

The auto industry and the crashing of the U.S. economy

by Anthony K. Wikrent

The media-enforced idea that the U.S. and Japan auto sectors are independent, and competing, is a myth. The reality is that the U.S. sector has for some time been dependent on Japan. There are many laughable ironies in George Bush's trade tour to Japan. For example, the U.S.-built minivan that is cited as selling in Japan, is built by Nissan in the United States; and so far a whopping 3,000 units are involved in the trade. The best selling Honda model in the U.S. market, the Accord, is fully built in the United States. Most Nissan vehicles selling in the U.S. are made in the U.S.A. Dozens more examples of interdependence abound.

Moreover, the key innovations in the U.S. industry over the recent years have come from Japan—robotics and multi-valve engines.

The big push by Washington is to get the Japanese to pay for the gigantic financial losses now crushing the U.S. sector. The Japanese have made polite concessions on auto trade practices to the United States, but Bush, on behalf of Wall Street and the automaker executives, is demanding tribute money in terms of billions of dollars worth of imported U.S.-made auto parts, etc., in a desperate attempt to gain cash infusions into a collapsing industry for a few more quarters.

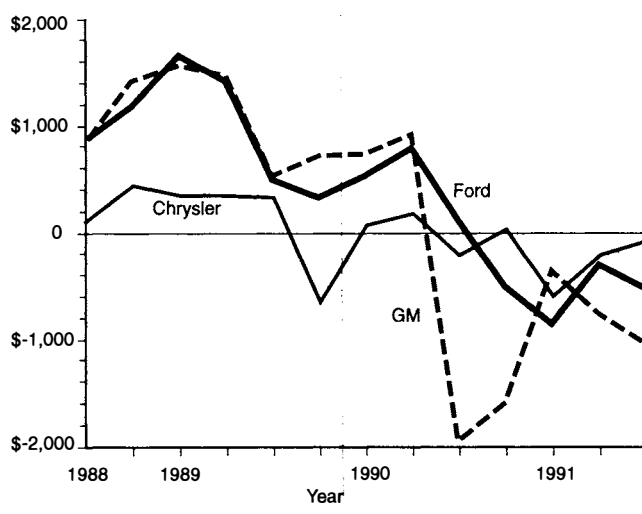
In contrast to the ludicrous conduct of Bush in Tokyo, trying to push his "Cars-R-Us" demands on the Japanese, stands the deepening crisis of the U.S. auto sector—the most far-reaching sector of the U.S. economy.

The following provides a summary picture of the financial and industrial crisis in the industry, and also the scope of the impact the industry has on the rest of the economy.

U.S. automakers can't capitalize a new doorknob

GM was seen as the most financially secure of the U.S. Big Three, before Moody's and Standard & Poor's began threatening to downgrade GM's credit rating in early November—which led directly to GM's Dec. 18 announcement that 21 factories would be closed. GM has lost \$5.817 billion in the past five quarters (see Figure 1)—almost as much as GM made in the six quarters preceding—and its North American manufacturing operations are now reportedly losing \$500

FIGURE 1
Quarterly earnings for U.S. Big Three
(millions of dollars)



million a month. GM's debt load has jumped 14% in one year, to \$9 billion.

Capital spending in 1992 through 1993 will be cut \$1.1 billion, 8% less than the \$14.1 billion originally planned. Further cuts can be expected as the U.S. economy worsens.

In addition, GM disclosed in November that it will have to write off \$16-24 billion to reflect new accounting rules for future health care costs of retirees. The new rules, mandated by the Financial Accounting Standards Board last year, will not affect GM's cash flow or its ability to pay for capital expenditures and product development. Still, if the write-off is taken in one period, most of GM's \$28.05 billion in equity will be erased. If the charge is instead spread out over 20 years, GM estimates that net earnings will be reduced by \$400 million to \$2.6 billion per year.

Ford has lost \$2.301 billion in the past four quarters, more than it made in the five previous quarters. Ford closed

Who can afford a car?

In line with Bush's line that "now is the time to buy a car," somebody in Washington has hatched the idea of offering a "tax incentive" for people to replace the estimated 60 million cars on the road that were built before 1980. The highest figure mentioned so far has been \$1,000. What are the chances that someone so poor that he is driving a car that is 12 years or more old will scrape together the other \$8,000 or more needed to purchase a new car, or qualify for a loan in like amount? The folks in Washington clearly are leaking brain fluid.

