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The Japanese and the U.S. Tax Systems: Implications for Japanese Auto Exports

There is a prevailing impression in the American automobile industry and in American business community in general that the Japanese tax system gives an unfair advantage to Japanese automakers in their exports to the United States. This impression is mostly based on false premises concerning the structure of the Japanese tax system and its differences from the tax system in the U.S.[1] This misunderstanding of the Japanese tax system and its implications for auto trade has at least two negative consequences. First, on the government level, it encourages U.S. representatives to engage in fruitless discussions with the Japanese on a topic that, as we will show here, has no impact on the trade balance. Second, and more importantly, at the U.S. auto industry level it encourages management to externalize the nature of their competitive problem, to push for government-sponsored solutions for phantom issues, and to neglect internal deficiencies such as the productivity and wage gaps.

This article will set forth some basic facts about how the Japanese tax system affects automobiles. Our overview will begin with the most frequently mentioned issue, the commodity tax, and will go on to discuss the overall shape of the Japanese tax system, its impact on the Japanese auto industry, the tax burdens on corporations, estimates of the "tax differential" between Japanese and American cars sold in the United States, and the implications of high Japanese taxes on auto ownership. We report on and review a number of research findings in this area and supplement them, where necessary, with our own data. This article is not intended as the final word on the subject, but should help to eliminate some of the most erroneous perceptions.

I. The Commodity Tax

The Japanese national government charges a tax of from 5 to 30 percent on a varied list of consumer "luxury" items, including jewelry, musical instruments, boats, and automobiles. The current tax rate for automobiles is 23 percent for large cars and 18.5 percent for small cars, plus an additional tax on auto air conditioners[2]. This tax is charged on all automobiles sold in Japan, on the basis of the manufacturer's selling price for

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domestic products and the price at receipt for imported cars. It is not charged on exports.

Several arguments have been advanced to explain how the commodity tax system provides an advantage for Japanese exported automobiles. The simplest argument states that it is unfair for the Japanese to tax American automobiles in Japan while their cars are sold in the U.S. free of a commodity tax. Obviously, given the current product mix of U.S. automakers, it may well be true that the current structure of Japanese commodity taxes has an adverse impact on the competitiveness of American automobiles in Japan. The lack of success of American auto exports, however, has many more important causes. In any case, since Japanese commodity taxes have no impact on product competitiveness in the U.S. market, we will not discuss the difference between small and large car rates here.

The typical American argument states that the commodity tax makes it cheaper for Japanese makers to produce cars for overseas than domestic markets, or makes production for export more profitable[3]. Accordingly, the marketing patterns of Japanese automakers are "distorted" so that they export more cars than they would if there were no commodity tax. This is not a logical proposition. The commodity tax does not raise the cost of production for domestic market. Although it is paid by the manufacturer as a matter of convenience in collection, the effect is identical to a sales tax. The Japanese commodity tax is essentially the same as the U.S. liquor and tobacco taxes. The tax is passed on directly to the Japanese consumer. The price a manufacturer charges for a car leaving his fctory is no different whether the car is sold in Japan or overseas, at least not for any reason connected with taxes. Export sales may indeed be more profitable, but that is simply because the Japanese domestic market is more price-competitive than overseas markets, partly due to the profit-boosting quotas in a number of principal export markets and partly to the price umbrella extended in many such markets by less-efficient local manufacturers. A Japanese automaker will produce as many cars as it can sell profitably in the domestic market and as many as it can profitably overseas.

The apparent confusion about this point may result from an inaccurate understanding of the significance of import and export shares. It is true that the commodity tax causes a larger *share* of Japanese auto production to go to exports. If the system were abolished today, the price of all new automobiles in Japan would suddenly drop substantially. More Japanese could afford to buy a car, so total domestic sales would go up, and the export share would correspondingly drop. However, if one makes the safe assumption that the Japanese auto industry has or could quickly develop sufficient capacity to meet this new demand, there is no reason why its *absolute number* of exported cars would fall at all. Shares of domestic and export production in Japan are irrelevant to American automakers; it is only the absolute quantities of exports and their cost that matter.

From a macroeconomic perspective, there is no evidence that abolishing the Japanese commodity tax system would improve the U.S. terms of trade with Japan. To the contrary, Whalley and Hamilton[4] assert, based on an econometric simulation of the welfare and terms of trade impacts of various changes in border tax adjustment on world trade, that a Japanese change from a destination-based (consumption) to origin-based (value added) taxes would result in a quite small but still significant deterioration of U.S. welfare and terms of trade with Japan. Their analysis was conducted on a country rather than on an industry level and, therefore, their numerical results may not be directly applicable to the auto trade. However, given the composition of trade between

the U.S. and Japan, it is probable that the effect of change affecting only the commodity tax on automobiles would still be in the predicted direction.

