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THE POLITICAL-ECONOMY OF U.S. AUTOMOBILE PROTECTION

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ABSTRACT

This paper examines the political process through which the U.S. auto industry pursued and ultimately received protection from Japanese competition. Following a brief review of research on the competitiveness of the industry (section II) and on the effects of protection on industry performance (section III), it is not at all obvious that trade protection was the most effective policy response to the industry's economic problems. The remainder of the paper argues that the industry's political strategy reflects a response to a crisis in the political-economic regime regulating relations among the major interests in the U.S. auto industry. To make this argument, section IV develops the notion of a sectoral regime and applies it to the auto industry. Section V develops the argument further suggesting that conditions in the industry constituted a regime crisis and reexamines the industry's pursuit of aggressive trade policy toward Japanese producers in this context. Section VI illustrates the usefulness of this perspective by examining the politics of North American integration from the perspective of the auto industry. Section VII concludes.

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The Political Economy of US Automobile Protection

Americans tend to view the automobile (auto) as **the** archetypal American product. Not only does auto production loom large economically, but the automobile itself bears a unique social relationship to the national self image.[1] Thus, it is not surprising that, as the auto industry has followed the textile and steel industries into a trade-related adjustment crisis, the domestic and international political economy of that crisis has taken on extraordinary significance.[2] While there are some signs that the US auto industry has recently improved its competitive position, at the time this project was begun the industry had just withdrawn from a very publicly "leaked" intention to file a major anti-dumping suit against all imports of autos from Japan. This suggests that an evaluation of the current state of the auto industry and its relationship to the industrial/trade policy process in the US is a matter of considerable importance. Such an evaluation is pursued here.

The main argument of this paper is that competition by Japanese auto producers in the US market consituted a fundamental threat to the regime regulating relations among the major auto producers (GM, Ford and Chrysler) and between those producers and the United Auto Workers (UAW).[3] Where the US government played only a modest role in the historical development of this regime over most of the auto industry's history, the existence of a foreign threat ultimately required government

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[1] The industry is a major consumer of steel, plastics, rubber, and machine tools, and it accounts (directly and indirectly) for something on the order of one in six people employed in the economy. A convenient short discussion of the economics of the auto industry is given by Adams and Brock (1986). For interesting discussions of the more general social role of the auto and its production see Rothschild (1973) and Flink (1988).

[2] Note that this sentence does not imply a causal relationship between the textile and steel crises, only a family resemblance. In fact, however, the politics and economics of the steel and auto industries are closely related. As will be suggested below, one of the goals of this project is to consider this relationship in more detail than it has heretofore received.

[3] The concept of a regime, which is discussed in detail in section IV, refers to the institutions, rules and norms that regulate relations among the members of the regime. We are interested here in the sectoral regime regulating relations among producers of automobiles--especially the firms, labor and the US government. In addition, as we will see in our discussion of the politics of the integration of the US-Canadian auto market, independent producers of intermediate goods for the auto industry have occasionally been significant participants in the politics of auto trade policy.

participation in its reconstitution. By emphasizing the threat of Japanese competition to the sectoral regime, the political-economic perspective of this paper helps explain the centrality of trade policy to the auto industry's political agenda during the late-1970s and 1980s when there is considerable evidence that a number of other factors were considerably more important in accounting for the industry's economic problems.

The first step in the anaysis is an examination of the political process through which the US auto industry pursued and ultimately received protection from Japanese competition. This is presented in section I. In the next two sections we evaluate the economic basis of the industry's aggressive pursuit of protection, examining research on the competitiveness of the industry (section II) and on the effects of protection on industry performance (section III). On the basis of he research reviewed in sections II and II, it is not at all obvious that trade protection was the most effective policy response to the industry's economic problems. The remainder of the paper argues that the industry's political strategy reflects a response to a crisis in the political-economic regime regulating relations among the major interests in the US auto industry. To make this argument, section IV develops the notion of a sectoral regime and applies it to the auto indutry. Section V develops the argument further suggesting that conditions in the industry constituted a regime crisis and rexamines the industry's pursuit of aggressive trade policy toward Japanese producers in this context. Section VI illustrates the usefulness of this perspective by examining the politics of North American integration from the perspective of the auto industry. Section VII concludes.

I. The Politics of Protection in the Auto Industry

Prior to the mid-1970s trade policy had not been a priority on the auto industry's political agenda. During the mid- and late-1960s the US auto industry actively purused access to the Japanese market, seeking both lower tariffs and liberalization of the Japanese investment regime. While these auto industry issues added somewhat to relations already strained over textile quotas, steel exports and Okinawa, they were not significant political priorities to either the US government or the auto industry. The industry was far more concerned with achieving relief from the environmental and safety

regulations. Beginning in the mid-1970s, however, trade policy activism became a much more prominent part in the industry's political agenda. In this section, we focus on the development of the main plank in that agenda, the attempt to regulate Japanese competition in the US market through both short-term protection (via the escape clause/VER mechanism) and through legislation on rules of domestic access that bring Japanese producers more explicitly into the regime (domestic content).

The UAW was the first major player to actively pursue protection. Although the UAW continued to support the liberalization program through the 1970s, the sharp increases in auto imports in 1974 led the union to publicly suggest the introduction of quotas. By mid-1975 the UAW was supporting a Congressional request (to the Treasury at this time) for a dumping investigation against auto exports from seven countries.[4] There was a strong negative reaction by European trading partners, who suggested that such an action could threaten the Tokyo round negotiations, which was a foreign policy priority of the Nixon administration (though by 1975 the administration was presided over by Gerald Ford). In addition, the Council on Wage and Price Stability issued a statement that not only was there no evidence of dumping, but that imports provided a moderating influence on US prices, and that the ITC investigation should be ended. In 1976, the Treasury Department decision (supported by the UAW) was that even though dumping existed in some cases, it would halt its investigation and seek a negotiated solution with the foreign companies. In addition, the Labor Department ruled that workers in auto plants were eligible for adjustment assistance, even though the import share of apparent consumption had fallen and shipments by US producers had rebounded strongly in 1976 (38% increase in value of shipments from 1975 to 1976).

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[4] This may well have been part of a UAW strategy of encouraging Japanese investment in the US. At least from the mid-1970s the UAW had suggested to Japanese auto producers that investment in the US was in their (the Japanese producers) best interest. In 1975 Leonard Woodcock publicly argued for such investment and in 1977 UAW vice president Pat Greathouse made a widely reported visit to Japan to lobby as well (Halberstam, 1986). While neither of these interventions was successful, US investment by Japanese firms continued to be a major part of UAW political strategy. The claim that such investment was necessary to avert growing protectionist sentiment in the US always figured prominently in the UAW's public statements. The call for quotas coming from a union with a strong free trade tradition is, thus, probably best seen as part of a strategy of encouraging local investment in the US.

Despite industry statements in early-1977 that increased competitiveness of US product offerings would hold imports to no more than 15% of the US market, by April the import share stood at 20% with Japanese imports sharply up. By the end of the year the UAW was once again calling for import restrictions unless the Japanese invested in US production. This demand continued to figure prominently in the public statements of the industry (and especially labor) in 1978 and was made an explicit part of government policy when the US Trade Representative pressured Toyota and Datsun to manufacture autos in the US. The situation deteriorated further in 1979 with further devaluation of the dollar, higher oil prices and worldwide inflation. The US majors announced plans to invest billions of dollars in overseas production facilities (e.g. GM $10-$13 billion). By the end of the year, imports had a 22 percent market share, industry production had fallen to a million units below pre-oil shock levels, and more than 200,000 people in the industry were unemployed. Also by the end of the year, the industry became increasingly vocal in demanding some form of trade related relief.

Perhaps the most prominent auto-related event in 1979 was the near bankruptcy of the weakest of the Big 3, Chrysler, and the negotiation of a $1.5 billion loan guarantee from the government as part of a package to assist in the restructuring of the firm.[5] Chrysler had pursued an aggressive international expansion during the 1960s, running into deep financial trouble as early as 1970 when it lost $27 million in the first quarter. When the first oil price shock hit Chrysler began selling off its recently acquired international assets and closing some factories in the US. In 1978 Chrysler lost nearly $205 million and owed more than $1 billion. When the first half of 1979 proved even worse than 1978, Chrysler's creditors became increasingly unwilling to extend further loans. The Carter administration did not strongly support the idea of organizing a financial rescue. The Treasury Department in particular was concerned about the precedent that would be set by such an action. On the other hand, the UAW, the Michigan congressional delegation and Detroit mayor Coleman Young were actively mobilizing popular and Congressional support for a bailout. Reich (1985) reports only weak opposition, primarily from the

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[5] See Reich (1985) and Reich and Donahue (1985) for an interesting account of the Chrysler loan in the context of a more general discussion of industrial policy in the US. The details of this paragraph are drawn from the first source, pages 318-325.

unusual coalition of the National Association of Manufacturers, Ralph Nader's Congress Watch and the National Taxpayers Union. Recognizing that 1980 was an election year, the administration agreed to extend large loan guarantees as part of a major reorganization. The plan involved substantial concessions from the UAW and the firm's creditors, and the replacement of John Riccardo by Lee Iacocca. Even with the new money, Chrysler continued to have problems with demand for its new K-cars, and ended the year with losses in excess of $1 billion with problems continuing into 1980. The need for further financial assistance led to more concessions by labor and lenders in 1981, and by 1982 Chrysler's sales and profitability were improving. However, in 1979 and 1980 the sight of one of the big 3 negotiating with the government for assistance to avoid bankruptcy was a graphic illustration of the plight of the industry.

By early-1980 many members of Congress had recognized that the issue of auto industry distress had widespread appeal as a political issue. That a core industrial sector that had long been dominated by US firms was "threatened" by Japanese competition, crystalized public concern with the nation's economic performance and the role of "unfair" foreign competition in that performance. These public concerns made the auto issue a focus of a much wider range of political activity than even an industry as economically significant as the auto industry would normally expect to generate. Furthermore, trade policy had become less "controllable" in Congress. Specifically, as a result of Congressional reforms primarily induced by Watergate, the influence of the House Committee on Ways and Means was substantially reduced.[6] Unfortunately, from the perspective of trade policy, this

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[6] One of the consequences of the Watergate scandal was the election of a freshman class of strongly reform-oriented Representatives, and one of their primary targets was the Committee system and the central role of the House Committee on Ways and Means in that system. Under Democrat control of the House, Ways and Means exercised control over committee appointments because the Democrat membership of Ways and Means was constituted as the Democrat Committee on Committees. Given the importance of committee assignments to reelection prospects, this gave Ways and Means a powerful tool for ensuring passage of key legislation. This kind of control, and the virtually authoritarian control by the Chair of the Committee (Wilbur Mills), made Mills, Ways and Means, and the Committee system a natural target for a fresman class committed to improving democratic responsiveness. It is probably not irrelevant that a group of freshman found the central role of seniority to be a problematic element of the system. The reformers, with the unintentional help of Wilbur Mills, succeeded in reducing the power of Ways and Means, and of the Chair within Ways and Means.

structure had been an essential institutional support of the liberal orientation of US trade policy in the post-War era. Trade policy, because of the connection to tariff policy (a revenue measure), has historically been controlled by Ways and Means, and Ways and Means, at least under Democrats, has been controlled by supporters of the trade liberalization program.[7] The post-Watergate reforms reduced the controllability of trade policy in Congress and reduced the influence of Liberals on trade policy at precisely the moment when deteriorating economic conditons and increased international competition implied greater trade policy demands from well-organized industrial and labor groups. As we will see, committed Executive leadership by the Carter administration resisted protectionist demands as well as successfully completing the Tokyo round. However, disinterest in trade policy during the Reagan and, to a lesser extent, the Bush administrations resulted in greater Congressional control, greater protection and protectionism, and minimal advance in trade liberalization. Thus, the threat of direct legislation became more potent with the collapse of the Committee system in the early-1970s

In March 1980 the Trade subcommittee of the House Committee on Ways and Means began hearings on the auto industry in which representatives of the UAW and Ford strongly argued for import restriction. On the other hand, the Carter administration, represented by USTR Reuben Askew, testified that such restrictions would undermine the effect of competition in forcing US firms to become more competitive, would undermine access to fuel efficient autos when energy conservation was a key administration goal, and that the increased prices would undermine the administration's goal of reducing inflation. Hearings on the state of the auto industry were also initiated by several other committes in the House and the Senate. Under increasing pressure from the auto industry and Congress, the Carter administration introduced a package of measures intended to provide economic support to the industry short of trade protection. Thse measures, involving both regulatory relief (especially from emission standards) and the provision of loan guarantees to auto dealers, were clearly intended to pre-empt protectionist pressure.

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[7] During most of the post-War period there were two litmus-tests for Democrat membership on Ways and Means--support of the trade agreements program and support of the oil depletion allowance.

However, Ford and the UAW remained convinced that trade action was necessary, and in June and August of 1980 they filed Escape Clause cases with the ITC. Chrylser was not a major participant in this action because it had already received assistance in the form of the loan guarantee and it did not want to oppose the administration on this issue. GM was unwilling to support the petition at least in part because part of its strategy for responding to competition in small cars was to import small cars under its nameplate from Japan. Following standard procedure, the ITC initiated both internal studies and public hearings to determine whether or not imports of cars and light trucks were a "substantial cause" (understood to mean that no other cause is more important) of the problems being experience by the industry. To rather general surprise, the ITC (on a 3 to 2 vote) announced in November 1980 their determination that imports were not a substantial cause of the industry's problems. Specifically the Commission determined that general macroeconomic recession was a more important cause, and that the demand shift toward smaller, more fuel efficient cars was at least as important as increased import competition. As a result of these findings, the ITC recommended that the executive take no action against Japanese auto imports.

One of the most interesting parts of this story begins with the election of Ronald Reagan to the Presidency. The new President was the closest thing to a doctrinaire Liberal the US has seen in the post-War era. Adding to the strength of the victory, the Senate also passed into Republican hands and, while the Democrat control of the House continued, the size of the Reagan victory led to a particularly prolonged and broad honeymoon. Furthermore, the Reagan government explicitly interpreted its victory as a mandate for a Liberal economic program of de-regulation and reduction of government participation in the economy.[8] Nonetheless, four months after entering the White House the Reagan administration announced a three year VER program for autos. Part of the explanation for this surprising outcome derives from structural conditions that would have affected, say, a second-term Carter administration, but part of the explanation is administration/president-specific.

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[8] Throughout this paper I capitalize "liberal" to refer to liberalism in the traditional sense of support for minimal regulation of economic activity.

--Charts 1-6 about here--

The structural conditions that would have affected any administration can be sorted into two broad categories: public sentiment; and institutional bias. With respect to the former, it is clear that the public responds strongly to the perception of substantial economic distress experienced by a significant group of people. Furthermore, there is considerable research suggesting that people vote on the basis of such perception.[9] When it is also perceived that the source of the distress is "unfair" trading practices by a foreign firm, the pressure for political action can become virtually irresistable. In the case of the auto industry, the existence of distress was unquestionable: low or negative profits (see charts 1A and 1B); large drops in share of world output (chart 2); substantial surplus capacity (chart 3); rapidly dropping employment (chart 4) and output (chart 5); and increasing inventories. All tell a story of an industry in distress. These statistics were widely reported in the press and usually accompanied by human interest stories of the implications for auto workers, their families and their communities. The simultaneous large jumps in the market share of Japanese producers (Charts 6 A and B) led many people to conclude that there was a causal connection between the imports and the distress. When we add the widely held notion that the Japanese government and industry cooperate to increase exports ("Japan, inc."), it is easy to see how increased Japanese market share could be seen as unfairly gained. The ITCs determination that trade, whether fair or unfair, was not a "substantial cause" of distress, was irrelevant to large numbers of US citizens whether employed in the auto sector or not.

In the context of widely perceived trade-related distress, the pressure for direct political action on the "political track" began.[10] For a political entrepreneur with presidential ambitions, trade (and auto trade in particular) appeard to be a viable, national issue for the first time in nearly 50 years. In February 1981, the new chairman of the Senate Finance Committee's subcommittee on Foreign Trade, John Danforth, and the ranking minority member, Lloyd Bentsen, introduced legislation to impose a 3

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[9] This, again, is the literature on sociotropic voting discussed above.

[10] This discussion of the "political track" is drawn primarily from Nelson (1989c). That paper also develops in more detail the notion of a political track and a technical track for trade policy outcomes.

year quantitative restriction on autos that would roll back the level of Japanese imports to the 1978-1979 average. By May, the bill had attracted 21 cosponsors. Nelson (1989c) documents in detail, for the case of the 1981 auto VER, the existence of systematic bias in favor of protection-seekers from the way that the law of administered protection structures the politics of protection. In particular, that paper isolates three main sources of protectionist bias: definition of the issue; determination of standing; and order of participation. The most significant of these is the definition of the issue: the politics are defined in terms of trade, and unfair trade at that. Although, after careful study and public hearings, the ITC clearly came to contrary conclusions, the issue before Congress and the public was framed in terms of international competition and the industry's need to have protection from that competition. Directly related to this is the issue of standing: who has a "right" to participate in the process. While the ITC and the Congressional hearings were open, there are strong norms against participation unless one's interests are directly at stake. Thus, for example, dealers of Japanese autos did testify against trade restrictions, but such testimony is often discounted because the dealers are in some sense foreign agents. Industries that are indirectly affected, e.g. through general equilibrium effects, simply do not have standing. This is particularly true if the testimony is from exporters who, by definition, are perceived to be doing well. Consumer interests, for the usual collective action reasons, are not generally well represented in the process. Finally, the protection-seeker has a significant first-mover advantage. Not only did the auto industry choose the specific form of administered protection from which to start, but it controlled the timining and form of the public debate over the auto industry. Taken together, these advantages, along with the public sentiment favoring the industry, suggest than any executive would have been under considerable pressure to accomodate the auto industry.

Nonetheless, it is still worthwhile to compare the Carter and Reagan responses to auto industry pressure. Both the international and domestic policy commitments of these administrations differed considerably. With respect to international politics, where trade policy was a strong priority in Carter administration foreign policy, the Reagan administration was overwhelmingly focussed on anti-Communism. Thus, although there was no shortage of free trade rhetoric, as Niskanen (1988) and

others argue, there was no coherent trade policy and no leadership on trade. As a result, trade policy developed in response to initiatives from domestic economic interests, Congress, and from trading partners.[11] In the absence of strong leadership from the White House, Congress became increasingly assertive on the trade issue, legislating on a wide variety of trade issues--both extensions of administered protection as well as expansion to new, aggressive market access legislation (Super 301). As with international politics, with respect to domestic politics president Carter was himself committed to trade liberalization and the resistance of protection. As a result, the administration was relatively consistent in its statements on trade and in its efforts to resist protection. Under President Reagan, the administration was split between a small group committed to free trade (Regan, Weidenbaum, Stockman, Schultz), and a larger, ultimately more influential group, committed to the traditional Republican strategy of giving business what it wants (Lewis, Baldridge, Brock, Meese).[12] In addition, Baker appears to have supported auto import restraints because of a concern that without them Congress would legislate restraints, and that a veto would sap Congressional goodwill necessary to carry the tax reform that was the central priority of the administration.[13] The combination of lack of leadership with a strong pro-business bias, led to an inconsistent overall policy with a protectionist bias reflecting both the pro-business orientation and the Congressional pressure. The result on autos was not a fluke, again quoting Niskanen (1988, pg.137): "In response to domestic political pressure, the administration imposed more new restraints on trade than any administration since Hoover." Thus, while the economic and political circumstances were such as to encourage protectionist outcomes from any administration, the transition from Carter to Reagan resulted in a more protectionist, not a less protectionist, trade policy.

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[11] Although the Uruguay round did start during the Reagan administration (the Punta del Este meeting was in September 1986), it was not the result of a US effort and was only closed with sustained effort by the Clinton administration. This may be unduly harsh on the Bush administration, which certainly did pursue a stronger GATT policy than that of the Reagan administration.

[12] In addition to the useful discussion in Niskanen (1988, pp. 139-141) also see the colorful account in Stockman (1986, pp. 154-158).

[13] Interview.

The uneasy relationship between the official ideology of the Reagan administration and its extensive trade activism led to difficult international relations. In the case of the auto industry, the attempt to protect the public perception of a commitment to Liberal trading relations while providing significant protection to the industry led, first, to a preference for a "voluntary" export restraint and, then, to an attempt retain the appearance of complete independence from the process of determining the level of the restraint.[14] From fairly early on in the political process, the Japanese Ministry of International Trade and Industry (MITI) and the Japanese auto industry were supportive of some degree of export restraint. The problem was the unwillingness of the US government to publicly bargain over and then commit to a specific level of restraint. The practical problem for the Japanese industry was a very real concern that such a restraint without explicit Executive commitment could lead to anti-trust prosecution. This produced an embarassing period of non-negotiation in which the Japanese government regularly asserted its willingness to restrict trade if the US would give it some idea of the level of restriction that would be acceptable, while the US government asserted that if the Japanese wanted to restrict exports it would probably be a good thing (although the administration was always committed to free trade). This culminated, in late March 1981, in a trip to Tokyo by USTR Brock that was explicitly not about the auto issue, but at the end of which the Japanese government announced that it would voluntarily restrict its exports to 1.68 million units (a reduction of 7.7 percent on the previous period) during the first year of a three year agreement, with some unspecified growth in the next two years. In the event, given the continued poor performance of the US industry, the Japanese government agreed to retain the limit at the original level in all three years.

In fact, as research reviewed sections II and III suggests, given the depressed conditions in the US auto industry, the VER was not binding in its first two years. However, in 1983 and 1984, with a rebound in domestic demand, the VER resulted in sharply increased prices and profits for US firms. In

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[14] According to Stockman (1986, pg. 157), Edwin Meese deserves credit for the strategy of encouraging the Japanese to voluntarily restrain auto exports without any official negotiations: "Under the Meese formulation our hands would be clean; the Japanese would do the dirty work themselves. It was another case of not knowing the difference between campaigning and governing."

fact, news reports of large executive bonuses in 1984 led to a considerable amount of dissatisfaction with the VER. Nonetheless, although some in the administration argued that the restraint should be allowed to lapse, the fact that 1984 was an election year provided sufficient support for the proponents of continuing the agreement in place for another year. The result was that the agreement was extended to March 1985 with the quota expanded to 1.85 million units.[15] With another year of high profits in 1985, the administration decided to let the agreement lapse. However, given rent transfers to Japanese producers on the order of $2 billion (Hufbauer, et al., 1986) as a result of the auto VER, it is unsurprising that the Japanese government announced that it would be willing to continue the restriction in the interest of maintaining orderly markets in the US.

--Table 1 about here--

The implementation of a protectionist policy against Japanese auto producers was at best, from the perspective of the key members of the auto regime, only part of the strategy of socializing the Japanese firms in the norms of that regime. The other key element involved an attempt to force the Japanese firms to engage in local production with substantial local value-added. As we will see below, well before its adoption of trade protectionism the UAW had attempted to encourage production by the Japanese auto firms in the US. Given the political-economic conditions described in this section, the UAW decided to make a major push for domestic content legislation. In early December, 1981 Rep. R. Ottinger (D., New York) introduced the "Fair Practices for Automotive Product Act" (HR 5133). The terms of this legislation (Table 1) would have required Toyota, Nissan, Honda, Toyo Kogyo, Mitsubishi and Isuzu, as well as Volkswagen, to engage in substantial local production to retain their current levels of sales. Of these, only VW could conceivably have met these requirements. As with the politics of the VER, Ford and Chrylser supported the UAW on domestic content, while GM was strongly opposed.

