs" (Scott, 1985: 8). Labor productivity tends to rise as output rises (and vice versa) over the course of the business cycle (Ibid.). As output surplus decreases, fixed costs and workers kept on payroll are spread over a depressed level of output (revenues), putting a squeeze on profits. The costs associated with laying off workers are "transaction costs." They help explain "the firm's frequently observed failure to adjust factor imputs to their equilibrium levels instantaneously." Such costs include search, hiring, training, layoff and morale problems associated with displacing workers (Nadiri and Rosen, 1969).

The link between imports and domestic industry profit rates is underscored when we examine how protectionist measures have lead to increased profits for U.S. automakers. Again, it is difficult to separate the independent effects of business cycles, import penetration and other factors. However, it is possible to establish a link between the

Table 3-8: Effects of the VRA on the U.S. Trade Balance With Japan

Year	Actual Quantity 1,000 Units	Value Billion $	Estimated Quantity 1,000 Units	Value Billion $
1981	1,911	9.5	2,018	9.8
1982	1,801	9.6	1,999	10.2
1983	1,871	10.8	2,447	12.7
1984	1,970	12.5	2,978	16.4

Source: United States International Trade Commission, 1985

establishment of the Voluntary Restraint Agreement (V.R.A.) or Voluntary Export Restraint (V.E.R.) and increased corporate profits.

On May 1st, 1981, the Japanese Ministry of Industry and Trade announced the V.R.A. which would reduce the number of auto exports to the U.S. by seven percent, from 1980 levels. The agreement was continued for two more years at a constant level and extended a fourth year which allowed for a 10 percent increase in Japanese exports. According to a report by the International Trade Commission (ITC), the V.R.A. had a substantial effect in blocking imports and preserving the sales of domestic autos (See: Table 3-8). The V.R.A. also helped decrease the U.S. trade deficit. With no restrictions on imports, the ITC estimated that the U.S. trade deficit in autos would have been nearly $2 billion greater in 1983 and almost $4 billion higher in 1984. Industry profits under the VRA rose to $10.4 billion in 1984 from a $4.7 billion loss in

1980 (USITC, 1985). Data gathered on the rise of Japanese imports after quotas were lifted support the ITC's findings. For example, after auto quotas expired on March 31, 1985, Toyota's exports to the U.S. increased to 79,000 vehicles in April 1985, a 18.5 percent increase over levels in April 1984. Honda's imports rose to 45,000 units, for a 20.6 percent increase (Treece et. al., 1985a). In February 1986, Japan announced that it would limit exports to the U.S. to 2.3 million units. This continued the 2.3 million ceiling agreed upon last year. The original agreement in 1981 limited U.S. imports of Japanese cars to 1.68 million units for three years. A second agreement in 1984, raised the level to 1.85 million units (Boston Globe, 1986).

According to the ITC, increases in production, and a substantial reduction in both fixed and variable costs during 1980 to 1984 contributed along with the V.R.A. to increased auto industry profits. Others note that significant price hikes of domestic models under the V.R.A. also contributed to increased profits of the Big Three (Scott, 1985: 36). Looking beyond the V.R.A., it is certainly possible that a quota which further limited the level of auto imports than under the V.R.A., a punitive tariff, or administrative obstalces to imports (as in France where individual imported VCR's are registered by one single office with limited staff) could well have produced even greater profits for domestic producers as import penetration was further limited.

Despite the apparent link between industry protection and auto company profits, the connection between preserved profit

and preserved employment is not entirely clear. The evidence suggests that the V.R.A. preserved market share for the domestic producers in the short run (see below). As a result, profits increased as domestic sales expanded and labor and production costs per unit decreased. The decrease in unit costs can be traced to scale economies associated with expanded output (from 6.98 million vehicles produced in 1982 to 10.9 million in 1984) (Motor Vehicle Facts and Figures, 1985). In short, protectionist measures do support forces leading to labor retention via their effect on profits. However, there are opposing forces which tend to separate the preservation of profit from employment. U.S. car makers are not able to maximize both profit and employment gains under trade restraints. Maximizing employment requires car makers "to increase volume but not prices, while maximizing profit requires the opposite strategy" (Gomez-Ibanez et. al., 1983: 201). As noted earlier, by following a limit pricing policy, car makers have chosen to concede market share and raise profits rather than expand volume and lower prices. Scott argued that the domestic producers apparently gave up the share of the market they lost in the 1970s, at least in the short-run. Domestic capacity was reduced by 11.8 percent from 1979 to 1984 as production dropped from 10.145 million to 8.951 units (Scott, 1985: 22).

Other trends have allowed a constant level of profits given increasingly lower levels of production of cars. The Big Three each substantially lowered their break even point from 1979 to 1984. One study noted that G.M.'s break even

level, based on world wide car sales, fell from 8.4 million units in 1979-80 to about 6.7 million units in 1983. The break even level for Ford's vehicle operations in North America declined from 3.6 million units in 1979-80 to 2.5 million units in 1983. Chrysler reduced its break even level for North American operations from 2.3 million units to 1.1 million units during 1979-80. This reduction in break even points came as costs were dramatically reduced. One example is Ford's $4 billion cost reduction between 1979 and early 1984 based on seven plant closings and payroll cuts of 60,000 salaried and hourly employees. Increased quality control, reduced inventory costs, increased productivity and improved management practices all helped reduce costs (United States International Trade Commission, 1985).

Sales Preservation and Layoffs

Our third hypothesis examines the links between increased or preserved sales and the decreased likelihood of layoffs. How have protectionist measures worked to preserve markets which in turn lead to the preservation of employment? Turing to the V.R.A., economists have offered different estimates of the impact of this protectionist measure on domestic producers' markets. Robert Crandall argues that "It is difficult to see how the VERs could have shifted more than 8 percentage points of the market from Japanese imports to U.S. cars by 1983" (Scott, 1985: 28). The United States International Trade Commission estimate for 1984 was that Japanese producers would have captured 28.4 percent of the

U.S. market if the V.R.A. had not been in place (Ibid.: 29). Robert Scott argues that these two projections underestimate the rapid accleration of Japanese import penetration which occured between 1979 and 1980. At that time, the Japanese share of total auto sales jumped about five percent, from 16.5 percent in 1979 to 21.3 percent in 1980 (Ibid.: 29).

Scott argues that without the V.R.A.'s, the Japanese would have captured all of the subcompact market, could capture at least fifty percent of the compact market and have already captured an increasing share of the luxury and sports car market. Combining these estimates Scott concluded that the V.R.A. could have saved 133,300 auto workers' jobs (Ibid.: 33). The Scott estimates appear to be more realistic than the alternative ones offered by Crandall and the ITC. The production and cost advantages outlined in Chapter Two suggest that Japanese import penetration can be expected to increase dramatically. As noted earlier, future markets can best be met by the more flexible production system of the Japanese.

Summary

The evidence presented here suggests that import-penetration leads to serious job loss and contributed to a squeeze on profits at the turn of the decade. However, the link between protectionism and job preservation is complicated by corporate efforts to restructure production. Protectionist measures' ability to guarantee profits may take such pressure off management efforts to displace workers and cut wages. But, profitability is maintained by squeezing suppliers, plant

closings and increased automation. Wage concessions are also used to increase profits e.g. 1980 savings from wage concessions amounted to about $600 per car in Chrysler (ITC, op. cit.). Thus, industry restructuring puts pressure on wages and employment despite protectionism. Quotas on Japanese vehicles will not prevent outsourcing (although local content and tariff measures may limit this practice directly).

On the other hand, the evidence is clear that preservation of market share, or the slowing of share erosion, by the V.R.A. did preserve a significant number of jobs. Many jobs would clearly be lost if protectionist measures were eliminated. The ability of protectionism to preserve corporate profits also holds some opportunities for increased bargaining power as well. We discuss these issues in greater detail in Chapters Four and Five.

Chapter Four: Obstacles to Labor Retention Under the Protectionist Regime

Introduction

There are a number of factors which may lead to increased unemployment in the auto industry in spite of protectionist measures. Increases in productivity, capital flight, diversification and the related problem of industry scaling down production may all contribute to increased unemployment whether or not U.S. markets are protected. While one could simply argue that policy makers should address these problems in addition to protectionist measures, they are relevant for the protectionist argument for three reasons. First, protectionist policy may aggravate such problems. Second, protectionist measures may prove beneficial in dealing with such problems. Finally, protectionist measures could be considered as a diversion from such problems. A possible link between protectionism and these three separate issues has already been alluded to earlier. Labor cost pressures, increased foreign competition and increased corporate profit hurdle rates all created pressures in basic industry (through pressures to get a higher rate of return in the face of a squeeze on profits) leading to automation, conglomeration and migration of firms to the Third World or less politically organized regions of the United States (Bluestone and Harrison, 1982). To the extent that protectionism may preserve sales and profits for U.S. industry, there may be less pressure to accelerate these trends as markets become

relatively isolated. Or, one could argue that without the protectionism which is already in place these trends would accelerate. On the other hand, a process may have already been set in motion whereby such trends will continue in spite of protectionism.

Productivity Increases and Protectionism

Increased competition from Japan, which placed cost and market pressures on domestic producers, was a major cause for accelerated automation in the auto industry (Jenkins, 1984). One economist wrote that "trade pressures indirectly resulted in the elimination of 15,800 jobs because of technological change" (Scott, 1985). Several studies have indicated that technological change will lead to massive displacement in the auto industry. Harley Shaiken, a technology specialist and longtime observer of the auto industry estimated that G.M. by itself would eliminate 40,000 jobs in the next ten years with robotics alone (Shaiken, 1984). Table 4-1 provides U.A.W. estimates on the number of production workers expected to be displaced by robots. But beyond robotics, other technologies will contribute to productivity-linked unemployment. Flexible automation systems combine numerically controlled machine tools and robots with automatic storage and retreival systems: "Each of these increases productivity by itself, but the effect is magnified when these systems are interconnected, as is increasingly the trend" (U.A.W., 1985).

While import-induced automation has accelerated the pace

Table 4-1: Production Worker Displacement in the Auto Industry Due to Robots

	1990		1995	
	Low	High	Low	High
Number of Robots	27,400	32,600	48,300	58,800
Displaced Workers	101,900	121,300	185,500	225,800
Displaced Workers as % of 1984 Workforce	7.2%	8.6%	13.1%	16.0%

Source: "New Technology in Context Socio-Economic Problems and Alternatives," U.A.W., August 6, 1985.

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of technological change, competition in European markets and from domestic Japanese producers would put pressure on the Big Three to have the most efficient technology systems even without direct import penetration. Ford and G.M. have already purchased robotics firms as well. Thus, it could be argued that although open markets have accelerated automation, further technological displacement will occur anyway. Therefore, we could argue that protectionism won't acclerate automation. Dan Luria makes this argument as follows. There are three times as many robots per worker in Japan as in the U.S. Therefore, even in a region where workers make less money than in the U.S., automation still goes on extensively (assuming that Japan's workers make about $12 an hour and U.S. workers make about $20 an hour). If protection were to increase workers' wages, this would not accelerate a trend that would occur anyway. A robot can work $3 an hour. As a

result, it will always pay a manufacturer to automate if labor costs pass over this "tipping point" of $3 an hour. Once you get over the $3 an hour mark in wages it makes no difference whether or not labor is paid the amount workers get in Japan or the U.S. A rise in the cost of labor above the tipping point would not affect automation that would be going on anyway (Luria, 1985). Other data suggest that it will be increasingly cheaper to automate than to hire production workers directly. At General Motors while wages rose 240 percent between 1970 and 1980, the cost of purchasing robots increased by only 40 percent. As discussed in Chapter Two, in 1980 the total cost to an auto maker of buying and operating a robot on a two shift basis for eight years was about $6 an hour. The total compensation costs for automobile workers, as noted, was $20 an hour. Also, "G.M. predicts that the annual cost of robots will rise three percent a year compared to nine percent for labor in this decade" (Shaiken, 1984: 162-63).

A complication arises when comparing the cost of a robot to wages on a hourly basis. Given a recession, workers can be laid off and robots can't. Thus, a robot may be more costly to "hire" than a worker in a recession, if a robot is considered as a fixed cost and a worker as part of variable costs. If protection guaranteed markets for producers, then it might be less costly to have robots on hand. On the other hand, workers are also costly to layoff as the average duration of service of auto workers in the typical Big Three company is 17 years; at Ford, the average worker is 44 years old (Gordus, 1986). Because the length a worker receives

supplemental unemployment benefits is determined by seniority, the cost to displacing workers may be substantial. We could also include transaction costs here.[1]

But if protected markets make manufacturers more dependent on domestic labor, wouldn't employers want to accelerate the pace of automation to remove such a dependency? Worker sabotage and increased capital investments per worker may make management more vulnerable if they cannot outsource or threaten to outsource production. Some labor activists have argued that the present industrial restructuring in the auto industry makes management more vulnerable to disruptions in supply of production (see below). On the other hand, others believe that labor disruption is not a major factor in industry planning decisions as G.M. recently made a multi-million dollar investment in Canada where labor has traditionally been more militant than in the U.S. in recent years (Sabel, 1986). The relationship between the rate of automation, import penetration and protectionism is not clear. The Big Three have made the increased application of robotics a major priority; they have found plant closings facilitated by productivity increases, relatively costless. Protection might stabilize markets and by increasing labor bargaining power would make automation more feasible or likely. However, specific policies designed to regulate technological implementation would make protectionism more effective in helping workers. The two policies are not in conflict, unless one considers protectionism "diversionary."

Diversification and Downsizing

How have import competition and protectionist measures affected movements towards conglomeration in the auto industry? Diversification was not an option seriously persued by the major auto companies in the years before intensified international competition. In the mid-1960s, General Motors moved into different product lines such as airplane engines, diesel locomotives, navigation systems for guided missiles, and appliances. However, "sales of these items never became a significant focus." In 1979, the company sold off its Frigidaire unit in what could be veiwed as an abandonment of the diversification strategy (Morales, 1984: 66).

Presently forces are encouraging automotive companies to both sell off operations related to supplier divisions and some backward-linked aspects of production, and to purchase technology, forward-linked, non-automotive or Japanese based companies. Turning first to the issue of diversification, we have the example of Europe where: "Both Fiat and Renault have annouced plans to reduce their dependence on car production while Volkswagen has acquired an office equipment and small computer industry" (Jenkins, 1984). In the U.S., all the Big Three auto companies have purchased financial or credit companies in recent years. G.M. has credit operations through the General Motors Acceptance Co., Northwest Mortgage and Colonial Mortgage service. The Chrysler Financial Company is a joint venture with G.E. credit. But such operations are minor compared to the auto companies investments in the motor

vehicle industry. Ford Motor Company's recent purchase of Nationwide Financial Corporation for $493 million is hardly significant compared with a $2.9 billion investment in the Ford Taurus and Mercury Sable production lines (Edid, 1985b).

Other recent company purchases, however, indicate that diversification may be a growing trend in the auto industry. G.M.'s purchase of Electronic Data Systems (E.D.S.), a computer services company, in 1984 for $2.55 billion and Hughes Aircraft, a defense-oriented electronics firm, in 1985 for more than $5 billion are highly significant developments. It is not clear whether these purchases are pure diversification or attempts to supplement exisiting company operations. G.M.'s Chairman Roger Smith argues that these purchases a part of a plan for "both growth and diversity," others suggest that "The Hughes deal is diversification pure and simple. It has absolutely nothing to do with the vehicle industry" (Greenwald, 1985). Dan Luria agrees noting that G.M. could have purchased Motorola, a firm more directly tied to auto-related activities (Luria, 1986).

G.M. certainly remains committed to the auto industry. As a January 1986 report noted, the company plans to spend "between $8 billion and $9 billion a year in the next few years on new products and facilities in order to make more modern and efficient cars at lower cost" (Holusha, 1986: F23). Similarly, Harley Shaiken says that by the year 2000, approximately 20 percent of the Big Three's sales will be in non-automobile related activities (Shaiken, 1985). The purchase of companies such as EDS and Hughes are conceivably

related to trends in automobile production which are leading to an increased use of electronic components. Some projections indicate that electronic content in vehicles will reach $1,200 to $1,500 per car by the end of the decade (Zoia, 1985). The increased use of robotics and computer-linked equipment discussed earlier also indicate that purchases of high-technology companies are not pure diversification. Nevertheless, a large measure of these purchases can be seen as attempts to diversify. The movement towards such company purchases have been linked to companies' desires to buy into faster growing and less cyclical industries that complement the automotive industry (Edid, op. cit.).

The links between increased conglomeration and import penetration in the auto industry can not be directly specified. Clearly, increased import penetration has put pressure on corporate profits which makes companies look to other businesses as a means of improving stock ratings and overall corporate performance. Extended protectionism might limit such pressures if trade controls slowed the degree of domestic competition from foreign producers and contributed to auto industry growth. However, even before foreign competition placed constraints on domestic markets, the U.S. auto industry was already approaching a replacement market i.e. market saturation by volume. Car density, defined as cars per 1000 population, increased from 344 in 1960, to 434 in 1970, and 545 in 1980 (Jones, 1982). The automotive companies have attempted to respond to such constraints by adding value to cars by increasing the use of electronic

components (Womack, 1986). Such market constraints also pressure auto companies to develop technology systems. Thus, there are definite pressures for conglomeration (via the need for access to advanced technologies) without respect to foreign competition. Although, as foreign competition is limited revenues can be received by increased car sales rather than by adding value (unless technological gadgetry sets the standards for what sells).

Industry maturation provides long-run pressures for diversification. In Japan especially, the trend is for companies to move towards increasingly knowledge-intensive industries. But while the Big Three remain committed to the auto business, their purchases of Japanese companies indicates they can sell an increased proportion of cars without domestic workers. G.M. owns 5.3 percent of Suzuki Motors and 35 percent of Isuzu in Japan, 50 percent of Daewoo in South Korea. Ford owns 25% of Mazda (Edid, op. cit.; Labor Institute, 1984; Greenwald, op. cit.). This form of conglomeration would be limited by protectionism because a major reason for these purchases is to gain access to captive imports. In the short-run, judging by the degree of company purchases, conglomeration is not such a serious problem that efforts to limit import induced layoffs could be considered diversionary. However, the problems associated with the long-run acceleration of diversification might be prevented by protectionist measures which prevented increased Big Three purchases of captive imports.

The auto industry traditionally has been organized on the

principle of dualism i.e. "subcontractors absorb uncertainty or instability from mass production firms" (Storper, 1985). Some have argued that this has been a primary vehicle for auto industry accumulation:

> ...unequal exchange between monopoly sector auto producers and competitive sector parts suppliers meant that auto firms were appropriating a portion of the surplus extracted by the competitive sectors (Trachte and Ross, 1983).

Increased international competition has encouraged this process by which risk is extended to suppliers and value is appropriated from them. Japan's superior quality performance is also encouraging the use of just-in-time sourcing and total quality control as a means to improve sales based on lower inventory and defect costs and improved product quality.