II. The Structure of the Japanese Tax System

A more sophisticated argument about the commodity tax holds that American producers are at a disadvantage because the U.S. relies more on direct taxes on individual and corporate income, which add to production costs, while the rest of the industrialized world has moved to some form of indirect taxation on consumption. That means that American exports get taxed once during production and again when consumed overseas; conversely, importers to the United States bear lighter production-related taxes overseas and lighter or no consumption taxes here. As a UAW representative testified before the House Ways and Means Committee in March 1983:

> Under the GATT rules, indirect taxes can be rebated on exports and imposed on imports. Since these rules were written, taxes have risen substantially the world over. The U.S. tended to add to its direct tax burden while the Europeans and Japanese tended to increase indirect taxes[5].

This argument may or may not be an important factor in American trade with Europe, but it is simply not true for Japan. In the early postwar period, Japan experimented with both a "turnover tax" and a value-added tax, but both were abandoned, partly due to American pressure and complaints from small business. The share of indirect taxes in national tax revenues has actually declined continuously, from 49 percent in 1955 to 29 percent in 1981[6]. More importantly, according to OECD data on sources of tax revenues presented in Table 1, Japan's tax structure is much closer to that of the United States than to Europe in its reliance on direct taxation. Since the mid-1970s, there has been considerable discussion about imposing a value-added or other general consumption tax, but nothing has been instituted so far.

Table 1: Sources of Tax Revenues, 1980

	Shares in total Tax Revenues, in Percent						Reference: Tax Share of GNP
	Indirect: Goods and Services	Direct		Other Social Security		Property	
		Personal Income	Corporate Income	Employer	Employee		
Japan	16.4	24.2	17.3	14.8	14.2	8.2	26.1
Unites States	16.6	36.8	10.1	15.6	10.8	10.4	30.7
Canada	32.8	34.0	11.3	10.4		9.2	32.9
United Kingdom	28.8	30.0	7.7	9.9	7.0	12.1	36.1
West Germany	27.0	30.0	5.5	18.1	16.0	2.6	37.4
France	30.0	12.9	5.0	29.0	14.2	3.6	42.6
Sweden	20.4	41.0	2.5	27.4	1.2	0.9	49.6
All OECD (Unweighted average)	29.1	33.3	7.5	23.3		5.4	35.8

Source: Organization for Economic Cooperation and Development, "Revenue Statistics of OECD Member Countries, 1965–1981."

Because the Japanese tax system relies on direct taxes to roughly the same extent as does the United States, it is unlikely that the commodity tax on automobiles (1.1 percent of total tax revenues in fiscal year 1983) or any other indirect taxes have the discriminatory impact implied in the UAW statement. At the same time, the structure of the tax system in Japan differs on several important dimensions from the tax system used in the U.S. One such dimension is the corporate tax burden, which will be discussed in the next section. The other dimensions primarily affect individuals: a selective deduction of interest, limited capital gains taxation, tax-free saving incentives, and preferential treatment of dividends[7]. Clearly, these differences may have an impact on economic behavior, but they are not unfair, and there is nothing to prevent Congress from enacting similar provisions in the U.S. tax law if it so wishes.