This legislation provides an excellent illustration of the breakdown of Ways and Means control

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[15] It is interesting to note that GM lobbied strongly for an increase in the quantity limit to permit it to increase imports of Isuzu and Suzuki autos for sale under GM nameplates. On the other hand, Chryler lobbied strongly for continuing the restrictions at their original levels.

over the trade issue that was described above. Rep. Ottinger was the Chair of the Energy Conservation and Power subcommittee of the House Energy and Commerce Committee, and it was the Subcommittee on Commerce, Transportation and Tourism of that Committee that held the initial hearing on Ottinger's bill. The bill was passed by the Energy and Commerce Committee, then under the Chairmanship of John Dingell (D., Michigan). Although the bill was referred to Ways and Means, Dingell arranged that his committee could override a negative report from Ways and Means.[16] The chair of the Ways and Means Subcommittee, Sam Gibbons (D., Florida), was strongly opposed to the bill and tried to stall it by holding lengthy hearings, but Ways and Means capacity to manage legislation had declined. As a result, even though Ways and Means was strongly opposed to the measure, the House passed the legislation by a large margin (215-188). It was recognized at the time that this was bad legislation and could probably not have been passed over a veto. Thus, given the public popularity of trade action on auto imports from Japan, representatives were fairly safe to engage in public position-taking for electoral reasons. However, systematic econometric research suggests that these votes were completely consistent with a public pressure model and that less dramatic domestic content rules might well survive.[17] Although the legislation ultimately died in the Republican controlled Senate a clear signal had been sent, and over the next several years the Japanese auto producers began or expanded US production.

Given the expressed trade policy goals of the more active auto industry participants in the trade policy process (Ford and the UAW), one would have to conclude that the industry was quite successful in achieving those goals: quantitiative restrictions were imposed on Japanese firms; and the threat of content legislation appears to have been taken as, at least, plausible. The next questions relate to the economic consequences of that success. In the next section we address the preliminary issue of the competitiveness of the US industry, following which we examine the consequences of the VER.

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[16] That is, Ways and Means was given only sequential referral. Kabashima and Sato (1986) provide a compact summary of the politics of domestic content legislation in 1982.

[17] The voting in this legislation has been extensively studied, see: Coughlin (1985), Kabashima and Sato, McArthur and Marks (1988) and Marks and McArthur (1989).

II. Competitiveness of the US Automobile Industry

Given the deterioration of market shares of US producers in the late-1970's, it is hardly surprising that a number of studies have attempted to identify the foundations of that deterioration. In this section we will consider analyses based on relative costs of inputs (especially labor), technical efficiency, and managerial efficiency (especially labor management relations). However, before considering analyses of declining competitiveness based on conditions within the auto industry, it is useful to briefly consider the argument that the apparent decline in the competitiveness was primarily a function of macroeconomic disequilibrium of one kind or another.

--Chart 7 about here--

At the broadest level, it is interesting to note that all three post-War surges in import share in US apparent consumption coincide with macroeconomic contractions. The link between recession and the declining fortunes of the US auto industry, more generally the highly cyclical nature of auto sales, is straightforward and often commented upon.[18] With respect to the third import surge (1979-1980), the International Trade Commission (ITC) noted, in rejecting the industry's appeal for relief under the Escape Clause, that this period was characterized by: "rapid increases in the cost of credit, increasing unemployment, declines in real spendable earnings, large cutbacks in consumer spending, and deteriorating consumer confidence in the economy and in future earning power" (USITC, 1980; A-67-68). Since a substantial part of auto demand in the US is replacement demand, and thus can be put off more-or-less indefinitely, recession results in postponement of purchases.[19] At the same time, recession conditions also resulted in substitution toward less expensive, small cars--the market segment most penetrated by imports. When one recalls that this was a period of sharply increased gasoline

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[18] These macroeconomic factors are given particular significance by the fact that the USITC's 1980 rejection of the auto industry's escape clause petition was based on the conclusion by a majority of the commissioners that macroeconomic disequilibrium was a more significant cause of industry distress than increased foreign competition.

[19] For systematic treatments of auto demand that explicitly take into account the ability of consumers to put off purchases, see: Smith (1975) and Westin (1975).

prices, which also induces substitution toward small cars, the increasing Japanese sales in this period of recession for the industry is readily understood. That is, the problems faced by the US industry had more to do with the overall state of the macroeconomy than with international competition.

--Chart 8 about here--

In addition to the effects of depressed macroeconomic conditions and increased gasoline prices, recent work has also emphasized the importance of disequilibrium exchange rates for the trade balance and, through the effect on competitiveness, on demand for protection.[20] The early and mid-1980s saw an exceptionally sharp appreciation of the dollar, peaking in early 1985 and then dropping sharply. Under the best of circumstances, such a dramatic appreciation of the dollar would have created serious problems for import-competing firms. For an industry already beginning to experience recession combined with surging imports, rapid appreciation of the dollar was extremely bad news.[21] Eichengreen's (1988) analysis shows employment in the motor vehicle industry to be strongly responsive to exchange rate, as well as to energy prices and business cycle effects. Specifically, he estimates that "the real appreciation of the dollar between the second half of the 1970s and the first half of the 1980s ... reduced employment in motor vehicles ... by nearly 10 percent" (pg. 330). Furthermore, in the early-1990s the major depreciations of the dollar against the yen in 1985-1988 and in the early 1990s appear to have substantially improved the competitiveness of US produced autos relative to Japanese produced autos. The second of these episodes appears to have encouraged the major Japanese producers shifting output to their US facilities. However, Richardson (1988) provides a careful analysis of a number of measures of the exchange rate in the early- and mid-1980s with

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[20] For characteristic general discussions of the link between disequilibrium exchange rates and protection, see Bergsten and Williamson (1983), Corden (1884), Dornbusch and Frankel (1987), McKinnon (1987), and the papers in Marston (1988). In the context of the Michigan CGE model, Deardorff and Stern (1986) find the transportation equipment industry to be among the sectors most strongly responsive to exchange rate changes. This paper is not the place to discuss the causes of exchange rate disequilibrium in the 1980s, but see Obstfeld (1985), Feldstein (1986) and Branson (1988) for useful discussions.

[21] Papers by Citrin (1985) and Clifton (1985) document the responsiveness of auto exports to changes in the exchange rate.

particular reference to the auto industry and its competitiveness, concluding that exchange rate changes were a considerably less significant source of the industry's competitiveness problems than deteriorating cost competitiveness. To which we now turn.

--Tables 2 A and B about here--

The simplest approach to the analysis of cost competitiveness pursues a Ricardian strategy of focussing only on labor costs and labor productivity to generate a measure of unit labor costs. If this measure rises relative to that for manufacturing as a whole by more than the same measure for another country, one can conclude that the industry has shifted down the chain of comparative advantage. Kreinin (1982, 1984) presents the data in tables 2A and 2B for precisely this purpose. For the US, unit labor costs in the auto industry rise relative to the manufacturing average, while in Japan the unit labor cost tracks the manufacturing average fairly closely, suggesting a deterioration in US comparative advantage in autos relative to Japan. It is interesting to compare the sources of this change. In the US the majority of this divergence is accounted for by wages rising relative to the manufacturing average while productivity increased in line with the manufacturing average. Interestingly, wages in Japan diverge from the manufacturing average by about the same proportion as in the US, while increasing relative productivity allows the Japanese auto industry to improve its unit labor costs relative to the manufacturing average by a small amount.

A number of studies have attempted to incorporate a greater variety of cost components at the expense of the general equilibrium framework developed in Kreinin's Ricardian analysis. Specifically, in the late 1970s and early 1980s a number of studies attempted to evaluate the competitive prospects of the auto industry *via* fairly simple, *ad hoc* accounting exercises. The two most prominent studies at the time examine relative costs in 1981, at the onset of the trade adjustment crisis: Abernathy, Harbour, and Henn (AHH, 1981; also Abernathy, Clark and Kantrow [ACK], 1983) and Flynn (1984).[22] They

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[22] AHH construct firm-level data for Ford, GM, Toyo Kogyo and Nissan on labor and materials cost as well as a variety of other manufacturing and non-manufacturing (including transportation) costs in producing a comparable (small) car

conclude that Japanese producers in 1981 had a labor cost advantage in the $1100 to $1400 range and a materials cost advantage in the $600 to $800 range. AHH also argue that these differentials do not result from more capital-intensive production, arguing that the Japanese apply less capital per unit of output than do US firms. Taking into account both transportation and marketing costs in the US, ACK conclude that the Japanese had a $1200-$1500 cost advantage over US producers in 1981.[23] Flynn's analysis is similar to that of AHH/ACK, though there is more detail on the composition of labor costs. Ultimately, Flynn concludes that Japanese producers possess a $1432 labor cost differential and a $1498 landed costs advantage. Cole and Yakushiji (1984) review a number of other estimates of the Japanese cost advantage, concluding that the landed cost advantage for a subcompact auto is $1468.[24]

Alternative approaches using more sophisticated approaches based on production theory estimated cost advantages of similar orders of magnitude.[25] The most sophisticated of the studies of relative cost is by Fuss and Waverman (FW, 1992).[26] FW are particularly concerned to incorporate short-run market disequilibrium, in terms of excess capacity and disequilibrium exchange rates, and technical change as fundamental elements of their analysis. With respect to capacity, Fuss and Waverman argue that the auto industry is characterized by product-specific manufacturing facilities. If tastes shift substantially, as we have argued that they did during the 1970s, significant variation in

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[23] AHH arrive at the slightly larger $1650 as their estimate. Gomez-Ibanez and Harrison (1982) argue that the Abernathy, *et al.* estimates are based on a number of *ad hoc* assumptions that serve to artificially inflate their estimates of Japanese cost advantage. Simply adjusting for these factors, Gomez-Ibanez and Harrison conclude that the 1981 Japanese landed cost advantage was more on the order of $800-$1000. Fuss and Waverman (1992) make similar adjustments, in particular drawing on a Federal Trade Commission (1984) study which showed double-counting by AHH in their determination of US costs, concluding that the landed cost advantage for the Japanese was in the range $896-.$554 in 1979 and $1315-$986 in 1981.

[24] Given the Kennedy Round tariff rate of 3.5% on motor vehicles and the then recently negotiated Tokyo Round rate of 2.5%, this landed cost advantage was considered to be considerable.

[25] The first of these, Winston and Associates (1987), estimated landed cost advantages for Japanese firms ranging from $2098 in 1970 to $1301 in 1982.

[26] In addition to providing a sophisticated analysis of cost competitiveness in the auto industry, Fuss and Waverman (1992) are admirably clear on all stages of the research programme leading to their conclusions: formal model, data construction, and estimation. One can learn much about how to do practical, industry-level analysis from reading this book.

capacity utilization can occur, affecting measured efficiency.[27] Given the massive dislocations the auto industry faced in the late-1970s and early-1980s, explicitly incorporating short-run disequilibrium would seem to be a major advance. FW find a very large cost disadvantage of US firms (35%) in 1980, but find that this does not reflect equilibrium cost disadvantage but primarily the effects of short-term disequilibrium. FWs results, thus, provide further support for the proposition that the industry's economic problems were not primarily trade related.[28]

III. Economic Consequences of Automobile Trade Policy

The standard approach to evaluating the welfare effects of protection involves estimation of a simple, partial equilibrium model usually under the assumption of perfect competition. However, as we will see below in more detail, the auto industry is far removed from the state of perfect competition in both product and factor markets. In addition to the fact that the industry is large enough to have sizable general equilibrium effects, the industry is characterized by both product differentiation and small numbers competition. As a result, in the decade or so since the auto VER was introduced there has been a substantial amount of research on its welfare effects, using a wide variety of methodologies and assumptions about the market.

The standard approach to evaluating the welfare effects of the VER involves a straightforward extension of the textbook partial equilibrium analysis of triangles and rectangles. The basic strategy involves taking observed price and quantity data as equilibrium values and using explict assumptions on

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[27] Bresnahan and Ramey (1993) explicitly study the effect of changes in demand across auto size segments on capacity utilization, presenting results which strongly confirm the existence of effects of the sort conjectured by Fuss and Waverman.

[28] It is interesting to note that materials price increases are the major source of increased costs in all countries and improvement in technical efficiency is the major source of cost reduction for all countries except Canada, whose producers derive particularly strong benefits from improvements in capacity utilization. Fuss and Waverman are able to show that, while a substantial element of the US disadvantage *vis a vis* Japan in the 1978-1980 period (as well as virtually all of the improvement from 1980-1984) was a function of underutilization of capacity, the Japanese industry steadily improved its long-run equilibrium technical efficiency *vis-a-vis* the US. Specifically, this study estimates that, over the 1970-1984 period, where the Japanese rate of growth in total factor productivity was about 3% per year, the rate for the North American industry was only about 1%.

functional forms and estimates of elasticities of demand and supply. Since there is some evidence that consumers view US and Japanese autos as distinct products, virtually all of these studies develop distinct demand and supply relations for each, under explict assumptions about cross-elasticities of demand. Tarr and Morkre (1984) present a particularly clear exposition of this methodology.[29] Under a variety of assumptions on elasticities and cross-elasticities, as well as the initial state of demand, these studies yield consumer costs from $1 to nearly $6 billion, and consumer costs per job saved ranging

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[29] In addition to Tarr and Morkre, studies by Hufbauer, Berliner and Elliott (1986/1993), Willig and Dutz (1987) and Gomez-Ibanez, Leone and O'Connell (1983) apply this methodology to the auto case.

An alternative approach involves the use of historical data from the unrestrained period to predict unrestrained values of relevant data for the period under restraint. The ITC's report on the VER (USITC, 1985b) uses this strategy in conjunction with market assumptions of the sort described above to derive estimates of employment and consumer costs for bot a weak demand year (1981) and a strong demand year (1984). Crandall (1984) presents one of the first analyses of this sort along with a number of other attempts to develop estimates of the orders of magnitude of effects associated with the VER. These results are broadly consistent with the other studies, yielding considerably lower costs in the low demand year than the Tarr and Morkre estimates and very similar estimates for 1984 to those of Hufbauer, Berliner and Elliott.

Following important theoretical papers by Falvey (1979) and Rodriguez (1979), Feenstra (1984, 1985, 1988) a number of papers have incorporated quality upgrading. The basic insight of the Falvey and Rodriguez analyses is that if quantities are restrained, foreign producers will maximize the return per unit exported by shipping higher quality units, which sell for higher prices. This is the "quality upgrading" effect of a quantitative restriction. In terms of welfare analysis, since some fraction of the higher price is a function of higher quality, analyses that do not incorporate these effects will tend to overestimate the welfare costs of the VER. Since Feenstra concludes that 2/3 of the price increase is compensated by an increase in quality, the welfare costs are considerably lower than other estimates. Dinopoulos and Kreinin (1988) provide an interesting extension of the Feenstra analysis by incorporating substitution toward unrestrained European producers as well as toward US produced autos. Because their analysis finds considerable quality adjusted price increases by European producers, their estimate of rent transfers is considerably greater than Feenstra's.

The final basic research strategy, based on a partial equilibrium/competitive framework, involves explicit specification of a set of behavioral relations on pre-restraint data and the comparison of the predicted results for the restrained period with the observed results. Collyns and Dunaway (1987) provide a particularly clear presentation of this approach, with particular attention to quality upgrading and non-restrained foreign suppliers. Their analysis provides estimates that range from $1.65 billion for a low demand year to $6.6 billion for a high demand year. Bryan and Humpage (1984) argue that inventory adjustment is an essential element of auto industry adjustment to shocks and, therefor, in addition to quality adjustment effects, they develop and estimate a model that treats such adjustments explicitly. As a result of inventory adjustments, the employment effects in their model are much smaller than those found in other models. Thus, the consumer cost per job saved is nearly 7 times larger than the next largest estimate. Winston and Associates (1987) pursue a similar strategy, using predicted and realized prices based on Crandall (1987) and a sophisticated model of auto demand incorporating general macroeconomic conditions and used cars as well as differentiated new car offerings. They conclude that in 1984 auto employment was reduced by nearly 32,000, and consumer welfare costs were $14 billion.

from $95,000 to $220,000, and increased in domestic profit rent transfers to Japanese firms both on the order of $2 billion.[30] The estimates for the years immediately following the imposition of the VRA are consistently lower than those for later years. This is a result of the continuing recession in the industry.

In all of the previous studies the relations between firms were assumed to be competitive, or at least non-strategic. We have already referred to a number of studies suggesting that this assumption is of doubtful validity. Furthermore, recent research on the relationship between exchange rate changes and the domestic currency price of foreign autos suggests that, especially Japanese, firms are able to adjust foreign currency prices to retain market shares.[31] This suggests the importance of evaluating the sensitivity of computational analyses of the economic effects of trade policy in the auto sector to strategic behavior. Dixit (1988) provided the starting point for this important work. As with competitive partial equilibrium analyses like Tarr and Morkre (1984), Dixit takes observed price and quantity data to be equilibrium outcomes and uses the assumed structure of the market to calibrate a computational model which can then be used to perform policy experiments.[32] Dixit adopts a clever strategy of using the conjectural variation term to evaluate the competitiveness of the auto market in 1979 (a high demand year) and 1980 (a low demand) year. Dixit's primary conclusion, for our purposes, is that, although welfare improving trade policy is possible, the gains are generally small. However, Dixit also explicitly evaluates the interesting case in which, as a result of union bargaining, there is a substantial rent component in the auto wage. Since this creates an additional source of gain from expanding output, the gains from trade activisim are considerably greater in this case. Further work by Krishna, Hogan and Swagel (1989) and Fuss, Murphy and Waverman (1992) make it clear that the results of this sort of analysis are highly sensitive to the assumptions made about the strategic structure, as well as to

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[30] See Case M-22 (Automobiles) in Hufbauer, Berliner and Elliott (1986) for a convenient survey of the input data that have appeared in the literature.

[31] This "pricing to market" behavior is inconsistent with competitive market conditions. For studies of such behavior that explicitly consider the auto industry, see: Feenstra (1989); Ohno (1989); Marston (1990); Knetter (1989, 1992, 1993); Gagnon and Knetter (1992).

[32] Krishna, Hogan and Swagel (1989) provide a particularly clear exposition and extension of this methodology for the oligopoly case.

those made about the economic structure. However, as with Feenstra's research on quality-upgrading, these papers suggest that the estimates of cost of protection based on competitive market conditions should also be treated with caution.

The final major extension of work on the welfare costs of protection to the auto industry involves moving beyond the partial equilibrium framework applied in all the previous studies to a general equilbirium framework. de Melo and Tarr (1992, chapter 1) argue that this is an essential task becuse the partial equilibrium analysis produces systematic overestimates of the costs of protection because they do not take into account the trade balance constraint and thus the effect of changes in the real exchange rate. Furthermore, in the general equilibrium context agent welfare is affected by both price and wage effects. Nonetheless, even in the base case involving constant returns to scale and competitive behavior the deMelo/Tarr estimates of welfare costs exceed those in the partial equilibrium studies, primarily because their estimates of the rent transfer to foreigners are considerably larger than that in the earlier studies. Next the authors examine a variety of alternative factor market assumptions. Their most interesting finding here is that, when there is an endogenous wage premium, the imposition of a quantitative restriction in autos raises the premium (i.e. increases the distortion), undermining the employment creating effects and, unlike the case in Dixit and Krishna, *et al.*, increasing costs of protection.[33]

Two major results stand out from the considerable body of research on the costs of the VER program for the auto industry. First, protection is quite costly. In Hufbauer, Berliner and Elliott's evaluation of special protection, only textiles and steel have higher consumer costs. Second, in addition to the substantial magnitudes of these estimates, the other important regularity in research on the costs of the VER is the relatively low costs in the first two years of the VER resulting from continued recession in the industry. However, the recovery of demand resulted in considerably greater transfers from consumers to both US and Japanese firms.

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[33] Also see deMelo and Tarr (1993).

--Charts 9 and 10 about here--

All of the research reported above is essentially static in nature. None of these papers address the more difficult question of the effect of protection on the long-term competitiveness of the US auto industry. One of the problems in carrying out such an analysis is, of course, determining the time horizon over which to make the relvant evaluations. We have already seen, for example, that the direct effects of protection vary fairly considerably over time, primarily as a function of general macroeconomic conditions. We can, however, informally consider trends in three essential correlates of competitiveness: wages and labor productivity; investment; and quality. With respect to wages, the industry experienced a short term gain in the immediate aftermath of the VER by extracting substantial wage concessions from the UAW. Ford and GM, in particular, negotiated wage reductions in 1982 in exchange for limited profit-sharing. The effect of these arrangements shows up in Chart 9 as a sharp drop in the rate of increase of labor costs in 1983 and in Chart 10 as a drop in the wage differential between auto workers and the manufacturing average. Chart 9 also shows a considerable increase in the rate of improvement of productivity of labor. However, as chart 3 (following the logic of Fuss and Waverman (1992)) clearly suggests, much of this increase in productivity is due to substantially improved capacity utilization. With the protection in place, and the recovery of profits shown in tables 1A and 1B, the UAW was able to negotiate quite generous wage increases in the 1984 agreements with Ford and GM. Again, these show up clearly in charts 9 and 10. Given our previous conclusion that the jump in profits reflects primarily increased rent extraction from US consumers, this suggests that the post-War pattern of rent-sharing between labor and capital in the auto industry continued more-or-less unchanged. Thus, it would be difficult to conclude that the industry gained much in terms of its relations with labor from either import competition or the subsequent protection.

--Chart 11 about here--

To a considerable extent the senescent industry argument for protection relies on the protected industry using the period of protection to make fundamental adjustments in the organization of production to improve its competitiveness. It is certainly the case that all three US majors have

attempted to make both physicial and organizational changes in response to competition from Japanese firms. As chart 11 suggests, the industry did undertake considerable new capital spending in the immediate post-VER period and again in the early-1990s. In addition to the investments needed to develop and produce new products to meet the demand for smaller, more fuel-efficient cars, the industry invested extensively in new production technologies (e.g. industrial robots). Where the former investments seem to have been successful, at least for Ford and Chrysler, journalistic accounts suggest that the latter were not. In addition to physical investment, the US majors have experimented with new forms of relations with both labor and suppliers that emphasize greater flexibility. To this point, the record is very mixed, with both striking success and striking failure at the plant level, but no discernible overall pattern.[34]

--Table 3 about here--

The final dimension related to long-run competitiveness relates to quality, and the perception thereof. At least as important as the industry's product-mix problems was the deterioration in quality and the widespread perception of the US majors as suppliers of high priced, low quality automobiles. Table 3, based on frequency of repair data from *Consumer Reports*, suggests considerable improvement in quality by Chrysler in the late-1980s and early-1990s, while Ford and GM show no clear trend. While there has been some deterioration of overall Japanese quality, the most striking fact revealed by table 3 is the continuing gap in quality between US and Japanese producers of automobiles. Perhaps most importantly, there does not appear to be any obvious relationship between quality and the VER.

One's overall evaluation of the long-run effect of US trade activism with respect to the auto industry also depends on how one evaluates the increased investment in the US by the major Japanese producers. Journalistic reports suggest that, without the VER and the threat of domestic content

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[34] Turner (1991) reviews existing research on the attempts to reorganize production in the US auto industry and develops additional plant level research from the perspective of the union. A more systematic study by Katz, Kochan and Keefe (1987) were unable to find strong statistical relations between their measures of production organization and productivity.

protection, Japanese firms would have been unlikely to invest in the US.[35] In the event, however, the combination of a major realignment in exchange rates and the non-unionization of their production facilities, would seem to have increased the competitiveness of Japanese firms and made it harder to affect them through trade policy in the future.