The original equipment manufacturers, the auto assemblers in the Big Three, seek to export risk and drive down costs by "down sizing," selling off supplier operations. More parts are bought outside internal operations, forward-linked activities such as marketing are emphasized. The process of exporting risk to suppliers has been linked to what Michael Storper and Susan Christopherson, geographers at U.C.L.A., call "vertical disintegration." Under this process, firms reduce their overhead costs in an unstable market by limiting the scope of their activities, purchases are made on the market as risk is passed on to suppliers (Storper, 1985b). High costs are associated with extensive vertical integration if the higher salaries paid workers and managers in assembly divisions are applied to supplier industries (Altshuler, et. al., 1984: 147-148). Such costs can be averted as a new

complex of Japanese supplier companies extends the range of non-union employment in the auto industry. Within the auto industry, large establishments are more likely to be be unionized than smaller ones. Although the majority of workers in Michigan auto-related industry are unionized, over three quarters of the establishments are not according to a recent University of Michigan survey (AIM Newsletter, March 1986). The problem of extending employment in non-union areas in response to cost pressures from foreign suppliers has already afflicted workers in the tire industry where new plants were built in non-union strongholds in the South (Capelli, 1985). The process of "down sizing" may also be encouraged by trends for asssembly operations to specialize in what they do best. They also are able to shop for the most modern and efficient technolgy as competition among suppliers increases.

Capital Flight and Regional Relocation in the Auto Industry

The pressure for firms to relocate products in low cost areas in the United States has been part of a long-term strategy of manufacturers to secure lower-wage rates and a more pliable labor force. As a result of workers' political power in strongholds in the Midwest, auto makers have felt pressured to disperse production:

> The auto industry's labor situation has serious locational implications: it is a general principle of locational theory that a less costly center of labor diverts the industrial process from its cheapest transportation point at that moment when labor savings at a new site exceed the additional transportation costs...
>
> The result is a tendency to seek plant sites in areas where labor is cheaper, less troublesome and free from a tradition of hostile labor-management relations. Although industry-wide bargaining insures equality of payment throughout the nation, definite advantages nevertheless accrue to, say, a Southern location rather than one in the mid-West. Workers there will be much more satisfied with wage rates than those in a city with a high living standard. Secondly, no tradition of labor strife exists. Thirdly, management can install labor-saving machinery and automatic equipment more readily in such a branch plant than in an established one...there has been a real decentralization at work in the industry (Hurley, 1959 as quoted in Morales, 1984: 65).

Ford Chairman Philip Caldwell has noted the past efforts of auto executives to "spread their plants around the country to keep their newly unionized workers as dispersed as possible." The development of the two-car suburban market lead industry to open dispersed regional factory branches, and company controlled dealerships to increase sales. New plants were built in cities such as San Jose, Atlanta, and Arlington, Texas; Los Angeles became an anchor for West-Coast sales (Morales, Ibid.). Government policy also encouraged the dispersal of assembly operations. President Truman's National Industrial Dispersion Program, launched in 1951, provided accelerated tax write-offs and defense contracts as a way to decentralize U.S. manufacturing (Markusen, 1985: 170).

A final reason for industry dispersion can be seen in General Motors' "Southern Strategy," begun shortly after World War II. This plan was part of a concerted effort to circumvent the U.A.W.'s strength. Plants were located

primarily in right-to-work states and this practice continued throughout the 1970s:

> ...between 1970 and 1980, GM opened a total of fourteen new plants, with eight located in the deep South and one in Mexico. Nine of the U.S. plants were located in right-to-work states. This permitted GM to effectively use the threat of shifting production to its non-union shops as a bargaining lever in its northern plant negotiations (Bluestone and Harrison, 1982: 167).

Although inter-regional shifts in the supplier and assembly industry prior to the 1970s were not considered important, there have been major intra-regional shifts in the auto industry across the nation. Here, auto companies set up assembly divisions in rural parts of Michigan (Twinsburg) and Ohio (Avon Lake and Lordstown). A 1979 study noted that of the fifteen completely new plants built by the Big Three since 1970, "only one-third were in metropolitan areas, and in the smaller and intermediate sized ones at that" (Mutlu, 1979: 168). Nevertheless, population trends in the transportation equipment industry are suggestive of the decline of population growth in labor strongholds in the Midwest and Northeast (See: Tables 4-2 and 4-3). The data show consistent losses in the assembly operations in Nortern tier states, almost all other states have been consistent gainers in employment. Similarly, in reviewing data from the Census of Manufactures, Ann Markusen noted that "employment has dispersed from its previous agglomerative core in Michigan." While the state employed 57 percent of all auto workers in 1947, this percentage dropped to 38 percent in 1977. Although Michigan's

Table 4-2: Change in Total Manufacturing Employment in the Transportation Equipment Industry in Selected States: 1973-80 (Percentage)

Massachusetts	7.8
New York	-12.7
Michigan	-22.8
Ohio	-18.6
Georgia	3.8
North Carolina	101.2
Texas	23.4
California	5.8
United States	11.0

Source: Bluestone, 1984.

Table 4-3: Geographical Distribution of Employment in the Motor Vehicle Industry

SIC 3711: Motor Vehicles and Car Bodies

	First Quarter 1975	Last Quarter 1979	1984
New York	4,402	6,043	3,312
New Jersey	6,115	9,891	6,969
Pennsylvania	6,125	12,617	9,865
Wisconsin	18,143	20,158	17,339
Illinois	6,150	8,296	7,519
Michigan	182,461	226,599	194,128
Indiana	10,607	8,029	3,401
Ohio	37,920	34,660	37,783
North Carolina	59	381	3,209
Tennessee	256	930	3,331
Georgia	7,428	10,985	9,978
Missouri	17,586	24,399	24,756
Kansas	3,650	5,537	7,253
Oklahoma	216	4,958	6,561
Texas	5,174	6,640	6,941
California	16,363	23,598	9,272

Table 4-3: Geographical Distribution of Employment in the Motor Vehicle Industry

SIC 3714: Motor Vehicle Parts and Accessories

	First Quarter 1975	Last Quarter 1979	1984
New York	24,780	32,245	28,164
New Jersey	1,418	2,280	2,813
Pennsylvania	10,835	11,901	10,963
Wisconsin	10,670	11,682	9,106
Illinois	13,970	14,745	14,859
Michigan	120,648	141,019	122,515
Indiana	35,999	37,955	33,483
Ohio	61,812	69,477	55,671
North Carolina	4,776	7,707	11,216
Tennessee	7,676	11,724	11,419
Georgia	1,330	3,651	4,381
Missouri	6,569	7,535	6,349
Kansas	942	1,897	2,296
Oklahoma	2,296	4,101	3,889
Texas	2,969	3,567	3,968
California	9,725	15,152	16,713

Source: Cohen 1982a, BLS Data.

loss in employment slowed in the 1960s and 1970s, other states in the manufacturing belt lost jobs as well. The major beneficiary of these trends were states in the Sunbelt (Markusen, op. cit.: 171).

But despite the shift of capital to the South and labor weak areas generally, even plants in the South have been threatened with plant closings unless they made concessions to meet global competition. In November 1981, Ford threatened to close its Sheffield, Alabama plant, unless workers agreed to a 50 percent cut in wages and benefits (Goldsmith, 1984: 349). The plant was latter "mothballed." Although most recent major plant closings have been in the Midwest, California or East, and not in the South, this region has also felt the effects of corporate restructuring (Bieber, 1984b). A study of plant closings with 100 or more employees found that the probability of a shutdown by 1976, given being in operation in 1969, was actually higher in the South than in any other region (Harrison and Bluestone, 1984: 375). Still, only 12.5 percent of all production and related workers in the motor vehicle industry were employed in the South in 1983 (Bureau of Labor Statistics, 1985b).

Like the problem of Big Three dispersal to labor weak areas in the South and rural regions, the rise of Japanese manufacturing operations in the U.S. threatens workers' bargaining power. The extension of capital to non-union strongholds has occurred as Japanese producers have opened assembly operations in rural Ohio and Tennessee. They have also engaged in practices which attempt to insure a more

obedient work force.

Honda and Nissan have used interviews to select mostly anti-union workers and scare off many potential pro-union applicants. In March of 1986, the U.A.W. announced that they were halting a six-year drive to organize workers at a Honda Motors plant in Ohio. Because workers from rural areas at the plant are unaccustomed to the higher wages paid by Honda, they are willing to accept wages which are lower than national U.A.W. standards and flexible work rules. The U.A.W. also accused Honda of illegally interogating workers, allowing anti-union material to be distributed on company time and increasing benefits in the midst of the organizing drive Nissan has said that it would oppose U.A.W. efforts to organize workers in its Smyrna, Tennessee plant (Noble, 1986: A18). New United Motors Manufacturing, Inc. (NUMMI) in Fremont, California (the joint venture with G.M.) put job applicants through interviews and tests in an attempt to insure a cooperative work force (Buss, 1983; Levin, 1985).

An examination of the NUMMI system underlines the limits of protectionism to provide jobs by relocating Japanese assembly divisions to the U.S. Jobs from the orignal G.M. staff have been eliminated by automated equipment and by producing 70 percent of the car's content in Japan. At full production, NUMMI is expected to employ 2,500 workers of the former G.M. work force of 6,000 (McPherson, 1985).

The rise of the Japanese producers in the U.S. can also lead to a national disruption in workers' bargaining power by setting dangerous precedents in work practices. NUMMI was

able to eliminate 81 job classifications which existed when the plant was run by G.M., replacing them with three. Plant production is organized around the team concept (described in Chapter Two).

The U.A.W. "International has consistently sought to demonstrate to NUMMI that it can accept Toyota's production methods and work in a cooperative rather than adversarial manner" (Ibid.). Even at Mazda's U.S. plant, where the U.A.W. has been recognized at the Michigan facility, workers are hired at 85 percent of the going wage at Ford Motor Company. Flexible work rule are planned for the plant as well (Edid, 1985c).

It could be argued that the disruption of national bargaining created by the extension of work practices employed in Japanese auto plants to the U.S. is a serious challenge which protectionist measures fail to address. While the Saturn project provides guarantees for lifetime employment, the disruption in work rules at the plant sets a dangerous precendent. Some labor relations academics have argued that the guaranteed income stream and job bank provisions in recent U.A.W. contracts points to a new system of labor relations beneficial to labor (Katz, 1985). Yet, others point to serious weaknesses in the contracts' ability to provide decent income levels or slow displacement (Gardner et. al., 1982a, 1982b; Slaughter, 1983).

The danger of NUMMI practices for setting a precedent come as union critics fear that G.M. may use Freemont as a model for its Saturn project and Ford and Chrysler could

extend the NUMMI system to their joint ventures with Mazda and Mitsubishi (McPherson, op. cit.). However, protectionist measures which raised the domestic content of vehicles in the U.S. could conceivably increase the bargaining power of workers at Japanese plants in the U.S. as these producers became more labor dependent. The extension of the Japanese production system to the U.S. can also increase workers' potential power: "Even a short work stoppage at any point in the process, from supplier to final assembly line, tends to halt operations both upstream and downstream very quickly" (Parker, 1985: 87).

Centrifugal Forces in Auto

While radical economists have studied the impact of capital flight to the South during the post-War era, recent studies have begun to address the possibility that other forces will lead to production being "recentralized" within the Midwest. In particular, the shift to the just-in-time system is believed to require geographical proximity between suppliers and producers (Estall, 1985; Altshuler et. al., 1984; Business Week, October 14, 1985). However, geographers Susan Christopherson and Micahel Storper has questioned whether the adoption of just-in-time economies will lead to a centralized production system within the U.S.:

> It is difficult...to infer general principles about spatial behavior of flexibly specialized industries from the Japanese cases, because Japan is a small and crowded country with few opportunities for the kind of decentralization which has occurred in the U.S. and Western Europe in the past two decades. Moreover, the U.S. auto industry is at too early a stage in reorganization to provide ample time series evidence of changes in spatial linkage patterns (Christopherson and Storper, 1985).

The automobile industry traditionally had been centralized in the Midwest as firms were able to take advantage of both integration and agglomeration in one location. For example, as a concentrated oligopily, Ford Motor Co. was faced with very limited price competition in which there were signigifant barriers to entry from competitors: "Ford decentralized when the automobile industry became slightly more competitive in two respects: prices and product differentiation" (Ibid.). Whether or not price competition exists, we have tried to show that cost competition is a certainty in the domestic industry. Product differentiation, as noted in Chapter Two, has made mass production more costly. Flexible machine technologies allow small scale production in more remote areas. Christopherson and Storper suggest that such technologies and accompanying trends do favor "recentralization":

> ...the vertical disintegration that lies behind flexible specialization creates powerful agglomeration tendencies at the regional level. Flexible specialization itself leads to the recomposition of the industrial complex, which itself strengthens the forces of agglomeration (Ibid.).

The history of the supplier industry is marked by centrifugal forces. Traditionally, parts and accessories producers have

been less decentralized than the assembly producers. For example, in 1972, only 2.99 percent of employment in parts and accessories was located in the South Atlantic region, this was merely one-third of its share in employment in motor vehicles production. While some assembly-operations decentralized, supplier operations chose to stay close to the center of gravity of the auto industry in the Midwest. Such centrifugal tendencies arose to take advantage of economies of scale by building a large plant instead of many small ones (which increases overhead), to maintain contacts with principal customers in a market which is highly cyclical. Despite higher labor costs in the East-North Central region, where three-fourths of the industry is located, the industry remained just as concentrated there in 1972 as 1967 (Mutlu, 1979).

Wage disparaties among regions have been narrowed by national bargaining contracts. In 1983, the year after dramatic concession bargaining, production and related workers in Michigan made $12.18 an hour. In the South the compable figure was $12.08 and in the Northeast such workers made $12.33 an hour. But annual wages per employee showed greater disparity. In 1984, Michigan workers made $39,612 but in Florida workers made $17,490, in Georgia workers in SIC 3711 made $34,400, in Tennessee they made $27,850. Wage disparities among workers in the motor vehicle parts industries were greater. In 1983, average hourly earnings of production workers in motor vehicle parts ranged from $6.58 in the South to $9.01 in the North Central region. In 1984, in

SIC 3714, annual wages per employee ranged from $34,720 in Michigan and $32,732 in Ohio to $19,941 in Tennessee and $19,191 in North Carolina (Bureau of Labor Statistics, May 1983; BLS data).

Additional reasons may continue to keep a large number of supplier factories in the North-Central region. Less funds may be available for spatial adjustments as pressure to modernize domestic plants to meet competition raise research and development costs and funds needed for more flexible production. Another reason keeping Ford in the Detroit area is based on real estate investments:

> ...The company is still dominated by the Ford family and both the family and the company have extensive real estate interests in and around Detroit. Any extensive decentralization by Ford, which is the city's principal employer, would devalue these properties (Mutlu, op. cit. 171).

The growth of a robotics industry in Michigan also contributes to centrifugal tendencies. More importantly, extensive automation may promote the return of some production from overseas to the U.S. One example of this trend can be seen in G.M.'s Delco Electronics Division. Because of rising labor costs, Delco began making car radios in Singapore and Mexico about 12 years ago. In 1983, the company announced that it was bringing its radio facilities back to the U.S. Because car radios are electronic, they require little assembly work; production has been highly automated (White, 1984). Yet, automated production can be extended to export facilities as well. However, the relative bulkiness and weight of auto production has added to transport costs which

make home assembly (centered in the Midwest) more efficient (Mutlu, 1979). Increased use of plastics and synthetic materials could change this however (Markusen, 1985: 171).

A central factor which permits recentralization of production and places limits on corporations' calculations which send components of the global assembly line overseas is management's ability to hire complacent workers domestically. In the U.S. auto industry, new plants are sent to regions where labor conflict and wage rates are more restrained (Cohen, 1983a). In the auto industry, migrant labor in and out of the underground economy can be used to secure cheap wage rates at home. Recent pronouncements in a proposal to punish employers of illegal aliens by President Reagan's Council on Economic Advisers suggests that migration policy is part of trade policy. The report notes that "restrictions on immigration, like restrictions on trade, are costly" to both employers and the economy as a whole (Pear, 1986: 1).

In short, we have a balance between two opposing forces. First, as firms vertically disintegrate, they seek suppliers in closer proximity to maintain quality control and informational networks described earlier. On the other hand, more of the work sourced outside can be supplied overseas. An industrial complex is already arising within Mexico and Tenessee suggesting that just-in-time and decentralization may not be mutually exclusive. As a result, capital flight to regions where labor is weak within the U.S. and overseas is still a pressing problem. Trends towards "recentralization" may make the jobs of assembly or high skilled production

workers more secure. However, the same could not be said for workers in the supplier industries.

Despite the closing of plants in areas such as California, and the redirection of production in the Midwest, other patterns suggest that decentralized production in the U.S. is still an issue. Both G.M.'s Saturn plant and new Japanese plants are located in union-weak areas in the South such as Tennessee. Does the growth of such plants in union-weak regions mean that protectionism is diversionary and does not lead to increased power for workers?

While protectionism might not limit the growth of non-union employment in labor-weak areas, it could limit outsourcing of cars and parts (through local content) and import-induced displacement. As a result, it could decrease threats against workers which contribute to the break up of pattern bargaining (See: Chapter Five). Therefore, it might reaffirm national wage settlements and make changes in work rules or regional disparities in wages less likely. Such national wage settlements would make it more likely that wage rates paid in the Midwest could be extended to new U.S. plants which could move to Southern or union-weak states. Also, many workers in Japanese and new U.S. plants in areas such as Tennessee are making higher wages than they would otherwise make. By extending development to such low-wage areas, U.S. and foreign producers are--to a certain extent--limiting the pattern of uneven development in the U.S. that makes capital flight a weapon to begin with.

1- Scott (1985) found that "labor hoarding" in the auto industry was substantial in the late 1970s. He noted significant labor retention in the face of depressed sales, pointing to decreased average productivity levels in the auto industry. Average productivity in stampings, assembly and parts fell from 14.1 units per employee to 10.8 units per employee in 1980. It is not clear how much of the depressed productivity is caused by lower utilization rates.

Chapter Five: The Contribution of Protectionism to Workers' Bargaining and Political Power

Introduction

In Chapter Three, we discussed at length how import penetration led to significant displacement in the auto industry and how protectionism, given the constraints explained in Chapter Four, helps slow such displacement. Chapter Three noted that increased import penetration contributed to a squeeze on corporate profits by cutting into the market share of domestic producers. We now examine how import penetration and protectionism affect workers' power through concession bargaining and depressed wage rates.

Protectionism, Imports and Bargaining

Given recent trends in the auto industry towards the break-up of pattern bargaining (Katz, 1985), we would expect that an increase in concession bargaining would increase the likelihood of wages to be set in plant level rather than nationally administered labor agreeements. This link between between workers' power and import penetration represents our fourth hypothesis. We expect that if import penetration contributes to the break up of pattern bargaining, it would accelerate trends which have led to union locals bidding against each other for work. The first link between import penetration and workers' power is the role the former plays in undermining union solidarity.

The connection between concession bargaining and workers'

power through labor solidarity can also be seen in wage bargaining patterns. Concession bargaining has already led to a divergence between wages paid among Big Three auto makers. An important aspect of wage determination in the industry in the post-War period was the standardization of hourly wages across the Big Three. This pattern of wage standardization began to break down with the advent of concession-bargaining at Chrysler in 1979 (Katz, 1985: 29). In December 1982, the U.A.W. released its locals to negotiate separately, to reduce wages in plants pressed by low profit levels (Goldsmith, 1984: 349). While a different union policy may reduce labor concessions, low levels of imports helped maintain industry-wide wage standards. Throughout the 1950s and 1960s, the level of auto imports was rather small (See: Appendix One). As a result, "any sales lost by a failing independent company were most likely picked up by another domestic company" (Katz, op. cit.: 35-36). Management willingness to maintain wage standardization was supported by both low levels of import penetration and the steady upward growth in auto sales (Ibid.: 38).

