

THE FUTURE OF THE AUTOMOBILE

GLOBAL OVERCAPACITY:
PROBLEMS OF ESTIMATION AND
STRATEGIC RESPONSE

by *US-B-81-4*

John A. Menge *C/81-15*

Background Paper *#2357*
International Policy Forum
Eagle Lodge, Pennsylvania, U.S.A.

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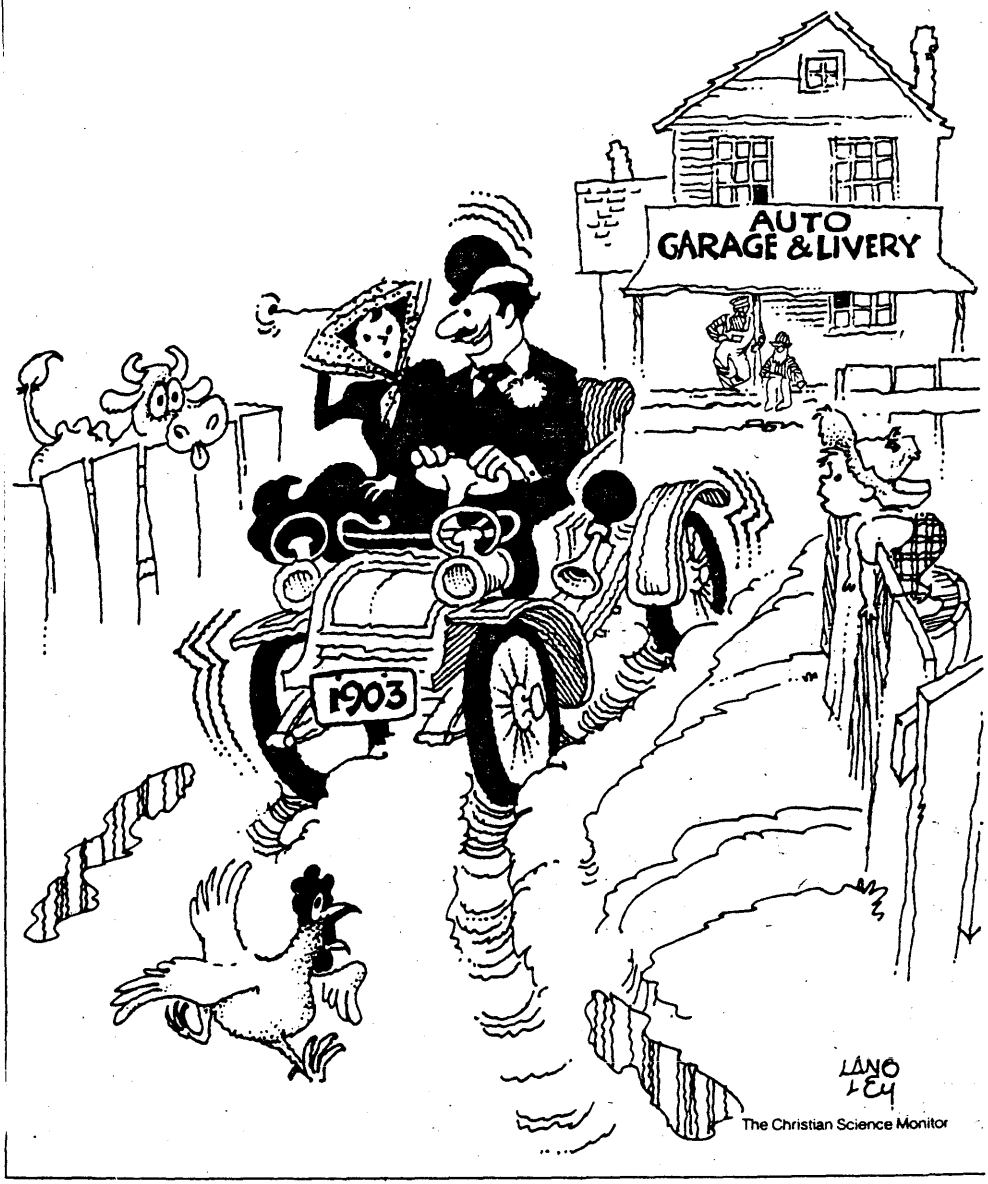
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Tuesday, May 5, 1981

'Someday there'll be autos all over the US and the world —
even places like Japan'



LINO
LEY

The Christian Science Monitor

June 19, 1981

Global Overcapacity: Problems of Estimation and Strategic Reform

(John A. Menge)