Overall, there is no question but that the VER resulted in a substantial increase in industry profits once the US economy recovered from recession and auto demand inceased.[36] However, it would also appear to be clear that those profits primarily reflect increased rent extraction from US consumers. More importantly, Ford and possibly Chrysler appear to have made substantial adjustments over the period of the mid- and late-1980s that have increased their competitiveness *vis a vis* their Japanese competitors. It seems reasonable to conclude that the US industry is somewhat smaller, somewhat more flexible, and somewhat more efficient. One must, however, be careful in evaluating the relationship between international competition, protection and this improved competitiveness. With or without trade protection these firms would have made the adjustments in output mix, production facilities and organization of production. It is Japanese competition, not US protection that accounts for the improvements in performance by the major US auto producers. The Chrysler experience is particularly informative when compared to the VER. In the former case, the publicness of the transfer and the emphasis on the responsibility of the Chrysler Corportation and the UAW for the problems of the firm and the solution to those problems created strong incentives to improve performance. With the VER the implication that the problem was, probably unfair, competition from abroad, created poor incentives to improve performance. Where the Chrysler loan was repaid ahead of schedule, the VER, originally intended as a three year measure, dragged on for nearly a decade.

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[35] See Halberstam (1986). Bhagwati, Dinopoulos and Wong, in various combinations, have developed the logic of *quid pro quo* investment in some detail. See their 1992 summary in the *Papers and Proceedings* of the American Economics Association. It is interesting to note that their primary example is the auto industry.

[36] However, as examination of chart 1 suggests, this recovery was relatively short-lived. As chart 1A shows, overall industry profits drop sharply in the late 1980s, while chart 1B shows both GM and Chrylser experiencing net losses.

-Table 4 about here--

Table 4 provides a very rough summary of this discussion. The participants are entered in the table roughly in order of their degree of support for trade activism with respect to Japanese auto producers (i.e. both support for the VER and domestic content legislation): the UAW and Ford were the most active supporters, with Chrysler holding back during the early period because of the loan guarantee an the Carter administration's opposition to auto protection; GM opposed protection, but not very actively; and the Japanese producers, and the dealers, opposed protection strongly. Although the consumer interest was not well-represented (except perhaps by the dealers), they are included in the table to remind us that they are the source of most of the gains realized by the other participants. Because the restraint was not binding in the immediate post-VER period, only the UAW experienced any effect. As a result of the general economic conditions the UAW made significant concessions during this period. The other agents in the auto industry experienced essentially no gains as a result of the VER. In the medium term, as the economy recovered and the VER became binding on Japanese firms, all of the active agents gained, while the inactive consumers lost. The evaluation of the long-run depends on two factors: how one evaluates the use that was made by the US firms of the period during which the VER was binding; and how one evaluates the effect of increased Japanese investment in the US. We have argued above that the former affect appears to be small positive to zero, while the latter effect is primarily negative. The entries in the last two cells in the third column reflect primarily the effect of a more competitive domestic market.

IV. Sectoral Regimes: Structure and Crisis

The notion of a sectoral regime is central to this paper's analysis. An economic sector is defined in terms of a set of products that are understood by the firms and households that make up the economy to constitute a distinct group.[37] That is, the sector's outputs are close substitutes in consumption and the firm's understand themselves to be in competition with one another. While this

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[37] The idea of a sector used here is motivated by Harrison White's (1981 a & b) important work on the social structure of markets.

may prove difficult to apply in general, the application to passenger autos should not prove particularly problematic (though, as the minivans case suggests, the boundaries are always contested terrain). A regime is the set of formal and informal institutions, rules and norms that regulate the relations between the participants in the regime.[38] In modern (i.e. "welfare state") capitalism, sectoral regimes are expected to support efficient contracting subject to provision of satisfactory levels of political-economic order and equity. Since sectoral regimes are ultimately constituted by the behavior of the participants in the regime, when the regime fails to provide satisfactory performance with respect to efficiency, order and equity, firms and households will engage in behavior which violates regime norms simultaneously with attempts to transform the regime. We refer to such a situation as a sectoral crisis.

A sectoral crisis can emerge for a large number of reasons.[39] The overall cultural and/or political system in which the sectoral regime is embedded can experience a crisis, undermining the performance of an otherwise perfectly stable sectoral regime. Thus, the "blue collar blues" of the late-1960s and early-1970s that were widely held to have affected labor-management relations, and labor performance more generally, in the auto industry, were clearly part of the larger social crisis affecting the US as a whole in that period. Nonetheless, this situation led to early struggles between the firms and labor in the auto industry to reestablish the terms of their relationship. Alternatively, crisis can emerge as a result of the normal operation of the regime. It is conceivable, for example, that Ford could increase its market share *vis a vis* GM to the point at which GMs leadership was not sustainable but Ford was unable to assert equivalent leadership. The collapse of price leadership could result in extensive competition reducing profits and undermining relations with the UAW and suppliers. Again, this would be a sectoral crisis. The sort of crisis with which we are concerned in this paper, however, derives primarily from external shock(s) that cannot be easily accommodated by the existing regime.

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[38] The systematic study of such regimes is a central concern of economic sociology extending at least to Max Weber. For a recent focus on sectoral regimes in the US economy, see Campbell, Hollingsworth and Lindberg (1991).

[39] Nelson (1986; Part I) develops a theory of sectoral crisis, based on Habermas (1973), consistent with the discussion here .

The combination of Ralph Nader, OPEC and Japan produced a situation in the late-1970s and early-1980s that the auto regime appeared unable to accommodate. In the next section we briefly review the conditions that led to a crisis in the auto regime. Before that, however, we introduce the primary actors in the pre-crisis regime: the US major auto producers; the United Auto Workers union (UAW); and the US government.

It is convenient to think of the basic units of analysis in the political-economy as households and firms. Households own portfolios of factors of production (e.g. labor, human capital, capital) which generate a flow of income, from which they consume and invest. In addition to their preferences over the goods available for consumption and investment, households also make evaluations of the overall performance of the economy in terms that are not generally strictly self-interested. These latter evaluations form the basis of household political activity, which takes the form of voting and making relatively small contributions to political entrepreneurs.[40] Firms hire factors of production from households and intermediate goods from other firms to produce outputs which are, in turn, sold to other firms and/or households. Where households are generally small with respect to both the economy and the political system, firms are not generally small.[41] Furthermore, while firms do not vote, they do engage in political action, often on a large scale, through direct lobbying and by making relatively large contributions to political entrepreneurs. Thus, while households and firms interact directly in the economy, they rarely engage in direct political conflict or cooperation. Finally, unlike households, firm political activity is taken to be motivated strictly by direct, material self-interest.

Household political activity has not played much of a role in the political economy of trade policy for the auto industry. We have just argued that the primary form of household political activity is either

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[40] Considerable theoretical research suggests that neither voting, nor other forms of political action, are generally supported by individual pursuit of strictly self-regarding, materialist interests. Similarly, there is a substantial body of empirical research, based on both survey research and econometric evaluation of outcomes, which strongly supports the notion that elections are determined by "sociotropic voting", i.e. voting based on evaluations of performance that extend well beyond material self-interest (Kinder and Kiewiet 1979, 1981; Weatherford, 1983; Lewis-Beck 1988).

[41] While one can imagine this statement eliciting objections in general, when the actors in question are GM, Ford, Chrysler and the UAW it must surely be unproblematic.

voting or relatively passive support of political entrepreneurs. Because, until very recently, trade policy has not been an electoral issue of any significance, this has meant that households have had no direct effect on its determination. Of course, household preferences may well have an indirect effect on trade policy outcomes via their effect on overall macroeconomic performance.[42] Given the uneven distribution of production across electoral districts (except for that of the President), the optimal policy for a politician certainly need not be free trade, even if s/he is genuinely interested in maximizing some notion of aggregate consituent welfare.[43] Thus, even with the shift of that production away from the E. North Central states, a state like Michigan with a large share of total auto output and a large share of auto production in state output, could well have a positive optimal tariff for shifting welfare from the rest of the country to Michigan. If we take politicians to pursue some mix of social welfare maximization and election related venality, and given that the auto industry will generally prefer a tariff greater than the welfare optimal tariff, politicians will be cross-pressured on the tariff. Because the auto industry is so large, and so tied up in the American self-image, these indirect effects are not insignificant.

We will, however, focus primarily on direct political action. In particular, we will focus on the direct political action of the primary, organized participants in the auto regime: the firms, labor, and the state.

A. US Firms, the Auto Regime and Trade

The most significant actors in the political economy of auto trade policy are unquestionably the US majors: General Motors, Ford and Chrysler. These are three of the largest firms in the US economy, engaged in complex production and distribution relations that extend into all 50 states. A key

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[42] Note that each household will have four elected representatives: 1 House member; 2 Senators; and 1 President. It is important to recognize, with reference to research on sociotropic voting, that the community with reference to which a household makes its political-economic evaluation need bear no relationship to any of the relevant electoral districts.

[43] This statement makes no claim with respect to the existence of a coherent measure of aggregate welfare, nor with respect to the existence of instruments appropriate to achieve it. All it sas is that a politician seeking to do the best for his/her district could determine that a positive tariff on some industry, or industries, would be better than free trade. The theory of optimal tariffs and strategic trade policy are simply attempts to capture this type of logic.

issue in political-economic analysis relates to how such firms organize their competitive relations. On the one hand, the main properties of passenger autos as a product and the technology for producing and marketing them is relatively standardized. Given the small number of firms, this should permit some form of implicitly collusive behavior. On the other hand, these three firms have very different production structures and very different relations to the world economy. For example, GM historically has outsourced 10-15% of its component inputs; Ford 40-50%; and Chrysler has varied widely in its degree of vertical integration (Hunker, 1983, pg. 31). Perhaps more importantly, in 1980, 10% of Chrysler sales, 22% of GM sales and 45% of Ford sales were outside the US; and while Ford actively pursues a strategy of global integration, GM's strategy involves local integration for sale in national/regional markets.[44]

Although GM was created from a number of smaller firms under DuPont financial leadership, as US Steel was created with Morgan financial leadership, all three majors retained a strongly entrepreneurial orientation. It is certainly true that the considerable entry costs and GMs dominant position in the post-World War II market, until the large increases in Japanese market share in the early 1970s, served to make the auto industry, along with steel, the textbook example of a tight oligopoly. Casual evidence of high profits (see Charts 1A and B) and downward inflexible prices are supported by numerous systematic studies suggesting implicitly collusive or leader-follower pricing behavior.[45] Nonetheless, GM never exercised the hegemonic domination over the auto industry that US Steel exercised over the steel industry. Extensive competition for market share through styling changes, intensive advertising and extensive dealer networks characterized the industry throughout the post-War era. Thus, it is not surprising that, although the auto industry is collectively represented by the Motor

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[44] By way of comparison, in 1980, Toyota, Nissan, Honda, Mitsubishi, Volkswagen, Peugeot-Citroen, and Renault all sold in the neighborhood of 60% outside their home market, with Honda selling nearly 70%.

[45] See Adams and Brock (1986) is a useful source for the more casual evidence of imperfect competition in the auto industry. For more systematic studies of the pricing behavior that explicitly tests collusive and/or leader-follower models, see: Boyle and Hogarty, 1975; Bresnahan, 1981, 1987; Kwoka, 1984; Berndt, *et al.*, 1990

Vehicle Manufacturers' Association (MVMA), each of these firms engages in extensive independent political activity.[46] By contrast, the integrated steel producers, with a slightly larger number of major producers, have pursued a much more coordinated and aggressive political agenda on the trade issue. In addition to the greater similarity in production and organizational structure among major integrated steel producers (compared to the auto majors), the steel industry has not had the tradition of corporate independence that has obtained in the auto industry from its founding to this day.

Until recently, the US auto producers have been economically confident of their ability to compete in any market. Its domestic political activity was focussed primarily on resisting government attempts to regulate safety, emissions and fuel economy. Prior to the late-1970's, trade policy was not a political priority of any of the auto majors. The industry's entrepreneurial tradition led it to generally support the trade liberalization program, and its success in turning back the import surge of the late-1950s without government intervention made it uninterested in the administered protection mechanisms. To the extent that it did pursue a trade policy agenda, the auto industry focussed on support of liberalization in general and on access to closed foreign markets in particular. In fact, during the late-1960s and early-1970s one of the most contentious ongoing issues between the US and Japanese governments was the desire, especially by Ford and Chrysler, to invest in Japan for local production.[47] However, as Japanese exports to the US market surged in the late-1970s, and could not be controlled by captive imports and new small car offerings, the industry began to increasingly seek protection. However, recall from Section I that there was an important split in the industry: GM, which was confident of its long-run capacity to compete in the US and would rely on imports of small cars from Japan in the short-run, was not a supporter of protection; while Ford, whose short-run small car strategy depended primarily on Europe, was a strong proponent of production. Chrysler was not active in this period because it had already received government intervention in the form of a government backed

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[46] Actually, the MVMA no longer exists. In 1997, the name was changed to the American Auto Manufacturers' Association when the Japanese producers were expelled from the MVMA.

[47] See Duncan (1973) for a convenient journalistic treatment of the attempts by US auto firms to gain access to the Japanese market.

loan, but was to become one of the stalwarts of the protectionist cause.

Auto industry trade policy activism illustrates an important aspect of the political-economy of protection in the US: intersectoral reciprocal non-interference. Auto firms are major customers of steel, glass, synthetic rubber, electronics, machine tools, and textiles. All of which are heavily involved in the politics of protection on their own accounts, and all of whom have received extensive protection. Nonetheless, the US auto majors, prior to the onset of their own trade related problems, never actively opposed protection to these key upstream sectors. Part of the difficulty is that there is no institutional point of access for anti-protection, except at the point of legislating the rules of administered protection. At least as important, however, is the widely held norm that firms experiencing competitiveness problems have a right to protection, and firms not experiencing such problems have no right to oppose that protection. That is, even though auto industry performance was affected by protection to a wide range of its inputs, neither the auto majors nor the MVMA violated the norm against interfering with that protection.

B. US Labor, the Auto Regime and Trade

The second major participant in the auto regime is organized labor--the United Auto Workers (UAW). In the early years of the 20th century, the auto industry pursued an aggressively anti-union strategy, but the combination of the depression and the Roosevelt administration led, through the efforts of the UAW, to acceptance by the industry of union organization. During World War II, the relationship between the firms and the UAW was closely regulated by the National War Labor Board, but when the war ended a brief, though intense, struggle ensued over the shape of the labor relations component of the auto regime. For the purposes of this paper, the three aspects of labor relations in the post-War era identified by Katz (1985) are particularly significant. **Wage rules**, involving an annual improvement factor (intended to increase wages along with improvements in productivity) and cost of living adjustments, led to steady increases in the wages and benefits paid to auto workers and a wage differential between auto workers and the average private sector production worker that held very steady at around 30% until the late-1960s. That is, as in the steel industry, the auto producers sought

to insure stability in the industry by sharing the oligopolistic rents with labor. This premium led firms to use large scale layoffs as a strategy for dealing with the highly cyclical demand that characterizes the auto industry (Chart 12 compares percentage changes in employment in

--Chart 12 about here--

manufacturing, motor vehicles, and autos).[48] However, the inflationary experience of the 1970s led to an explosion in auto industry wages that, along with increasing import competition, rendered this element of the labor relations sub-regime unstable. Katz refers to the standardization of contracts across firms and across production facilities within firms as **connective bargaining**. This second aspect of labor relations in the auto industry, implemented through pattern bargaining, creates a highly hierarchical structure with national corporate leaders and national union leaders setting terms for the industry as a whole. The third key attribute of labor relations in the auto industry was **job control unionism**: i.e. the channeling of union efforts to control the production process into detailed and legalistic efforts to define and regulate access to particular jobs. Not only did this render the production process inflexible from the perspective of management, but it also tended to alienate workers from the production process. Like the relationship between firms described above, the labor relations sub-system of the auto regime was both functional and stable as long as all major participants in the market were covered by the regime.[49]

Unlike the auto majors, the UAW (initially CIO-Auto Workers) was an active proponent of the trade liberalization program within the Union movement, the Democrat party and in Washington from the end of the Second World War until the late-1960s.[50] This support was primarily related to the concern

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[48] It is interesting to note, in chart 2, that the auto industry employment follows the same cycles as does manufacturing as a whole, but, as is noted in the text, with considerably greater volatility.

[49] See Katz (1985, chapter 2) for a useful discussion of the ways in which this system of labor relations served the interests of both labor and management in the post-War period prior to the shocks of the seventies and early-eighties.

[50] See Leiter (1961) and Donahue (1992) for general discussions of the politics of trade and protection within the US union movement. In particular, both stress the strong support by CIO unions of the trade liberalization program, and Donahue stresses the leadership role of the CIO-auto workers.

that a post-War depression would lead to major reverses for the union movement and a belief that liberal trading relations would support continued output growth through export growth. The UAW, which left the AFL-CIO in 1967, was a consistent supporter of the trade liberalization program into the 1970s. For example, when the AFL-CIO strongly supported the Burke-Hartke legislation (1973), Leonard Woodcock spoke strongly against it. However, by 1980 the UAW joined Ford in filing the escape clause suit for protection against Japanese imports, and in the hearings on the 1988 Omnibus Trade and Competitiveness Act, Owen Bieber was one of the most strident opponents of the trade liberalization program and one of the strongest proponents to an aggressive trade policy.

--Table 5 About Here--

Just as internationalization of auto competition undermined the relations among firms in the regime, the labor relations system was also threatened. Japanese competition affected US labor relations in at least three important ways. First, considerable evidence suggested that relatively low labor costs were a significant part of the Japanese firms' competitive advantage. This led to a number of attempts by the US firms to reduce labor costs. For example, GM attempted a "southern strategy" of shifting production facilities to states with weak union tradition in the 1960s and 1970s, but the UAW was able to respond, maintaining virtually 100% organization of production workers in Big Three production facilities. More successfully, given the lower degree of success of the UAW in the auto parts industry, all three firms have spun off facilities engaged in parts production. The data in table 5 are fairly suggestive in this regard: the wage differential between production workers in auto production has increased, but the share of production workers wages in value-added in the final production of autos (SIC 3711) has fallen, as has the share of final motor vehicle production in total auto production (3711+3714). Second, it has been widely argued that the Japanese auto producers have developed a new management/production technology ("lean production") that produces higher quality autos at lower costs.[51] Attempts by US firms to implement mixes of team production, flexible machine tools and robots

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[51] The standard reference on this argument is the best-seller from MIT's International Motor Vehicle Program, *The Machine that Changed the World: The Story of Lean Production* (Womack, *et al.*; 1991).

in final assembly have met with considerable resistance from the UAW in many plants, and, even when such programs have been implemented, many have been less than strikingly successful (Turner, 1991, Chapter 1; Keller, 1993). Nonetheless, the evidence of Japanese success with less restrictive labor regimes has created additional tension in the structure of the auto regime. Third, the local production of autos by Japanese firms in the US has raised both of these issues in even more striking ways as, at least to date, these firms have been successful at resisting union organization of their production facilities and they have begun to implement labor and supplier management strategies more like those found in Japan than like those found in the US.

C. The US Government, the Auto Regime and Trade

The final major participant in the auto regime is the state. Although the US government is not involved in direct corporatist arrangements of the sort that characterize auto regimes in, say, Germany and Japan, it remains a major participant.[52] Most obviously, the state stands behind any legally constituted elements of the regime--e.g. labor law. Similarly, it has been argued that the American anti-trust law (especially the Sherman Anti-trust Act) that outlaws collusion but permits extensive vertical and horizontal integration has encouraged the creation of large, integrated firms in the US (Bork, 1978; Lamoureaux, 1985).[53] Where labor and anti-trust law were not particular problems for the auto industry

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[52] Although the Japanese industry has been notable for its independence from MITI, relative to other sectors of Japanese indusry, it is also the case that MITI has been heavily involved in the promotion of the industry and in attempts to restructure the industry. A useful short discussion can be found in Cusumano (1985, Introduction). The close relations between industry and the state, with a subordinate labor movement, has led Pempel and Tsunekawa (1979) to refer to Japanese corportatism as "corporatism without labor". The German case is more classically corporatist: strong, centralized owners associations face a strong, centralized union. The national governmnet has intervened rarely in the auto industry, though state governments have been quite active and the "big three" banks (Commerzbank, Deutsche Bank and Dresdner Bank) have also played a major role. Zysman (1983) presents an extensive discussion of the role of banks in policy-making. See Hart (1992) for a useful discussion of industrial policies for the auto industry in the US, Japan, France, UK and Germany.

[53] It is interesting to note that virtually all of the antitrust actions against auto firms have involved non-core activities of the firms. Thus, the 1953 suit against GM, the 1964 suit against Chrysler involved attempts to acquire the Euclid Motor Machine Company and Mack Truck, respectively; while the 1961 suit against Ford involved Electric Auto-Lite Company. Similarly, the Justice Department pursued GM over its putatively anti-competitive practices with respect to its financing arm (GMAC) from 1939 until the consent decree in 1952. Probably the most famous case, US v. GM (1966), involved an attempt by

in the post-War period, the industry did benefit from extensive road building and low gasoline taxes. As a result, given its size and significance, the auto industry has had a surprisingly small and relatively cooperative relationship with the state. This can be compared with the stormy relationship between the steel industry and the state. On the other hand, as consumerism and environmentalism became significant political forces, both of which focussed significant parts of their political efforts on the auto industry, this relaxed relationship began to break down.

The trade policy goals of the US government are harder to characterize. Prior to 1980 it would not be unreasonable to characterize the preferences of the US Executive as being strongly Liberal. That is, the Executive has aggressively pursued extensions of the trade agreements program and the GATT, while opposing extensions of both legislated and administered protection.[54] While some of this may be attributable to the fact that the president has a national constituency, a more significant reason is that, for the president, trade policy has been primarily a foreign policy issue and, because the preeminent foreign policy goal has been containment of communism, the extension and protection (against protectionists) of the multilateral trading system has been seen as a key instrument in the pursuit of that goal. On the other hand, for Congress trade policy is primarily a domestic political issue. However, as long as the Executive was able to attach trade policy to foreign policy the trade agreements program was relatively safe and Congressional protectionism could be controlled through a combination of presidential leadership and Democrat control of trade policy-relevant institutions.[55] However, as we argued in Section I, Executive leadership and Congressional institutions broke down, for unrelated reasons, at the same time that protectionist pressure was increasing. As a result,

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a group of dealers to get GM to stop selling to a discount outlet. Compared with the steel industry, and given the concentration in the auto sector, the US governments relationship to the auto industry in the post-World War II period appears benign.

[54] There is some significant partisan variance. With the notable of Nixon, and possibly Bush, Republican presidents in the post-Second World War period have continued the pre-War pattern of greater protectionism (as revealed in commitment to the trade agreements program, accomodation of protectionist pressure, and voting record of appointees to the USITC) than Democrat presidents.

[55] Nelson (1989b) discusses the link between foreign policy and trade liberalization in more detail, while Nelson (1989a) discusses the role of Congressional institutions and Executive leadership.

Congress played a much more significant role in defining the trade policy preferences of the US government.