Under the "social contract" between workers and management in the post-War period, auto companies faced rising labor costs which were accomodated by increases in sales or productivity. A 1985 study gives some indication of labor's ability to capture monopoly profits in the industry:

> In the Transportation Equipment and Primary Metal Industries, where both concentration and unionization are very high, virtually all of the monopoly profits were captured by unions in 1972 (Karrier, 1985: 40).

A review of earnings patterns in the auto industry also reveals a steady rise in real wages of automobile workers (in 1967 dollars) from 1950 when they were $2.45 per hour to 1973 when they were $4.10 per hour. Since 1973, real wages have declined from peaks in 1974 and 1979 (years during or following gas shortages and periods of increased import penetration) and 1982 which was the first year of dramatic concession bargaining across the Big Three (See: Appendix Seven).

We have already noted in earlier Chapters that wage costs have remained relatively constant in the auto industry. We must now examine what trends have made management more likely and able to gain such concessions. The break-up of the "growth coalition" in the 1960s and 1970s explains part of the reason for concession bargaining and depressed wage rates in the auto industry. Under the coalition, management was both willing and able to grant wage increases as productivity and profits increased. High wages were also paid to workers in the auto industry as a means of securing a stable and secure work force. This pattern, generally described in the economics literature under the notion of an "efficiency wage," has been alluded to earlier in our discussion of "transaction costs." Monopolies pay higher wages than competitive firms to reduce transaction costs associated with worker turnover and to retain skilled labor. The auto companies have been able to pay high wages for three principal reasons. First, the auto industry has employed more capital per worker than other industries, higher productivity has allowed for higher wages.

Unionization has also brought high wages as did oligopoly power which made the cost of losing production high (Luria, 1986). Guaranteed markets allowed for both high wages and profits; management had little incentive to lose production through strikes. Increased import penetration has helped weaken the last of these two condition's impact on wages.

The demise of the post-War capital-labor accord has been linked to many factors, among them depressed worker productivity in the face of rising wage rates (Bowles et. al., 1983: 91). But rising import penetration levels also helped encourge concession-bargaining and depressed wage rates. The process occurred in four basic ways: First, the rise in imports increased the likelihood that management would want labor concessions as market share and profits were depressed and management sought to cut costs by pressuring labor. This process occurred during the 1970s and early 1980s when recession combined with rising import levels to hold back profits. However, as domestic auto makers increasingly outsource and add value to cars, the danger of such a squeeze on profits is diminished. Together these processes may guarantee profit in the face of competition for the next thirty years (Luria, 1986). But as protectionism provides some guarantee of domestic market share, fewer concessions may be demanded from workers because as domestic markets are protected it may become more feasible to source domestic production with domestic labor. The reason for this brings us to our second argument.

Protectionism may increase workers' bargaining power because increased import penetration has created a strong incentive for employers to resist workers' demands. Non-union wages from low content domestic production and imports has come into competition with domestic union wages. In the supplier industry, union coverage moved from 50 to 30 percent coverage of workers (Luria, Ibid.). Such trends are aggravated by the relocation of Japanese auto suppliers to the U.S. and cost pressures from imports. By limiting competition from such non-union wages, protectionism helps slow the erosion of workers' bargaining power.

A third reason why protectionism may aid workers' bargaining power is linked to the role increased import penetration plays in making domestic workers superfluous to the production process. Rising import levels contributed to growing unemployment levels which increased workers' fears of losing jobs if work rules and wage rates were not modified. By slowing labor displacement, protectionism makes workers more secure in their jobs (especially if it is combined with other policies which would slow technological displacement or regulate capital flight). Finally, import-induced job loss accelerated a process of "deindustrialization" in which workers were displaced from the relatively high-paying jobs in the auto industry into lower paid jobs in the service sector and non-blue collar jobs.

How have rising import levels encouraged management's desires for concessions? The links between the open economy

and management policy are not direct. To a certain extent management always seeks to gain "concessions" from workers. However, management's increased incentive to seek concessions in the late 1970s and early 1980s can be linked to the squeeze on profits discussed in Chapter Three.

The profitability of domestic firms can be viewed as a major constraint on a union's ability to successfully bargain for higher wages. This constraint is "tightened" if higher import levels lower domestic industry profitability: "Union wage gains are likely to be smaller in industries with import penetration" (Heywood, 1985). Support for this hypothesis comes from statistical research which suggests that union wage gains are "lower where an industry's import penetration rate (the percentage of domestic consumption that is imported) is high" (Mishel, 1982). This argument follows from the logic that union wages should be higher in more concentrated industries (Heywood, 1985). This association has been supported by empirical work which shows that high levels of industry concentration are associated with high wages (Heywood, Ibid.; Mishel, op. cit.). Firms with substantial market power are more likely to earn above average rates of return, and such revenues become the "target" of union negotiations (Clark, 1984: 901). Mishel (1985) found that when union coverage is measured as the sole dimension of union structure, high price-cost margins are associated with <u>lower</u> union compensation. Clark (1984) found that profits were sharply reduced by unions when companies had a market share of less than ten percent and

there was no impact when firms had a market share or more than 35 percent. On the other hand, high profits reduce one organizing cost to unions, "the profitability of job loss with the firm's demise subsequent to unionization" (Voos and Mishel, 1986).

The incentive for management to recoup depressed profits from unionized workers is linked to the effect unions and workers have on profits. Certainly wages are not a major factor in increasing corporate costs in the auto industry as discussed in Chapter Two. However, as corporate profits are depressed, the opportunity cost of not hiring cheaper foreign or domestic labor is increased. The discrepancy between the wages paid in union and non-union plants becomes a management concern when profits are squeezed. First, "unionized firms earn substantially lower returns than non-union firms in comparable technological and competitive environments" (Clark, op. cit.: 918). Second, and more important for our discussion of the auto industry, "unionization appears to bear most heavily on those firms whose profitability is already at a relatively low level" (Ibid.: 971). But profitable firms also seek consessions. Nineteen percent of 400 executives in leading U.S. companies in a 1982 poll in Business Week admitted that although they didn't need worker concessions, they were taking advantage of the bargaining climate to ask for them (Slaughter, 1983: 11). In fact, although G.M. made a third of a billion dollars in profits during 1982, it still sought and was granted concessions in April of that same year

(Ibid.) However, we have already noted that Ford and Chrysler were more affected than G.M. by import competition. G.M. may have taken advantage of the precedent set by Chrysler in 1979 in gaining concessions, but this does not mean that a squeeze on profits did not motivate earlier concession bargaining. Also, it is clear that G.M.'s receipt of $2.5 billion in concessions in 1982 contributed to company profits i.e. concessions are demanded also to increase profits.

The link between stemming a profit squeeze and increased bargaining power provided by protectionism has been weakened by industry restructuring through accelerated automation and outsourcing. But rising import penetration still threatens workers' security. As rising import levels contribute to unemployment, the cost to labor of resisting management demands for concessions is increased. At the very least, rising unemployment levels increase the perception that it is more costly to resist management demands.

Researchers have attempted to establish a link between concession bargaining and unemployment by arguing that "concession bargaining is a response to changing and uncertain labor demand functions" (Capelli, 1982: 362). In a 1982 study of 210 cases of concession bargaining, based on negotiations reported by the Bureau of National Affairs, Peter Capelli found a direct link between displacement and concessions. In ninety-six percent of the cases, employment security was involved, including threats of layoffs or plant closings. But, the concessions are not merely based on perceptions of

possible displacement. In ninety percent of the cases, workers had actually experienced layoffs or temporary closings just prior to negotiations.

The likelihood of unions' granting concessions is also directly shaped by displacement. According to Capelli, 'the unions granted concessions only where employment was threatened (that is, there were no rollbacks in the 4 percent ofthe cases where layoffs or plant closings were not threatened)". On the management side, concessions are demanded because employers want to employ substantially fewer workers under the terms of the current contract, "as evidenced by the threats of (or actual) layoffs" (Capelli, 1982: 364).

In examining what forces help explain the incidence of concession negotiations, Capelli suggested that changes in the security of union employment across industries could conceivably increase the likelihood of concessions. As union coverage of an industry falls, "the ability to substitute away from a union workforce increases, and the elasticity of labor rises." In a study of more than thirty industries, Capelli found that changes in import penetration (defined as a percentage of domestic consumption), as a measure of changes in union coverage of an industry, was significant in explaining the likelihood of concession bargaining. Capelli argues a point raised earlier, that management's ability to turn to non-union employment raises the costliness to union's of wage increases: "the burden of union wage rates increases for unionized employers as the proportion of competition not

covered by unions--usually with lower labor costs--rises" (Ibid.).

Recent research at the University of Michigan by John Heywood, demonstrates the link between depressed wages and rising import levels. Specific industries which have witnessed greater new import penetration have experienced a larger decrease in wages: "A large rise in imports seems to bring with it a large decrease in wages." Heywood's study was based on the Panel Study of Income Dynamics, in which respondents were surveyed in 1982 about events in 1981. Using this data, Heywood found that "a ten point increase in import penetration will decrease earnings by 1279 dollars per year for otherwise full-time workers" (Heywood, 1985). Research by labor economist Lawrence Mishel found that import penetration, but not its recent growth, is associated with lower pay for union production workers. In Mishel's study, movement from no import competiton to high import competiton implied a loss of compensation of 10 to 17.5 percent (Mishel, 1985). Lower import levels might raise wages indirectly by increasing workers' bargaining power by lowering the cost of job loss. But the empirical evidence implies that futher import penetration which would occur under the removal of import controls leads to lower wages.

Other measures indicate that for auto workers not rehired by the Big Three, the cost of job loss has increased. Directly, import-induced job loss puts workers in relatively lower paid jobs. Indirectly, such wage losses accelerated by

import-penetration raise the cost to workers of loosing their jobs and makes workers on the job more likely to give concessions. Appendix Four suggests that auto workers' wages have consistently been higher than average manufacturing wages. On the other hand, changing employment patterns have narrowed the opportunities for displaced workers i.e. there are less and less high paid jobs for displaced auto workers to move into.

Several studies have shown that there have been decreased opportunities for displaced workers. Overall employment in the class of industries which possess mean wages in the "middle" (between 80 and 119 percent of the grand mean of 136 industry mean wages in 1980) is growing slower than employment in low wage industries, but faster than employment in high wage industries (Gorham, 1984). Other data show a dramatic rise in income inequality after the late 1970s (Harrison et. al., 1986). In 1969, low wage industries accounted for 45.2 percent of tatal employment. However, by 1995 their share is expected to rise to over 52 percent (Gorham, op. cit.).

Studies of displaced auto workers also indicate the costliness to auto workers of displacement. A Cornell University study of the shutdown of a Ford assembly plant in Mawah, New Jersey found that the median income of the 5,000 workers fell more than 50 percent (from $21,6000 to $10,400) in the two years after the shutdown (Bieber, 1984). In a study of 320 Michigan auto workers laid off after 1978, Boston College's Social Welfare Research Institute found that 25 percent of those re-employed at new positions found jobs in

the service sector. Those laid off and employed at new jobs made on average 70 percent of their original wages; those recalled made wages 116 percent higher than before. Despite substantial supplemental unemployment benefits (SUB) and unemployment insurance, laid off workers losses were substantial (See: Appendix Eight). Those re-employed under a new employer made weekly earnings which on average were 81 percent of their original salary levels in the auto industry (Gordon et. al., 1984).

A larger study of displaced workers carried out by the Department of Labor also indicated high levels of unemployment and wage loss among workers in the auto industry. In examining the employment status of displaced workers in the auto industry in January 1984, the Bureau of Labor Statistics (B.L.S.) found that 224,000 employees with a tenure of three years or more lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abandonment of their positions of shifts. In January 1984, 62.9 percent of these workers were employed, 24.0 percent were unemployed and 13.1 percent were not in the labor force (Bureau of Labor Statistics, 1985a). An estimate by AIM researcher Dan Luria suggest that about 100,000 auto workers lost their jobs because of import penetration from 1978 to 1985. Luria's estimate assumes productivity increases of about 15 percent a year (Luria, 1986). Therefore, about half of the displacement described above can be traced to import-induced unemployment. The B.L.S. Displaced Worker study found that the median weekly earnings of autoworkers on their lost

job was $391. Of the 141,000 workers who lost jobs in 1979-83 but were employed in January 1984, their median weekly earnings on their lost job was $406. The median weekly earnings on the jobs such workers held in January 1984 was $337 (BLS, op. cit.).

Last summer, reports noted that increased competitive pressures and the existence of what AFL-CIO President Lane Kirkland called "an army of long-term unemployed" had lead to the increased use by companies of strike breakers. By increasing structural unemployment in the auto industry, import penetration has contributed to the pool of potential strikebreakers. Recent legal developments have also increased the dangers such strikebreaders pose to workers by allowing union members to quit their union and return to work during a strike (Hoerr, 1985).

It is not clear what role more limited forms of protectionism play in directly stabilizing wage rates. Under the V.R.A.'s, there is evidence that workers exercised wage restraint. From 1975 to 1980, U.S. motor vehicle compensation grew at an annual rate of 11.5 percent, while all manufacturing compensation was growing at a rate of only 9.2 percent. Between 1980 and 1983, motor vehicle compensation rose at the rate of 5.3 percent per year, while all manufacturing grew at a rate of 7.6 percent per year (Scott, 1985). Some measures indicate that protectionism contributed to higher wages in latter years. An April 1985 report noted that:

The car companies, protected from Japanese imports

until recently, accounted for one-third of the total rise in manufacturing earnings since 1982 (Nasar, 1985a).

The removal of protectionist measures could easily increase the number of workers displaced into lower paid jobs given the Japanese cost and technological advantage. Increased protectionist measures would take more non-union waged labor out of competition, but at the risk of retaliation (discussed below).

Political and Economic Divisions Under Protectionism

While the evidence is supportive of protectionism aiding workers in the auto industry, subject to its use with supplementary policies, critics claim that protectionist measures would be divisive. They argue that protectionist measures divide workers who are consumbers from other workers in the auto industry, fail to overcome divisions between primary labor market auto workers and secondary labor market workers inside and outside the auto industry, increase divisions between workers in the U.S. and the Third World.

Conservatives critics of protectionism claim that protectionism would place an unfair burden on consumers and is not justified economically. Progressives prefer to look at the political divsions which are thought to grow out of such costs. According to the Institute for International Economics (I.I.E.), protectionist measures in the auto industry cost consumers $5.8 billion in 1984. I.I.E. claims that the cost per job saved was $105,000. These estimates were made by adding the direct cost of import restrictions (in the shape of

higher foreign prices) to the higher cost of domestic goods that resulted from controls on imports. However, it is not clear from such studies whether their estimate for jobs saved fully account for multiplier effects in the supplier industry i.e. more jobs may have been saved than I.I.E. claims (Business Week, April 7, 1986). A study by Temple, Barker and Sloane, Inc. (T.B.S.)., a Boston-based consulting group, of the costs of domestic content legislation did attempt to model potential employment gains in the supplier industry. However, the study only projected employment increases based on the growth or preservation of 1.2 million domestic vehicles in domestic production. Using this figure as a base, T.B.S. estimated a gain of 44,296 manufacturing jobs in American auto factories, and another 28,925 jobs in supplier industries. The study also projected a gain of 12,742 jobs in dealerships. Domestic employment loss was projected to be 48,770 from the measure (Temple, Barker and Sloane, 1984). However, this estimate fails to address the full opportunity costs of import penetration. Rather than focusing on a potential gain of 1.2 million domestic vehicles under local content, we could point to a loss to domestic producers from 2.4 million imports in 1984. In 1988, this figure was expected to grow futher as noted above. A Federal Trade Commission Report (F.T.C.) claimed that import quotas would cost consumers more than one billion dollars annually. Although measuring the discounted loss of displaced workers' earnings, the F.T.C. underestimated

jobs saved by the V.R.A. (4,598) (Tarr and Morke, 1984).

Under the V.R.A.'s, the average selling price of a Japanese auto in the U.S. increased 39 percent between 1980 and 1984. Crandall (1984) found that increases of $368 per car for domestic cars (or 3.5 percent of the average domestic car price) were probably attributable to the V.R.A.'s in 1983. A 1983 Wharton Econometrics study estimated that the prices of Japanese cars increased an average of $920 to $960 per car in 1981-82 as a result of the quotas (Crandall, 1984). However, such price hikes do not lead directly to a critique of protectionism. In a 1984 study, Robert C. Feenstra, an economist at Columbia University, found that most of the price hikes in Japanese vehicles were due to increases in product quality:

> Our major conclusion is that two-thirds of the increase in Japanese import prices following the [Voluntary Export Restraint] was due to quality improvement, with the remaining one-third a de facto price rise for which the consumer is not compensated by a change in quality (Feenstra, 1984: 56).

A study by the U.A.W. found that as measured by C.P.I., auto price hikes have trailed inflation:

> When rebates and quality changes are taken into account and when considering a constant mix, price hikes for both domestic and imported cars have been extremely moderate, consistently below overall inflation. This has been particularly true in the case of small cars: the restraints have been accompanied by increased small car competition among domestic producers (Bieber, 1984a, Appendix I).

Another problem with linking price hikes in domestic autos to protectionism is that while dollar devaluation may not eliminate the Japanese cost gap or slow sales of imports, it does play a significant role in raising Japanese car prices

i.e. not all of recent price hikes on Japanese autos is cause by import controls. It would be hard to see how protectionist critics could label dollar devaluation "divisive" if it raised Japanese car prices. Also, some of the low prices on foreign autos are based on the fact that workers in overseas auto plants are even more politically constrained than U.S. workers. If price hikes among domestic and foreign producers follow from administered prices or limit pricing, then price controls which supplemented protectionist measures could help keep the prices of both imports and domestic vehicles low. In Japan, auto producers are price competitive. Some observers believe that they have used higher prices in the U.S. to subsidize Japanese consumers in the home market (Womack, 1986).

Economists also note that not only are consumers also workers, but that as workers they can also suffer from increased import penetration:

> ...Suppose that import competition lowers the average cost of living to consumers by two percent. But suppose further that we respond to it by forcing or tolerating a decline in the average worker's earnings by two percent. The average worker is no better off than before.

In fact, from 1979 to 1984, while imports helped reduce prices, private nonfarm nonsupervisory employees, who comprise five sixths of all U.S. private nonfarm employees, faced a 2.7 percent decline in the purchasing power of their earnings (Gordon, 1986: 108).