Facts and Figures

The problem with the auto industry is not profit, or volume, or technology or research or labor or management, it is analytical reports. With each passing day the industry is credited with some additional affliction newly concocted by economic alchemists out of bits and pieces of data mixed into a thickening stew of apprehension and fear, and baked between the pages of a new report on the future of the automobile industry. Before taking any of these diagnoses too seriously, it might be well to bear in mind an old adage to the effect that "all generalizations are false - including this one." In this light, the following admittedly tentative and circumscribed generalization from the recent Goldschmidt Report on "The U.S. Automobile Industry, 1980," at least bears further scrutiny. "The uncertainty regarding worldwide demand and the prediction of slow growth in world markets for the 1980s stand in stark contrast to the projected jump in capacity to produce small, fuel-efficient cars now planned around the world. In addition to the new investments in the U.S., the Japanese, the Europeans, and other nations will also be adding to their production capacity. Thus, by 1985 there may be excess world capacity for the production of small fuel-efficient cars."

Chart 1

How much excess capacity could there be? That, as they say, is a good question. The Goldschmidt Report, for instance, foresees a lightweight vehicle export capacity in four more years in Japan and Western Europe

alone of approximately 10.5 million units, some 9.5 million of which will be in Japan. Various estimates of worldwide demand in 1985 by such groups as Business Week (McGraw-Hill-DRI), Nomura, Financial Times, and The Economist indicate at best an 8.4 million unit intersectoral export demand to offset against an indicated potential export supply of 12.0 million (this figure is derived from the Goldschmidt estimates) almost all of which can be assumed to be lightweight vehicles - leaving us with a plague of some 3.6 million stateless vehicles floating around the world killing off employment throughout the Western trade zone and infecting the international commercial environment with the virus of protectionism. While this particular juxtaposition of estimates may be excessively gloomy (or imprecise) as to the true extent of excess capacity, still there are firms in the U.S. industry itself which are currently predicting, for internal consumption, that by 1984 there could be overcapacity in just the small car sector of the U.S. industry by as much as 1.4 million units - allowing for a growth in imports to around 3 million units of which about 2.3 million would be Japanese.

Chart 2

These figures can be placed in better perspective if we look at 1978, the industry's banner year to date, and compare it with projections for 1985. We will assume, for purposes of exposition, that in 1978 little, if any, excess capacity existed on a worldwide basis. In that year the U.S. and Canada were busily and very profitably supplying domestic consumers with large land cruisers, some of which were downsized, the Japanese were just as busily and even more profitably supplying the North American fringe market with less expensive transportation options and Western Europe was not quite holding its own due to the competitive decline of Britain and to a lesser extent Italy. In halcyon 1978 approximately 42 million

cars and light trucks (a record) were produced and sold on the world market. This benchmark figure is projected to rise to about 50 million vehicles in 1985 (the consensus among forecasters is remarkable - although this implies little as to the accuracy of the forecasts). However, this demand estimate falls short of the projected efficient capacity figure of 53.6 million vehicles for 1985 which is implicit in the Goldschmidt calculations - and which is explicitly shown on our graphs. By 1985, if we take the savants seriously, we could have our 3.6 million surplus of efficiently produced vehicles overhanging the market and, by implication, threatening to depress industry earnings, employment - and even more probably investment.

However, if we glance once more at these projections of world demand, we note that by 1990 it is estimated that the world market will demand a total of some 57 million vehicles, about 3.4 million more than capacity estimates for 1985. The question naturally arises as to what we can expect as an industry capacity response to the 1985 figures - if they occasion any response at all. Is the projected capacity figure for 1985 in reality in some way consistent with the orderly development of capacity output relative to long term (secular) demand trends in the industry? Or, if not, are the probable reactions to a condition of overcapacity in 1985 such as to lead to balanced capacity by 1990? Or would the industry ride with the 1985 capacity and find itself with a shortage of capacity in 1990 as depicted in Chart 2 (a scenario which is not endorsed as likely but is used here only for illustrative purposes).

Concepts of Capacity

Before having the temerity to answer these and related questions, let's foresake statistics for the moment and turn our attention to a few basic concepts.

In a study recently completed (1981) by the Citibank Economics Department, the statement is made that "[t]he industry must respond to the problem of chronic overcapacity - exacerbated by the current worldwide recession - while retooling to meet the changing tastes of consumers as well as the capricious and contradictory dictates of governments" (emphasis added). This observation is suspect on several counts. First, "chronic overcapacity" tends to be a contradiction in terms - overcapacity necessarily being a short run phenomenon. Second, recessions may change capacity utilization but do not necessarily, nor probably, result in overcapacity. Third, retooling to meet changing tastes of consumers and "capricious" dictates of governments is not indicative of overcapacity.