D. Other Participants and Regime Environment

Of course, given the size and complex nature of auto production, there are a large number of other participants in the auto regime. Upstream and downstream firms that are linked to auto production are certainly significant players in many aspects of the auto regime, though not generally major players with respect to trade policy. Similarly, local communities and governments in major auto producing areas are often involved in the regime but, at least to this point, they have not been extensively mobilized on the trade issue the way the steel industry has mobilized the grass roots in its interests. What makes the auto industry interesting from the point of view of the NBER project is the entry into the regime of a new player that was not socialized to the regime and could not be informally regulated by the leader-follower structure or the union, or formally regulated by the US government: the Japanese auto producers. The linkage of the US market to the world market shattered every aspect of the post-War regime, creating a crisis with which the industry is still struggling.

To understand the significance of the Japanese threat to the auto regime, it is important to understand the global organization of that regime as well as the domestic organization. For a variety of reasons, both economic and political, markets for autos prior to the mid-1960s were primarily national (or at most regional). The interaction of taste and policy was essential here. As a result of government policies toward development of roadway systems, auto taxation and petroleum taxation, consumers demanded very different autos in different countries. In the US, extensive road-building and low taxation of autos and petroleum led to demand for large, powerful, comfortable autos, with no particular demand for fuel efficiency. Europe and Japan, with less extensive road systems and much higher taxes led to demand for smaller, more fuel-efficient, more agile autos. Many of the European producers emphasized niche marketing, either for luxury autos (Daimler-Benz) or popular autos (Volkswagen), in Japan the auto producers emphasized the development of products for a growing market with a relatively low household income. In addition, with the exception of the US, auto markets developed

behing relatively high barriers to imports.[56]

As a result primarily of the the existence of the Big 3 US producers, national governments outside the US pursued two sorts of policy toward their national auto market. On the one hand, the governments of Canada, Britain and Germany permitted extensive direct investment (primarily by Ford and GM); while, on the other hand, the governments of Japan and France attempted to restrict their markets to national producers.[57] Policies of the former type resulted in entry by US majors and their participation in essentially oligopolistic regimes. Not surprisingly from a competitive standpoint, but interestingly given the difficulty the US majors had in developing small cars in the North American market, in the UK and Germany the US majors produced small cars of the sort demanded in those markets. As Quinn (1988) points out, these European auto markets were not particularly profitable for national or multinational firms because the relatively small national markets did not allow production at efficient scales. Nonetheless, the key firms in the industry (GM and Ford) were unwilling to surrender any open market to the other. The expectation was that growth in national income would lead to a rapidly expanding demand for autos the exclusion from which could result in competitive disadvantages later in time.

In France and Italy, the policy of reserving the national market for nationally-owned firms led was associated with macroeconomic goals related to the employment creation and balance of payments, as well as national prestige. As a result, the governments' goals were consistent with the maintenance of a stable, non-competitive market. The result was relatively inefficient industries focussed on the national and regional markets. In the Japanese case, while the government succeeded in reserving the national market for nationally-owned firms, it did not succeed in its attempt to regulate entry by such firms. The result was a highly competitive auto industry that, from early on in its post-War history, recognized the necessity of exporting to achieve the efficient scales of production

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[56] The US market had considerable natural protection from the very different type of autos demanded by US consumers.

[57] See Hart (1992) for a comparison of state policies in the auto (as well as steel and semiconductor) sector.

necessary to compete in the national market. This strong export-orientation, emerging from a highly competitive national market was an essentially new element in the global auto regime. The first national auto regime to experience the adjustment crisis associated with export-oriented national producers was the most open national market, the US.

V. Trade Adjustment Crisis in the US Automobile Industry

The 1970s were a watershed for the auto industry. As we have just seen, from the end of the second world war through the 1960s the US auto market was dominated by three firms in a classic tight oligopoly, with a shrinking fringe of small competitors (see Chart 13).[58] Over the course of the 1970's this structure, and the political-economic system of which it was a part, unraveled completely. The attempt by the major actors in that political-economic system to reestablish a profitable and stable political-economic order is what we refer to as an adjustment crisis.[59] This section presents a brief review of the recent economic history of the auto industry and the evidence of sectoral crisis.

--Chart 13 about here--

Much of the history of the US auto industry can be told in the context of a product life cycle framework adjusted for large economies of scale in production, distribution and marketing.[60] The early history of the industry was characterized by a large number of essentially craft producers selling to an unstable, specialist market. Henry Ford's recognition of the gains from standardization and large scale production resulted in rapid growth in Ford Motor's market share. However, as the market expanded,

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[58] See White (1971) for a detailed analysis of the US auto industry in this period.

[59] Note that we are using the expression "political-economic system" to refer to the structurally local system anchored on the US auto industry. That this system is part of a national and global political-economic system is undeniable, but essentially beyond the scope of this paper. Thus, as we will discuss in greater detail later in this paper, the primary actors in this system are the major auto producers (home and foreign), the United Auto Workers union, and the relevant parts of the Executive and legislative branches of government. In addition, other actors include foreign governments, state and local communities and governmental organizations, and upstream and downstream industries related to the auto industry.

[60] The notion of a product life cycle was originally developed by Vernon (1966) and Hufbauer (1966), and has since become standard fare in textbooks in international economics and marketing.

Alfred Sloan was able to expand General Motors' market share dramatically, and surpass Ford as the industry leader in market share and profitability, by offering a wide array of product offerings. Given the large minimum efficient scales in virtually all aspects of auto production (e.g. engine, transmission, frame, and body production, and final assembly), growth of the market was essential to GM's strategy.[61] As chart 13 illustrates, the logic of scale worked itself out in the mature post-War US market, with small US producers being driven from the market. Perhaps most strikingly of all, the smallest of the "Big Three", Chrysler, was saved from bankruptcy only through the exceptional agency of a government guaranteed loan.

--Chart 14 about here--

As the demand for autos in the rest of the world rose over the middle years of the 20th Century, the US industry served this developing market with both exports from the US and local production. However, since the exports and imports constituted a tiny proportion of US output (see Chart 14) and the foreign production was run essentially independently of the home market, the industry's relationship to the world market had little impact on its structure and dynamics in the US. Furthermore, prior to the 1970's, the US major producers seemed oblivious to the implications of the final part of the product life cycle: the emergence of global competition as the product and its production technology becomes standardized.

--Chart 15 About Here--

Prior to the mid-1980's, the story of international competition in the US market is a story about small cars.[62] In the early post-War period, the US majors consciously chose to not enter the small car

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[61] White (1971) argues that, in addition to the economies of scale in production and marketing, the risks associated with introducing new products in the auto industry mean that it is no longer possible to sustain a competitive position in this market with a single product line.

[62] White (1971, Chapter 11) provides an excellent short treatment of the small car market in the US, on which the discussion presented here depends heavily.

market.[63] Chart 15, from Abernathy, *et al.* (1983, pg. 53) clearly shows the basic economics of this decision: where small cars cost only slightly less than large cars to make, the price differential was considerable. Furthermore, the US majors believed that the demand for automotive transportation was sufficiently inelastic that most consumers with a preference for small cars would still buy large cars if small cars were not available. In addition, White (1971) argues that concern with the stability of the oligopoly encouraged the majors to stay out of the market. The concern was based on the fear that, while the small car market might support one firm, if all three majors entered the market it would not be profitable for any of them. Since there was no legal way to share the profits from if only one firm entered the small car market, they cooperated by jointly staying out of the market.[64] The first response to the decision by the majors not to produce small cars was an attempt by US independents, in the early and mid-1950's, to serve that market niche. However, none of the independents were able to offer their small cars at prices competitive with the low-price full size models of the majors, and none (except Rambler, which was importing its small car from England) was still in the small car market in 1955.

The effective response to the oligopolistic caution of the US industry came from foreign (primarily European) producers. From less than 1% of apparent consumption through the mid-1950's,

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[63] In fact, both GM and Ford announced in 1945 that they would introduce small cars to serve what appeared to be a considerable market for small cars. Both firms began to design the cars and arrange for their production, and both cancelled the projects in mid-1946.

[64] Knickerbocker (1973) develops this type of argument at greater length for the case of entry into small national markets. Specifically, he develops an entry concentration index to measure clustering (in time) of direct investments in a given national market and shows that low values of the index (i.e. low amounts of competitive entry) characterize both competitive and tight oligopolistic market structures, while high values of the index are characteristic of loose oligopolies. The notion is that an oligopoly with a small number of members is able to collude more effectively, while loose oligopolies are unable to do so, resulting in inefficient (from the industry's perspective) entry. As White (1971) argues, the decision by Ford and GM not to enter the market is evidence of, at least implicit, collusion within a tight oligopoly.

With respect to the Knickerbocker argument, the behavior of the US majors with respect to small cars can usefully be compared to their behavior with respect to entry in foreign markets. The existence of a stable sectoral regime regulating the US market clearly did not extend to regulation of foreign competition--US firms made direct investments in a number of small to medium sized markets that, at least at the time of entry, did not obviously support minimum efficient scale production (e.g. Canada, Mexico, even the initial entry into European markets). The existence of non-regime firms and a non-participant state seems to have made it impossible to extend the US regime to foreign markets.

imports surged to over 9% in 1958 and to over 10% in 1959. The initial reaction by GM and Ford was to import small cars from their subsidiaries in Germany (Opel and Taunus) and England (Vauxhall and Ford). A more substantial response came in 1959 with the introduction of domestically produced small cars (e.g. Falcon, Corvair, Valiant) which, while substantially reducing sales of captive imports and taking some sales from full-size cars, successfully reduced the market share of foreign cars to 6.4% in 1960 and 4.9% in 1961. With imports no longer a threat, the US industry began to increase the size and weight of their "small" cars (Kwoka, 1984). Thus, although imports had been held around 5-6% of the market in the early 1960s, 1966 saw an import share of nearly 10% and a steady rate of growth of imports to a 24% share in 1970. Again the US majors responded first with captive imports and then with small cars of their own (Vega, Pinto, Gremlin), but this time the environment was different.

Perhaps the most significant difference was the fact that foreign suppliers had by this point established marketing networks and solid reputations in the small car market segment. Thus, even with locally produced small cars, the US majors were unable to drive the import share below 20%.[65] Foreign producers, now including the Japanese, had replaced small independent firms focussed on niche production for the US market as the competitive "fringe" in the US market. These foreign firms, and especially the Japanese with their strong export orientation, were not part of the US auto regime: GM did not dominate the small car segment (even in the US) and was not globally organized to compete with the Japanese firms in a way that would permit enforcement of the US pricing regime. Perhaps more importantly, the Japanese were not part of the labor relations sub-system of the auto regime, which in the late-1960s was undergoing significant strain. In the context of rapid inflation, the COLA clauses were generating large increases in wages at a time when poor labor relations were contributing

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[65] It should be noted that this 20% is a bit deceptive. During the late-1960s the largest source of "foreign" cars was Canada, and the growth in Canadian imports was a function of the rationalization of North American production by the US majors as a result of the US-Canada Automotive Products Trade Agreement (APTA). However, substantial increases in Japanese market share in the late-1960's and early-1970s were a cause of some concern.

to low productivity.[66] As the studies of competitiveness reviewed above suggest, the labor cost differential between US and Japanese producers was a considerable source of competitive advantage for the Japanese. Thus, given the strains already existing in the labor relations system, it is easy to understand the profound impact of Japanese competition on that system. When the first oil price shock hit in October 1973, inducing a substantial demand shift toward the smaller cars in which foreign producers had established themselves as market leaders, the foundation was laid for another upward jump in foreign market share.[67]

In addition to changed competitive and demand conditions, US firms also faced a changed regulatory environment. In the early and mid-1970's, at precisely the time that the industry was struggling to redesign old product lines and come up with new ones to compete with the foreign competition in the expanding small car market, the federal government imposed strict emission control standards under the Clean Air Act of 1970 and binding corporate average fuel economy (CAFE) standards under the Energy Policy and Conservation Act of 1975. The most detailed study of the consequences of federal motor vehicle regulation, Crandall, *et al.* (1986), concludes that, of these regulatory interventions, the emission control regulation had the most deleterious effect on the industry's competitiveness *vis-a-vis* foreign producers and that this effect was most severe precisely at the time when the industry was seeking make a transition in its product offerings. Specifically, there were particularly severe quality problems in the 1974 model year producing changed expectations with respect to the quality in US small cars in the future--expectations which the US industry succeeded in meeting. Thus, when the second oil shock reinforced the shift to small cars in the late-1970's the jump in foreign market share was both greater and more permanent than that in the early 1970's--from a fairly

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[66] Rothschild (1973) provides an excellent contemporary account of the pressures on the auto regime in the early-1970s. The account of labor relations at GMs Lordstown plant is particularly striking. It is also interesting to note that the Japanese do not figure prominently as competitors for the US market. Rather the primary concern, relative to the Japanese, seems to be the inability of the US firms to compete beyond the increasingly saturated US market.

[67] Numerous studies establish a strong causal connection between the price of gasoline and the demand for small cars: Blomqvist and Haessel (1978); Carlson (1978); and Irvine (1983).

stable 25% share in apparent consumption in the mid-1970's, the foreign share jumped to 28% in 1979 and 35% in 1980.

From the perspective of political-economic analysis, it is important to understand that these regulatory shocks were independent of the changes in international competitive conditions. That is, while it is important to understand the negative consequences of auto regulation for the international competitiveness of the industry, it is also important to recognize that the form and magnitude of that regulation emerged from a political process in which the industry played a significant role--first of neglect and then of poorly considered political action. Well before imports became a problem for the American auto majors the consumer movement had begun to focus on the auto industry. One of the most famous documents of early consumerism is Ralph Nader's (1965) *Unsafe At Any Speed*, not only criticized the quality of the product, but the entire auto regime. The auto industry's attempt to smear Nader backfired badly, rendering their political attempt to short-circuit consumerist legislation considerably more difficult. That is, while the consumerist movement (and more generally the populist mentality of the 1960s) was exogneous to the auto regime, the response by the firms unquestionably worsened the situation. To a significant extent, the industry bears considerable responsibility for the hostile political-economic environment in the context of which the initial import shock of the 1970s occurred.

--Chart 16 A and B about here--

Thus, the US auto regime was collapsing. The product market oligopoly and the labor relations regime that relied on it were under pressure from international competition and from domestic populist sources. The government appeared to be increasingly hositle. By the mid-1970s the US auto industry, along with the overall economy, was moving into a deep recession. Profits fell from around 20% (after tax profit to stockholder's equity) for GM and Ford in 1978 to -4% for GM and -18% for Ford in 1980.[68]

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[68] Average profit rates for manufacturing as a whole, for comparison purposes, were 15% in 1978 and 14% in 1980. Comparable numbers are not available for Chrysler which was already in a government bailout program. These figures, as well as those in the text, are reported in Brock and Adams (1986).

Similarly, employment in the motor vehicle industry fell from 925 thousand to 714 thousand employees. The industry needed a political instrument with which to reconstruct political-economic order. "Unfair" Japanese competition was an ideal instrument. Japanese exporters were rapidly increasing sales to the US market. From 8.5 million units sold in 1978, the US industry sold 5.8 million in 1980. Over the same period, when most other foreign producers experienced little in the way of gains in the US market, Japanese auto producers increased their shipments to the US from 1.5 million to nearly 2 million units. Even though, as we have already seen, foreign competition was not the most significant of the industry's problems, trade policy was politically ideal. The focus on foreign competition directed political attention away from problems of the industry's own making while simultaneously emphasizing the need for more flexibility from the government on domestic regulatory issues and from labor on both compesation and work rules. The emphasis on unfairness encouraged wider support in both government and civil society. Finally, protection was expected to have the effect of disciplining Japanese firms to participate in the US regime, with the additional benefit of tariff-induced transfers from consumers to producers. In this situation, it is hardly surprising that the industry sought protection from Japanese competition.

Labor's support for protection is less understandable in the broader political-economic context developed in this section. Other things being equal, labor could expect to share in the increased rents accruing to the industry, whether transferred from US consumers or Japanese producers. Furthermore, the increased protection was expected to increase the share of Japanese sales in the US market sourced from local production facilities--long a priority of the UAW under the assumption that such facilities would be organized by the union. However, both of these expectations relied on more basic assumption that the auto regime would continue to function more-or-less as it had prior to the late-1960s. But we have seen that this assumption was, to a considerable extent, falsified by later events. The industry used Japanese competition as a justification for extracting concessions from labor that reduced its share of rents in the short-run and weakened its bargaining position in the long-run. At the same time, many of the new Japanese facilities were not unionized, further reducing UAW influence on

the auto regime. Finally, the political focus on trade protection seems to have weakened labor's long-standing drive to increase plant and industry regulation by government.[69] Nonetheless, given the UAW's strong support for protection after a long history of active opposition, we must conclude that their evaluation of the benefits (in terms of increased rents and industry expansion) exceeded their evaluation of the possible costs.

The discussion of this section provides some insight into why the auto regime crisis beginning in the late-1970s came to be defined politically as a trade adjustment crisis in the face of compelling economic evidence that international competition was not the primary source of the industry's problems. While Japanese auto producers may not have constituted a fundamental threat to the existence of US auto producers, they did constitute a fundamental threat to the political-economic regime that regulated relations in the auto sector of the US economy. In addition to responding directly to the most serious threat to the auto regime, defining the crisis in that regime as a trade adjustment crisis had the added benefit to the firms of justifying an attempt to reconstitute the labor-management system of the regime that had preceded the trade shock by at least a decade and of making labor an ally in the politics of adjustment. The next section provides a further illustration of this logic by considering the extension of the auto regime on a continental scale.[70]

VI. Regulating the Japanese in the North American Market: APTA, CUFTA, NAFTA

The story of the auto industry's role in North American integration is interesting in its own right as well as with respect to the light it sheds on the issue of adjustment to crisis in the auto regime induced by Japanese competition. In the heat of the recent politics of the North American Free Trade Agreement (NAFTA), the rhetoric on all sides of the issue often lost sight of the facts that many US

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[69] Labor's attempts to increase the government's presence in the workplace can be understood, in part, as an attempt to shift the balance of power in capital-labor bargaining. See Noble (1986) for an extremely useful discussion of the politics of OSHA.

[70] We will focus on the US-Canada case because there is a longer history of active political-economic involvement by the industry and because it is more interesting from the regime-theoretic perspective adopted in this paper.

industries (including the auto industry) were already operating on a continental scale and that international political frameworks for such integration were already in place for auto trade from 1965 under the Automotive Products Trade Agreement (APTA) and for trade and investment more generally from 1988 under the Canada-US Free Trade Agreement (CUFTA).[71] APTA, and the politics related to APTA through the 1970s, resulted from political-economic strain on the periphery of the auto regime, but with the entry of the Japanese into the North American market the key participants in the regime became active participants in the politics of CUFTA and NAFTA.

For all of the usual reasons (from national pride, through employment, to balance of payments/ foreign exchange preservation) the Canadian and Mexican governments have both adopted import-substitution policies with respect to both final auto assemby and the production of original equipment ("parts"). In both countries these policies were implemented with high tariffs and high domestic content requirements. Furthermore, in both cases the governments were concerned to develop a local parts industry because of high value-added in first-tier supply.[72] Thus, for example, prior to 1962 the Canadian government levied a 17.5% tariff on finished autos and parts, but suspended the tariff on parts if the part was not produced in Canada and 60 percent of the factory cost of the final product was produced in Canada. Certain key parts (e.g. engines, automatic transmissions, brake linings, piston facings) faced a tariff of 25% regardless of whether or not the content provision was met. Since both markets were perceived by producers to be potentially lucrative markets at some point in the future, all three US majors had established themselves in both Canada and Mexico (with AMC also investing in Canada). The result in both markets was the same, straightforward extension of the oligopolistic regime with inefficient production (due to levels of output at below efficient scale) sold at high prices yielding relatively high profits. All major participants in the regime found this a satisfactory arrangement: the

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[71] Implementing legislation for CUFTA was passed in late-1988 with a 10 year phase-in period. Thus, the full effects of CUFTA regime were not to be felt until 1998. It is, of course, true that these agreements apply only to trade and investment between the US and Canada.

[72] "First-tier supply" refers to the assembly of components into major sub-assemblies that are then combined to produce the completed automobile.

firms protected the stability of the oligopoly at satisfactory levels of profit; the unions and parts producing firms were not forced to compete across national boundaries; the governments of the Canada and Mexico had national auto industries at no apparent cost to the the US government.[73]

As a result of increased competition from European (especially British) auto producers in the 1950s the Canadian government became increasingly concerned with the competitiveness of the Canadian auto industry:

> Automobile and parts production being an important source of income and employment, and the national car having become in many people's eyes a sign of industrial adulthood and a fetish of national identity, the difficulties of the Canadian automotive industry naturally elicited a variety of schemes for improving the situation. (Johnson, 1963, pg. 212)

It was clear at the time that the essential problem was that Canadian producers were producing virtually the same range of products as they did in the US at inefficiently small scales.[74] At the same time, the Canadian auto unions were lobbying aggressively for a government response that would protect employment in the industry. As a result, the Canadian government sought to improve the efficiency (and thus competitiveness) of Canadian auto production while increasing the level of production and employment in the auto sector.[75] To pursue these goals, the Canadian government opted for a scheme in which parts imports would be permitted as long as the producer: 1) increased its exports by an

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[73] Of course, the losers were the Canadian and Mexican consumers who paid a substantial premium on autos for the questionable benefit of having a national auto industry.

[74] Using White's (1971) estimate that minimum efficient scale for an assembly plant producing a single model was about 200,000 units per year and that a firm would want to produce at least two models, Fuss and Waverman (1992) use the fact that in 1961 five firms were producing 327,000 autos to conclude that, "The total output of the Canadian assembly industry in 1961 was less than White's estimate of m.e.s. for a single firm, and less than White's estimated m.e.s. for two plants" (pg. 172).

[75] The explicit commitment to protection of the industry was justified on the grounds that since government policy had now created the conditions for extensive employment in the auto sector, it would be "socially irresponsible to adopt any policy which might lead the its drastic contraction" (*Royal Commission on the Automotive Industry Report* [Bladen Report, 1961], pg. 48). This justification led Harry Johnson to comment: "Some day, someone should write an essay on the concept of responsibility in Canadian public life; suffice it to remark here that the implied doctrine that no mistakes should ever be admitted, and no errors ever corrected, if anyone might be hurt thereby is an exceedingly poor basis for intelligent policy-making, especially in an allegedly free-enterprise economy, and a perfect recipe for the preservation and augmentation of wasteful inefficiency and the strangulation of economic growth." (Johnson, 1963, pg. 213.) Wonnacott (1965) offers a somewhat kinder evaluation of the Bladen plan and of the policy actually adopted.

amount equal to the value of the imports; and 2) increased the input of other Canadian parts to maintain the 60% domestic content. Initially (1962) this sceheme was applied only to imports of engines and transmissions (both subject to 25% duty), but in 1963 the scheme was extended to encompass all imports of autos and parts.

While this policy had the intended effect of permitting Canadian firms to rationalize production while expanding employment and output, its effect on the North American auto regime was not so positive. Because final assembly firms "paid" for their increased imports by exporting to the US, the segregation of national markets was broken down, and with it the universal acceptance of the regime by active participants. The arrangement continued to be acceptable to the final assembly firms, which were now able to arrange production somewhat more efficiently. Similarly, the arrangement met the Candian-UAWs concern that any policy to increase competitiveness should not result in economic losses to its membership, and it did not affect the core membership of the US-UAW. However, a number of parts suppliers in the US experienced increased competition from Canadian parts producers as the North American majors substituted Canadian parts in US production to "pay" for the export of US produced engines and transmissions. As a result, US parts producers began to complain to Congressional representatives and, in April 1964, Modine Manufacturing (a producer of radiators) filed a countervailing duty suit with the Treasury department alleging that the Canadian rebate scheme constituted an export subsidy.[76] An affirmative finding would have put the US government on a collision course with the Canadian government, because the countervailing duty would have offset the Canadian scheme undermining their auto policy.[77] Although the US major producers all supported the Canadian policy, and the US government (with the possible exception of the Commerce Department) hoped to avoid levying duties, most experts were of the opinion that Modine's suit would be successful. In the context of the Kennedy round of negotiations, the Executive would have found it difficult to veto the

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[76] Recall that, at this time, it was not necessary to prove injury to have a countervailing duty imposed.