In 1989, almost half of all Americans who filed income tax returns earned less than \$20,000. Another 35% earned between \$20-50,000. Between 1980 and 1989, the income of this segment of the U.S. population—the 85% who earned less than \$50,000 a year—increased only 2% per year on average. During the same time, the cost of living was increasing over 5% each year on average. Thus, 85% of Americans are actually 30% poorer than they were 10 years ago.

This slow but steady erosion of the real earning power of 85% of the U.S. population has had a devastating effect on new car sales:

- In 1972, a new car cost the average person just

under 21 weeks worth of paychecks. This year, it costs over 30 weeks of paychecks. That means that a new car now eats up nearly 50% more paychecks than it did 20 years ago.

- In 1972, a new car cost 40% of the average family's income. This year, it costs nearly 60%. Again, a 50% increase.

Car prices relative to family income are now at a 22-year high. According to David Litmann, an economist at Manufacturer's National Bank in Detroit, the average American worked 24.9 weeks to earn the \$15,281 average price of a new car in 1990, compared to only 18.7 weeks in 1980.

The impoverishment evident in this area of the U.S. economy was largely covered up by radically increasing the length of a car loan, to keep the monthly payment "affordable." The average length of a new car loan in 1990 was 54 months, compared to 45 months in 1980, and the 84-month (seven-year!) car loan was introduced that year. According to the Federal Reserve, the average cost of a new car in the early 1970s was \$3,500 and the average loan was \$3,100, taken out for less than three years at about a \$100 monthly repayment schedule. Now, a three-year \$20,000 car loan at 12% interest would cost \$664 a month. Even with the seven-year alternative, the monthly payment is still \$353.

the year with almost \$9 billion in debt and about \$7.3 billion in cash, compared to almost no debt and \$10 billion in cash at the beginning of 1988. Part of the stark reversal in its cash and debt positions can be accounted for by the early 1990 acquisition of Jaguar for \$2.7 billion. But the financial losses are undoubtedly hurting. Ford recently decided to triple the size of a new offering of preferred stock to \$2.3 billion, making it the largest such offering in U.S. history. The yield on the issue was set at 8.4%, far above money market rates, which have recently fallen below 5%.

The stock sale bolsters Ford's debt-to-equity ratio, which had soared from 16% at the beginning of last year to 43%, and preserves Ford's credit rating, which would have been increasingly strained if Ford had sought to borrow the money instead. Indeed, David McCammon, Ford's treasurer, admitted in mid-November that Ford is very near a self-imposed limit on borrowing. Still, the stock sale indicates the extent of Ford's need to find outside sources of capital in the face of continuing losses.

Because Chrysler chairman Lee Iacocca initiated a severe cost-cutting program, the last of the Big Three has fared slightly better than either GM or Ford. Since 1988, Chrysler has reduced its annual operating costs from \$26 billion to

\$23 billion, while selling assets to raise \$925 million. Nonetheless, Chrysler has lost \$1.488 billion in the past two years, as much as it made in the last quarter of 1988 and the first three quarters of 1989. Earlier in the year, Chrysler's credit rating was demoted to junk-bond levels.

Despite these financial troubles, Chrysler has been the only one of the Big Three to maintain its market share in the North American market during 1991. While Ford lost 1%, and GM lost 0.7%, Chrysler gained 1% in truck sales, to move its share in combined car and light truck sales up from 10% to 10.4%. (Each percentage point share of the North American market is worth over \$1.5 billion.) But the Japanese still picked up enough market share from Ford and GM to reduce Chrysler to fifth in total U.S. car and truck retail sales, behind GM, Ford, Honda, and Toyota.

Improving productivity

Chrysler has been able to quicken the pace of its development process, bringing out the entirely new LH line in 39 months, and the Viper sports car—also new from the ground up—in just 36 months. By comparison, GM required 34 months to merely restyle the Buick LeSabre, while Ford needed 41 months to restyle the Lincoln Town Car. Analysts

believe that Chrysler is now able to design a new car and bring it to production within 30 months, compared to 36 months for Honda.

Chrysler will soon begin serial production at the new \$1 billion Jeep plant it built on the site of the old Jefferson Avenue plant near downtown Detroit. Chrysler expects to be able to build new Jeeps in the plant with one-third fewer workers per vehicle, achieving a level of productivity as good as, or better, than the Japanese. Analysts agree, expecting Chrysler to take only 20 hours to assemble a Jeep, 60% less than the time required at the Jeep plant in Toledo, Ohio.

Of note is that workers have been training for almost a year to operate the new Jefferson Avenue plant.

Chrysler's relatively brighter prospects helped attract investors to its November issue of common stock. Demand was so brisk that 2 million more shares were sold than the 35 million shares originally planned, netting Chrysler \$354 million in cash.