Politically, there may still be a cost to protectionist measures as workers who pay more for imported cars direct anger against auto workers. However, such anger could also be directed against legislators in Washington or domestic auto companies which support protectionist measures or higher prices. Political alliances between auto workers and consumer groups would not necessarily be threatened by protectionism because both groups could lobby for price controls on foreign and domestic products. Also, the impact on any given consumer from increased prices ($370 or $960) is relatively minor compared to the impact of displacement on auto workers. Numerous studies have described the psychological costs of job loss (Bluestone and Harrison, 1982). We have already implied that the discounted value of lost lifetime earnings would be high. Public opinion polls have consistently favored increased protectionism i.e. the costs of such protectionism are not perceived to be high. This could change if retaliation became a serious danger. By a margin of 56 percent to 38 percent, those surveyed by a Business Week/Harris Poll believed that President Reagan's decision to lift auto import quotas was a "bad idea" (Jackson, 1985). Such surveys indicate that auto workers are not alone in their desire for protectionism. They may also indicate political nationalism, a danger we describe below.

Another criticism of protectionism is that it would fail to remove barriers between primary labor market employees in auto production and other workers. John Willoughby, a progressive protectionist critic, writes:

> Trade union agitation to preserve the "middle class" (that is, high paying union jobs in heavy industry) are of course laudable, but they often implicitly suggest a permanent barrier exists between the primary and secondary labor markets (Willoughby, 1984: 6).

Others have argued that strategies designed to preserve income levels through job creation fail to unite secondary and primary labor market workers around a common program. The argument could conceivably be extended to job preservation as well. Barbara Ehrenreich, a critic of strategies which solely link income-preservation to jobs, argues:

> When jobs no longer work to meet people's needs for economic security, we have to look to alternatives. The alternative is the direct redistribution of wealth through a program of steeply progressive taxes combined with generous public social welfare measures... (Progressive Agenda, February 1986).

Yet, others have argued that job creation and income support are not mutually exclusive and could be considered mutually supporting (Ibid.). The notion that job preservation strategies (through protectionism) would fail to support the interests of black workers is difficult to accept. From the end of 1979, to the end of 1981, blue-collar employment of black workers at Chrysler fell 33.5 percent, from 20,376 to 13,545 (Slaughter, 1983). By slowing job loss, protectionism might limit such displacement. Data from the previously mentioned BLS study found an unemployment rate of 41.8 in 1984 among displaced black workers 20 years and over, for whites the figure was 23.9 percent. Assuming that protectionist measures slowed the displacement of black workers, it is significant to note that past struggles by such workers united community and labor groups (Geschwender, 1977). Import

induced displacement has complicated the basis for such political movements. Also, as plants may close because of import-penetration, primary labor struggles (or class-fraction battles by primary labor market workers) may easily become community ones because of the economic links between any plant and surrounding areas.

It could be argued that controls on capital flight might be more effective in preserving the jobs of black auto workers. The population of such workers is centered in the Detroit metropolitan region. At least 12 Chrysler plants in the region were closed or slated to close from 1980 to March 1983. However, only three plants were closed outside the Detroit area (Slaughter, op. cit.).

What impact would protectionist measures have in stirring up feelings of economic and political nationalism? Much of the national resentment against import penetration has been directed against Asians and or Asian-Americans. Studies have shown rising numbers of racist incidents directed against this group in the U.S. A number of incidents indicate that resentment over rising import levels manifests itself in racism. A member of Congress from Michigan referred to Japanese workers as "little yellow people" during a closed-door hearing. Bennett E. Bidwell, President of the Hertz Corporation, stated that the best way to slow car imports would be to charter the Enola Gay, the B-29 that dropped the first atomic bomb on Hiroshima. Bidwell later joined the

Chrysler Corporation as an executive vice-president (Motz and Nakawatase, 1983). On June 19, 1982, Vincent Chin, a Chinese-American, was beaten to death by two men, both auto workers, who had mistaken him for a Japanese. The murder took place after a confrontation in which the assailants made racial slurs and comments about Japanese cars costing American workers their jobs (Knopp, 1983).

While racism against Asian-Americans is rooted in factors deeper than resentment against lost jobs, critics of protectionism claim that the U.A.W. has exploited racism to promote protectionism and sentiment against Japanese products. A report in January of 1984 stated that the U.A.W. International has urged locals to publicize the "interlocking empire of law firms, lobbyists, PR people, and consultants whose aim is to help Japanese companies get a lock on the American market" (Urquhart and Parker, 1984).

The Detroit Americans for Justice, formed after Vincent Chin's death, has argued that the incident was "linked to the anti-Japanese imports campaign" being waged throughout the country, but particularly in Detroit around the automobile (Wong, 1983). Racist bumper stickers, linking Japanese car makers to Pearl Harbor and a U.A.W. PACMAN figure chasing a racist caricature of a Japanese have circulated among union members. Critics of the union's protectionist campaign charge that mobilization against Japanese auto makers and the union's "exploitation" of racism are part of a larger process of trade union cooptation:

> Such swipes at Japan are no accident. Since the UAW's central strategy is to cooperate with the auto makers--as demonstrated by concessions, the touted "non-adversarial relationship," and quality-of-worklife programs--the membership cannot be mobilized against the corporations. Who is left to be the enemy? The Japanese. For union locals that have adopted a cooperative relationship with management, the rank and file can be roused only by bashing cars made in Japan, picketing auto import dealers, and attempting boycotts of all Japanese products (Urquhart and Parker, 1984).

But despite the links between protectionist sentiment and racism, lower import levels might stem a "backlash" or misguided anger against Asian people. While there is hardly anything admirable about American isolationism, as it has often been associated with racism, there are other dangers which could link an open economy to ractionary politics. As noted earlier, displacement leads to "skidding" in which auto workers are pushed into lower paid jobs. Continued dramatic increases in income inequality could lead to alliances across racial or class lines on the one hand, but could also lead to fascism (Harrison, 1985b). Some writers have linked racism to resentment over imports which predates the U.A.W.'s protectionist domestic content campaign (Price, 1984). It is also true that racism and protectionism would be less likely to occur if trade unions made more sustained efforts not to cultivate anger at the Japanese. Trade unions could also engage in more cooperate efforts with progressive trade unionists overseas e.g. tours with Japanese trade unionists or support work for Korean trade unionists. Such efforts would help mitigate whatever racist links existed to protectionism.

The implications of protectionism for the divisions between migrants and natives in the auto industry are difficult to disentangle. Pressure on costs led many manufacturers to turn to migrant labor in the 1970s. In basic industry, undocumented workers were hired as a "controllable" labor force that could easily be displaced. The workers were used until longer term solutions to cost pressures were tried such as automating or relocating to Mexico. Observers of such transitional workers have argued that they form a latent reserve function in the economy. Immigrants in the secondary labor market tend to exercise "downward pressure on working-class wages and the security and job conditions of domestic workers" (Morales, 1984: 281). However, primary sector migrants "supplement the domestic labor force, rather than...discipline it" (Ibid.: 282-283). Migrant labor is increasingly hired out in domestic jobs which are unlikely to filled by native workers. But as immigrants begin to hold jobs within the U.S., they can become vulnerable to outsourcing and import penetration:

> As undocumented workers were being absorbed into good paying and often unionized jobs in basic manufacturing in the U.S., U.S. manufacturers were, in turn, moving production to Mexico, and when possible, automating as well (Ibid.: 181).

Given the "transitional" and perhaps temporary use of such migrants in the auto industry, protectionist measures fail to address the vulerability of these secondary labor market workers to displacement. Many Mexican-Americans work at G.M.'s Van Nuys plant, which is more vulnerable to plant closure from a movement to recentralize production in

the Midwest than from import penetration. The situation of migrant workers shows that protectionist measures must be implemented in conjunction with other policies.

The changing nature of auto industry employment also raises the question of what jobs protectionist measures are likely to preserve. A study of the auto industry in the United Kingdom may point the way for the U.S. market. There, the impact of technical change was linked to a sharp increase in the employment share of technicians between 1978 and 1984, up from 4.5 percent to 5.8 percent. Major reductions have occurred in employment share for asssembly workers, laborers, and clerical and secretarial staff. On the other hand, the development of "internal labor markets," offers to promote retraining for displaced workers for some of the higher skilled jobs created (Marsden et. al., 1985). In the U.S., the ratio of production workers declined in the post-War era from its previous high of 85 percent in 1940 to 77 percent in 1972 (Markusen, 1985: 166). Trends in the use of automated manufacturing systems will encourage the displacement of production workers and the growth of more highly trained personnel in the U.S. auto industry (Shaiken, 1984). Protectionism will increasingly preserve jobs of more affluent workers. As a result, the ability of protectionist measures to protect production workers is limited by whether unions and workers gain control or influence in the implementation of technology in the workplace. Critics of the U.A.W. argue precisely that it has failed to challenge management control of the use of in plant technology.

Retailiation and the Risk of International Divisions

Another criticism of protectionism is that it could create divisions between U.S. and international workers. This does not appear to be an immediate problem for U.S. workers' relations with the semi-industrialized nations. A review of United Nations' data for recent years shows that even increased protectionism in the auto industry will not be a major threat to semi-industrialized countries. A 1982 report found that the bulk of Brazilian motor vehicle exports go to Latin America and Africa, those of Argentina to Latin America, and those of India to Asia. In 1979, the semi-industrialized countries accounted for 3.7 percent of the car imports and 3.4 percent of imports of parts and accessories of OECD countries. While increasing from 0.2 percent and 0.8 percent in 1970, these proportions are hardly a significant share of the total OECD market. In judgint the impact of semi-industrialized countries on the international division of labor in the motor vehicle industry, Rhys Jenkins concluded:

> Despite their growing share of world output, their importance in terms of world trade in vehicles and parts is limited and their significance as exporters to the major developed country markets is negligible. The major changes in the international division of labor in recent years have taken place within the advanced capitalist countries only peripherally (Jenkins, 1985: 68).

As noted earlier, most imports to the U.S. have come from Japan. Thus, arguments about how protectionism could lead to

retaliation focus on Japanese auto producers. This problem is a complex one and cannot be addressed fully here. However, a cursory discussion will show that the dangers of protectionism do not necessarily compromise the protectionist arguments already developed.

As a general consideration, almost all nations engage in some form of trade controls to protect their auto industries. In arguing that the risks of retaliation from Japan are low, the U.A.W. points out that Japan has never retaliated against the dozens of countries whose auto restrictions are much tighter than the local content restrictions proposed for the U.S. Japan has invested in many of the countries which have implemented content requirements or otherwise regulate Japanese car imports. In Germany and the United Kingdom, Voluntary Export Restraints have held Japanese imports to about ten percent of the domestic market. Spain, Mexico, Brazil and Australia are all major auto-producing countries with local content requirements for foreign producers. The U.A.W. also argues that Japan could not impose trade sanctions against the U.S. without first going through the GATT procedures. Its ability to win its case through GATT is complicated by the ability of the U.S. to file countercharges against the auto policies of many other GATT members which regulate Japan's trade through content agreements with which Japan has cooperated. Most of the products which Japan buys from the U.S. are raw materials or technological products it does not have. The U.A.W. argues that Japan would have little reason to retaliate against the U.S. by buying goods from

alternative producers who have more restrictive restraints on auto imports than does the U.S. (U.A.W., 1982).

However, there are many reasons why protectionist measures which put severe constraints on Japanese import penetration could provoke retaliation from Japan. In the Japanese home market, price competition is severe and overcapacity limits profits. Most of Japan's profits are made in the U.S. market. Thus, while other nations' economies have been more closed off to Japanese autos than the U.S., Japanese producers are now structurally dependent on U.S. markets. Table 5-1 shows how the Japanese automakers rely on the U.S. market.

Observers of the effects of a reduction in the bilateral trade imbalance between the U.S. and Japan argue that it involves "a sharp trade-off between U.S. and Japanese gains" (Petri, 1984: 157). On the other hand, the value of protection to the U.S. economy has grown over time. The greater openness of the U.S. economy and the declising elasticity of U.S. exports and imports helps account for this trend. Brandeis economist Peter A. Petri simulated the effects of the U.S. removing tariffs and quotas unilaterally. His findings are illustrated in Table 5-2. While the U.S. increasingly has benefitted from protectionism, his results also show that the effect of U.S. multilateral protection on the Japanese economy has diminished over time.

Table 5-1: U.S. Retail Sales as Percent of 1984 Production

Toyota	23%
Nissan	26%
Honda	35%
Mazda	22%
Mitsubishi	24%*
Fuji	31%
Suzuki	7%*
Isuzu	24%*

*-Includes imports sold by U.S. auto makers.

Source: Ward's Autmotive Reports, Bussiness Week, February 18, 1985.

Table 5-2: Effects of Eliminating Protection, 1960-1980
Percentage Changes After United States Removes Tariffs, Quotas Unilaterally
(Simulated Changes)

	United States		Japan	
Year	Exchange Rate	Real Income	Exchange Rate	Real Income
1960	-5.6	-0.08	1.2	0.62
1970	-9.1	-0.28	-0.7	0.24
1980	-5.1	-0.32	-0.7	0.06

Source: Petri, 1984.

The reason for this trend is that "the direct effect of reduced access to U.S. markets is increasingly offset by the appreciation of the yen induced by dollar appreciation" (Ibid.: 147). Some observers of protectionism in the auto industry have also argued that Japanese auto producers have

benefitted from U.S. protectionism. Scott (1986) argues that the V.R.A. quotas created an effective cartel for Japanese producers, increasing their market power by helping them to divide up their share of the U.S. market and raise prices dramatically. M.I.T. economist Paul Samuelson argues that when the U.S. took increased protectionist measures to trim the trade deficit in 1971, by allowing the dollar to depreciate and adding a 20 percent import surcharge, foreign nations did not take serious retaliatory measures against the U.S. (Mervosh, 1985).

The removal of existing measures of would hurt the U.S. more than it would benefit Japan. Increased protectionism might provoke retaliation and this would create divisions between workers in export sensitive industries and workers in basic industry. This cursory discussion implies that continuing current levels of protection would not risk retaliation, but measures designed to severely restrict import penetration might provoke retaliation. Such retaliation is contingent upon whether the Japanese would lose a significant level of profit by relocating lost production to the U.S. The low-content levels of U.S. vehicles and the ability to successfully replicate assembly operations in the U.S. could allow for high profit levels in the face of increased protectionist measures. But, if protectionist measures regulated the level of Japanese production in the U.S., we would be left with the same problem of retaliation.

Corporate Opposition to Protectionism

As Japanese and European products set the standards for product design and quality in the auto industry, car makers may be increasingly dependent on protectionist measures. Joint ventures allow access to this technology and may make reliance on protectionism less important. A question remains whether corporate interests will line up behind a significant expansion of protectionist legislation or set a precedent for accelerated expansion by passing a large number of the 180 trade protection bills in the House and 300 in the Senate. As it stands, Ford and Chrysler have supported protectionist measures in Congress; G.M. has opposed such measures. In part, Ford and Chrysler's support for protectionism stems from their greater dependence on small car sales.

Before the rise of coordinated planning by the Trilateralist Commission, Congress and its constituencies pressured the Johnson and Nixon Administrations to force trading partners to limit their exports to the U.S. through a series of "voluntary" export controls (Spero, 1977: 78-80). Empirical research on coporate attitudes towards protectionist legislation and protectionism reveals that a company's trade policy is more protectionist "as the company faces greater pressure from import competition, benefits less from access to foreign markets and it less diversified in the products it produces and sells..." The last factor is linked to a company's limited ability to react to import competition through internal readjustment of production activities. Given

the greater distribution of risk and increased ability to shift to new product lines, "the more diversified firm is less likely to be less protectionist, other things equal" (Bee Yan Aw and Roberts, 1985). Increased conglomeration in the auto industry in the 1980s would imply increased corporate resistance to protectionism.

Another trend, related to conglomeration, which is leading companies to oppose protectionism is the development of co-production schemes and patterns of joint ownership with foreign multinationals. While Ford and Chrysler, more dependent on small car production than G.M., support protectionist measures, all Big Three auto makers are accelerating their imports of cars and parts from overseas. Such outsourcing has been identified by free trade advocates as a reason for corporate opposition to protectionism: "Cutting off imports or jacking up their cost would clobber American firms that have shifted operations abroad to sell back to the United States" (Garten, 1985). As noted above corporations have pursued co-production schemes to gain access to foreign technology. The development of large regional markets for advanced products like automobiles also acts as a force against protectionism:

> ...a protectionist response might be blocked by the emerging struggle for markets in newly industrializing nations. The move into such markets...requires extensive lines of supply between parent firms and their subsidiaries and between major subsidiaries and new entities in key markets. Success in these markets requires that there be no disruption of supply or substantial increase in the price of intermediate goods and that there not be any barriers to shipping major subassemblies to industrial nations (Cohen, 1983b, pp. 558-559).

As an example of how ties with suppliers overseas work against protectionism, Ford Motor Co. favors surcharges on imports from nations that won't reduce their trade surplus with the U.S. Such a law would affect not only Japan, but also Korea and Brazil, where Ford is seeking low cost sourcing to help it compete with the Japanese. In Brazil, Ford makes engines, electronic components and other parts which it ships to the U.S. As a result, Ford's vice president for Latin America concedes that a surcharge "could work against us" (Buss and Ingrassia, 1985).

As noted previously, the major auto companies have scaled down production and increased outsourcing as a way to increase profits. Table 5-3 indicates that the value of labor costs assumed by in house production is greater in G.M. than in Ford or Chrysler, contributing to increased labor costs per vehicle in G.M. Table 5-4 notes that G.M. has lower productivity levels than Ford or Chrysler. As a result, G.M. has more to gain in the interim from opposing protectinist measures which remove the low cost option. Parts may still be supplied by domestic operations as discussed in Chapters Two and Four. Again, trends towards increased outsourcing from overseas would increase corporate opposition to protection until the industry fully restructures. Exporters and distributors of foreign products within the U.S. also line up against protectionism.

Table 5-3: Sourcing Labor Costs (In Value Terms)
Percent of Labor Cost Assumed by In-House Production and Sourced from Outside the Big Three by Company

	Makes In-House	Purchases
General Motors	70%	30%
Ford	45%	55%
Chrysler	30%	70%

Source: Harbour, 1986.

Table 5-4: Productivity, Unit Costs and Profits Per Vehicle

	Vehicle Output Per Employee	
	1984	1985
General Motors	11.0	12.6
Ford	14.8	14.6
Chrysler	20.3	20.9
	Fixed Costs Per Vehicle	
	1984	1985
General Motors	$1,863	$1,759
Ford	$1,406	$1,425
Chrysler	$1,176	$1,155
	Profits Per Vehicle before Interest and Tax Expense	
	1984	1985
General Motors	$933	$728
Ford	$910	$822
Chrysler	$1,441	$1,290

Source: Donaldson Lutkin & Jenrette as published in Holusha, 1986a.

There are other economic trends which work towards promoting protectionism. The forces promoting "recentralization" of capital within the U.S. discussed in Chapter Four would lead corporations to protect their anchored investments. As a general trend, recentralization would be contingent upon the ability of management to control wage costs and labor conflict. Automation would promote this trend in some industries: "current efforts to automate the production of computer chips may ultimately eliminate the need for the Third World assembly line" (Cavanagh et. al., 1985, p. 20). Some auto industry analysts suggest that companies which oppose protection, like G.M., can be expected to support this policy after work forces are scaled down by import-induced layoffs and automation. A U.A.W. economist argues that G.M. will adopt a protectionist position once the highly automated Saturn production run is ready and after productivity gains are maximized (Howes, 1985). Other observers ofthe industry also believe that G.M. will become vulnerable to mid-sized imports from Japan and come to favor a protectionist policy (Price, 1985b).