However, "chronic" overcapacity vanishes at the end of the overcapacity section of the report by means of a literary slight of hand, to wit, "overcapacity means chronically thin profits until enough capital eventually wears out or permanently shuts down to restore normal profitability. This should be accomplished by the end of the decade." In other words, in the long run, at the end of the decade, there will be no excess capacity in the industry. If, however, one incorrectly, as is argued in the present paper, defines overcapacity according to the Citibank report - then such an assumption is patently false. This type of so-called "chronic" overcapacity is always with us. In 1990 consumer preferences will still be changing, there will be continuing alterations in product and process technology, changing governmental regulations (either more - or less) will probably be the norm and cyclical fluctuations will still take place in the demand for motor vehicles. Is not this the Citibank's "chronic overcapacity"? If it is, then what is the capacity that it is "chronically" over?

art 3

There are, to be sure, various possible ways of approaching the problem of defining capacity. We can think of it, for instance, as:

- (1) maximum physical output
- (2) efficient output or
- (3) investment trigger output

In economic terms these three definitions translate into:

(1) normal practice with regard to manpower and scheduling arrangements, allowing for normal maintenance and observance of existing social mores. This simply denotes the absolute upper bound we can expect in terms of product if we don't want to run the risk of catastrophic breakdowns and labor rebellions. The latter consideration, dealing with labor, is obviously a far more important constraint in some countries than in others, e.g., the U.K.

(2) minimum short run average cost. This, in a general equilibrium efficient sense, is the most defensible measure of capacity, assuming a constant cost industry (with possibly large economies of scale).* When the cost of producing one more unit (say one more Toyota) exceeds the cost of the average up to that point, it is time to stop. From this point on the cost of each additional Toyota produced simply raises the average cost of production. The most efficient manufacturer wants to produce at the lowest possible per unit cost, cet. par.

(3) short run marginal cost greater than short run average cost. The firm is now beyond "efficient" capacity and is producing more Toyotas but with increasing costs on the average. At some point, in theory immediately

*It is, of course, also possible to have a decreasing cost industry (which is the typical natural monopoly case) and an increasing cost industry. In these two instances the most efficient output may not always be at the minimum cost point on AC_s . Neither decreasing nor increasing costs appears to be characteristic of the world auto industry.

beyond the minimum average cost point, but in practice because of market imperfections considerably beyond this point, it will be worthwhile to cease using the existing plant and to invest in new and/or expanded facilities.

part 4 Which definition of capacity shall we choose? Actually, any of the three might be acceptable depending upon what it is that one wishes to investigate. For present purposes maximum physical capacity is a possibility, but not a very likely one. We are not immediately concerned with the short run capacity of firms to produce hell bent for election regardless of cost. Nor are we particularly concerned with the more dynamic question of "trigger" capacity, i.e., at what point will new investment take place in the industry. Rather, we are interested in the problem of how many vehicles the industry can turn out in the short run in 1985 and in 1990 when it is operating at its economically efficient capacity. When the industry is at this particular capacity, it will have "excess" capacity only if one chooses to compare efficient capacity with investment trigger capacity or with maximum physical capacity - or with some other capacity measures which include obsolete capacity, about which more later. Such comparisons are very similar to comparing apples and oranges - and only slightly less meaningful. What the industry will have, however, in all of these examples, is idle capacity.

So where could we meaningfully put our 3.6 million displaced vehicles in 1985? Do they, perhaps, represent a real short run excess of efficient low cost modern productive investment in the world automobile manufacturing industry - or are they merely a result of idle maximum physical capacity and idle obsolete capacity? The answer to this question involves taking a closer look at what we mean by "over" or "excess" capacity.

Excess capacity is first and foremost a short run, not a long run, phenomenon. Not only is it true, as Keynes pointed out, that in the long run we're all dead and consequently such long run problems are of more academic than personal interest, but in the world of economics all variables work out to a general equilibrium long run balance where there is no "under" or "over" but rather everything is just right, i.e., is in equilibrium.