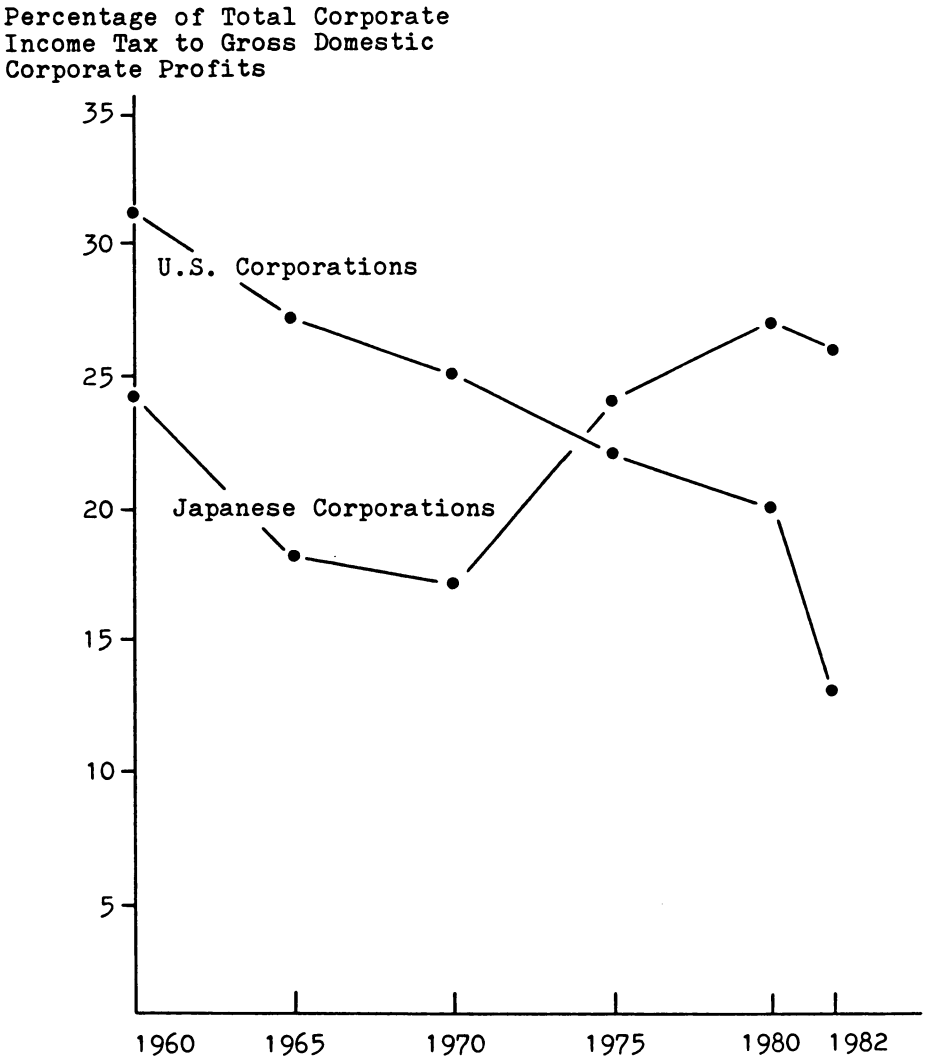
III. Corporate Taxation in Japan

Several types of data are available to shed more light on the corporate tax burden in Japan. As often is the case, information at the most macro level is the easiest to collect and interpret. The OECD tax data (Table 1) show that Japanese rely much more heavily on the corporate income tax as a source of revenue than do other advanced nations. For about two decades, the share of all corporate taxes (including social security) in total tax revenues had held relatively steady in Japan at around 30 percent, and in a number of years the corporate income tax has actually produced more revenue than the income tax paid by individuals. Economists may debate the extent to which corporate taxes are in reality passed on to consumers in the form of higher prices, and as pointed out earlier, dividend income receives favorable tax treatment in Japan, but despite these qualifications there can be little doubt that a higher proportion of the costs of government is covered by business in Japan than in the U.S.

The higher share of taxes paid by companies in Japan is partly due to the fact that Japanese personal income tax rate are somewhat lower than in the U.S., at least at the lower and moderate income levels. However, the rate at which corporate profils are taxed were very similar in the two countries, at least until recently. A 1981 calculation by the Japanese Ministry of Finance puts the average nominal corporate tax rate at 51.55 percent for Japan and 51.18 percent for the United States[8]. The accounting rules that determine what is a profit for tax purposes differ, and tax laws in both countries change rather frequently (in fact, Japanese corporate tax rates have been raised since this estimate). Nonetheless, there is certainly no evidence here supporting a claim of a lighter tax burden on corporations in Japan.

According to a 1984 estimate by the U.S. General Accounting Office presented before the U.S. Congress[9], the aggregate tax rate for Japanese corporations currently stands at 57.7 percent for income retained and 45.6 percent for income earmarked for dividends. These tax rate figures should be adjusted for various tax credits and taxes payable to local governments that are sometimes omitted from tax comparisons. Japanese prefectural and other local corporate taxes averaged approximately one-half of total national corporate taxes during the last decade[10]. American state and local corporate taxes, while rising steadily since 1960, are still less than a quarter of total tax revenue. With all taxes included, in 1980 and 1981 the average real tax rate for Japanese firms is estimated at 33.9 percent and for U.S. firms at 24.2 percent[11]. The GAO study cited

Figure 1: Comparison of Total Corporate Income Tax Burden in Japan and the United States – 1960 through 1982



Source: National income accounts as reported by the U.S. Department of Commerce and Japan's Ministry of Finance. U.S. data adjusted to account for Federal Reserve Bank data in national account totals. Reproduced from the Statement of Allan I. Mendelowitz, Associate Director, National Security and International Affairs Division before the Joint Economic Committee on Japanese Tax Incentives to Save and Invest, U.S. General Accounting Office, Washington, D.C., September 24, 1984.

above, based on methodology developed by Pechman and Kaizuka[12], put the average U.S. corporate tax burden at about one-half that of Japan (Figure 1). Japanese corporations did, however, experience lower tax burdens than U.S. corporations during the 1960's and early 1970's.

These GAO conclusions support an earlier study sponsored by the Congressional Research Service[13] that covered the manufacturing sector only and was largely concerned

with various rates of depreciation. The tax computations were based on the "discounted cash flow analysis" method, which defines the effective tax rate not as a percentage of profits but as the difference between the pretax and posttax return on investment (divided by the pretax return). In 1977, looking at national taxes only, the effective rate for Japan was indeed lower than in the U.S., 33.8 percent to 37.5 percent. After changes in the tax law, however, the most recent estimate is 35.8 percent for Japan and 25.3 percent for the United States. When state and local taxes on corporations are added in, the gap becomes much wider: 50.5 percent in Japan and 27.7 percent in the United States. In other words, everything else being equal, a dollar invested in manufacturing in the United States should bring a higher aftertax return than in Japan.