[77] See Keeley (1983) for a detailed description of the politics of both the duty remission scheme and the APTA.

recommendation for countervailing duties. While the Canadian government did not want to withdraw its auto policy and could not politically afford to be seen to knuckle under to US pressure, it obviously wanted to avoid a trade war.

Thus, under a deadline imposed by the countervailing duty process, the US and Canadian governments negotiated the APTA. The agreement that was finally negotiated was not a free trade agreement, but an asymmetric arrangement that essentially allowed the Canadian government to pursue its policy of rationalization and expansion of the Canadian auto industry without threat of US administered protection. Specifically, the US agreed to permit duty free access of Canadian produced autos and parts if they met a 50% North American content requirement.[78] On the other hand, for duty free access to Canada, auto makers were required to: 1) maintain the same ratio of Canadian produced autos to Canadian sales as prior to APTA (and specifically not less than 75%); and 2) maintain the level of domestic content that obtained in 1964. In addition, the Canadian government sought agreement to a 6% annual increase in Canadian output. However, the US government found such a proposal unacceptable as part of an official agreement. As a result, the Canadian government negotiated side agreements in the form of letters of agreement with the major producers that they would: 1) increase Canadian value-added by at least 60% of any growth in Canadian sales; and 2) increase Canadian valued-added by an additional C$260 million above the 1964 level, and above that necessary to meet the growth agreement, by 1968.

Keohane and Nye (1977, pg. 207) report a comment by an American official to the effect that, "We knew about the Canadian plan to blackjack the companies, but we expected them to be better bargainers." But, of course, this misses the point. The firms were perfectly satisfied with this arrangement. The problem was not the firms, but the conflicting expectations of the US and Canadian

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[78] Recall that we are using "parts" to refer to inputs for original equipment, not replacement parts. The latter were excluded from the arrangement completely because it proved impossible to find a formula that was satisfactory to US and Canadian parts producers simultaneously.

governments.[79] The US government saw the Canadian safeguards as a temporary expedient intended to ease the transition to genuine US-Canadian free trade in automotive products, while the Canadian government saw the safeguards as a permanent part of a market-sharing agreement which was itself part of industrial policy for the auto industry. Although the US government regularly expressed dissatisfaction with Canada's unwillingness to phase out the safeguards, there was no pressure from the industry and, so, the safeguards stayed in place.

Under the APTA the US majors were, in fact, able to rationalize Canadian production. The number of different models produced in Canada and, more importantly, the number of models produced in each Canadian factory, were dramatically reduced.[80] It took the shock of Japanese entry into the North American market, and especially Japanese foreign direct investment, to produce active lobbying by the major auto producers and the US UAW. We have already seen that US protection, along with equivalent protection in Canada, led to decisions by the major Japanese producers to invest in the North American market. The attempt to regulate such investment in a manner consistent with oligopolistic control of the North American market encouraged the Auto producers to become pollitically active in an issue that would pit the US against the Canadian auto workers' unions (ultimately resulting in secession by the Canadian auto workers and the formation of a new Canadian Auto Workers [CAW] union) and the US against the Canadian government.[81] Where the unions and the governments were primarily concerned with maximizing national shares of any new production or employment, the auto firms wanted to socialize the Japanese firms into the ways of the local oligopoly...as junior partners. As

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[79] In addition to Keeley (1983), see Wonnacott (1987) for a useful discussion of the conflicting expectations of the US and Canadian governments with respect to APTA.

[80] Fuss and Waverman (1993) argue that, while there were efficiency gains from North American liberalization of auto trade, much of the expansion of Canadian auto production would have occurred in any case as a result of a growing market, a falling Canadian dollar, and relatively low costs of capital, labor and inputs. However, Fuss and Waverman's analysis does not take into account the fortuitous, for the Canadian industry, decision to specialize Canadian production facilities in new, small cars that were to be an essential part of the US industry's response to Japanese imports. In any event, the core participants in the North American auto regime continued to be satisfied with its functioning.

[81] See Yates (1993) for a useful discussion of the labor politics of North American auto integration.

a result, where the main issue for the national unions and governments related to Canadian attempts to use the duty rebate scheme to encourage Japanese investment in Canada, the firms were more interested in defining the domestic content rules/rules of origin to their advantage.

Where the Canadian duty rebate program of the early 1960s elicited objections only from the periphery of the auto regime (parts manufacturers), when Canada reintroduced rebates of duties on imports from Japan in exchange for Japanese exports *to the US*, in 1984-1985, during a period of auto regime crisis, the response by the US UAW and the US government was immediate. Although, as Wonnacott (1987) points out, the countervailing duty channel was no longer available since it was not clear that the US industry could show injury under the new Title VII regulations, the US government sought to change the auto regulations through the negotiations on the broader CUFTA. The primary goals of US negotiators, with respect to autos, were: to construct a system with more symmetrical obligations for Canada and the US; and to move toward regional free trade in autos. In addition, the US majors and the UAW lobbied for stronger controls on Japanese firms producing in the North American market. The US was successful with respect to all three goals:[82] The CUFTA calls for duty-free trade between the US and Canada in autos and parts following a 10 year phase-in. Because the tariffs created the barrier that made the duty remission an effective policy, the move to free trade in automotive products essentially accomplishes both of the first two goals. That is, US auto and parts producers could theoretically shut down Canadian operations and serve the Canadian market duty free from the US as long as they meet CUFTA rules of origin. The only remaining reason to retain APTA producer status would be to be able to import third country automotive products into Canada duty free. With respect to the last goal, after a phase-in period, the CUFTA prohibits the introduction of new duty waivers and the granting of APTA producer status to any firm that did not already have such status.[83]

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[82] See Johnson (1993) for a detailed discussion of the effects of CUFTA on the rules regulating US-Canada auto trade. The USITCs report on rules of origin issues in NAFTA (USITC, 1991) provides a convenient short discussion of these issues with a detailed discussion of rules of origin.

[83] Export-based duty remission must end by January 1, 1994, and production-based duty remission by January 1, 1996.

Thus, unlike US majors that retain APTA producer status, Honda, Toyota and Hyundai will be unable to import autos and parts into Canada from third countries (i.e. Japan and Korea) duty free, even if they meet domestic content standards (all three have production facilities in Canada). Thus, without the duty waiver, to the extent that these firms source a considerable share of inputs from third countries, they will be at a competitive disadvantage *vis a vis* the North American majors. At the same time, because producers that meet North American content requirements will have duty free access to the entire North American market. Thus, third country producers can serve the Canadian market duty free, from the US, without meeting APTA safeguard conditions.

While CUFTA will be replaced by NAFTA, the latter essentially extends the main details of CUFTA to include Mexico. Some of the details of the transition have involved minor revision (e.g. the date for ending export related duty draw-backs is pushed forward to 1996) the major change is that NAFTA rules of origin are more stringent than those in CUFTA. Thus increasing somewhat the cost of non-North American firms in competition with North American firms.

While it is extremely unlikely that Canadian, or Mexican, production of autos and parts will be completely shut down, the conditions that led to booming Canadian auto sector production and employment in the 1980s are unlikely to continue.

VII. Conclusions: The Future of the North-American Auto Industry

We have seen that during the 1970s the auto industry, unable to respond to increased competition from Japanese firms, turned increasingly to the government for assistance. In addition to regulatory relief and a variety of lesser subsidies, the industry succeeded in convincing the government to provide direct restraint on Japanese imports. As a result of continuing recession, and thus low demand for autos, the trade restraints were not binding in the first two years of the program, however, the recovery of the economy led to surging demand, employment and output. In addition, the industry was able to raise prices without fear of competition from the restrained Japanese producers. The result was historicallly unprecedented levels of profit, and equally unprecedented levels of executive compensation. At least in part as a consequence of this strategy of exploiting the protecteted market,

when imports squeezed Big 3 profits in 1985 and then when the market turned down again in 1986, the reservoirs of public sympathy were considerably lower.[84] Unfortunately for protectionists, Japanese import quantities also turned down sharply in 1987 (see chart 13A), and although the Japanese government announced continuing observance of a 2.3 million unit voluntary restriction in 1988 and 1989, this was not even close to binding.[85]

Through the mid- and late-1980s the Japanese increasingly served the North American market from North American production facilities. As a result, where Japanese exported only 1.73 million autos and light trucks to the US in 1991, their North American facilities sold 1.3 million units. Furthermore, this period also saw substantial increases in North American investment by Japanese parts producers. Thus, when sharp drops in sales in 1990 and 1991 led to sharp reductions in employment and large losses at GM and Chrysler, simple trade restrictions would accomplish neither the short-term goal of protection, nor the longer-term goal of imposing regime discipline on foreign competition. The Bush administration, facing what appeared to be only modest reelection pressure, offered a scheme based on marginal adjustments in antitrust and trade enforcement. Specifically, the Justice department announced that it intended to enforce US antitrust laws against the US operations of Japanese firms, with particular reference to the relationship between auto assemblers and their parts suppliers. In addition, the US Customs Bureau ruled that autos produced by Honda in Canada did not contain sufficient domestic content to enter the US duty free.[86] In the context of the NAFTA negotiations on rules of origin issues for the auto industry, this was a fairly clear signal of protectionist intent. At the

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[84] Some have argued that the industry's reduced influence in the late-1980s and early-1990s results from the reduced size of the industry--both in financial and employment terms. While the industry certainly did shrink through the 1980s, the industry remains one of the largest and most concentrated in the US economy. Similarly, while UAW membership has declined dramatically, it remains a major force, with concentrations of influence in more-or-less the same places as it had in the late-1970s. The existence of sizable Japanese producers in the US must have some influence, but their foreign ownership continues to create serious problems in projecting the influence that would normally be a correlate of their economic significance.

[85] It is interesting to note, though, that where import quantity turns sharply downward 1987, import values merely stabilize.

[86] See Palmeter (1992) for a useful discussion of the details of this fairly bizarre case.

same time, Treasury suggested changing the tariff on minivans from 2.5 percent to 25 percent. However, the industry and the UAW pushed for stronger restrictions in Congress. Representatives Gehpardt (D., Missouri) and Levin (D., Michigan) proposed restricting Japanese firms' sales to 3.8 million vehicles, including local production with local content less than 50 percent. Senator Baucus (D., Montana) proposed even stronger legislation, restricting sales to 3.6 million units with a 70% local content requirement.

The essential point, however, is that unlike the period of the late-1970s and early-1980s, the public debate involved considerably more criticism of the US firms, their management and the UAW (Stokes, 1992). High wage premiums for UAW workers and large executive pay increases combined with a continuing large quality differential between the products of Japanese and American auto firms tended to undercut public support for trade activism. When market conditions, and the performance of US firms, improved in 1993, a widely leaked plan by Ford and the UAW to file anti-dumping charges against Japanese exporters was never advanced and, although Harold Poling and Owen Bieber suggested that the ITC self-initiate such an investigation, the issue has not been pursued.[87]

Ford, Chrysler and, probably, GM emerged from the political-economic crisis of the late-1970s and 1980s as more competitive and more international. Relations with parts suppliers, the UAW and dealers are still being worked out, but appear to be moving toward new foundations that will permit both greater competitiveness and improved long-run relations. Along with substantial exchange rate adjustments, these changes have allowed the US majors to increase market share and profitability of the North American market. This will undoubtedly lead many to conclude that the trade policy activism of the 1980s was a success. But such a conclusion is based on no more than the fallacy of *post hoc, ergo propter hoc.* It seems to me that there are two broad lessons of the auto experience in the 1980s. First, competition improves performance. It was the sustained competition from efficient, export-oriented Japanese firms that produced the changes in the US auto producers that are being celebrated in the specialist auto media and the popular press today. There is not a shred of evidence that the

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[87] See *Inside US Trade*, February 26, 1993, for a report of the comments by Poling and Bieber.

innovations in organization, product and process that define the new auto industry would have occurred without that competition. Second, trade policy was not essential to improved performance. The primary effect of trade activism, during the brief period in the mid-1980s when it was binding, was to transfer rents from consumers to foreign and domestic firms.

Also of interest are two political-economic lessons. First, short of autarky, trade policy is not able to enforce a domestic sectoral regime. One of the striking things about the story told in this paper is that, while the auto industry got more-or-less what it wanted from the state, it was the US industry, not the Japanese industry, that did the adjusting. Competition in the auto industry is now global competition. Given international sourcing strategies, multinational investment, joint ventures, and captive imports, even the meaning of a "national" industry has become unclear. The US auto industry's attempt to resist this reality ultimately failed.[88] That is, the protection may have delayed the adjustment by a matter of 5 or 6 years, at considerable cost to the consumer, but the result is a global auto regime. The continued viability of GM, Ford and Chrysler depends on their ability to adjust to this new reality and to participate in the creation of a political-economic regime that does not rely on the policy actions of a single national government, even one as powerful as the US.[89]

The second political-economic lesson is that only strong, consistent executive leadership can protect liberal trading relations. The auto case illustrates extremely clearly that rhetorical commitment to free trade is far from sufficient. Without strong leadership, local interests dominate the trade policy-making process. This has always been true. One of the triumphs of the New Deal was the institutionalization in the Executive and Legislative branches of a commitment to trade liberalization. The breakdown of these institutions in Congress makes Executive leadership all the more important. One of the failures of the Reagan administration, especially by comparison to the Carter administration,

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[88] The attempts by the European industry and by Canadian labor to avoid this logic seem increasingly desperate, though both continue to fight the valiant fight.

[89] Note that I am not arguing that government intervention has no effect. Quite to the contrary. We have seen in this paper that the effects can be considerable. The point is that, in the context of large changes in a complex industrial regime, it is virtually impossible to predict consequences even if control of such a regime were possible.

was the lack of leadership on trade. The result of this lack of a systematic trade agenda, as Niskanen (1989) cogently argues, was sequential response to crises and the institutionalization for the first time in the post-War era of fair trade as the practical core of administration trade policy. The irony of recent trade policy is that, where the Democrats and Republicans in Congress switched from their traditional positions on the trade issue, with the exception of Richard Nixon (and possibly George Bush), Democrat Presidents have continued to show greater commitment to trade Liberalism than Republican Presidents.[90] Industries will continue to seek transfers *via* the trade policy process, and will continue to claim unfairness as part of their strategy. As the case of the Carter administration shows, only commitment of real political resources, as well as rhetorical commitment, can substitute for the institutions that disappeared in the 1970s.

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[90] Because he did not serve a second term, the comparison may be a bit unfair to George Bush. While he did not show the commitment of a Johnson or a Carter, Bush did actively promote the GATT process, named consistently more Liberal members to the ITC than the Republican norm, and appeared committed to resisting demands for administered protection. On the other hand, the Tokyo trip is so extreme an example of traditional Republican trade behavior as to cause one to wonder about the trade policy content of the second term. Should Clinton prove to have more in common with the Democrat party in Congress than with the Executive tradition, history may date the transition with Nixon and look on the Carter-Reagan period as the anomaly.