Changing patterns in ndustrial restructuring both support and oppose the likelihood that corporations would block protectionist efforts. As the economies of Japan and the U.S. become more integrated and joint partnerships in the auto industry flourish, the prospects for increased protectionism dim. However, the development of domestic technology and automated manufacturing allow U.S. firms to become more competitve, albeit on terms less favorable to production

workers. Recent press reports have noted that G.M. has even begun to rethink its strategy in the Saturn program given the success of its joint venture with the Japanese producers in Freemont. But the development of Japanese production methods in the U.S. (as a force for recentralization which supports protection) is still contingent on cooperation with the Japanese.

In summary, domestic producers may continue to support protectionism, to be joined by G.M. Such support would limit protectionist barriers to levels which would allow co-production with the Japanese (and captive imports) until and unless U.S. technology and manufacturing capacity increases greatly.

Conclusion: Labor Strategy and Industrial Restructuring

The present industrial restructuring in the U.S. auto industry has limited the ability of protectionist measures to increase the bargaining power of workers by preserving employment levels and stabilizing wage rates. Increased automation, the "squeezing" of suppliers, demands for decreased work rules and flexible labor practices, diversification and scaling down of production all contribute to labor displacement and have increased the costs to workers of resisting company demands. Capital flight within the U.S. has confronted workers with displacement as well, although underlying centrifugal tendencies within the auto industry have placed limits on this threat. Increasing the scope of protectionism risk U.S. coporate opposition, if such measures block outsourcing, and retaliation from Japan, if their profits in the U.S. market are seriously depressed.

The growing market share of Japanese producers within the U.S. has also led to displacement, creating limited numbers of jobs as most of production is sourced from suppliers in Japan. As such suppliers also relocate to the U.S. some jobs are created for auto workers. However, Japanese managers have limited the the U.A.W.'s ability to organize auto workers by locating in rural or labor weak areas in the United States. Flexible labor practices in such plants also weaken workers' control over their lives in the plants although labor-management cooperation superficially provides some measure of worker "involvement."

Protectionist measures do not remove serious barriers between auto workers and other groups such as secondary labor market workers outside the industry. Nationalist tendencies associated with protection can also aggravate racist sentiments and divisions between domestic and foreign auto workers. Such divisions are increasingly costly as capital is free to move to foreign nations. This dilemma even confronts Japanese auto workers whose base of employment in the auto industry is vulnerable to capital movements to third nations like Brazil or South Korea.

Each limitation to protectionism indicates that this policy may bring increased risks or could prove ineffectual. Nevertheless, our discussion shows that import-induced job loss contributes significantly to wage loss, displacement and the resulting weakness in workers' bargaining power. Regardless of the obstacles, rising import levels seriously weaken auto workers. The problem can not be ignored.

The ability of protectionism to increase workers' bargaining power depends partly on whether other policies and labor strategies are in place. A national policy combining controls on capital flight and prices would help limit displacement and the increased cost to consumers that protectionism might bring. Trade unions and labor coalitions with consumer and other groups at the national, state or metropolitan region would be needed to pass such legislation. If trade unions or workers bargained for controls over how technology is introduced into auto plants, the risks of technological displacement would decrease. The risks of

political nationalism and capital flight would be diminished by the extension of links and coordinated political efforts between auto workers in the U.S., Japan and other nations. Such links are beginning to be developed through rank-and-file networks and have been proposed by past labor leaders such as Walter Reuther. Efforts by trade unions to organize unorganized workers and lobby for income support for the unemployed would also reduce divisions and threats by strikebreakers (as well as the cost of job loss).
A threatened boycott of G.M. by workers and community groups centered around an auto assembly plant threatened with closure in Van Nuys, California, has also proven an innovative strategy for increasing workers' power.

While supplementary strategies are critical for labor, such policies are compromised if they are not combined with protectionist measures. Regulations on capital flight, a nationalized auto industry and increased employee ownership could give workers greater control over investment decisions and corporations' ability to displace workers. Nevertheless, even anchored firms are subject to import-induced job loss.

By preserving corporate markets and taking more non-union wages out of competition, protectionism limits the opportunity cost to domestic producers of hiring non-union labor. The link between profits and bargaining power may have been limited to the critical period from about 1979 to 1982 when all Big Three profits were severely constrained. But even today, protectionism may increase bargaining power by making labor less superfluous and removing the ability of

corporations to organize politically around the idea that they are weak and need concessions to stay in business.

Protectionism might have to increase substantially to reduce the impact which non-union wages and labor concessions made to low content domestic producers have on national bargaining patterns. Like increased protection to slow job loss to such low-content producers, this would risk retaliation. As a result, it is impossible to say whether or not the political power of workers could be increased by dramatically increasing the level of protectionism. The success of such a policy is contingent on a variety of factors (see below). Nevertheless, existing protectionist measures provide a measure of bargaining support.

While protectionist measures under the V.R.A. provided a measure of bargaining support, corporate restructuring decreases the effectiveness of protectionism if it is not implemented in conjuction with other measures. Protectionism in the absence of other policies may aggravate conditions for workers:

> ...Even supplementing trade controls with industrial policy will have negative consequences, if the goverment does not simultaneously address regional and national issues of employment determination. This combined "macro-micro" approach is essential if a jobs campaign is to develop policies which weaken the anarchic effects of capitalist competition while promoting the ability of labor to forge more extensive anticorporate movements (Willoughby, 1984: 7).

As an example, protectionism, without controls on capital flight, might aggravate the problem of plant closings in the Northern tier states as management seeks to keep labor under control.

Arguments which attempts to show that protectionist measures will help workers in the auto industry are compromised by the limits of the literature describing the impact of protectionism, rising import levels and the Japanese industrial system. The relationship between cause and effect are not as clear as has been specified in this material. Critics could argue that the literature confuses correlation of events with causation. We now examine where this problem directly limits the case for protectionism.

First, it is not clear whether the Japanese manufacturing system is responsible for a cost advantage over U.S. producers. Just because the Japanese are engaged in one set of production, management and labor practices, and the U.S. is not, and the Japanese are successful in capturing increased market share, while the U.S. is not, does not mean that Japanese business success is the result of just-in-time or total quality control systems. We have not answered several questions: How much of the Japanese advantage is based on the use of new plant and quipment rather than the older capital employed by U.S. automakers? How much of the Japanese cost advantage is based on increased "up-time" rather than intensified labor and speed-ups? How long will the cost advantage last in the face of a rapidly appreciating yen or changing patterns in the Japanese work force? A recent trade report noted that if Japanese car makers continue to raise

prices, in the face of an appreciated yen, "Japan's $2,000-per-car pricing advantage will shrink to about $300" (Business Week, 1986a). Similarly, labor costs may rise as Japan's labor force is aging rapidly and younger workers are less eager to sacrifice themselves to company demands (Helm et. al., 1986). These considerations reveal that cost pressures may not be linked to a specific manufacturing system, although competition based on quality and more flexible production will continue to define a Japanese advantage unless U.S. automakers become more successful competitors.

A second example of where correlation can not be clearly linked to causation is the relationship between the increased profits of automakers and the implementation of the V.R.A.'s. We have not clearly specified how much of these increased profits were based on "vertical disintegration", labor concessions, and increased outsourcing as opposed to markets sheltered from Japanese competition. Each of these policies reduces pressures on profits despite increased import levels, although protectionism clearly helps to increase profits.

In addition to such methodological problems, the ability of protectionism to aid workers is conditional on a number of factors which might or might not work on terms favorable to labor. Assuming first that no supplementary policies are in place, the ability of protectionism to aid workers is partly conditional on whether diversification, capital flight, or automation increase rapidly enough to make protectionism useless or accelerate precisely because of protectionism. The role labor resistance would play in accelerating such trends

cannot be safely predicted. None of these complicaitons mean that import-induced displacement is not a problem. Rather, the need to introduce supplementary social policies complicates other aspects of the protectionist argument. Because protectionism's ability to aid workers is partly contingent on supplementary policies, the success of protectionism also becomes contingent upon the degree to which corporate opposition makes protectionism more or less likely politically.

The need for coordination and combination of policies raises the question of whether industrial restructuring and the open economy make corporatism and liberal State policies less likely. Is there an electoral solution to the problem of gaining the State power needed to implement industrial policies combined with trade controls? John Willoughby argues that the internationalization of capital has made corporatist politics more difficult. In France:

> After a brief experiment with Keynesian reflation, the Mitterand government has reversed its policy by deciding to control foreign exchange imbalances with austerity rather than direct regulations.

The French Socialists are "systematically dismatlying the Gaullist apparatus of guided investment and price regulation" (Willoughby, 1985: 301-303). The French Government even cooperated with nationalized Renault in breaking a strike las year lead by the CGT (Cumes, 1985). The basis for corporatist politics has seriously weakened--if not disappeared--with the free movement of capital to low wage areas. Labor peace

becomes less of a concern for corporations with the ability to invest capital profitably overseas. Also, social divisions in the working class have limited the need for liberal state politicians to carry out economic affairs on terms beneficial to all workers: social democratic Germany has been able to pursue austere financial and monetary polcies "because the threat of unemployment, until recently, has affected only the 'guest' workers" (Willoughby, op. cit.: 309).

The Alternative Economic Strategy proposed for the United Kingdom, precisely links trade controls with industrial policies in the manner discussed here. Critics argue that the radical movement would be needed to implement these kinds of policies would be subjected to economic destabilization through capital flight or currency speculation (Block, 1978). This debate is extensive, but structural arguments which suggest that such policies are "impossible," make impossible a priori predictions about what movements could and could not accomplish. If a powerful political movement rallied around an AES program, it might be able to pressure the State to adopt the policy. We can't say a priori that State opposition would be successful in opposing an AES-type program.

Another problem with the analysis employed is that future developments may lead to an inconsistency in the chain of logic used to justify protectionism in this study. An alliance between Third World labor and domestic workers may become less likely as more auto workers in nations such as South Korea are hired in jobs dependent on export markets. Retaliation becomes a greater problem as capital and labor

are organized around increased export shares to the U.S. While Jenkins (1985) has noted that the auto industries of semi-industrialized nations are not highly integrated into the economies of advanced Western states, this could change in the future (Womack, 1986). The U.A.W. believes that South Korea's sales could rise to ten percent of the U.S. market by 1988 (U.A.W., 1985a).

Another element of conditionality occurs when we examine the overall impact of protectionism on worker bargaining. It is conceivable that by guaranteeing the markets of U.S. producers, protectionism makes automakers less fearful that a prolonged strike will lead to a loss in customers to the Japanese. Strikes could becomes less costly to the Big Three. On the other hand, domestic producers would still have to reckon with the ability of Japanese producers to increase their market share with production based in the U.S.

The ability of protectionism to aid workers may also be contingent on the race, age or seniority level of workers. Plant closures in Van Nuys, California and Detroit may affect Mexican-Americans and blacks more directly than an overall contraction in labor demand caused by increased import penetration. While such workers may have less seniority than whites, and may be more vulnerable to import-induced layoffs, they could also profit less from a "downsized" auto industry which retains only the most skilled laborers. This problem could raise obstacles to an alliance between workers with different seniority levels and social groups.

Because the utility of protectionism is dependent on a

number of conditional factors, two other issues must be addressed: How long will protectionism remain an effective policy? How much emphasis should workers place on protectionism? Turning to the first question, some have argued that protectionism should be implemented as long as may be necessary to allow the industry to regain competitiveness. As G.M. scales down its work force, it may be more willing to support protectionism. But if the government continues to allow increased import penetration with more relaxed restraints, more links with foreign producers will be extended, perhaps leading to increased opposition from Ford and Chrysler. The absence of controls on investment in the U.S. by the Japanese and other foreign producers may also permit a loss of share to factories producing "low content" vehicles. As the Big Three workforce grows smaller, protection may save less jobs, making this policy less useful to production workers (although workers in backward-linked supplier firms may still benefit from protectionist measures). Therefore, the sooner protectionist measures are implemented, the more successful they will be in aiding workers. However, there may come a time after which so many workers have been displaced from the auto industry that organizing efforts around this issue will prove to be clearly useless.

How much emphasis should workers place on protectionism? The answer to this question depends partially on the form of protectionism, i.e. tariffs, quotas or local content. Generally, local content and even tariffs may reduce outsourcing as well as Japanese imports, raising the demand

for labor and slowing direct labr displacement from the Big Three from imported captive parts and vehicles. While quotas have led to the supply by Japan of higher valued autos, tariffs might not block the demand for increased numbers of higher quality cars. Therefore, quotas seem more useful than tariffs in extending the retention of labor. Some measure of temporary investment controls on foreign automakers might also be feasible.

To fully answer the question of how much emphasis should be placed on protection would require further research. U.A.W. activist Eric Mann argues against planning in the absence of movements i.e. if no constituency is mobilized around an issue, then specific proposals made in a vacuum may fail to attract labor support or are diversionary (Mann, 1986). Therefore, interviews with rank-and-file auto workers, labor activists and a variety of political constituencies could help determine how organizing around protection might advance or limit the goals of labor mobilization in the auto industry. Nevertheless, the changing structure of the auto industry requires some role for State intervention to facilitate workers' bargaining position.

While corporatist politics may prove "unlikely," the problems which the open economy present to workers has made increased State regulation more necessary. A recent book on the auto industry in Great Britain notes:

> ...Once the reliance on shop-floor politics was no longer viable, union politics focused rather less on the car manufacturers themselves and rather more on the prospects of political intervention to influence corporate behavior, either directly or through suspension of those competitive conditions that allowed `harder' management styles to succeed (Marsden, et. al., 1985: 183-84).

There is the danger that labor-management cooperation to influence State policies regulating trade could be used by the Big Three to blackmail workers. On the other hand, the guarantee of a specified share of domestic markets to the Big Three under quotas may increase labor's hand to demand a larger share of corporate profits, income and control of production.

Rising import levels clearly implicate the open economy as an obstacle to workers' power. Would alternative policies such as macroeconomic expansion be more useful to the labor movement by uniting diverse constituencies without the risks of retaliation or intra-class divisions? Nations such as Sweden have relied less on protectionist policies and more on macroeconomic expansion and technological innovation as a means to guarantee employment and income to workers. Political economists Radford Boddy and James Crotty wrote in a 1975 essay that "full emplyment leads to a reduction of wage differentials among different categories of people" (Boddy and Crotty, 1975: 9). The power of corporations over workers is increased by divisions or perceived conflicts of interest among workers: these are especially pronounced in a recession or in periods when waged and unwaged workers are divided. Falling unemployment rates can unify various sectors of the

workforce because economic expansion reduces wage differentials and leaves the workforce more homogenous (Ibid.). However, progressive macroeconomic policy may be less politically feasible or useful to workers in the U.S. than the protectionist alternative.

In a progressive nation like Sweden, extensive retraining of displaced workers and migration of workers to different job categories in different regions may be easier than in the U.S. Sweden's small size and progressive traditions make progressive macroeconomic policies more likely as a transitional or short-term strategy than in the U.S. The organization of labor markets is decreasing the likelihood that economic expansion will promote higher paid jobs. One study found that the business cycle has played a negligible role in increasing income inequality (Harrison et. al., 1986). By specifically targetting a high wage industry, protectionism helps slow wage erosion as most new jobs generated are lower paid. Nevertheless, organization of workers in new sectors could extend higher wage rates.

The specific contribution of the auto industry towards providing higher wage rates leads us to another consideration: should trade controls be estended to other industries or is the auto industry uniquely deserving protection? Unlike many other industries, the automobile industry provides a large number of high paying jobs and has extensive economic links with other sectors. As a result, protection of the auto industry will have greater multiplier effects in preserving

jobs than other sectors. Such economic links give auto workers a critical level of bargaining power not available to workers in many service industries or in other sectors. Because auto workers may interrupt productive processes and or services far beyond their immediate job concern, strikes become political events and have wide-ranging implications (Peronne, 1984: 1984: 414). In one exercise, sociologist Luca Perrone linked workers' disruptive potential to their industries' economic links with other sectors 1 (Ibid.). Alternative macroeconomic strategies, which re-directed resources away from managers to workers would be aided by the strategic power of workers in key industries such as auto. However, the basis for increased State intervention to facilitate liberal programs may be undercut as workers are pulled out of highly-linked strategic sectors such as the auto industry.

The high wages, extensive economic links and strategic political position assumed by auto workers make the industry unique as a target of industrial policy. However, workers in other economic sectors such as the steel industry have suffered from increased import levels, displacement and industry restructuring on terms which are not beneficial to labor (Locker/Abrecht Associates, Inc., 1985). Like auto, the steel industry is also a strategic industry. Both firms are well suited to benefit from protection by becoming sheltered from "trade cycle deflation" discussed earlier. In firms with increasing returns to scale, as the loss of competitiveness

leads to a fall in market share, and output contracts, costs will rise as scale economices are reduced:

> ...Hence, the competitive position of the firm worsens further, causing a further drop in output, and a cycle of falling output and rising costs (Chichilnisky and Heal, 1983).

While the limits to protectionism are clear, existing levels of protectionism under the V.R.A. provided workers with a measure of increased or potential bargaining power. The costs to removing such import controls are high. By helping to slow displacement and the erosion in wages, protectionism increases the bargaining power of workers. By slowing displacement, trade controls limit the cost of job loss to auto workers on the job and provide a meausre of support to workers' bargaining demands. Wage erosion may be slowed as workers bargaining power is increased, protectionism slows the "skidding" of workers into lower paid jobs. The wage and employment secruity provided under protectionism helps to promote trade union solidarity, as locals would be under less pressure to make separate deals with companies to secure work.

Retaliation, international divisions among workers, and corporate opposition place limits on the utlity of increased protectionism. At the very least, a ceiling on the market share taken by Japanese and other foreign imports would provide workers with a measure of political support without the complications of retaliation and the acceleration of automation, capital flight, diversification and corporate opposition.

1-The extensive corporate restructuring in the auto industry shows us the other side of the power equation. In reviewing Perrone's work, Larry Griffin writes that: "The structural power of capitalists in those industries which are most 'integrated' into the macro-economy may be magnified by the very fact that their firms are 'central' to the smooth operation of the entire system. Hence these employers may have greater power vis-a-vis state policy, other capitalists, or even workers employed in the 'core' industries" (Griffen, 1984: 425). Nevertheless, while corporate power may mirror workers' power in strategic industry, workers' power in the auto industry (in terms of wages and influence) is greater than that of many other workers. Corporate power does not diminish this fact.