Several additional points should be noted. In both countries, effective tax rates are lower for large corporations as well as for very small firms. The ratio of tax paid to sales is lower in Japan, averaging 1.13 percent versus 1.46 percent for the U.S.[14]. This may be attributed to the willingness of Japanese firms to accept lower margins on their investments[15]. Considering the impact of size, the tax/sales ratio ranges from 0.95 to 1.37 percent in Japan, and 0.77 to 1.78 in the U.S. The relative homogeneity of the Japanese tax system is also visible in comparison of tax rates across industries. In Japan, with exception of mining, the average tax rates range from 33 to 36 percent across all industries. In the U.S., with mining again excluded, the range is much wider from 18 to 34 percent.

It is beyond the scope of this article to wrestle with all the implications that these different analyses of corporate taxation in the U.S. and in Japan may pose. Historically, Japanese firms probably benefitted from lower effective tax rates and from tax incentives. However, since the mid-1970s there does not seem to be much evidence to argue that Japanese corporations enjoyed any advantage over their U.S. competitors as far as effective corporate tax rates are concerned. In fact, the available data suggest that it is the Americans who now may have the advantage. Similarly, these data reinforce the point made earlier: there is no evidence that Japanese consumption taxes, such as the commodity tax on automobiles, have substituted for taxes on production.

IV. Auto Industry Taxes

The figures cited above are averages for all corporations or for the entire manufacturing sector and do not necessarily apply to a specific industry such as automotive manufacturing. If the auto commodity taxes were "rebated" in the sense that those revenues were somehow credited or refunded specifically to the automotive industry, clearly Japanese automakers' costs would be reduced, and they would have a competitive advantage. One way to investigate this possibility would be to compare corporate tax rates in the automotive industry with other manufacturing industries.

For Japan, such industry-specific taxa data were obtained from a set of statistical data compiled annually by Japanese Ministry of International Trade and Industry[16]. The taxes included in our comparisons are (a) corporate tax on profits, (b) the temporary special corporate tax, (c) prefectural taxes and (d) local taxes. For the U.S., comparable data were obtained from corporate annual reports and the Internal Revenue Service statistics[17]. These two sets of statistics are not directly comparable, as the U.S. data measure actual net tax payments, while Japanese data indicate accrued tax obligation

which may or may not be payable in a given year (for a comparison of nominal and real tax rates in Japan see section III above). This conceptual difference, however, has no impact on intra-country comparisons.

In both countries, data for the 1976–1979 period were examined, since the post 1980 data suffer from distortions due to recession in the U.S. auto industry. For the Japanese auto industry, the effective nominal tax rate was 48.00 percent to taxable income and 2.65 percent of sales. The respective average rates for all manufacturing industries were 54.31 and 1.25 percent. In the U.S., the real tax rate was 32.67 percent of taxable income and 3.33 percent of sales for the auto industry. The averages for all manufacturing were 25.89 percent of taxable income and 2.25 percent of sales. The auto industries do not seem to enjoy any special treatment in either country. The tax burden on sales is higher for the auto industry than the average burden for all manufacturing sectors. The same is true for the corporate income tax burden in case of the U.S. auto industry (over 25% higher than the industry average). The income tax burden of Japanese auto makers is about 10% below the industry average. The main reason is a higher level of capital expenditures in the 1976–1979 period relative to the manufacturing sector average that results in larger tax allowances for the auto makers. It seems that the key determinant of any relative American tax disadvantage is the wide variations in industry real tax rates built into the current U.S. tax code[18], rather than any deliberate design on the part of the Japanese.

Support for this conlusion may be found by examining the tax laws to see if there are specific provisions benefiting the auto industry in Japan directly or indirectly. Most taxes, of course, apply to all industries, but Japan has long had a system of "special tax measures" to accomplish specific policy objectives. These special depreciation allowances, tax credits, and tax free reserves were traditionally narrowly targeted to affect specific industries, geographical areas, or even types of equipment.

If one looks at the history of government policy toward the automobile, several such "special tax measures" can be found. From 1955 to 1970, the automotive parts industry was a legally targeted industry and, as such, received some tax concessions[19]. Automakers themselves took advantage of tax breaks on certain kinds of machinery investment and of measures that temporarily deferred taxation on a portion of export earnings. Even today, there is a special tax provision to encourage robotization in small and medium industry that probably is helpful to smaller parts suppliers. It is generally agreed, however, that tax policy was not and is not a major factor in the diffusion of robots in autos and other industries[20].

In addition, the importance of special tax measures has declined dramatically since the late 1960's. According to one estimate, the revenue loss from such measures amounted to 9.0 percent of total corporate taxation in 1972, but just 1.9 percent in 1981[21]. They did rebound recently to about 3 percent of the corporate tax[22], but, by and large, the policy objectives have been switched from encouraging investment or exports to combating pollution and conserving energy. In short, under Japanese tax law, no mechanism currently exists by which commodity tax revenues could be transferred back to the automotive industry, directly or indirectly.

It might be noted that the proposal to institute an auto commodity tax in the United States, which has lately gained some currency among automotive industry executives, provides for a direct rebate. For example, Nevin[23] calls for a 17.5 percent excise tax on all cars sold in the U.S., which domestic makers could credit against their other taxes, including employee income and social security tax witholdings. This scheme would simply amount to a tariff. It would be a clear violation of GATT rules and, in any case,

cannot be justified as an "equalization" measure vis-à-vis Japan because, as we have seen, the Japanese commodity tax is in no sense rebated.