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Chart 1A

Auto and Manufacturing Profits

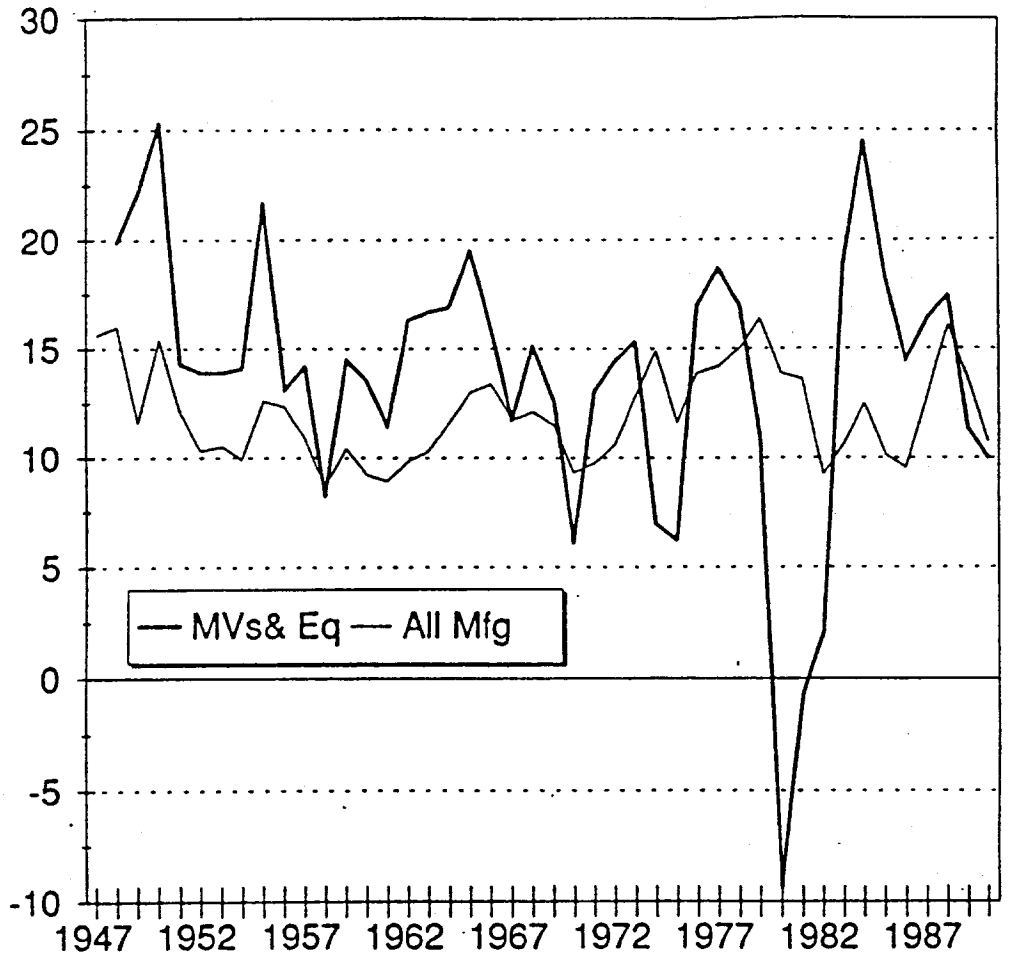

Chart 1B

Return on Assets: GM, Ford, Chrysler

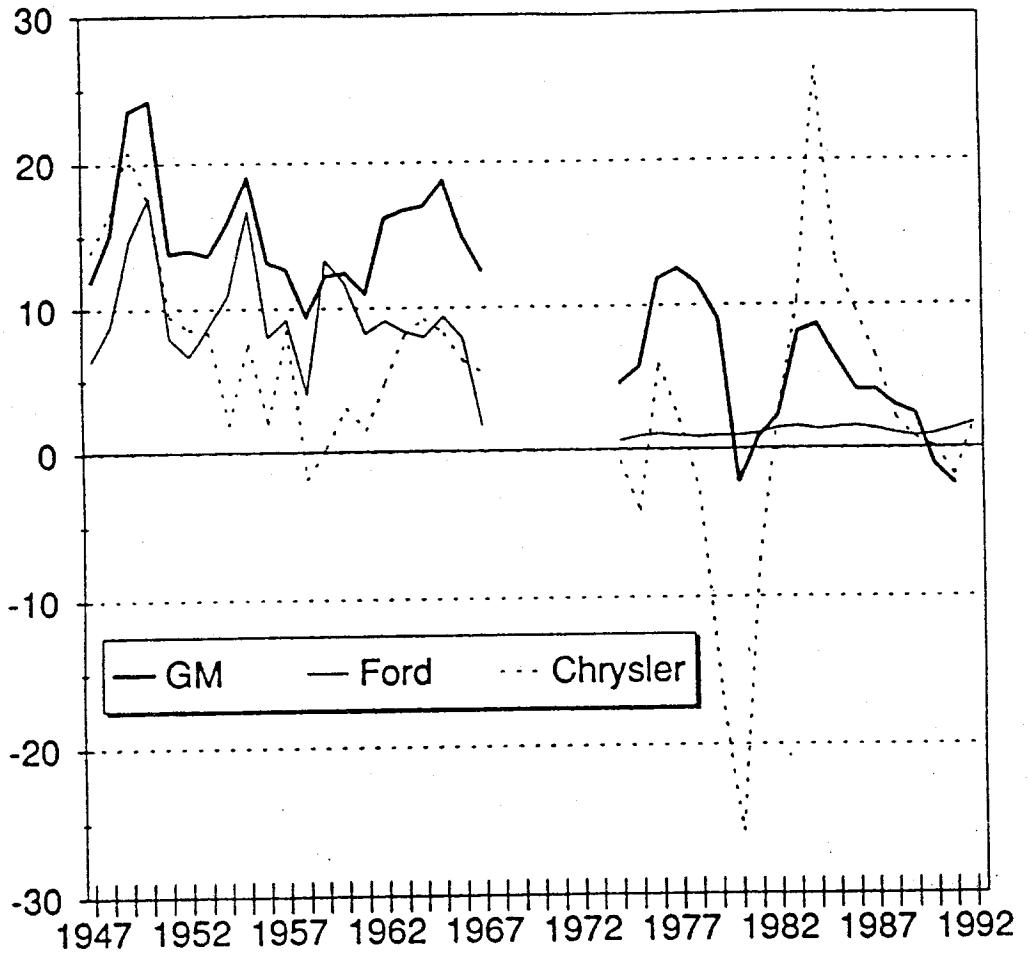

Chart 2

Shares of World Auto Production

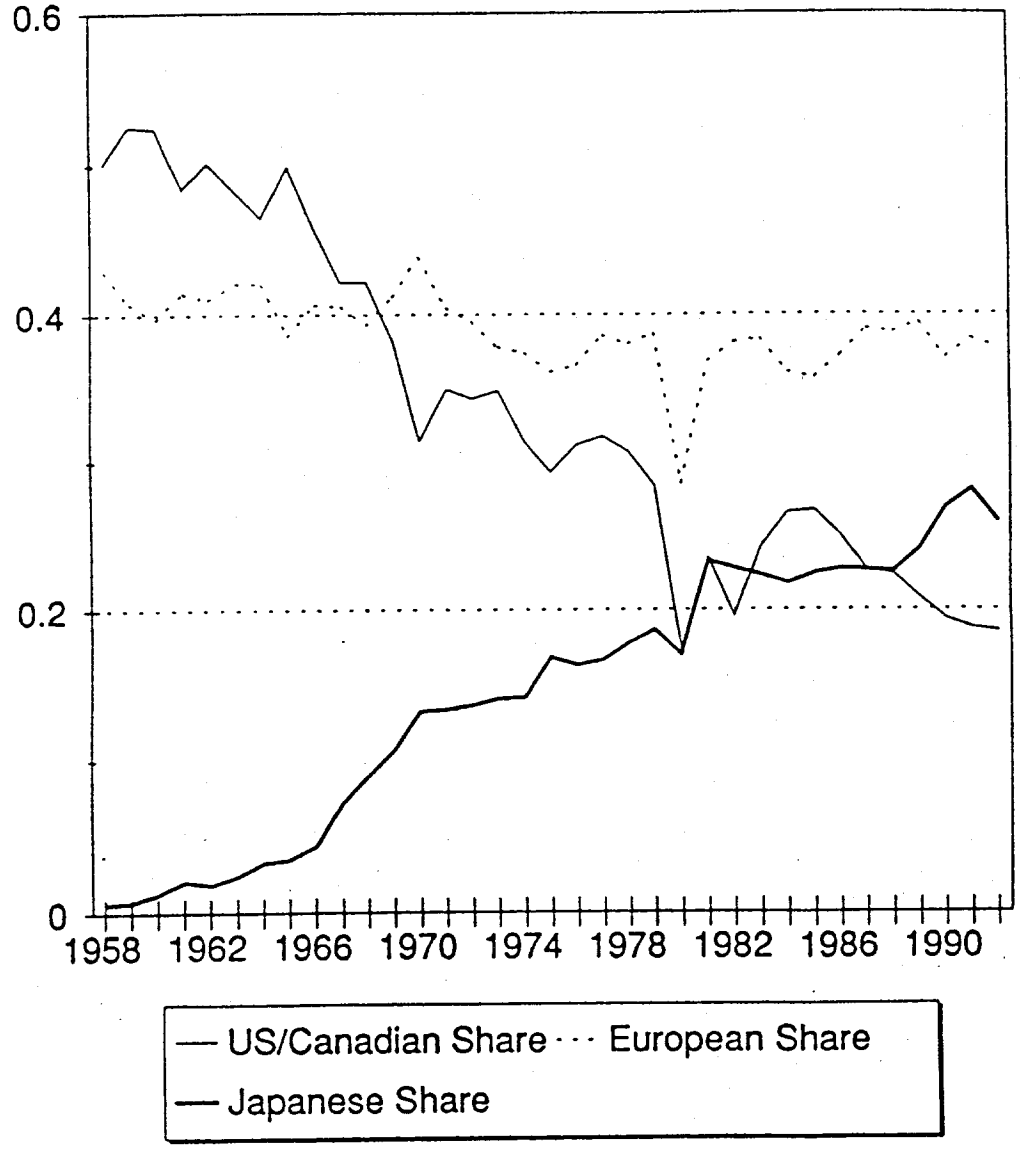

Chart 3

Capacity Utilization in Autos

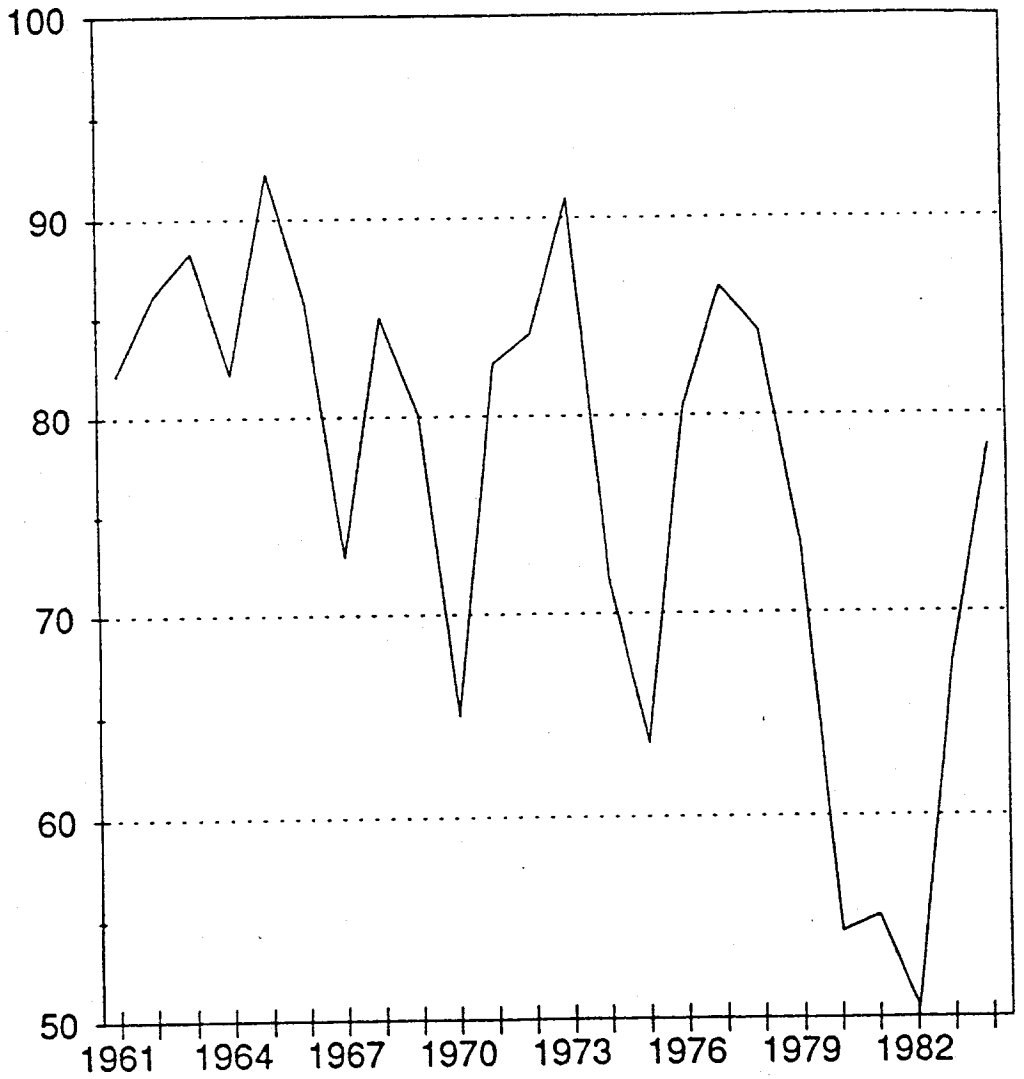

Chart 4

Employment Indexes, 1967=100

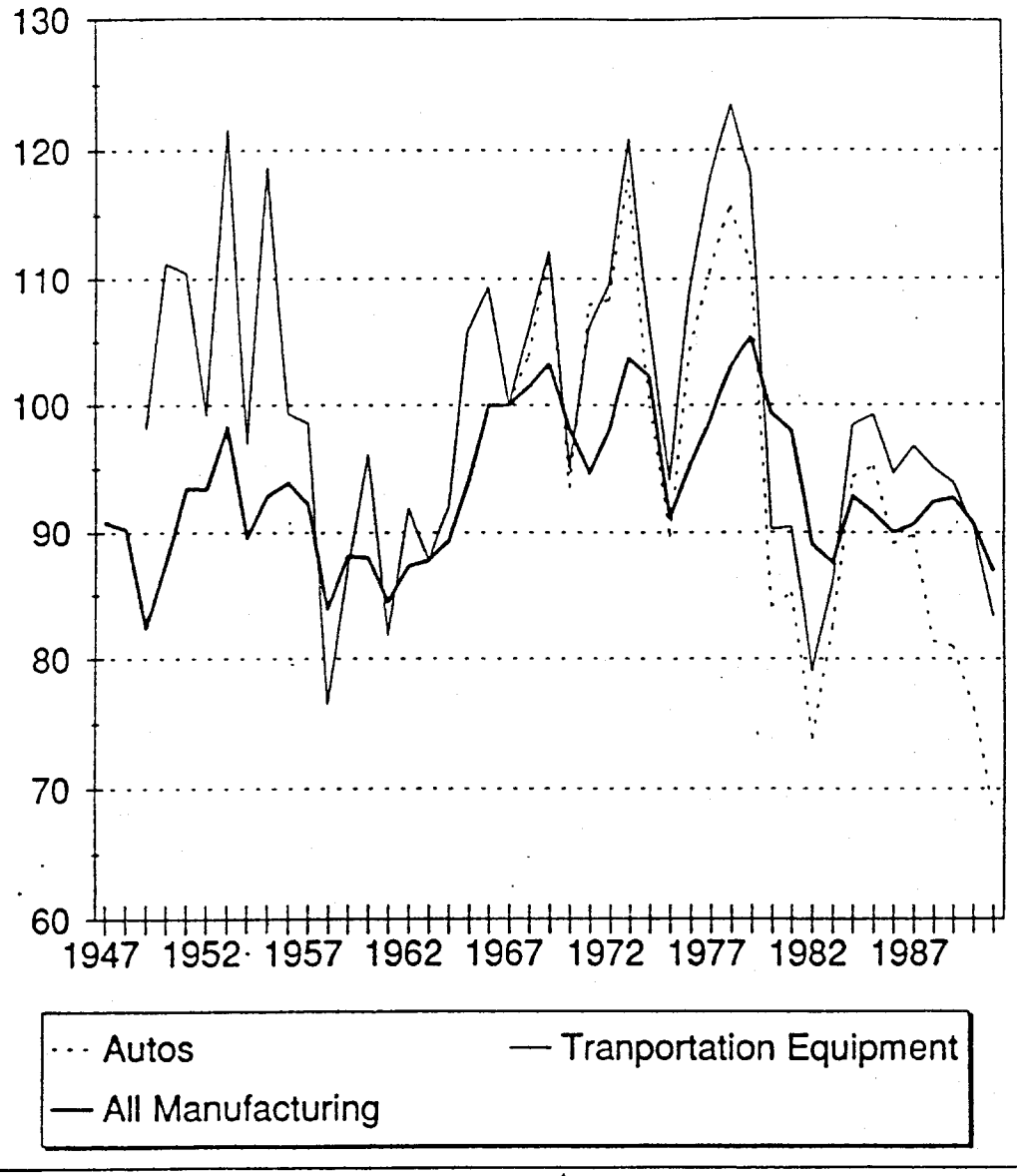

Chart 5

Production Indexes, 1665 = 100

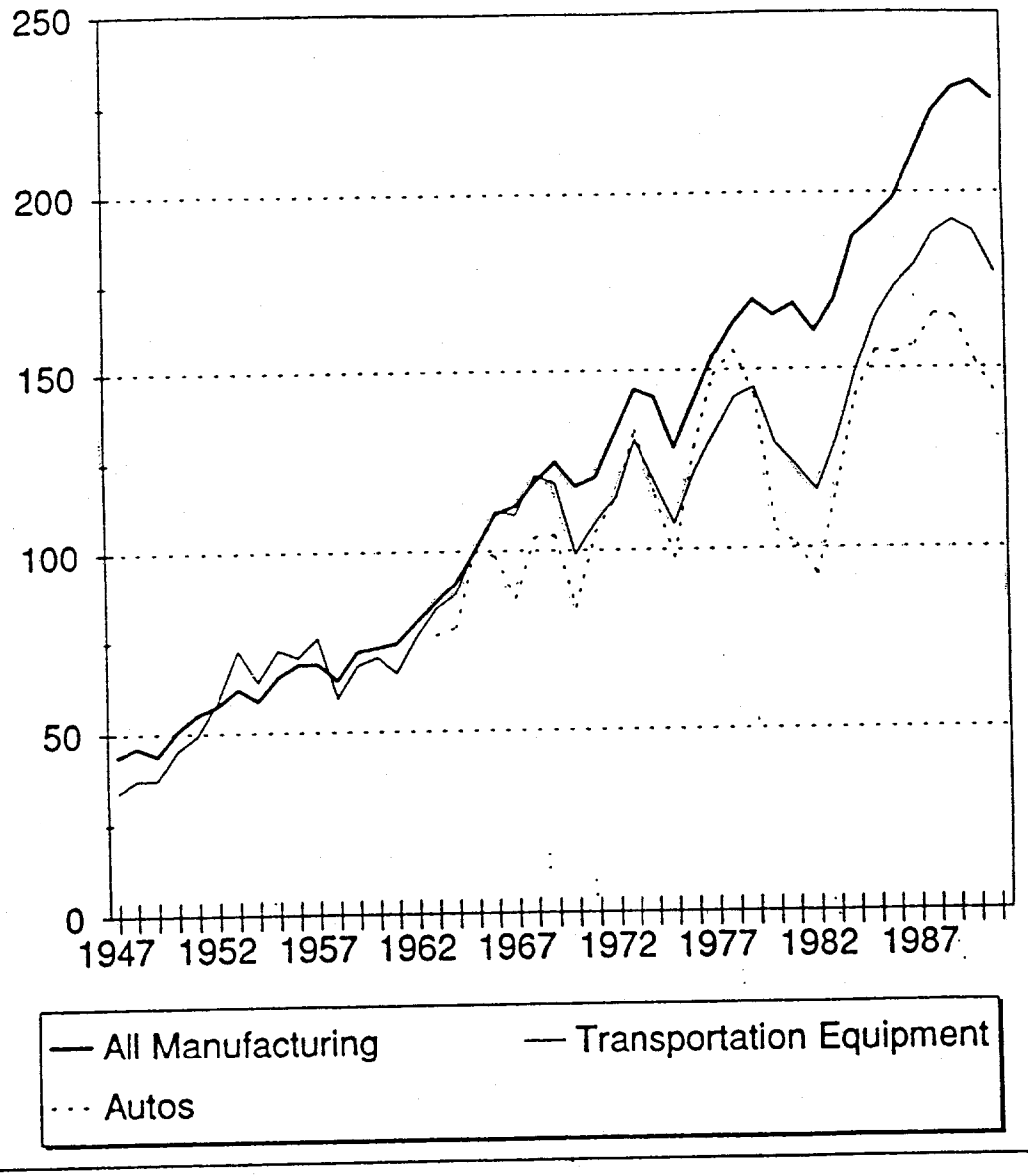

Chart 6A

Imports to Apparent Consumption--Vol

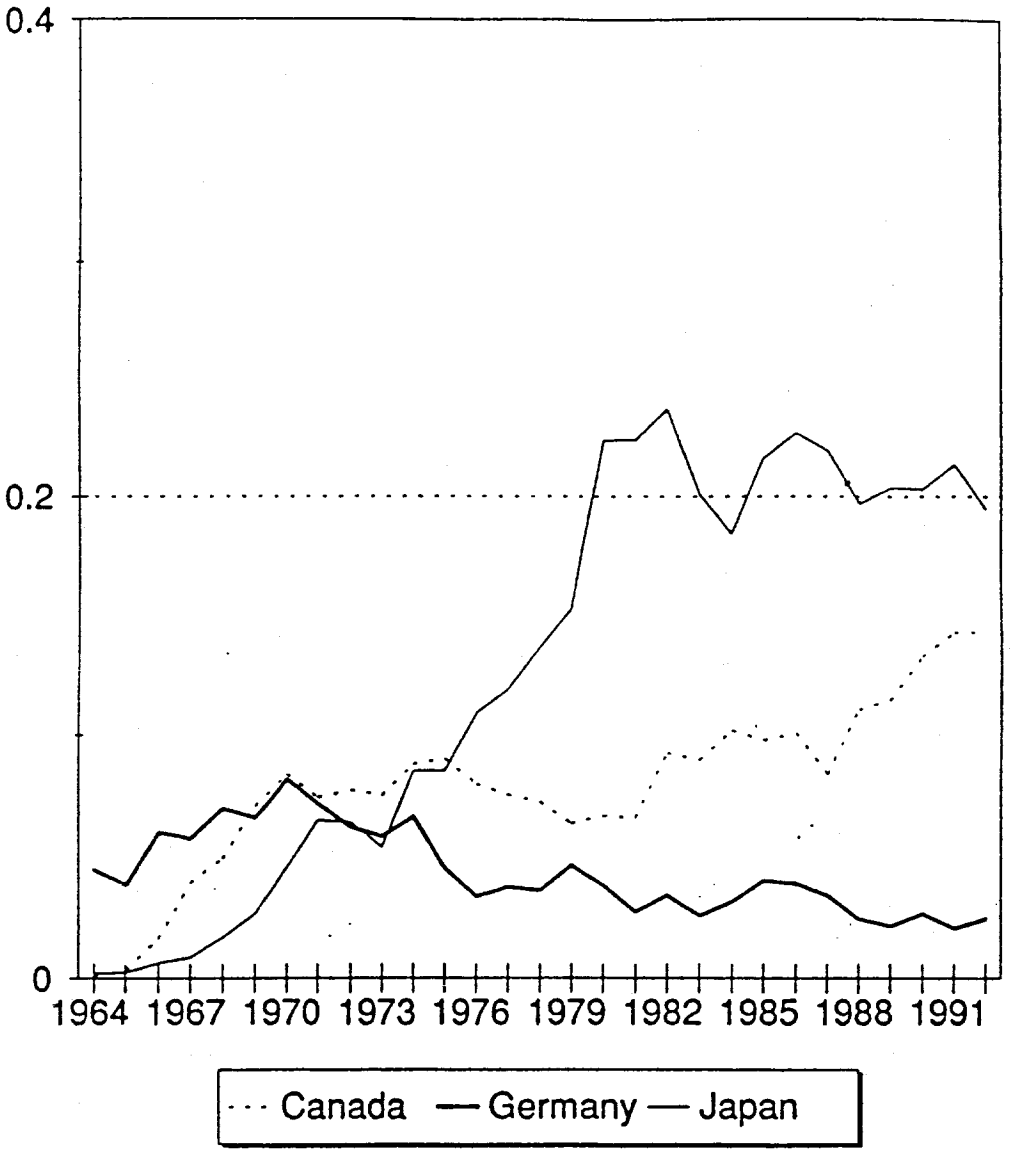

Chart 6B

Imports to Apparent Consumption--Val

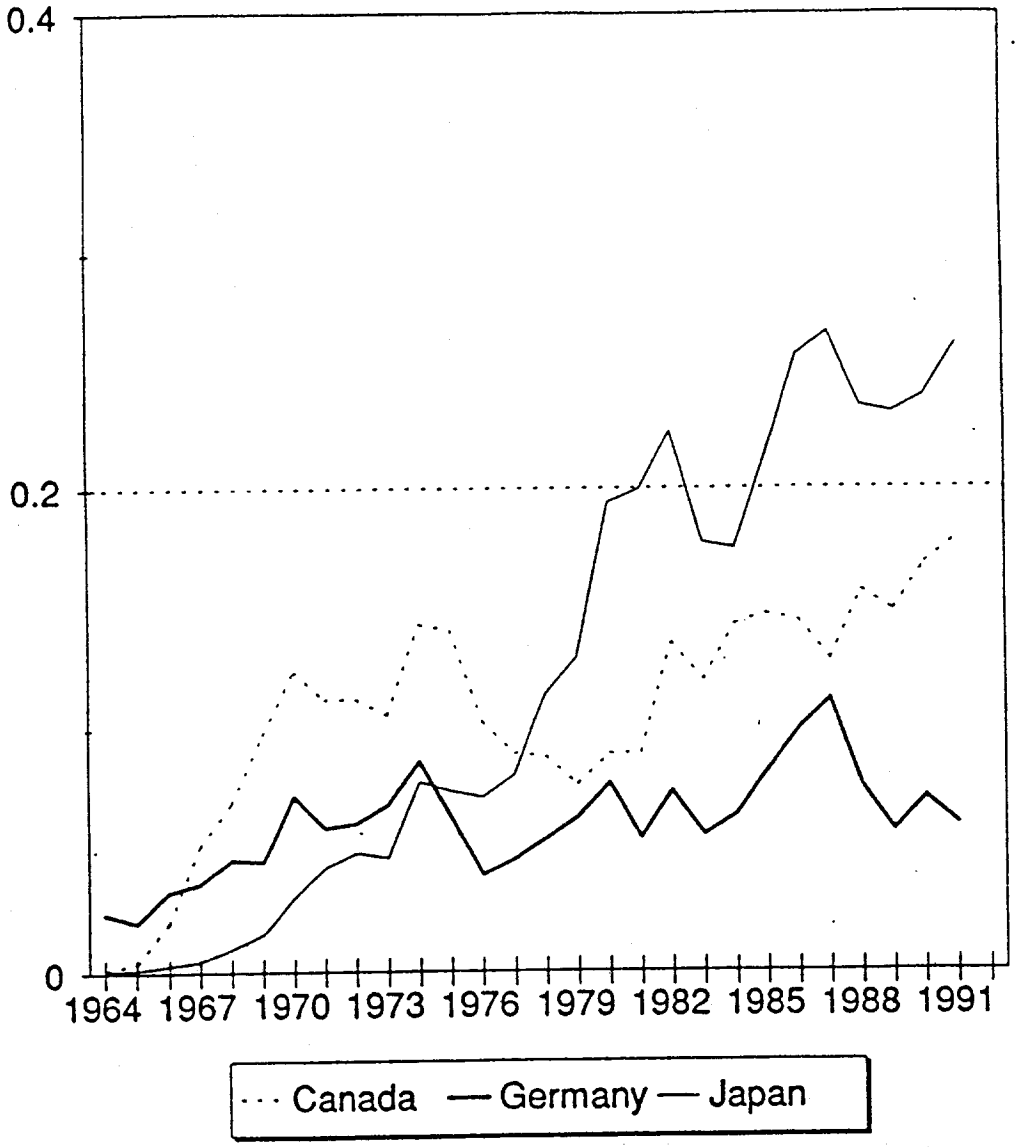

Chart 7

Imports and the US Market