U.S. automakers need to achieve a capacity utilization rate of around 85% to break even. Ford is in the best shape, operating at an estimated 76% of capacity. Chrysler is reportedly limping along at 66% of capacity, while GM is at a disastrous 55%. Stempel's closing of 21 plants is intended to bring that figure up to near 100%.

Japanese technology and methods

For the past 10 years, the Big Three have tried to play catch-up with the Japanese. U.S. cars built now are supposedly of better quality than those built a decade ago, but Japanese cars are still of better quality. In 1980, a GM car coming off the assembly line had an average of 7.4 defects, a Ford had 6.7, and a Chrysler had 8.1; the average Japanese car had 2.0 defects. By 1990, the U.S. Big Three had closed the gap significantly: GM had 1.7 defects, Ford 1.5, and Chrysler 1.8. But, the Japanese had not stood still, and were down to 1.2 defects.

Japanese transplants in the U.S. have been able to achieve the same level of quality and efficiency as assembly plants in Japan, indicating that there is no essential difference between Japanese and American workers. Rather, the inability of the Big Three to achieve the same level of performance as the Japanese must be located in differences in management style and corporate culture. In the Dec. 18 *New York Times*, Doron P. Levin noted that while GM managers "wear expensive suits and spend most of their time in nicely decorated offices and meeting rooms [and occasionally] roam the plants in white shirts and ties [and] impose too much authority," the top manufacturing executive at one of Honda's plants in Ohio is "dressed in overalls, often greasy; has a desk in a room with 40 other engineers and often works near the assembly line."

A week earlier, Levin noted that workers at GM's Saturn plant in Spring Hill, Tennessee have developed a healthy obsession with the quality of the product they turn out. When

GM chairman Stempel visited Spring Hill in October, thousands of workers wore protest armbands to demonstrate their concern that quality was being sacrificed for greater output. Local United Auto Workers union president Mike Bennet told Levin that Saturn workers "are very hard on their leaders. They always want to know why [malfunctioning production equipment or ill-designed parts] aren't fixed yet." The work force at Spring Hill appears to have adapted quite well to Japanese "lean manufacturing" techniques; it is open to question if GM management has: Some 500 Saturn engineers are based outside of Detroit, 400 miles from Spring Hill.

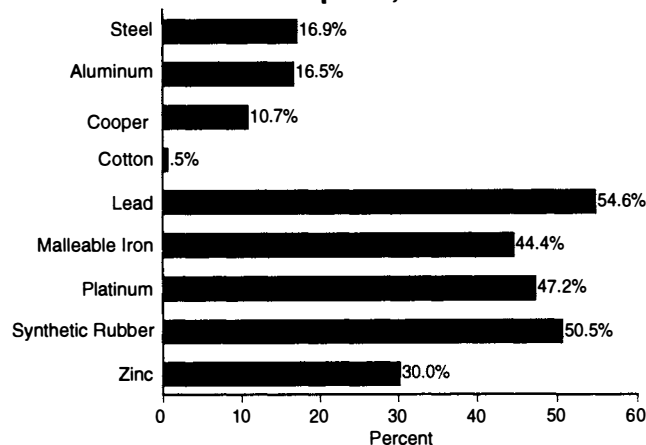
In their five-year study of the world's auto industry, researchers from the Massachusetts Institute of Technology found that Japanese-style "lean manufacturing" must be fully assimilated into a company's culture before the full benefits of advanced robotic technology can be realized in the production process. The MIT researchers concluded that "high-tech plants that are improperly organized end up adding about as many indirect technical and service workers as they remove unskilled direct workers from manual assembly tasks. What's more, they have a hard time maintaining high yield, because breakdowns in the complex machinery reduce the fraction of the total operating time that a plant is actually producing vehicles." This was a lesson painfully learned by GM when it rebuilt a plant in Flint, Michigan and crammed it full of advanced robots. GM was never able to get the plant to run right, and finally junked the robots and returned to manual assembly.

Various work force characteristics in 1989 highlighted by the MIT researchers underscore the differences between Japanese and American management in their approach to their respective work forces. Japanese workers were given 380.3 hours of training, while U.S. workers in Japanese transplants were given 370 hours of training. By contrast, the Big Three gave their workers only 46.4 hours of training. Workers in Japan and in Japanese transplants were three times more likely to rotate jobs than U.S. workers. The clear message for U.S. workers is that they are expected to be little more than non-thinking drones. The effect on work force participation is startling: In the U.S., there were only 0.4 suggestions per employee, while in Japanese transplants, there were 1.4, or nearly four times as many. And in Japan, there was an astonishing 61.6 suggestions per employee.