V. Taxes per Vehicle – a Reexamination of Chrysler Studies

There is yet another, more direct approach to the question of the alleged Japanese tax advantage that has been taken both by Nevin and the Chrysler Corporation[24]. This is to look into company accounts to determine the total taxes paid at every stage of producing and selling an automobile, so that the tax burdens of American cars and Japanese cars sold in the United States can be compared. Nevin compares small cars with a $ 5,900 factory price in the U.S. and concludes that the American car would carry $ 1,550 in U.S. taxes and a Japanese car only $ 920 in combined Japanese and U.S. taxes – a difference of $ 630. Chrysler includes sales and other taxes and finds that the burden on the average American car is $ 2,500, while the burden on the average Japanese car is $ 1,850, producing a $ 650 difference. If these calculations are correct, the Japanese cost advantage would indeed be significant.

In the next section we will introduce independent estimates of tax per vehicle which challenge these findings. However, it is also possible to raise substantive questions about the methods employed by Nevin and Chrysler. Such an analysis of the Chrysler argument was carried out by Remy Haimat for the Joint U.S.-Japan Automotive Study at the University of Michigan, and his conclusions, plus a few additional observations, may be summarized here. First, it is doubtful whether it is appropriate to include the individual income tax and social security contributions paid by workers as part of the tax burden of the companies that employ them. Most analysts would simply call these wage costs. If employee-paid taxes were not counted in, the Japanese tax advantage as estimated by Nevin would drop to zero even before the tariff is collected on the Japanese import (currently 3%). Eliminating the employee-paid taxes from the Chrysler estimates still leaves a $ 350 Japanese advantage in the tax burden before the tariff, or $ 200 after the tariff.

The latter figure must further be qualified by a second observation. Chrysler's analysis is based on data collected in 1980, which was a bad year for the U.S. auto industry in general, and the Chrysler Corporation in particular. Sales and production were very low, and since fixed costs (including some taxes) do not decline proportionally when production drops, manufacturing costs per vehicle were unusually high. In practice, such increased costs are offset to some extent by the fact that in a year when there are no profits, no corporate income tax is paid, and tax credits are earned for any losses incurred. In 1980, Chrysler received a tax credit of $ 39.5 million, which amounts to almost $ 45 for each car produced in that year. However, in its estimates of the tax burden per American vehicle, not only did Chrysler neglect to subtract this $ 45 tax credit, it added $ 200 as an estimate of corporate tax in a "normal" year[25]. Averaging corporate taxes over several years is a reasonable procedure, but these and other taxes should then be applied to the cost of production for a normal year's volume.

However, Chrysler chose to examine 1980, so those figures can be appropriately modified. If we use Chrysler's own estimate of $ 900 in manufacturer's taxes, subtract the $ 200 added in to represent the corporation tax in a normal year, and then subtract the $ 45 corporate tax credit Chrysler actually received in 1980, the burden of manufactur-

ing taxes becomes $ 655 per vehicle. Adding the dealer and sales tax of $ 550, the total tax burden for 1980 becomes $ 1,205. For a Japanese car, the total of manufacturing, import, and dealer and sales taxes is $ 1,300. The comparison shows a $ 95 tax advantage for the American car.

Even of one were to grant the legitimacy of the Chrysler and Nevin approach, which is to include individual income and social security taxes paid by auto workers (in both assembly firms and parts suppliers) in the calculation of the total tax burden, serious problems remain. Chrysler finds that American auto workers pay about $ 1,050 in these taxes for every car they produce, and Japanese workers about $ 550 – a $ 500 difference and, thus, the greater part of the cost advantage. This "gap" is ascribed to differences in the tax system of the two countries.

However, in the same calculation, Chrysler also estimates that only 40 manhours are required to build a car in Japan, compared to 90 manhours in the United States. This means that Japanese automakers can employ less than half as many workers as the American automakers, so that, even if exactly the same tax was paid per worker, the total employee tax bill would be less than half of what it is in the U.S. Note also that American auto workers' wages, as well as white-collar employee salaries, are higher than in Japan, resulting in higher taxes even if tax rates were identical. If we wished to include employee-paid taxes in the burden but adjust these figures simply to take out the effect of higher Japanese productivity, leaving aside higher wages, it turns out that the Japanese "tax advantage" dwindles to only about $ 75, even accepting Chrysler's handling of the corporate tax problem.

It is apparent that the much heralded $ 650 Japanese tax advantage is really the product of a very special method of calculation. What would seem to be more reasonable approaches – either looking only at actual corporate taxes, which is the topic of the next section, or at least assessing the impact of the tax system if productivity in the two countries were the same – indicate that the Japanese "advantage" is negligible at most.