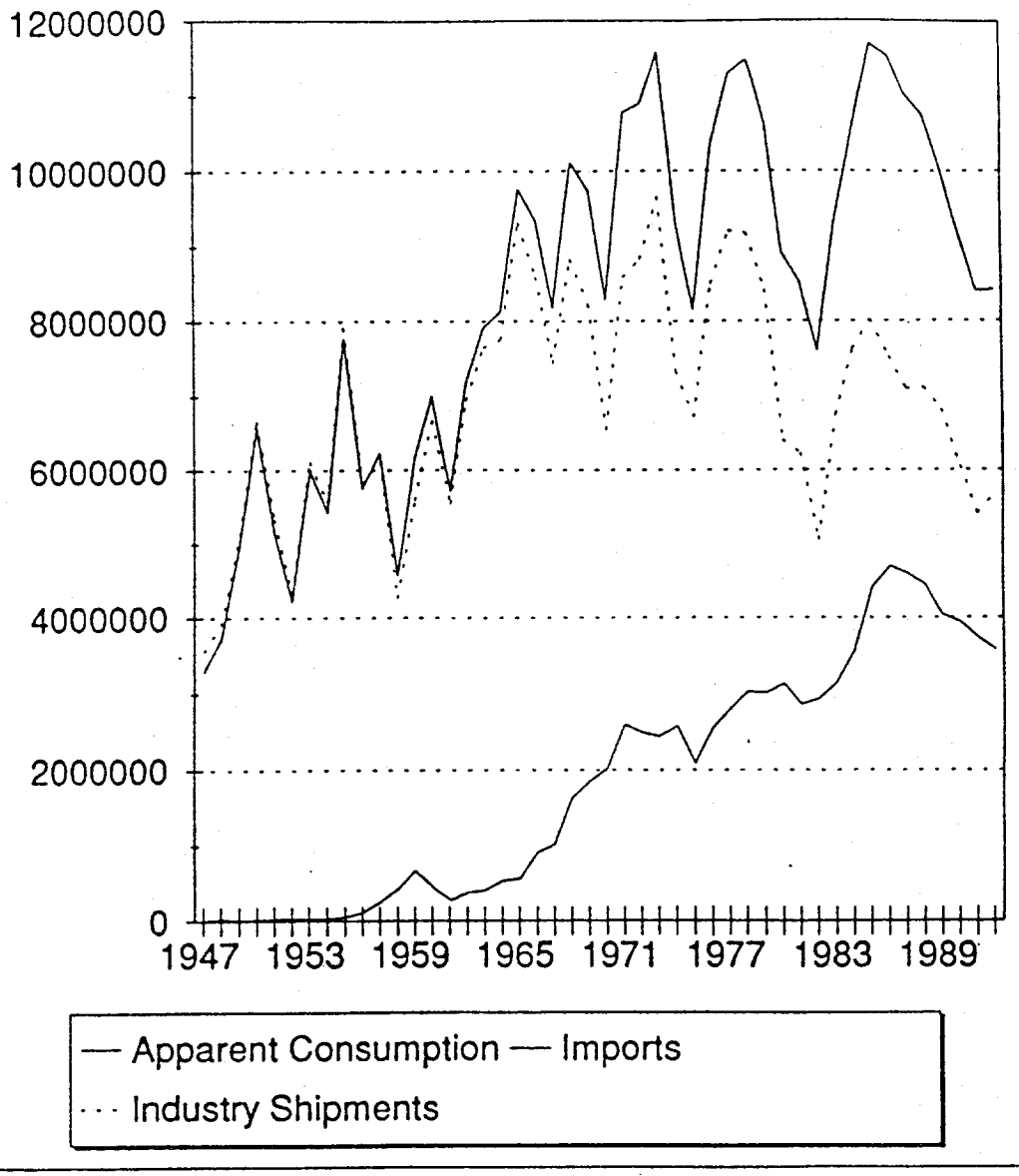

Chart 8

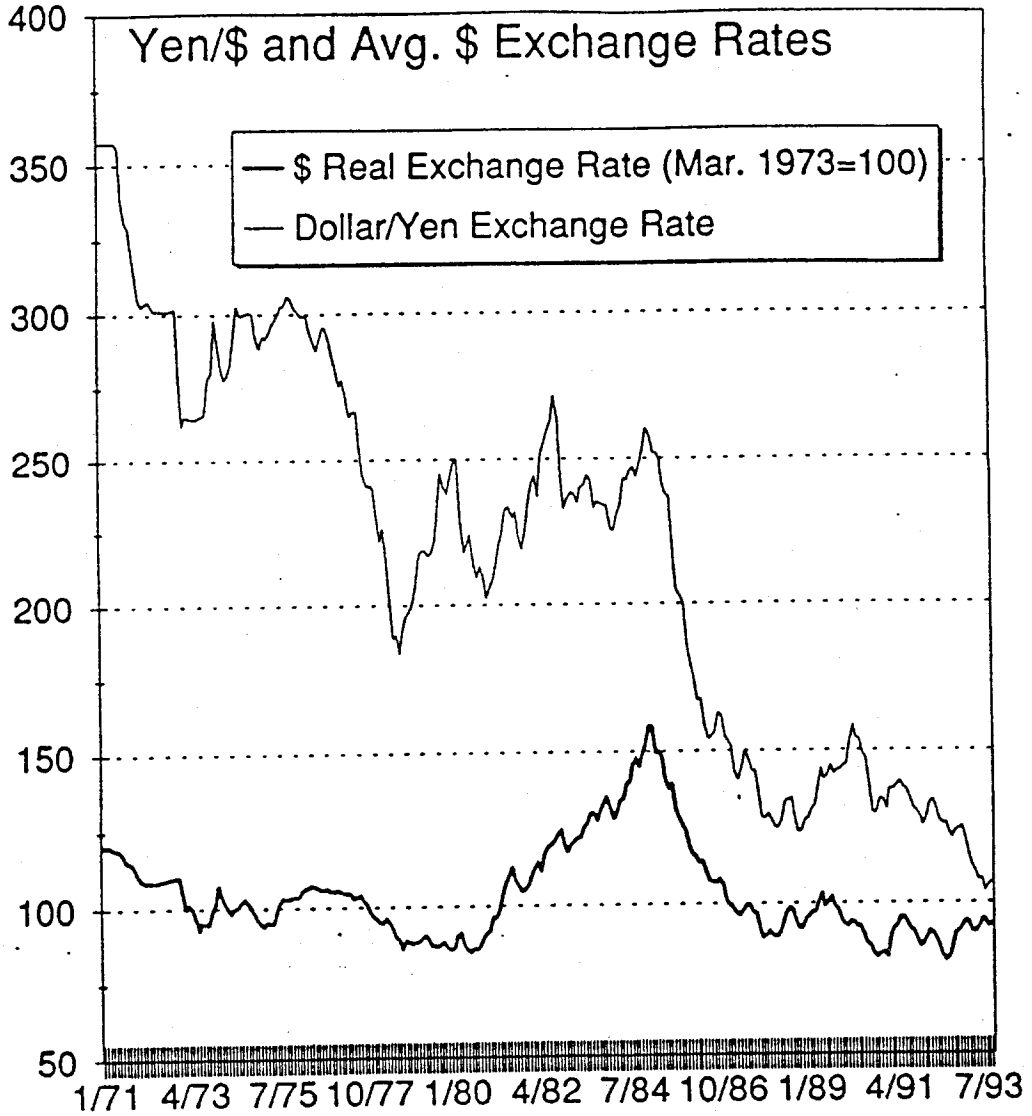
Yen/$ and Avg. $ Exchange Rates
$ Real Exchange Rate (Mar. 1973=100)
Dollar/Yen Exchange Rate
400
350
300
250
200
150
100
50
1/71
4/73
7/75
10/77
1/80
4/82
7/84
10/86
1/89
4/91
7/93

Chart 9

Labor Productivity and Cost

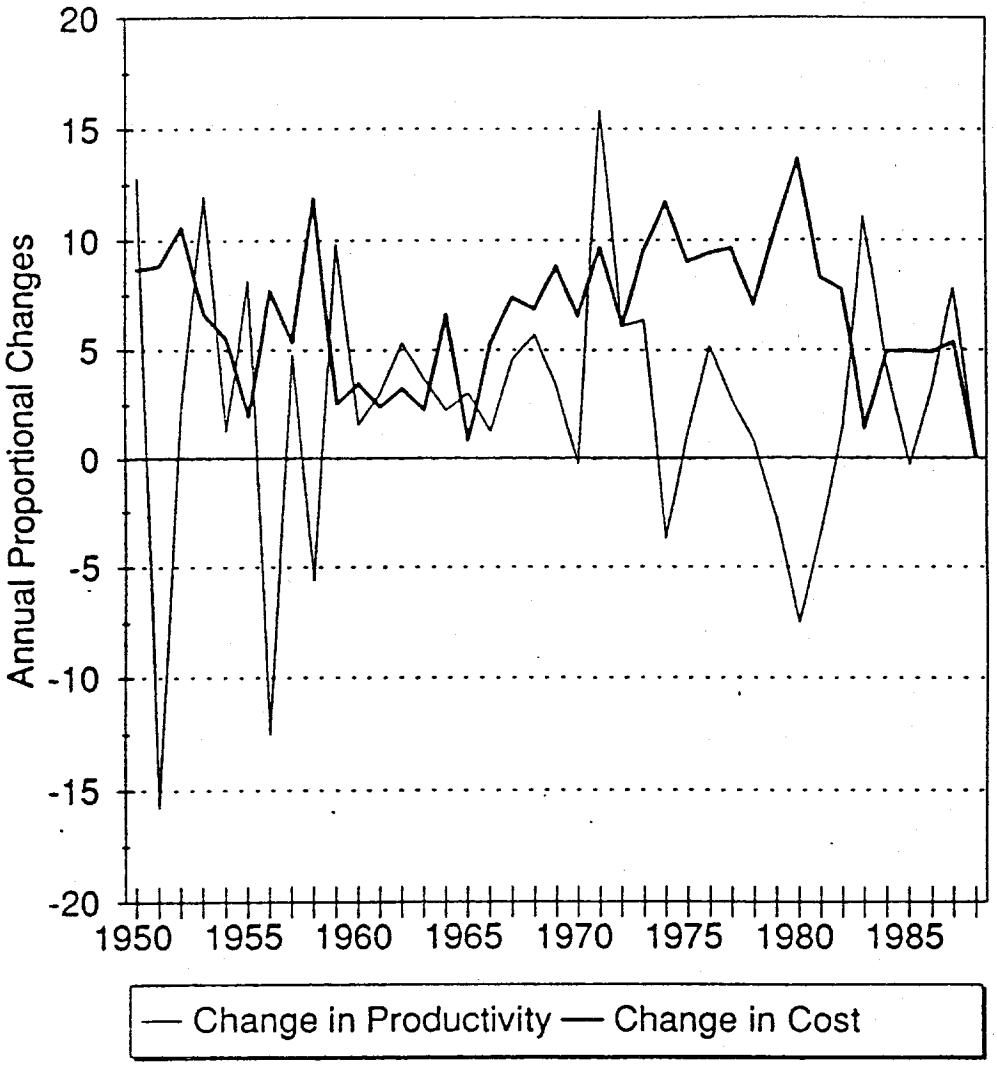

Chart 10

Auto Wage / Manufacturing Wage

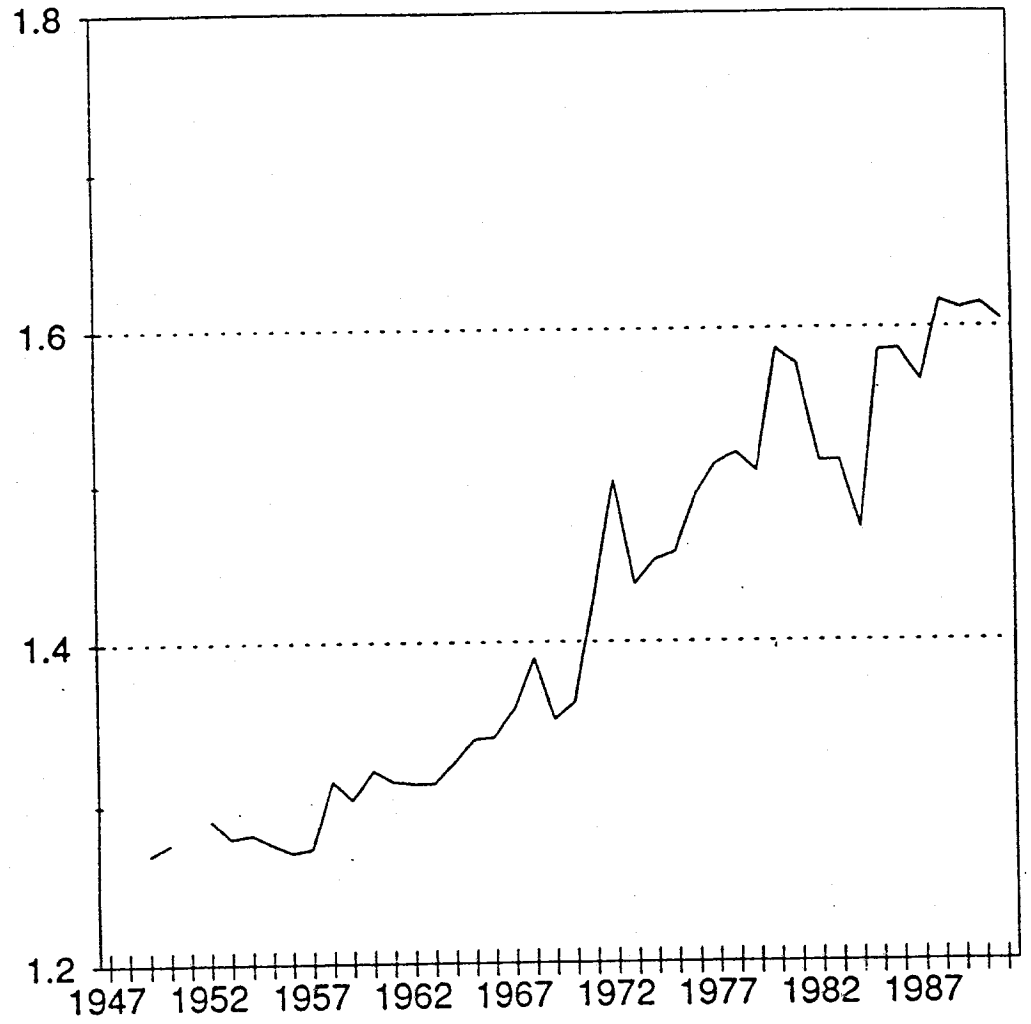

Chart 11

Annual Investment

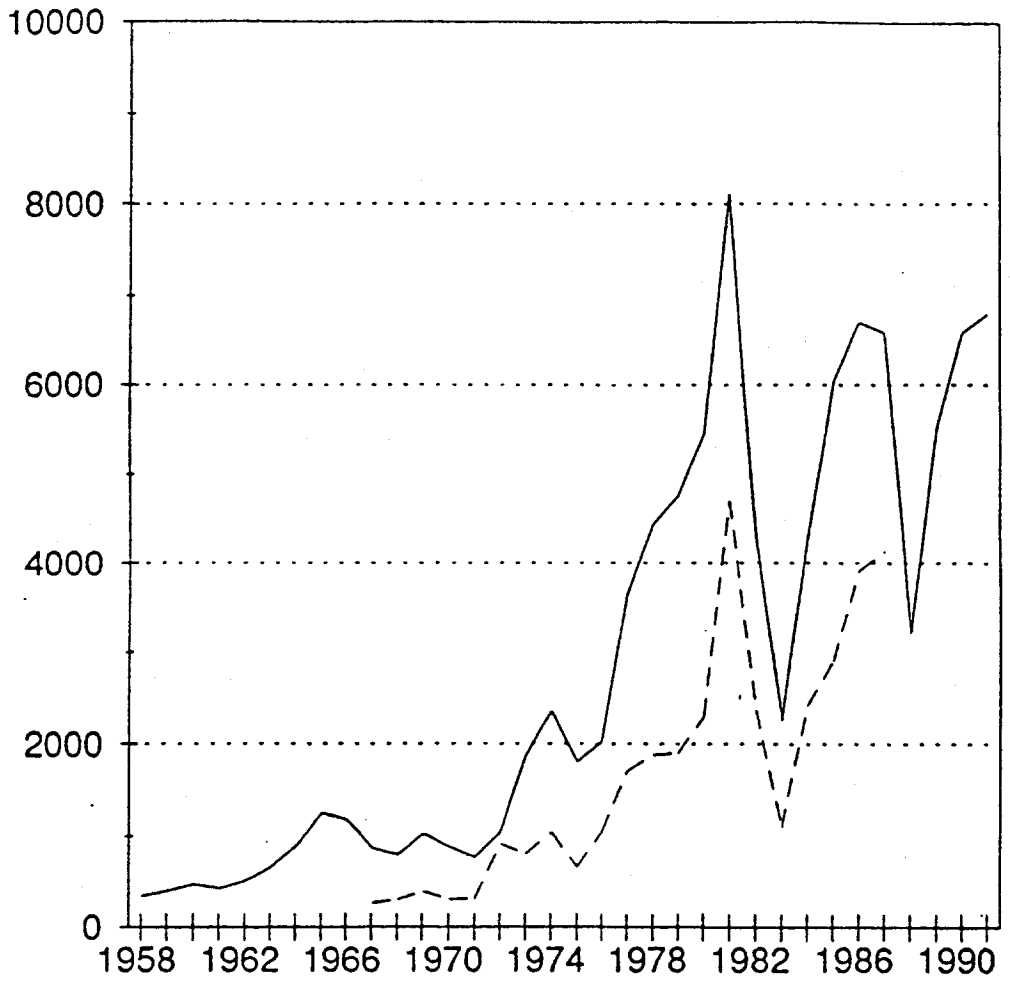

Chart 12

Change in Employment

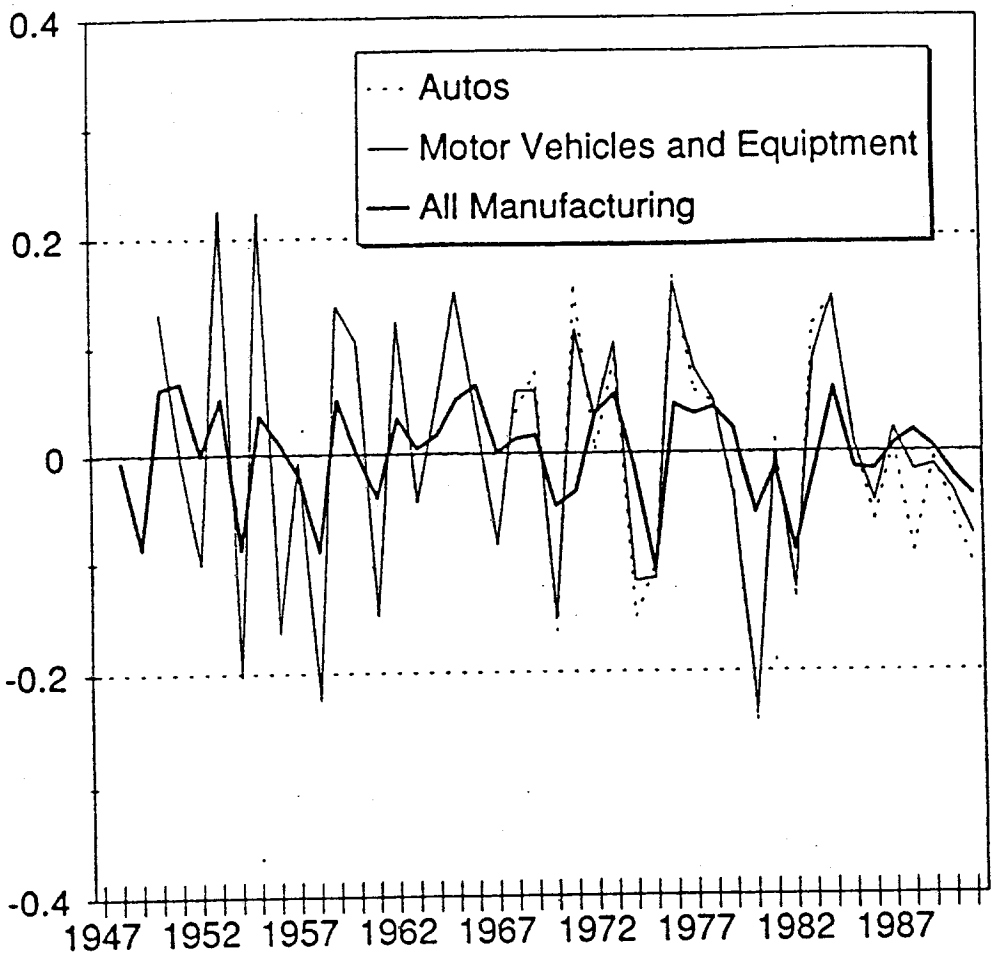

Chart 13

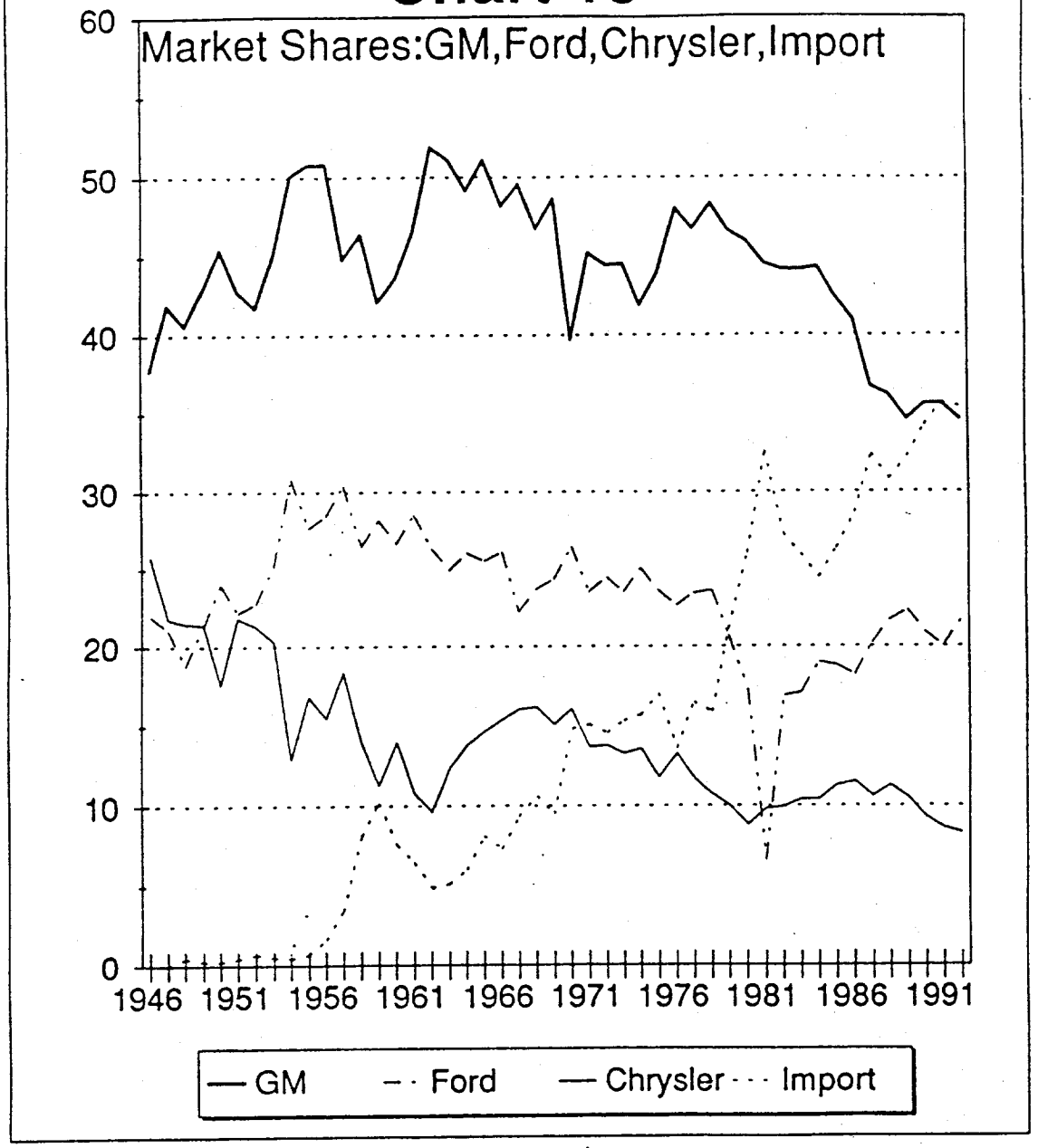
Market Shares:GM,Ford,Chrysler,Import
60
50
40
30
20
10
0
1946 1951 1956 1961 1966 1971 1976 1981 1986 1991
GM
Ford
Chrysler
Import