Appendix One

MARKET SHARES BY CORPORATION, U. S. CAR REGISTRATIONS, SINCE WORLD WAR II

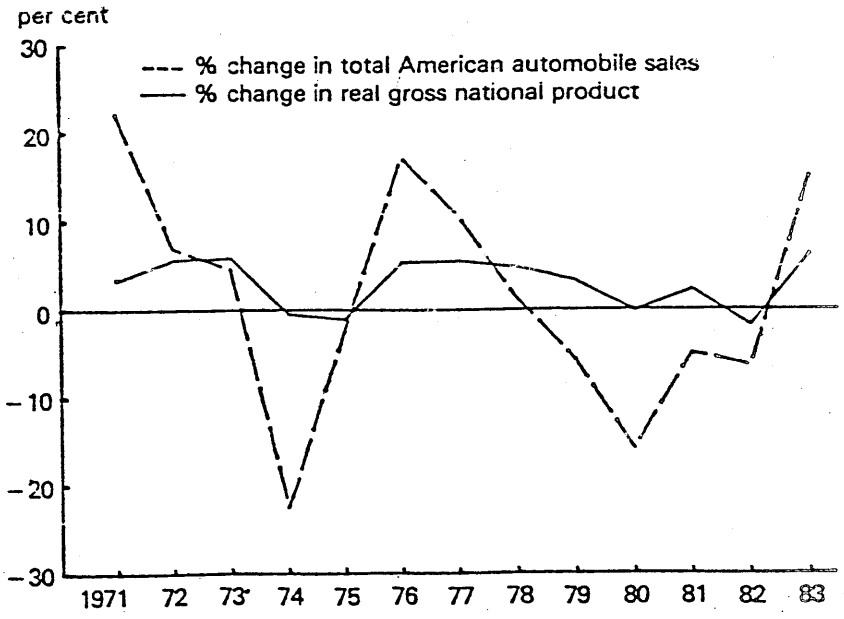
Year	GM	Ford	Chrysler	AMC*	Studebaker-Packard	Kaiser-Fraser, Willys	Miscellaneous Domestic	Imports
1946	37.78	21.97	25.74	8.68	5.21	0.42	0.20	.....
1947	41.89	21.09	21.77	5.88	4.73	4.11	0.53	.....
1948	40.63	18.82	21.45	6.12	6.33	5.38	0.81	0.46
1949	42.89	21.31	21.40	5.65	6.14	2.12	0.24	0.25
1950	45.48	24.00	17.61	4.90	5.40	2.30	0.15	0.26
1951	42.83	22.16	21.80	4.68	5.38	2.57	0.17	0.41
1952	41.74	22.78	21.27	5.31	5.39	2.71	0.09	0.71
1953	45.07	25.15	20.31	3.55	4.05	1.34	0.02	0.51
1954	50.70	30.83	12.90	2.01	2.43	0.47	0.07	0.59
1955	50.76	27.63	16.82	1.81	2.06	0.10	0.01	0.81
1956	50.78	28.45	15.48	1.81	1.76	.....	0.07	1.65
1957	44.85	30.39	18.33	1.77	1.13	.....	0.07	3.46
1958	46.36	26.44	13.92	4.01	1.08	.....	0.07	8.12
1959	42.10	28.12	11.30	6.01	2.21	.....	0.09	10.17
1960	43.64	26.60	14.01	6.42	1.62	.....	0.13	7.58
1961	46.53	28.53	10.79	6.33	1.23	.....	0.12	6.47
1962	51.87	26.30	9.61	6.10	1.12	.....	0.11	4.89
1963	51.04	24.87	12.37	5.67	0.85	.....	0.10	5.10
1964	49.08	26.01	13.81	4.71	0.32	.....	0.07	6.00
1965	50.07	25.47	14.67	3.49	0.13	.....	0.06	6.11
1966	48.13	26.08	15.39	2.95	0.06	.....	0.08	7.31
1967	49.53	22.15	16.05	2.85	.....	.....	0.10	9.32
1968	46.73	23.70	16.25	2.76	.....	.....	0.08	10.48
1969	46.79	24.25	15.12	2.54	.....	.....	0.06	11.24
1970	39.73	26.42	16.09	3.03	.....	.....	0.05	14.68
1971	45.16	23.52	13.71	2.50	.....	.....	0.05	15.06
1972	44.40	24.39	13.80	2.83	.....	.....	0.05	14.53
1973	44.32	23.50	13.33	3.45	.....	.....	0.05	15.15
1974	41.89	24.96	13.56	3.79	.....	.....	0.06	15.74
1975	43.31	23.06	11.70	3.72	.....	.....	0.04	18.17
1976	47.22	22.45	12.91	2.53	.....	.....	0.05	14.84
1977	46.37	22.66	10.97	1.69	.....	.....	0.04	18.26
1978	47.67	22.91	10.16	1.44	.....	.....	0.05	17.78
1979	46.42	20.29	9.02	1.52	.....	.....	0.05	22.70
1980	46.41	16.51	7.14	1.72	.....	.....	0.04	28.18
1981	44.50	16.32	8.76	1.58	.....	.....	0.04	28.80
1982	44.02	16.68	8.61	1.09	.....	.....	0.03	29.57
1983	44.01	17.11	9.19	2.14	.....	.....	0.01	27.54
1984	44.44	19.26	9.51	1.86	.....	.....	0.00	24.93

*-And predecessors. Source: R. L. Polk & Co.

SOURCE: Automotive News, Market Data Book, Detroit, 1985.

Appendix Two

Percentage Change in Real GNP versus Percentage Change in Total American Automobile Sales



Sources: Wards Data Bank, Detroit; and National Income and Product Accounts of the United States.

SOURCE: As published in Laffer et. al, 1985.

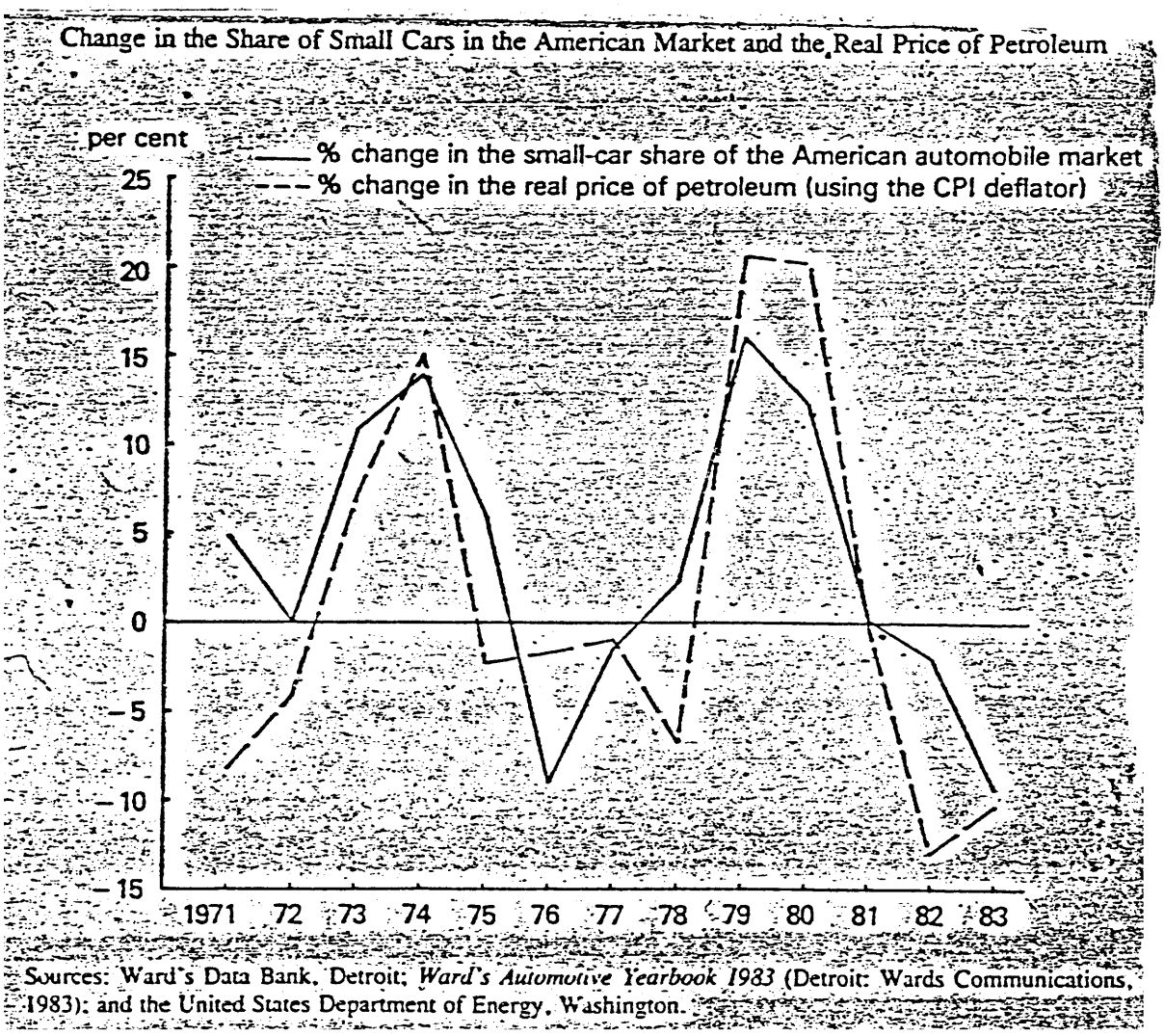
Appendix Three

The Cost per Automobile of Federal Safety and Emissions Regulation, 1966–81
(current $/car)

	Equipment Costs			Total Costs
Year	Safety	Emissions	Total	(Including Maintenance & Fuel Economy Penalty)
1966	40	0	40	40
1967	73	0	73	73
1968	115	14	129	129
1969	129	15	144	144
1970	157	24	181	181
1971	166	25	191	191
1972	171	25	196	366
1973	258	44	302	790
1974	380	49	429	970
1975	358	119	477	664
1976	373	126	499	696
1977	384	123	507	850
1978	393	133	526	895
1979	421	148	569	980
1980	467	222	689	1373
1981	494	600	1094	1894

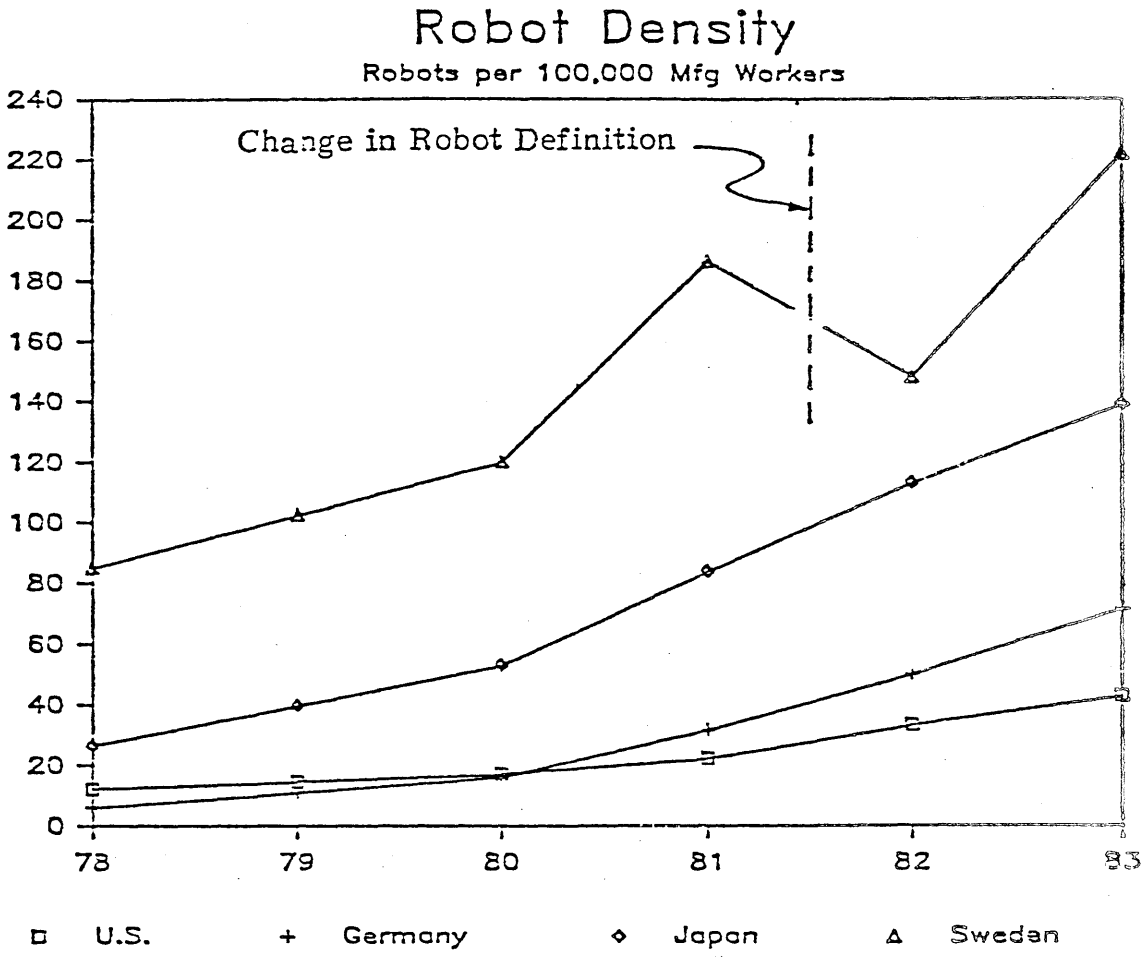
SOURCE: As published in Crandall, 1984,

Appendix Four



Source: As published in Laffer et. al., 1985.

Appendix Five



SOURCE: U.A.W., 1985b.

Appendix Six

Comparing Japanese and U.S. Car Prices

MODEL	1985	1986	PERCENT CHANGE
Subcompact			
Honda Civic	$ 7,295	$ 7,993	9.6%
Mazda 323 LX	7,395*	8,495	14.9
Dodge Omni SE	6,342	6,558	3.4
Ford Escort L	6,127	6,327	3.3
Compact			
Honda Accord LX	10,645	12,469	17.1
Mazda 626 LX	10,245	11,045	7.8
Ford Tempo LX	8,302	8,777	5.7
Olds Ciera	9,493	10,153	7.0
Intermediate/Luxury			
Toyota Cressida	15,690	17,480	11.4
Pontiac 6000 STE	15,539	15,949	2.6

*Predecessor model

SOURCE: Nag (Wall Street Journal), March 29, 1985.

Average Hourly Wages of Automobile and Manufacturing Workers: U.S. 1950-1982, in 1967 Dollars

Appendix Seven

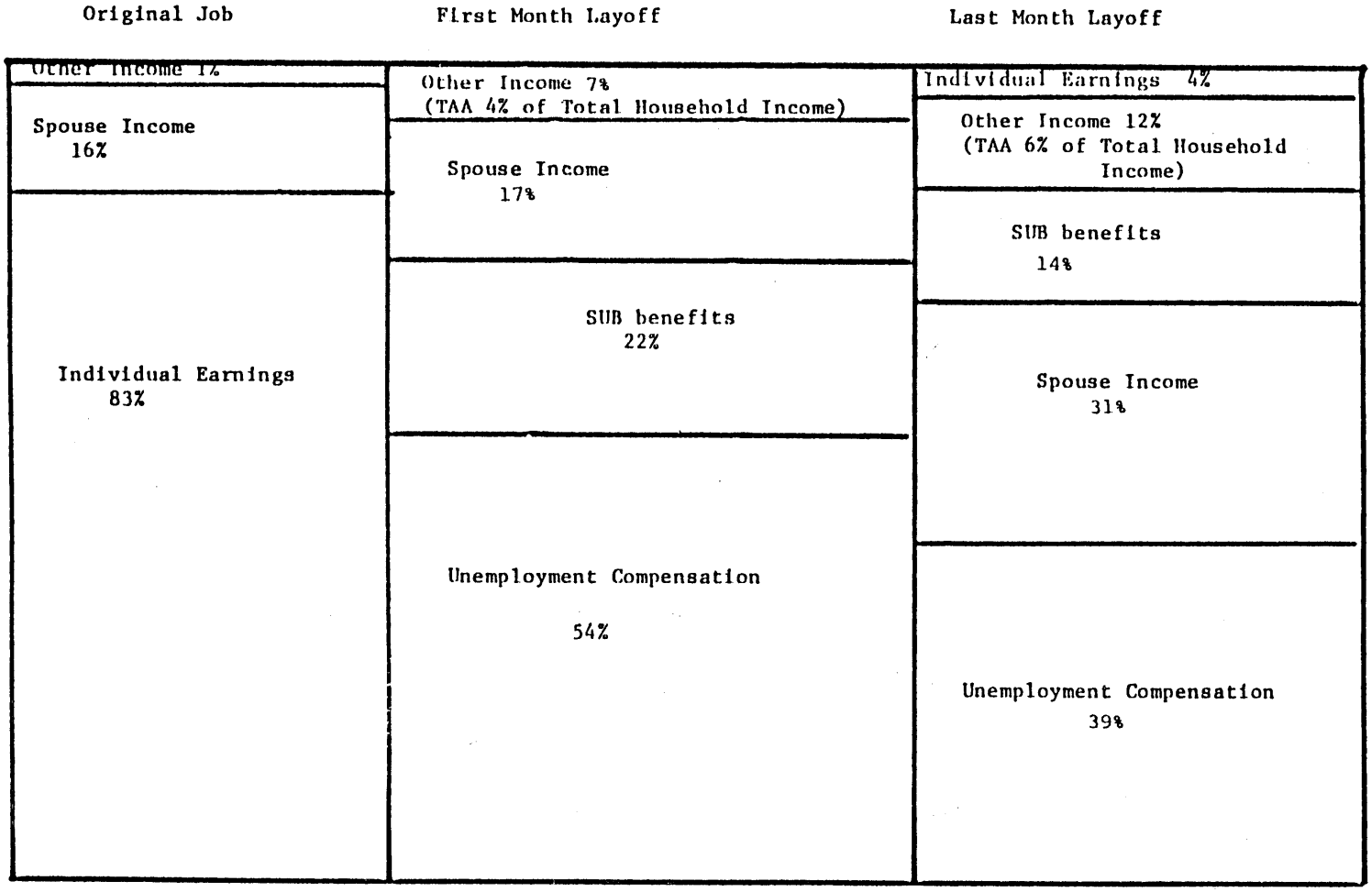
Year	Automobile hourly wages as percent of manufacturing hourly wages	Real wages automobile workers in 1967 dollars	Real wages U.S. manufacuring workers in 1967 dollars
1950	124	$2.45	$1.98
1951	122	2.46	2.01
1952	125	2.58	2.06
1953	123	2.67	2.17
1954	124	2.73	2.21
1955	124	2.86	2.31
1956	121	2.89	2.40
1957	121	2.92	2.42
1958	121	2.94	2.42
1959	124	3.10	2.51
1960	124	3.17	2.55
1961	123	3.19	2.59
1962	125	3.30	2.64
1963	127	3.38	2.67
1964	127	3.46	2.72
1965	128	3.53	2.76
1966	127	3.54	2.79
1967	126	3.55	2.82
1968	129	3.73	2.89
1969	129	3.73	2.91
1970	126	3.63	2.88
1971	132	3.89	2.94
1972	134	4.09	3.05
1973	133	4.10	3.07
1974	133	3.97	2.99
1975	133	4.00	3.00
1976	136	4.16	3.06
1977	138	4.33	3.13
1978	138	4.36	3.16
1979	135	4.17	3.08
1980	137	4.00	2.93
1981	137	4.06	2.97
1982	131	3.85	2.94

Sources: U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, U.S.: 1909-78, Washington, D.C., 1978; U.S. Department of Labor, Bureau of Labor Statistics, Supplement to Employment and Earnings, Washington, D.C., June 1982; U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, vol. 30, no. 3, March 1983.

SOURCE: As published in Trachte and Ross, 1983.