VI. Taxes per Vehicle – 1976–1979 Estimates

The estimate of taxes paid by Japanese auto manufacturers in the 1976–1979 period was compared with estimated taxes for American firms by Gordon[26], adjusting for taxes paid by parts suppliers. He concluded that manufacturing taxes on a $ 10,000 vehicle (U.S. retail) would be $ 720 in Japan and $ 880 in the U.S. This difference would be more than offset by the 3 percent American import tariff (estimated here at $ 195), resulting in a slight tax advantage for the American car. A similar study sponsored by the American International Automobile Dealers Association[27] estimated the Japanese tax burden per average vehicle as 4.6 percent higher than the per vehicle burden of the American producers. We used Gordon's methodology in our estimate of taxes paid by manufacturers in the two countries, but modified some of his assumptions.

Specifically, we have made the following adjustments:

1. In order to minimize tax variations attributable to the circumstance of a particular company, the tax burden should be decided on an industry basis, rather than for a single manufacturer in the United States or in Japan.

2. Gordon assumed that the Japanese part suppliers' taxes and automakers' taxes were 4 percent and 5 percent respectively of the wholesale price of $ 8,000 respectively. The same American taxes were estimated at 5 percent and 6 percent. In our analysis, we use published data in both countries to determine these tax rates.
3. Our comparisons are based on figures taken from published data for the period 1976–1979, rather than for the depressed years 1980–1982 when many U.S. companies had little or no income tax liabilities.
4. The assumption was made that, in Japan, 70 percent of the cost of a car represented items purchased from outside suppliers, or from affiliated companies whose financial statements are not consolidated with those of the final assemblers. For the U.S., the share of purchased components was estimated at 50 percent[28].

A. Taxes in Japan

The tax and sales figures were obtained from a set of statistical data compiled annually by Japanese Ministry of International Trade and Industry[29]. The taxes included in our comparisons are (a) corporate tax on profits, (b) the temporary special corporate tax, (c) prefectural taxes and (d) local taxes. The effective tax rate on sales was computed as:

$$\frac{\text{Sum of tax paid from 1976 to 1979}}{\text{Sum of net sales from 1976 to 1979}}$$

Based on the above methodology, the average tax on sales for the Japanese OEM firms was estimated at 2.78 percent (as opposed to Gordon's 5 percent), and for Japanese automobile parts and body firms at 2.87 percent (as opposed to Gordon's 4 percent). Both rates indicate a tax burden on sales higher than the average for Japanese industry, probably due to better-than-average profitability of firms in the automotive sector. In the final calculation, the tax paid by the parts manufacturers was prorated to adjust for the degree of vertical integration, and the import tariff and the U.S. seller taxes were added to the overall tax burden.

B. Taxes in the U.S.

The tax burden estimation formula used for the U.S. is the same as in the Japanese case, but total receipts, rather than net sales, are used in the denominator. For General Motors and Ford, taxes paid and total income were taken from the corporate annual reports. Chrysler and AMC were not included because of their exceptionally poor performance at the end of 1976–1979 period, and therefore, the U.S. tax rates may be biased upwards. The average tax rate of auto makers was 3.70 percent (as opposed to Gordon's estimate of 6 percent), which is 0.9 percent higher than in Japan. Again, higher profitability is the probable cause. For American auto suppliers, the corresponding tax rate was 4.08 percent, as estimated from data collected by the IRS[30]. Again, the taxes on suppliers were prorated to adjust for vertical integration and seller taxes were added.

C. Tax Burden Comparisons

Based on the above tax ratios, the total tax burden per vehicle is estimated in Table 2. Clearly, for a car with a retail price of $ 10,000 in the U.S., these figures too do not support the argument that Japanese automakers have a tax advantage. While taxes in the production phase are lower in Japan, the Japanese automakers may have to pay about $ 120 more in total taxes, because their production tax advantage of about 0.75 percent before entering the U.S. is eliminated by the import duty of 3 percent. If ocean freight and insurance charges are added to these tax costs, it is clear that Japanese automakers would be in a difficult competitive situation if they could not base their market strategies on their wage and productivity advantage. It should also be noted, however, that the AIADA study cited above seems to underestimate the tax burden in the U.S. Again, these are estimates only and the tax burden estimates may change with any modification of the assumptions. For example, the lower the actual retail price of the vehicle, the smaller the impact of the tax differential in terms of actual dollars or yen. Also, a vertical integration higher than estimated here would lead to lower tax