Chart 14

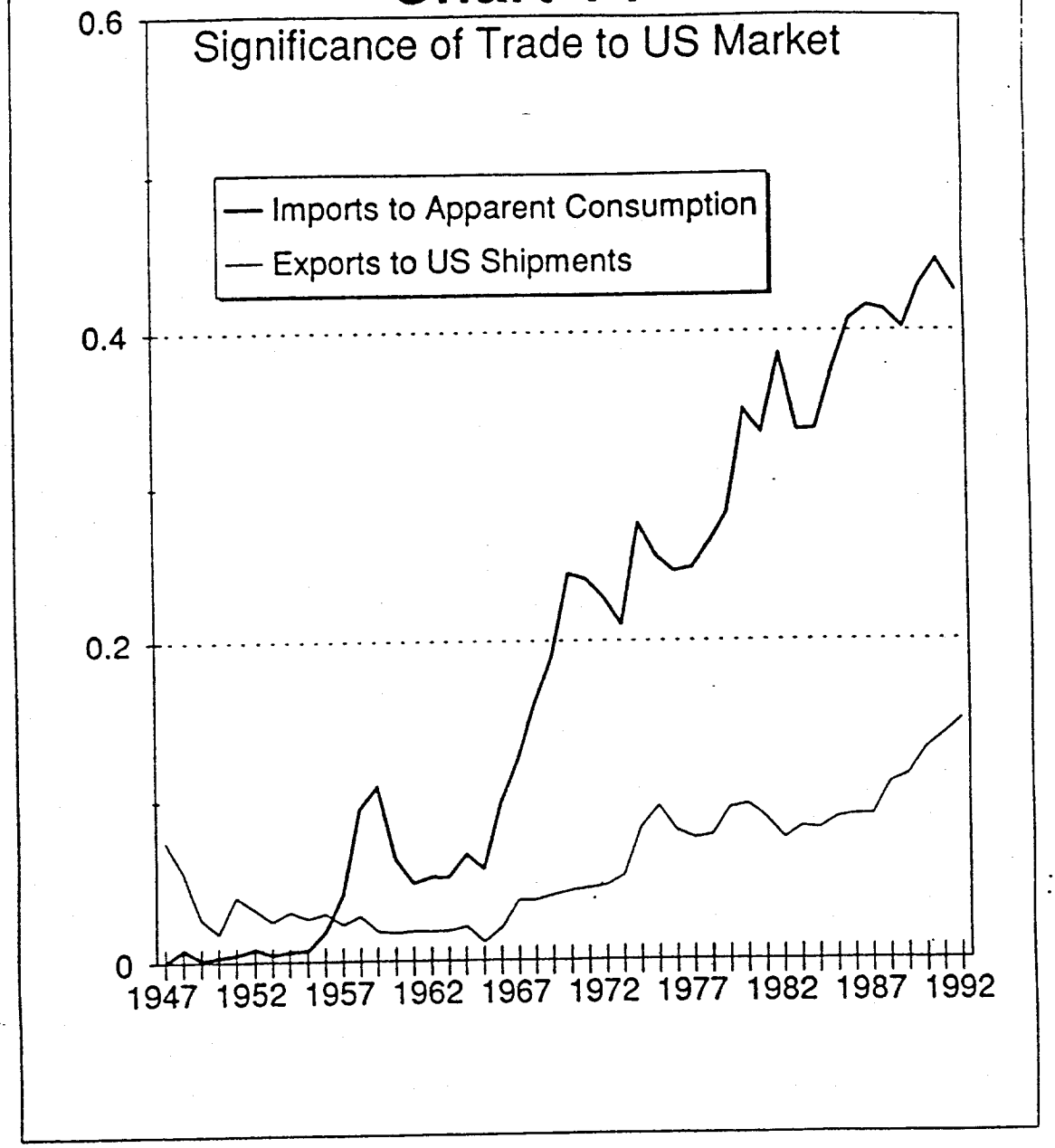
Significance of Trade to US Market
Imports to Apparent Consumption
Exports to US Shipments
0.6
0.4
0.2
0
1947
1952
1957
1962
1967
1972
1977
1982
1987
1992

Chart 15

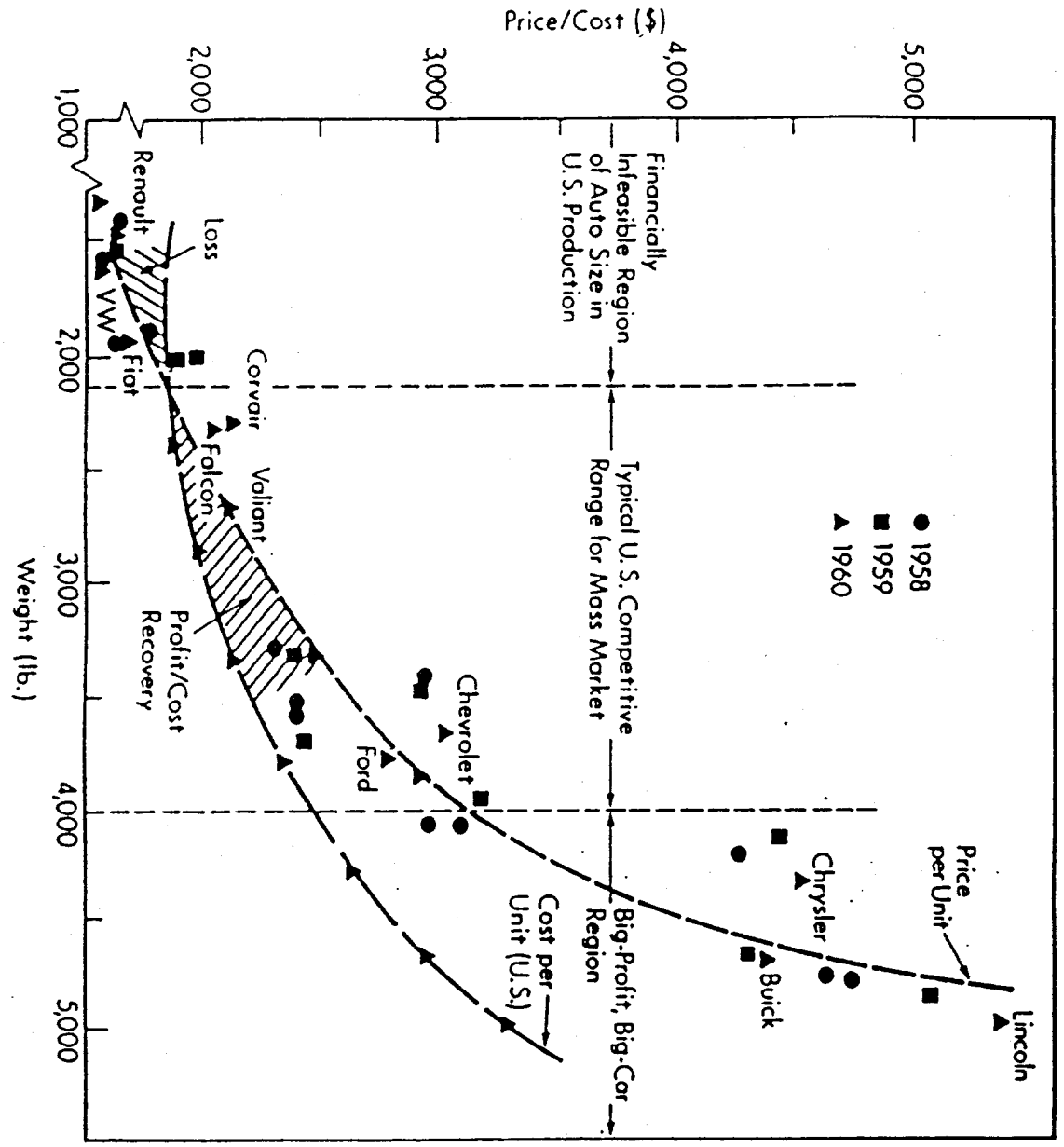
Price/Cost ($)
5,000
4,000
3,000
2,000
1,000
Financially Infeasible Region of Auto Size in U.S. Production
Typical U.S. Competitive Range for Mass Market
Big-Profit, Big-Car Region
● 1958
■ 1959
▲ 1960
Price per Unit
Cost per Unit (U.S.)
Lincoln
Chrysler
Buick
Chevrolet
Ford
Corvair
Falcon
Valiant
Renault
VW
Fiat
Loss
Profit/Cost Recovery
2,000
3,000
4,000
5,000
Weight (lb.)

Chart 16A

Import Volumes, By Country of Origin

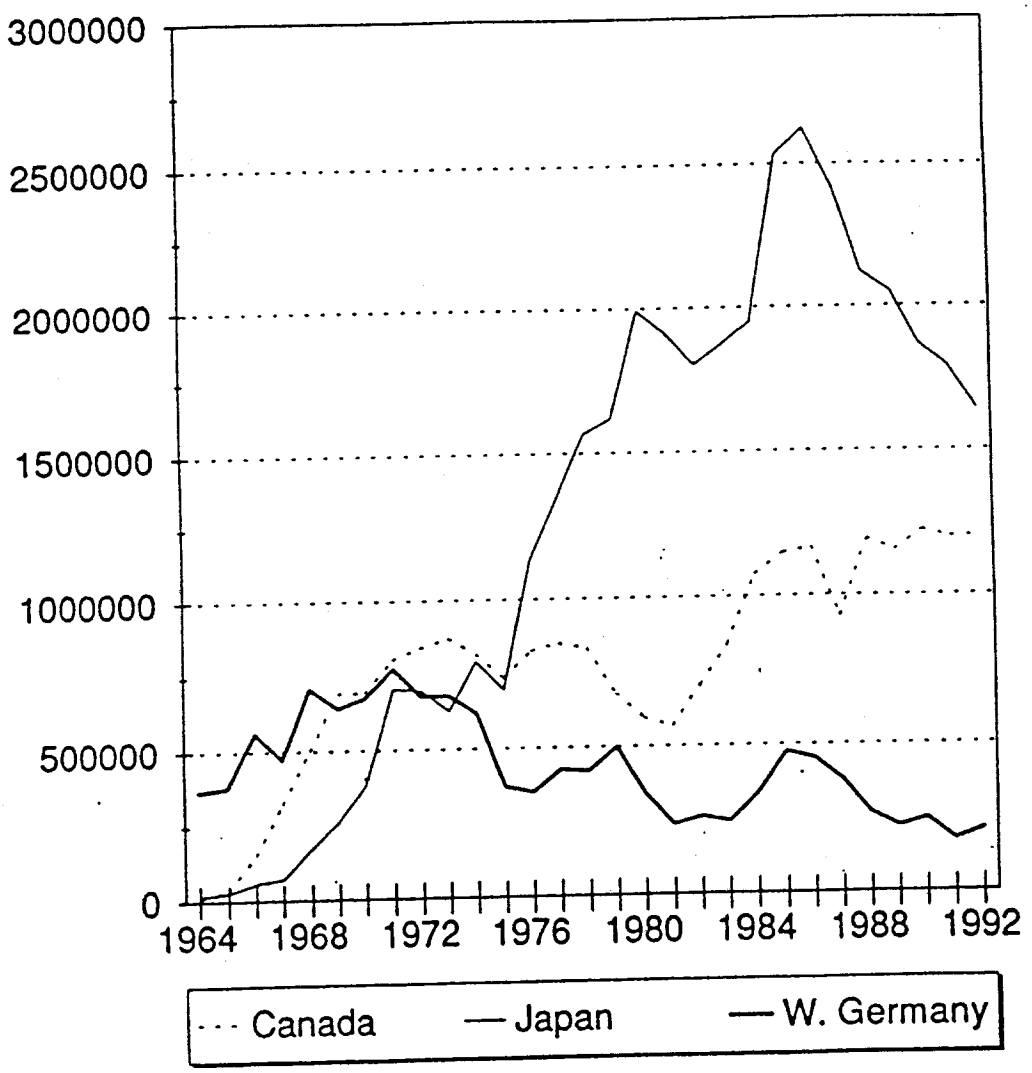

Chart 16B

Import Values, By Country of Origin

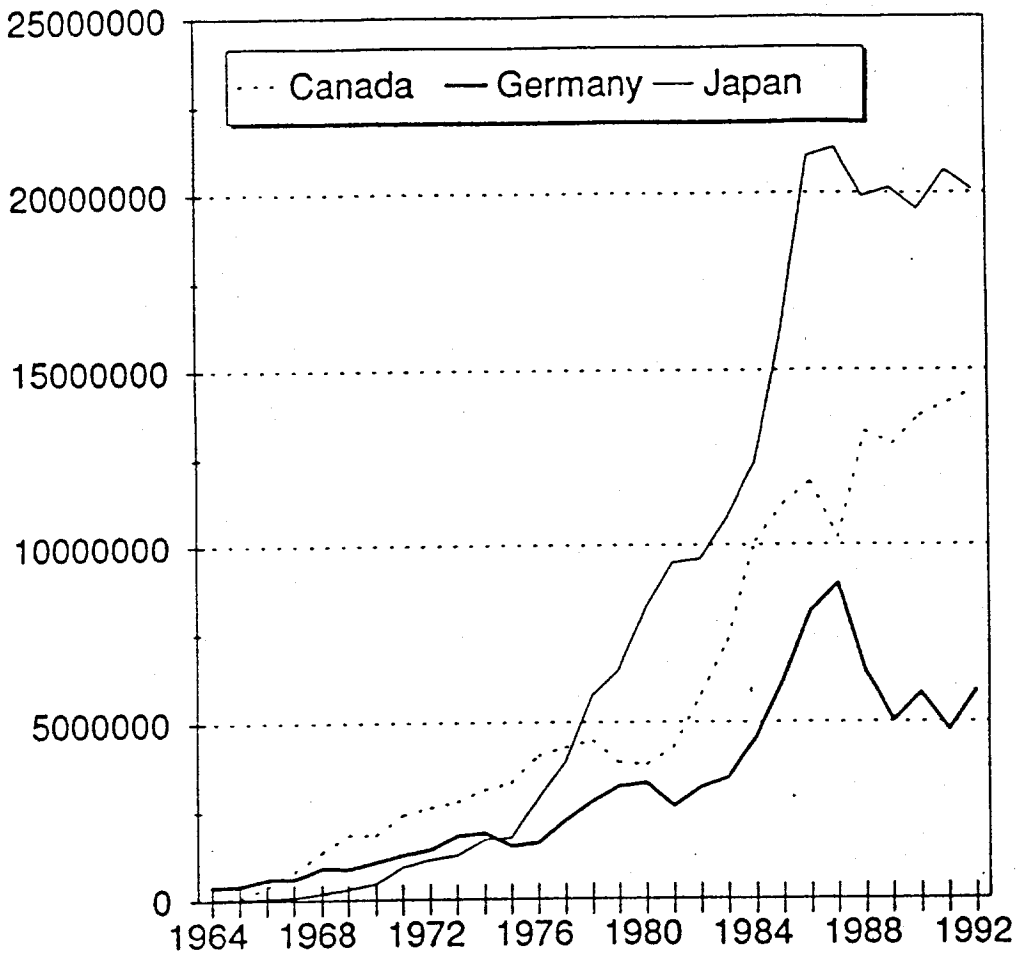

Table 1: Summary of Terms Under the "Fair Practices in Automotive Product Act"[1]

	Required Minimum Percentage		
Number of Vehicles Sold	1983	1984	1985 +
< 100,000	0.0	0.0	0.0
100,000 - 149,999	8.3	16.7	25.0
150,000 - 199,999	16.7	33.3	50.0
200,000 - 499,999	25.0	50.0	75.0
≥ 500,000	30.0	60.0	90.0

[1] Source: Coughlin (1985).

Table 2A: Unit labor costs in the US Motor Vehicle Industry[2]

Year	COMPENSATION		OUTPUT PER WORKER		UNIT LABOR COST	
	Motor Vehicles	All Manufact.	Motor Vehicles	All Manufact.	Motor Vehicles	All Manufact.
1967	100	100	100	100	100	100
1968	107	107	106	104	101	103
1969	113	115	105	105	108	109
1970	122	122	103	105	119	117
1971	139	130	117	112	119	117
1972	148	137	120	117	123	117
1973	159	147	122	123	130	119
1974	178	162	121	121	148	135
1975	200	182	128	124	156	147
1976	218	196	134	129	162	151
1977	243	212	143	133	170	160
1978	265	230	142	134	187	172
1979	284	252	139	135	205	187
1980	314	279	139	135	227	207

[2] Tables 2A and 2B are from Kreinin (1982)

Table 2B: Unit labor costs in the Japanese Motor Vehicle Industry

Year	COMPENSATION		OUTPUT PER WORKER		UNIT LABOR COST	
	Motor Vehicles	All Manufact.	Motor Vehicles	All Manufact.	Motor Vehicles	All Manufact.
1965	100	100	100	100	100	100
1966	111	110	110	110	101	100
1967	126	124	130	126	96	98
1968	146	144	154	142	95	101
1969	172	171	170	164	101	104
1970	204	203	185	185	110	110
1971	233	235	202	193	115	122
1972	272	271	234	212	116	128
1973	346	333	269	237	129	141
1974	448	438	251	246	178	178
1975	530	513	276	256	192	200
1976	599	550	315	280	190	196
1977	656	606	284	305	231	199
1978	723	644	259	326	279	198
1979	776	693	326	352	238	197
1980	832	755	419	374	199	200

Table 3: Frequency of Repair for US and Japanese Firms[3]

Year	AMC/ Chrysler	Ford	GM	Japan
1975	3.8	2.8	2.9	2.3
1976	4.1	2.8	2.9	2.4
1977	4.3	2.9	3.0	2.0
1978	4.0	3.3	3.1	1.7
1979	3.4	3.5	3.5	1.4
1980	3.3	3.2	3.5	1.7
1981	3.6	3.0	4.2	1.7
1982	3.5	3.0	4.2	1.5
1983	3.9	3.0	4.2	1.3
1984	4.2	3.5	4.0	1.3
1985	3.9	3.7	4.1	1.3
1986	3.7	3.4	3.9	1.6
1987	3.6	3.6	4.0	1.7
1988	3.6	3.7	4.0	1.4
1989	3.4	3.8	4.2	1.6
1990	3.4	3.8	4.0	1.6
1991	3.7	3.9	4.3	1.9

[3] Every April from 1972-1992 *Consumer Reports* published an overall frequency of repair index ("trouble index") evaluating autos on a scale: 1--much better than average; 2--better than average; 3--average; 4--worse than average; and 5--much worse than average. The data reported in this table are average values for each US major and for all Japanese firms taken together. Note that these averages are not weighted by sales and no attempt has been made to isolate product lines that are directly competitive.

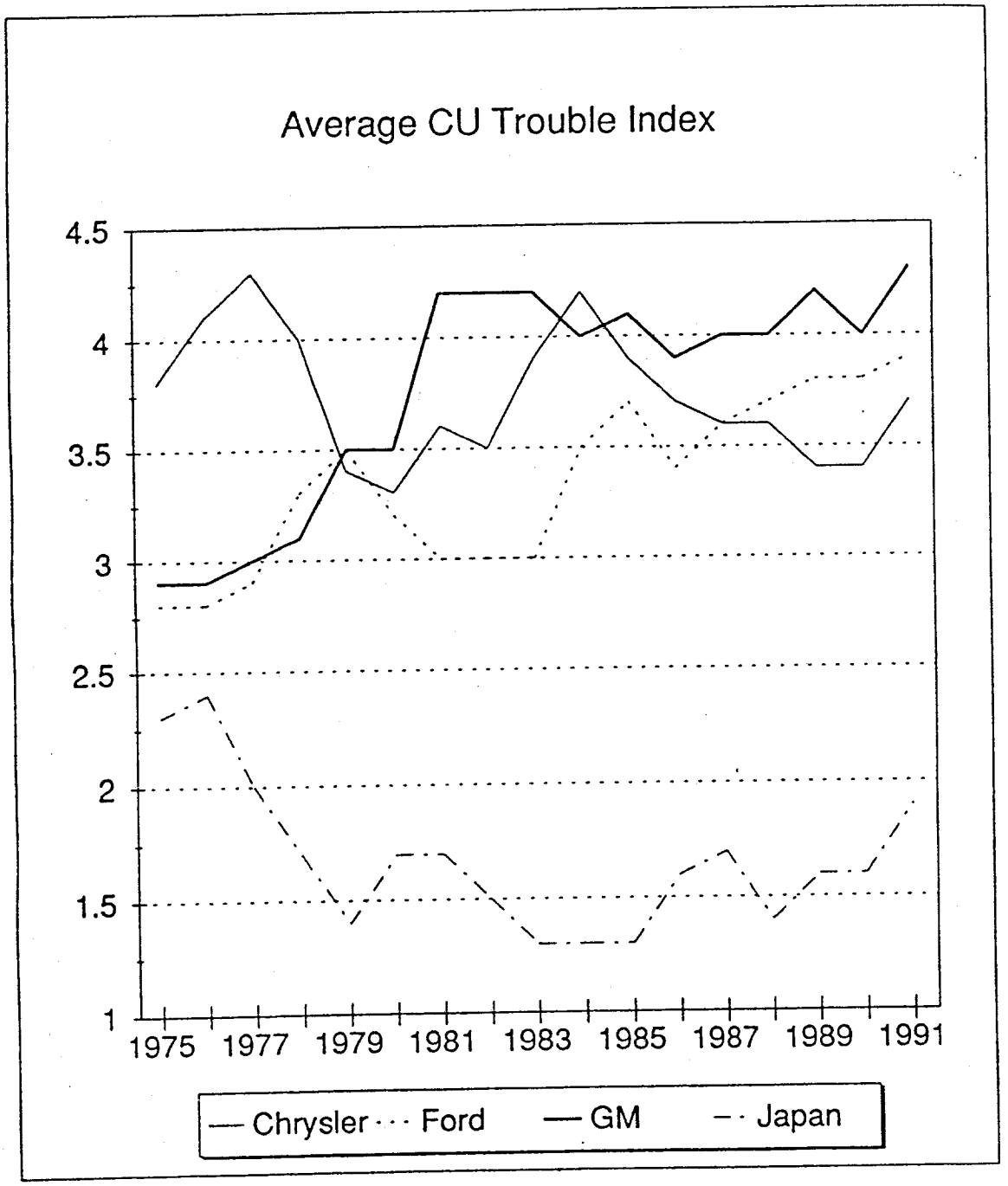
Average CU Trouble Index
4.5
4
3.5
3
2.5
2
1.5
1
1975
1977
1979
1981
1983
1985
1987
1989
1991
Chrysler
Ford
GM
Japan

Table 4: Summary Table for Political Economic Analysis

	Time Horizon		
	Short	Medium	Long
UAW	-	+	-
Ford	0	+	0/-
Chrysler	0	+	0/-
GM	0	+	0/-
Japanese	0	+	+
Consumers	0	-	+

Table 5: Employment Data for Auto Industry[4]

Year	Auto Employment (1000s)	Auto Wage ($/Hour)	Auto Wage Bill/ Value Added (%)	Auto/ Manufacturing Employment	Auto/ Manufacturing Wage
1967	262.3	4.00	28.54	1.83	1.42
1968	272.4	4.29	27.53	1.88	1.43
1969	293.4	4.47	28.13	1.99	1.40
1970	245.3	4.82	31.25	1.75	1.44
1971	283.0	5.36	26.30	2.09	1.50
1972	284.0	5.79	28.90	2.02	1.52
1973	309.1	6.23	29.98	2.08	1.52
1974	262.2	6.93	32.89	1.79	1.57
1975	235.1	7.62	32.61	1.80	1.58
1976	273.8	8.45	29.87	2.01	1.62
1977	289.9	9.23	30.58	2.05	1.62
1978	303.5	10.12	31.03	2.06	1.64
1979	292.0	10.99	31.31	1.94	1.64
1980	220.6	12.63	39.08	1.55	1.74
1981	223.4	13.94	38.46	1.59	1.75
1982	193.5	14.45	34.04	1.52	1.70
1983	216.5	14.75	29.12	1.73	1.67
1984	247.6	14.46	29.49	1.86	1.57
1985	249.7	16.70	31.09	1.91	1.75
1986	233.8	17.22	25.93	1.82	1.77
1987	235.5	17.33	22.68	1.82	1.75
1988	213.6	18.68	21.06	1.62	1.83
1989	212.5	19.40	18.22	1.60	1.85
1990	200.0	20.31	20.55	1.54	1.88
1991	178.5	21.32	17.37	1.43	1.91

[4] The data in this table are from the Department of Commerce *Survey of Current Business* for SIC number 3711 (Motor Vehicles and Car Bodies).