In the short run, however, there is no question that "idle" capacity can and does exist ubiquitously in the general equilibrium model and specifically in the world automobile industry. But idle capacity, although it may be, is not necessarily (or even usually) "over" capacity. Since efficient capacity is always, for instance, less than trigger capacity, which is always less than physical capacity, there can be a lot of idle trigger capacity and idle physical capacity without there being any real overcapacity at all.

part 5 Idle capacity is idle for three principal reasons; it is either:

- (1) cyclically idle
- (2) obsolescently idle or
- (3) efficiently idle (overcapacity)

As to the first reason for idleness, cyclical swings in demand, this problem should not, of course, arise in a classically competitive industry. When cyclical demand for autos falls, prices also fall so as to maintain sales volume, and as cyclical demand increases, prices rise, thus avoiding the problem of idle capacity over the cycle. But, the "real world" doesn't operate in this fashion. In a milieu of imperfect competition in an oligopolistic industry, it is not quantities that tend to remain constant, but rather prices. As cyclical demand falls, quantities produced decrease and prices remain relatively stable, and as demand increases, quantities

produced rise; again, relatively more rapidly than prices. Quantities produced tend to be the buffer. Consequently, whenever cyclical demand falls the industry has idle capacity but certainly not excess capacity. This unused capacity is necessary to meet the quantities of automobiles demanded in the next upswing of the cycle. Whether there is, in 1985, idle capacity for 4,000 or 4 million automobiles, may be more a consequence of the cyclical swings in the demand for automobiles than it is a question of excess capacity.

Here there tends, however, to be a difference between the Japanese producers, on the one hand, and the U.S. and Western Europe on the other. Presently, the Japanese apparently rely much more on price cuts (or product "enrichment" - more options offered as standard fare) to maintain volume than do their international rivals, i.e., they behave in a more classically competitive manner. Whether they will continue to pursue this strategy in the future is open to question. If the market shares of the international automobile oligopoly become more stabilized (and institutionalized as a result of increased government intervention) there will be less to be gained from a flexible pricing strategy. The future belongs to this new international oligopoly - and with it will probably come relatively constant prices and relatively large swings in capacity utilization. The excess to worry about may well be excess oligopolistic and governmental market restraint - not excess capacity. In simplest basic economic terms, if the world auto industry experiences in the future temporary cyclical declines in demand, the result may be an increase in idle capacity but no increase in overcapacity.

Part of the confusion over the existence (or non-existence) of overcapacity as opposed to idle capacity is compounded by the way the auto

industry has adapted to the chronic condition of the short run cyclical swings in demand superimposed on a rising secular trend in the demand for automobiles. Although the industry can be fairly certain that demand for automobiles will continue to increase in the future, albeit at a diminished rate, it cannot be at all certain as to the year to year fluctuations in that demand - other than the fact that fluctuations there will be. Faced with an historically growing but decidedly cyclical demand, the industry has adopted a strategy of building capacity which will, on the average, yield minimum costs rather than minimizing costs at any one particular volume of production. The objective has been to put into place plant and equipment which will prove cost efficient over fairly broad ranges of output. The individual firm can thus produce somewhat profitably even if demand falls fairly sharply in the short run. In Chart 8 the firm chooses cost curve AC with a minimum cost which ranges over outputs from A to B, rather than building capacity along cost curve AC', which is admittedly lower cost but is far more risky than AC. Costs along AC are, on the average, lower for the expected range of fluctuations in volume than are those along AC'. The result of this adaptive cost behavior is a capacity figure which is not a point, or a given quantity, but a range. It can no longer be said that capacity in an efficient sense is Q_c units per year; it is now the whole range from Q_1 units through Q_N units. This makes it meaningless to discuss capacity in terms of any given number of units. The automobile industry can be producing at efficient capacity at any of several points with idle - but not excess - capacity.

Here it might be useful to digress slightly. According to one industry observer (at DOT), it would appear that the Japanese automobile producers along with the U.S. and the Western Europeans, have a similar

approach to the cyclical volume-capacity problem. Over a certain range of production Japanese average costs could be expected to remain fairly stable. However, there is also evidence, in the form of much smaller sized Japanese production modules (125,000 units in assembly, for instance, compared to 250,000 in the U.S.), that seems to indicate that the Japanese, never having experienced much in the way of periodic fluctuations, have a less risky appraisal of cyclical volatility than do other producers. The consequence of such an appraisal could be a more efficient Japanese average cost function, but over a more restricted range of production. If this is, indeed, the case it might say something about Japan's longer term ability to retain its present outstanding competitive advantage in the world automobile industry. In time, some of the present Japanese short run advantages could turn into long run inefficiencies.

To date, Japan has been spared having to face such a test. The Japanese industry initially experienced a rapidly increasing secular demand with stable macro-economic conditions in a protected domestic market. As this trend played itself out, the Japanese firms found themselves the beneficiaries of a rapidly rising export demand for small fuel-efficient vehicles resulting from the dramatic changes in the price of energy in the 70s. As a consequence, not only may there be a tendency for the Japanese to underestimate the risk of cyclical fluctuations, but there is the concomitant possibility (admittedly slight) that the present capacity could be relatively more vulnerable to major cyclical swings to international demand than that of U.S. and Western European producers. If things go well in terms of world demand, Japan could do very well indeed. If things do not go so well, Japan just might do very poorly. At present, however, Japanese capacity is probably sufficiently "flat bottomed" and low cost to meet any currently predicted cyclical fluctuations in demand.