Table 2: Tax Burdens on U.S. and Japanese Cars, 1976–79

Estimated Japanese & U.S. Taxes on Cars Made in Japan & Sold for $ 10,000 in the United States			Estimated U.S. Taxes on Cars Made & Sold for $ 10,000 in the United States		
Taxes Included	Amount $	Percent of Final Sales Price %	Taxes Included	Amount $	Percent of Final Sales Price %
Japanese Producers' Taxes			U.S. Producers' Taxes		
Taxes on Parts Suppliers: 2.87% on 70% of Wholesale Price of $ 8,000[1]	160.80	1,61	Taxes on Parts Suppliers: 3.79% on 50% of Wholesale Price of $ 8,000[3]	163.20	1.63
Taxes on Car Manufacturers: 2.78% of Wholesale Price of $ 8,000[2]	222.40	2.22	Taxes on Car Manufacturers: 3.70% of Wholesale Price of $ 8,000[4]	296.00	2.96
Subtotal-Japanese Taxes	383.20	3.83	Subtotal	459.20	4.59
U.S. Sellers' Taxes			U.S. Sellers' Taxes		
Customs Duty – 3% of Est. Dutiable Value of $ 6,500	195.00	1.95			
Dealer Taxes – 10% of $ 2,000 markup	200.00	2.00	Dealer Taxes – 10% of $ 2,000 Markup	200.00	2.00
Buyers' Taxes			Buyers' Taxes		
Sales Tax – 5% of $ 10,000 Retail Price	500.00	5.00	Sales Tax – 5% of $ 10,000 Retail Price	500.00	5.00
State License & Other Fees	25.00	0.25	State License & Other Fees	25.00	0.25
Subtotal – U.S. Taxes	920.00	9.20			
Total Taxes on Vehicle	1,303.20	13.03	Total Taxes on Vehicle	1,184.20	11.84

liabilities per vehicle (five percent increase in self-sufficiency cuts the tax burden by 0.2 percent in the U.S. and 0.14 percent in Japan). Finally, more efficient and profitable companies would also show higher tax burdens on sales than less profitable competitors. However, given the general range of our results, we do not believe that within any set of realistic assumptions the tax burden differences could come anywhere close to those asserted by some in the American automobile industry.

VII. Consumption Taxes on Automobiles in Japan

Finally, one tangential but interesting point might be added. Japanese automotive executives were startled by American allegations of a tax advantage, because they have long perceived themselves as laboring under a grossly unfair tax burden within Japan. According to JAMA estimates, in 1983 almost 10 percent of total Japanese tax revenues was generated by taxes on automobiles, and this figure does not even include the corporate income tax and other taxes paid by manufacturers[31]. It refers only to revenues from the fuel tax, the various sales, registration, and inspection taxes, and highway tolls. An individual buying an ordinary 1600 cc car for Y 1.0 million (about $ 4,350 at Y 230 to the dollar) would pay an estimated Y 353,000 (over $ 1,500) in taxes and fee during the first year of ownership, and a total of Y 1.343 million (almost $ 6,000) over eight years. We lack comparable data for the U.S. but the Japanese figure is unquestionably high.

As indicated briefly in the discussion on the commodity tax, these high taxesborne by Japanese auto owners amount to a substantial disincentive to own an automobile (as opposed to, for example, riding on the heavily subsidized national railroads). Those taxes, therefore, dampen the demand for automobiles in the Japanese domestic market, which is why Japanese automakers have consistently called for reducing them, and have bitterly complained when they were increased (most recently in the spring of 1984). If lower taxes allowed them to sell more cars in Japan, economies of scale would mean their unit costs for every car produced, whether for the domestic or the export market, would be lowered. In this indirect sense, the difference between the Japanese and the American tax systems gives American cars a slight competitive edge.

Conclusions

The objective of this article is to respond to a widespread belief that differences between the Japanese and American tax systems provide an unfair competitive advantage to Japanese cars sold in the American market. The analysis is partly a report and critique of information and arguments provided by other researchers, and partly an analysis based on our data. The findings may be summarized as follows:

1. The proposition that a commodity tax charged on domestic sales leads to more exports is fallacious. Without the commodity tax, the Japanese terms of trade with the U.S. might actually improve.

2. Unlike Europe, Japan does not rely heavily on consumption taxes. Its reliance on direct taxation is similar to that of the United States.
3. Corporate taxes contribute a higher proportion of tax revenues in Japan than in the United States. The total average corporate tax burden in the U.S. is about one-half that of Japan.
4. There is no evidence that Japanese automobile firms benefit today from any special tax measures, or tax rebates. Its tax burden is comparable to the rest of Japanese industry.
5. The purported $ 650 tax advantage of Japanese imports is almost entirely due to wage and productivity differentials – the individual employee taxes per vehicle are higher in the U.S. because employees are paid more and there are more employees per vehicle.
6. Although the Japanese automakers pay less tax per unit of sales in the production phase, they have a tax and tariff disadvantage of about $ 120 per a comparably priced vehicle in the U.S. market.
7. If anything, Japanese automakers are disadvantaged by their tax system, because high taxes associated with owning an automobile in Japan have suppressed demand.

Several of these conclusions are still only tentative, in that our analysis could benefit from more complete data that would allow detailed and consistent comparisons of tax burdens between the two industries. We have also not dealt with the question whether the higher commodity taxes charged on large cars in Japan constitute a nontariff barrier against American imports – less than 3,000 American-made vehicles were sold in Japan in 1984. Nor have we assessed the extent to which tax benefits may have aided the Japanese auto industry in the era when it was developing most rapidly, ten to twenty years ago, or whether further tax revisions to aid the American auto industry (such as by reducing the cost of capital) are justified regardless of what the Japanese do or may be doing in the future.