Appendix Eight

COMPOSITION OF HOUSEHOLD INCOME DURING UNEMPLOYMENT: TOTAL SAMPLE



SOURCE: Gordon et. al., 1984.

BIBLIOGRAPHY

Aaronovitch, Sam and Ron Smith. 1981. The Political Economy of British Capitalism. London: McGraw Hill.

Abernathy, William J., Kim B. Clark, and Alan M. Kantrow. 1983. Industrial Renaissance. New York: Basic Books.

Ackerman, Frank. 1983. "Bringing It All Back Home: The UAW's Local Content Proposal." Dollars and Sense No. 84, February.

Adams, Walter and Hans Mueller. 1982. "The Steel Industry," In The Structure of American Industry. Edited by Walter Adams. New York: MacMillan Publishing Co., Inc.

AIM Newsletter. 1985. University of Michigan. Vol 1., No. 1., December.

_____. 1986. University of Michigan. Vol. 1., No. 2, March.

Altshuler, Alan et. al. 1984. The Future of the Automobile. Cambridge, MA: MIT Press.

Alvarez, Donato and Brian Cooper. 1984. "Productivity Trends in Manufacturing in the U.S. and 11 other Countries." Monthly Labor Review Vol. 107, No. 1, January: 52-58.

Andrea, Dave, Richard Hervey and Dan Luria. 1986. "The Capacity Explosion: Implications for Michigan Suppliers." AIM Newsletter Vol. 1, No. 2, March.

Armstrong, Larry et. al. 1985. "Why Carmakers Will Mourn if Export Quotas DIe." Business Week February 18.

Armstrong, Philip, Andrew Glyn and John Harrison. 1984. Capitalism Since World War II. London: Fontana Paperbacks.

Automotive News. 1985. Market Data Book. Detroit. April 24.

Bee Yan Aw and Mark J. Roberts. 1985. "The Role of Imports from the Newly-Industrializing Countries in U.S. Production." The Review of Economics and Statistics Vol. 67, No. 1.

Bensman, David. 1984. "The Downside of the G.M. Contract." The Nation Novemeber 3.

Berger, Joan. 1985. "American Workers Don't Get Around Much Anymore." Business Week October 28.

Bhaskar, K. 1980. The Future of the World Motor Industry. London: Kogun Page.

Bieber, Owen. 1984a. "Statement of Owen Bieber, President, International Union, United Automobile, Aerospace and Agricultural Implement Workers of America, UAW, Before the Senate Committee on Commerce, Science & Technology On S. 707, The Fair Practices Automotive Products Act." m.s., Detroit: U.A.W., May 16.

_____. 1984b. Statement Before the United States International Trade Commission Hearing On "The Internationalization of the Automobile Industry and its Effects on the U.S. Automobile Industry." m.s., Detroit: U.A.W., December 4.

Block, Fred. 1977a. The Origins of the International Economic Disorder. Berkeley: University of California Press.

_____. 1977b. "The Ruling Class Does Not Rule: Notes on the Marxist Theory of the State." Socialist Revolution Vol. 7, No. 3: 6-28.

_____. 1978. "Class Consciousness and Capitalist Rationalization: A Reply to Critics." Socialist Review Vol. 8, No. 4-5: 212-220.

_____. 1984. "The Myth of Reindustrialization." Socialist Review Vol. 14, No. 1.

Bluestone, Barry and Bennett Harrison. 1982. The Deindustrialization of America. New York: Basic Books.

_____. 1984a. "Is Deindustrialization a Myth? Capital Mobility versus Absorptive Capacity in the U.S. Economy." The Annals of the American Academy of Political and Social Science Vol 475, September: 39-51.

_____ and Seamus O'Clearecain. 1984b. "Industrial Priorities in the Trade Jungle." World Policy Journal. Winter.

_____, Bennett Harrison and Alan Matthews. 1985. "Structure vs. Cycle in the Decline of Manufacturing Employment." Cambridge: MIT, mimeo, July 25.

Boddy, Raford and James Crotty. 1975. "Class Conflict and Macro-Policy: The Political Business Cycle." The Review of Radical Political Economics Vol. 7, No. 1., Spring: 1-19.

Boston Globe. 1986. "Japan Renews Automobile Export Quotas." Vol. 229, No. 44, February 13.

Bowles, Sam, David M. Gordon, and Thomas E. Weisskopf. 1983. Beyond the Wasteland. Garden City, NY: Anchor Press/ Doubleday.

Brecher, Jeremy. 1984. "Crisis Economy: Born-Again Labor Movement?" Monthly Review Vol. 35: No. 10., March.

Bureau of International Labor Affairs. 1980. "Trends in U.S. Trade, 1960-1979." Economic Discussion Paper 7. Washington, D.C.: U.S. Department of Labor. October.

Bureau of Labor Statistics. 1985a. Displaced Workers, 1979-83. U.S. Department of Labor. Bulletin 2240. Washington, D.C.: U.S. Department of Labor. October.

_____. 1985b. Industry Wage Survey: Motor Vehicles and Parts, May 1983. U.S. Department of Labor. Bulletin 2223. Washington, D.C.: U.S. Government Printing Office. March.

Buss, Dale D. 1983. "Japanese-Owned Plants in the U.S. Present a Tough Challenge for the UAW." Wall Street Journal. October 28.

_____ and Ingrassia. 1985. "While Trying to Curb Imports, Auto Makers Set More Foreign Ties." Wall Street Journal.

Bussiness Week. 1986a. "Detroit vs. Japan: It May Be a Horse Race Yet." March 31.

_____. 1986b. "Protectionism: Making It Pay For Itself." April 7.

Cairncross, Frances and Phil Keeley. 1981. The Guardian Guide to the Economy. London: Methuen.

Campbell, Mike. 1981. Capitalism in the UK, London: Croon Helm.

Cappelli, Peter. 1983. "Concession Bargaining and the National Economy." In Industrial Relations Research Association," Proceedings of the Thirty-Fifth Annual Meeting. (New York, Dec. 28-30, 1982). Madison, Wis.: IRRA: 362-371.

_____. 1985, "Plant-Level Concession Bargaining." Industrial and Labor Relations Review Vol. 39, No. 1, October, 90-104

Cavanagh, John et. al. 1985. "Meeting the Corporate Challenge." TIE Report. No. 18/19, February.

CEPG Group. 1980. "Academic criticisms of the CEPG analysis." Cambridge Economic Policy Review Vol. 6, No. No. 1, Chapter 4: 35-42.

Chichilinsky, Graciela and Geoffrey Heal. 1983. Trade and Development in the Eighties. A Report to the Secretary General of UNCTAD. ms. March.

Chira, Susan. 1985. "Chrysler and Mitsubishi to Build Small Cars Jointly in the Midwest." New York Times. April 16.

Christopherson, Susan and Michael Storper. 1985. "After Mass Production: Vertical Disintegration, Flexible Specialization, and Agglomeration. The Case of the U.S. Motion Picture Industry. ms. University of California, Los Angeles. October.

Church, George. 1985. "The Battle over Barriers." Time October 7.

Clark, Kim B. 1984. "Unionization and Firm Performance: The Impact on Profits, Growth and Productivity." American Economic Review Vol 74, No. 5. December: 813-919.

Cohen, Robert B. 1982a. "Industrialization of the Auto Industryand Its Employment Impacts." SAE Technical Paper Series. Presented at the International Congress and Exposition, Detroit, MI. February 22-26.

_____. 1982b. "The Prospects for Trade and Protectionism in the Auto Industry." Paper Presented at a Conference on Trade Policy in the Eighties, Institute for International Economics, Washington, D.C., June 23-25.

_____. 1983a. "The New Spatial Organization of the European and American Automotive Industries," in Regional Analysis and the New International Division of Labor. Edited by Frank Moulaert and Patricia W. Salinas. Boston: Kluwer Nijhoff Publishing.

_____. 1983b. "The Prospects for Trade and Protectionism in the Auto Industry." In Trade Policy in the 1980s, Edited by William R. Kline. Cambridge, MA: MIT Press: 527-561.

Cole, Robert E. 1979. Work, Mobility and Participation: A Comparative Study of American and Japanese Industry Berkeley: University of California Press.

Crandall, Robert W. 1984. "Import Quotas and the Costs of Protectionism." Brookings Review. Vol 2, No. 4. Summer: 8-16.

Cripps, Francis and Wynne Godley. 1978. "Control of Imports as a means to full employment and the expansion of world trade: the UK's case." Cambridge Journal of Economics. Vol. 2: 327-334.

_____. 1983. "Britain, Europe and Macroeconomic Policy," in Britain and the EEC. Edited by Roy Jenkins. London: MacMillin Press Ltd.

CSE London Working Group. 1982. The Alternative Economic Strategy. London: CSE Books.

Culbertson, John M. 1985a. Free Trade and the Future of the West. Madison, WI: 21st Century Press.

_____. 1985b. "Forum: Control Imports Through Bilateral Pacts." New York Times. August 11.

Cumes, Frank J. 1985. "The Socialists Tame A Fierce Union." Business Week October 28.

Dollars & Sense Collective. 1976. "VW Runs Away to US." Dollars and Sense October, No. 20.

_____. 1982. "Imports vs. Jobs: The Push for Protectionism." Dollars and Sense May-June. No. 77.

_____. 1986. "Economy in Review: Trading Woes, Trading Blows." Dollars and Sense January-February.

Drefack, Kenneth. 1986. "Even American Knowhow is Headed Abroad." Business Week April 3.

Dworkin, Peter, Manuel Schiffres and Robert F. Black. 1985. "Silicon Chips: U.S. Gets Set for a Comeback." U.S. News and World Report November 25.

Eatwell, John. 1982. Whatever Happened to Britain? London: British Broadcasting Corporation.

Economist. 1985. "Schools Brief." November 16.

Edid, Maralyn. 1985a. "The Autoworkers' Strategy." Business Week April 22.

_____. 1985b. "Detroit's Credit Arms are Getting a Lot Longer." Business Week August 19.

_____. 1985c. "Why Mazda is Settling in the Heart of Union Territory." Business Week September 9.

_____. 1985d. "How Winning at Chrysler Could Hurt the UAW." Business Week October 7.

El-Agraa, Ali M. 1983. "Has Membership in the EC Been a Disaster for Britain?," in Britain Within The EEC: The Way Forward. Edited by Ali M. El-Agraa. London: The MacMillan Press, Ltd.

Esposito, Louis and Frances Ferguson Esposito. 1971. "Foreign Competition and Domestic Industry Productivity." The Review of Economics and Statistics Vol. 53, No. 4. November.

Estall, R.C. 1985. "Stock Control in Manufacturing: the Just-in-Time System and Its Locational Implications." Area Volume 17, No. 2: 129-133.

Feenstra, Robert C. 1984. "Voluntary Export Restraint in U.S. Autos, 1980-81: Quality, Employment, and Welfare Effects." In The Structure and Evolution of Recent U.S. Trade Policy, Edited by Robert E. Baldwin and Anne O. Krueger: 35-65.

Finn, Eddie and Paul Levine. 1983. "Collective Bargaining and Alternative Strategies." 1983. Socialist Economic Review. London: Merlin Press.

Fischer, Lydia. 1982. " Crisis and Union Response." In Labor and Technology: Union Response to Changing Environments. Edited by Donald Kennedy, Charles Craypo and Mary Lehman. Department of Labor Studies, Pennsyvania State University.

Freeman, Christopher. 1979. "Technical Innovation and British Trade Performance." in De-industrialisation. Edited by Frank Blackaby. London: National Institute of Economic and Social Research, Economic Policy Papers 2.

Friedman, David. 1983. "Beyond the Age of Ford: The Strategic Basis of Japense Success in Automobiles." In American Industry in International Competition. Edited by John Zysman and Laura Tyson. Ithaca, NY: Cornell University Press: 350-390.

Fugimoto, Takahiro. 1983. "Technology Systems: A Comparison of the U.S. and Japanese Automobile Industries." ms. Tokyo, Japan: Mitsubishi Research Institute. March.

Gabor, Andrea. 1972. "Japanese VCRs May Soon Say `Made in USA.'" Business Week August 5.

Gale, Bradley J. 1972. "Market Share and Rate of Return." The Review of Economics and Statistics Vol. 54, No. 4, November: 412-23.

Gamble, Andrew. 1985. Britain in Decline. 2nd Edition. London: MacMillan.

Gardner, Al, Pete Kelly and Bob Weissman. 1982a. Analysis: Ford Settlement. Detroit, MI: Locals Opposed to Concessions.

_____. 1982b. Analysis: General Motors Settlement. Detroit, MI: Locals Opposed to Concessions.

Garten, Jeffrey E. 1985. "Forum: America's Retreat from Protectionism." New York Times. June 16.

Geschwender, James A. 1977. Class, Race and Worker Insurgency. New York: Cambridge University Press.

Glyn, Andrew. 1980. Capitalist Crisis: Tribune's 'Alternative Strategy' of Socialist Plan. London: Militant.

_____ and John Harrison. 1980. The British Economic Disaster. London: Pluto Press.

Goldsmith, William W. 1984. "Bringing the Third World Home: Enterprise Zones for America." In Tabb and Sawers: 339-350.

Gomez-Ibanez, Jose A, Robert A. Leone and Stephen A. O'Connell. 1983. "Restraining Auto Imports, Does Anyone Win?" Journal of Policy Analysis and Management. Vol. 3, No. 2., Winter: 319-323.

Gordon, Avery F., Paul G. Schervish and Barry Bluestone. 1984. "The Unemployment and Reemployment Experiences of Michigan Auto Workers." Report on the Michigan Auto Industry Worker Study submitted to Office of Automotive Industry Affairs, United States Department of Commerce and to the Transportation Systems Center, United States Department of Transportation. Chestnut Hill, MA: Social Welfare Research Institute, Boston College. December 4.

Gordon, David. 1986. "Do We Need to be No. 1?" The Atlantic Monthly. Volume 257, No. 4. April.

Gordus, Jeanne. 1986. Phone Interview with Author. Ann Arbor, MI. March 26.

Gorham, Lucy. 1984. "The Growth of Low Wage Industry: Harbinger of Vanishing Opportunity?" The Entrepreneurial Economy Vol. 3, No. 2, August.

Grant, Robert. 1983. "The Impact of EEC Membership Upon UK Industrial Performance," in Britain and the EEC. Edited by Roy Jenkins, MP. London: The MacMillan Press Ltd.

Greenwald, John. 1985. "Lulu is Home Now." Time June 17.

Griffin, Larry J. 1984. "Reviewers' Comments." In Perrone, 1984.

Grunwald, Joseph. 1983. "Restructuring Industry Offshore: The U.S.-Mexico Connection." The Brookings Review Spring: 24-26.

Hager, Wolfgang. 1982a. "Protectionism and Autonomy: How to Preserve Free Trade in Europe." International Affairs Vol. 58, No. 3, Summer, pp. 413-428.

_____. 1982b. "Industrial Policy, Trade Policy, and European Social Democracy," in National Industrial Strategies and the World Economy. Edited by John Pinder. Totowa, NJ: Rowman and Allanheld.

Halliday, Jon and Gavan McCormack. 1973. Japanese Imperialism Today. New York: Monthly Review Press.

Hammond, John H. Jr. 1983. "The Future of the United States Automobile Industry." Testimony prepared for the Subcommittee on Commerce, Transportation, and Tourism of the Committee on Energy and Commerce of the U.S. House of Representatives, Washington, D.C. May 6.

_____. 1986. Phone interview with Author. Boston. March 20.

Hampton, William J. 1985a. "Can Detroit Cope This Time?" Business Week April 22.

_____ and Dan Cook. 1985b. "Detroit Raises the Ante for Parts Suppliers." Business Week October 14.

_____. 1985c. "Detroit Beware: Japan is Ready to Sell Luxury." Business Week December 9.

_____ and Stuart Weiss. 1986. "Downsizing Detroit: The Big Three's Strategy for Survival." Business Week April 14.

Hansen, Dwight and Mike Parker. 1983. "The Circle Game." The Progressive January.

Harbour, James. 1986. Lecture and slide presentation at M.I.T., Cambridge, MA. April 14.

Hare, P.G. 1980. "Import Controls and the CEPG Model of the U.K. Economy." Scottish Journal of Political Economy Vol. 27, No. 2.

Harrison, Bennett and Barry Bluestone. 1984. "The Incidence and Regulation of Plant Closings." In Tabb and Sawers: 368-402.

_____. 1985a. "Interview with Ben Harrison." By Susan Sklar. Department of Urban Studies and Planning News, M.I.T., Cambridge. Vol. 8, No. 6., November 27.

_____. 1985b. Conversation with author. Cambridge, MA. December.

_____, Chris Tilly and Barry Bluestone. 1986. "The Great U-Turn: Increasing Inequality in Wage and Salary Income in the U.S." Presented to the Fortieth Anniversary Symposium of the U.S. Congressional Joint Economic Committee, The American Economy in Transition, Washington, D.C. January 16-17, 1986.

Harrison, John. 1982. "A `Left' Critique of the Alternative Economic Strategy." Socialist Economic Review. London: The Merlin Press.

Hayes, Robert H. and Steven C. Wheelwright. 1979. "Link Manufacturing Process and Product Life Cycles." Harvard Business Review January-February: 133-140.

Helm, Leslie and Kyoko Takashashi. 1985a. "Japan's Secret Economic Weapon: Exploited Women." Business Week March 4.

_____ and Maralyn Edid. 1985b. "Life on the Line: Two Autoworkers who are Worlds Apart." Business Week September 30.

_____, et. al. 1986. "Will Japan Really Change." Business Week May 12.

Hemming, M. F. W. and W. M. Corden. 1958. "Import Restrictions as An Instrument of Balance-Of-Payments Policy." The Economic Journal Volume 68.

Hensher, David A. 1982. "The Automobile and the Future: Some Issues." Transportation Policy and Decision Making Vol. 2, No. 2: 93-128.

Hertzenberg, Steve. 1986. Interview with Author. Cambridge, MA. March 11, 1986.

Heywood, John S. 1985. "Market Structure and Wages: The Role of Imports." ms. University of Michigan. Revised February 25.

Hoerr, John. 1985. "A Host of Strikebreakers in Tipping the Scale Against Labor." Business Week July 15.

Hogberg, Gene H. 1986. "Prepare for Trade War!" The Plain Truth January.

Holstein, William J., Boyd France, and Laxmi Nakarmi. 1985. "Another Japanese-Style Trade Gap." Business Week May 13.

Holusha, John. 1983. "Why G.M. Needs Toyota." New York Times. February 16, D1, 3.

_____. 1984a. "A Race for Greater Auto Profits." New York Times. September 30.

_____. 1984b. "Security Heads U.A.W.'s New Agenda." New York Times. September 30.

_____. 1984c. "G.M. `Factory of Future' Will Run With Robots," New York Times. October 20.

_____. 1985a. "Another Japanese Car Maker Buys America." New York Times. March 21.

_____. 1985b. "Japan's Made-in-America Cars." New York Times. March 31.

_____. 1985c. "Detroit Plans New Strategy Toward Japan." New York Times. April 1.

_____. 1985d. "More Chrysler Moves Abroad Seen." New York Times. October 25.

_____. 1986a. "Roger Smith's Troubled Second Act." New York Times. January 12.

_____. 1986b. "G.M. Plans 2.9% Price Increase." New York Times. March 28, D1, 4.

_____. 1986c. "10-Day Auto Sales Fall 21.5%." New York Times. April 4.

Howes, Candace. 1985. Phone interview with author. Detroit, MI: United Auto Workers. November 8.