Chart 10

Chart 11

As to the second of the reasons cited for idle capacity there can be little doubt that considerable idle obsolete capacity presently exists as a consequence of recent structural changes in the industry. Many firms have significant idle capacity designed to produce the wrong product at the wrong place at the wrong time. Current product prices will not cover even marginal let alone average costs. Such capacity might as well be producing green cheese on the moon for all the effect that it will have on the industry. This capacity is simply no longer a factor in the industry - it is obsolete. Anyone producing 8 cylinder 350 CID rear wheel drive vehicles in 1993 will have plenty of such idle capacity. It would be a misnomer to characterize it as overcapacity. How much capacity of this nature presently exists is somewhat conjectural - but not hypothetical. Furthermore, the same condition might possibly (but not too likely) apply, in the not-too-distant future, to some of the present Japanese capacity, especially if the new GM completely redesigned front wheel drive models capture the world auto buyers' fancy - at low enough prices. A significant portion of Japanese production is still rear wheel drive - and most of it offers noticeably less interior capacity than the GM designs. On the other hand, it is sufficiently low cost so that it could probably cover marginal costs for a long time to come.

But idle capacity that is obsolete has also occurred as the result of changes in process technology over time. Some producers simply had, and other producers still have, inefficient, outmoded production facilities. Such firms cannot turn out automobiles under modern efficient production conditions as cheaply as their rivals. Once again, such idle inefficient capacity is obsolete but not excess.

Unfortunately, we cannot leave the subject of obsolete capacity without one further and complicating comment. Not all obsolete capacity is dead - some of it is dying. More precisely, it doesn't pay to use some capacity because there is no way to cover even marginal (variable) costs). This is dead capacity. However, some obsolete capacity can't earn its keep in the long run, but in the short run it will at least earn enough to exceed its variable costs of operation. It will not earn enough to replace itself and thus dies off in the long run. In the short run, however, it remains alive - but not healthy.

The problem with this dying capacity - and there is always some such capacity in existence at any given instant of time - is that it competes directly against efficient economic capacity. An old car or an old stamping press may crowd out new efficient capacity - if the price is right, that is if its variable (marginal) costs of operation are low enough. How long it takes obsolete dying capacity to expire is frequently a function of the degree of competition existing in the marketplace.

In the economists' Shangri-La of general equilibrium this is no problem. In perfectly competitive markets or in imperfect oligopolistic markets, firms do not build new efficient capacity until the dying obsolete capacity has to be replaced. The difference in the two cases is that replacement of capacity is accelerated in the competitive case. Overcapacity, however, is only generated if someone does not play by the economic rules. This still leaves us with the question of why there should be any overcapacity in the auto industry in 1981, regardless of whether it is competitive or oligopolistic in nature.

The difficult question is, under what conceivable conditions could we have too much efficient capacity in 1985 and 1990? Will some firms,

which are capable in the short run of producing at the same lowest minimum cost as any other firm in the industry, be losing so much money that they will be forced to contract their capital investment - or perhaps even to go out of business? Will the industry's idle capacity include not only potential trigger and physically bounded output, cyclically idle facilities and obsolete investment, but also "efficient" output for which there is no continuing demand? Will we have an industry which has firms all of which by and large have cost curves which look like AC_S on Chart 4, but whose problem will be that there are simply too many AC_S 's and one or more will have to be forced out of the industry because of a continuing loss on operations - the continuing inability to cover minimum AC?

Possible Reasons for Efficient Overcapacity in 1985

Chart 12

Why might there be too much efficient world-wide capacity in 1985 and 1990? There are at least five different reasons (there may be more):

- (1) Secular (or long run) demand for automobiles might unpredictably decline from current actual or projected levels.
- (2) Process technology might improve in ways not currently foreseen thus shifting short run average cost curves downward resulting in greater scale economies.
- (3) Automotive producers in general may at present be overoptimistic (or more probably unrealistic) about the nature of existing demand and about current process technological conditions in the industry.
- (4) Closely related to (3), considerations of so-called "static" efficiency as opposed to "dynamic" efficiency may result in significant changes in planned capacity.
- (5) Trade restrictions may increase as national governments try to protect domestic producers, thus decreasing worldwide demand for automobiles.