In our view, the considerations outlined above should be enough to dismiss the tax argument in the search for explanations of Japanese competitiveness in the auto industry. One additional point should, however, be raised here. Given the increased internationalization of the U.S. auto industry, though local production by Japanese automakers and global sourcing by the U.S. auto firms, a discussion of tax burdens and tax systems should take a worldwide view. Any company with global production or sourcing capability will probably attempt to coordinate its operations to minimize its total tax burden, as one of its strategic objectives. Thus, in judging whether a particular automaker has a tax advantage over its competitors, we cannot get the real picture by examining the tax structure of individual countries only. Such understanding can be gained only by examining tax obligations of the multinational firm – a formidable task not only for academic researchers but also, in this case, for the U.S. and Japanese governments.

Footnotes

1 See, for example, John J. Nevin, "Doorstop for Free Trade", Harvard Business Review, 61, 2 (March–April 1983), pp. 88–95, and Lee A. Iaccoca, "Why We Need Auto Quotas", *Fortune,* 110 (November 12, 1984), pp. 227–230.

2 Nihon no Jidosha Kogyo. (Japanese Automobile Industry), Tokyo, 1983 ed. This is the annual statistical yearbook of JAMA: the Japanese Automobile Manufacturers Association.

3 Gerald Greenwald, "A Compact for Automotive Revitalization", In Robert Cole (Ed.), The American Automobile Industry: Rebirth or Requiem, Ann Arbor: Center for Japanese Studies, University of Michigan, 1984, and "Renew Japan's Auto Quotas, Senators Ask", Detroit Free Press, December 28, 1984.
4 Robert Hamilton and John Whalley, "Border Tax Adjustment and U.S. Trade", Working Paper, University of Western Ontario, September 1984.
5 Quoted in materials provided to authors by the UAW.
6 Ministry of Fianance, Zaisei Tokei, (Tax Statistics), Tokyo, 1983.
7 Allan I. Mendelowitz, "Japanese Tax Incentives to Save and Invest" (Statement before the Joint Economic Committee), The U.S. General Accounting Office, September 24, 1984.
8 Ministry of Finance figures cited in Jimmy W. Wheeler, Merit E. Janow, and Thomas Pepper, Japanese Industrial Development Policies in the 1980s: Implications for U.S. Trade and Investment. Croton-on-Hudson, NY: Hudson Institute, October 1982), p. 91.
9 Mendelowitz, 1984, op.cit., Attachment 5.
10 Jon Choi, "The Corporate Tax Debate in Japan and the United States", The Japan Economic Institute Report, 1984, No. 45 A (November 30).
11 Ibid.
12 Joseph A. Pechman and Keimei Kaizuka, "Taxation", In Hugh Patrick and Henry Rosovsky (Ed.), Asia's New Giant, Washington, D.C.: The Brookings Institution, 1976.
13 Jane Gravelle, "Comparative Corporate Tax Burdens in the United States and Japan and Implications for Relative Economic Growth", Congressional Research Service Report. 83–117 E (September 1983).
14 Choi, op.cit.
15 Lester Thurow, "Revitalizing American Industry: Managing in a Competitive World Economy", California Management Review, 27 (1984), 1, pp. 9–41.
16 Ministry of International Trade and Industry, Waga Kuni Kigyo no Keiei Bunseki, (Analysis of Enterprise Management in Japan), Tokyo: Ministry of International Trade and Industry, 1976–1979 (annual).
17 Internal Revenue Service, Statistics of Income. Corporate Income Tax Returns. U.S. Government Printing Office, Washington, D.C., 1976–1979 (annual).
18 Choi, op.cit.
19 Robert E. Cole and Taizo Yakushiji, American and Japanese Auto Industries in Transition, Ann Arbor: Center for Japanese Studies, University of Michigan, 1984, Chapter 5, pp. 79–96.
20 It is generally agreed, however, that tax policy was not a major factor in the diffusion of robots in auto and other industries. See U.S. General Accounting Office, "Industrial Policy: Case Studies in the Japanese Experience", GAO/ID 93-11 (October 1982), pp. 24–29.
21 Wheeler, Janow, and Pepper, op.cit., p. 98. See also list of currently applicable tax measures on pp. 100–101.
22 Mendelowitz, 1984, op.cit., p. 24.
23 Nevin, op.cit.
24 Ibid. and the Chrysler Corporation, "U.S. Tax Policy Gives Japan an Unfair Break", n.d.
25 Information supplied by the Chrysler Corporation to the Joint U.S.-Japan Automotive Study.
26 Blaine M. Gordon, "A Comparison of the Tax Burden on Japanese vs. American Cars", The JAMA Forum. 2 (1984), 3, pp. 23–26.
27 "AIDA Called Wrong on Japanese Tax Bite", Automotive News, October 1, 1984, p. 3.
28 Robert E. Cole and Taizo Yakushiji, op.cit., pp. 30 and 152.
29 Ministry of International Trade and Industry, op.cit.
30 Internal Revenue Service, op.cit.
31 Japanese Automobile Manufacturers Association, op.cit., pp. 32–33.