Hurley, Neil P. 1959. "The Automotive Industry: A Study in Industrial Location." Land Economics Vol. 25, No. 11, February.

Ingrassia, Paul and Doron P. Levin. 1986. "Auto Industry Faces Era of Plant Closings Due to Overcapacity." Wall Street Journal. February 14.

International Association of Machinists and Aerospace Workers. 1985. The Machinist 30, Vol. 2, No. 2. pp. 2-3.

Jackson, Stuart. 1985. "Business Week/Harris Poll: Resentment of Japan is Deepening." Business Week April 8.

Jenkins, Rhys. 1984. Engines of Development? Transnational Corporations in the Latin American Motor Vehicle Industry ms.

_____ 1985. "Internationalization of Capital and the Semi-Industrialized Countries: The Case of the Motor Industry." Review of Radical Political Economics Vol. 17, No. 1 & 2: 59-81.

Jones, Daniel T. 1982. "Public Policy and Structural Change in the European Car Industry." Transportation Policy and Decision Making Vol. 2, No. 2., 145-178.

Junkerman, John. 1983. "Lordstown: Yesterday's Rebels are Running Scared." The Progressive August.

Karczmar, Mieczyslaw. 1985. "Cutting the Trade Deficit: A Weaker Dollar Won't Slow Imports." New York Times. October 20.

Katz, Harry C. 1985a. Shifting Gears: Changing Labor Relations in the U.S. Automobile Industry. Cambridge, MA: MIT Press.

_____ and Charles F. Sabel. 1985b. "Industrial Relations & Industrial Adjustment in the Car Industry." Industrial Relations. Vol 24., No. 3., Fall: 295-315.

Knopp, Fay Honey. 1983. "Jobs and Justice in a Nation of Immigrants: Implications of the Vincent Chin Case." Presentation to the American Friends Service Committee Annual Corporation Meeting. November 4.

Kochan, Thomas A., Robert B. McKersie and Peter Cappelli. 1984. "Strategic Choice and Industrial Relations Theory." Industrial Relations Vol. 23, No. 1: 16-39.

Kogut, Bruce. 1985. "Designing Global Strategies: Profiting from Operational Flexibility." Sloan Management Review Vol. 27, No. 1, Fall: 27-38.

Kronish, Rich. 1984. "Latin America and the World Motor Vehicle Industry: The Turn to Exports." In The Political Economy of the Latin American Motor Vehicle Industry. Edited by Rich Kronish and Kenneth S. Mericle. Cambridge, MA: MIT Press.

Krugman, Paul R. 1984. "The U.S. Response to Foreign Industrial Targeting." Brookings Papers on Economic Activity, No. 1: 77-121.

Krulwich, Robert. 1982. "The American Auto Industry." Broadcast on All Things Considered. National Public Radio. April.

Kuttner, Robert. 1983. "The Free Trade Fallacy." The New Republic March 28.

_____. The Economic Illusion. Boston: Little, Brown, 1984.

Kwoka, John E. 1984. "Market Power and Market Change in the U.S. Automobile Industry." The Journal of Industrial Economics Vol. 32, No. 4., June: 509-522.

Labor Institute. 1984. The Concessions Stop Here Pamphlet Co-produced with The Assembler, U.A.W. Local 595. New York.

Laffer, Arthur B., et. al. 1985. "A High Road for the American Automobile Industry." The World Economy Vol. 8, No. 3. September.

Lawrence, Robert Z. 1983. "Is Trade Deindustrilizing America? A Medium-Term Perspective." Brookings Papers on Economic Acticity, Number 1: 129-171.

_____ and Robert E. Litan. 1985. "Living with the Trade Deficit: Adjustment Strategies to Preserve Free Trade." The Brookings Review Vol. 4, No. 1, Fall.

Levin, Dorothy P. "GM-Toyota Venture Will Test Ability of Workers in U.S. to Match Japanese." Wall Street Journal. April 5, 1985.

Lipsey, David. 1982. "A `Right' Critique of the Alternative Economic Strategy." Socialist Economic Review. London: The Merlin Press.

Livingston, Craig. 1986. "Lessons from Employee Ownership Problem Cases." Talk at the Fifth Annual Conference on Employee Ownership and Participation. National Center for Employee Ownership. Boston, MA. April 29.

Locker/Abrecht Associates, Inc. 1985. "Confronting the Crisis: The Challenge for Labor." Report to the Steelworkers of America, AFL-CIO-CLC. New York. December 16.

Luria, Dan. Participant in conference on robotics and high technology held at Rackham Hall, University of Michigan, Ann Arbor. Quoted in Mike Westfall's C.E.R.P. Technology Letter No. 10, April 1982.

_____ 1985. Phone interview with author. Anne Arbor, MI. September 20.

_____ 1986. Phone interview with author. Anne Arbor, MI. May 1.

Lusterman, Seymour. 1985. "Foreign Competition and U.S. Trade Policies: Executive Views and Company Activities." Research Bulletin. New York: The Conference Board. No. 187.

Lyons, Gene. 1984. "Nissan Makes A Stand In Dixie." The New York Times Magazine. September 16.

MacEwan, Arthur. 1986. "Protection without Protectionism." Dollars and Sense, Number 115. April.

Mann, Eric. 1986. UAW Local 645. Lecture at M.I.T. Department of Urban Studies and Planning on community-labor strategy against closing of G.M.'s Van Nuys California plant. April 3.

Markusen, Ann. 1985. Profit Cycles, Oligopoly, and Regional Development. Cambridge, MA: MIT Press.

Marsden, David, Timothy Morris, Paul Willman and Stephen Wood. 1985. The Car Industry: Labour Relations and Industrial Adjustment. London: Tavistock Publications.

Maynard, Micheline. 1985. "A Labor Deal Clears the Way for GM's Saturn." US News and World Report August 5.

McKenna, Regis, Michael Borrus and Stephen Cohen. 1984. "Industrial Policy and International Competition in High Technology." California Management Review Vol. 26, No. 2, Winter.

McPherson, Kathleen V. 1985. "Contract Talks at G.M. Toyota Plant May Set New Pattern for Auto Industry." Labor Notes No. 77, July.

Melcher, Richard A. 1985. "Japan's Carmakers are Breaking Through the Trade Walls." Business Week September 30.

Melman, Seymour. 1986. Phone conversation with author. New York. April 11.

Mervosh, Edward and Norman Jones. 1985. "Protectionism is Not a Dirty Word Anymore." Business Week October 7.

Milkman, Ruth. 1982. "The Anti-Concessions Movement in the UAW." Socialist Review Vol. 12., No. 5, Number 65, September-October.

Mishel, Lawrence. 1982. "Product Markets, Establishment Size and Wage Determination Determination." In Industrial Relations Research Association, Proceedings of the Thirty-Fifth Annual Meeting. (New York, Dec. 28-30, 1982). Madison, Wis.: IRRA: 447-454.

_____ 1985. "The Structural Determinants of Union Bargaining Power." ms. October. Forthcoming in: Industrial and Labor Relations Review.

Moody, Kim. 1984. "Industrial Policy for the Left." The Nation September 8.

Morales, Rebecca Hope. 1983. "Transitional Labor: Undocumented Workers in the Los Angeles Auto Industry." ms. University of California, Graduate School of Architecture and Urban Planning.

_____. 1984. Transitional Labor: Undocumented Workers in a Changing Automobile Industry. Ph.D. diss., Massachusetts Institute of Technology. February.

_____. 1986. "The Los Angeles Automobile Industry in Historical Perspective." ms. University of California, Graduate School of Architecture and Urban Planning. April.

Morrow, Lance. "The Protectionist Temptation." Time January 10.

Motor Vehicle Manufacturers Association of the U.S. 1985. Facts and Figures '85. Washington, D.C.

Motz, Jane R. and Ed Nakawatase, 1983. "Perspectives Paper on Vincent Chin Case." ms. Philadelphia, PA: American Friends Service Committee. November 29.

Murray, Alan. 1985. "As Free-Trade Bastion, U.S. Isn't Half as Pure as Many People Think." Wall Street Journal. November 1.

Mutlu, S. 1979. "Spatial Patterns of the Automobile Industry within the U.S.," in Interregional Mobility of Industrial Capital. Ph.D. diss., University of California, Berkeley, Chapter III.

Nadiri, M. I. and S. Rosen. 1969. "Interrelated Demand Functions." American Economic Review Vol. 59, No. 4, September: 457-71.

Nag, Amal. 1985. "Japan's Export Increase Will Heighten Pressure on U.S. Auto Makers' Profits." Wall Street Journal. March 29.

_____. 1986. "Rising Prices of Japanese Imports Test Tolerance of U.S. Car Buyers." Wall Street Journal March 18.

Nasar, Sylvia. 1985a. "Why Wages Won't Take Off." Fortune April 29.

_____. 1985b. "The New Case for Protectionism." Fortune September 16.

News from the UAW. 1985. "Bieber Details Automotive Trade Problem with Japan, Predicts Surge of Imports in Voluntary Restraints are Lifted." February 27.

Noble, Kenneth B. 1986. "Auto Workers Give Up Honda Plant Organizing." New York Times. March 19: A18.

O.E.C.D. (Organisation for Economic Cooperation and Development). 1983. Longterm Outlook for the World Automobile Industry. Paris: France. Distributed by Publications and Information Center, Washington, D.C.

Parker, Mike. 1985. Inside the Circle: A Union Guide to QWL. Boston: South End Press.

Pear, Robert. 1986. "Reagan's Advisers Say Bill on Aliens Can Hurt Economy." New York Times. January 23.

Pearce, Joan. 1985. "Europrotectionism: The Challenge and the Cost." The World Today Vol. 4, No. 12.

Perone, Luca. 1984. "Positional Power, Strikes and Wages." American Sociological Review Vol. 49, June: 412-426.

Peterson, Thane, Joyce Heard, Amy Borrus, and Larry Armstrong. 1985. "Tokyo's End Run Around Protectionism in Europe." Business Week November 18.

Petre, Peter. 1985. "The High-Tech Car Hits the Road." Fortune April 29.

Petri, Peter A. 1984. Modeling Japanese-American Trade. Cambridge, MA: Harvard University Press.

Pine, Art. 1985. "Protectionist Appeals To House and Senate But Faces Big Hurdles." Wall Street Journal. July 31.

Piore, Michael J. and Charles F. Sabel. 1984. The Second Industrial Divide. New York: Basic Books.

Price, Lee. 1984. "In Autos, Domestic Content Points the Way." The Progressive January.

_____. 1985a. "Growing Problems for American Workers in International Trade," in Challenges and Choices Facing American Labor. Edited by Thomas A. Kochan. Cambridge: MIT Press.

_____. 1985b. Phone interview with author. Washington, D.C. August.

Proper, Carl. 1986. "Fighting for Fair Trade." Dollars and Sense. Number 115, April.

Pugel, Thomas A. and Ingo Walker. 1985. "U.S. Corporate Interests and the Political Economy of Trade Policy." The Review of Economics and Statistics Vol. 62, No. 3.

Reich, Robert. 1984. "Collusion Course." The New Republic February 27.

Rowthorn, Bob. 1980. Capitalism, Conflict and Inflation. London: Lawrence and Wishart, Ltd.

_____. 1981. "The Politics of the Alternative Economic Strategy." Marxism Today Vol. 25, No. 1.

_____ and David Currie. 1981. "Interview with Wynne Godley." Marxism Today Vol. 25, No. 7.

Rubinger, Bruce. 1986. "Technology Policy in Japanese Firms: Decision-Making, Supplier Links and Technical Goals." Technology in Society Vol. 7.

Russo, John. 1984. "Killing Jobs with `Cooperation': The G.M. Memo." Labor Research Review No. 5, Summer: 61-68.

Sabel, Charles. 1986. Interview with Author. Cambridge, MA. April 8.

Samuelson, Robert J. 1982. "Viewpoints: Protectionism Isn't the Whole Answer." Newsday February 22.

Sayer, A. 1985. "New Developments in Manufacturing and their Spatial Implications: From Flexible Manufacturing Systems to Just-in-Time." Paper presented as Lesvos Conference on Spatial Structures and Social Process," Greece. August.

Schaffner, Richard J. 1986. Letter to Author. [Retirement & Income Security Programs Section, Employee Benefits Department, Ford Motor Company, Dearborn, MI]. April 16.

Schoenberger, Erica. 1985. "Foreign Manufacturing Investment in the United States: Competitive Strategies and International Location." Economic Geography Vol. 61, No. 3, July: 241-259.

Schonberger, Richard. 1982. Japanese Manufacturing Techniques. New York: Free Press.

Schor, Juliet B. and Samuel Bowles. 1984. "The Cost of Job Loss and the Incidence of Strikes." Cambridge, MA: Harvard Institute of Economic Research, Harvard University. Discussion Paper 1105. November.

_____. 1985. "Changes in the Cyclical Pattern of Real Wages: Evidence from Nine Countries, 1955-80," The Economic Journal 95: 452-468.

Scott, Robert. 1985. "Motor Vechicles." Published in The Employment Effects of International Trade. by L. Tyson, J. Zysman, M. Borrus, S. Cohen and B. Dickens. BRIE working paper, (originally prepared for the U.S. Congress, Office of Technology Assessment). April.

_____. 1986. "Trade Policy, Oligopoly Behavior, and U.S. Employment in the International Automobile Industry." ms. University of California, Berkeley.

Sease, Souglas R. 1986. "Drop in Dollar Begins to Bolster U.S. Firms Against Foreign Rivals." Wall Street Journal. February 18.

_____. 1985. "Japanese Firms Set Up More Factories in U.S., Alarm Some Americans." Wall Street Journal. March 29.

Shaiken, Harley. 1984. Work Transformed. New York: Holt Rinehart and Winston.

_____. 1985. Conversation with Author. May. Cambridge, M.A.

Shunzo, Nitta. 1985. "Japanese Industry Enters a New Stage--Increasingly Knowledge-intensive Industrial Structure and Changes in Employment Structure." Economic and Industrial Democracy Vol. 6: 139-160.

Slaughter, Jane. 1983a. Concessions And How To Beat Them. Detroit: Labor Education & Research Project.

_____. 1983b. "A Preview of Industrial Policy." The Nation October 15.

Spero, Joan Edelman. 1977. The Politics of International Economic Relations. New York: St. Martin's Press,

Stamas, George D. 1981. "The Puzzling Lag in Southern Earnings." Monthly Labor Review Vol. 104, No. 6. June.

Stein, Charles. 1984. "Worker to Worker Talk." Boston Globe. September 16.

Storper, Michael. 1985. "Oligopoly and the Product Life Cycle: Essentialism in Economic Geography." Economic Geography Vol. 61, No. 3, July: 260-282.

Sundstrom, Geoff. 1985. "U.S. Study Gives Imports 36 pct. of 1988 Market." Automotive News May 27.

Tabb, William K. and Larry Sawers. 1984. Sunbelt/Snowbelt: Urban Development and Regional Restructuring. New York: Oxford University Press.

Tarr, David G. and Morris E. Morke. 1984. "Aggregate Costs to the United States of Tariffs and Quotas on Imports: General Tariff Costs and Removal of Quotas on Automobiles, Steel, Sugar, and Textiles." Bureau of Economics Staff Report to the Federal Trade Commission, Washington, D.C. December.

Temple, Barker and Sloane, Inc. 1984. "The Imported Automobile Industry in America." Boston. November.

Trachte, Kent and Robert Ross. 1983. "The Crisis of Detroit and the Emergence of Global Capitalism." Revised Version of Paper prepared for a panel on the World-Economy of the section on Political Economy of the World System, 78th Annual Meeting of the American Sociological Association. September 3.

Treece, James B. et. al. 1985a. "The Widening Trade Gap: Is Tokyo Calling Congress' Bluff?" Business Week June 17.

_____ and William J. Hampton. 1985b. "Japan Vs. Detroit, Round 2: The Midsize Market." Business Week July 22.

United Auto Workers. 1982. "U.A.W. Critique of Congressional Budget Office Domestic Content Study." ms. Detroit, MI. September 2.

_____. 1985a. Research Bulletin. Detroit, MI. July-August.

_____. 1985b. "New Technology in Context: Socio-Economic Problems and Alternatives." ms. Detroit, MI. August 6.

United States International Trade Commission. 1985. "A Review of Recent Developments in the U.S. Automobile Industry Including an Assessment of the Japanese Voluntary Restraint Agreement." USITC Publication 1648. Washington, D.C.: Government Printing Office, February.

_____. 1984. "Summary of Trade and Tariff Information: Automobiles, Trucks, Buses and Bodies and Chassis of the foregoing Motor Vehicles." USITC Publication 841. Washington, D.C.: Government Printing Office, June.

Urquhart, Michael and Michael Parker. 1984. "Domestic Content Legislation Leads to a Dead End." The Progressive January.

Voos, Paul B. and Lawrence R. Mishel. 1986. "The Union Impact on Profits: Evidence from Price-Cost Margin Data." Journal of Labor Economics Vol. 4, No. 1.

Ward, Terry. 1981. "The Case for an Import Control Strategy in the U.K." Socialist Economic Review. Edited by David Curie and Ron Smith. London: The Merlin Press.

Weidenbaum, Murray L. 1986. "Six Myths about Trade Protection." Newsday January 16.

Westfall, Mike. 1982a. C.E.R.P. Technology Letter No. 13, July.

_____. 1982b. C.E.R.P. Public Awareness Letter No. 16, October.

_____. 1983. C.E.R.P. Public Awareness Letter No. 25, September.

_____. 1984. C.E.R.P. Public Awareness Letter No. 30, February.

_____. 1985. The Westfall Papers No. 1, March.

White, Otis. 1984. "Man vs. Machine: Automation Comes to the Work Place." APF Reporter Vol. 7, No. 2. Spring.

Willoughby, John. 1984. "Economic Nationalism, The Left, and the World Economy." Review of Radical Political Economics Vol. 16, No. 4: 1-13.

_____. 1985. "The Internationalization of Capital and the Future of Macroeconomic Policy." Science & Society Vol. 49, Fall: 287-314.

Winham, Gilbert R. and Ikuo Kabashima. 1982. "The Politics of U.S.-Japanese Auto Trade." In Coping with U.S.-Japanese Economic Conflicts. Edited by I.M. Destler and Hideo Sato. Lexington, MA: Lexington Books: 73-119.

Wolff, Goetz. 1981. "Reindustrialization: A Debate Among Capitalists." Radical America Vol. 15, No. 5. September-October: 7-15.

Womack, James. 1986. Interview with Author. Cambridge, MA. April 9.

Wong, DIane Yen-Mei. 1983. "Detroit Chinese Americans Hold Demonstration for Chin." East/West.

Wysocki, Bernard. 1986. "Yen's Rise Isn't Likely to Significantly Trim Japan's Exports to U.S." Wall Street Journal. March 21.

Zoia, David. 1985. "No Slowdown in Electronics Demand, as 90% of U.S. Cars Get Engine Controls." Ward's Automotive Reports, Vol. 60, No. 4, Jan 28.