Since all five of these reasons are for the most part unpredictable and thus unknowable, the industry observer is inclined, or should be, toward modesty when discussing the possibility of global overcapacity in the future.

hart 13 Looking at these reasons seriatim, it would appear that the secular demand for automobiles is still growing, albeit at a declining rate. There is presently probably not much reason to believe that demand will not continue along this growth curve given present worldwide trends in incomes, development of transportation infrastructure and population growth and household creation. Certainly it does not appear likely that total worldwide demand will decrease by 1985, thus creating excess capacity relative to the present and rationally projected stock of capital invested in efficient producing capacity in the industry.

hart 14 Process technology presents a similar picture in terms of future developments relative to capacity. Just as an unanticipated secular decrease in demand could result in real overcapacity, so could a decrease in the industry's supply function as a result of a serendipitous change in technology. In Chart 14, any firm continuing along the old AC curve would obviously be put out of business. The result is that all existing firms adopt the new technology - which most probably leads to overcapacity. If the typical auto firm had been producing at Q_a , with the new technology it must produce at least at Q_b . Overall auto industry production is now higher with demand unchanged, and some firm or firms will be forced from the industry - even though all the firms now employ the latest new technology. Put another way, as the firms adopt the new technology to remain competitive, they discover that they can only reach the new minimum cost level at much higher output volumes than previously - the economies of scale are greater than in the past. Consequently, it will take fewer firms to produce the industry's efficient output.

Based upon what we know now, current 1981 technologies will characterize the world auto industry in 1985. We can rather safely bet that technology will not deteriorate (unless there is a nuclear holocaust) and that, therefore, the average cost functions which characterize the industry today will, with certain predictable incremental changes, characterize the industry in 1985. There may be, lurking out there in the murky and dimly perceived future course of events, astronomical changes in technology - but they are unknown and unknowable. And even if knowable, they would still be non-implementable by 1985. There are no surprises leading to excess capacity here.

It may actually be the case, however, that the current automotive producers could have optimistically overinvested in fuel economy small car new efficient production capacity relative to previously enumerated long run market trends. It would appear somewhat doubtful that they have done so, since there is certainly no great euphoria in the industry over worldwide prospects 4 or 5 years hence. Nevertheless, in a competitive environment every individual firm believes that it will be more successful (regardless of demand and supply conditions) than its rivals - and, since this is clearly an impossibility for everyone in the group, overcapacity may ensue. It must be remembered, however, that we are not dealing with a classically competitive market and the number of significant international competitors totals less than ten. Optimistic and/or competitively determined overcapacity is somewhat unlikely, with perhaps one caveat - Japan!*

Japan's domestic auto market is currently one of the more, and probably the most, competitive in the industry. Furthermore, the Japanese have

*A recent Wall Street Journal article (May 26, 1981) notes that "they [U.S. automobile manufacturers] are also reducing capacity because of diminished long-term growth prospects and because they are unlikely to soon recapture the substantial market share they have lost to Japanese and other imports."

experienced nothing but outstanding success in other principal regional markets around the world. Priding itself on its "competitive" market structure and firmly committed (for the present) to the philosophy of free trade, the Japanese segment of the world auto industry might currently be overinvesting in new efficient productive capacity. If, however, industry observers such as Abernathy and Clark are correct in their estimates of upwards of \$1500 for vehicle cost advantages for the Japanese, the real problem could be that U.S. and Western European producers may be building new but obsolete (cost inefficient) capacity.

Which brings us to the fourth question of "static" versus "dynamic" concepts of overcapacity. In an oligopolistic market where significant monopoly power exists there is a tendency to adapt only very slowly to changes in demand and supply conditions in the marketplace. Existing capacity, even if no longer "current" in terms of consumer demand or state of the arts technology, is retained beyond its normal competitive life. Static or short run efficiency is emphasized at the expense of a more dynamic concept of efficiency, i.e., the continuous creation of new capacity to meet changing demand and supply conditions. The oligopolists adapt eventually to changes in market variables, but only after they have wrung most of the physical or durable life out of existing assets.

Such is not the case in more competitive market situations. Here static and dynamic tend to coalesce and the static or short run efficient capacity always (and rapidly) adapts to changes in market variables. Firms are forced to invest rapidly to remain competitive. Consequently, more capacity tends to be in existence at any one point in time than in the oligopolistic case - and more of it is economically efficient capacity in terms of current market demand and supply conditions.

This may indeed explain a great deal of the current apparent concern with the issue of overcapacity. As noted earlier, Japan, operating first in a growing and protected market and later in an international environment which had been transformed dramatically in favor of the products manufactured by the Japanese industry has never quite had a chance to catch up to the burgeoning demand for its products in terms of its on line capacity. It has been behaving, of late, as a classic competitor, as it strives continuously to add new low cost capacity. In North America and Western Europe existing oligopolies traditionally kept the pace of investment in new capacity in line with their quasi-monopolistic grip on more mature and stable markets.