In February 1991, *Forbes* profiled the Ford Taurus plant in Atlanta, Georgia, which has achieved performance levels similar to Honda and Nissan. One of the MIT researchers was interviewed, and made the observation: "They have a kind of culture in the plant where you almost never see the managers in their offices; they are out on the floor." The different style is reflected in the attitude of the workers, who explicitly say they aim to be "number one." A month later, *Automotive Industries* magazine rated the Atlanta plant as the most efficient of the Big Three car plants. According to the report, the Japanese transplants need 3.27 workers per

FIGURE 2

The auto sector accounts for a large share of U.S. materials consumption, 1980s.



Source: Motor Vehicles Manufacturers Association.

day to build a car, while Ford was very close behind, needing 3.36, Chrysler required 4.21, and GM 5.31.

In July 1991, Honda unveiled its new "lean-burn" VTEC-E engine which, mated with an ultra-lightweight vehicle, is capable of obtaining nearly 100 miles per gallon (mpg). Honda will introduce the VTEC-E into the United States as the powerplant for the new Civic, which will give it city gas mileage of 48 mpg, and highway gas mileage of 55 mpg, slightly better than GM's popular but much smaller mini-car, the Geo Metro. Honda's announcement caused great consternation among the Big Three, because Honda had done what the Big Three had long said was impossible: equip a relatively roomy car with a highly fuel-efficient engine that delivers acceptable everyday driving performance.

Mitsubishi announced a similar "lean-burn" engine at about the same time. The *Wall Street Journal* reported that the U.S. Big Three had encountered apparently insurmountable technical difficulties in attempting to develop similar engines, causing them to rely on current engine technology.

Impact of auto production on U.S. economy

The production of motor vehicles and parts is among the largest sectors of the U.S. economy, directly accounting for \$215 billion (4.1%) of the nation's \$5.2 trillion GNP in 1989. That year, the industry paid its 843,000 employees \$37.6 billion in wages and salaries, and invested \$12.4 billion in new plant and equipment.

In addition, as can be seen in **Table 1**, employment in production of motor vehicles and parts is dwarfed by employment in other economic areas related to motor vehicles. Auto retail dealers, for example, employed 955,000 people in 1989. The total employment dependent on auto manufacture is figured at 7.4 million jobs.

TABLE 1

7.4 million jobs depend on motor vehicles

Sector	Number of jobs
Manufacturing	
Motor vehicles and car bodies	249,000
Automotive parts and accessories	510,000
Non-automotive industries producing automotive parts	525,000 ¹
Wholesaling	
Automotive vehicles and parts	433,000 ¹
Retailing	
Automotive vehicle, retail dealers	955,000
Gasoline dealers	702,000 ³
Selected services	
Automotive rental and leasing	135,000
Automotive repair shops	486,000
Automotive services, except repair	119,000
Highway, street construction, and maintenance	
Highway and street construction	284,000 ²
Bridge, tunnel, and elevated highway construction	40,000 ²
Federal, state, county and local highway departments	559,000 ³
Related industries	
Petroleum refining	118,000
Petroleum products wholesaling	188,000
Transportation	
Inter-city bus lines	39,000 ²
Trucking, local, and long distance	1,624,000
Trucking, less-than-load carriers	430,000
Trucking terminal facilities	25,000 ¹
Total	7,421,000

Notes

- 1. 1982 figures
- 2. 1987 figures
- 3. 1988 figures

Sources: Motor Vehicle Manufacturers Association, *Motor Vehicle Facts & Figures, 1987*; Department of Commerce, *U.S. Industrial Outlook, 1991 edition*; U.S. Bureau of the Census, *Statistical Abstract of the United States, 1991*.

The U.S. auto-manufacturing sector alone accounted for 16.9% of all steel consumed in the U.S. in 1986. That includes 12.8% of all stainless steel, and 22.8% of all alloy steel; 16.5% of all aluminum consumed; 10.7% of all copper; 54.6% of all lead; 47.2% of all platinum; 30% of all zinc; 44.4% of all malleable iron; 70% of all natural rubber; 50.5% of all synthetic rubber, and 0.5% of all cotton (see **Figure 2**).

In addition, the auto industry accounts for 40% or more of all machine tools purchased in the U.S. each year, and 25-30% of all industrial fasteners. The auto industry is also the largest user of ball and roller bearings, gaskets, and metal forgings, and is among the largest users of glass, plastics, valves and other flow control devices, wire and electrical connections, and electronic equipment.