The cataclysmic transformation of energy prices in 1978, however, changed the whole ball game and in the process opened up the U.S. market in particular to full scale competition at all levels of product demand. The old domestic oligopoly has now suddenly been faced with the competitive need to invest in new capacity "dynamically" rather than "statically." Under such circumstances it obviously views its previous capacity designed to produce 8 cylinder 350 CID engines, automatic overdrive transmissions and rear wheel drive power trains as saddling the industry with overcapacity. Previously, prior to 1978, 8 cylinder engine capacity inappropriate to long term demand trends was gradually being phased out as new capacity to produce more fuel efficient vehicles was introduced. After 1978 this process was dramatically speeded up, not because the U.S. portion of the auto industry suddenly and unilaterally adopted a dynamic point of view, but because competitors from overseas (principally Japan) would rapidly supply new capacity more in accord with current consumer demands - if domestic producers did not. The race for new efficient capacity was on.

That in the process of such a race old or pre-existing capacity is replaced at an accelerated rate does not imply the increased incidence (or even the existence) of overcapacity. Dynamic capacity is competitive capacity which is efficient capacity which engenders increased idle capacity which is obsolete capacity - which is the price of progress!

Lastly, but not least, we turn to trade restrictions, i.e., tariffs, quotas, local content requirements and other regulatory constraints, and subsidies. This is perhaps one of the most compelling reasons why the future possibility of real economic overcapacity in the automobile industry cannot be dismissed out of hand. By and large, these restrictions are reactions to short run changes in international demand and supply conditions which threaten inefficient national producers or which militate against the establishment, maintenance or growth of local elements of the world automobile industry. Current indications are that such trade restrictions may well increase. If this should be the case, which seems to be consistent with the trend of recent events such as the U.S.-Japanese "voluntary" import quotas (mild though they may be), the decision this May of the Common Market Commission meeting in Brussels that it must seek a limit on the number of Japanese vehicles allowed to enter the European Common Market, and the recent discussions to this effect with the Japanese in Paris, then at least some positive probability exists that overcapacity may indeed occur in 1985. While this particular protectionist trend may not ensure this result, it makes it more likely. It also makes it more likely that such excess capacity will exist, for the most part, in Japan rather than in the U.S. and Western Europe - and there isn't much that Japan can do about it, since it is a result of protectionist policies applied against Japan. Japan's offense is simply to have, at present,

more economically efficient capacity in place than its lagging international rivals.*

In summary, real economic overcapacity is not a likely result of changes in foreseeable future trends in demand and supply in the industry. It is, however, a distinct, although limited, possibility where there are non-governmental imperfections in the present structure of the market. This is particularly significant in those instances where information is simply not available or is viewed in a distorted sense based upon previous (but no longer operable) market conditions. Specifically, competitors may not be aware of the extent and sophistication of each other's new planned capacity. Furthermore, born again competitors who were previously practicing oligopolists, may find it hard to forswear the ancient ways and may try to cling to capacity which should have been competitively written off long ago.

The principal reason, however, to expect that the world automotive industry might experience overcapacity is an increase in trade restrictions. The competitive economically efficient capacity put in place by the more aggressive members of the world auto industry may be neutralized (left redundant) by the implementation of restrictive trade policies which, in effect, substitute obsolete (new and old) capacity for already existing efficient capacity. The resulting overcapacity may be politically profitable - at an economic loss. While it is not evident that politics should supercede economics, it seems clear that estimates of how much overcapacity there will be in 1985 or 1990 are primarily political. Nevertheless, the economic price of these political decisions to create additional overcapacity in the world market cannot be overlooked!

*A trend toward freer trade is unlikely. If indeed, there were such a trend efficient excess capacity could arise anywhere in the world economy. In all probability, however, freer trade would, at present, increase idle inefficient and obsolete capacity - more than likely in Western Europe and somewhat likely in the U.S.

Strategic Response

Thus far the focus of this discussion has been on the problems of conceptualizing and measuring the phenomenon of overcapacity. Strategic response was touched on only by implication. The time has come to be more explicit.

Obviously, one response is no response! The in joke about a reputedly rather clumsy secretary of state a couple of decades ago was the admonition, "don't just do something, stand there," which may be what the present situation in the world auto industry calls for. We could do worse. Certainly for that portion of idle capacity which is cyclically determined, only the most sophisticated and well coordinated international fiscal and monetary policies would be appropriate. Smoothing out domestic and international business fluctuations is a tricky business, as we all well know. The price we might have to pay for such, at best, marginally useful governmental intervention, may be far higher than the cost we experience now as a result of the firms in the auto industry itself adjusting to cyclical swings by incurring slightly higher costs in order to assure flexible capacity over rather wide ranges of output.

Where idle capacity that is obsolete is encountered, the problem of strategic response is not so clear cut. Economically there is even less argument for governmental intervention than for cyclically idle capacity, but the political motives for prompting such action are often compelling.

The arguments are that:

- (1) labor
- (2) producers
- (3) national security and
- (4) infant industries

all require protection for, at the minimum, some transitional period, and, at the maximum, forever. It is argued that labor and producers have the ability to adjust to dramatic changes in demand and supply only very slowly. Therefore, to avoid widespread unemployment and precipitous declines in industrial production, a breathing space must be provided to enable the transition process to take place. This argument is sometimes carried even further with the assertion that the transitional changes themselves would involve such untoward cultural changes in the national society that indefinite protection of economically inefficient auto firms is a necessity. One man's culture is another man's bread and butter!

Protectionist arguments relating to national security are similar to the "culture shock" thesis. Protection is forever, although one might wonder at the military prowess of a nation forced to rely on weaponry provided by firms that are sub-marginal producers in the civilian economy.

Then, of course, there is the infant industry argument, or "give us one more chance." Economically, for true infant industries, this has some merit, as Japan has so strikingly demonstrated in the automobile industry. For mature firms in more mature segments of the international auto industry, the argument needs be greeted with somewhat greater skepticism. Many of these firms simply and consistently misread market signals and the market reacted in predictable fashion. Nevertheless, there is some truth in the complaint that these market signals were often so distorted by governmental intervention that an efficient long run economic response was impossible and that, therefore, the governments responsible for these previous market distortions have some obligation to give the affected producers a chance, during a transitional period, to respond to the newer more market oriented configuration of economic variables.

Lastly, there is the problem of how to respond strategically to idle economically efficient capacity - true overcapacity in the industry. As of now, it is not at all clear that such excess capacity exists, but if it should in the future, protection is hardly the economic way to go. The nations of the world would apparently be better served economically by a removal of trade barriers, an increase in joint ventures, and a lessening of impediments to worldwide factor mobility. The so-called "dynamic" overcapacity that seemingly results from an international automotive environment in 1981 that is more loosely oligopolistic than its regional predecessors, is simply the transitory evidence that the industry is moving to ever higher levels of efficient and socially welfare maximizing production; albeit at the expense of some of the past historical trends in supranormal factor compensation (wages and profits) in certain of the previous narrowly oligopolistic domestic markets. The international automobile industry as one of the first (but not the last) of the great transnational industries does not need more protection, as much as it requires one first competitive chance!

At this point the curtain should fall, the house lights should blaze and the audience should rush for the exits to face once more the harsh realities of the outside world. But our purpose here is to use the stage presentation as the means for discovering what some of those harsher realities are and of weaving them into future and more exciting performances. So far we have only presented a plausible economic scenario, but by no means the only one.

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How much do we really know about the investment plans of each of the producers in the international automobile industry? How have these plans changed in the last one or two years? Is it possible that they could

change drastically again, even if we don't, and can't, know the exact nature of the forces which would bring about such changes? Is the front wheel drive 4 cylinder vehicle the car of the future? Can we reasonably predict any major breakthroughs in process technology in the near term? How are consumer tastes changing? What is the likely level and configuration of demand for automobiles in 1985 and 1990?

How much idle capacity is there at the present time? How much of this is obsolete capacity? How much of it is the result of cyclical variations? How do economies of scale affect the producers' decisions to build capacity in excess of reasonable demand estimates? Is there any idle capacity in today's industry which is actually economically efficient?

Can governments effectively protect domestic auto industries with tariffs or quotas? How effective are local content requirements? What have been the effects of local content requirements on the structure of the international automobile industry?

And finally, if what we have is a new industry structure fundamentally far more international in scope than previously, should national governments adopt a strictly hands off policy? Should government be encouraged to enter into a new round of international negotiations to agree upon a common set of international product, performance and conduct regulations governing this new and evolving structure? Is there any place in this new structure for tariffs, quotas, local content, subsidies or other artificial restraints on trade? Should the international automobile industry, as a transnational industry, be subject to transnational governmental authority to assure that competitive dynamics remain dominant over oligopolistic statics?

The answers to these questions may well determine whether the sun we see on the automotive horizon is rising - or setting!